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COMPARATIVE ADVANTAGES AND THE PRICE OF THE FACTOR OF PRODUCTION LABOUR IN A FRICTIONLESS ECONOMIC AREA. THE CASE OF ROMANIA AND BULGARIA[1]

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A conceptual political economy essay into why and persistently countries in Central and Eastern Europe remain at the periphery of socio-economic developments in Europe (the "periphery trap")

Abstract: The paper aims to clarify in terms of political economy why countries in Central and Eastern Europe, with a special and distinct focus on Romania and Bulgaria (defined later in text also as "the pair RO&BG") are seemingly unable, at least in the short and medium term, to positively alter their relative position inside the wider European economic area and particularly inside the European Union of which they are recent member states.
Commencing on a statement made by Jean Francois Revel in the mid nineties and which epitomizes the travails such an economy has to endure in order to make the transition from Plan to Market, the paper develops then on the basis of the postulate of the Stolper-Samuleson theorem which states that a developing economy is not necessarily best served by excessive openness to trade flows. The paper argues, with data, that while benefits of the integration into the single market are to a certain extent undeniable so are the costs and for some reasons, which are explained in the paper, the latter are sometimes outweighing benefits. Small open economies are adversely affected by the excessive openness to trade brought by the integration as instead of a "normal" relation of interdependence they tend to fall into a relation of "dependence" and thereby land into the undesired and undesirable status of "dependency". Dependencies are bound to "trail" their "metropolis of sorts" and thus an improvement in their relative position becomes hardly possible or simply takes a time, humanely, hard to accept. Accordingly, people are just RIGHT to be angry and frustrated about it, but so they were RIGHT when they joined it simply because when they exited communism, they did not realize that they were not at the level at which they entered it, but far much below it! The pair of Bulgaria and Romania are an epitome of such a development. Their case will be highlighted by the paper.
Keywords: Stolper-Samuelson theorem, over and under-valuation of GDP, economic centricity, gravity models, "expansion phase" of the cycle, "collapse phase" of the cycle, frictionless economic area, "the Pair RO&BG", "periphery trap";

THE HYPOTHESIS

Our paper will try to examine the causes for which 25 years after the fall of communism in Central and Eastern Europe and in spite of significant progress that has been made, at least in *absolute terms*, in *relative terms*, i.e.: that is in terms of their relative position within the ensemble of Europe (the EU plus a series of states that gravitate around this area of economic and political integration) these countries seem to have made

[1]All the data in the paper have as source *The Economist* magazine, (2001-2016); Organization of the data into a full data-base is the own work of Dr. Catalin Ghinararu using his private collection of the magazine (successive weekly issues for the period) stretching back to Jan.2001 and going to date (May of 2017). The author considers this as a useful experitment in the use of alternative, consistent data having as provenance a well.established specialized press resource.

little if any progress. Bulgaria and Romania especially maintain their place at the bottom of the EU stack by practically all the measures.

According to Jean Francois-Revel (1995) a country that exists communism does not find itself at the level of development it entered it but far below. Taking clue from this political science adagio we will consider as in the Hecksher-Ohlin theorem that in the area of the new member states there is a relative abundance of the factor of production labour while in the area of the "old EU"[2] there is an abundance of the factor of production capital. Given the disparity in terms of GDP between the two areas as well as the lack of "trade frictions" (as in Anderson, 2010) inside the EU as a result of the removal of trade barriers we will consider the whole area as a "gravity model" (as in Tinbergen, 1962) centered around the area of the "old EU" (more precisely its "core" EuroZone and its largest member Germany). Accordingly and using the Stolper-Samuelson theorem (1941) we will look at the unwanted development whereby the new member states specialize in the production of those goods and services that require cheap labour (the factor of production in relative abundance) while the "old EU" tends to specialize in the production of goods and services that are "capital intensive" and which make use of the better qualified segments of labour, part of which are "attracted"[3] from the area of the new member states. Thus in the end our demonstration will show how this unwanted specialization "conspires" in keeping the new member states' economies in a state of "perpetual periphery" which thus explains why their relative position changes little if at all within the EU area.

THE SINKING (-IN) DIVIDE[4]

Taking at its face value the political axiom of the Plan to Market Transition as it has been enounced in the mid of the 1990s by Revel, we will therefore consider that a country which has left capitalism and thereby the world of competition at a certain given level, shall we call it the level *T,* will rejoin, if the chance will appear, as it did eventually in Central and Eastern Europe at a point that is lower to *T* by a degree that is hard to measure. That is it will rejoin it a level that is far below *T* and therefore at a *T-n*, with *n* to be defined by the further evolutions of that economy and society$n \to (-\infty)$.If so, then we may assume that the longer a society and an economy stayed outside the world of competition it will rejoin it at a *T-n*level, with the *n* deeper into the negatives by the number of years that respective economy and society stayed outside the competitive (i.e.: read "capitalist") world[5]. When rejoining, that economy will have to recreate competitive advantages building

[2] The term OLD EU is used here so as to designate the states members of the Union previous to the enlargement wave of May 2004;

[3] Under the form of the „free movement of workers", which is essentially for the new member states a phenomenon of out-migration (emigration) as many of those moving freely for work either tend to remain there or to prolong their stay which thereby makes them practical emigrants. In the classical form of the Stolper-Samuelson (1941) this is not a development taken into account or at least not at the scale it occurred in the enlarged EU. It would have been, at the time (*WW-II raging*), rather hard to conceive;

[4] For the purpose of our exercise countries in the EU-28 plus the 5 countries which have strong economic ties with the EU have been grouped as follows: (1) the core-EURO zone, consisting of: Germany, Austria. The Netherlands, Belgium, Slovakia and Slovenia, (2) the PIIGS group consisting of: Portugal, Italy, Ireland, Greece and Spain, (3) the „REBELL Alliance" (Blyth, 2013), consisting of Romania, Bulgaria, Estonia, Latvia and Lithuania, (4) the non-EURO group, consisting of: the United Kingdom, Poland, the Czech Republic, Hungary, Denmark and Sweden and (5) the non-EU(rope), consisting of: Turkey, Croatia (as it only joined as of mid-2013), Ukraine, Russia and Norway. Small economies such as Iceland, Luxembourg-though this one not so small, Malta and Cyprus, the European minnows (Monaco, San Marino, Vatican, Liechtenstein and Andorra) as well as dependent territories such as Gibraltar or the Area of Sovereign UK bases in Cyprus were not included/mentioned, as were not included/mentioned the overseas territories of various European countries irrespective of the fact of having their GDP included or not into the one of their metropolitan territory. Not taken into account were the economies in the Western Balkans (Bosnia Herzegovina, Serbia, Macedonia-FYR, Montenegro and Albania), the Republic of Moldova and the Republic of Belarus. No mention is being made of entities not enjoying full international recognition such as the Turkish Republic of Northern Cyprus and Kosovo. Therefore our version of "the European economic ensemble" is a mere convention adopted for the purposes of this paper. However we do nevertheless consider that it covers those countries/economies (expression used inter-changeable) that make for an overwhelming share of the "European GDP". It is therefore "representative".

[5] This sentence may be looking as „disregarding" of other arguments but it has to be taken as the „conventional mainstay" of our comprehensive argumentation in the paper. The forced upon „experiment" of communism which has lasted for around half a century remains the main cause for which the countries in Central and Eastern Europe fell so massively behind in terms of their development.

on comparative advantages such as labour and natural resources and less on capital which by definition (having stayed outside the world of "capital") it will lack to various extents ("scarcity" of the factor of production "capital"). It will have to make this recourse in order to recreate its capacity of withstanding the competitive pressures it faces when it rejoin the world of capitalwhich, in all cases, will be by their nature different, and by several orders of magnitude higher than the ones it was facing when it had left the world of capital. The classical Riccardian theory (Riccardo, 1817) would postulate, and that was also the logic followed by Plan to Market transition practices, that an early and even abrupt exposure to competition will solve the things the best and the fastest way possible. Therefore no protection, but full and rapid liberalizationand things will sort themselves! This is as the Riccardian theory postulated, that exposure to trade is the best thing can happen to an economy, the best way for it to specialize in doing at least "something" better than the others and thus being able to sell it, while importing just what it does less well than the others do. In such a logic removing the anti-competitive barriers inherited from central planning would be the best way to put to work whatever comparative advantages were available to these economies and build competitive advantages that would ultimately help them resist competitive pressures around and work their way back into the mainstream of the capitalist world (Ghinararu, 2006, 2010). However, things did not prove so simple. On the contrary, what happened was that exposure to competition razed to the ground most of the productive base these economies had acquired, for the better of for the worse during the decades of central planning, while doing little to create new competitive advantages and thus maintaining these economies at the periphery of the capitalist world with negative implications for their workers (the factor of production labour). Thus, instead of proving the simple, plain and well acknowledged theory of David Riccardo, these economies, Romania's alike, became testing grounds and evidence for a oddity of a sorts in the history of economic thinking (albeit by this not less important) i.e.: the Stolper-Samuelson theorem (Stolper, Samuelson,1941). This theorem basically postulates[6], that while the Riccardian theory proves right for developed/advanced economies (Abrego and Edwards, 2002, 6/27), for developing economies it may be harmful or at least for their workers and mostly for that ones that are skilled. Thus competition may wipe out their industries when protection removed with the factor labour practically always ending worse than at the beginning. The theorem builds upona "*W-W"* case assuming a hypothetical country with two main industries, *watches and wheat*. There is a tariff protection of 10% that applies only for the watch makers but not for the wheat growers. Say that the market is going liberalized (the 10% tariff protection ***removed***), as it did in the Plan to Market transition and even more in the process of EU Accession. What happens to the watch makers? The price of their outputs will drop. In such circumstances wheat producers will look like very profitable. However they are not much of labour users or at least not of the skilled type. Watch makers on the others side will have to shed labour as their prices are falling (effect of liberalization or the removal of "trade frictions" as in Anderson, 2010) (Ahsan and Mitra, 2013 in Anthony, 2016, 9/29). As we said earlier not much of this labour will be taken aboard by the wheat producers which may expand production. Moreover as prices of land (rent) will tend to increase, which may as well happen once markets in general are open due to the inherent scarcity of land as a factor of production, they may be also deterred in their expansion and therefore the amount of labour they may have taken aboard and which may work so as to compensate the decrease in labour demand from the watch makers, will not be substantial (Ghinararu, 2006, 2010). In the end however producers may get around. Watch-makers may shrink but in the end they may benefit from low price labour which can be turned into a competitive advantage-albeit a low-level one, and regain some market. Wheat producers will retain a superior profitability and they may also benefit from cheap labour. The ones that will be certainly at a loss will be workers or labour, and especially labour that is more qualified (i.e.; in the example the watch making labourers), or precisely labourers that are in scarce supply in a developing country/economy. Wheat labourers or those that in such a country may be in a rather more ample supply due to their low skills will also lose, but their loss will be a lesser one. As labour is a factor that goes into all of the production processes, when it goes into a tailspin, in general the economy tailspins as it means that demand becomes depressed and incentives for labour to improve its skills are diminishing (higher skilled labour in our example stands to lose far more than the low skilled, which in the end may even win a little). As a result living standards fall and while some producers may enjoy competitive export advantages, the domestic market shrinks which on the overall maintains that respective economy on the fringes of the capitalist world economy.

[6] Later P. Samuelson partially retracted on the postulates. However, the theorem remains in the history of economic thinking with the names of both of the authors and this despite the later and partial retraction by Samuelson.

Summarizing, Stolper-Samuleson (1941) points to the fact that in the cases of developing countries, the elimination of "protections" hurts industries that make use of skilled labour (i.e.: ultimately high value added ones from the point of view of the production processes/undertaken) while maintaining generally activities that are less value-added intensive if not in the terms of their end product at least in terms of their processes/activities. This not only depresses the domestic market but, makes it more alluring for skilled workers to choose leaving that labour market (i.e.: liberalization of the product market may come also with a liberalization of the labour market which actually did happen in the case of all of the economies in Central and Eastern Europe) which further depresses the "developing market" pushing it, or simply maintaining it, at the periphery of the capitalist world market as it both loses domestic demand (effect of low wages) as well as potential for further development (loss of skilled labour through emigration). Accordingly, current loss is compounded by a future loss. Loss of demand is compounded by a loss of growth and development potential. This would fully explain why re-entering capitalism (*the "good" thing indisputably!*) at a lower level than the one at which it had left it decades ago, and quickly liberalizing (*the actually "not so good thing", and here comes the dispute!*) does not "automatically" restore competitive advantages and does not 'automatically" generate capacity to withstand competitive pressures. It actually wipes out everything that exists (good and bad together) and exposes the economy to such pressures that it cannot possibly exit the trap of a peripheral position. This fully reflects on the labour force as a factor of production and especially on its most skilled segments which cannot possibly find an adequate match for their skills on the local market. Accordingly and if liberalization of product market *is also followed* by fast liberalization of labour market (this would be the development to the Stolper-Samuelson which back in 1941 no one could have conceived) then the small advantages postulated by the Stolper–Samuleson would fail to materialize as even workers that would have settled for lower wages on a "closed "labour market would now rather migrate, which would put further pressure on those industries already pressed by product price liberalization, possibly annihilating them. Therefore the capacity to withstand competitive pressure which could have been restored somehow as skilled workers would have settled for lower wages and possibly rebuild those industries also evaporates as these workers choose rather to emigrate. This further affects the capacity of the respective economy to rebuild its competitive advantages. In the end it sinks further into periphery, with the divide between it and the rest of the capitalist world, which it belatedly rejoined, only widening. In the best case it will merely hold to its peripheral status in relative terms (progress will exist though in absolute terms). The Stolper-Samuelson theorem epitomizes very well the evolutions of the transition economies in Central and Eastern Europe. The liberalization of the 1990s by removing the protectionist barriers of the former COMECON exposed most of the industries to an effect that is similar to the one depicted for the hypothetical watch makers of the Stolper-Samuleson theory. Much of the high value added, high skilled labour industries had to shut down releasing labor which thus lost out. In the meantime however and unlike in the basic theorem, the fact that the land was not a commodity during the communist regime or it was considered like that only with severe limitations, meant that prices surged after market rules stepped into these economies to levels that discouraged even the so-called wheat producers of the theorem. Thereby the possibilities for the high skilled workers to go into lower skilled occupations were reduced marking yet another loss for labour. Accordingly, under the postulates of the theorem and even much more for the countries of Central and Eastern Europe which experienced the Plan to Market transition, a developing country that opens itself brusquely or prematurely to international trade (i.e.: removes protective barriers with the outside) ends up specializing itself not in what it best or better than the others can produce, as in the classical theorem of David Riccardo, but ends up being *forced to specialize in what it can cheapest produce or more accurately in what it can produce with cheap or with the cheapest of labour*. In effect its comparative advantage ends up becoming cheap labour in itself! This becomes its chief commodity of export as each and every process of production tends to base itself on this sole comparative advantage. If at the moment of liberalization labour is abundant as it has been in Romania at the commencement of transition and actually in most of the countries of Central and Eastern Europe, with few exceptions, then this "*negative comparative advantage*" *-due to the fact that it actually penalizes the factor of production instead of rewarding it*, tends to become entrenched up to the point when its*eventual* scarcity may start working its way into the market thus reversing the process. As labour enters all of the production processes then the low price of labour maintains generally a low level of prices throughout the economy in the sense that cheap labour generates cheap outputs (i.e.: to read low value added ones) and thus the fact that skilled labour loses out means also that "high value added", especially in

terms of economic activities undertaken in an economy, also lose out. Accordingly the economy turns into a cheap labour-low value added one as the advantage of cheap labor only exists and workswhen outputs or rather processes/activities are themselves low value-added. Consequently the economy turns into a low skilled labor-low value added activities or literally into a periphery. Alike with a great metropolis, where expensive, glamorous brand stores tend to line the central avenue while penny market shops cluster at the outskirts offering mass consumption, cheap and, for most of the cases, rather low quality goods, in the world and even more in the integrated European economy, developed, *high labour price-high value-added* process and output economies line the main avenue, or the centre of the economic area while the cheap labour-low value-added ones, struggle at its fringes.

While the theorem in itself provides the theoretical foundation for the idea that re-entering the competitive world of capitalism for such an economy may prove tricky indeed and if improperly managed may actually not take it out from the periphery at which it has been thrown by decades of economic mismanagement under communism, with consequences for its labor force dire enough and having the capacity to spread through the channels of the production process due to the centrality of labour as a factor of production-a fact affirmed by the Stolper-Samuelson theorem, capturing or quantifying this phenomenon may prove difficult. Embarking therefore on this particularexercise we have taken into account the following: (a) the Stolper-Samuelson theorem implies that through its centrality to ALL processes of production the price of labour affects all prices in an economy. When it rises it triggers them all upwards while when it falls it takes them all down with it. Also the theorem makes it plainly that such an economy tends to specialize, after a shock-liberalization, in low value added products as it tends to go towards more low skilled, low priced labor. Therefore while the volume of output of the economy may not be affected (although initially it is) the price of the output is for surely affected-the economy will tend to generate low price outputs as it works with low price labour, this becoming actually its main "*comparative advantage*". (b) the initial axiom of the transition as Jean Francois Revel put it (1995) states that an economy will exit communist and Central Planning at a level far much lower than the one it entered, therefore into a position that would be peripheral when compared to the position it had when entered the system, in relative terms of course. This peripheral position is then re-enforced and subsequently entrenched especially if labor force abundant due to the manifestation of the Stolper-Samuleson theorem effects. Abundant labour depresses labour prices which then further depress all prices and pushes the economy deeper onto the low labour-low value added slope.(c) when entering, simply being in the immediate vicinity of an area of economic integration (i.e.; frictionless trade area) and high competitive pressures (e.g.: the EU for our case), such an economy tends to compound losses due to the competitive pressures exercised over it by the other far more developed economies which through their scale and scope preventing thus the adjustment ultimately taking place in the classical variant of the Stolper-Samuleson theorem. In other words, the other economies deprive the economy in question of the potential to develop, by simply retaining out of it only those sectors where the cheap labor advantage works. As such, areas of integration tend to act like a single economy according to smithian postulates (Smith, 1776) whereby larger economies tend to get even larger. When a small, developing economy (e.g.: Bulgaria and Romania) enters such an area or opens-up it is bound to preserve out of its structure only those sectors where it genuinely holds an advantage. If this advantage is cheap labour, as it happened in the case of many of the economies in Central and Eastern Europe (RO&BG even more as they have been latecomers to the industrialization process), then only those sectors will remain out of it, all others will simply get out. The *low-entering* economy will be practically relegated into a peripheral status due to the fact that prices of labour are central to the system of prices throughout the economy.

To measure the above we have chosen a simple and aggregate enough system of statistical indicators (according to Hecksher-Ohlin) so as to capture the theoretical construction above ata level of generality that would both enable quick understanding as well as point to the dangers of such a situation by showing how such an unwanted status becomes entrenched and how it has the force to perpetuate itself. Central to our system is the idea of prices and price level(s) which signal the "relative position" of the economy. The system thereby consists of three simple measures (*m1.m2 and m3*) that relate to the most aggregate gauges of economic *activity*, the GDP. The system will focus thus on outputs of activity, prices and outcomes (*m1o, m2P, m3O*). The GDP is taken first (*m1o*) as an aggregate measure of *outputs* and at market prices thus aiming to point out the immediate economic reality, which is the one into which households, business and the state operate. This aggregate measure also shows how an economy expands or contracts itself and therefore the extent to

which it manages to enhance its relative position inside a single economic integrated area by managing to adjudicate for itself a larger or a smaller share of the total output that is generated inside this area. To simulate for the flows of tradein frictionless trade area-i.e.: the EU plus Norway, Switzerland, Turkey, Russia and Ukraine this measure will be weighted by the share of the nominal GDP of a said economy as % of the total nominal GDP of the area (i.e.: EU plus the above-enumerated states). Accordingly:

$$m1o=\left[GDPms\% * \left(\frac{GDPms}{\Sigma GDP\,(EU+5)} * 100\right)\right], \quad (1)$$

where "*ms*" stands for a member state of the EU (it will also apply for this paper to the five non-EU states included).

The second measure (*m2P*) is related to prices. We therefore take again the GDP at current prices as an expression of the "real prices" and "real price positioning of an economy". In the meantime we take the GDP at PPP prices or at a level of prices which express actually the purchasing power, a more than important element for our approach as it does also express the purchasing power of the salaries (the remuneration of the "fundamental" factor of production labor). We will consider as a measure of the "correct or fair prices" and an expression of "correct or fair" positioning of the economy within the ensemble and we will take this at being 1 or 100.

Therefore,

$$m2P = \left[\left(\frac{GDPmscp}{GDPmsPPP} * 100\right) - 100\right], \quad (2)$$

where*ms* has the same significance as above while *GDPmscp* will stand for GDP at current prices in US$; *GDPmsPPP* will accordingly stand for GDP of the respective member state at PPP. Values of the ratio above 100 (1) will be treated as "*over-valuation*" of the aggregate output and of the factors of production standing behind it, labour included and thus necessitating to a certain degree devaluation to restore competitiveness, while values of the ratio below 100 (1) will be treated as "*under-valuation*" thus allowing for increases in prices of the outputs as competitiveness by this measure is not under threat[7].

The chart below (see **Chart 1**) paints a portrait of the European economy in terms of the "under" and "over" valuation of the a aggregate output which incorporates the input of the factor labour and thus makes for a measure of its own (i.e.: of the factor labour) under or over valuation.

Finally we will look at the synthetic measure of the living standard (*m3O*) and we will take the GDP per capita, as year on year variations, weighted again by the share of the respective country's (*ms*) GDP as of the aggregate GDP of the European area (as specified above).

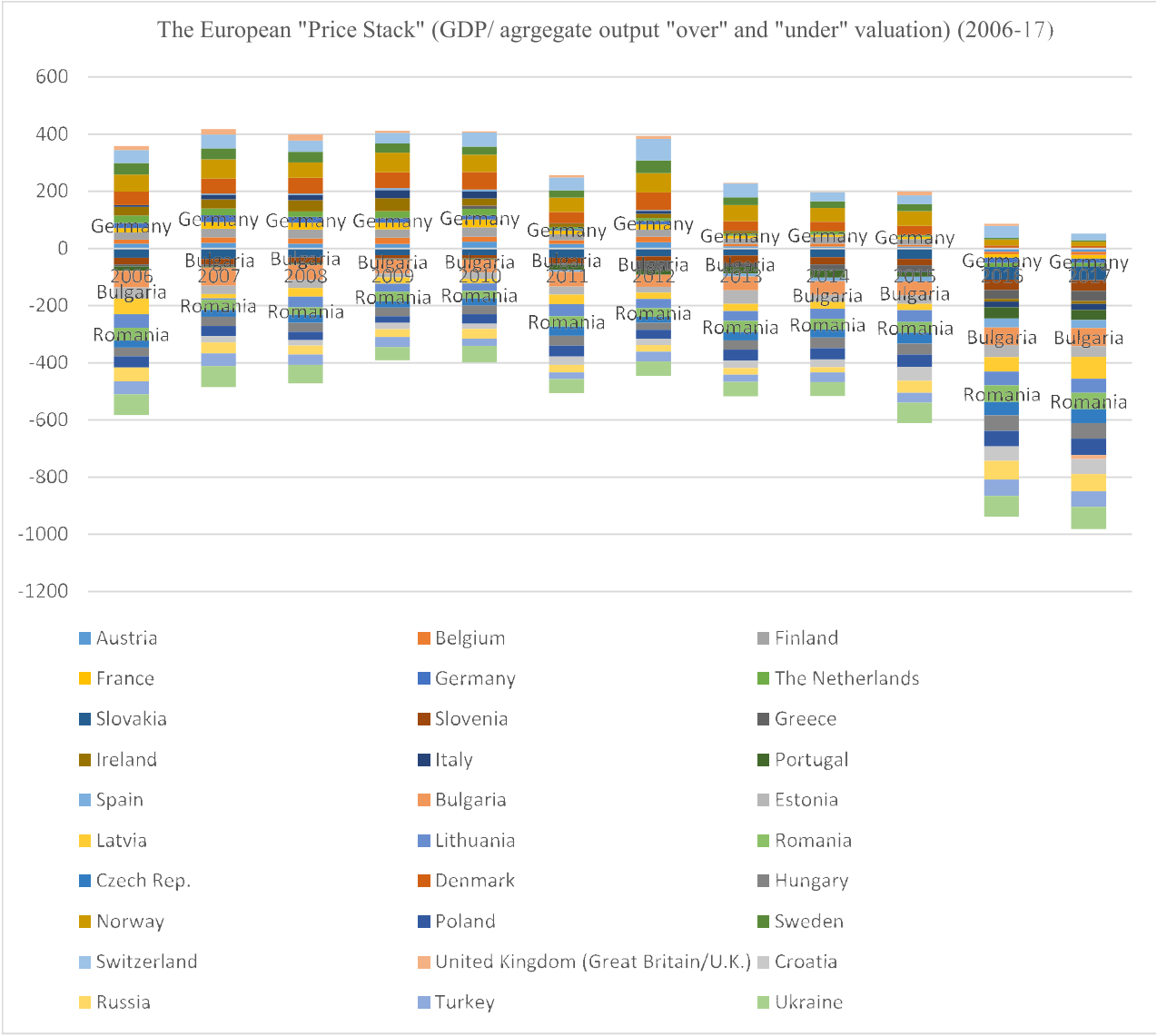
The formula for *m3O* will thus be, analogous with the one for*m1o:*

$$m3O= [GDPpcPPPms\% * \left(\frac{GDPpcms}{\Sigma GDPpc\,(EU+5)} * 100\right)] \quad (3)$$

where all symbols retain previous significances while *GDPpcPPP* will stand for the GDP per capita at PPP or a given member state, expressed as % year on year growth.

On the gauge of the crude real GDP growth, we would notice without much difficult that as a against the standard benchmark of the Germany economy – we will use this benchmark of the German economy which we would consider, due to its size (effect of *scale*) and diversity in terms of productive economic *activities* (effect of *scope*) as being for all purposes the "economic core" of the EU frictionless trade area(plus the 5 states we added and which by all purposes gravitate somehow around this area, Russia included) , the Romanian economy performs more than satisfactory for the years before the economic crisis of 2009–11, when standard deviation on this particular gauge reaches healthy values of more than 4 points as against the conventional benchmark of Germany (high growth rates therefore and a "normal" behaviour for an emergent economy). This should have pointed to the fact that the Romanian economy was progressing steadily from the periphery of the area to the core. However this is just an absolute measure that pays little attention to the context or the "relative" position from which the Romanian economy has approached this race to the core.

[7] Thus we will apply the simple principles of the PPP theory



Source: the *Economist Intelligence Unit-EIU* data plus the author's own calculations

Chart 1. The European "Price Stack" (2006–2017)

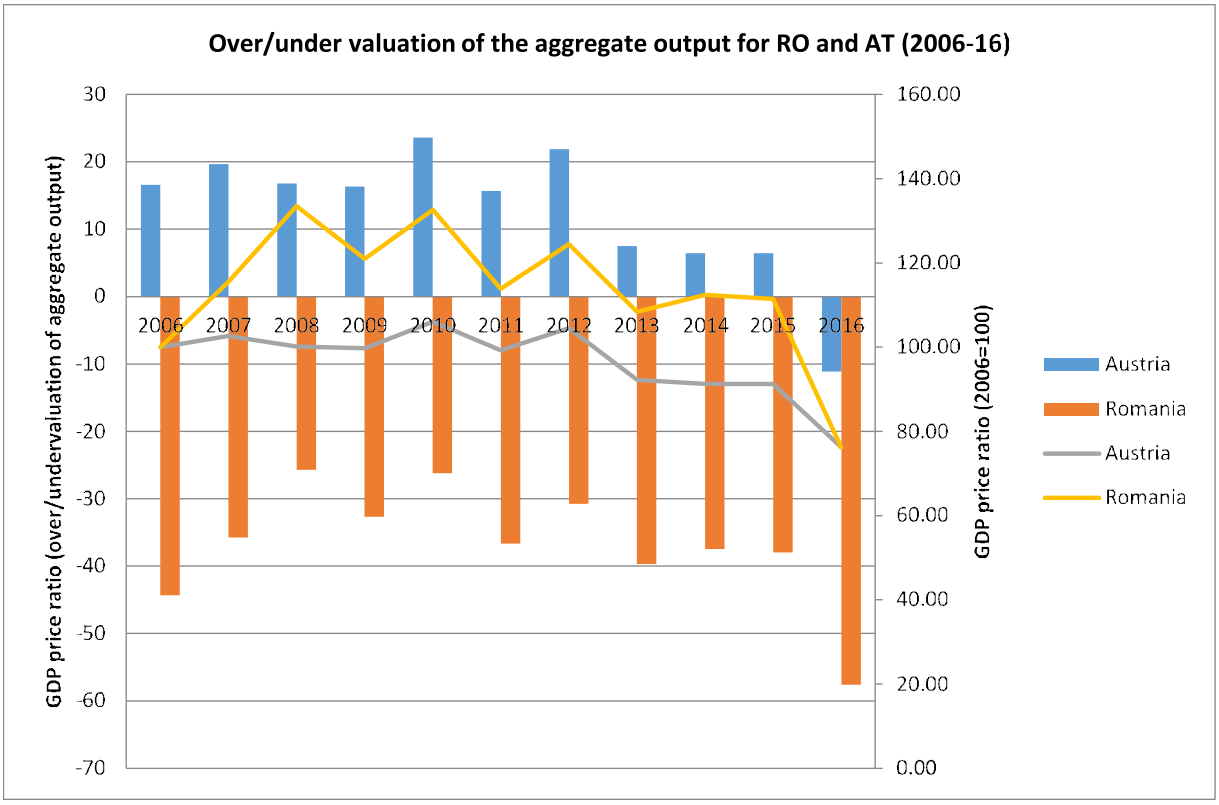
This is captured by our first derived measure (*m1o*). By this gauge the Romanian economy barely moves ahead. From a "weighted rate" of GDP growth of 0.06 just before the crisis it falls after the crisis and in spite of the quite speedy recovery to 0.03%.This shows that practically Romania makes actually little progress in its race to the core due to precisely to the small size of its economy in the overall ensemble of the economic area and possibly its reduced scope (low diversity in terms of produces churned). In other words the base effect of sorts which helps in explaining the high rates of growth which the Romanian economy experiences also helps explain why in our relative terms the progress is more than limited or rather dwarfed by an effect of scale. Therefore even at high rates the progress or actually the inroad made towards the core of the area or towards a position that would allow the economy to compete better and on bettered terms, is actually more than limited. The advent of the crisis, by cutting these rates of growth and pushing them into negative territory for a couple of years adds to this, painfully slowing down the "real" progress of the economy and practically leaving it into what by analogy with the so-called "development trap" a term that also refers to developing economies (see Garett, 2004), we will label as a "periphery trap" which could have the same meaning s the development trap but it would be its equivalent in a frictionless area of trade such as the EU. It points to the fact for an economy that starts low in terms of its position inside such an economic ensemble, high growth rates (Eichengreen,

Park, Shin, 2011) are needed for a very long number of years, for the progress or the inroad as we have agreed to call it, to become perceptible and possibly lead it out of the "trap". If the periods of growth, even at high rates, are short lived and interrupted by bouts of negative growth or slow positive growth rates, then the progress will remain negligible and, what is more, at the level of individual enterprise and household, practically imperceptible. In other words and in spite of its real progresses, the country will remain bottom of the pyramid and "peripheral" to the economic ensemble of for us to the frictionless trade area. To exemplify better we will resort to a small exercise in comparative analysis and we will look also to the neighbouring economy of Bulgaria. The Bulgarian economy has experienced a number of years of economic growth on a relative par with the Romania economy although under the markedly different conditions of a "currency board regime" bearing thus closer resemblance to the economies of the Baltic States before their accession into the Euro Zone. (2011–14). The Bulgarian economy experiences *fast rates of growth* in absolute terms in between a high of 4.8–5% (thus "superior" to the threshold of 3.5% annual GDP growth rate defined by Eichengreen, Park and Shin) before the crisis (for the interval under analysis) and a low of around -6.8% in 2009,during the acute phase of the crisis. In relative terms however or when weighted with the share of the national GDP in the total GDP of the frictionless trade area which is the EU, the rates of growth slow to a crawl. The as such weighted rate of GDP growth is a constant 0.01% which may be explained by the fact that at the dimensions of the Bulgarian economy within the ensemble of the frictionless trade area the nominal rate of GDP growth is simply dwarfed (true also that by this measure it looks also like there is no cyclical movement induced by the crisis!). It looks actually as the Bulgarian economy practically keeps its share in the total nominal GDP of the EU area at 0.20-0.21%. Returning to the case of Romania, the advance was from a 0.49% of the total GDP of the area in 2002, to 0.99% in 2009. By 2016 it had fallen to 0.81%. Therefore all the effort yielded up to the advent of the crisis only an inroad of 0.5 pp. The net worth after the brutal passage of the crisis has been further reduced to only 0.32 percentage points. Again practically no significant progress although, slightly more than in the case of Bulgaria at least where with 0.01pp. of progress over one decade (2006–16) it looks as the economy, at least in terms of its relative size within the EU frictionless trade area, stagnates (measured against 2004 however the progress is of 0.03pp and therefore closer to Romania). This would confirm the theory that the two countries are actually locked into a "periphery trap'" which would be analogous to the development or income trap defined by Garrett back in 1981. Also as in Eichengreen, Park and Shin it looks that in order to overcome the initial disadvantage of entering the fold at a far much lower-level, countries in Central and Eastern Europe need more than a "fortunate" combination of both a *sufficient number* of consecutive years and a *sufficiently high* rate of growth. This is very difficult to find, as *fortune or luck* (Kindleberger, Aliber, 2014), is a variable sufficiently vague defined to be in any way quantified or taken into consideration when designing economic policies.

Therefore the conclusion coming simple and clear is that a low departing point can be overcome only with much difficult and overcoming it, does not come within a reasonable period for the individuals to perceive it sufficiently, especially when viewed from a comparative perspective. In other words while the position betters in absolute terms, in relative terms one cannot hope to surmount the disadvantage. I.E.: position does not change, q.e.d.!

Having seen now that at least with regard to their crude progress no much of inroad towards the core of the economic area is made and therefore their relative position within the ensemble of the integrated economic area does not improve, or at least if it does at a very slow pace, thus making it practically imperceptible and negligible, let us look at the second measure and see if these peripheral economies at least preserve their *price advantage* which would practically enable them to compete at least on this basis, within the integrated economic area. Therefore we will look at what we labeled as the GDP Price Ratio (*m2P*) or the simple ratio between GDP as expressed in current prices and GDP as expressed at Purchasing Parity Power (PPP)[8].

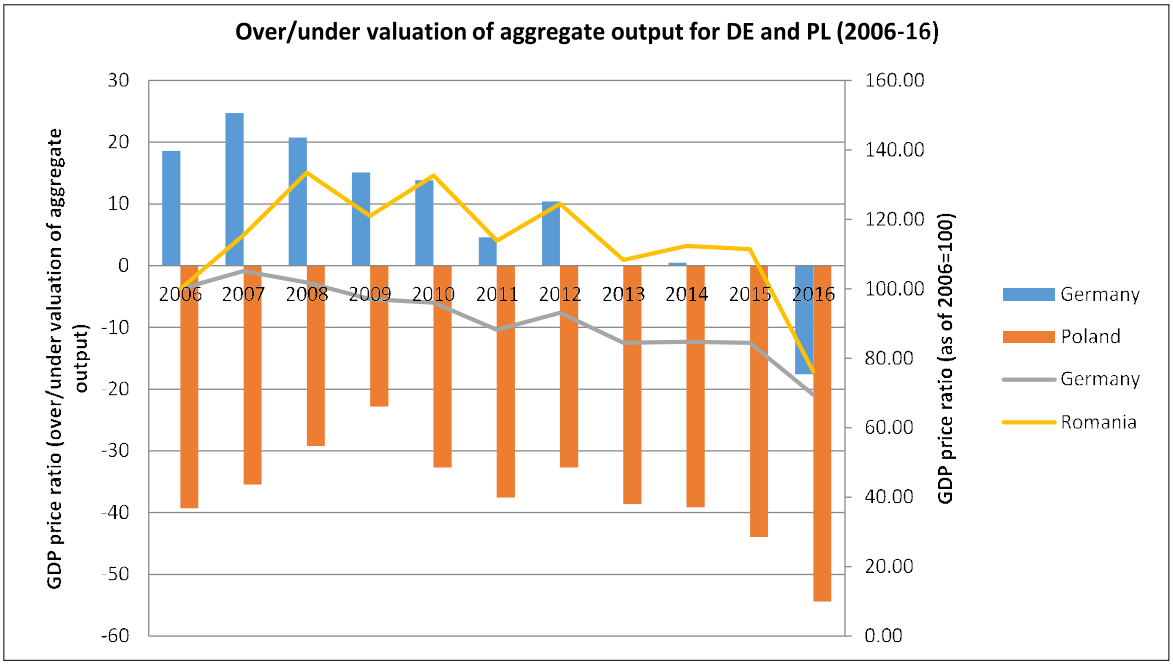
[8] See explanations and formula for this measure as per above in this paper.



Source: *Own elaboration* based on data from the EIU-*The Economist Intelligence Unit (2006-16)*. Bars are the GDP price ratio, yearly values; Lines represent the evolution of the GDP price ratio for RO and AT taking the year 2006 as the base, =100

Chart 2. Austria and Romania by the GDP price ratio (*m2P*)

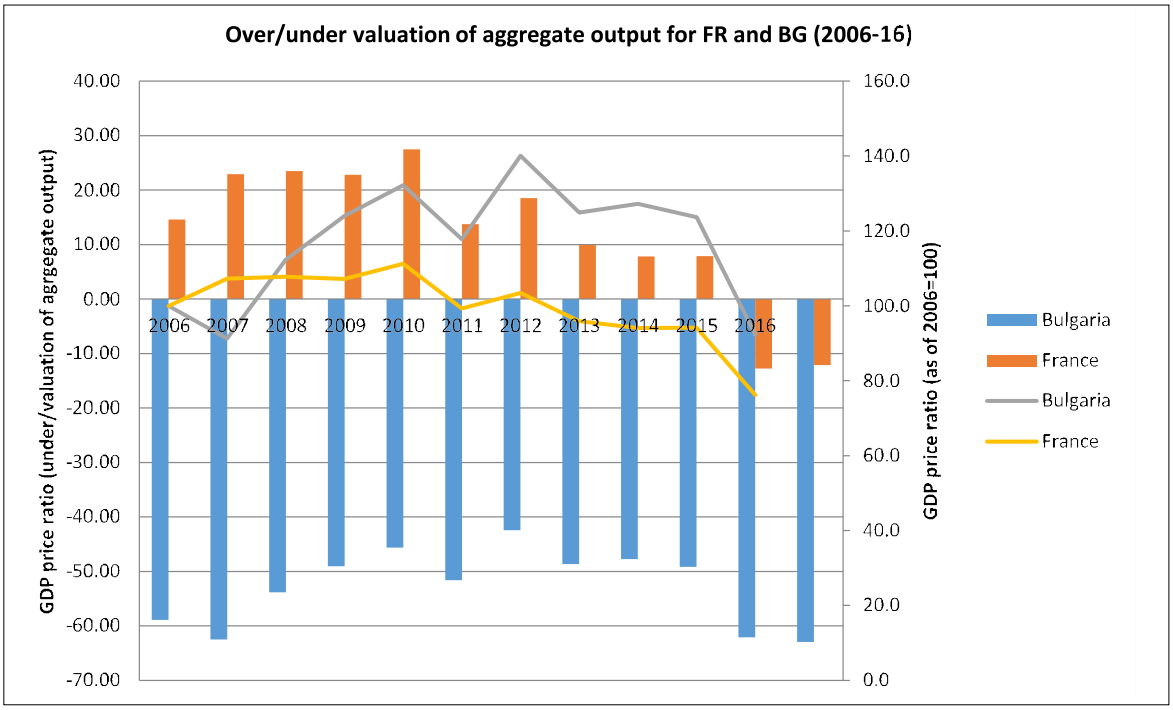
Taking as an example the case of Austria and Romania (see Chart no.2)then, the Austrian economy has a GDP Price Ratio that goes from a value of 116.61 in 2006 to 89 in 2016 (shown in the positives in the chart). For the same period of time, Romania displays values of the ratio between around 55 in 2006 to a low of 42 in 2016 (shown in the negatives in the chart), with the highest value of somewhere around 73–75 witnessed in 2008. This says that in terms of prices in Austrian output is over-priced/overvalued (values above 1 or 100) while Romanian output is under-priced or under-valued (values below 1 or 100). As due to globalization, a lot of products are now standardized and therefore they should command the same price, it results that difference can be easily ascribed to the factor of production labour. Salaries are far much lower in Romania than in Austria and as labour enters all processes of production it therefore depresses the price of aggregate output. In time however this should have eroded, i.e.: the price of labour should have climbed. As we would look to the example of the pair above, in the decade between its entering into the Union and 2016, Romania has actually *entrenched* this low level advantage (i.e.: cheap labour) as the GDP Price Ratio went downwards, from a value of around 55 to a value of 42, thereby marching downwards and not upwards by a hefty 25%. Therefore under-valued Romania continued to devalue/undervalue its activities, ultimately its labour! Over-valued Austria also lost also 25%, but still remained 100% above the Romanian values. Therefore, if Austrian aggregate output was in terms of prices more than 100% higher than its Romanian counterpart in 2006, it remained so in 2016 as although *over-valued* Austria under-valued, *under-valued* Romania, under-valued at its turn as this was its only way to remain "competitive".. Thus the relative position of the two countries did not change. Romania remains a low value added processes of production economy while Austria retains the opposite position (i.e.: that of high value added, high-priced, high salaries activities).



Source: Own source based EIU data (2006–16). Bars represent yearly values of the GDP price ration. Lines represent the evolution of the GDP price ratio for D and PL taking 2006 as the base year, =100

Chart 3. Germany and Poland by the GDP price ratio (*m2P*)

Same would go if we would look at another pair Poland and Germany (see Chart no.2). The GDP Price Ratio of Germany went down, from a value of 118 in 2006 to a value of around 82 in 2016. This marks a decline of more than 30%, which has worked to the advantage of the German economy as it improved its competitiveness. Poland went from a value of 60 in 2006 to a value of 45 in 2016 thus losing 25% and again entrenching the "competitive advantage" of low prices, basically derived from low or lower-cost labour.



Source: EIU data processed by Dr .Catalin Ghinararu. The bars in the chart represent values of the GDP price ration for each year in the series. Lines represent the evolution of the GDP price ratio for BG and FR taking 2006 as the base year, =100

Chart 4. France and Bulgaria by the GDP price ratio (*m2P*)

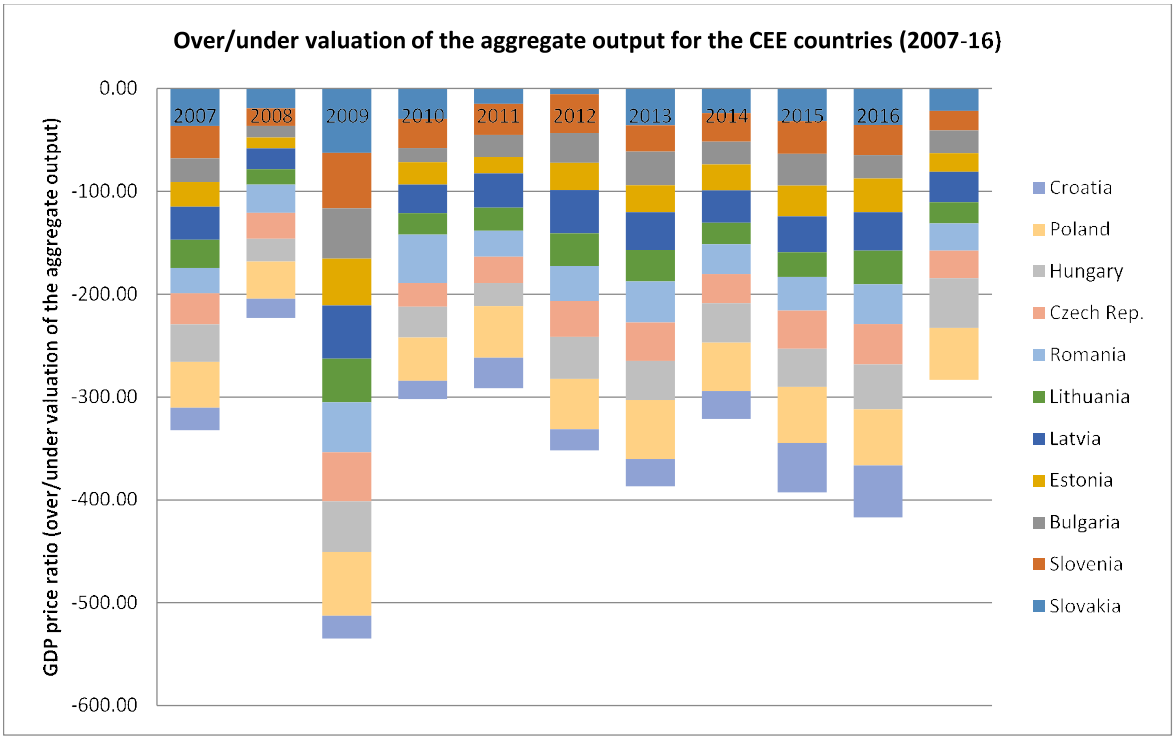
Finally if we were to look at a third pair, say France and Bulgaria (see chart no.3). Bulgaria goes down from a value of the ratio of 41 in 2006 to a value of 37 in 2016, possibly the lowest in the whole of the integrated ensemble, safe for non-EU countries. France, in its own quest for competitiveness and under heavy pressure induced by the financial and economic crisis, goes down in terms of the same price-lead ratio from 114 in 20006 to 87 in 2016. This implies a fall and consequently an improvement in price competitiveness of 24%. The response of BG has been however also a fall!

In other words much of the improvement in price competitiveness of the core economies of the EU and chiefly of the German economy, the largest of them comes from the downward pressure in terms of pressure exercised upon the economies at the periphery of the EU. This at its turn means that the price of labour, already low in these economies is pressed even lower. Therefore the logical result, their position cannot improve. For the GDP is an expression of output but of a priced output. If prices get lower due basically to measures taken to restrict and constrain the growth of wages then the priced output measure which is the GDP is bound to remain low. A low value of the aggregate called GDP means a periphery position within the integrated economic ensemble with all the consequences stemming from this. The first and most important one is the one stemming from the Stolper-Samuelson theorem which means that in order to compete at ever lowering prices skilled labour loses out in face of unskilled one which at its turn means that high value added processes are losing out in front of the low value ones. As in these economies it was never the case of high value added production processes then the direct implication is an entrenchment of low value added production processes and low salaries[9].

The deflationary move in the core economies, results in a proportionate deflationary pressure in or rather ON/UPON the periphery economies with profound negative effects. In terms of the race towards the core of the integrated economic ensemble which is the Union and which means actually a bridging of the development and living standard gap this implies the zero progress rate that we have witnessed while examining the crude rates of growth as well as their adjusted variant. The progress is practically nil and the deflationary pressure exercised by core economies aiming at improving their competitiveness pushes low prices in the periphery economies even lower thus exercising a ever more powerful deflationary effect which entrenches the low prices-cheap labour character of these economies and thus explains why in terms of their relative position they do not show any sign of progress. As we previously did we will look now at the standard measure of dispersion of the GDP Price Ratio values. We will thus examine the unwelcome convergence of the deflationary movement in these periphery economies which are slowly aligning with the core thus practically entrenching their position as periphery. Normally given their low start development status these economies should have enjoyed a constant movement of price increases as their domestic markets would slowly develop and as demand would constantly outpace supply. However as these economies are absorbed into the deflationary move of the "core area" this fails to happen. Movement of prices in these freshly reborn market economies should have been sharply divergent from the one in the saturated markets if the old EU. Therefore one would expect them to diverge and show high dispersion of their values against the standard benchmark of the German economy. Instead they are converging with their standard deviation ever lower against the benchmark of Germany. Using the same grouping of countries we will observe the following for the period between 2006 and 2016: (1) for the core countries of the EuroZone which includes Slovakia and Slovenia and where the autonomy of the monetary policy is zero, the standard deviation against the benchmark of Germany goes down from a value of 22.42 in 2006 to 15.02 in 2016, which show that all of these countries tend to converge towards the core economy of Germany and align their movement of prices to the ones of the German economy. (2) The PIIGS which are the countries that were the most affected by the economic crisis of 2009–11 see their divergence from the benchmark of Germany reduced from 16.68 in 2006 to 10.96 in 2016. This shows the harshness of the adjustment measures applied and the force of the internal devaluation measures adopted. All of these countries also have zero autonomy of their monetary policy and although while facing the crisis the internal devaluation path was surely the least advisable, in the absence of an independent monetary policy it was the only path remaining available which explains the remarkable converge with Germany. (3) the most remarkable convergence is nevertheless shown by the small economies of what we have called the REBELL Alliance. Romania, Bulgaria, Estonia, Latvia and Lithuania converge rapidly with Germany with the standard

[9] A confirmation of this so-called „specialization" is to be found also in *The Economist*, Dec.10–16th 2–16 issue, Free Exchange column, pg.66.

measure of dispersion falling from 28.44 in 2006 to 15.79 in 2016. Again this is a showcase for the internal devaluation measures which have induced deflationary pressures where these had no place. Prices were anyway lower in these economies so no lowering was necessary any longer especially with regard to the price of labour. The openness of these economies and their small scale meant that as prices declined in the dominant economy they had to even lower on the price ladder although they were already low which illustrates again the Stolper-Samuelson theorem of the openness to trade being in certain circumstances harmful to developing economies. (4) The least of convergent are the so-called "non-Euro' group which includes Poland-the only country to have retained positive GDP growth throughout even the most acute phase of the current economic depression, the United Kingdom-the only country that retains in the EU full control over its monetary policy and some other countries where internal devaluation measures have been resisted through different means. Here the values fall from 37.36 on 2006 to only 35.27 in 2016 which shows that these economies continue to maintain a healthy degree of divergence. Their fall into the deflationary maelstrom opened by the core economy of Germany with the aim of improving its competitiveness through internal devaluation measures is thus and to a certain degree avoided. (5) Finally the non-EU countries show rather more convergence towards Germany with respect to their output prices; values of their standard measure of dispersion against the benchmark of the German economy, fall from a value of around 38 (standard deviation value against Germany) in 2006 to a value of 21.33 in 2016. (6) Finally if we take all of the Central and Eastern Economies together, we will see that their convergence with Germany in terms of the movement of prices is more than hefty. The standard measure of dispersion falls from 20.89 to 11.66. Thus for economies where practically no deflationary movement was necessary, prices are going downwards. Devaluation at the core of the area is "mechanically" followed by devaluation at the periphery.



Source: Own source based on EIU data (2006–16)

Chart 5. Over/undervaluation of the aggregate output (i.e.: GDP) by the *m2P* for all the CEE countries

Values of our measure called the GDP Price Ratio above 100 point to the fact that goods and services in a particular economy are actually over-priced (e.g.: if the value of the GDP Price Ratio for Germany in 2006 was 118.58 then it means that roughly all goods and services in Germany were actually over-priced by 18%. Thus in order to get competitive they would have to decline, which they did and this was the actual policy of successive German government. By contrast if for Romania the ratio was 55.66, the goods and services were under-priced by around 45% and therefore even an increase of their prices would not have damaged their

competitiveness. Accordingly deflationary policies were not a necessity. Deflating when Germany is deflating, by a strange sort of automatic move, means applying a sort of price-pegging. The result is generally damaging as competitiveness is not practically increased or if it is increased, it is at a cost for domestic labour. This is a low-level competitiveness and once entrenched it practically undermines the economy as it pushes the price of its fundamental factor of production – labour, lower and lower and thus entrenches low-value added production processes, maintaining finally that economy as a perpetual periphery. Therefore the "automatic" adoption or the "implicit pegging" which took place in these economies serves to show that premature and full opening of such an economy may result in the importation of economic policies and phenomena which are in most of the cases counterproductive as they tend to lock such an economy into a position of periphery and "chain it" to the core economy policies – in most cases *implicitly* although in some cases it may become explicit through a variety of means, thus preventing any further progress from periphery to core with the consequence of maintain the gap. Therefore while progress may be registered even for such an economy, it will be always very slow and it will never actually manage to close the gap with the core. On the contrary and as we have demonstrated it entrenches itself into a periphery position. If during favorable economic circumstances this may be mitigated to a certain extent, in adverse economic circumstances the effects are devastating as the respective economy not only remains in the periphery but has the tendency to fall even farther and become a simple low-value added, cheap labour, annex of the core economy. Concluding: the Stolper-Samuelson theorem applies fully as developing economies accessing prematurely integrated economic areas tend to enter an implicit pegging of the policies pursued by the core of the area which in adverse circumstances pushes them towards un-necessary deflationary measures that adversely affect labour and especially skilled labour. The resultant is a further slip down the value added ladder and an entrenchment of the low-level competitive advantage of cheap labour.

THE COLLAPSING STAR

To sum it all up, we will build a synthetic measure which will bundle into a coherent shape the three measures above[10]. We will call it the "centricity index" (*Icen*). The basic idea behind it would be to *combine into one single measure* all of the three measures we have come with and to see if even by a synthetic gauge the same will be valid, i.e.: that the countries in Central and Eastern Europe, Romania included are keeping their position at the bottom of the EU stack. The index in itself will be therefore the product of three index numbers, the index of *m1o* (1), the index of *m2P* (2) and the index of *m3O*(3). The values of the index numbers will be thus obtained by applying "normalization"[11] formula for the crude values of the three measures, which will imply calculation of *maximum and minimum values* for all of the series. The formula for normalization will be then the following:

$$I(m1o, m2P, m3O)=\frac{Vreal-Vmin}{Vmax-Vmin} \quad (4)$$

Using the normalized values of the three indices we will compute the Index of Centricity after the formula:

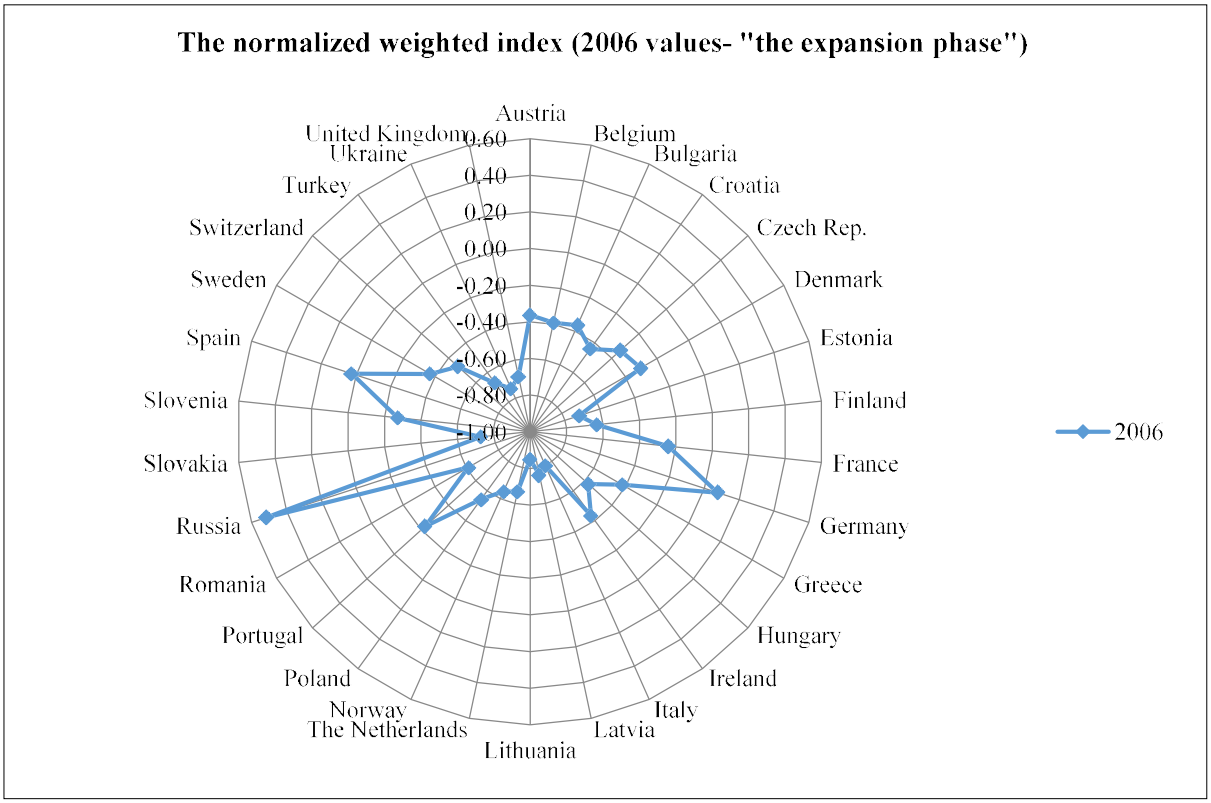
$$Icen=\{\frac{[(1*m1o)+(2*m2P)+(2*m3O)]}{5}\} \quad (5)$$

What will result will look like a sort of a "*star*" which pulsates with the expansion and recession phases of the economic cycle or rather with an *expansion (see chart no.6) and collapse phase (see chart no.7)* as

[10] Given that results are convergent with the ones for *m1o* and *m2P*, the third measure, designated as *m3O*, will not be discussed in the paper (its values are however used for the construction of the index).

[11] By „normalization" we understand the application of a simple formula whereby at the numerator we will have: (Real Value- Min.Value) while at the demoninator we will have: (Vmax-Vmin). In the end the formula will be: Normalized value = [(Vreal-Vmin)/(Vmax-Vmin)] where: (1) „Vreal" will stand for the real value of each economy/country, (2) „Vmax" will stand for the maximum value for each of the variables taken into the construction of the index as expained in the main body of the text, finally (3) „Vmin" stands for the minimum value for each of the variables taken into the construction of the index as also explained in the main body of the text. Am analogous formula-at origin, was used by the world famous Human Development Index used by the UNDP.

we will agree to call the positive and the negative phases of the cycle as our "*star*" initially expands into the outer rim and plunges inward into a sort of a collapse movement when the cycle goes into reverse. The values for the expansion phase, for which we have chosen to show the year 2006 in the following chart, show clearly a *movement of centrifuge* whereby the economies of the area expand into the outer rim with the large economies leading the movement and going farther from the centre. Some of the economies go farther than the others such as for example Spain which shows actually very well their overheating and loss of competitiveness. Even Germany which during this phase showed a rather more restrained expansionary drive for reasons we will not enter detail here but which are basically common knowledge, is going towards the outer edges of our constructed "star". As for economies such as Romania and Bulgaria they apparently miss the movement as they continue to remain kind of blocked into the bottom of the constructed star. This shows actually that they continue to hold their position as low price suppliers. Even if the constructed "star" of the extended European economic area expands outwards, the two main economies of Eastern Europe keep "quiet" their "inner position".This means that practically they continue to be "*peripherised*" as they are unable to harness the economic cycle which in other words means that they are practically denied any sort of anti-cycle policy. In short this points to the fact that they are highly vulnerable and thus for all purposes "trapped" and trapped into a sort of "pro-cycle polices trap". It comes in contrast with the findings on other emerging markets the world around (see Vegh, Lederman and Bennett for the World Bank, 2017) where the "pro-cyclical" trap is already history. In a nutshell this again gives word of proof to the Stolper-Samuelson theorem which shows that for all the advantages of the integration some powerful disadvantages still remain one decade and more after the accession of these economies into the Union. Either these are in some way surpassed or they may become the source of future crises of the same type other emerging markets have acknowledged throughout the time.

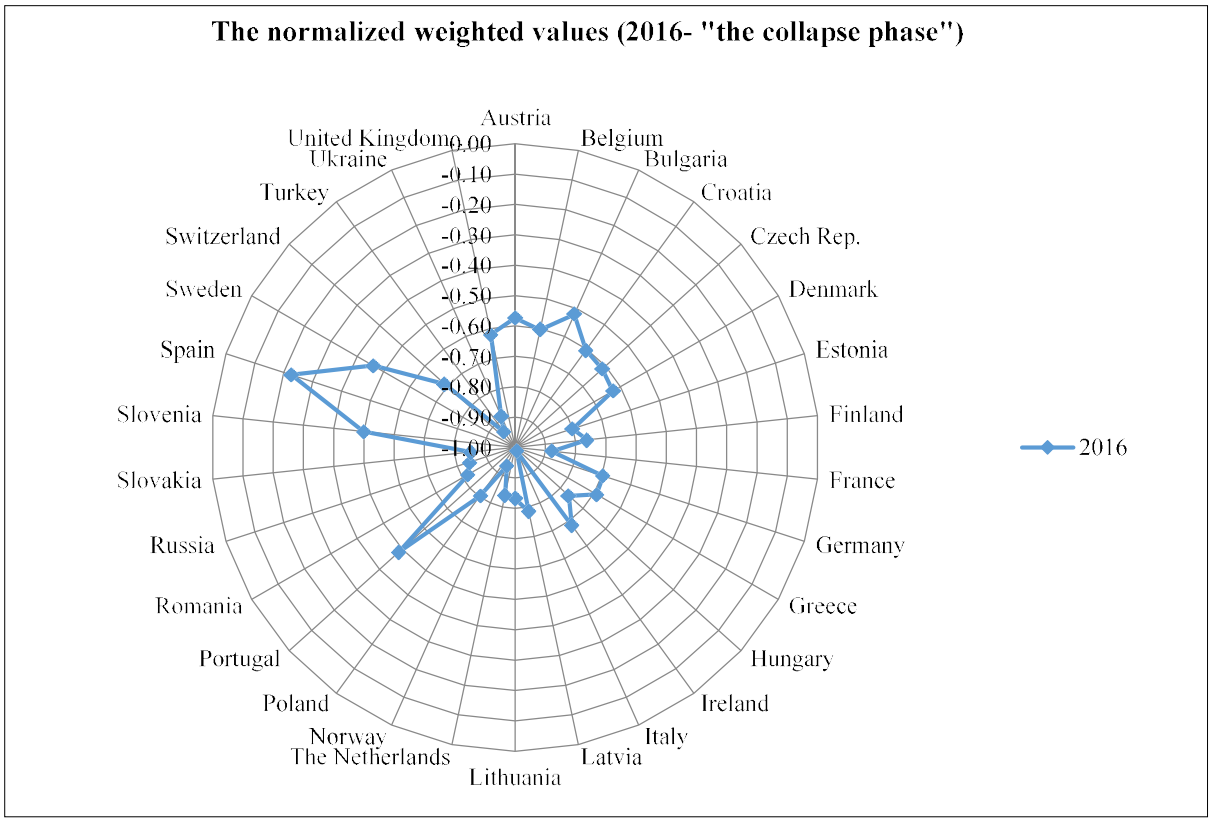


Source: Own source based on EIU data (2006–16)

Chart 6. The "Expansion Phase"

During the collapse phase of the cycle for which we have chosen the last year of 2016 (see next-no.7 and final chart of the paper), it is more than visible that all of the major economies are in retreat or that they have already completed a massive movement of retreat by applying, for a larger or a lesser degree the

deflationary tactic of internal devaluation. Most visible are France and Germany but also Russia due mainly to the devaluation of the rubble on the back of the massive fall in the price of oil, in itself just another manifestation of the global economic malaise that persists years after the 2008–09 acute phase of the depression. Due to the massive retrenchment practiced by Germany, the hard internal devaluation of Greece -for example, looks like a paltry show. The strangest case emerging however is that of Spain which again for all of the havoc it went through since the collapse of its housing bubble in late 2008 and 2009 still does not improve its position, i.e.: it does not seem to gain in competitiveness in spite of the harsh internal devaluation measures. As for Romania and Bulgaria, they remain stuck into their position close to the core of the star-shaped graphical representation. The conclusion is simple: they maintain their position as low price suppliers. No matter how the things fare and how the other economies swing towards the outer or the inner rim of the constructed star describingeither a centrifuge (expansion phase of the cycle) or a centripetal (the collapse phase of the cycle) move, the two economies (RO&BG) and with them also other economies of Central Europe retain their places within the ensemble. This in other words means that no matter what the movement described by the cycle is, they continue to remain low price suppliers of the major economies. Accordingly and this brings us truly to the END: they do not change RELATIVE POSITION!



Source: Own source based on EIU data

Chart 7. The 'Collapse Phase"

CONCLUSION: THE PEOPLE ARE ALWAYS RIGHT!

Our discussion has been focusing on three sets of numbers. The first one has been the absolute one. By this one, which is the reflection of the immediate reality in which people live, the same people were more than right when in the euphoria of the 1990s and early 2000s opted for the full accession into the EU. And this went in spite of the utter incapacity of their economies to cope with the competitive pressures inside the integrated economic ensemble, because a progress which is undeniable has been made. The other two sets of numbers, i.e.: the relative numbers as well as the ratios on which we have extensively pored throughout the paper show the same reality but within a context. By this measure all progress looks not only insufficient but also not significant. Therefore the other righteousness of the people- and that not only in the case of countries in the

Central and Eastern part of the integrated ensemble: that of its' rile against the current state of affairs! Solving this is not going to be simple thing. Democracy being however at the core of the European construction we can only conclude as such: THE PEOPLE IS ALWAYS RIGHT and they have to, their entitled, to being listened.

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Literature review

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2. The gravity model that has been used further in the paper as well as the "remoteness index" as such calculated (i.e.: "the centricity index") have a dual origin: (1) the Hecksher-Ohlin theory of the relative abundance/scarcity of production factors thus looping back to the Stolper-Samuelson theorem and the (2) Tinbergen (1962) gravity models of trade which make use of "mass variables" such as the GDP. In our approach we have been also *inspired* by the seminal paper for the NBER by (3) J.E. Anderson "The gravity model" (NBER working paper 16576http://www.nber.org/papers/w16576). However we have introduced many „alterations" so as to suit our purposes. In using aggregate, mass measures such as the GDP we have taken clue from the initial approahces relating to gravity models. These are criticized by Anderson in his paper. However for us this was the only course of action available.
3. On the effects of austerity and the possible crash of the EuroZone as well as on the regional division of the countries we owe a lot to the research done by Blyth in his outstanding book "Austerity" (see bibliographical references sub-section);
4. On general issues relating to crisis, depressions and policies to combat them we think that Bernanke's "Essays on the Great Depression" still gives a lot of clue as it does, for the current depression, the seminal Reinhardt and Rogoff , "This time is different" (see bibliographical references sub-section). Another powerful source has been the also seminal Kindleberger and Aliber "Panics, Manias and Crashes", the last, post-2008 crisis edition, also fully referenced in our bibliographical sub-section;

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