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Defining the long-term development trends of countries in East-Central Europe in the context of political cycles

Preliminary draft, not to be quoted yet!

Introduction

Long-term dynamic processes in the world economy can alter the relative development levels of countries and groups of countries. A major focus of international comparisons is the drivers of convergence and divergence. Economic theory has altered the traditional views of linear development (Marx, 1887; Rostow, 1960). The body of the "Varieties of Capitalism" (VoC) literature has highlighted significant differences of capitalist models (Hall and Soskice 2001; Amable 2003; Nölke and Vliegenhart, 2009). Moreover, empirical research on real convergence of countries revealed the fact that significant differences in relative levels of development may last rather long. There are only few positive examples of catching-up. Consequently, convergence theory concept was refined suggesting conditional convergence instead of absolute one. Conditional convergence indicates that countries' long-term development paths are different, and countries are regarded as successful developers if they can narrow the gap between their hypothetical, natural development trend status and their actual development level and pattern (Monfort, 2008). This hypothetical trend line is in the focus of our paper.

The idea of "trend lines of economic development" comes from a Hungarian economist Ferenc Jánossy. According to his theory each country develops alongside a historic trend line. However, development is uneven. It can lag behind from the historic trend line for some external reasons (economic crises, wars). Economic growth accelerates in the aftermath of the crisis and drives the country back to the trend line. Then development decelerates, and there used to be an abrupt rebound. He called the catch-up period "reconstruction period". With this method he forecasted the economic recession in the developed world in the 1970s (Jánossy, 2016). Tamás Tarján proved the viability of Jánossy's concept using endogenous growth theory models (Tarján, 2000). Jánossy also indicated, that the slope of the historic development trend may change (accelerate or decelerate), but this modification of the development pattern should not be mixed up with the shock-related ups and downs of development.

The main rationale of calculating the Jánossy trend lines is to eliminate the statistical distortion impact of shocks and create a hypothetical optimum development trend line which is

determined by country endowments and the general development patterns of the world economy. This correction effect of the Jánossy trend lines is most visible in the downward periods between the two world wars, and the transformational crisis of East-Central European (ECE) countries. Its main message is that the economy will return sooner or later to its long term development path. Nevertheless, from the viewpoint of convergence and recovery the most important aspect is the direct comparison of the country trend lines. Whether the differences in development levels will decline or increase? Past patterns are also interesting. They can inform us whether the various countries are more successful when growth opportunities are bigger or they can converge in less dynamic development periods? The analysis of the trend line slopes provides the easiest way of making this comparison.

In this paper we are concentrating on the ECE region. Historically, East Central Europe used to be a semi-periphery of the European heartland together with two other larger regions: Scandinavia and the Mediterranean. Our main concern is convergence, potential catching up of the peripheries. It is proper to evaluate most recent tendencies in historic perspective. The more so, since one larger region, Scandinavia successfully mastered this task (Kokko, 2010), meanwhile the two other periphery regions have not. We believe that uneven patterns of historic development may provide further new opportunities in future for countries to lessen distances. Two interesting research tasks stem from this idea. For the one we may consider timing: when do we witness accelerating economic and social development, and what are the driving forces of the process? Second: what kind of political background (liberal or organized, statist) was more successful inducing long-term development and catching-up? The role of the state in seizing the historic opportunities can be crucial (Nölke, 2014; Ricz, 2019). We believe that windows of development opportunities can be better utilized by whole societies and nations if appropriate state policies support the catching up process.

An interesting recent illustration of the historic drivers behind the uneven ECE development concept used the case of post-transition development differences of Central Europe (Djankov – Hauck, 2016). This paper traced back differences of post-transition development to historic cultural and political backgrounds. Different religions (Catholic/protestant, Orthodox Christian and Islam) and imperial affiliation (Turkish, Russian and Austro-Hungarian) proved to be significant explanatory variables of different types of political institutions (autocracy or democracy) and economic institutions (more market or more state control). The differences also affected economic performance: growth potential and growth rate. From the angle of historic roots Central Europe is particularly interesting. The largest part of the region belonged to the

Austro-Hungarian Empire for several hundred years, but the Russian Empire also possessed a part of this territory (Eastern parts of present day Poland), and the Turkish Empire lastingly controlled the whole Balkans and large parts of Hungary (150 years). Two of the three above mentioned big religions have dominating role in various areas of the region (Islam is rather marginal). Central Europe is therefore a very interesting region for testing the durability of historical preconditions and their impact on most current economic and social development.

If Djankov and Hauck (2016) are right and historic and cultural background has a long-term impact on the direction and speed of national development paths then these substantial differences must be clearly verified also with quantitative measures. Our hypothesis states that indeed, the different development patterns can be verified by historic time series (Maddison's per capita GDP data). In certain periods we observe accelerating development while other periods feature decelerating economic growth (very much in line with Kondratieff's cycle theory, see: Korotayev and Grinin, 2012). Moreover, we also expect timely differences in the comparative evolution of these development trends. Countries on the European semi-periphery could narrow their development gap in some periods, while they could not do so or only marginally in other periods. In this paper we identify periods of convergence and divergence and compare the sequencing of these with historic periods of political development (more liberal or statist institutions, see: Yakovlev, 2018, Nölke and May, 2019).

The main aim of this paper is to compare successful and less impressive historic development models in the European semi-periphery using the Maddison database. The quantitative analysis provides us with the long-term development trend line of various Central European countries. As comparison we also calculate the trend line of Finland (as an example of successful catching-up from the periphery), Austria as a natural benchmark for those countries which belonged historically to the Austrian empire, and Greece as an example of less successful country from the Southern periphery. First we concentrate on the identification of the long waves of economic development. Based on more recent periodization of the Kondratieff-waves (Korotayev and Grinin, 2012) we construct long-term time series of national development to see the timely convergence performance of Central European countries.

The relative development level of ECE countries in historic perspective

The analysis relies on calculations with Maddison data in 1990 Geary-Khamis dollars. The starting point is the most widely used information of international comparisons the relative

development level of countries. Table 1. shows selected years' data of the 6 observed ECE countries for the years 1870-2016 together with our three successfully catching up benchmark countries. The figures are showing the actual per capita GDP figures in percentage of more developed Western European countries[1]' average per capita GDP. The data shows significant differences among ECE countries as well as considerable changes over time. At start the relative development level of parts of the Austro-Hungarian Empire (Czech and Slovak parts, Poland and Hungary) were higher (45 to 53 %), Romania and Bulgaria and Yugoslavia showed figures between 10 and 40 %. In the same year Austria was at the 84 % level, Finland and Greece together with the more advanced ECE countries (52-55 %).

Table 1. Relative development level of selected countries (per capita GDP in % of West-European developed countries' average)

	1870	1913	1929	1937	1950	1974	1989	2001	2008	2016
Austria	84	87	75	61	63	88	94	98	100	100
Finland	52	53	55	66	72	86	97	96	104	96
Greece	55	51	47	53	32	56	58	58	65	49
Czechosl.	53	53	62	56	59	55	50	43	36	62
Hungary	49	53	50	49	42	43	40	32	37	40
Poland	45	44	43	37	41	42	33	34	42	53
Bulgaria	38	30*	25	29	28	41	36	24	36	41
Romania	10	12	9	9	9	21	21	16	24	24
Yugosl.	25	24	25	23	24	37	36	23	29	33

Source: Authors' own calculation based on the Maddison database *: 1911

ECE countries were not particularly successful to catch up in the upcoming three decades, only Hungary could increase the relative development level by 4 % points. World War 1 exercised very bad effect on most countries but especially on Austria, Bulgaria and somewhat surprisingly also Romania. Finland could continue catching up with the developed countries' average. Czechoslovakia joined them very soon.

[1] The countries are: Belgium, Denmark, France, Germany, Italy, Netherlands, Norway, Sweden, Switzerland, United Kingdom

Especially shocking is the contrast of the successfully catching up countries' post World War 2 performance and the stagnation and even decline of ECE countries as long as until year 2001! These figures contradict the common sense knowledge about the region's postwar extensive development progress that produced clearly manifested results among others in industrialization, big improvements in education, housing and health conditions. In this period Western Europe outgrew the ECE region. European reconstruction was massively supported by the Marshall Plan which was unfortunately not available in ECE. Not only quantitative but also qualitative differences emerged between the two regions. A massive departure of the soviet bloc countries from West European economic and consumption patterns was described in detail by Tomka (2011).

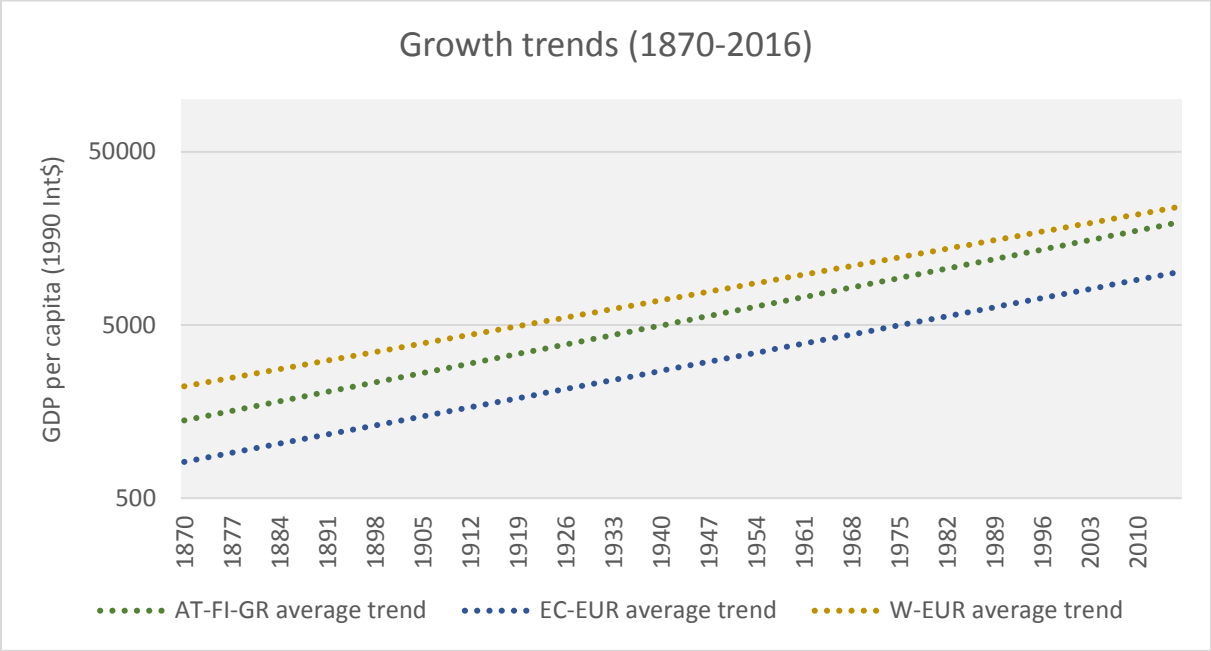
Divergence continued after the systemic change started in the ECE countries in 1990. Transformational recession further increased the development gap as an organic continuation of the previously taken development path. This recession can be interpreted as a process of cleaning up of the unviable and badly performing structures of the previous regime. A major drop in GDP production was therefore unavoidable consequence of the previous regime's failure, rather than the result of bad policies[2]. ECE countries could recover by the end of the 1990s. Development of the benchmark countries was uninterrupted in the same period[3]. The 1990s can be regarded from the analytical viewpoint another external shock that was followed by a Jánossy-type reconstruction period until the end of the decade.

Chart 1. shows the long-term average growth patterns (OLS calculations) for the Western countries, the group of successfully catching up countries and the selected ECE economies. The visual impression of catching up and lagging behind can be verified with the slopes of the three curves (1,65; 1,82; 1,74 respectively). Behind the rather modest ECE average long-term convergence significant development was only achieved by the two countries with lowest initial values: Romania's slope was 2,24; Yugoslavia's 1,85. Concerning the whole period (1870-2016) Hungary fell back considerably with slope 1,50. The remaining three countries roughly maintained their positions.

[2] We do not state that transition policies in ECE countries were flawless. We emphasize that the transformational recession was unavoidable even with the most clever policies. Czechia, Slovakia experimented with more cautious policies and tried to accommodate the shocks of liberalization. Yet, they could not avoid recession or save their socialist industrial potential any better then Poland or Hungary. Their economies were also integrated in multinational companies GVCs: their development patterns do not differ much from the ECE standard despite of large differences in transition policies.

[3] Transformational recession caused decline in Finland because of its strong trade links with the Soviet Union.

Chart 1.



Source: Authors' own calculation based on the Maddison database

Data and analysis of the historic development (Jánossy trend lines) of ECE countries

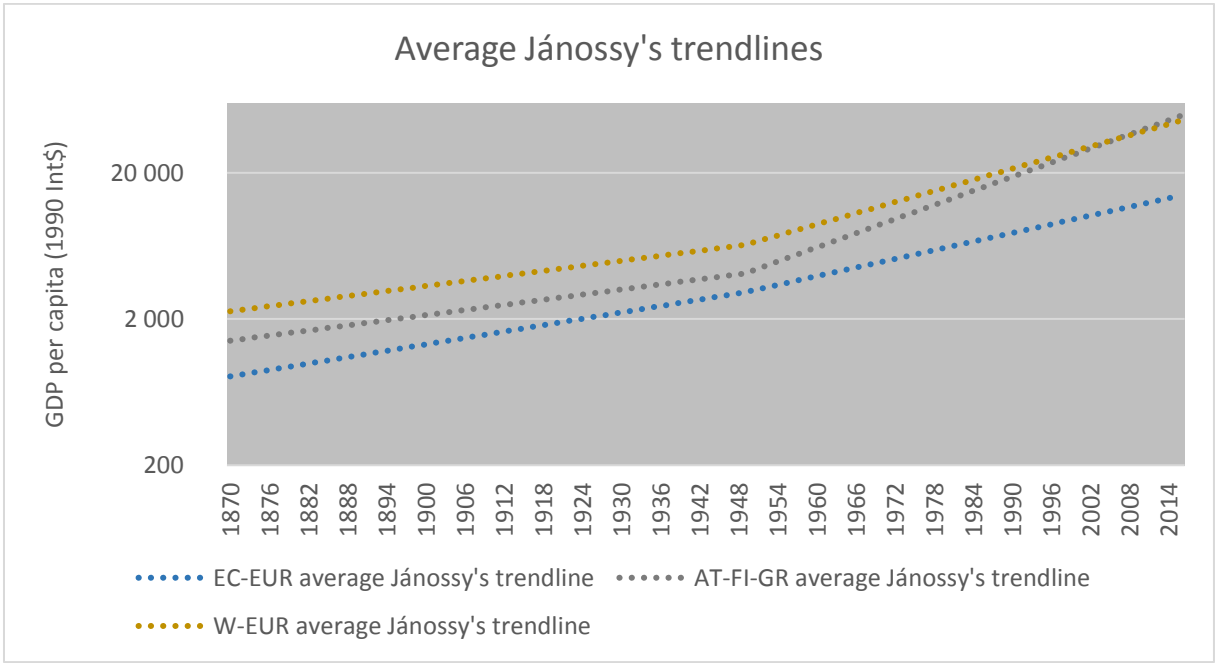
After this brief overview of the development levels we continue with more detailed analysis of development trends. We use simple statistical toolkit to create development trend lines according to Jánossy's concept. If we can construct them, the differences in the slopes of the trend lines of each country will show more clearly the potentials of convergence. We use the Maddison per capita GDP data for the available years and calculate an envelope curve (responding to Jánossy's concept) rather than a simple trend line. Jánossy emphasized that the development curves can change shape or slope (development can accelerate or decelerate on long run due to technological change). Therefore first we calculated the envelope trend lines with one break point in 1949 since our data showed a uniform acceleration of development starting in the early post war period. Comparison of the trend lines with the actual GDP per capita figures helps evaluating the country's performance against its potentials.

As a second step we refined the trend lines by creating a seven section chart for each country. The break points of these charts coincide with the section dates of the new Kondratieff wave calculations of Korotayev and Grinin (2012). We also compare the slopes of these shorter trend

lines with the longer term (two section) one to check for convergence or divergence with the countries' own long term development potential in the given shorter period. The aim of this exercise is to separate the long term impacts from short term shocks and recovery periods growth patterns. Here too, we expect that external factors can cause an overall acceleration or deceleration of development. Comparisons among country groups are therefore justified (differences of the curves' slopes). For better visualization we used log scales in our charts.

The two section trend lines of the three country groups do not show fundamental differences in the first period (1870-1949), however, ECE countries figures show modest catching-up. This growth advantage disappeared in the second phase. The difference in ECE countries' curve slopes 1,69 and 2,30 compared to West-European figures (1,33 and 2,97) clearly show the changes in the two sections. The three successfully catching-up countries average scored 1,35 and 3,78 (see Chart 2.). The trend line indicated that they could successfully take over already during the mid 1990s, but in fact this happened only later. Their growth advantage started to decline already during the 1990s, and shrunk more intensively after the 2008 crisis.

Chart 2.



Source: Authors' own calculation based on the Maddison database

Table 2. Slopes of the two phase Jánossy trend lines 1870-2016

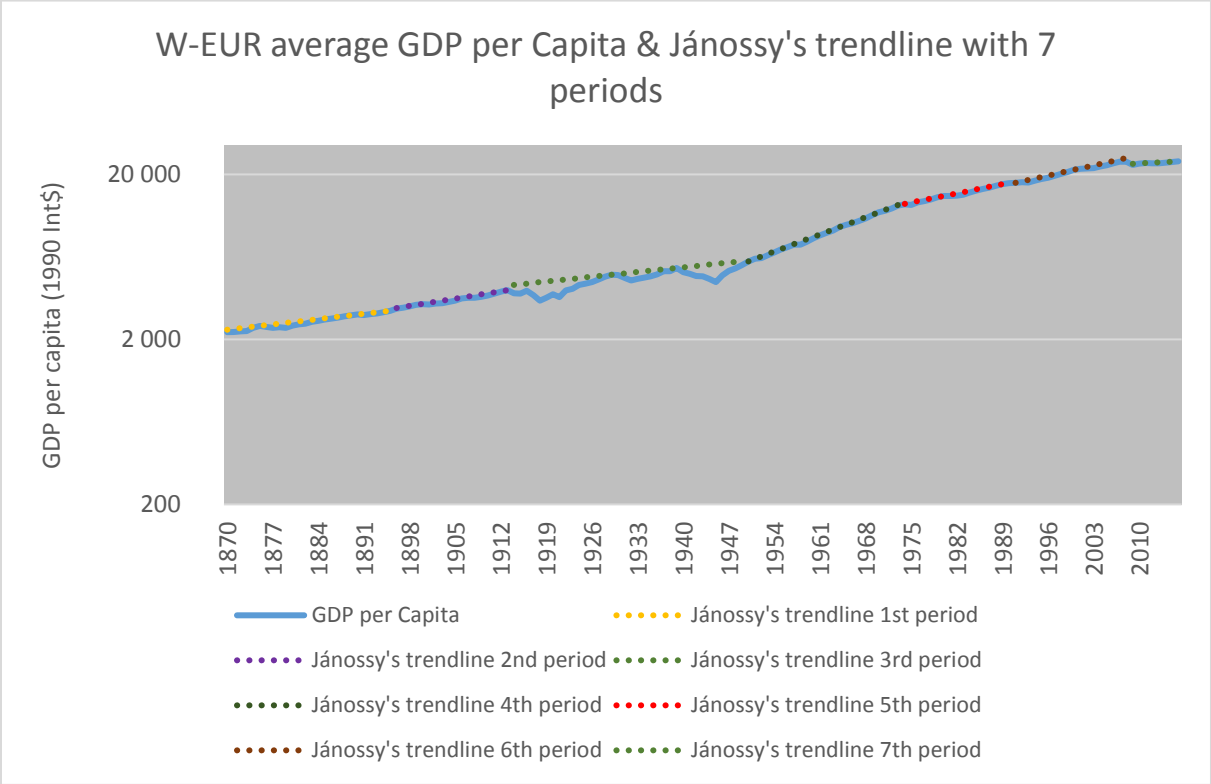
	W-EU	Austria	Finland	Greece	Czech	Hungary	Poland	Bulgaria	Romania	Yugosl.
slope 1 1870-1949	1,33	1,46	1,70	1,07	1,64	1,53	1,70	1,37	1,21	1,24
slope 2 1949-2016	2,97	2,65	4,00	3,79	2,20	1,90	1,79	3,39	5,07	4,60

Source: Authors' own calculation based on the Maddison database

The curve slopes for the individual countries are introduced in Table 2. The slope figures show a more homogenous development pattern until World War 2 and rather big differences in the curves shaped by data of the post war recovery period. Since these curves and slopes were calculated according to Jánossy's hypothesis as enveloping curves showing a hypothetical development path, they may sometimes contradict to some actual figures. For example, Austria successfully continued catching up also after 1949, as it is shown in figures of Table 1. Nevertheless, the country's Jánossy trend line suggested slower development: Austria performed better than expected. The big differences in slope figures of the second, post 1949 period indicate significant recalibration potential in certain countries' development patterns. This is most obvious in the case of Romania and Yugoslavia with excessive development potential and Czechoslovakia, Hungary and Poland with less catching up potential.

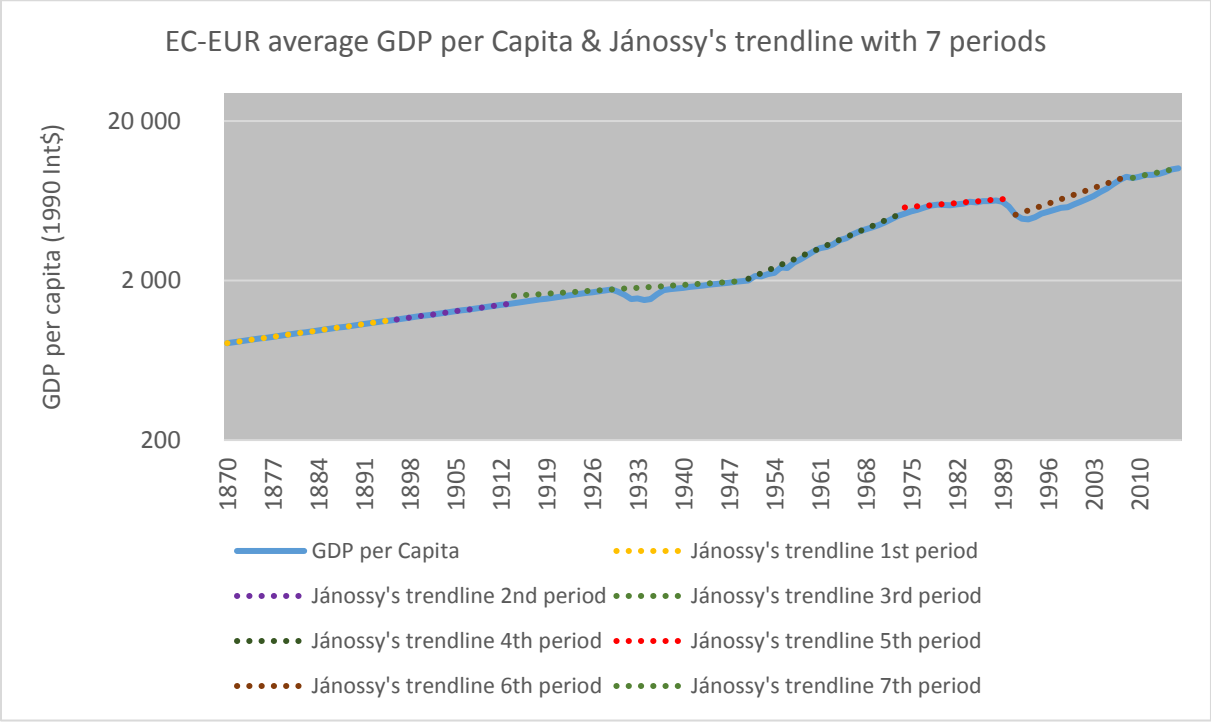
Another possible breakup of the historical trend lines is plausible using the sequencing of the long waves of the world economy (Kondratieff cycles). In this case the break points of the curves are 1913, 1949, 1975, 1990 and 2008. The seven periods show markedly differing growth rates in the upswing and downswing periods. Charts 3-5 and Table 3 summarize the information of our calculations.

Chart 3.



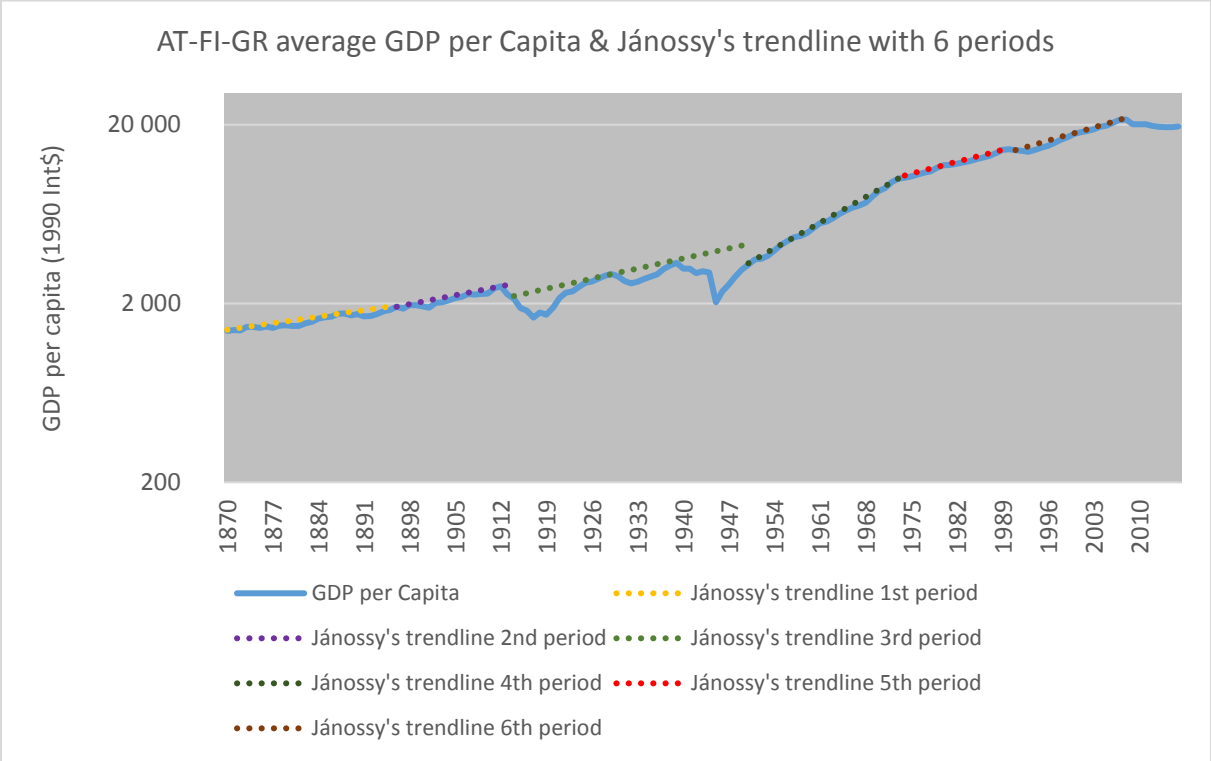
Source: Authors' own calculation based on the Maddison database

Chart 4.



Source: Authors' own calculation based on the Maddison database

Chart 5.



Source: Authors' own calculation based on the Maddison database

Table 3. Slopes of 7-phase Jánossy trend lines

	1870-1895	1896-1913	1914-1949	1950-1973	1974-1990	1991-2008	2009-2016
	K.II down	K.III up	K.III down	K.IV up	K.IV down	K.V up	K.V down
West-Europe	**1,06%**	**1,47%**	**0,95%**	**3,48%**	**1,84%**	**2,05%**	**0,50%**
Austria	1,28%	1,75%	1,15%	4,31%	2,07%	2,16%	0,28%
Finland	1,67%	1,58%	2,46%	4,11%	2,70%	2,87%	2,10%
Greece	1,47%	2,12%	2,12%	6,27%	1,28%	2,66%	NA
Czechoslov.	1,31%	1,47%	2,62%	3,85%	1,07%	3,45%	1,87%
Hungary	1,51%	1,63%	1,33%	3,82%	1,29%	2,91%	2,00%
Poland	1,96%	0,20%	1,24%	3,45%	1,71%	4,99%	2,61%
Bulgaria	1,37%	0,56%	1,72%	4,98%	1,44%	3,01%	2,35%
Romania	4,72%	1,28%	2,09%	6,38%	2,39%	3,83%	2,25%
Yugoslavia	1,73%	1,34%	1,04%	5,69%	0,38%	2,12%	1,09%

Source: Authors' own calculation based on the Maddison database

Table 3 provides us with plenty of interesting details. Concerning the trend lines of most developed Western Europe we see that fluctuations in these countries' development pattern was relatively modest except the last 2009-2016 period. Also, the postwar boom and slack was relatively shallow. If we compare these figures to the catching-up countries average, we can see a continuous narrowing of the development gap until 2008, so that Austria and Finland could exceed the benchmark average. Excess development was largest in boom periods between 1950 and 1974 and also most recently. In case of Greece we can observe larger fluctuations. The main convergence period was the post-war boom.

ECE countries' development pattern also showed ups and downs. Most of them were on a modest catching-up trend before World War 1. Since the interwar data of several countries is rather scattered, many records are missing, we can not make any firm statement on overall trends in this period. Most probably Czechoslovakia could continue and even accelerate the convergence process. According to Tomka (2011) Hungary recovered to the prewar development level, however this only means that the country approached its Jánossy trend line (first phase), but could not exceed the long term development trend of the developed countries. This is also seen in the data and the figures in the Appendix. All other countries lagged further behind in this period.

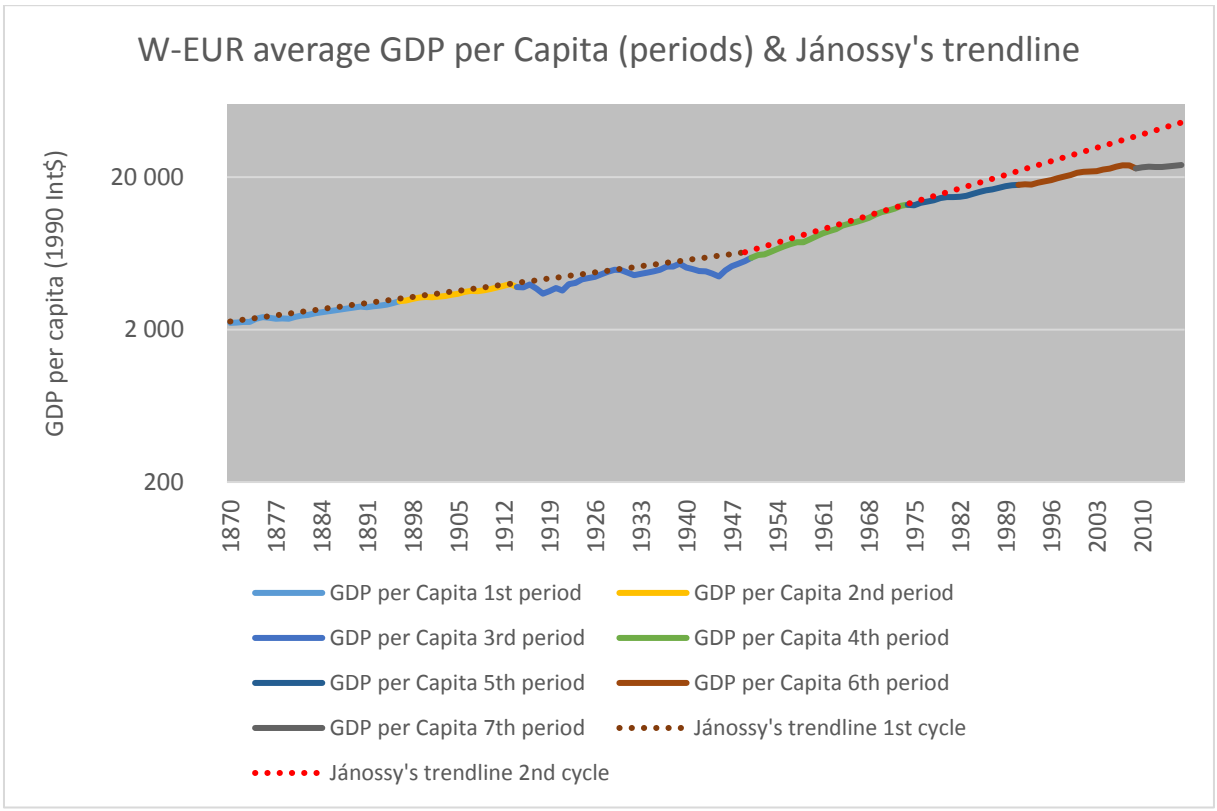
In the postwar boom period ECE scored significant rise of the development level. Its average growth rate exceeded the Western European average. However, according to the findings of Tomka (2011) the period did not bring convergence in consumption patterns. Much of the material results of excess development were used up by "regrettable necessities" (arms race). The development was more obvious in the area of narrowing inequalities. For example, massive housing programs provided better living conditions for the poorest population especially in the second half of the period. Then after the general deceleration of growth and development with the oil price shock in 1974 all soviet bloc countries found themselves in a serious economic and political crisis. This is clearly seen on the very low figures in each of the observed ECE countries that lag far behind the Western European average, let alone the even then successfully converging catching up countries. The slack period ended up in serious economic decline in the first years of the transition process. Thereafter, instead of the previously developed uncompetitive industrial capacities new economic branches were established, economic structure changed dramatically. The process was mainly driven by multinational firms' investments. Up till 2008 all ECE countries could significantly improve their relative

development level. ECE convergence continued after the crisis, but mainly because of decelerating development of the benchmark countries and significant EU funding (2-5 % point GDP growth effect).

ECE development performance compared to historic growth potential

In this section we compare the long-term two section Jánossy trend lines with the finer 7-section trend line performance of the countries. Chart 6. shows the two-section long term development trend line of the Western European benchmark countries together with their actual growth figures. Table 4. contains the slope data of the two section trend lines and the 7 section trend lines for all investigated countries. Additionally we can also find the country charts in the Appendix for better visualization. Chart 6 shows on the example of advanced European economies' average figures how the trend line concept works here. The trend line is always above the actual figures, but the distances change over time. This is also reflected in data of Table 4. If slope figures are larger, than the two-section envelope curve's slope, it means that the trend of the actual figures in the given period approached the historic trend line.

Chart 6.



Source: Authors' own calculation based on the Maddison database

Table 4. 1870-2016, 7 periods, Slope of Jánossy's trends

Countries	1st cycle	1870-1895	1896-1913	1914-1949	2 nd cycle	1950-1973	1974-1990	1991-2008	2009-2016
Austria	1,46%	1,28%	1,75%	1,15%	2,65%	4,31%	2,07%	2,16%	0,28%
Finland	1,70%	1,67%	1,58%	2,46%	4,00%	4,11%	2,70%	2,87%	2,10%
Greece	1,07%	1,47%	2,12%	2,12%	3,79%	6,27%	1,28%	2,66%	NA
AT-FI-GR average	**1,35%**	**1,21%**	**1,67%**	**1,86%**	**3,78%**	**4,85%**	**2,20%**	**2,47%**	**NA**
Czechoslovakia	1,64%	1,31%	1,47%	2,62%	2,20%	3,85%	1,07%	3,45%	1,87%
Hungary	1,53%	1,51%	1,63%	1,33%	1,90%	3,82%	1,29%	2,91%	2,00%
Poland	1,70%	1,96%	0,20%	1,24%	1,79%	3,45%	1,71%	4,99%	2,61%
Bulgaria	1,37%	1,37%	0,56%	1,72%	3,39%	4,98%	1,44%	3,01%	2,35%
Romania	1,21%	4,72%	1,28%	2,09%	5,07%	6,38%	2,39%	3,83%	2,25%
Yugoslavia	1,24%	1,73%	1,34%	1,04%	4,60%	5,69%	0,38%	2,12%	1,09%
EC-EUR average	**1,69%**	**1,69%**	**1,20%**	**0,77%**	**2,30%**	**4,08%**	**0,81%**	**3,27%**	**2,01%**
W-EUR average	**1,33%**	**1,06%**	**1,47%**	**0,95%**	**2,97%**	**3,48%**	**1,84%**	**2,05%**	**0,50%**

Source: Authors' own calculation based on the Maddison database

The developed benchmark economies showed rather steady development patterns until 1913, and the interwar period's trend line can be interpreted as straightforward continuation of the previous trends. The three large shocks of the period were followed by extensive recovery periods, thus the trend lines did not decline but remained relatively close to the historic one. In the second section the accelerated development pattern lasted until the end of the 1970s. Since then continuous deceleration can be observed and the sub-sections' trend lines show lower and declining slopes.

Compared to this pattern, catching-up Austria showed much bigger declines in the interwar period when the reconstruction phases could not bring the country back to the historic trend line. This happened only during the post-war boom period. More interestingly however, Austrian performance did not decelerate after the oil crisis below the Western average either up until the millennium. The last 2009-2016 period then stopped the Austrian convergence story (see the Austria chart in the Appendix). In case of Finland the first section of the historic trend line showed more significant departures especially during the First World War. Thereafter development was almost uninterrupted and quick even during Second World War. This lasted until 1989 when the Finnish economy was also hit by the collapse of the Soviet-Union. After that shock the reconstruction period could not propel the country back to the previously experienced progress level and after 2008 the Finnish economy was hit again rather badly

(collapse of the multinational firm Nokia – "Nokia-effect"). The Greek development pattern was much less balanced than the Austrian and the Finnish. Nevertheless, the performance level was always brought back to the trend line in the reconstruction periods that resulted in observable convergence of the country even during the first period. But the real boost came in the second period, especially between 1949 and 1973. Afterwards progress slowed down despite of EU accession. The reasons need further elaboration. The last post 2008 period then produced nominal decrease in the per capita GDP figures of Greece. The deceleration and the very bad shocks virtually eliminated the previously gathered convergence results. Chances of recovery with significantly higher growth are not yet seen. The country is still departing from the historic trend line.

Three of the analyzed ECE countries (Poland, Czechoslovakia and Hungary), the Visegrád countries have similar development trends. Most importantly, the first and second phase of their long-term trend line did not differ much. Slopes of the second phase are only slightly higher than in the first period. Also shocks were less deep, however, reconstruction periods also showed less acceleration. Therefore recovery always took much longer than in other ECE countries or in the three successfully catching up countries. But not only the magnitudes in ups and downs were smaller but also the convergence potential was also limited in these countries. Figures in Table 4 show that their very significant catching-up potential of the first development phase disappeared in the second (their trend slopes for the second period were lower than the developed countries' average). While they could keep pace with Western European trends in the 1950-1973 period, their performance dropped dramatically thereafter eliminating the previously achieved convergence results. Their development speed accelerated again after the transition (especially from the second half of the 1990s) and exceeded the slope of the historic trend line, and also the West-European average. After the 2008 crisis their loss of impetus was more modest than in the developed countries, and moved roughly parallel with the historic trend line (except Poland that could still significantly exceed the historic trend (2,61 % compared with 1,79 %).

The three Balkan countries' development pattern was markedly different. Drops in development level were much deeper and they also started from lower levels. During the first phase this was especially typical for Romania and Bulgaria. Yugoslavia showed much smaller deviations from the long-term trend. As is seen in the data of Table 4 this trend line was not significantly higher than the developed country average. Thus, the three countries had less opportunity in this period to catch up, than the Visegrad countries. Yet, also they could develop faster than the Western

European average in the first period until the 1990s and also in the interwar period again. In the second phase then, Balkan countries' development accelerated and their long term trend line became much steeper than the developed average. This is in sharp contrast with the rather sluggish development of the Visegrad countries. The acceleration was based on the post war boom. These countries then also decelerated to much lower development speed after 1974, which is comparable with the other three ECE countries. By the time of the political and economic transition in 1989 they all scored already negative development trends. They also recovered rather slowly and could not reach their second phase trend line. Their current speed of development is comparable with the Visegrád countries. Despite of their relatively modest performance all six ECE countries could converge with the developed average more recently, due to the even more sluggish growth of the latter.

Do political cycles influence convergence?

The detailed analysis of the ECE trend lines showed marked differences between countries and also periods. We argued in the first part of this paper that development performance is significantly influenced by the qualities of institutions. It is rather obvious that windows of catching-up opportunities (expressed in higher average growth rates of the upswing periods) can be better utilized if resources are efficiently used. We would like to see if the liberal concept or rather more state control worked better in the case of ECE convergence? In order to do so, we first make a periodization of the last 230 years (the time-span of the 5 Kondratieff cycles) from the viewpoint of dominating concept in the world economy. This is of course not easy since we deal with the "Zeitgeist" that cannot be measured precisely. Thus, we just mention some typical events that highlight the political attitudes of the time and suggest the prevailing orientation of society and politics. We thus implicitly assume that political and economic institutions were organized accordingly[4].

Table 5. Kondratieff waves and political cycles*

1st Kondratieff	upswing	1790	-	1810/17	liberal	1776-1814
	downswing	1810/17	-	1844/51		
2nd Kondratieff	upswing	1844/51	-	1870/75	statist	1815-1870
	downswing	1870/75	-	1890/96		

[4] We must state here that this approach is very much centered for the transatlantic region, which dominated the whole period. Thus, other large territories' different heritages are not treated in this excercise.

3rd Kondratieff	upswing	1890/96	-	1914/28	liberal	1871-1913
	downswing	1914/28	-	1939/50		
4th Kondratieff	upswing	1939/50	-	1968/74	statist	1914-1973
	downswing	1968/74	-	1984/91		
5th Kondratieff	upswing	1984/91	-	2008/10	liberal	1974-2008
	downswing	2008/10	-	??		
					statist	2008-??

*: K-wave periodization according to Korotayev and Grinin (2012), political cycles according to authors' opinion

The first phase of liberalism is earmarked by the United States Declaration of Independence (1776), Declaration of the Rights of Man and of the Citizen (1789) and the legislative work under the French Revolution and the Napoleonic wars. All these documents exercised great impact on the political development in Europe and the Americas in a clearly liberal manner. The fall of Napoleon and the consequent feudal restoration afterwards in Europe (Vienna Congress and the establishment of the Holy Alliance with the participation of the Austrian, Prussian and Russian monarchs) changed the liberal attitude back to a more statist one. This power concentration successfully depressed liberal minded bourgeois revolutions especially in 1848/49 until the 1860s. Then the alliance broke due to hegemon ambitions of the three monarchies. Also, inherent economic and social development called for the withdrawal of feudalistic political institutions in continental Europe. This is the period of the German and Italian unification. We chose as symbolic starting year 1871 the establishment of the unified Germany, the beginning of the Third Republic in France. From 1866 (defeat at Königgrätz) also Austria introduced a number of reforms that opened up political and economic space for the bourgeoisie. Also Russia experimented with modernization reform steps in this period (Stolipin reforms). The period was also characterized with relative ease of international trading.

The second liberal period ended with First World War. Military coordination increased over the economies of countries at war. After the war the rather hostile international environment broke down the flourishing international trade. This meant by definition a very significant state involvement in the economy. But after the 1929 Great Depression also domestic economic regulation became increasingly controlled by the state. In the United States and other developed market economies widespread market regulation produced corporatist institutional settings. In Germany and the Soviet Union war preparations increased state intervention. State dominance remained in place even after the Second World War. European reconstruction, American hegemony in world politics and the conditions of cold war supported the maintenance of state

capitalism. The period ended by the late 1960s, early 1970s with a decline of military tensions among the two superpowers, increasing social movements for more human rights (Martin Luther King, Paris student revolution). Post-war architecture of the world economic institutions also developed in more libertarian ways (GATT/WTO, conditional aid policy of World Bank and IMF, the European integration process, etc.). 1974 was chosen as threshold year because of the fundamental impact of the oil crisis on the decline of statist institutions. The succeeding more liberal development period produced two decades of rather stable economic development in the transatlantic economy. This ended with the 2008 world financial crisis. Thereafter we see the ultimate return of the state in economic regulation.

If we fit the political cycles (P-cycles) to the economic development cycles (K-cycles) we see considerable fit. However, P-cycles start with the downswing phase of the K-cycles and last till the end of the upswing phase. Moreover, this sequencing is valid for both liberal and statist periods! Further research should be carried out to find out the reasons of this peculiar sequencing of the two cycles. It is possible that major crises and wars could play a role in ending the upswing phases of the K-cycles that lead to social unrest and search for new institutional solutions. While this may be true a more detailed explanation and analysis of the interactions of the two spheres is needed especially in times of political overturns.

Concerning the catching-up options of ECE countries we cannot be conclusive. Our observations start around 1870 with the first (downswing) phase of the second liberal period. Up till the late 1890s all ECE countries scored over the West-European average. This was one of the most impressive catching-up periods of the region. Then, in the second 1896-1913 phase of the liberal period only Hungary and Czechoslovakia could maintain the convergence track. All other countries fell back compared to both the Western European average and their own historic trend line.

The second statist period started in the downswing phase of the 3rd Kondratieff wave. All ECE countries scored above the Western European average, however Hungary, Poland and Yugoslavia fell short of their own historic trend line slope. The catching-up process was therefore mainly determined by the disappointing performance of the developed countries. It seems that increased state intervention in this crisis-ridden period was more successful in the catching-up ECE countries. This progress continued in the next period. After World War Two economic development accelerated in all observed countries, yet in all ECE countries this process was stronger than in Western Europe. ECE countries also set a new historic trend line, and their performance exceeded the new trend line slope.

The first section of the third liberal period started with the 1974 oil crisis and lasted roughly until the systemic change in the ECE region. ECE countries' performance was worse in international comparisons during this time. They all fell back compared both to Western European dynamics and also their own long-term trend line. It seems that this very bad performance was deteriorated by the fundamental clash of the liberal world economic environment and the statist economic coordination in the ECE region.[5] While liberal economic policies could make a turn in negative tendencies of developed market economies (monetarist counterrevolution and the period of great moderation), this effect was not sufficient to return these countries to their historic trend lines. In ECE countries liberal policies were introduced several years later only after the systemic change. The reconstruction period after the transition crisis produced significant catching-up with the West-European average. However, it could propel only the Visegrad countries back towards their historic trend lines. Balkan countries' development did not converge to their rather steep historic trend line. Similar development pattern remained in place also after the 2008 crisis, albeit with significant deceleration in both ECE and developed countries at the beginning of the 3rd statist period.

Many different explanations of these development patterns are plausible. It seems that throughout the observed period Visegrad countries and Balkan countries showed significant differences. Visegrad countries convergence record seems to be more steady and included several successful periods. Their development was more parallel with core Europe's, however, this also meant that their convergence potential was also more limited. Convergence was mainly present in the downswing phases of the Kondratieff waves. This does not apply for the 1974-1990 period that proved to be the historically most significant divergence phase of all ECE countries. We can explain this deviation with the clashes of the liberal world economy and statist ECE. The collapse of the centrally planned economic system sheds an especially dark shadow on extreme versions of statism. But the rather poor performance of increased state intervention after 2008 crisis also deteriorates the statist periods' success records (1914-1973).

Concluding remarks

There are numerous lessons that we can draw from the experience of successful and less successful catching-up stories in the peripheries of Europe. Most obviously, there are fast

[5] Economic reforms in Poland and Hungary counld not achieve significant results, however they could be regarded as liberalization attempts of the orthodox central planning system.

growth and slack periods of development that provide different options. The interwar period and the times between 1974 and 1990 produced slower growth in the world economy. The three successful countries could manage to narrow the development gap also in these periods, but ECE countries have lost their previously accumulated advantages and fell back. The first lesson is therefore stability. Of course, our statistical analysis could not provide much information on the decisive factors of Austria's and Finland's catching up process. However the general knowledge about these countries can highlight institutional and political stability. This differentiates them from Greece where the convergence process was returned during the past decade. This differentiates them also from ECE transition economies with their zig-zags in political and economic development. Another important factor of the success could be stable orientation and long term commitment of policies (e.g. on infrastructure development, education, health, social solidarity).

If we compare the long-term economic performance of the ECE countries we can see that the path dependence hypothesis was proven. All countries could successfully reduce their distance from the developed West in various periods (perhaps more successfully in low growth periods of development). However, their positions against each-other did not change much. Czechoslovakia remained the relatively most developed country, Poland, Hungary somewhere in between, Yugoslavia, Romania and Bulgaria back. This picture is identical with the historic pattern (Djankov and Hauck, 2016). But it also coincides with patterns of FDI flows. The most important drivers of development in the leading ECE countries has been FDI and multinational companies' activity during the transition period (Szanyi, 1999; 2016). This is also not really surprising: integration to the core of global business means participation in economic development process that has the highest potential in today's world economic development.

Table 6. provides us with summary information about two types of comparison. The 7 phase trend lines' slopes are compared with the developed countries average then to the individual countries own two section historic "Jánossy" trend lines. + marks mean a deviation by more than 0,25 percentage points in favor of the country section trend line's slope. – means similar deviation in the negative direction. The middle range of 0,5 percentage points around the slope for comparison is marked by 0.

Table 6.

Summary results

	1870-1895 liberal, low		1896-1913 liberal, up		1914-1949 statist, low		1950-1974 statist, up		1975-1990 liberal, low		1991-2008 liberal, up		2009-2016 statist, low	
	W	O	W	O	W	O	W	O	W	O	W	O	W	O
Austria	+	0	+	+	0	-	+	+	0	-	0	-	-	-
Finland	+	0	0	0	+	+	+	0	+	-	+	-	+	-
Greece	+	+	+	+	+	+	+	+	-	-	+	-	-	-
Czech	+	-	0	0	+	+	+	+	-	-	+	+	+	0
Hungary	+	0	0	0	+	0	+	+	-	-	+	+	+	0
Poland	+	+	-	-	+	-	0	+	0	0	+	+	+	+
Bulgaria	+	0	-	-	+	+	+	+	-	-	+	0	+	-
Romania	+	+	0	0	+	+	+	+	+	-	+	-	+	-
Yugosl.	+	+	0	0	0	-	+	+	-	-	0	-	+	-

Concerning the question which political orientation scored better in supporting ECE convergence we cannot draw very clear conclusions. Worse performance was achieved by the region as a whole in the K3 upswing period (liberal, 1896-1913) and the K4 downswing phase (liberal, 1975-1990). But also, the relatively most successful periods (1870-1895 and 1991-2008) were dominated by liberal world economic environment. The statist periods' important feature was more modest but rather steady convergence performance. This observation is also supported by the most significant event of the whole observed period: the collapse of extreme state involvement in the competition with liberal economic governance. State intervention can streamline economic turbulences but in doing so it also withholds dynamic forces of the market.

Looking at the long-term economic trend lines it seems that developed countries' development was less influenced by the political cycles. The successfully catching up benchmark countries' progress even less. ECE development patterns showed larger fluctuations, but the different political regimes' role in this phenomenon is not very clear. Neither of them seems superior in terms of long-term convergence.

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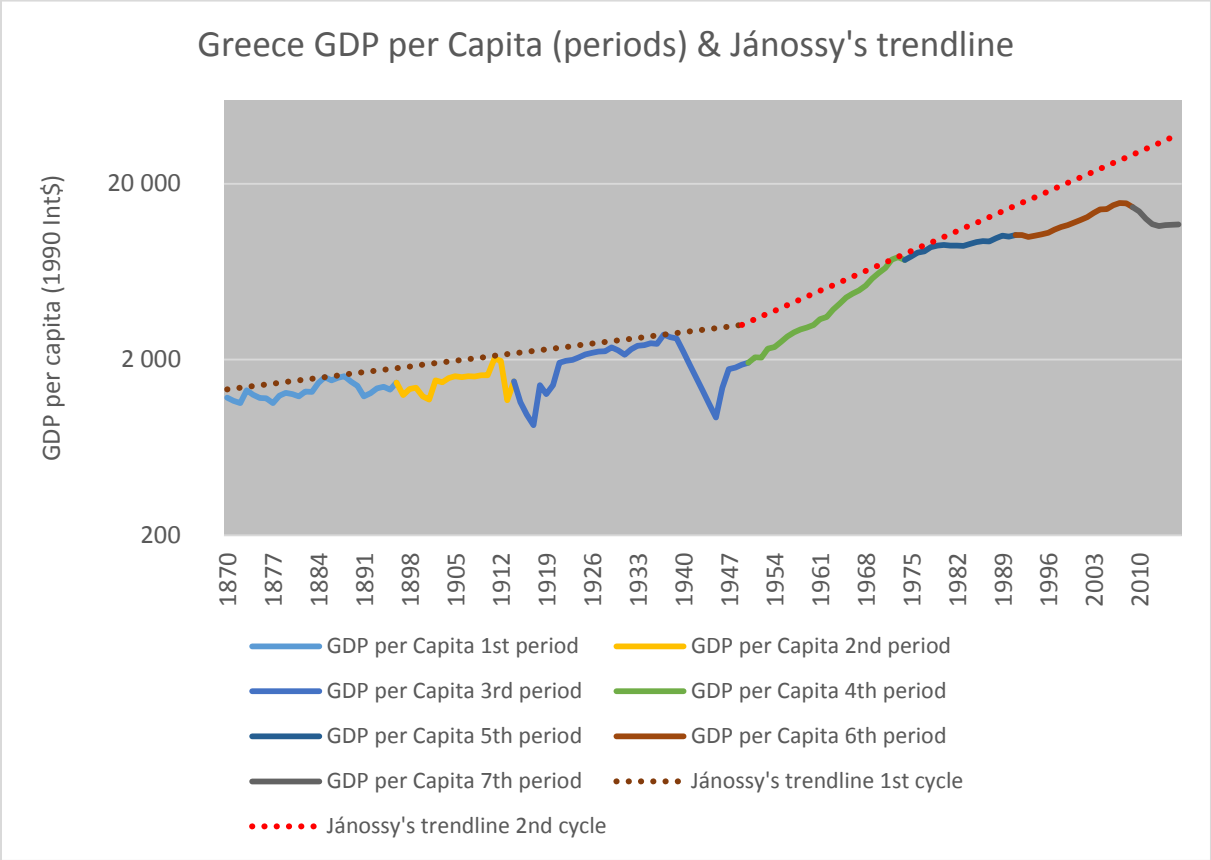
Appendix


Greece GDP per Capita (periods) & Jánossy's trendline
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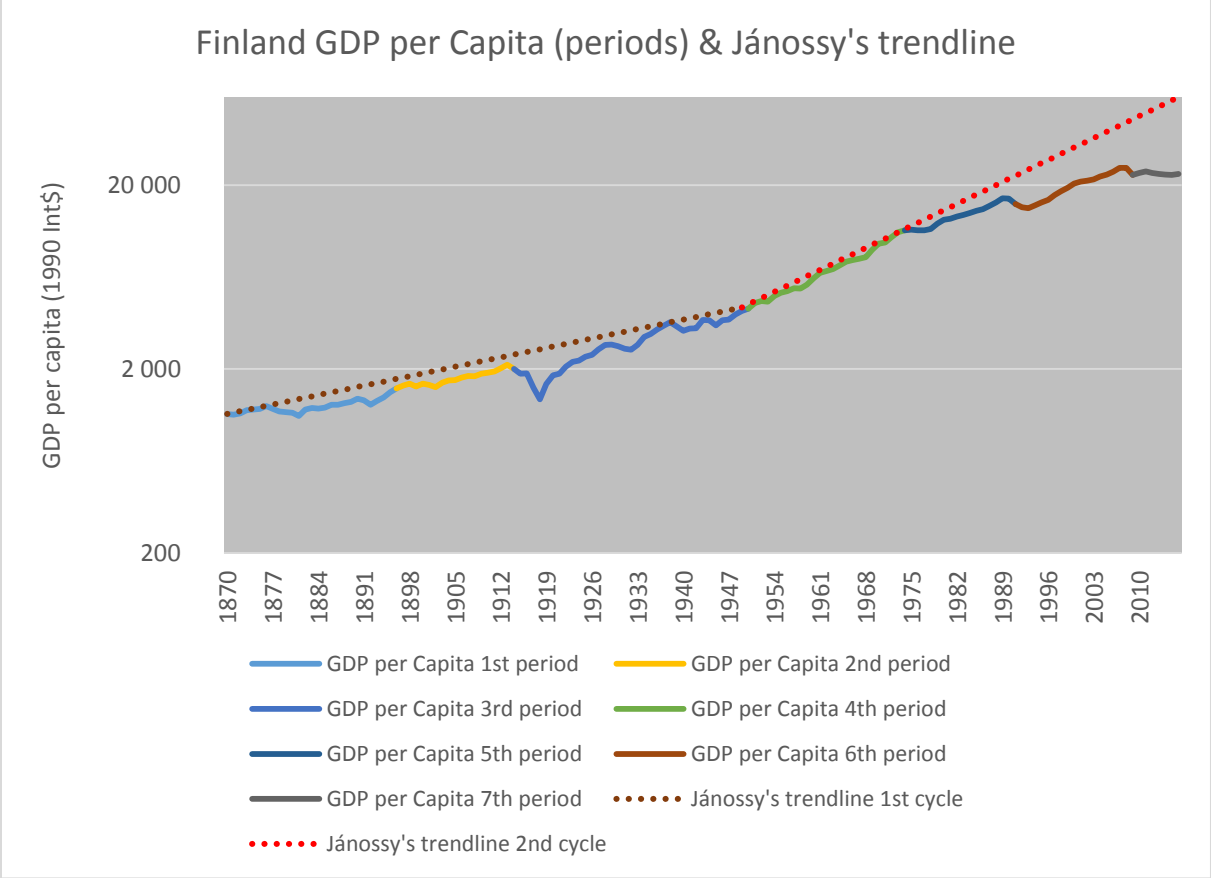
Jánossy's trendline 1st cycle
Jánossy's trendline 2nd cycle


Finland GDP per Capita (periods) & Jánossy's trendline
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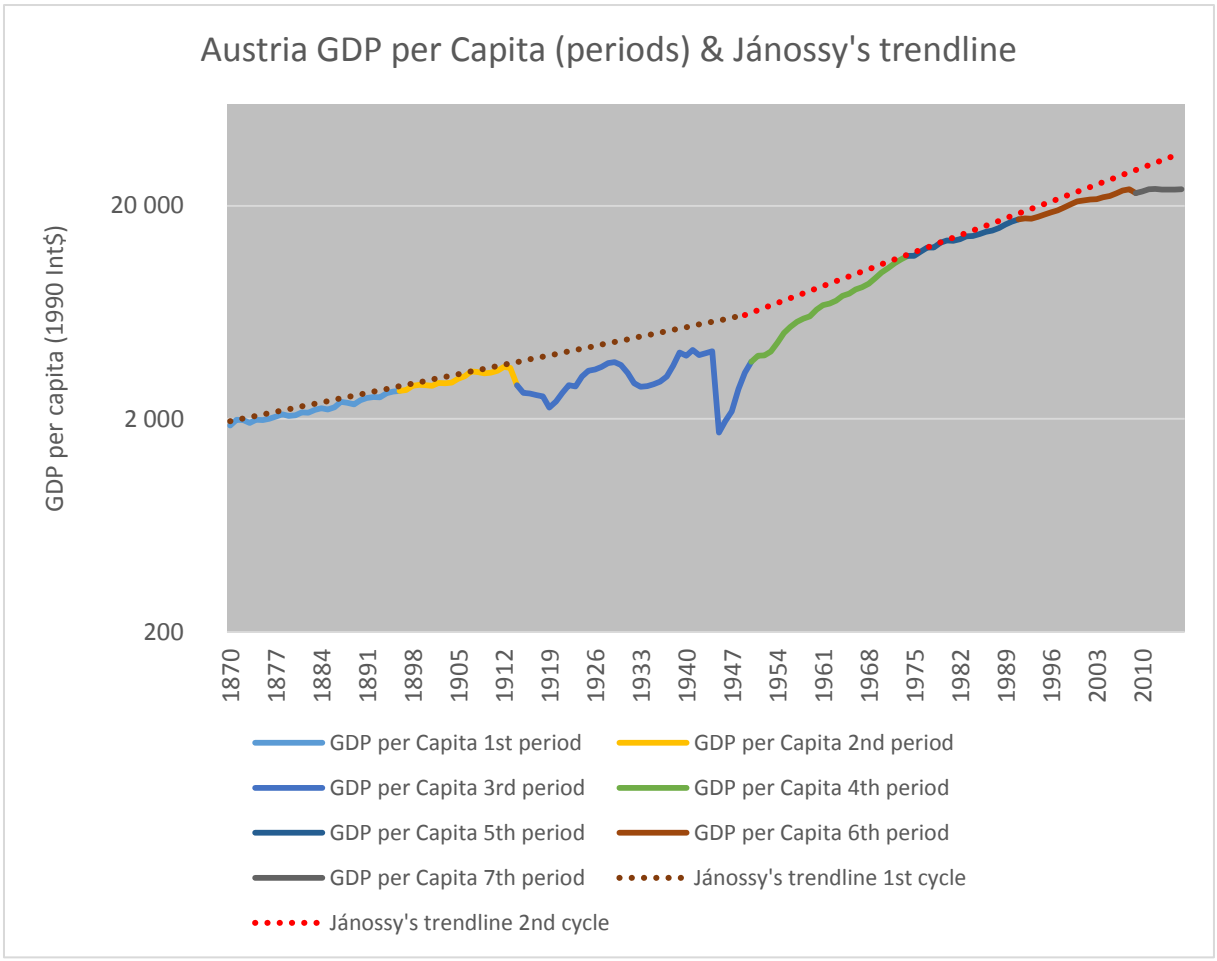
Jánossy's trendline 1st cycle
Jánossy's trendline 2nd cycle


Austria GDP per Capita (periods) & Jánossy's trendline
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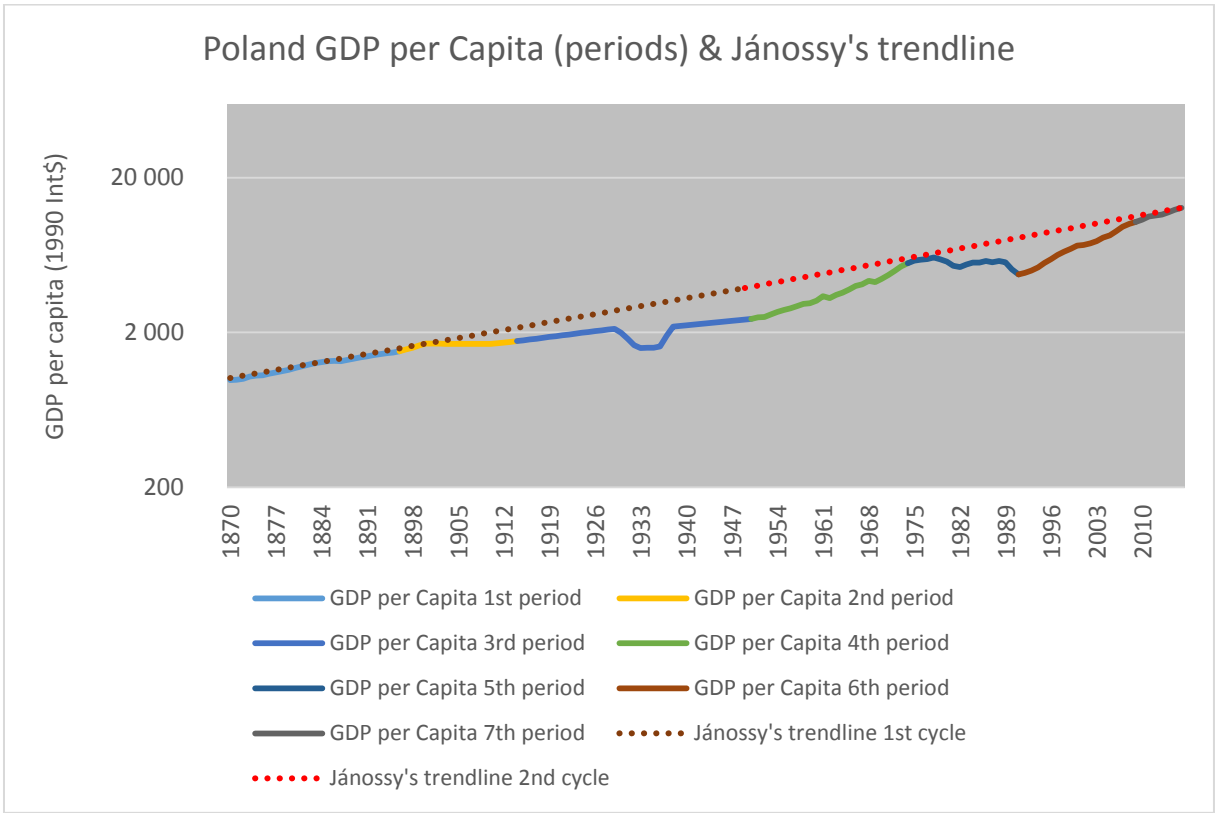
Jánossy's trendline 1st cycle
Jánossy's trendline 2nd cycle


Poland GDP per Capita (periods) & Jánossy's trendline
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Jánossy's trendline 1st cycle
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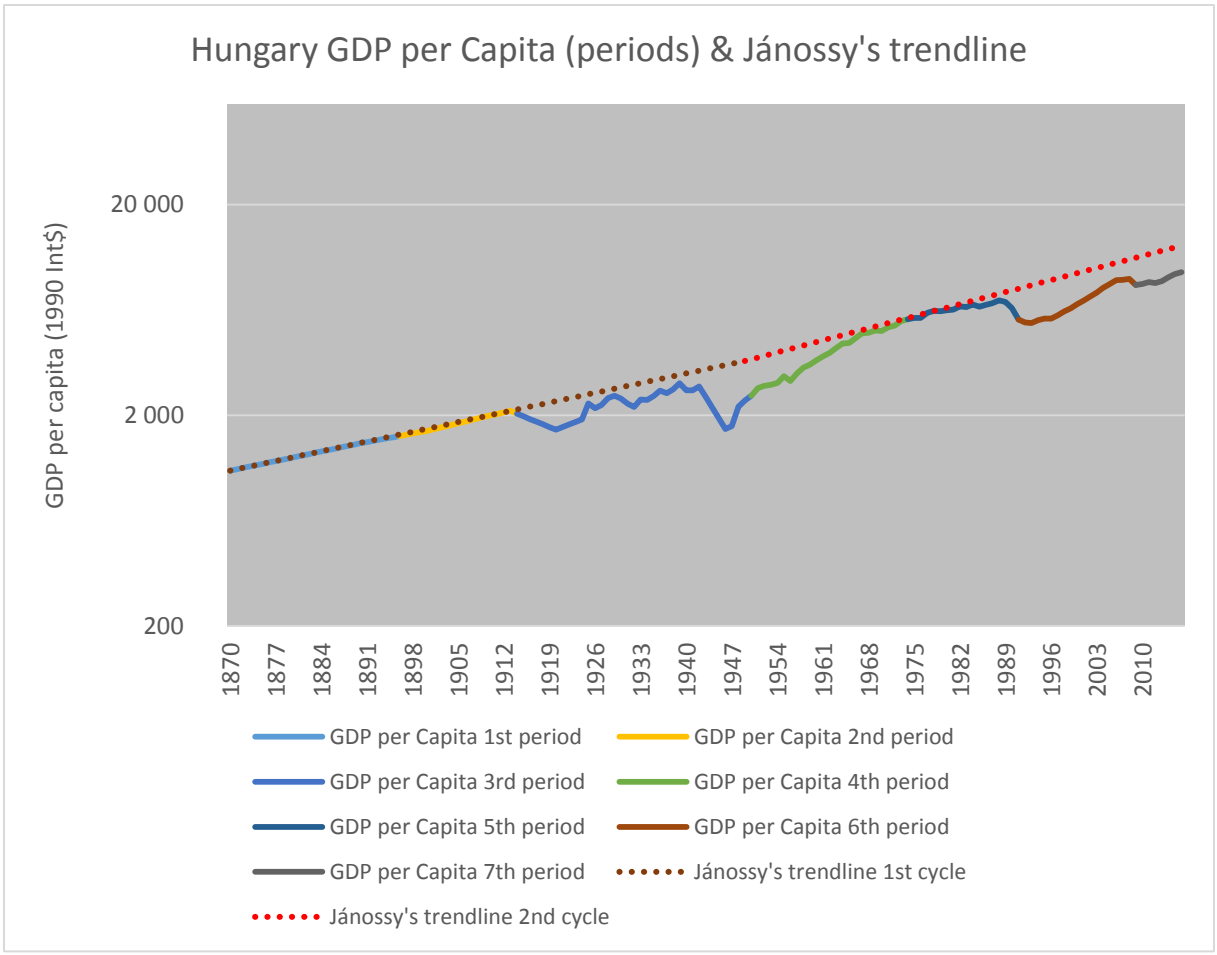
Hungary GDP per Capita (periods) & Jánossy's trendline
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Jánossy's trendline 1st cycle
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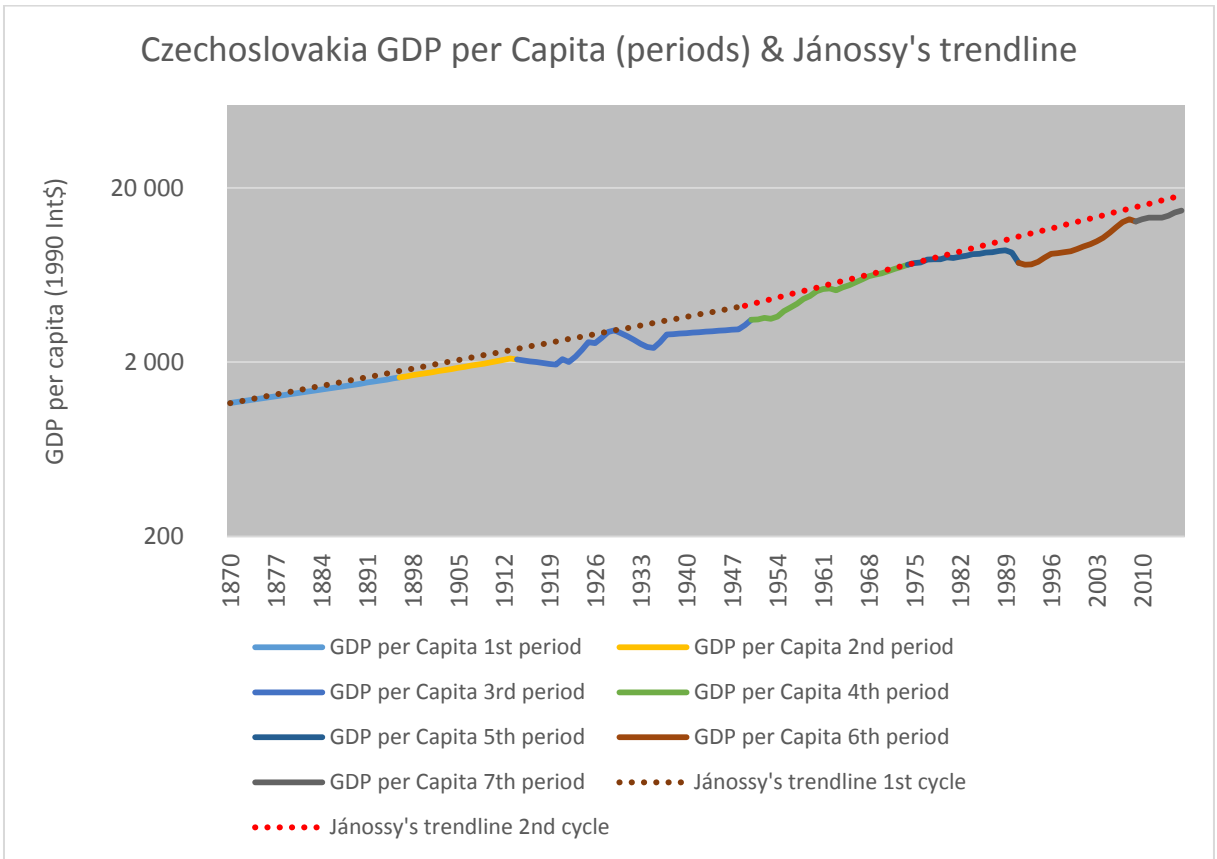
Czechoslovakia GDP per Capita (periods) & Jánossy's trendline
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Jánossy's trendline 1st cycle
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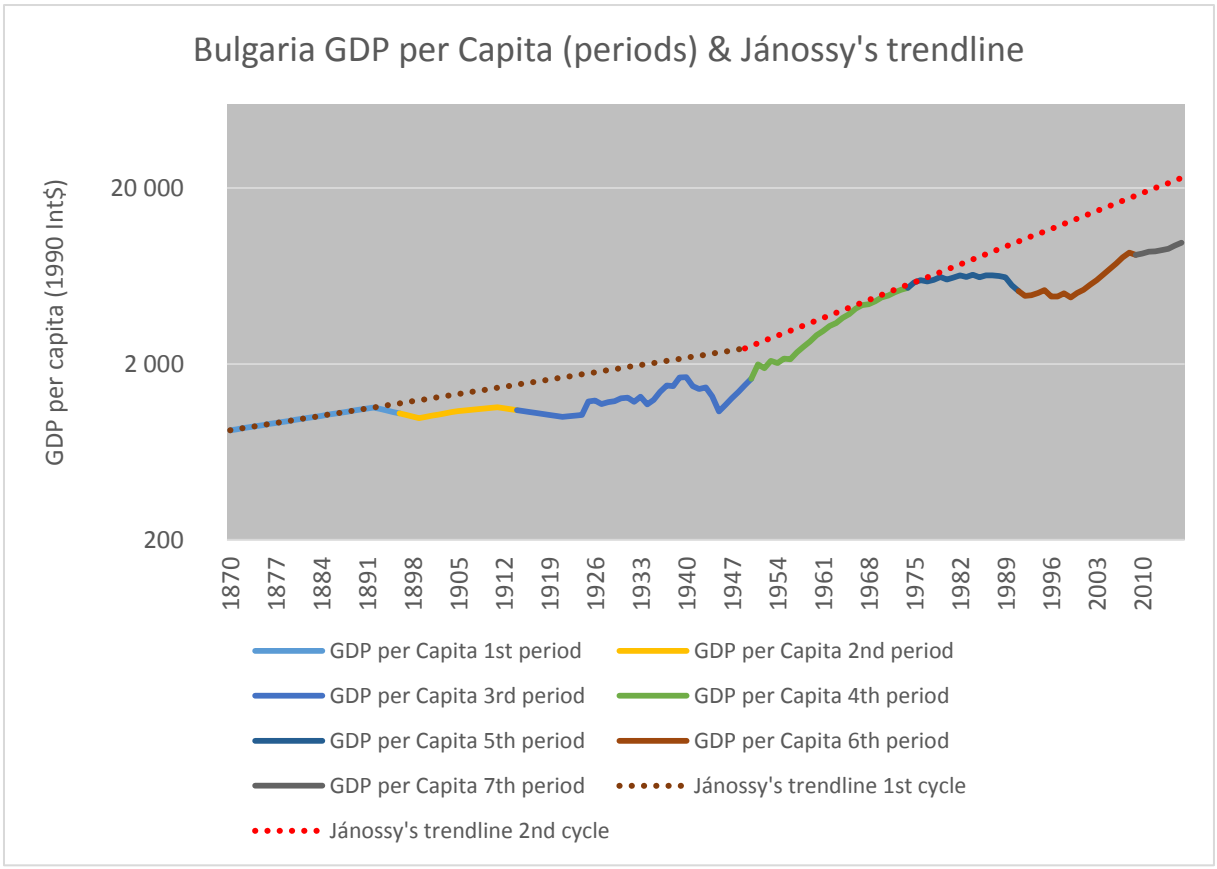
Bulgaria GDP per Capita (periods) & Jánossy's trendline
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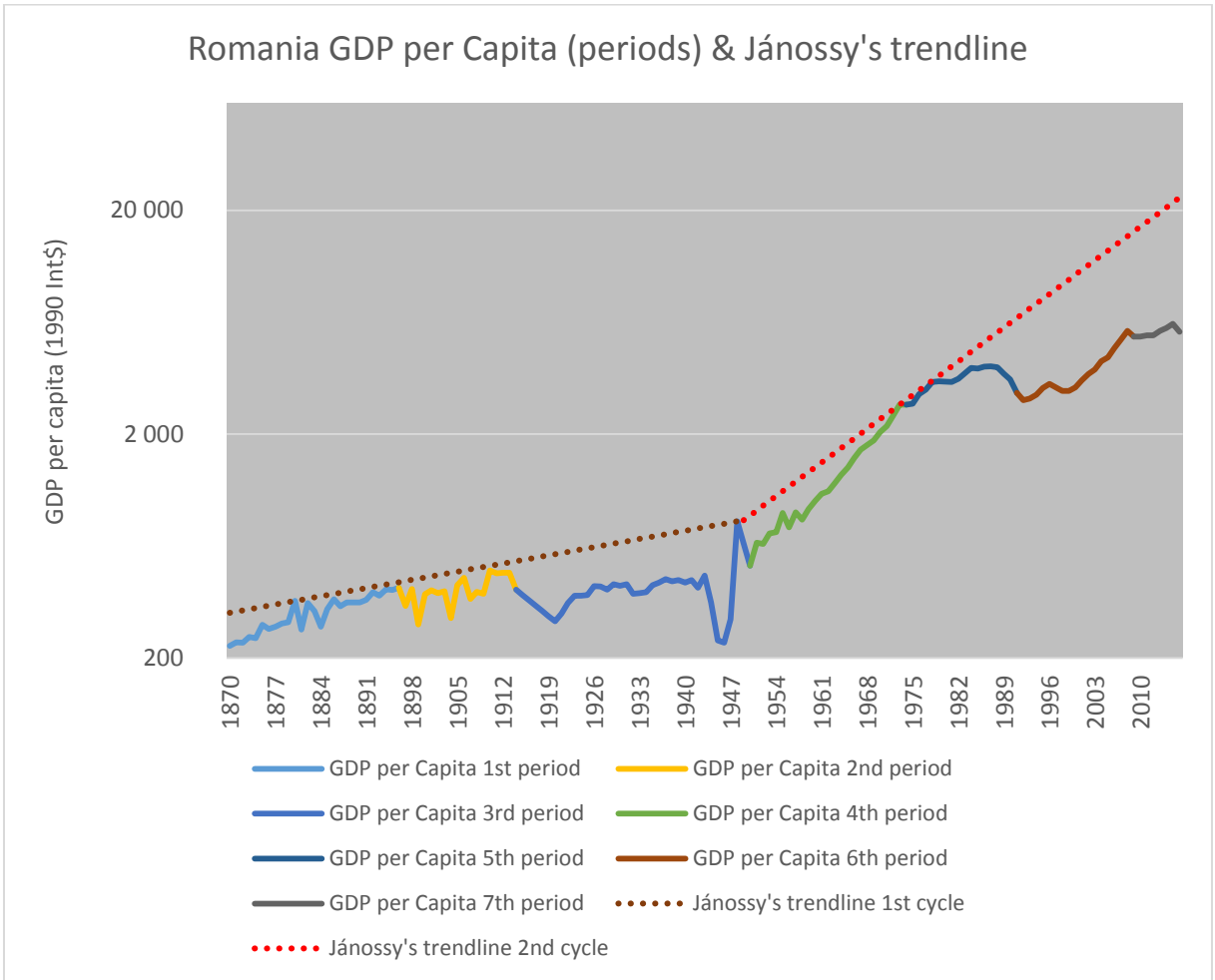
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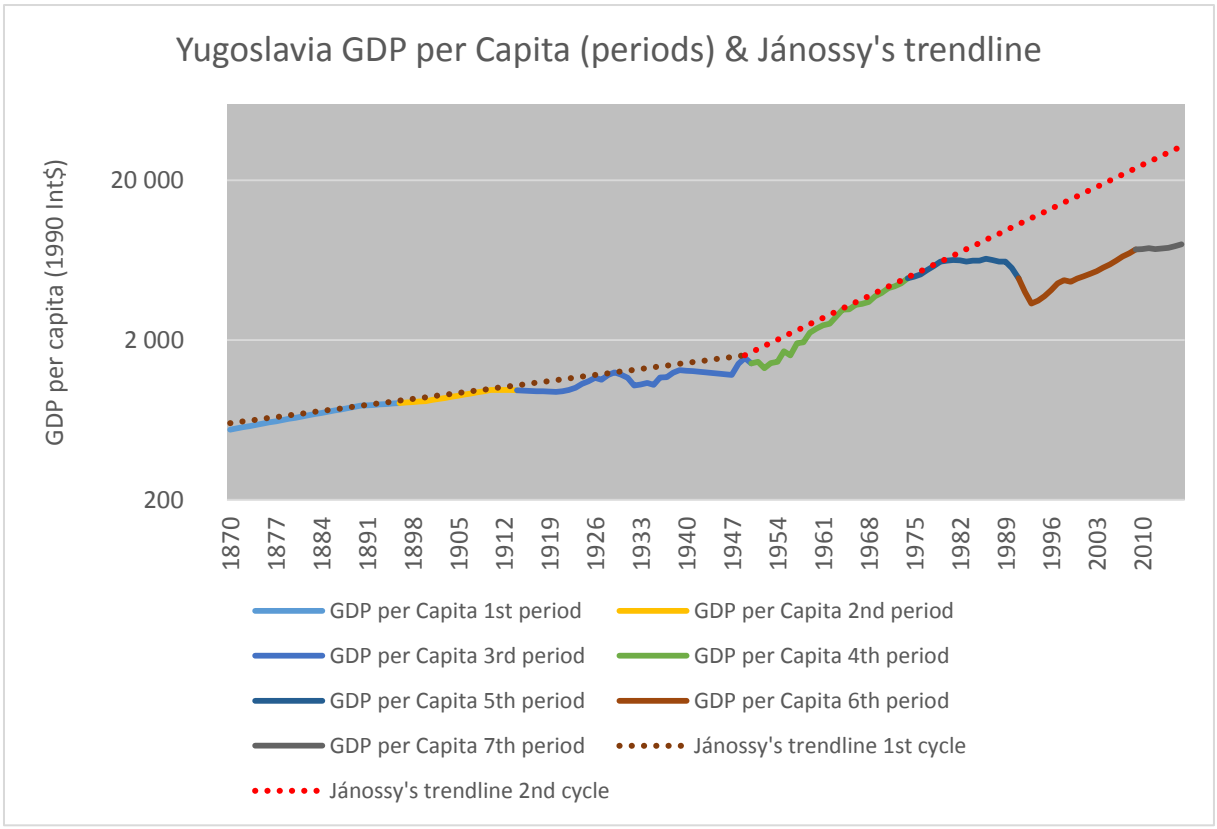
Yugoslavia GDP per Capita (periods) & Jánossy's trendline
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