

## SHOULD PRODUCTION FUNCTION WIN OVER THE THEORY OF OPTIMUM CURRENCY AREA?

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**Abstract:** *The EU and EMU experience have in last years exposed several problems and limitations of these international institutions. Correspondingly, we are faced with uncritical positions of economists stressing that not before too long the EMU and EU will cease to exist and that it is no use to spend energy for reforms. In this paper, those extreme views will be evaluated through two economic theories/models: Mundell's optimum currency area theory (OCA) and production function including technological progress. Focusing on two prepositions of the OCA theory it can be judged, that the EMU was nothing more than a project with political and security background and will probably depend on member states' interest for such international integration. On the other hand, applying of the production function will show that with globalization, which despite modern trends in international trade policies will be hard to stop, the size matters. From the point of EU with scarce factor labor, their competition with fast growing Asian economies with abundant labor force should be of the major concern. In this respect, none of biggest and strongest economies in Europe cannot expect to become anything else than prey when appearing individually in international context.*

**Keywords:** *production function, theory, currency area*

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### 1. INTRODUCTION

On 1<sup>st</sup> of January of 2019 the Euro has celebrated 20 years since it was introduced in 11 EU countries. The arrangement, which is second to nothing in economic history, started as a virtual currency in Austria, Belgium, Finland, France, Germany, Ireland, Luxembourg, Netherlands, Portugal and Spain to become a real currency in 1<sup>st</sup> January 2002. After later enlargements the Euro currency is now legal tender in 19-member countries of the EU thus covering a 350 million population market. Additionally, but in a unilateral way the Euro has been used also in Montenegro and Kosovo.

Leading and managing the Economic and Monetary Union the ECB and its bodies celebrated the Euro birth anniversary.

### 2. DEVELOPMENTS AND PROBLEMS

It was immediately clear that with the EMU only one part of classical policy-mix would be covered thus being prone to instabilities caused by the second part – the fiscal stance. In order to minimize the risk from the side of economic policy, which was to remain under control of national governments, the Maastricht Agreement (1992/1993) includes five convergence criteria that should be complied with by EMU member countries. Being teased even by strongest EU economies, these criteria could not assure the streamlined growth and

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development of the EMU<sup>52</sup>. The not so positive experience with the union will be discussed in the next chapter on Optimum Currency Area. We will mirror the discussion in the media addressing the anniversary of the Euro. Here the advocates of the EMU face quite a strong opposition. The parties participating in public discourse could be divided in three groups.

As the first one the proponents and advocates of the EMU can be considered. Although they could be divided in more two groups (administrative personnel of the Euro System and economists and public discourse participants with broader horizon) they all are stressing positive experience with the Euro and are linking it to the European interest for peaceful coexistence. At his speech in Pisa on December 2018 Mario Draghi stressed the benefits that were brought to the EMU members although not all of them could participate with positive developments. Those threatened to be left behind should be helped with reforms, while politicians are responsible for structural reforms. In economic sense it means European bank union with common deposit guarantee as well as single capital market.

As the second group, critical scientists and top economists could be considered. They consistently base their criticism on examples, which especially since 2008 financial and economic crisis built certain negative experiences with the EMU. Theoretically, their best basis seems to be the Theory of Optimum Currency Area. Here we believe in a sense relevant and representative is the criticism by Mody (2018), especially in the sense of his policy suggestion. According to his proposal the ECB should act as US Federal reserve, meaning that it should widen its goals to the field of economic growth and employment. This however does not comply with the legacy of the Deutschmark that forms the basis for the Euro and the EMU, but could help comforting the problematic national economies in the time of their critical economic developments.

The third group consists of critics who are functioning over (mostly yellow) media and social media. They profit from the fact that (coming) EU elections will offset the share of population, which is nurturing their knowledge from FB and reality shows. To follow such media surely is a personal decision, but as electoral body, these structures of population prefer interesting and direct speech to (scientific) arguments. No matter the reality they are supporting promises of swift political action, which will address their daily problems as they see them as well as the sources of these problems. They seemingly do not understand, that the political correctness aims at respect for possible different (political) positions and people. We must however, beware the fact that this part of electoral body is rather short-sighted but still calculating opportunity costs caused by arrogant and ignorant behavior of top politicians. We use the term short-sighted as they are only slowly realizing, that interesting news and alternative facts not before too long are taking hostages them too.

Triggered by the change of political map in the USA and in the EU the proponents of “dissolving” of the EMU come from three subgroups of participants of public discourse. First are the politicians trying to comfort the disoriented electoral body. Mostly they are nurturing their positions by the facts deriving from difficult economic positions of their home countries. If there would be disintegration of the EMU, they can of course reckon on favorable position in the political markets. The common denominator of their positions is that others (EMU, Germany, globalization) should be made responsible for their country’s problems. The second group influencing negative perception of the EMU are Brexiters. The basis of their criticism comes from the fact that the UK has in last 100 years constantly been losing the world primacy.

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<sup>52</sup> Anectotically in 1995 Croatia and Albania fulfilled more Maastricht convergence criteria than Italy, today's EMU patient.

With their public activity at the opportunity of 20 years celebration and usually based on speculations (see: Evans-Pritchard 2019, Halligan 2018, Hosso 2018, Lynn 2019, Warner 2019), they also try to comfort their voters who followed them at the 2016 referendum and won (but also thanks to arrogant position of majority of voters, who did not appear at the referendum). As already mentioned, their style is strictly oriented towards population, which likes strong views, knows less about facts and are prone to consider alternative facts.

The third subgroup represent leaders of ruling parties in some EU transition countries. Their endeavor and “historical” longing for inclusion in the EU story has dissolved on the rocks of immigrant issue. Their nationalist governments soon demonstrated that they do not really understand European values that drove them in the time of accession. According to their temporary political taste, the EMU would involve them too much in a community, with which they are ready to share only “fruits” of positive developments.

The idea of this article is to theoretically confront the EMU criticism. We believe, that when put into broader historical and geostrategic perspective several reasons for endeavors to preserve the EMU can be found. We would like to strengthen this view by facing the arguments of the Theory of Optimum Currency Area with production function.

### **3. OPTIMUM CURRENCY AREA THEORY**

Discussion on optimum currency area starts with Mundell (1961). According to the initial positions of the theory the areas defining feasibility of currency union stretch from mobility of labor and capital, price and wage flexibility, openness of the region to foreign competition, diversification of production and consumption. Later the similar reaction to outside economic shocks was added. For our discussion especially relevant is contribution by Mongelli (2002, 2008). If compared with “early OCA theory” so called “new OCA theory has moved the views more in favor of monetary unions. According to the author, there is still no consistent OCA test at our disposal, although the first ten years’ experience could be judged as positive. There were no rising inflation differentials, real interest channels did not generate asymmetric monetary transmissions, pro-cyclical fiscal policies seemed to be under control and changes in competitiveness within the EMU was developing in a sustainable way.

No matter how one treats the OCA theory it is the fact, that the data on economic developments support the criticism referring to the mismatch between expectations and real consequences. No matter that most of problems can be related to the 2008 financial and economic crisis it seems that from very beginning all of the homework has not been done. So, the belief that the promising Maastricht fiscal criteria would be operable was obviously too optimistic. Soon it namely proved that some EMU countries simply were too big to fail (Italy) and even Germany drove in to the waters of excessive public debt over 60% of GDP. The problem is not only statistical though – the belief in the fiscal criteria prevented the emergence of (now desperately needed) settlement mechanism, which despite big problems with Greece and approaching ones with Italy still could not be institutionally put in practice.

Following the fact that among the EMU member states similarities were quite weak and that they have not really progressed, one could easily state, that the OCA theory should beware us from optimistic expectations of the EMU sustainability.

#### 4. PRODUCTION FUNCTION

Production function is a tool, which helps students understand the role of factors of production in shaping economic growth of a country. Its typical form is:

$$Q = F(L, K);$$

Where  $Q$  represents quantity of production,  $L$  represents labor and  $K$  represents capital. As we are discussing the BDP, more appropriate denomination of the production will be  $Y$  for income. The (quantity of) production is developing also in the course of time, here incorporating the technology development and denominated by  $A$ . It is also the fact, that the existing factors of production will influence the production according to the degree of convergence of an economy. Since we will compare not only national states but also EU integration it makes sense, that we interpret the convergence with the level of integration: the highest the level of integration. We will denominate it with  $E$ . So, the form of our adjusted production function will be as follows:  $Y = F(L, K, A, E)$ ;

For further analysis, we will in a heuristic manner evaluate the disposability of factors of production for four entities relevant for our article. These are: USA, China, India and EU. The assigned values will stretch from 0 (nonexistent) to 10 (fully disposable) and will be added for the chosen entities. The so created production functions will be:

Entity	$L$	$K$	$A$	$E$	$Y$
<b>USA</b>	6	10	10	10	<b>36</b>
<b>China</b>	10	10	7	10	<b>37</b>
<b>EU</b>	6	10	9	6	<b>31</b>
<b>India</b>	8	10	6	3	<b>27</b>

The above application of the adjusted production function could give us some ground to evaluate the prospective of different entities. Both China and India dispose over abundant human capital – however with an important difference: traditional Indian society prevents significant part of population to participate in education and so we had with this factor of production to combine Indian huge population with their low inclusion in production. We presupposed that all of entities have equal access to capital. With the technology development, we considered that the USA is leading the EU. Although China has made significant improvement in last decades, we still considered considerable existing regional differences in this country. From the reason mentioned above, we have evaluated India with lower value, despite this country's participation in some top technological projects. With integration  $E$  we put on the top USA and China being rather traditional (national) states. EU has only been emerging "state" with only weak elements of integration<sup>53</sup>. India has been often cited (Sharma 2011) as the country, which still has to develop some basic co-operation with its constituting states.

One could of course assign different values from those that we presented above. However, there would still be the differences pointing at the same comparative relations. For our discussion relevant is the position of the EU from which possible policy recommendations could be derived. There is no way for the EU or to the USA to close the population gap with China or India. Despite some signs that in a trade war the opponent could be deprived of access to capital,

<sup>53</sup> When explaining The »new OCA theory« Mongelli (2002, 18 - 26) quotes essential differences between USA and EU in the fields off all dealing with intergartion level.

this counter globalization measure cannot have any effect. So, the capital will also in the future be fully accessible to all compared entities. From the point of the EU and even more from the point of China and India it is impossible to catch with the USA in the field of technology development. Although EU and especially China are doing their best with building of institutions to support technology development, there are American core values and labor ethics that will keep this gap open. So, the only policy to which the EU should be focused in order to improve its chances on the global level is deepening of integration.

In this respect, calls for reinstalling national sovereignty in Europe are pure nonsense. Even the biggest EU (and fifth world) German economy would be an easy victim of predatory policies of much bigger and strongest entities. Here it is no use to talk countries like Poland, Hungary or even Slovenia, whose comparative global importance hardly exceeds the size of statistical failure.

## 5. CONCLUDING REMARKS

The author believes that the EMU project is simply too important and has already achieved so many positive external effects that its abandonment would bring unforeseeable negative consequences. Apart from this, we hope, that the article proved, that besides OCA theory, which by all means proved relevant also in the case of the EMU also other economic models should be considered when judging the union relevance. Here the need of preserving the EMU could be demonstrated through the use of adjusted production function in open (global) economic area. We believe that both models proved their relevance with slight difference. The OCA theory warns over unavoidable consequences when not considered or acted towards fixing of misalignments, but still offers maneuvering space for action – here meaning especially political actions to form the above discussed institutional frame as well as agreement on solidarity – bail out. On the other hand, the facts connected with the production function are outside higher degree of integration, are out of control of the EU member states and also out of control of the EU. To avoid negative consequences for the EU individual member countries as well as for the EU as international integration, the energy should be put in achieving deeper integration. Here we find appropriate the position of Serbian writer Vuk Drašković as expressed in one of his interviews on the TV: “Regarding participation in the integration processes we have the choice: we will be at the table, or we will be on the menu”.

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