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THE EVOLUTION OF PRODUCTION AND OF PRODUCTIVITY OF LABOUR IN THE BALKANS AND IN EASTERN EUROPE 1989-UNTIL TODAY

INTRODUCTION

In the present task we will try to comprehend the course of the progress of economy both in the countries of the Balkan Peninsula and the rest countries of Eastern Europe through the trajectory of the production and the labor productivity in the framework of the corporations and the economy in these countries during the period of their changeover from a centrally designed economy to the market economy. A brief comparative approach between the periods before and after 1990 should be mentioned for the purpose of comprehending all this progress. In parallel, the specific investigation also includes the brief comparison between the countries of the former centrally designed economies and the countries of the Western Europe.

The changeover of the economy of the centrally designed economies of the Eastern Europe to the market economy and to capitalism is characterized by a steep decrease of all the economic indicators and consequently of the field of production and productivity. Thus, in the present task we will try to appreciate the course of the specific countries during the last decades before their collapse in order to have a precise picture of the results that the specific progression has brought and to apprehend in a straightforward way the new era and the course of production and productivity of the corporations and the economy so that to come to a congruous conclusion.

Ultimately, the course of the GNP and the NMP are closely and drastically related to the course of economy of the specific countries and the appreciation of their indicators is closely related to the productive effectiveness of the economy altogether and especially of the corporations. Hence, in this respect we should apprehend the role of the new enterprises concerning the course of the olden state-owned companies. This will be made clear by the capacity of adjustment of the olden state-owned

companies in the new era and their potential to contribute to the expectations of market economy and capitalism.

Eventually, we will attempt to give prominence to the meaning of production and productivity in the effort that the countries of the Eastern Europe make in the framework of the international economy. Simultaneously, the problems that were caused during the period of the changeover to the market economy and capitalism will be revealed.

PRODUCTION AS A COMPONENT FACTOR OF THE PROGRESS OF ECONOMY

When we refer to production we mean firstly the creation of products and services in order for the human needs to be accommodated directly or vicariously, and secondly the processing and the combination of the various products. Parallel to this, it is related to the ability of the corporation to respond to the demand that the international setting claims. After the collapse of the economy of the former centrally designed countries in 1989, a hope was generated that this would signify the prosperity in the immediate medium term. The countries of the Central and Eastern Europe in the framework of the market economy were prepared for the big jump in the framework of capitalism. But where did all that hope proceed from? From the fact that in the framework of the process of the changeover to the market economy they had all the equipment that the developing countries of Latin America and Eastern Asia lacked. They were already industrial countries, they had trained workforce and in addition to that, the percentage increase of the population was in lower levels compared to other counties of the West. Of course there was the retardation of technology, which was an output of the attitude of the countries of the "former existing socialism" towards the crisis of 1973 and of the corresponding one of the Western Europe and the U.S.A. that contributed to the emergence of the new technology that affiliated with the services in order to overcome the crisis. Could that be a stumbling block to the exploitation both of the workforce and the dynamic of the particular economies? The answer is no because it was rapidly understood that it could be got over. More specifically, it could be got over through the help of knowledge that the countries of the Western Europe and the U.S.A. would offer. Even countries like Poland, which faced issues of macroeconomics balance, showed that they could deal with the new era. In conclusion, the prosperity of the countries of Eastern Europe and Balkans was taken for granted.

However, what actually happened during the whole decade of 90's was the steady decline of the production. What all the data indicated was that the course of production decreased during the 90's in all the countries of the former designed

economies. That was evident because the real GNP of 1999 exceeded the level of 1989 in only two out of the 25 countries. In this respect, the fall of the production was sharper than 50% compared to the levels of GNP IN 1989[1]. We should mention that the form of the economic growth before 1989 in the countries of the former designed economies had the features of the extensive growth, which meant that it was based on the logic of the accumulation instead of the technological and organizational changes[2]. This logic of growth that is based on the expansionary policy leads to a faster industrialization, which made a significant impact until the decade of 60's.

Subsequently, the first signs of the developmental deceleration appeared and it was made clear that the gap between the countries of the Eastern Europe and the developed countries of the West was constantly growing. In order to avoid such a turn they should either create fields of the most advanced technology or to contribute to the propagation of technology in all branches of economy. The political leadership channeled the resources to the growth of the military technology. The oil crisis that occurred in 1973 redounded to the breath of the countries of the former centrally designed economies because the Soviet Union was a main producer. At the other end of the spectrum, the economies of the developed West in their attempt to confront the two oil crises[3] signified the boom of the technological innovations of energy saving. In parallel, this development was considered to be a significant step which gradually led to the collapse of the countries of the centrally designed economies[4].

The first period of the changeover is accompanied with a large fall of the production in all the countries of the centrally designed economies. The shrinking of the production becomes more evident in the countries of the Baltic and the Balkan Peninsula. Especially in the Balkan countries we observe the characteristic of the decrease of production due to the process of the acceleration of the deindustrialization or the process of the economic dislocation or even the growth of the peripheral and social inequalities. A typical example is that during the period of 1990-1995, the industrial production decreased with an average annual rhythm 5% in Slovenia, 10% in Croatia, 14% in Yugoslavia, 13% in FYROM and until 1994 34% in Bosnia and Herzegovina. For this progression, the reason that was considered to be the most significant was the huge shrinking of the GNP and the extensive deindustrialization of the Balkan countries and also the Central and Eastern Europe and even the countries of Baltic. That was the effect of the liberalization of these markets in an international level. This fact proved that the specific countries had a limited international

[1]Nauro F. Campos – FabrizioCoricelli,(2002) "What We Know, What We Don't and What We should", Journal of Economic Literature, Vol. 40, No 3, Sep., p. 793.
[2]Gar Offer, (1987), "Soviet Economic Growth: 1928-85", J. Econ, Lit. 25/4, p. 1767-1833.
[3]Martin Baily-AlokChakrabarti, (1988), "Innovation and the Productivity Crisis", Brookings Institution, Washington, DC.
[4]Joseph Stiglitz, (1994), "Whither Socialism?," MIT Press, Cambridge.

competition in an international level and simultaneously there were no dynamic competitive goods and services[5].

During the period 2000-2008, we observe a reconstruction of the economy in the countries of South-Eastern, Central and Eastern Europe in the framework of which there is a clear enhancement concerning the growth of the industry and the services in the framework of which we notice the acceleration of the economic growth and the economic restructuring. This process is intercepted because of the crisis in 2009 and there is a concrete improvement during the period 2010-2012.

TABLE 1

Annual growth of GNP in countries of Southeastern Europe, 2000-2011.Change to compared with the former year to %

Year/State	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Albania	5,1	4,0	4,7	6,0	5,9	5,4	5,7	5,9	7,5	3,6	3,8	..
Bulgaria	5,8	4,5	4,8	4,5	5,6	5,6	5,2	6,4	6,2	-5,5	0,2	2,2
Bosnia-Herzegovina								6,2	5,7	-2,8	-3,0	2,1
Croatia	..	..	..	..	..	..	..	5,1	2,2	-6,0	-1,2	0,6
Montenegro	..	..	..	..	..	..	..	10,7	6,9	-5,7	2,5	2,7
FGDM	4,6	4,7	0,7	2,8	2,9	3,8	4,2	6,1	5,0	-0,9	1,8	3,0
Romania	1,5	5,3	4,9	5,2	8,3	4,0	5,4	6,3	7,3	-6,6	-1,9	1,7
Serbia and Montenegro	5,0	5,9	4,0	2,5	7,5	5,4	6,1	5,4	3,8	-3,3	1,0	2,1

(a) Prediction

(b) For the period 2007-2011 the elements are concerned only the Serbia

Sources: National Bank of Greece: South Eastern Europe and Mediterranean Emerging Market Economies Bulletin 3/5 (August/September) 2002, p. 1-44 7/1 (January/February 2006) p. 76. Monetary Politics, Intermediate Exhibition 2011, November 2011, p. 5-6, 59, Bank of Greece, Exhibition of Commander for the year

[5]Στέλλιος Μπαμπανάσης, «Οι μακροχρόνιες ροπές ανάπτυξης της νοτιοανατολικής Ευρώπης (1850-2012), (2014), στο: Μιλτ. Ιω. Κήπας (διευθ.) «Δομές, Μετασχηματισμός και Οικονομική Ανάπτυξη στην Κεντρική και στην Ανατολική Ευρώπη», εκδόσεις ΗΡΟΔΟΤΟΣ, σελ. 79.Babanasis, St., (2014), "Thelong-termgrowthtendenciesofSouth-EasternEurope(1850-2012)" atMilt. Io Kipas (managm.), "Structures, Transformation and Economic Growth in Central and Eastern Europe", publisher HRODOTOS.

2010, April 2011, p. 66., St. Babanasis, "The long-term tendencies of Development southeastern Europe" (1850-2012), in Miltiades Kipas, "Structures, Transformation and Economic Development in Central and Eastern Europe", Publisher HERODOTOS, p. 50.

This turn is related to two important dates. The first one alludes to the January of 1990, when the process of changeover to the market economy occurred with the liberalization of the prices and the stabilization. The second one refers to the January of 1991, when the collapse of the commerce between the countries of Central and Eastern Europe was observed. The progress of the basic macroeconomic sizes is given in **Table 2.** The first two years are associated with the great decreases of the GNP and with even greater decreases in the industrial production. The result was stabilized in the middle of 1992 and the preliminary accounts for the development of GNP in 1993 are approximately 4%. A typical example is the table that follows and alludes to the progress of Poland.[6]

TABLE 2

BASIC AGGREGATES: POLAND 1990-1993

	1989	1990	1991	1992	1993
GDP	100	88.4	81,7	82,9	86,2
Industrial production	100	75.8	66,7	69,4	73,7
Unemployment rate		6,3	11,8	13,6	15,7

Source: OECD and Polish Central Statistical Office (CUS), Philippe Aghion and Olivier Jean Blanchard (On the speed of transition in Central Europe), p. 284.

GDP and industrial production: year averages, 1989 = 100, 1993 GDP, estimate, 1993 industrial production: average for the first 11 months. Unemploymentrate: endofyear.

When the process of the changeover began there were major fears that the state-owned companies, which had operated with reduced budget and were at the same time exposed with a relatively high cost and not to a stable course of demand, would withstand successfully the attempts to alter their budget. The subsidizations to state-

[6]Philippe Aghion and Olivier Jean Blanchard, "On the Speed of Transition in Central Europe: Pre-Privatization", European Economic Review 38/6 (June 1994), www.hber.org/chapters/c11012.pdf , p. 283-330..

owned companies had been steadily reduced from 4,5% of the GNP in 1989 to 1,1% of the GNP in 1993.[7] In Poland the roots of the decline of the production during the first two years was the macroeconomic stabilization, the liberalization of the prices and the collapse of the commerce of the Council for Mutual Economic Assistance (CMEA). However, the state-owned companies adapted to the decline of production. On the other hand, the adaptation of the employment was slow. The work productivity concerning the industry corresponds to a number which highly reflects the attitude of the state-owned companies and it was configured in the December of 1991 at the percentage of 77% compared to the level of December, 1989.

At the same time, the investments to industry had decreased but less than the industrial production. In 1991 it was at the 86% of the value of 1989 and after that it had remained at the same levels. The proportion of the investments to the divestments of the state-owned companies at the industry was equal to 5,4% within the first 11 months of 1993. This percentage corresponds to the 7% of the constructional companies of the U.S.A. It should be noted that many economists, like Aslund, assumed that the process of changeover from the centrally designed economies to the market economy and capitalism and the simultaneous plump of production should be correlated with Schumpeter's[8] classical theory "about creative destruction". It is evident that Schumpeter has developed his prominent proposition by considering the economic development as a basal strand which entails the creative destruction as a component part. Nevertheless, we should consider it at the dynamic prospect of capitalism and its change which on the one part accounts for the technological change and the creation of a model of productive process and its direct adaptation to the new era of the branches and fields of industry. In this respect, the component part of the development in the countries of Eastern Europe was nothing but destruction. Besides, as I have emphasized before in another research attempt, it is evident that the process of the reflation in these countries began a bit later and always under special circumstances.[9]

[7] Indid, p. 285.

[8] A. Aslund, (2002), "Building capitalism: transformation of the Soviet Union Block", Cambridge University Press.

[9] Μιλτιάδης Ιω. Κήπας, (2016), «Πολιτική Οικονομία της Μετάβασης: το παράδειγμα της Ανατολικής Ευρώπης», εκδόσεις ΗΡΟΔΟΤΟΣ. Miltiades Kipas, (2016), "Political Economy of Transition: the example of Eastern Europe", publisher HRODOTOS.

THE COURSE OF PRODUCTIVITY IN THE COUNTRIES OF EASTERN EUROPE AND BALKANS DURING THE PERIOD OF THE CHANGEOVER FROM 1990 AND THEREAFTER

The term productivity means to us the quantity of the products or the services that is produced by an employee in a specific time period. It is also the relation between the level of production and the effort that was made. The competition influences substantially the tendency or the effort for the improvement of productivity. The productivity of labor can be found through the division of the quantity of the obtained products by the amount of the man-hours that were required for them. This productivity could be also calculated on the basis of the value of the produced quantity. It should be noted that the measurement of productivity in the field of services and especially in the field of agricultural production is quite difficult since it depends on the climate conditions. Furthermore, the productivity of capital can be calculated with the division of the aggregate of production by the value of the used means. The productivity factor concerns the periodic growth of the emoluments depending on the growth of productivity. As far as the total factor of productivity (TFP) is concerned, the term refers both to the growth of productivity without the growth of the productivity factors and the coordination and improvement of all the functions of the enterprise such as the proper administration of the reserves or the development of research.

In this framework the report of the World Bank esteemed that there should be a discipline in the framework of the market by the side of the olden enterprises,with the aim to confront the motivation for their restructuring and to become more productive and hence more competitive concerning the new prices. Otherwise, they would be led to closure. Besides, these enterprises were designed to satisfy the rules of the designed economy and society, while in the new era they should accommodate the laws of the market and consequently the laws of the profit. On the other hand, the same report suggested that there could be fulfilled the need so that new enterprises to be established which should function according to the new data and that the investments should have a yield rate at least equal to the one that could be granted with investments in an enterprise which is in the process of restructuring. The reason for this is that the enterprises under restructuring are assumed to be more productive compared to the older ones. This fact leads to a classification of production. In this

case the criterion is the labor productivity of and not the total productivity of the factors.[10]

In the same framework and according to the same report, the labor productivity calculated as an added value per employee is higher compared to the large companies in the economies that are in the process of changeover. As a whole, the small enterprises represent a higher percentage of the overall added value compared to the overall labor. The higher labor productivity in the small enterprises corresponds to decrease of the labor intensity per unit of product. This fact is quite significant since we could suppose that the small enterprises have a smaller capital-intensive compared to the large companies and this assumption could lead to the deduction that both labor and capital bear a higher marginal product in small enterprises. Simultaneously, the big difference that is noted in productivity in countries such as Kazakhstan and Ukraine indicates that the dynamic of development in the new field seems to be untapped. The difference between the two ensembles of enterprises that is old and new ones has begun to diminish over time for two reasons. The olden companies close or get restructured and they possibly increase or decrease the labor productivity and the growth of employment. Concerning the new companies, it is very likely that from a point on the productivity decreases and this is subject to many parameters but mainly to the passage of time. In this respect, there is a significant difference of productivity between the two ensembles of enterprises concerning Russia and Ukraine, while there is a remarkable decrease of the difference concerning Czech Republic, Hungary and Lithuania in the framework of the process that leads on to market economy.[11]

We should be aware of the fact that the collapse of the per capita income between 1989 and 1992 in Central Eastern Europe and in the Commonwealth of Independent States was bigger than the corresponding of labor productivity. During the time period of 1989 and 1992 the percentages of employment of the population in Eastern Europe and in the Commonwealth of Independent States were dramatically decreased. Since 1992 there was a slowdown of the recovery of the per capita income concerning the labor productivity as an average percentage of employment of the population which continued to decrease. The labor productivity in Eastern Europe increased approximately 6% annually on average between the years 1992 and 1996 compared to the 4,9% growth of the per capita income. In Eastern Europe the rates of employment of the population during this period are very low, just like in the European Union that is approximately 40%.[12]

[10]"Transition the First Ten Years, Analysis and Lessons for Eastern Europe and the Former Soviet Union", The World Bank, (2002), Washington, D.C., siterecourses , worldbank.org/ECAEXT/Resourses/complete.pdf, p. 23-24.
[11]The same, p. 39-40.
[12]Bart van Ark, "Economic Growth and Labour Productivity in Europe: half a Century of East-West Comparisons", (2000), citeseerx.ist.psu.edu/viewdoc/downloads?doi=10.1.559.36.44&rep-rep1&type=pdf, p. 4.

The sharpest fall and the slowest recovery of the per capita income concerning the productivity could be explained by a rapid shaking of the nonproductive activities. What it caused was a rapid growth of the unemployment but it also contributed to the recovery of productivity. Out of the seven countries of Central and Eastern Europe, Poland, Hungary and Slovenia were the ones that met a rapid decrease in the labor-intensive and a slightly fast recovery of the labor productivity. Contrary to this, the rates of productivity of employment of the population in Czech Republic have not decreased at all, while at the same time the productivity has been growing since 1992. This probably happens because the informal growth in Czech Republic might be due to the fact that the restructuring reallocations were accelerated with the big program of the privatizations, but this fact does not necessarily lead to the restructuring within the fields and the branches.[13]

Slovakia faced a sharper drop of the indicator of employment of the population compared to Czech Republic, but the productivity recovered beyond the level of 1989 compared to Romania and Bulgaria. Romania is a typical case of limited restructuring during the first period of the changeover. Even if Romania met a recovery within the years 1992 and 1996, since 1996 and until 2000 the situation had worsened. The table that follows indicates the average level of labor productivity in Eastern Europe and Russian Federation compared to the European Union. In the midst of 1989 and 1992, labor productivity in Eastern Europe compared to the European Union was diminished more than 4%. Since then, the average relevant level has recovered and in 1997 it nearly reached the levels of 1989. The two last columns indicate the course of the recovery during this period. In other words, according to this approach if Eastern Europe is able to create an advantage in growth over the European Union with growth rates 2 or 3% per year, then only after 20 to 50 years will the existing difference from the average level of the per capita income of the European Union be covered. In the framework of the same table it is evident that the collapse of the Soviet Union was even more serious compared to Eastern Europe. Parallel to this, the gap of productivity kept on increasing during the 90's. This means that even if the Russian Federation is qualified with an advantage of recovery of the economy, which will be at least 3% compared to the one of the European Union, only after about 50 years will it reach the average level of productivity in European Union[14]. We cite the table below:

[13]P. Havlik, et. al., (1999), "The Transition Countries in 1999: A Further Weakening of Growth and Some Hopes for later Recovery", WIIWResearch Reports, No. 257, Vienna.
[14]Bart Van Ark, the same, p. 9-10.

TABLE 3

GDP per Person Employed (levels relative to EU) and number of years required to reach full convergence on the basis of given 2% or 3% growth surplus

	GDP per Person Employed European Union = 100 (c)			Number of Years for Convergence to EU Level	
	1989	1992	1998	2% growth Surplus in Lab…prod'ty…	3% growth surplus in Lab. Prod'ty
Eastern Europe (a)	40.0	35.0	39.9	46	30
Russian Federation	52.5	41.2	29.4	60	40
European Union (b)	100.0	100.0	100.0	_	_
United States	122.1	119.7	120.8	_	_

Includes Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia and Slovenia

Excludes Luxembourg

Estimates are PPP-based

Source: GGDC Total Economy Data Base . Bart van Ark, (2000), "Economic Growth and labour Productivity in Europe: Half a Century of East – West Comparisons,

Referring to the distinction between the growth of productivity in a long-term and a short-term basis is considered to be important. To be more specific, in short-term the measures of labor productivity may be highly influenced by the business circle and by the changes in the structure of the field due to the varying competitive pressures. The short-term results affected the slow-down of the productivity in Eastern Europe right after the collapse of the centrally designed economies and the recovery that followed after that. There are actually claims according to which the policies that focus on the accretion and the technological change and consequently reinforce the growth productivity mean less concerning the alleviation of so important and temporary problems such as the projected decline in inflation, unemployment and balance of payments.[15] In a long-term basis, the growth of productivity contributes to the growth of the real wages, to the high turnout rates and the growth of the standard of living.

There are various problems on the adequate measurement of the real product and productivity in Eastern Europe during the period of the central design. The growth rates have officially been overestimated. Concerning the estimations of the growth of the real production, the centrally designed economies were directly based on the

[15]W. J. Baumol, S. A. B. Blackman and E. N. Wolf, (1989), Productivity and American Leadership, The Long View, MIT Press, Cambrodge Mass.

aggregation of the company's accounts. In accordance with these accounts, the production had been valued at the going and comparable prices. The managers had usually the production enlarged because they assumed relatively high prices to the new products. This fact motivated the proposal of higher cost of production for the new products and they were usually de minimis aid in proportion to the existing products.[16]

In parallel, the basis for the calculation of the produced product was the "NMP", that is the "net material product" which is calculated in a different manner that the CNP that comprises the measure for calculating the produced products and services in the West. The basic difference is due to the fact that the categories of services that have a leading position on the GNP are excluded from the NMP. Consequently, significant differences of measurement arise in the two groups of countries and they lead on to different conclusions. The inability of growth of the services and the technological retardation became quite obvious since the decade of 1970 and on and that played a major role on the accelerating slowdown of the economic growth in the countries of the former centrally designed economies. Parallel to this, we observe the downward of the productivity which had already started since the decade of 1960.[17] In general terms an overestimation of the production was noticed.

This course of slowdown of the productivity growth was now evident during the period of 1973-1989 compared to the period of 1959-1973.[18]To some point the slowdown of the productivity is experienced in the Western countries because of the oil crisis of the decade of 1970. So, the growth of the productivity was reduced by 2,2 percentage points during the period 1973-1989 compared to the time-period 1950-1973. However, concerning the most countries of Eastern Europe, the slowdown was high compared to the West. Parallel to this, the course of productivity in the countries of Eastern Europe and the European Union is noticed in the following table:

[16]Bart van Ark, indid, p. 17-18.
[17]Miltiades Kipas, p. 197.
[18]B. van Ark, (1996), "Convergence and Divergence in the European Periphery: Productivity in Eastern and Southern Europe in Retrospect", in B. van Ark and N. F. R Crafts, eds., Quantitative Aspects of Post-War European Economic Growth, CEPR/Cambridge University Press, 271-326. A. Maddison, (1998), "Measuring the performance of a communist command economy: an assessment of the CIA estimates for the USSR", The Review of Income and Wealth, September, No. 3, Seprember, p. 307-323.

TABLE 4

Relative Levels of Output per Person Employed for Total Economy (European Union = 100)

……Bulgaria…….Czecho-…….East…….Hungary……Poland……..Romania…..Euroepan ……Slovakia…..Germany……Union							
1950	25	76	67	68	45	30	100
1960	33	75	75	66	43	36	100
1973	35	57	60	57	38	43	100
1979	37	66	60	56	36	47	100
1989	32	50	50	52	32	37	100
1998	26	52 (b) 51 (c)	69	55	38	30	100

Present EU membership, excluding Luxembourg

Czech Republic

Slovakia

Source: GGDC Total Economy Data Base, Backward extrapolation from 1996 US$ GDP per person employed. B. VanArk,(2000), p. 22.

The causes of the slowdown of the rhythm of growth of productivity are extensively discussed in a wide range of surveys using both qualitative and quantitative evidence. The interpretation of the slowdown concerning the growth is harder than its recording. The audit data concerning the growth are useful for the representation of the slowdown. The decomposition of the size of growth of GNP is accommodated in this data and the delineation of the individual contribution is included of each of the various factors in the overall economic recovery. The question that this methodology is called to answer is whether accumulation is an important factor compared to the improvement of the effectiveness concerning the appropriation of the capital, the employment and the other factors of production. The growth rate of the total factors' productivity (TFP) is conventionally appreciated as a remainder, as the allocation of the overall growth that cannot be explained just because of the growth of the quantities in production.[19]Tables 5 and 6 present the results of two separate growth accounting exercises. Table 5 presents from Mark De Broeck and Vincent Koen (2000b) for the former Soviet Union countries. Table 6 present results using the data series from Estrin and Urga (1997)for the Central and Eastern European countries. Both cover the period 1970-1997 and use data for labor and capital theta were not

[19]Nauro F. Campos-FabrizioCoricelli, p. 796.

corrected for hours worked of capacity utilization. Moreover in the two sets of results, the shares of labour and capital are assumed to be 0.7 and 0.3 respectively.[20]

TABLE 5

GROWTH ACCOUNGTING FOR FORMER SOVIET UNION COUNTRIES 1970-97 AVERAGES				
……		Output Growth….	TFP Growth……	Factor Growth
Armenia	1971-97	0.9	-0.8	1.7
	1971-80	6.4	2.3	4.0
	1981-90	1.6	-0.6	2.2
	1991-97	-7.9	-5.6	-2.2
Azerbaijan	1971-97	-0.6	-2.9	2.3
	1971-80	6.1	2.6	3.5
	1981-90	0.1	-2.3	2.4
	1991-97	-11.5	-11.8	0.4
Belarus	1971-97	2.0	0.5	1.5
	1971-80	5.5	2.2	3.3
	1981-90	3.1	1.5	1.6
	1991-97	-4.5	-3.3	-1.2
Estonia	1971-97	1.1	0.2	0.9
	1971-80	3.8	1.4	2.4
	1981-90	1.6	0.5	1.0
	1991-97	-3.4	-2.2	-1.2
Georgia	1971-97	-2.0	-2.8	0.8
	1971-80	5.3	2.7	2.6
	1981-90	0.0	-1.6	1.6
	1991-97	-15.0	-4.7	-2.9
Kazakhstan	1971-97	-0.5	-2.0	1.5
	1971-80	3.1	-0.4	3.5
	1981-90	0.4	-1.6	2.0
	1991-97	-6.8	-4.7	-2.1
Kyrgyz Rep.	1971-97	0.5	-1.7	2.2
	1971-80	3.3	-0.5	3.8
	1981-90	3.3	0.8	2.5
	1991-97	-7.3	-7.2	-0.1
Latvia	1971-97	-0.1	-0.4	0.3
	1971-80	3.6	1.4	2.2
	1981-90	2.3	1.3	1.0
	1991-97	-8.6	-5.3	-3.4
Lithuania	1971-97	0.8	-0.3	1.1
	1971-80	2.8	0.0	2.8
	1981-90	3.7	2.3	1.4
	1991-97	-6.3	-4.5	-1.8

[20] Indid, p. 796.

Moldova	1971-97	-1.6	-2.5	0.9
	1971-80	3.7	0.6	3.0
	1981-90	2.1	0.9	1.2
	1991-97	-14.4	-11.9	-2.5
Russia	1971-97	0.1	-1.0	1.1
	1971-80	3.9	1.1	2.8
	1081-90	1.3	-0.3	1.6
	1991-97	-7.0	-5.4	-1.6
Tajikistan	1971-97	-1.9	-4.4	2.5
	1971-80	4.2	0.0	4.2
	1981-90	1.3	-1.9	3.2
	1991-97	-15.2	-14.3	-0.9
Turkmenistan	1971-97	-1.0	-4.6	3.6
	1971-80	2.4	-2.2	4.6
	1981-90	1.5	-2.0	3.5
	1991-97	-9.5	-11.9	2.4
Ukraine	1971-97	-1.6	-2.4	0.8
	971-80	2.9	0.6	2.2
	1981-90	1.6	0.7	0.9
	1991-90	-12.5	-11.2	-1.3
Uzbekistan	1971-97	2.2	-1.3	3.4
	1971-80	5.0	0.4	4.6
	1981-90	2.3	-1.3	3.5
	1991-97	-12.1	-3.6	1.6
Average	1971-97	0.0	-1.3	1.3
	1971-80	3.5	1.0	2.9
	1981-90	1.5	0.0	1.5
	1991-97	-7.7	-6.4	-1.3

Source: De Broeck and Koen (2000b)

Table 6 presents results using data series from Estrin and Urga (1997). These are data about the Central and Eastern European countries. This table covers the period 1970-97 and uses data for labor and capital that were not corrected for hours worked or capacity utilization. So, the reported TFP results after 1990 reflect the impact of the transition. Simultaneously, here the results of share of labor and capital are estimated to be 0.7 and 0.3 respectively.

TABLE 6

GROWTH ACCOUNTING RESULTS FOR CENTRAL AND EASTERN EUROPEAN COUNTRIES 1970-97 AVERAGES				
		Output growth	TFP Growth	Factor Growth
Bulgaria	1971-97	1.1	0.8	0.3
	1971-80	6.9	4.6	2.3
	1981-90	1.9	2.1	-0.2
	1991-97	-8.8	-6.2	-2.6
Croatia	1971-97	1.1	1.1	0.0
	1971-80	5.7	3.3	2.4
	1981-90	-0.8	0.9	-1.7
	1991-97	-4.2	-3.2	-1.0
Czech Republic	1971-97	-0.5	-0.6	1.1
	1971-80	3.4	1.7	1.7
	1981-90	0.8	0.2	0.6
	1991-97	-4.2	-5.1	0.9
Hungary	1971-97	-2.8	2.4	0.4
	1971-80	4.9	3.2	1.7
	1981-90	1.1	2.1	-1.0
	1991-97	1.9	1.6	0.3
Poland	1971-97	2.7	0.9	1.8
	1971-80	5.9	2.7	3.2
	1981-90	0.0	-0.3	0.3
	1991-97	1.8	0.1	1.7
Romania	1971-80	3.1	1.9	1.2
	1971-80	9.4	5.6	3.8
	1981-90	0.4	1.3	-0.9
	1991-97	-2.4	-2.4	0.0
Slovak Republic	1971-97	2.1	0.8	1.3
	1971-80	5.1	2.9	2.2
	1981-90	1.5	0.8	0.7
	1991-97	-1.6	-2.3	0.7
Slovenia	1971-97	3.7	2.6	1.1
	1971-80	5.7	2.7	3.0
	1981-90	-0.9	-0.3	-0.6
	1991-97	8.9	7.9	1.0
Average	1971-97	2.1	1.2	0.9
	1971-80	5.9	3.3	2.5
	1981-90	0.5	0.8	-0.3
	1991-97	-1.1	-1.2	0.1

Note: The author thanks S. Estrin and C. Urga for generating these results using their data.

Before the crisis, CEE economies were among the fastest growing ones in the world. From 2000 to 2008, GDP grew by 4.6 annually and per capita GDP rose by 4.8% annually. Se. CEE reached 19,000$ in purchasing power partly terms. During this period, per capita GDP in the CEE economies grew four times as fast as in Western Europe and average per capita GDP across the CEE countries rose from 38% of the

EU-15 in 1995 to 54% in 2011. Labor productivity, based on value added per worker, also rose, from 37% of the EU-15 average in 1995 to approximately 60% in 2011. Table 7 presents the data of results.[21]

TABLE 7

Central and Eastern Europe was one of the fastest – growing regions in the world before 2008 (1)			
… …annual growth rate, 2000-8	…GDP per capita (real $)…….2011	GDP per capita ……..rates, 2011	GDP, market exchange
China	10.0	8	7.3
India	6.6	4	1.8
CEE	4.8	19	1.3
Developing Asia (2)	3.3	4	2.4
Latin America	2.7	11	4.5
Africa	2.6	3	1.9
Advanced Asia (3)	1.6	35	8.0
Middle East	1.6	16	2.5
European Union (4)	1.4	34	16.3
United States	1.0	50	15.1

1. In purchasing power terms
2. Not including China and India
3. Japan, Hong Kong, South Korea, Singapore and Taiwan
4. Not including CEE

SOURCE: International Monetary Fund: McKisney Global Institute analysis

The core strengths of the CEE region, an area with 100 million people and 1,3$ trillion (0.9$ trillion) in GDP in nominal terms, are: highly educated yet affordable workforce. About 22% of the entire labor force has tertiary education and 29% of workers aged 25 to 34 have college degrees, matching the Western European rate for all workers. There is still a stable macroeconomic environment and favourable business environment. There is statutory tax rates average 18% compared with an average of 26% in the EU-15, 22% in Asia, 28% in Latin America and 29% in Africa. Finally, here, it considers strategic location. [22]

To close the productivity gap between Eastern Europe and Western Europe and accelerate GDP growth, the CEE economies can address gaps in four major domestic sectors: construction, transportation, retail, and "network" industries such as railway, postal, electric, and telecom systems. Generally, construction sector productivity

[21]Eric Labaye, et.al., (2013), A new down: Reigniting growth in Central and Eastern Europe, p. 3.
[22]Indid, p. 3-4.

across the CEE region is 31% lower than in the EU-15 economies. The lagging productivity is due to many factors, ranging from a lack of modern tools, skills, and materials to cumbersome regulation. If countries of CEE use modern techniques and invest better equipment, the countries of CEE construction industry could reduce direct labor and indirect costs.[23]

CONCLUSIONS

When the countries of Central and Eastern Europe and the corresponding ones of the Balkan Peninsula collapsed in 1989, they were industrial countries with a trained workforce. Nevertheless, the retardation of technology was representative in these societies, which was a consequence of the attitude of the countries of the "former existing socialism" towards the crisis of "73, but also of the corresponding countries of Western Europe and the U.S.A., which contributed to the emergence of new technology that was related to the services in order to surmount the crisis. The distinguishing feature of the 90's decade was the constant fall of the production in the countries of the former centrally designed economies. The deployed information proves that the course of production abated during the 90's in all the countries of the so-called "existing socialism". As we have proved, in 1999 the real GNP exceeded the corresponding level of 1989 in only two out of the 25 countries.

Concerning the most significant cases the drop of the production in 1999 was over 50% even as far as the GNP levels of 1989 were concerned. One of the distinguishing features of this period of the so-called "existing socialism" was the extended growth from the moment that the economic development was based on the logic of the accumulation and not of the technological and organizational changes. Simultaneously, the first signs of the developmental slowdown appeared during the 60's, while the gap between the countries of Eastern Europe and the developed countries of the West was constantly broadening. In order to avoid such a turn they should either create circumstances of high technology or they should contribute to the diffusion of technology in all fields of economy. However, this did not occur.

As a consequence, their collapse is accompanied by a sharp fall of the production in all countries of the centrally designed economies. The shrinking of the production is more evident in the countries of Baltic and the Balkan Peninsula. A typical example is the period 1990-1995 when the production was reduced with an average annual rate 5% in Slovenia, 10% in Croatia, 14% in Yugoslavia, 13% in FYROM and until 1994 34% in Bosnia-Herzegovina. The main feature of this turn was the extended deindustrialization mainly in the countries of the Balkan Peninsula and to a lesser degree either in the countries of Baltic or in the countries of Central and Eastern Europe. In parallel, the industrial investments had decreased, but less than the industrial production.

[23] Indid, p. 7.

Concerning the labor productivity calculated as an added value per employee, it is higher compared to the big enterprises in the economies that are in the process of changeover. The higher labor productivity in the small enterprises corresponds to the decrease of labor-intensive per unit of product. This fact is considered to be important since it could lead to the assumption that the small enterprises have a smaller capital-intensive compared to the big companies. So, this assumption helps us understand that labor and capital bear a higher marginal product in the small enterprises. At the same time, the large difference of productivity in countries such as Kazakhstan and Ukraine lets the dynamic of development untapped in the new field. Parallel to this, the difference between the two ensembles of companies that is new and old ones, begins to decrease over time. The old enterprises either close or get restructured and they probably increase the labor productivity and the development of employment. On the other hand, in the new companies from a point of time and on the productivity decreases and this depends on many parameters and mainly on the passage of time.

Since 1992 the recovery of the per capita income had a larger slowdown compared to the labor productivity concerning the average percentage of employment of the population which continued to decrease. In Eastern Europe labor productivity increased approximately by 6% per year on average between the time period 1992 to 1996 compared to the increase of per capita income by 4,9%. At the same time, the rates of employment of the population in Eastern Europe and in European Union were in very low levels that is about 40%. The chasm of productivity continued to increase in 90's as well as a continuity of the previous years, Russia **compared to** Europe should provide the necessary conditions for an advantage of recovery, which will be at least 3% with the corresponding one of the European Union and as result it will reach the European Union concerning productivity in 50 years. This slowdown course of the growth of productivity both in Eastern Europe and the former Soviet Union was now obvious during the time-period 1973-89 compared to the time-period 1950-73.

In conclusion, the reason not only for the reduction of production but also for the deceleration of the rate of growth in productivity are extensively discusses in a wide range of studies that use not only qualitative but also quantitative evidence. In this way we can comprehend the course of economy in the countries of Eastern Europe and the Balkans after 1989.

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