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Topical Problems of European Integration Process

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TOPICAL PROBLEMS OF EUROPEAN INTEGRATION PROCESS
DISSERTATION THESIS

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Introduction

The economic integration process was the most desirable process for opening economies during the second half of the last century. Although several significant integrations have been established, the most successful one was and is the European Integration. The first purpose of the EU establishing might be starting with political origins. But later on many economists found that this integration has more economical benefits side has to be considered.

In 1951 six countries (France, Germany, Belgium, Italy, Netherlands and Luxembourg) signed the treaty of coal and steel union (sectorial integration), which was consider as the first step of this integration, and followed in 1957 all six signed the Rome Treaty, and thereby created the EEC (European Economic Community). This Union was developed from an initial core of six countries, to which a further nine countries were added over the years, plus ten (and two) more countries in 2004 and 2007, respectively¹.

Although the last enlargements makes many people from old EU15 countries think that competition in the enlarged single market has somehow become 'unfair'. They accuse the new member-states of engaging in 'social dumping' and harmful tax competition. They blame high unemployment rate in their own countries on an influx of Polish plumbers, Hungarian nurses or Latvian builders. Due to this, EU politicians, Brussels officials and the media must explain to Europeans that enlargement has been good for the EU economy as a whole.

While some other people are argue that trade links between the 'old' and the new member-states has been growing, and foreign direct investment from the west to the east has created thousands of jobs in Central and Eastern Europe while helping West European companies to stay competitive in the face of global competition. But still for most of the 15-EU member-states, trade and investment links with the new member countries are simply too small to have a direct, measurable impact on their economies. One of the assumptions in this thesis is, this enlargement brings benefits for some members and harmful effects for some others. But the question arise here is who gains more and who loses more and in which directions or aspects? At the beginning economists discovered in economic integration a rapidly growing field for their theories and their empirical studies, but they were hardly trained to deal with distributional issues. Their attention was concentrated on economic efficiency and Pareto-Optimal situations assessment. Thus the question of winners and losers hardly appeared in earlier economic studies on the effects of regional integration. But over the time this issue began to rise more rapidly.

¹ Kristin Archick, Vince L. Morelli, European Union Enlargement, CRS Report for Congress, Received through the CRS Web, October 25, 2006

The main orientation of the work is concentrated on the same direction of loser and winner, but with some new aspects. The European integration, has established complicated structures of exchange of goods and services, labor, and capital. And this integration structure can be represented by matrices, the study want to find the optimal size of this trade structure, and then the question is whether or not these structures are uniformed or distorted, or whether this matrix represent the Pareto-Optimal size of relationships for this integration, and whether there is any optimal condition for this matrix, with an appropriate definition of optimality. There are many other significant questions such as; how this optimality reflects the realistic situations of the global economy? How entries of new members to the European integration affect their relationship structures and their optimality?

1. The Aims and Hypotheses of the Research

The main problem of the study; the research has to challenge many questions in lack of significant answer, which the dissertation work will try to answer in this study. The main issue is how to evaluate the structure of trades among integrated countries. In other words, does the European Integration have an optimal trade structure or optimal share of economic relations for other regions to follow?

The aims of this research mainly are; first 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 then, to find a model which can evaluates through it, the level of European integration optimality, or any other integration over the world. Second examine the impacts of entry of the new member states to this integration, and whether this new entry makes the integration better off or vice versa. Third is evaluating and analyzing the main impacts of the last EU enlargement, through this model, as a main application for the model.

Hypotheses and Assumptions:

- The main hypotheses in this study; are the optimal integration can be obtained only when the rank of row are equal to the rank of column in the integration matrix for each member states. In other words, the optimal matrix is the equilibrium case when the summation of the differences between ranks of rows and columns is equal to zero.
- The member state is better off if only one or both of its ranks approach to zero.
- The main assumption for the study is the new member states are so small to have any impacts on the European integration optimality.

Methods used in the research are representing European trade structure links by a matrix, whose columns reflect the imports coming from countries in the rows, and rows reflect the exports to the members in the columns. In other words, the study is building the model similarly to Leontief model of (input – output), with some significant changes, such as modification of using (import – export, inflow - outflow) instead of (input – output). After the model of the matrix has been built, the next step is evaluating the integration optimality level.

Data and application periods; The study chooses data from the Eurostat intra and extra trade for EU25, during the period of time between 2000- 2008. Also data are covering some economic indicators as they are linked to the EU enlargement impacts and economic background. The reasons behind choosing data of year 2006 as standard year for comparing

and analyzing the impacts of entrance of new members, is because the study considers the year 2006 a standard year as its come two years after the last enlargement, which is enough relatively for the new members to adopt economic impacts of the European integration. Also the year of 2006 is relatively before the period of the last global economic crisis to start its impacts on the European international trade.

Thereby the thesis is divided into two main parts. First part, concentrate on the theoretical framework, which in turn is containing three chapters. First chapter considers economic integration concepts and reviews the main classical literature theories, and presents considerations behind economic integration. Also, it is trying to explain some of the factors that make integration theoretically desirable. In addition, ending with brief explanation of the model has used in this thesis. Second chapter continuously, illustrates the model of thesis and setting up some of the necessary axioms for the model and their explanation for using on the integration trade structure. Third chapter focuses on some indicators of old EU members, comparing with same indicator in the new member state as a review for economic background of European Union enlargement process, and it comes up with brief idea about loser and winner through some indicators from process of the EU enlargement toward Eastern Europe. Second part, of the dissertation work is concentrated on the application framework of the model of Pareto-Optimal matrix of European integration process. This part contains two main chapters. Fourth chapter in turn applies the model of optimal integration on the EU15 trade structure, and it examines the Pareto-Optimality of EU 15 before and after entry of new member states. Fifth chapter of this part concentrates also on the application of the model of the optimality on the new member states entry. The dissertation work ends up with a set of conclusions that the study figured out from the modeling and applications the new standards for evaluating EU enlargement process.

2. Theoretical and Literature Review

This section considers economic integration concepts and reviews the theoretical considerations behind economic integration, and trying to mention some of the factors that make integration theoretically desirable.

2.1. Definitions of Economic Integration

International economic integration is a process of a formal unification of previously separate economic areas: after canceling tariff and non-tariff barriers it increases volume of trade among members of economic union, generates more economic activity and thus changes inner content of integrated economies towards better welfare.²

In other words, *economic integration*: discriminatory removal of all trade impediments between at least two participating countries + establishment of certain elements of cooperation and coordination between them.

It is also possible to define *the Regional economic integration* as a process whereby various economies of region undergo a progressive removal of the barriers to free movement of good, services, capital and labor.³

To put in another way, economic integration refers to trade unification between different states by the partial or full abolishing of customs tariffs on trade taking place within the borders of each state. This is meant in turn to lead to lower prices for distributors and consumers (as no customs duties are paid within the integrated area) and the goal is to increase trade.

Or in other words, Economic integration is the abolition of the various restraints of trade between nations.

² Dalimov R. T. Oscillation Theory of International Economic Integration, African Journal of Marketing Management ,Vol. 1(2) pp.050-061 May, 2009

³ Donghyun Park, Is the Asean- Korea Free Trade (AKFTA) an Optimal Free Trade Area?, Working Paper Series on Regional Economic integration No.21, November 2008 p7
http://faculty.washington.edu/karviiu/confer/seoul06/papers/park_dh.pdf
(cite 21.july.2009)

2.2. Types of Economic Integrations

Different types of integration can be identified depending on the width and depth of the resulting unification. Thus, the distinction can be made between sectorial integration, which includes only specific sectors of the economy, such as a particular industry, and general integration, which includes all sectors of the economy, moreover, integration may be of varying depth, as follow:

Table 1.1: Main Types of Economic Integration

	No Internal Visible trade Restrict.	Common External Trade Restrict	No internal Invisible Trade Restrict	Free Mobility of Factors of Production	Common Currency	Common Economic Policy
Free Trade area	X					
Customs Union	X	X				
Single Market for Products	X	X	X			
Common market	X	X	X	X		
Monetary union	X	X	X	X	X	
Economic union	X	X	X	X	X	X

Hereby, an introduction to each will be addressed:

- ❖ Free Trade Area (FTA)
- ❖ Customs Union (CU)
- ❖ Single Market for Products
- ❖ Common Market
- ❖ Monetary Union
- ❖ Economic Union

2.3. Theory of Economic Integration

The theory of economic integration studies how and at what cost countries can pass from situation of total protectionism, that is, a closure country's borders to the international flows of goods, services and factors of production to a situation of free trade.⁴

⁴ Carlo Altomonte, Mario Nava, Economics and Policies of an Enlarged Europe, Edward Elgar Publishing, Cheltenham , UK(2005) (ISBN 1843768321) P 31

The theory of economic integration is anchored in the theory of customs union. Jacob Viner (1950) was one of the first who tried to analyze systematically the economic consequences of forming a custom union. Viner showed that customs union affect international trade in two different ways; **trade creation**, which arise when tariff reductions allow high cost domestic production to be replaced by low cost production from a partner country in the union. And, **trade diversion** which arises when higher tariffs against third party country causes their low cost production to be replaced by higher cost production from a partner country.⁵

The key feature of regional economic integration is that the component economies of a region or trading bloc agree to undertake a progressive removal of barriers to free movement of goods, services, capital, and labor. Reduction or removal of tariffs and non-tariff barriers will obviously lead to economic integration within the region by facilitating the flow of goods. For example, in the European Union (EU) the Maastricht Treaty of 1991 established, in principle, free movement of goods, services, capital, and labor in Western Europe. The EU probably represents the most advanced form of international integration in the world today.⁶

Lipsy (1957, 1960) has extended Viner's analysis by considering consumption effects, in so far as a customs union leads to consumer prices closer to world prices, the composition of consumption change and improves consumer welfare; where imports are diverted from cheaper to a more expensive producer, the loss of tariff revenue may outweighs the gain in the welfare.⁷

Johnson (1965) extended the analyses of Lipsey and Viner by looking at the welfare effects of a custom union on a member country with rising supply curve and falling demand curve for a particular good. He assumes, however, that the customs union does not effect prices either within or outside the union, so supply curve is horizontal. His model is therefore relevant only for a small country whose membership of a customs union cannot affect the terms of trade with its partner countries.⁸

Cooper and Massell (1965)⁹, Johnson (1965) and Bhagwati (1968) independently developed an alternative approach to welfare-improving customs union in the context of developing

⁵ Christopher S.P. Magee , New Measures of Trade Creation and Trade Diversion, Journal of International Economics 75 (2008) 349–362

⁶ Donghyun Park, Is the Asean- Korea Free Trade (AKFTA) an Optimal Free Trade Area?,p7-8 http://faculty.washington.edu/karyiu/confer/seoul06/papers/park_dh.pdf (citi 21.july.2009)

⁷ Ricardo Argüello C, Economic Integration. An Overview of Basic Economic Theory and other Related Issues, University Del Rosario, 2000 (ISSN: 0124-4396) p 8

⁸ El-Agraa, Ali M., The European Union, Economics ans Policies, eighth Edition, Cambridge University press, Cambridge, UK, (2007) (ISBN 9780521874434) P 110

⁹ Cooper C. and Massell B. A New Look at Customs Union Theory, The Economic Journal, Vol. 75 , 1965, pp742-7

countries wanting to achieve a certain level of industrialization. The essential idea was that if a group of developing countries wanted to achieve an exogenous level of industrialization, they could do so at a lower cost by specializing among themselves through a customs union.¹⁰

Mundell (1964) and Petith (1977), demonstrate how customs unions formed by

The analysis for the large-country and multi-country cases rapidly increases the complexity of the problem. There are two fairly general results. The first is the Meade-

Ohyama-Kemp-Wan Theorem. Meade (1955) showed that if all barriers are "fixed and unchanging" quantitative restrictions, then a CU must increase the sum of the economic welfare of member nations. Formation of the CU will have no impact on external trade, or rest-of-world welfare, if the quantitative restrictions (QRs) remain binding. Removing internal QRs, however, allows a more efficient allocation of CU resources and transfers among CU partners can ensure a Pareto improvement.¹¹

Kemp and wan (1976) proved that, when the external tariff is assumed to be variable or changeable, the customs union considered as a whole always has the possibility of a net welfare gain.¹² Kemp and Wan (1976) demonstrated that if two or more countries form a customs union setting the common external tariff vector such that trade with outside countries remains precisely at its pre-customs-union level, the outcome is necessarily weakly welfare superior to the initial equilibrium for the union as a whole and the world.¹³

Most of the past literature concerning the economic integration was concentrated on economic efficiency and microeconomic side of the issues. Thus the question of winners and losers hardly appeared in the earlier economic studies on the effects of regional integration, but over the time a growing minority of economists began to raise the challenge.¹⁴

It is thus possible to view a free trade area as a variant of the customs union or vice versa. Theoretically, a customs union entails both positive and negative welfare effects. The positive effect, referred to as trade creation, arises from the replacement of higher cost domestic products with lower cost imports from member countries. The change from an expensive to a

¹⁰ Krishna, Pravin. Preferential Trade Agreements, Prepared for the conference organized at Columbia University on August, 2005 (citi 21 January.2010)

http://www.columbia.edu/~ap2231/jbconference/Papers/Krishna_Bhagwati%20Conference.pdf

¹¹ Richard E. Baldwin, Anthony J. Venables, Regional Economic Integration. 14 August 2004, p5 http://www.graduateinstitute.ch/webdav/site/ctei/shared/CTEI/Baldwin/Publications/Chapters/Trade%20Theory/Baldwin_Venables_Handbook.pdf

¹² Kemp, Murray, and Henry Jr. Wan. 1976. "An Elementary Proposition Concerning the Formation of Customs Unions", *J. of Int. Econ.* 6:1, pp. 95-98.

¹³ Panagariya, Arvind. 2000. "Preferential Trade Liberalization: The Traditional Theory and New Developments," *Journal of Economic Literature* 38, June, 287-331.

¹⁴ Tsoukalis, Loukas. What Kind of Europe, Oxford University Press, New York, 2005, p 44 (ISBN 0-19926666-2)

cheaper source of supply is beneficial and increasing the social welfare, because it is a move toward freer trade. For example, in the case of AKFTA, Malaysia may be better off importing automobiles from Korea instead of producing them locally. In turn, Korea may be better off importing some electronic components from Malaysia rather than producing them locally. The negative effect, trade diversion, occurs when a member-country replaces low cost imports from non-members with higher cost imports from member nations. This diversion takes place because non-members face higher tariffs than members of the customs union. Trade diversion has a negative effect on welfare since it implies greater access to a more costly source of supply. In this sense, it is a move toward protectionism and away from free trade. For example, in the case of an ASEAN-Korea customs union, Korea may be worse off by importing some primary commodities from Indonesia rather than Australia.¹⁵ The net gain of customs union depends on which effect is larger. If trade creation outweighs trade diversion, then the net effect of the customs union on welfare will be positive. However, if trade diversion outweighs trade creation, customs union could do more harm than good¹⁶.

As we have just seen, the question is whether a customs union is beneficial depends on whether the magnitude of trade creation is greater or less than trade diversion. In answering this critical question, it is important to consider both static and dynamic factors, in each member states which make advantages or disadvantages of integration more clear and sensible. Static factors are important considerations in evaluating the one-off change in welfare arising from the formation of a customs union. Among these factors are : (a) the size of the free trade area (FTA), (b) geographical proximity of member-economies, (c) levels of economic development of member-economies, (d) and complementarity of economic structures among member economies. In addition, factors related to external trade, including tariff structures of member economies prior to customs union, are important considerations. Finally, it is crucial to look at the substitutability between products of member states and products of non-member states in determining whether a customs union will be beneficial or not.

In contrast to static factors, dynamic factors do not pertain to one-off changes in welfare but gradually emerge over time. For example, we can expect firms and industries of a country more exposed to competition from its neighbors after the formation of a customs union to become more efficient. But those efficiency gains will not be realized overnight. The main

¹⁵ Donghyun Park, Is the Asean- Korea Free Trade (AKFTA) an Optimal Free Trade Area? p 9
http://faculty.washington.edu/karyiu/confer/seoul06/papers/park_dh.pdf
(citi 21.july.2009)

¹⁶ Ibid. Donghyun Park, p..

dynamic benefits are improvements in efficiency due to greater competition and gains from greater specialization, economies of scale, and learning-by-doing. Other dynamic benefits include reduction in intra-regional transactions costs, some protection from adverse developments in world markets, and bargaining power vis-à-vis industrialized countries. Against these potential dynamic benefits, we must also consider the dynamic cost of polarization. Integration among countries with different levels of income and economic development could lead to an unequal distribution of gains. Any perception that the benefits or costs of integration are disproportionately falling upon a country or a subset of countries is likely to produce a backlash which will threaten the viability of the union over time.¹⁷

2.4. Integration Theory in the Recent Literature:

New studies now are concerning with integration indicators, Arribas et al. (2006)¹⁸ they try to measure the integration degree, to find some indicators for economic integration. Others attempt to define a standard of Perfect International Integration¹⁹. It seems that my approach which used in this thesis is slightly closer from the Perfect International Integration defined above. Although they are developed their ideas from others economist such as (Rodrik 1998, Salvatore 2004, Stiglitz 2002)

For instance, Rodrik (1998) takes international integration as something leading to increased volatility of the terms of trade. To cope with this risk the public sector can be expanded so as to move resources away from sectors exposed to market risks. Rodrik also presents empirical evidence to the effect that more open economies tend to have a larger public sector which supports his conclusion that international integration calls for an expansion of public sector activities.²⁰

Arribas et al. (2006) argue that international integration process start with the openness of economies, but its effects and scope depend on the structure of current relations between these economies .Relevant aspects of this structure include the number of economies each one is in contact with; whether the relationship are direct or indirect, the number of flows between them and the proportionality of these flows the size of the economies. They set up some axiom for their approach such as; openness; more open an economy more integrated it will be.

¹⁷ El-Agraa, Ali M., *The European Union, Economics and Policies*, eighth Edition, Cambridge University press, Cambridge, UK, (2007) (ISBN 9780521874434) P 115

¹⁸ Arribas et al, *Measuring International Economic Integration: Theory and Evidence of Globalization*, 2006 http://mpira.ub.uni-muenchen.de/16010/1/MPRA_paper_16010.pdf

¹⁹ Jeffrey A. Frankel. *Globalization of the Economy*, NBER Working Paper, No7858, (2000) P7 <http://www.nber.org/papers/w7858.pdf> (cit. 5 February ,2010)

²⁰ Andersen, Torben M., *International Integration, Risk and the Welfare State*, Discussion paper series, IZA DP No. 456, 2002 <http://repec.iza.org/RePEc/Discussionpaper/dp456.pdf>

And higher level of integration will come with balancing the direct relationship with other economies in proportion to their size.²¹

Arribas, et al. (2006) in their study they firstly make the conclusion that domestic bias is affecting trade, which in turn limits the degree of openness, and represents the highest limit to integration. And secondly they found that; the effect of bias on trade among economies towards certain areas (which limits the direct connection balance) is more limited than the effect of the degree of openness. Third ; the reduction in transport costs and ITC development may well represent a relevant factor in increasing the degree of total connection for many economies over the world and as a result, their degree of integration.

Andersen (2002) focuses on the fact that international integration enhances the possibilities for mutually advantageous trades while it at the same time enlarges the exposure to risk (foreign shocks) as well as creates possibilities for risk diversification (domestic shocks). Risk diversification may go through many routes in financial, labor and product markets.²²

On the other hand, studies by Hanson (1996, 1998) and Krugman and Hanson (1993) suggest that trade liberalization might strongly affect the economy of border regions. Those studies show that tariff reductions and resulting trade intensification among the United States and Mexico attracted numerous firms from Mexico City towards regions close to the border with the United States. Krugman and Hanson (1993) argue that, since Mexico is a comparatively small economy, free trade with the large US market effectively turned the Mexican economy inside out in the sense that firms shifted their focus from domestic markets towards export markets in a literal geographic sense. Altogether, the economic upswing of Mexico's border regions results from the fact that the NAFTA gave Mexico access to the large US market.²³

²¹ Ibid, Arribas et al, p

²² Ibid, Andersen, Torben M., p

²³ Annkatrin Niebuhr, Silvia Stiller, Integration Effects in Border Regions – A Survey of Economic Theory and Empirical Studies, 42nd Congress of the European Regional Science Association "From Industry to Advanced Services - Perspectives of European Metropolitan Regions" August 27th – 31st, 2002, Dortmund <http://www-sre.wu-wien.ac.at/ersa/ersaconfs/ersa02/cd-rom/papers/066.pdf>

2.5. The Model Used in This Thesis

After this brief review of the theories that are studied the regional economic integration, and its consequences on the member countries has been involved with it, that should be necessary to mention briefly the main idea of the approach uses in this study, to the best of my knowledge, this model with its techniques, is the first time to be used in this area, and especially with European integration enlargement.

A general description to the model gives a chance to analyze the elements and details of the model that will present in the coming chapters²⁴.

Let's 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, labor, 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_r represent exports from countries (outputs), and coordinates of the vector d_c represent imports to countries (inputs).

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, ..., n. We denote it π ,

²⁴ The formula takes the idea from the evaluation of Prof. Sekarka, Pardubice University, his opinion about the thesis, Model.

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 $\{1, 2, \dots, n\}$.

I define 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.

With using the model above the work is going to evaluate EU15 optimality and also EU-25 optimality, and the change has happened with entrance of each new member states.

The main Axioms and hypothesizes set up in this thesis:

In order to find the optimal matrix in this case we need to first consider and recognize some important assumptions such as:

- ❖ First Axiom: Optimal Matrix is: $\sum |\text{Rank of the Rows} - \text{Rank of the columns}| = 0$

This definition means that all members are represented in the optimal matrix should have the same ranks from the both rows and columns.

- ❖ Second Axiom; Better Off position is; Rank of row $\rightarrow 0$, rank of column $\rightarrow 0$

The definition is explaining the position in which the member will be better-off if only if its ranks of row or column approaching to the zero. Also we can use this definition

with phenomena worse-off is the opposite of the Better-off position, and it will be when the ranks of the rows or columns are getting far from the zero.

The formula of $(\sum |R_r - R_c| = 0)$ used in integration matrix; means that we are applying the Pareto Optimality Criterion;

Denote;

R_r ; Rank of the rows in the matrix.

R_c ; Rank of the column in the matrix.

- ❖ Third Axiom; Criterion of Pareto optimality is; No one can be made better off without making someone else worse off.

The criterion is explaining; an alternative is Pareto optimal if there dose not exist another alternative that is at least acceptable to all society members and definitely preferred by some , the Pareto-optimality criterion specifies that in any social decision problem a Pareto-optimality alternative should be selected

3. The Application Model of EU15

An essential feature of the integration process is an increase in economic relations and, more specifically, in trade flows between the countries in question, since this integration is essentially brought about by the removal of barriers to trade. Right from the outset, studies of the EEC integration process, initially, Balassa, 1966 and Grubel and Lloyd, 1975, and subsequently, many others²⁵, have shown that the reduction or elimination of trade barriers leads to an increase in intra industrial trade (IIT) as a proportion of total trade. More recent studies have shown that the pace of growth of IIT in the first half of the eighties was lower than during the previous decade.²⁶

As a major player in international trade, EU-15 is the source of about a quarter of all international trade flows. As the world's leading exporter, it is ahead of the United States, the dynamic Asian economies (DAEs), Japan and China. As the world's second biggest importer, it ranks behind the United States but is well ahead of the dynamic Asian economies, Japan and China.²⁷

The Model has used here shows that EU-15 were not obtaining the optimality over the last decade, as it's shown from the table (1-2) that most of the member states were not optimizing during (2000-2006), the only exception was Germany which has kept the optimal positions over the time, and leading EU- trade in first rank as exporter and also as the biggest importer, this indicates that Germany is integrated optimally and exporting to the markets of the EU15 more than its extra -exports to the rest of the word and also importing from the other partners more than its imports from the outside of the EU15, so Germany is important for the EU integration as the producer power and also as a big market for other members to export to it.

While Netherlands with its big gaps of the optimality were growing over the years, even it has the second rank but with big gaps from the optimality. These gaps indicate that NL were not integrated as well as other partners did in the EU15, and it was exporting to the EU15 markets more than importing from them, on the other hand, Netherlands was importing from outside EU15 twice than its imports from the EU15.

France and Belgium, show that they are integrated well even they couldn't get better Ranks, but their trade with EU15 more than with extra-EU15, and consuming of locally produced is low, as we can see in the table (1-2), France was in the optimal rank at the beginning of the

²⁵ Bernatonyte, Dalia, Intra-Industry Trade and Export Specialization: Lithuanian Case, Economics & Management, NO. 14, 2009

²⁶ Greenaway, D., Hine, R.C. (1991), "Intra-Industry Specialization, Trade Expansion and Adjustment in The European Economic Space", Journal of Common Market Studies, Vol. 24 pp.603-22.

²⁷ David Cristallo, Trade in a 25-member European Union, Statistics in focus, THEME 6 – 4/2003

decade, only in the 2006 not optimizing by one point. The case is similar with Belgium but it was not optimizing in year 2000 only.

The other Members, such as; UK, Italy, Spain, Austria, Sweden, and Denmark, they kept the normal positions and the indicators of optimality are normal relatively. UK and Sweden suffering from market competitive because they are out of Euro area, their exports facing hard competitive from this area, while their markets are integrated well and open for all other members' exports. Spine has gotten optimal ranks until 2006 and they have normal position in the EU15,

The rest five members in the end of the list they have exactly the same situations with respect of the ranks, they were not showing any improvements during (2000-2006), and exceptionally Portugal is closing from the optimality relatively every year. Greece was not integrated into EU15 integration as it should be, and it was importing from the other countries outside EU15 more than its imports from the EU15, that effects its position stay at the end of the list, also its importance or dependency is low for the EU15. See the figure (1-1) for more details.

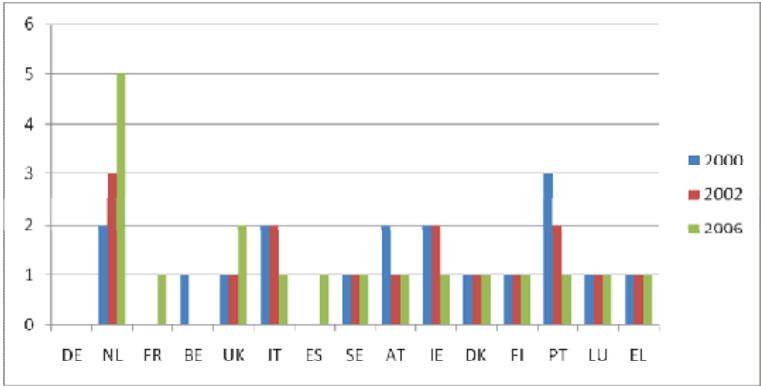


Figure (1-1): The gaps of the Perato- optimality of EU15 in (2000-2006)

Source: Eurostat, External and Intra-European Union Trade, Statistical yearbook — Data 1958-2006

Table 1.2: Overview of the model EU15 (2000-2006)

Members	trade EU15 in 2006 in million Euro				Rank in EU15												
	Export intra-EU15		Import intra-EU15		Export extra-EU15		Import extra-EU15		2000			2002			2006		
	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
DE	469,440	355,049	394,838	355,151	1	1	0	1	1	1	0	1	1	1	1	1	0
NL	273,104	93,197	165,335	177,826	3	5	2	3	6	3	2	3	6	3	2	7	5
FR	237,965	143,096	306,715	151,384	2	2	0	2	2	2	0	2	2	0	3	2	1
BE	213,734	150,804	185,395	87,142	5	6	1	5	5	0	4	4	4	0	4	4	0
UK	209,389	143,614	230,253	218,367	4	3	1	4	3	1	5	3	1	5	3	2	2
IT	169,784	138,673	183,472	173,360	6	4	2	6	4	2	6	4	2	6	4	5	1
ES	112,648	51,824	170,014	108,907	7	7	0	7	7	0	7	7	0	7	6	1	1
SE	62,029	53,305	67,551	38,014	8	9	1	10	9	1	8	9	1	8	9	1	1
AT	61,583	49,941	76,517	35,897	10	8	2	9	8	1	9	8	1	9	8	1	1
IE	53,532	51,604	44,771	19,526	9	11	2	8	10	2	10	11	2	10	11	1	1
DK	48,170	23,056	45,258	23,210	11	12	1	11	12	1	11	12	1	11	10	1	1
FI	30,007	27,833	32,698	23,392	12	13	1	12	13	1	12	13	1	12	13	1	1
PT	25,076	11,983	41,827	14,268	13	10	3	13	11	2	13	11	2	13	12	1	1
LU	15,292	6,858	16,732	6,599	14	15	1	14	15	1	14	15	1	14	15	1	1
EL	7,381	18,622	27,758	24,322	15	14	1	15	14	1	15	14	1	15	14	1	1

Source: Eurostat, External and Intra-European Union Trade, Statistical yearbook — Data 1958-2006

4. Entrance of New Member States

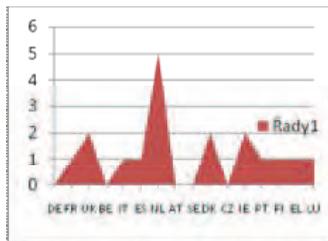
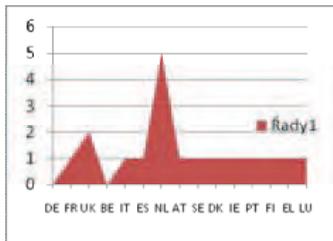
For analyzing the influence size made by 10- new member states on the EU optimality, as it was expecting at the beginning, the effects are very small or some of the member has no impacts at all on trade structure of the EU15 member states, the reason; they have relatively small trade size with the EU15 or even with EU25. Although some of the members have better influence on the EU trade optimality, and they made relatively changes on the EU25 optimality. Thereby, the thesis can divide 10- new member states to the two main groups, according to their size of effects they made with their entrance to the EU integration:

4.1. Members Have Relatively Impacts;

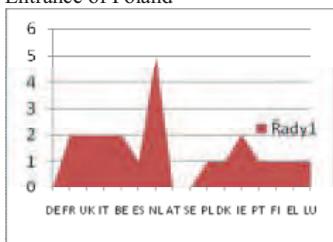
There are five of the new member states have relatively effects on the EU15 trade optimality. They are; Czech Republic, Poland, Hungary, Slovakia, and Slovenia. Of course they have deferent level of impacts and in the deferent directions, but as we found that all five countries have made deferent changes in the shape of the Pareto- optimality gap.

Czech Republic is one of the new member has a significant effect on the EU optimality gap. The shape of the gap has changed definitely, as we can see from the difference which appears between gap with Czech entrance and EU15 the figures of (1-2). The reason of the big change is due to the big size of Czech trade with EU15. In 2006 Czech Republic has exported to the EU15 (49,618 Mio Euro), that is bigger than the export values of the five old members, such as Ireland, Portugal, Finland, Greece, and Luxembourg. Czech has the position of 11th out of 16. At the same time has imports from the EU15 (45,392 Mio Euro), also at the same position of eleventh. In other words Czech Republic is in the position of Pareto-optimal, without to change the optimality of the EU15 as a general at the 18 points.

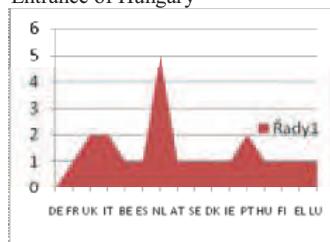
The entrance of Czech Republic in 2004 has also effected the position of some of the old members, due to its significant trade relation, such as Austria and Sweden, has gotten an optimal position in the EU15. EU15 Gap before entrance new member Entrance of Czech



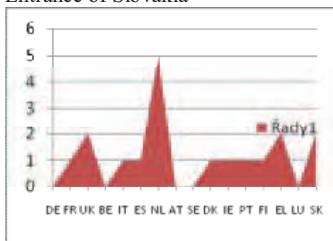
Entrance of Poland



Entrance of Hungary



Entrance of Slovakia



Entrance of Slovenia

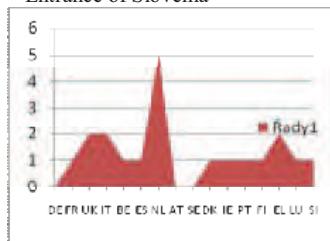


Figure 1.2: The Gaps Comparison Between EU15 and with Entrance of each CZ, PL, HU, SK, and SL

Source: Eurostat, External and Intra-European Union Trade, Statistical yearbook — Data 1958-2006

Poland is the biggest country as area and population from the new member states, and it has also a significant effect on the EU integration. With its entrance; the shape of the optimality gap has changed. We can see this effect clearly from the differences between two figures of gaps (1-2). The exports from Poland to the EU15 in 2006 was (56,164 Mio Euro) which is bigger than exports from each of Ireland, Portugal, Finland, Greece, and Luxembourg. Poland got the eleventh position in the EU15, but without achieving the Pareto-Optimality, because its imports (66,785 Mio Euro) from the EU15 in the same year were bigger than its exports, and it was in the better position 10th from the EU15 importer.

Hungary has effects also on the EU15 integration, but of course, not at the same level of Czech and Poland. Entrance of Hungary has changed the shape of the Pareto-Optimality gap in slight deferent way. If we make a comparison between gap with entrance of Hungary and EU15 in figure (1-2) we find that there are no big change in the shape only makes Italy and Portugal be far from optimality by one more points for each, also Belgium remove from optimality by one point too. While Hungary got 13th rank as a position in the EU15 in the imports and far from optimality by one points due to differences between its exports and imports. Nearly half of the Hungarian exports go to the Germany, while half of its imports come from Belgium, that's why the changes happen in the position of Belgium and Italy. The most significant effect of the Hungry was adding to the not optimality of the EU15 by more 4 points.

The other two new members in this group, are Republic of Slovakia and Slovenia, they have very small effects on the EU15 integration. Although if we consider the two figures of gaps of each country entrance Slovakia and Slovenia respectively, and compare them with the figure of gap of EU15, we will find no big changes has happened after entrance of this two countries. Slovakia exporting to the EU15 relatively small value (19,154 Mio Euro), while importing even less than this amount (15,092 Mio Euro), that is why it takes the last position of the EU15 importers ranks. While Slovenia as a smaller member from this group is exporting (10395 Mio Euro) to the EU15, and importing relatively more (12,143Mio Euro), . As a general entrance of Slovakia didn't make any change to the EU15 optimality but, the country itself far from the Pareto-Optimality by two points, while makes other two members (Austria and Sweden) in the better position of the Pareto- optimality.

Slovenia even it is smaller than Slovakia, has relatively a big effects on the EU15 optimality but in other direction of Slovakia. Which entrance of Slovenia is moving the EU15 far from Pareto-Optimality by two more points, in the same time makes two other members (Austria and Sweden) better off in the position of the Pareto-Optimality, and makes three other members (Italy, Belgium, and Greece) worse off in the position far of optimality by one more points. That's shown clearly from the Figure (1-2).

The increasing of the red gap with horizontal lines in figures (1-2), comes from indirect impacts Slovenia has on the EU15 trade structure. Slovenia's trade links with old members in the EU15 is very small to have directly these big impacts. But entrance of Slovenia makes some of the small members in the EU15 change their position and indirectly makes all this impacts on the Pareto-Optimality. That's exactly what the Axiom three in this study was set up for, *No one can be better off without to make some other worse off*. For instance Italy has very small trade links with Slovenia, its exporting to this new member only (24 Mio Euro) and importing from Slovenia (2,289 Mio Euro), which makes Italy move one ranks better off in the importer ranks while Belgium because of small amount of imports from Slovenia (205 Mio Euro) only, get far from importer ranks to be in the 5th rank instead of 4th. This interchange between Italy and Belgium is behind all this change in the structure of EU15 Optimality.

4.2. Members Have No Impacts:

The second group of countries does not have any effects on the EU15, and they don't make any changes in the optimality of the EU integration or even in the order of the countries. These new members are; Estonia, Malta, Lithuania, Latvia and Cyprus. Due to their economies size they have relatively small trade size (export- import) with the old members of EU15. With their entrance they have similar shape of the optimality gaps; the only thing they add is one optimal member to the end of the gap.

These five countries also has common deficit trade balance with EU15, all five members have bigger imports than exports. This gap indicates that this group of new members has relatively small industry power, their products facing kind of market competitive, which can not find significant space in the EU markets.

That is possibly needs a long period of time to free up from this competitive. Also these members are in luck of a significant economic skill to improve the quality of the products, with keeping costs in the low level in the markets. As we can see from the table below;

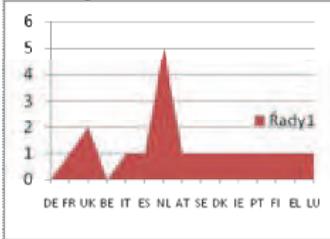
Table 1.3: Intra and Extra- Export and Import of five New Members 2006 in Mio Euro

Countries	Intra-Exports to the EU15	Intra-Imports to the EU15	Extra EU25	
			exports	imports
Estonia	3691	6,615	2,746	2,664
Malta	1000	2,793	1,025	1,057
Lithuania	4283	5,818	5,775	4,142
Latvia	2044	4,643	2,169	1,358
Cyprus	550	5,472	1,818	334

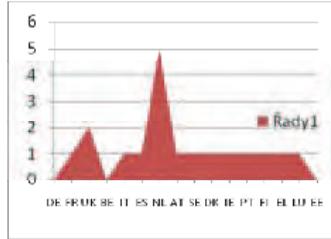
Source: Eurostat, External and Intra-European Union Trade, Statistical yearbook — Data 1958-2006

From the table above can also clearly see that for most of the EU member-states, trade links with the new member countries are simply too small to have a direct, measurable impact on their economies. The member's links with EU15 is smaller than the smallest member of the EU 15, although these five members have also small external trade with the rest of the world outside the EU25.

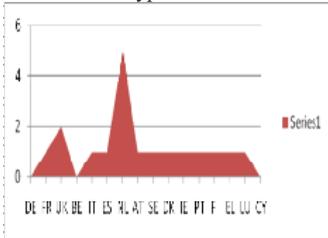
EU15 Gap before entrance new members



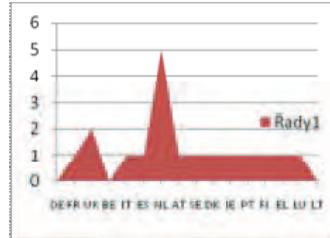
Entrance of Estonia



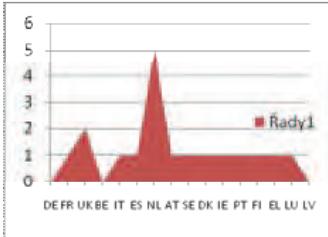
Entrance of Cyprus



Entrance of Lithuania



Entrance of Latvia



Entrance of Malta

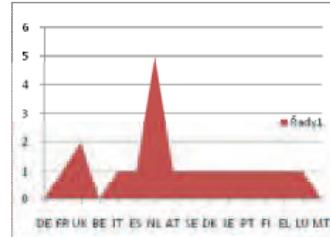


Figure 1.3: The Gaps Comparison between EU15 and with Entrance of each EE, CY, LT, LV, and MT

Source: Eurostat, External and Intra-European Union Trade, Statistical yearbook — Data 1958-2006

5. Conclusion

The EU has achieved a remarkable degree of integration relatively among its member states in the post war period. It has extended its membership to include the largest economies in Europe and it has become one of the most important economic integration in the world. After the EU is expanded to include some of the countries of Central and Eastern Europe, it possibly plays a major part in global economic arrangements, and it may increase its role in economic and political frameworks. Nevertheless, the EU is likely to encounter considerable difficulties in last eastward enlargement, which effects it's economic and trade structure. That was the main aim of the thesis to analyze and evaluate these difficulties faced after the last enlargement.

Thereby, the thesis can point out some important results have obtained from doing the study:

- One of the crucial results of the study is finding and using a new approach and concept for evaluating structures of any regional integration over the world. Also defining new phenomena and concept for optimal matrix using the Pareto-optimality concept, which it means in this thesis; that the optimal matrix of the integration is the case in which can not make any member of the integration better off without making other members worse off. (This is similar in definition to the Prato-optimality).
- The other important point has founded in the thesis is a new indicator for dependency country. Some of the member stats in the integration getting a privilege ranks as the first or the second, some other members getting very far rank, which indicates to the level of dependency of the member state. The members with the first or the second ranks are considering as leaders of the integration, such as the case with Germany and Netherlands in the European integration, they are considering as the biggest power for producing and exporting to the internal EU markets. On the other hand, some other countries such as Greece, Luxembourg, and Portugal are in the end of the list of exporter ranks. As they have very small participation of exporting to the intra-EU markets. This is indicate that members with good ranks are more important dependable for the integration member states than other members with low ranks of the dependency.
- The reason behind establishing and enlarging European Union at the beginning was with political aspects, but later on most of the ecumenists are trying to find significant

economical reason for establishing and enlarging it, also are trying to find some economic benefits for this enlargement process. This research found that European integration enlargements are still working on the political aspects more than economic benefits, most of the new members are adding nothing to the EU economically, in other words, they are small economically to have any impacts on the European economic aspects, these new members are; Estonia, Malta, Lithuania, Latvia and Cyprus. While there is some other candidate countries may have more impacts on the EU integration economically, such as Turkey, Croatia, but maybe because of some political reason they still waiting on the list of the candidate countries.

- The thesis found 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. The only country has keeping good position with optimal ranks was Germany; it was leading the EU-15 before entrance of new members and also after their joining. Netherlands is the second member from the exporting ranks, but it has a big gap of not optimality , because of it's level of imports lower than its exports and was rapidly growing through the years covered by the study (2000- 2006). Netherlands is one of the odd members in the EU integration because of this big gap of not optimization, the reason behind this was the big amount of Netherlands imports from the extra- EU, this is refers that Netherlands is not integrated into the EU integration as an optimal level. The other members such as; France and United Kingdom, were taking third and fourth ranks from the exporter and second and third respectively from the importer ranks. They were considering in a good position even not obtaining the optimality in the last decade. The position can be understandable for UK because of market competitive in the Euro area, since UK is keeping still out of this area. Most of the other members keeping in between ranks without obtaining the optimality most of the time, only two members (Greece and Luxembourg) they were in the end of the list without achieving optimality over the last decade, the case is clear for a small economy like Luxembourg, but for the Greece is odd, as it is a big economy relatively, but because it has a big imports and exports with the rest of the world bigger than its intra-trade with the EU.
- The study found that entrance of new member has benefit for new members more than to the old 15 members, especially from the trade side. Only five of this 10-new members, have

small effects on the trade but none of them reach to the position to be in the beginning of the ranks or have a significant change in the gap of not optimization for the EU25. The other five members they even didn't have any impact of the trade structure, they only keep the end of the rank without any considering effects.

- The study can select some of the loser and winners from the new members' entry. Some of the small old members are losing their position after of entry new members. Greece and Luxembourg are in the rank of 17th and 19th, respectively, because of small trade links they already have with EU25. The importance of these two members reduces after some of the new member's entry. In addition of Greece and Luxembourg, also Portugal and Finland, from the old member states in EU15, affected negatively by this new enlargement, and they lose some of their position for the new member states. While members like Belgium, Germany, Ireland, and Austria they were from the biggest beneficial members from this enlargement, because of opening some of the big markets in front of their products, without facing any significant market competitiveness.
- From the new members only three members (Poland, Czech and Hungary) are benefit from this EU enlargement, while most of the other new members are only benefit from the Subsidies comes from the EU cohesion programs, but from the trade links they are not having any significant impacts, not in their markets aspects or in their production aspects.

7. Benefit of Application Model;

- The model can be used for evaluating any integration over the world, to find same optimality level for shares of its member states.
- The model can also evaluate the importance of any country in world exchange trade. It can be used to specify the country position into the any global organization. In other words, this model can examine up which level world exchange structures can depend on any country into their trade or labor movement over the world.
- The model might help EU integration for making decision on any new member's negotiation for joining the EU integration in future. And specify in which level or degree this new member can make impacts on EU trade structure, or any other structures, such as; inflow –outflow of capital to and from this new member, also labor movements with EU integration.
- The model might be used for other fields, such like, reorganizing the intra-market in the EU integration, and find the size of each member can be shared in the EU exports- imports structure, in order to obtain the Pareto-Optimality.

8. References

- [1] ALAIN M. GODFREY I. R.. The European Union at the Time of Enlargement, Population. (English Edition, 2002-), Vol. 59, No. 2, (2004) , pp. 315-336
- [2] ANDERSEN, T. M., International Integration, Risk and the Welfare State, Discussion paper series, IZA DP No. 456, 2002. [cit. 2010-02-25]. Available at WWW: <http://repec.iza.org/RePEc/Discussionpaper/dp456.pdf>
- [3] ANNEKATRIN N. , SILVIA S., Integration Effects in Border Regions – A Survey of Economic Theory and Empirical Studies, 42nd Congress of the European Regional Science Association "From Industry to Advanced Services - Perspectives of European Metropolitan Regions" August 27th – 31st, 2002, Dortmund [cit. 2010-02-04]. Available at WWW: <http://www.sre.wu-wien.ac.at/ersa/ersaconfs/ersa02/cd-rom/papers/066.pdf>
- [4] ARRIBAS, I, et al, "Measuring International Economic Integration: Theory and Evidence of Globalization“, 2006 [cit. 2009-09-25]. Available at WWW: http://mpra.ub.uni-muenchen.de/16010/1/MPra_paper_16010.pdf
- [5] BARYSCH, K. “Enlargement two years on: Economic Success or Political Failure?” Briefing paper for the Confederation of Danish Industries and the Central Organization of Industrial Employees in Denmark. 2006. [cit. 2008-06-25]. Available at WWW: http://www.cer.org.uk/pdf/essay_enlargement_two_%20barysch.pdf
- [6] BARYSCH, K. EU „Enlargement: How to Reap the Benefits, Economic Trends, 2/2004. [cit. 2010-03-07]. Available at WWW: http://www.cer.org.uk/pdf/barysch_economicstrends_june%2004.pdf
- [7] BARRY P. B. ., Pareto Optimality, External Benefits and Public Goods: A Subjectivist Approach“, the Journal of Libertarian Studies, Vol. IV No 1, winter 1980
- [8] BERNATONYTE, D. ., Intra-Industry Trade and Export Specialization: Lithuanian Case“, Economics & Management, NO. 14, 2009.
- [9] BALASSA, B. The Theory of Economic Integration, London: fourth Edition, Allen & Unwin, 1973, (ISBN 0043302351, 9780043302354)
- [10] BOERI, T. . HERBERT, B., Eastern Enlargement and EU-Labour Markets: Perceptions, Challenges and Opportunities, World Economics, (2001) Vol. 2, No. 1
- [11] CARLO A. MARIO N. Economics and Policies of an Enlarged Europe, Edward Elgar Publishing, Cheltenham , UK(2005) (ISBN 1843768321)
- [12] CHRISTOPHER S. MAGEE P. ., New Measures of Trade Creation and Trade Diversion, Journal of International Economics 75 (2008) 349–362
- [13] COOPER C. and MASSELL B. “A New Look at Customs Union Theory”, The Economic Journal, Vol. 75 , 1965, pp742-7.
- [14] CRAIG W. K. Pareto Optimality and Equity in Social Decision analysis, Technical Report 17-5, 1977 [cit. 2010-02-06]. Available at WWW: <http://ioe.engin.umich.edu/techrprt/pdf/TR77-05.pdf/>
- [15] CRESPO-CUARESMA. et al, Growth effects of European Integration: Implications for EU Enlargement. In: Focus on Transition, 2002(1), pp. 87-100.

- [16] CRISTALLO ,D. “Trade in a 25-member European Union, Statistics in focus”, THEME 6 – 4/2003
- [17] DALIMOV, R.T. “Oscillation Theory of International Economic Integration” , African Journal of Marketing Management, Vol. 1(2) pp 50-61, May, (2009).
- [18] DEMIRGU K. and DETRIAGA C., financial Liberalization and Financial Fragility, IMF Working Paper No. 98/83, 1998. [cit. 2009-06-25]. Available at WWW: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=882587/
- [19] DIEPPE, A. , WARMEDINGER, T. ,“Modeling Intra-and Extra-Area Trade Substitution and Exchange Rate Pass- Through in the Euro Area“ , Working Paper Series, NO 760 / June 2007 [cit. 2010-02-07]. Available at WWW: <http://www.ecb.europa.eu/pub/pdf/scpwps/ecbwp760.pdf>
- [20] DONGHYUM, P. , “Is the Asean- Korea Free Trade (AKFTA) an Optimal Free Trade Area?,” Working Paper Series on Regional Economic integration No.21, November 2008 [cit. 2009-07-21]. Available at WWW: http://faculty.washington.edu/karyiu/confer/seoul06/papers/park_dh.pdf
- [21] DOYLE, N. et al. “Freedom of Movement for Workers from Central and Eastern Europe”, Swedish Institute for European Policy Studies Press ,2006 (ISBN 91-85129-38-0)
- [22] DVORAK, T. , PODPIERA, R. , “European Union Enlargement and Equity Markets in Accession Counties”, Working Paper Series NO. 552 / November, 2005
- [23] EL-AGRAA, A. M., “The European Union, Economics and Policies”, eighth Edition, Cambridge University press, Cambridge, UK, (2007) (ISBN 9780521874434)
- [24] European Union Committee, “The Single Market: Wallflower or Dancing Partner? Inquiry into the European Commission’s Review of the Single Market“, 5th Report of Session 2007–08. [cit. 2010-01-07]. Available at WWW <http://www.parliament.the-stationery-office.co.uk/pa/ld200708/ldselect/ldecom/36/36.pdf>
- [25] FIDRMUC J. MOSER, G, “EU Enlargement to the East: Effects on the EU-15 in General and on Austria in Particular”. Focus on Transition. 2002(citi. 2008-07-02)) [cit. 2007-02-25]. Available at http://www.oenb.at/en/img/fttr_20021_tcm16-1692.pdf.
- [26] SCHIMMELFENNIG F. ,”The Community Trap: Liberal Norms, Rhetorical Action, and the Eastern Enlargement of the European Union” .International Organization, Vol. 55, No. 1, (Winter, 2001), pp. 47-80 [cit. 2009-06-06]. Available at: WWW <ftp://repec.iza.org/RePEc/Discussionpaper/dp456.pdf>
- [27] GALAND J. ,FIEVET R. “Treatment of Currency Unions”, SNA/M1.06/39, 2006. [cit. 2010-03-06]. Available at: WWW <http://unstats.un.org/unsd/nationalaccount/AEG/papers/m4CurrencyUnions.pdf>
- [28] GARMEL K. et al. “EU Eastern Enlargement and Foreign Investment: Implications from a Neoclassical Growth Model” Journal of Comparative Economics, Volume 36, Issue 2, June 2008, Pages 307-325 [cit. 2008-10-06]. Available at: WWW <http://www.sciencedirect.com/science/article/B6WHV>.

- [29] GREENAWAY, D., HINE, R.C. "Intra-industry specialization, trade expansion and adjustment in the European economic space", *Journal of Common Market Studies*, 1991, Vol. 24 pp.603-22.
- [30] GUNGGOR, G., "Ever Expanding Union? A Closer Look at the European Union's Enlargement Agenda" *EUMA*, Vol. 4 No. 15 June 2007
- [31] HANSEN, J. D., NIELSEN J. U. , *An Economic Analysis of the EU*“, McGraw-Hill, London. Second Edition, 1997(ISBN 0077092317)
- [32] IRIS J. „The Leontief Open Production Model or Input-Output Analysis“, December 15, 2001 [cit. 2010-02-12]. Available at: WWW
<http://online.redwoods.cc.ca.us/instruct/darnold/laproj/Fall2001/Iris/lapaper.pdf>
- [33] KEMP, M. , WAN, H. J. "An Elementary Proposition Concerning the Formation of Customs Unions", *Journal of International Economy*. 6:1.1976, pp. 95-98.
- [34] KETELS, C. P. , MICHAEL, E, "European Integration Meeting the Competitiveness Challenge“, *Harvard Business School Publishing*, Rev, 9-708-421, (April 2009)
- [35] KRISHNA, P. "Preferential Trade Agreements“, Prepared for the conference organized at Columbia University on August, 2005 [cit. 2009-1-21]. Available at: WWW
http://www.columbia.edu/~ap2231/jbconference/Papers/Krishna_Bhagwati%20Conference.pdf
- [36] KRISTIN, A. MORELLI, V. L., "European Union Enlargement“, *CRS Report for Congress*, Received through the CRS Web, October 25, 2006
- [37] JEFFREY , A. F. „Globalization of the Economy“, *NBER Working Paper No7858*, 2000. [cit. 2010-02-04]. Available at: <http://www.nber.org/papers/w7858.pdf>
- [38] LEONTIEF. W. W., “*Input Output Economics*, Oxford University Press, New York, 1966. (ISBN 0-19503525-9)
- [39] MILADA, A. V. , "Historical Institutionalism and the EU's Eastward Enlargement", *Memo prepared for the State of the European Union Conference Princeton*, 16 September 2005
- [40] RICARDO, A. C, "Economic Integration. An Overview of Basic Economic Theory and other Related Issues", *University Del Rosario*, 2000 (ISSN: 0124-4396)
- [41] RICHARD E.B. et al, "Regional Economic Integration " . 14 August 2004. [cit. 2009-02-08]. Available at: WWW
http://www.graduateinstitute.ch/webdav/site/ctei/shared/CTEI/Baldwin/Publications/Chapters/Trade%20Theory/Baldwin_Venables_Handbook.pdf
- [42] RICHARD E.B. "the Eastern enlargement of the European Union“, *European Economic Review* 39 (1995) 474-481
- [43] RONALD J. W., "Free-Trade Agreements: For Better or Worse?“, *The American Economic Review*, Vol. 86, No. 2, CA, January 5-7, (1996), pp. 62-66
- [44] SCHNEIDER ,Ch. J. , "Conflict, negotiation and European Union enlargement", *Cambridge University Press*, 2009 (ISBN 0521514819, 9780521514811)

- [45] SIMA, I. et al. "European Union on the international stage, 2010", mpra.ub.uni-muenchen.de/20852/MPRA . [cit. 2010-02-06]. Available at: WWW http://mpra.ub.uni-muenchen.de/20852/1/MPRA_paper_20852.pdf
- [46] STEUNENBERG, B. "Widening The European Union" , The politics of institutional change and reform. London, Routledge. 2002. (ISBN 0-415-26835-4)
- [47] TSOUKALIS, L. "What Kind of Europe?" New York. Oxford,university press. 2005. (ISBN 0-19-926666-2)
- [48] UK Department of Trade and Industry, "Trade and Investment Implications of EU Enlargement, Europe and World Trade Directorate", April 2004.(citi , 4 March,2010) [cit. 2009-06-06]. Available at: <http://www.berr.gov.uk/files/file19584.pdf/>

9. List of Selected Publications by Author

- [1] SALIH, T. *Using of Total Quality Management in Education*. Zanco, the Scientific Journal of Salahaddin University-Arbil, No. (36). 2008.
- [2] SALIH, T. *E-Government in the European Union*. Political Economy; Aseasonal Journal Issued by Kurdistan Economic Syndicate, Iraq-Erbil. No. 24/2009, pages 148- 160. ISSN 0032-3233
- [3] SALIH, T. “*Tax Evasion and Financial Deficit in Czech Republic*”, under publishing in Scientific Papers, Series D, Faculty of Economics and Administration. Pardubice: University of Pardubice. (16/2010).
- [4] SALIH, T. *Pareto-Optimality Model for Evaluating of Impacts of European Union Enlargement*. (is sent for publishing in Zanco, the Scientific Journal of Salahaddin University-Arbil)

Abstract

The European integration, has established complicated structures of exchanging goods and services, labor, and capital, and the size of these structures increasing over the time. The study wanted to find the optimal size of each member has to be shared in this trade structure, and then it represents this integration structure in matrices, to find whether or not these structures are optimal or not, or whether this matrix represent the Perato-Optimal shares of the trade relationships for the European integration. The study contributed by setting up a model with some new axioms to analyze the optimality conditions for this matrix, with an appropriate definition of the optimality position. The main aims of the study are evaluating the level of European integration optimality, or any other integration over the world, and examine the impacts of entry of the new member states to this integration, and whether this new entry makes the integration better off or vice versa. The dissertation work argues that European Union was not obtaining the optimality position for their relation structure, before entry of new member starts. The study also found that last enlargement adds to the gap of not optimization more points.

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