

Oponent review on the dissertation thesis

Topical Problems of European Integration Process

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The author is focusing on evaluation of the trade structure among EU countries from the point of view of its optimality. The main source of data is Eurostat, taking into consideration intra and extra trade of EU25 countries in the period 2000- 2008.

In the analytical part, economic integration is discussed, leading to term of perfect international integration. The integration and trade research is a classical and central topic for the economic theory, attracting the interest respected authorities such as P. Krugman, J. Stiglitz, etc. In the proposed model, an impact of accession of new member states into EU is studied derived from the Leontief input-output model, leading to multi-criteria optimality objective function. The main research question is stated, how an accession of a new member country is changing export/import relations, exchange of goods and services and movement of labour and capital. Instead of absolute variables, the model is based on ranks.

Empirical studies are used to identify the effects of EU extension on the old and new member countries such as trade creation, migration/outsourcing and dynamic aspects of integration giving basis for long-term effects.

The Pareto-optimality model, transformed from the original export/import data to ranks is used for a straightforward calculation of the sum of absolute differences. In the Pareto-optimum case the sum is equal zero. The country results are studied in way, how the EU15 trade matrix would look with or without considered country.

Afterwards, the same aspects are calculated for the new member countries of Czech Republic, Poland, Hungary, Slovakia, and Slovenia. Considering EU-25 countries it is shown, that the extension has worsen the value of the objective function appraising the distance from the Pareto-optimal value.

Also , the thesis has found higher estimated benefit for the new members than to the EU-15 countries. This is especially true for the small EU-15 countries (Greece and Luxembourg).


The proposed model is not complex, taking into consideration trade balance among the EU countries with or without a regarded country. The model considers the countries outside EU as non-existing from the trade point of view. Although this is a simplification, it shows several interesting results showing the economic power and position of the countries in the EU integration framework based on the trade relations. There would be interesting to tackle the results with the convergence approaches, or/and other indicators explaining economic growth.

The PhD. student could answer the following questions:

1. How would you estimate the loss of the information when using the ranks instead of original values?
2. What composition of EU countries would you propose as an ideal integration grouping using the model?

Finally, it can be noted, that the comments made in the review are aimed at explanation of some minor questions, being not an obstacle to submit work to defence. Therefore, I recommend the presented dissertation the defence and after its successful defence I propose to award MSc. Twana Salih the scientific degree of "Philosophiae Doctor - PhD.

Košice, 18.06. 2010



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Ph.D. Thesis Assessment

Topical problems of the European Integration by Salih Twana

Mr. Salih Twana worked out 129 pages of the PhD. Thesis prepared by him. As it is understandable from Thesis' title the main task of the author is to analyze the topical problems of the European Integration.

I share opinion that this topic could be bit difficult for every foreign, who lives in abroad, predominantly in the East region, for many years. Nevertheless I am glad to express the pleasure that the author has worked with that difficult topic.

His Thesis consists of two parts: Theoretical Framework, The Application Work.

In the first part are included sections

Theoretical Framework and Literatures Review
Theoretical and Mythology Analysis of the Model
European Enlargement Process;

in he second part are included sections

Optimality Analysis of EU-15
Entrance of New Member States.

The Thesis consists of 29 Tables and 19 Figures.

Author suggests the Model of relationships among countries in the section 2. His approach is based on Input-Output analysis, or Inflow-Outflow model of variable production factor i.e. labour. That model was applied for EU countries. Of course, a general form of the Model can be used in different areas.

According to suggested model the sums of flows (rows and columns) are ordered from the maximum to minimum according. For any element is find position for rows and column. These positions are subtract and the absolute values is join with element. The sum of the absolute values shows differs of matrix from optimality.

Autor's research was concentrated on evaluating the process of enlargments of the EU. He analyse wheather the new members to the EU are in benefit of European integration process. The author also examines whether the process of enlagement has to be contnued or shold be stoped.

The European integration established complicated structures of exchange relationships of goods and services, labor, and capital. This integration structure can be represented by matrices. This approach allowes define the conditions when a matrix represents the optimal relationship of integration, and whether there is any optimal condition for this matrix, with an

appropriate definition of optimality. Further, how this optimality reflects the realistic situations of the global economy. The main question here is: how entries of new members to the European integration affect their relationship structures and their optimality.

I will focus on chosen results of the thesis.

- The author found and used a new approach and concept for evaluating structures of any regional integration. He also defined an indicator for dependency country in some group of countries.
- Establishing and enlarging European Union at the beginning was political reasons. But later on most of the ecumenists are trying to find significant economical reason for establishing and enlarging. They are trying to find some economic benefits for enlargement process. But European integration enlargements are still working on the political aspects more than economic benefits. Problem is, that policy does not do well economics. The author conclusion that economically small countries have small impacts on the European economy means that they are non economic condition of enlarging of EU.
- It was shown that
 - EU-15 was not achieving optimal structure even before entering of new member states. Most of the member states were having slight deference between the level of their exports and imports.
 - join new members has brought benefit to new members more than to the old 15 members, especially from the trade side.

Let me express an opinion that the Ph.D. Thesis submitted by Mr. Salih Twana "Topical problems of the European Integration" fulfills requirements of Ph.D. Thesis' standards. Therefore, I recommend to advance the Ph.D. Thesis "Topical problems of the European Integration" to the defence and on its basis to award the scientific title Ph.D. to Mr. Mr. Salih Twana.

Prague, June 10th, 2010.



Annex to the Assessment
The general description of the model

Let us consider a set of countries of the world W and a special chosen subset $U \subset W$, and some moveable aspects among countries as consumption of goods and services, labour, capital etc.

Denote

- d_{ij} amount of chosen aspect which is moved from $i \in U$ to $j \in U$ $i \neq j$,
- d_{ii} amount of chosen aspect which is from country $i \in U$ and is used in country i ,
- D matrix of elements d_{ij} ,
- e column vector with coordinates 1,
- symbol $'$ operation of transposition.

We define vectors d_c , d_r and value d by formulae

$$d_c = De, \quad d_r' = e'D, \quad d = e'De.$$

Coordinates of the vector d_c represent exports from countries (outputs), and coordinates of the vector d_r represent imports to countries (inputs).

We can see

Coordinates of vectors d_c , and d_r' correspond one to one to countries from $U = \{1, 2, \dots, n\}$.

Vector d_c does not depend on ordering of columns of matrix D , but if ordering of columns of matrix D is changed to the new one, we have to reorder coordinates of d_r' according to new ordering. The new ordering is described by permutation of numbers $1, 2, \dots, n$. We denote it π_r

Vector d_r does not depend on ordering of rows of matrix D , but if ordering of rows of matrix D is changed to the new one, we have to reorder coordinates of d_c according to new ordering. The new ordering is described by permutation of numbers $1, 2, \dots, n$. We denote it π_c

We reorder the rows and columns of the matrix D according to values of coordinates of vectors d_c , and d_r from the highest to the lowest. So we receive two permutations π_c, π_r .

For any country $k \in U$ we find a positions $\pi_c(k), \pi_r(k)$ of k in permutation π_c, π_r , respectively. These positions are given by numbers from the set $\{1, 2, \dots, n\}$.

The author defines values

$$\Delta_k = |\pi_c(k) - \pi_r(k)|.$$

The set U is consider as optimal, if

$$\sum_k \Delta_k = 0.$$

Now, it is possible to consider new set of countries $U \cup \{k\}$, where $k \in (W-U)$ and they are analyzing influences of this change.

According to described model the sums of flows (rows and columns) are ordered from the maximum to minimum according. For any element is find position for rows and column. These positions are subtract and the absolute values is join with element. The sum of the absolute values shows differs of matrix from optimality.

EXPERT OPINION

about the doctoral thesis of MSc. Twana Salih

**Title of the doctoral thesis:
Topical Problems of European Integration Process**

Place and date of elaboration:

University of Pardubice, Faculty of Economics and Administration
March, 2010

Prepared by:

doc. Ing. Karel Skokan, Ph.D.
Associate professor, Head of dept. European Integration
Faculty of Economics, VSB-Technical University of Ostrava
May, 2010

The relevance of the theme for the development of field of study

The analysis of European integration processes is a very timely theme especially at present in the time of economic crises and the crises in Eurozone at one hand and growing economic performance of East-Asia countries at the other hand which moves the main focus to economic activities outside Europe. Under these conditions the analysis of optimal shares of the trade relationships for the European integration, the main aim of thesis, seems to be very demanding.

The main objective of thesis is " (i) to find the optimal level of integration that trade links within this integration obtaining the equilibrium degree for share of member's trade structure and (ii) to find a model which can evaluate through it the level of European integration optimality" before and after the great enlargement in 2004. In other words the objective is to evaluate the level of trade integration using the model based on the analysis of country exports and imports within the EU. The thesis also analyses the effects of the last Eastern EU enlargement taking into account the position of all former and new EU member states. The interesting and valuable conclusions are derived from the analysis. In the introduction of the thesis the author also formulates three hypotheses about optimal integration in the EU, however they are expressed rather in mathematical terms only and could be better explained.

The analysis of thesis, the methodology and meeting the objectives

Doctoral thesis is composed of 7 chapters divided into two parts. It has 120 pages and three appendices composed of 10 tables. The thesis is accompanied by 19 figures and 25 tables which make the text comprehensive and easily understandable. The author used 48 references to information sources which are properly quoted within the text.

The first theoretical part covers three chapters. The first one, "Theoretical framework and literature review" defines the process of international economic integration and the types (or forms) of economic integration. Based on literature review with many

quotations it also summarises the theory of economic integration. In the end it presents the outline of the model for Pareto-Optimality further used in the thesis.

The second chapter titled "Theoretical and Mythology (or methodology?) Analysis of the Model" illustrates the model of the thesis and sets some of the necessary axioms for the model. It forms the first author's contribution to the theoretical approach for evaluation of the level of integration. It explains the model which is based upon Leontieff input-output tables and the data about exchange of goods, i.e. imports-exports, about inflow-outflow of labour force and about movement of capital between countries. With the use of matrices it defines the Pareto Optimality criteria. The conditions for the application of the model are defined for former EU-15 members first and then for the new member states after enlargement. The theoretical part results in the description of European enlargement process. It is extracted again from the literature and accompanied by the tables derived from Eurostat databases. The chapter leads to acceptable conclusions concerning the positive and negative trade effects, migration factors, asymmetric dynamic effects to capital accumulation, access to new technologies and increased competition to EU enlargement. It also emphasises that Eastern enlargement had not significant macroeconomic impacts on EU-15 and it burdened it by huge financial transfers for structural aid.

The practical part of the thesis begins with the "Optimality analysis of EU-15" by which it means the application of the optimal integration matrix model on the EU-15 trade structure. Optimum is linked with the level or balance of imports and exports of member state towards the EU as a whole. It examines the Pareto-Optimality of EU-15 before and after admission of new member states. The data about exports and imports of EU-15 are limited to period 1995 – 2006 and the model is applied for single states with the year 2000, 2002 and 2006 data. For each member state it analyses its imports and exports and explains its impact to EU-15 trade. The chapter concludes that the most member states were not optimizing their trade in EU during 2000-2006 with the exception of Germany which had kept the Pareto-Optimal position over the time and it indicates its importance for the EU.

The similar analysis is made in the following fifth chapter for the new member states. It illustrates there are two groups of countries with different impact upon EU trade structure. To the first group with the relative visible effect to the EU-15 trade optimality belong namely Czech Republic, Poland, in lesser extent Hungary then Slovakia and Slovenia. Pareto-optimal position concerns the Czech Republic only. The second group of remaining new member states are without impacts as their trade links are relatively small. The chapter is closed by EU-25 optimal trade analysis arguing the ten new members destroyed the structure of the EU integration as to trade optimality. While Poland and Czech Republic obtained remarkable position within EU, 9th and 11th respectively, Greece and Luxembourg lost it (17th and 19th) and also Portugal and Finland belong to the losers. The thesis is concluded in the sixth and seventh chapter by summary findings and further application of the model.

The thesis has a good formal layout and it is quite understandable, even if the English is not sometimes used in a proper way and is rather clumsy.

The results of thesis

The doctoral thesis concluded that European Union was far from the optimal position for its "relation (trade) structure" even before admission of new member states and the last enlargement widened the EU gap of this optimization.

After the analysis and the application of the proposed model to trade within EU author comes to conclusions that (i) Eastern enlargement was motivated more politically than economically; (ii) EU-15 did not achieve the trade optimal structure before Eastern enlargement and this structure worsened by the Eastern enlargement; (iii) only three new members (Poland, Czechia and Hungary) are benefiting in their trade within EU (not taking into account EU structural funds and other integration impacts). The goals of the thesis were reached and the thesis brought the new insight into evaluation of integration processes in the EU. The proposed model and methodology can be used for evaluating of any integration over the world.

I recommend the following questions for the discussion during the oral defence:

1. Can you formulate the hypotheses at page 13 using the concepts of trade (export-import) and to explain how they were confirmed or rejected?
2. What other factors can we use for the assessment of the level of integration in the EU except of trade, labour and capital movements?
3. What is the main cause for the good ranking of the Czech Republic in Pareto-Optimality integration?

Final recommendation

I found the thesis, its content, its extent and the way of elaboration very interesting and promising. By my opinion the author proved his competence in scientific and research work and the thesis meets the requirements for doctoral dissertation.

I recommend to accept this thesis for the defence and provided the defence is successful to appoint MSc. Twana Salih Doctor of Philosophy (Ph.D.) in accordance with the Higher Education Law of the Czech Republic.

In Ostrava, 30th May, 2010



doc. Ing. Karel Skokan, Ph.D.