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Classifying Countries According to Their Export Competitiveness: The Position of Turkey as an Emerging Economy

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ABSTRACT *Country classification is useful from both firms' and countries' side. Firms may use the classification to decide which countries to operate in and countries may use it for their development. As there is evidence that the development of a country relates on export competitiveness, this study tries to reveal specifically sector groups' relationships with it and how the countries can be classified according to the country export competitiveness. As a result, Turkey's position is evaluated and the importance of technology advancement is discussed.*

Keywords: *Export Competitiveness, Macromarketing, Economic Development*

1. Introduction: Country Segmentation Approach

In today's global market, competitiveness is increased in importance by both micro and macro levels. In a micro view, it stands for competing and defining the performance of an organization in terms of growth and profitability. From a macro point of view, organizations are substituted by countries (Erdem and Köseoğlu, 2014). In this level, competitiveness is defined by World Economic Forum's "The Global Competitiveness Report" as (Schwab, 2014) "the set of institutions, policies, and factors that determine the level of productivity of a country. The level of productivity, in turn, sets the level of prosperity that can be reached by an economy. The productivity level also determines the rates of return obtained by investments in an economy, which in turn are the fundamental drivers of its growth rates. In other words, a more competitive economy is one that is likely to grow faster over time."

So, it's possible to state from a two-way usefulness by firms and countries. Firms compete with local and global firms and they consider entering new local and global markets to expand their "playground". So, country segmentation is useful for them to determine which product to introduce in which markets and to tailor their marketing programs for each country or not (Davidson and Harrigan, 1977). On the other hand, countries try to attract new sustainable investments to reach growth rates. As they compete with other countries, country segmentation is useful to observe their own and competitors' positions.

These benefits show clearly that more macromarketing research is needed in globalization-driven increasingly integrated world (Stump, et al., 2008). This is why, country segmentation studies attracts attention of researchers and managers.

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In segmenting a market, a researcher should make an effort to distinguish homogeneous groups of customers that may be targeted in a similar way because they have similar preferences and needs (Wedel and Kamakura, 2002). On the country level, clustering a set of specified countries on the basis of a wide array of macroeconomic variables represents country segmentation (Helsen et al., 1993). Although clustering based on macro indicators is criticized because it neglects specific product/service market indicators, a preliminary market assessment based on aggregate data is still a necessary initial step (Cavusgil et al., 2004). After determining which countries to enter, further segmentation analyses can be conducted to reveal segments based on product/service specific criteria.

Some classification studies based on macro indicators are listed in the Table 1.

-- Please Insert TABLE 1 --

2. Overview on Foreign Trade Theories

Two main reasons for countries to trade are (Dinler, 2004);

(1) the productions of countries are not sufficient for themselves,

(2) some of the goods are produced by a limited number of countries.

According to Adam Smith, countries prefer foreign trade as compared to closed economy, since it's considered more profitable (Battal, 2010). This preference is explained by his Theory of Absolute Advantages. Accordingly, each country should specialize in goods for which they have absolute advantages, in other terms they can produce cheaper; on the other hand, they should import goods that they can produce more expensive. However, if a country is able to produce all the goods cheaper than others, in this case trading is not profitable for that country. The defects of the theory of Adam Smith are tried to be removed by Davd Ricardo with his Theory of Comparative Advantages (Dinler, 2004). According to him, countries should specialize in goods for which they have comparative advantages than other countries, so trading will be profitable for all countries participating to this trade. This classical theory is based on labor-value theory and it does not consider the effects of factors other than labor. So, the Factor Endowment Theory developed by Heckscher, Ohlin and Samuelson enriches the theory by introducing the capital factor. The H-O Theory relates a country's cheap production of a good to the wealth or famine of that country's production factors (labor and capital) and the prices. From these production factors, if the rich and cheap factor is capital in developed countries and labor in emerging countries, then, according to this theory, all the parties will gain favor if advanced countries specialize in goods produced by capital-intensive production technology and emerging markets in goods produced by labor-intensive production technology (Dinler, 2004).

The explained trade models express in which positions the countries should be in order to gain favor. So, country positions are useful to evaluate countries' positions in trade relationships and to see to which positions are countries oriented with which competitive advantages (Battal, 2010).

Competitiveness is closely related with countries' productivity and growth (Krugman, 1994). It can be defined as a country's ability to compete via exports (Fagerberg, 1996). Technological advancement is an important factor for a country's development in long term (Schumpeter, 1934). So, technological advancement is important for a country's competitive advantage. Among emerging economies, there are ones which develop their own technologies (for instance Brasil in aviation, electronics and computers; India in computers, Malaysia in electronics, etc). This situation is a result of common action of states, institutions, foreign capital and local firms (Alvarez and Marin, 2013). Thus, the positions of the countries with spurts should be analyzed with their competitive advantages.

3. Online Electronic Databases as Secondary Data

The data used in marketing research may come from the researchers' own researches (which is called primary data) or it may be already-existing data (which is called secondary data). The progress of information technology in recent years enables researchers and/or organizations to use secondary research to gather data of customer, competitor, and industry data (Hair et al., 2009). In contrast with primary data, secondary data are relatively easy to access, inexpensive, and quickly obtained. Since they are often collected for purposes other than the current research, their usefulness may be limited (Malhotra, 2007). In this research, as the main problem is to classifying countries according to the country export competitiveness, the secondary data are preferred for their advantages.

Malhotra (2007) indicates a classification of secondary data as internal and external. While internal data are gathered within the organization, the external data are generated by outside the organization and it has three types: published materials, computerized databases, and syndicated services (Malhotra, 2007). This research benefits from the trade figures on comtrade.un.org/db/ which is a computerized database.

Researchers should pay attention to the suitability, the reliability, the accuracy, and the actuality of secondary data (Kurtuluş, 2010). Especially, with the progress of technology Internet has become an important source for secondary data, so, the quality and reliability of Internet information must be questioned (Hair et al., 2009). In this article, trade figures from United Nations' Commodity Trade Statistics Database (comtrade.un.org/db/) are used as secondary data. On the website, it's possible also to see the details of methodology for surveys of national practices. So, this online source is considered as reliable, accurate, and up-to-date.

4. The Position of Turkey in Previous Studies

As an emerging market, Turkey's main competitive advantage was lying on labor intensive goods in the history. Yilmaz (2003) analyzed SITC sectors between the years 1996 and 1999 and during this period, Turkey is found to have competitive advantage in raw material intensifies goods and labor intensive goods. In the following years, from 1998 to 2008 Turkey's primary competitive advantage is found to be labor intensive goods. They are

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followed by raw material intensifies goods and easy imitable research oriented goods (Battal, 2010).

5. Research Methodology

The purpose of this research is to determine and to classify countries according to their export competitiveness. For this purpose, the following steps are performed:

(1) 55 countries are selected from the IMF's World Economic Outlook report (2013). As called in this report, 22 of them are advanced economies and 33 are emerging market and developing economies which are composed of 9 Latin America, 4 Middle East, 8 Central and Eastern Europe (CEE), 4 Commonwealth of Independent States, 7 Developing Asia and finally 1 Sub-Saharan Africa countries. This classification reflects IMF's economy groups.

(2) Export competitiveness of each country for commodities from Standard International Trade Classification (SITC) indicated in the Table 2 is calculated based on their trade figures from United Nations' Commodity Trade Statistics Database (comtrade.un.org/db/). SITCs are selected based on Yilmaz (2003)'s classification. Accordingly, these SITCs are grouped according to requirements for technologic infrastructure and five groups are proposed; raw material intensifies goods (RMIG), labor intensive goods (LIG), capital-intensive goods (CIG), easy imitable research oriented goods (EIRG) and difficultly imitable research-oriented goods (DIROG). This classification is listed in the Table 2.

-- Please Insert TABLE 2 --

One of the common methods to determine in which sectors countries are specialized is Revealed Comparative Advantage Index developed by Bela Balassa (1965). It can be calculated as:

$$RCA_{ij} = \frac{X_{ij}/X_{it}}{X_{wj}/X_{wt}} = \frac{X_{ij}/X_{wj}}{X_{it}/X_{wt}}$$

The abbreviations in this equation are:

RCAij: Revealed Comparative Advantage Index of country i for good j

Xij: exports of good j from country i,

Xit: total exports from country i,

Xwj: total exports of good j,

Xwt: total exports in the world.

In the case RCA > 1, country "i" is said to have a revealed comparative advantage in industry j.

The index proposed by Balassa (1965) produces values from zero to infinite. Thus, this situation shows that this index is not symmetric. This is the point where the index is mostly criticized (Battal, 2010). To solve this problem, Vollrath (1991) proposed to calculate the logarithm of RCA. However, in the case where a country does not have an export in a sector, the index will be indefinite. So, the following calculation can be computed in order to make the index symmetrical (Laursen, 1998):

$$RSCA_{ij} = \frac{RCA_{ij} - 1}{RCA_{ij} + 1}$$

This calculation produces an index value for countries' Revealed Symmetric Comparative Advantage (RSCA). The range of values differs from -1 to 1.

RSCA < 0 means that country i does not have a comparative advantage in the sector j, and

RSCA ≥ 0 means that country i has a comparative advantage in the sector j.

Based on this equation, RSCA values of SITCs listed in the Table are calculated.

(3) In order to determine RSCA figures of the countries for each technology infrastructure required group, SITCs' RSCA means are calculated. By this way, each country has RSCA figures for RMIG, LIG, CIG, EIRG and DIROG.

(4) GDP per capita data of the countries are extracted from the World Bank database (http://data.worldbank.org/indicator/).

6. Research Findings

Descriptive Analysis

Revealed Symmetric Comparative Advantages (RSCAs) of selected countries are shown in the Tables 3 to 12 which are listed in the Appendix. Accordingly, the countries having comparative advantage in the sectors can be listed as follows:

- Mostly emerging economies (Latin America and Senegal) have comparative advantages in RMIG; the highest one belongs to Ecuador ($\bar{x}$ =0.42).

- Mostly emerging economies (Developing Asia and Senegal) have comparative advantages in LIG; the highest one belongs to India ($\bar{x}$ = 0.37).

- Mostly advanced economies and CEE countries have comparative advantages in CIG; the highest one belongs to Luxembourg ($\bar{x}$ = 0.41).

- Mostly advanced economies have comparative advantages in EIRG; the highest one belongs to Israel ($\bar{x}$ = 0.25).

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- Germany, Ireland, Switzerland, USA, Costa Rica, China and Philippines have comparative advantages in DIROG; the highest one belongs to Switzerland ($\bar{x}$ = 0.29).

Relationship between Export Competitiveness and GDP per Capita

Krugman (1994) suggests that competitiveness is closely related with countries' productivity and growth. More specifically, Schumpeter (1934) indicates that technological advancement is an important factor for a country's development in long term. So, it can be hypothesized that there is a relationship between export competitiveness and GDP per capita as an economic development indicator. This hypothesis is tested via Pearson-correlation analysis. The results are shown in the Table 13.

-- Please Insert TABLE 13 --

The correlation results indicate that the positive relationships of GDP per capita with EIRG and DIROG are significant at the 0,01 level. This result supports the statement of Krugman (1994) and Schumpeter (1934). In addition, the positive relationship between GDP per capita and CIG is significant at the 0,05 level. The significant relationship between GDP per capita and RMIG at the 0,01 level is found to be negative. There is no support for the relationship between GDP per capita and LIG.

Classifying Countries according to Their Export Competitiveness

In order to observe the positions of countries, cluster analyses are conducted. Firstly, hierarchical cluster is used with Ward's Method to explore country groups based on their export competitiveness. Dendrogram provided by the analysis is shown in the Figure 1.

-- Please Insert FIGURE 1 --

It's decided to continue the analyses with four groups. Then, K-Means analysis is conducted with four clusters. The first group includes 20 countries, the second one 13, the third groups 9 and the fourth one 13countries. The countries in these groups are shown in the Table 14.

7. Conclusion

The correlation analysis reveals that GDP per capita is positively related with EIRG and DIROG and negatively with RMIG. That's why; countries having competitive advantage in RMIG should be treated cautiously. Especially countries such as Morocco and Ukraine are seen to be specialized only in RMIG. Such countries should find new areas to be concentrated. For instance, Latvia and Spain are specialized in both RMIG and CIG.

As indicated in the literature, Turkey's main competitive advantage was in LIG. However, this study fails to support the relationship between GDP per capita and LIG. So, the development of a country lies on specialization in EIRG and DIROG which requires a strong technological advancement. So, action of states, institutions, foreign capital and local firms of Turkey should consider technological products. As Turkey plans to produce first domestic airplane in 2019, the aviation sector may be the starting point in this DIROG direction.

A cluster analysis is conducted to observe the positions of the countries in terms of their export competitiveness. Four clusters are explored.

The first group shows a competitive advantage for CIG. It's important since the relationship between CIG and GDP per capita is found statistically significant at the 0.05 level.

The second group shows a competitive advantage for DIROG. As the strongest relationship is found between GDP per capita and DIROG at the 0.01 level, the second group can be considered as the most favorable group. This group's mean for GDP per capita is the highest among all.

The third group has no competitive advantage for any of the sectors. In other terms, this group is not specialized for any of the sectors.

The fourth group composed of emerging economies is seen to be specialized in RMIG. However, this group is questionable, since a negative relationship is found significant at the 0.01 level between GDP per capita and RMIG. Indeed, the lowest GDP per capita belongs to this group. So, they should plan to have a competitive advantage for CIG, EIRG and DIROG.

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APPENDIX

-- Please Insert TABLES 3 to 12

TABLES

Table 1. Previous Researches on Country Classification Based on Macro Indicators

Author(s) (Year)	Classifying Variable(s)	Group of Segmentation Variables
Sethi (1971)	Economic Development	Socio-Economic
Cavusgil (1990)	Economic, Social and Demographic Variables	Socio-Economic
Lee (1990)	National Innovativeness	Socio-Economic
Sriram and Gopalakrishna (1991)	Economic, Cultural Variation and Media Availability and Usage	Cultural
Peterson and Malhotra (1997)	Quality of Life	Socio-Economic
Hofstede (2001)	Individualism, Power distance, Uncertainty Avoidance and Masculinity.	Cultural
Gupta, Hanges, and Dorfman (2002)	Cultural Dimensions identified by The Global Leadership and Organizational Behavior	Cultural

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	Effectiveness (GLOBE) Project	
Sheth and Sharma (2005)	Infrastructure and Marketing Institutional Development	Socio-Economic

Source: Adapted from Budeva (2009).

Table 2. Groups of Technologic Infrastructure and the Corresponding Standard International Trade Classification (SITCs)

Groups according to requirements for technologic infrastructure	Corresponding SITCs
1. Raw material intensifies goods (RMIG)	*SITC 0* Food and live animals *SITC 2* Crude Materials excl. fuels *SITC 3* Mineral Fuels etc *SITC 4* Animal Vegetable Oil fat
2. Labor intensive goods (LIG)	*SITC 26* Textile Fibres and Waste *SITC 6* Basic Manufactures *SITC 8* Misc Manufactured Goods
3. Capital-intensive goods (CIG)	*SITC 1* Beverages and Tobacco *SITC 35* Electrical Energy *SITC 53* Dyes, Tanning, Colour Production *SITC 55* Perfume, Cleaning etc Production *SITC 62* Rubber manufactures Nes *SITC 67* Iron and Steel *SITC 68* Non-Ferrous Metals *SITC 78* Road Vehicles
4. Easy imitable research oriented goods (EIRG)	*SITC 51* Organic Chemicals *SITC 52* Inorganic Chemicals *SITC 54* Medical Pharm Products *SITC 58* Plastic Materials etc *SITC 59* Chemical Materials Nes *SITC 75* Office Machines and Adapt Equipment
5. Difficultly imitable research-oriented goods (DIROG)	*SITC 7* Machines, Transport Equipment *SITC 87* Precision Instrument *SITC 88* Photo Equipment, Optical Goods etc

Source: Yılmaz (2003): p. 19.

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Table 3. RSCAs Based on RMIG for Advanced Economies

Economy Group	Countries	2011	2012	2013	Mean	
Advanced Economies	Austria	-0,37	-0,37	-0,37	-0,37	-0,21
	Belgium	-0,14	-0,12	-0,11	-0,12	
	Canada	***0,21***	***0,21***	***0,22***	***0,21***	
	Estonia	-0,01	-0,02	-0,02	-0,02	
	Finland	-0,25	-0,20	-0,17	-0,21	
	France	-0,20	-0,24	-0,25	-0,23	
	Germany	-0,43	-0,41	-0,40	-0,41	
	Greece	***0,28***	***0,31***	***0,35***	***0,31***	
	Ireland	-0,47	-0,45	-0,45	-0,46	
	Israel	-0,64	-0,60	-0,62	-0,62	
	Italy	-0,32	-0,30	-0,30	-0,31	
	Lithuania	***0,01***	***0,04***	***0,05***	***0,03***	
	Luxembourg	-0,46	-0,45	-0,45	-0,45	
	Netherlands	***0,17***	***0,15***	***0,21***	***0,18***	
	Norway	-0,13	-0,12	-0,09	-0,11	
	Slovakia	-0,33	-0,24	-0,30	-0,29	
	Slovenia	-0,41	-0,38	-0,37	-0,39	
	Spain	***0,02***	***0,04***	***0,03***	***0,03***	
	Sweden	-0,24	-0,18	-0,17	-0,20	
	Switzerland	-0,65	-0,66	-0,70	-0,67	
	United Kingdom	-0,32	-0,30	-0,36	-0,33	
	USA	-0,10	-0,11	-0,12	-0,11	

Table 4. RSCAs Based on RMIG for Emerging Market and Developing Economies

Economy Group	Countries	2011	2012	2013	Mean	
Latin America	Argentina	***0,38***	***0,36***	***0,35***	***0,36***	***0,06***
	Brasil	***0,33***	***0,34***	***0,27***	***0,31***	
	Chile	-0,06	-0,03	***0,02***	-0,02	
	Colombia	***0,15***	***0,12***	***0,14***	***0,14***	
	Costa Rica	***0,06***	***0,06***	***0,01***	***0,04***	
	Ecuador	***0,42***	***0,42***	***0,41***	***0,42***	
	Jamaica	***0,12***	***0,11***	***0,13***	***0,12***	
	Mexico	-0,33	-0,34	-0,34	-0,34	
	Venezuela	-0,53	-0,42	-0,53	-0,49	
Middle East	Egypt	***0,23***	***0,23***	***0,22***	***0,23***	-0,01
	Iran	-0,25	-	-	-0,25	
	Jordan	-0,15	-0,11	-0,16	-0,14	
	Morocco	***0,12***	***0,11***	***0,12***	***0,12***	
Central and Eastern Europe	Albania	-0,06	-0,02	-0,04	-0,04	-0,07
	Bulgaria	***0,15***	***0,17***	***0,21***	***0,18***	
	Croatia	-0,04	0,00	***0,00***	-0,01	
	Hungary	-0,26	-0,21	-0,18	-0,22	
	Latvia	***0,03***	***0,03***	***0,06***	***0,04***	
	Poland	-0,28	-0,25	-0,20	-0,24	
	Romania	-0,13	-0,16	-0,11	-0,13	
	Turkey	-0,13	-0,13	-0,07	-0,11	
Commonwealth of Independent States	Russia	-0,15	-0,03	-0,03	-0,07	-0,01
	Azerbaijan	-0,20	-0,11	-0,11	-0,14	
	Kazakhstan	-0,14	-0,09	-0,11	-0,11	
	Ukraine	***0,30***	***0,30***	***0,31***	***0,30***	
Developing Asia	China	-0,70	-0,72	-0,72	-0,71	-0,06
	India	***0,01***	***0,01***	***0,03***	***0,02***	
	Indonesia	***0,41***	***0,40***	***0,41***	***0,41***	
	Malaysia	***0,13***	***0,12***	***0,12***	***0,12***	
	Nepal	-0,18	-0,18	-0,20	-0,19	
	Philippines	-0,02	-0,06	***0,08***	0,00	
	Thailand	-0,03	-0,07	-0,05	-0,05	
Sub-Saharan Africa	Senegal	***0,33***	***0,25***	***0,33***	***0,30***	***0,30***

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Table 5. RSCAs Based on LIG for Advanced Economies

Economy Group	Countries	2011	2012	2013	Mean	
Advanced Economies	Austria	-0,13	-0,15	-0,14	-0,14	-0,16
	Belgium	***0,01***	***0,01***	***0,02***	***0,01***	
	Canada	-0,38	-0,38	-0,39	-0,38	
	Estonia	-0,19	-0,14	-0,05	-0,13	
	Finland	-0,23	-0,27	-0,28	-0,26	
	France	-0,18	-0,18	-0,15	-0,17	
	Germany	-0,14	-0,14	-0,13	-0,14	
	Greece	***0,18***	***0,17***	***0,15***	***0,17***	
	Ireland	-0,34	-0,31	-0,29	-0,31	
	Israel	-0,10	-0,06	-0,02	-0,06	
	Italy	-0,04	-0,04	-0,03	-0,04	
	Lithuania	-0,02	0,00	***0,02***	0,00	
	Luxembourg	-0,16	-0,15	-0,11	-0,14	
	Netherlands	-0,26	-0,30	-0,28	-0,28	
	Norway	-0,61	-0,61	-0,59	-0,60	
	Slovakia	-0,16	-0,20	-0,22	-0,19	
	Slovenia	-0,21	-0,22	-0,23	-0,22	
	Spain	-0,18	-0,18	-0,18	-0,18	
	Sweden	-0,29	-0,29	-0,29	-0,29	
	Switzerland	-0,20	-0,20	-0,19	-0,20	
	United Kingdom	-0,10	-0,06	-0,11	-0,09	
	USA	***0,09***	***0,06***	***0,05***	***0,07***	

Table 6. RSCAs Based on LIG for Emerging Market and Developing Economies

Economy Group	Countries	2011	2012	2013	Mean	
Latin America	Argentina	-0,32	-0,41	-0,47	-0,40	-0,51
	Brasil	-0,11	-0,07	-0,14	-0,11	
	Chile	-0,36	-0,37	-0,37	-0,37	
	Colombia	-0,60	-0,61	-0,63	-0,61	
	Costa Rica	-0,30	-0,28	-0,30	-0,29	
	Ecuador	-0,71	-0,69	-0,71	-0,70	
	Jamaica	-0,89	-0,89	-0,87	-0,88	
	Mexico	-0,27	-0,27	-0,29	-0,28	
	Venezuela	-0,93	-0,96	-0,97	-0,95	
Middle East	Egypt	***0,22***	***0,21***	***0,21***	***0,21***	-0,20
	Iran	-0,71	-	-	-0,71	
	Jordan	-0,23	-0,20	-0,20	-0,21	
	Morocco	-0,07	-0,11	-0,14	-0,11	
Central and Eastern Europe	Albania	***0,07***	***0,02***	***0,00***	***0,03***	-0,03
	Bulgaria	***0,09***	***0,10***	***0,06***	***0,08***	
	Croatia	-0,27	-0,27	-0,25	-0,26	
	Hungary	-0,29	-0,27	-0,22	-0,26	
	Latvia	-0,07	-0,06	-0,03	-0,05	
	Poland	-0,08	-0,05	-0,04	-0,06	
	Romania	***0,06***	***0,08***	***0,05***	***0,06***	
	Turkey	***0,24***	***0,17***	***0,20***	***0,20***	
Commonwealth of Independent States	Russia	-0,67	-0,62	-0,62	-0,64	-0,58
	Azerbaijan	-0,91	-0,86	-0,89	-0,89	
	Kazakhstan	-0,47	-0,42	-0,41	-0,43	
	Ukraine	-0,36	-0,37	-0,33	-0,35	
Developing Asia	China	***0,09***	***0,08***	***0,07***	***0,08***	***0,07***
	India	***0,37***	***0,39***	***0,36***	***0,37***	
	Indonesia	***0,00***	***0,02***	***0,03***	***0,02***	
	Malaysia	-0,09	-0,04	-0,11	-0,08	
	Nepal	***0,28***	***0,27***	***0,36***	***0,30***	
	Philippines	-0,36	-0,27	-0,19	-0,27	
	Thailand	***0,07***	***0,02***	***0,03***	***0,04***	
Sub-Saharan Africa	Senegal	-0,03	***0,01***	***0,05***	***0,01***	***0,01***

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Table 7. RSCAs Based on CIG for Advanced Economies

Economy Group	Countries	2011	2012	2013	Mean	
Advanced Economies	Austria	***0,14***	***0,15***	***0,11***	***0,13***	-0,01
	Belgium	***0,09***	***0,06***	***0,06***	***0,07***	
	Canada	-0,07	-0,06	-0,04	-0,06	
	Estonia	***0,05***	***0,08***	***0,09***	***0,07***	
	Finland	-0,03	-0,11	-0,08	-0,07	
	France	***0,25***	***0,22***	***0,23***	***0,23***	
	Germany	***0,13***	***0,14***	***0,15***	***0,14***	
	Greece	***0,11***	***0,09***	***0,06***	***0,09***	
	Ireland	-0,44	-0,49	-0,48	-0,47	
	Israel	-0,60[1]	-0,58[1]	-0,58[1]	-0,59	
	Italy	***0,04***	***0,04***	***0,06***	***0,05***	
	Lithuania	-0,11	-0,13	-0,16	-0,13	
	Luxembourg	***0,37***	***0,40***	***0,45***	***0,41***	
	Netherlands	-0,05	-0,10	-0,05	-0,07	
	Norway	-0,48	-0,47	-0,46	-0,47	
	Slovakia	-0,08	-0,06	-0,05	-0,06	
	Slovenia	***0,33***	***0,32***	***0,32***	***0,32***	
	Spain	***0,24***	***0,25***	***0,25***	***0,25***	
	Sweden	***0,08***	***0,10***	***0,11***	***0,10***	
	Switzerland	-0,02	-0,03	-0,05	-0,03	
	United Kingdom	***0,02***	***0,01***	***0,00***	***0,01***	
	USA	-0,19	-0,19	-0,19	-0,19	

[1]*SITC35 is excluded.*

Table 8. RSCAs Based on CIG for Emerging Market and Developing Economies

Economy Group	Countries	2011	2012	2013	Mean	
Latin America	Argentina	-0,11	-0,07	-0,18	-0,12	-0,35
	Brasil	-0,09	-0,10	-0,22	-0,14	
	Chile	-0,25[1]	-0,24[1]	-0,24[1]	-0,24	
	Colombia	-0,37	-0,41	-0,40	-0,39	
	Costa Rica	-0,23[1]	-0,21[1]	-0,19[1]	-0,21	
	Ecuador	-0,70	-0,69	-0,71	-0,70	
	Jamaica	-0,36	-0,29	-0,32	-0,32	
	Mexico	-0,13	-0,14	-0,13	-0,13	
	Venezuela	-0,86	-0,94	-0,91	-0,90	
Middle East	Egypt	-0,06	-0,07	-0,06	-0,06	-0,36
	Iran	-0,72	-	-	-0,72	
	Jordan	-0,25	-0,19	-0,14	-0,19	
	Morocco	-0,50	-0,50	-0,42	-0,47	
Central and Eastern Europe	Albania	-0,30	-0,30	-0,27	-0,29	***0,02***
	Bulgaria	***0,10***	***0,09***	***0,11***	***0,10***	
	Croatia	-0,11	-0,10	-0,02	-0,08	
	Hungary	-0,09	-0,07	-0,02	-0,06	
	Latvia	***0,16***	***0,13***	***0,10***	***0,13***	
	Poland	***0,26***	***0,26***	***0,25***	***0,26***	
	Romania	***0,06***	***0,05***	***0,07***	***0,06***	
	Turkey	***0,10***	***0,08***	***0,04***	***0,07***	
Commonwealth of Independent States	Russia	-0,44	-0,37	-0,35	-0,39	-0,44
	Azerbaijan	-0,83	-0,82	-0,80	-0,82	
	Kazakhstan	-0,55	-0,49	-0,46	-0,50	
	Ukraine	-0,09	-0,06	-0,04	-0,06	
Developing Asia	China	-0,32	-0,34	-0,33	-0,33	-0,23
	India	-0,13	-0,17	-0,05	-0,12	
	Indonesia	-0,24[1]	-0,21[1]	-0,19[1]	-0,21	
	Malaysia	-0,35	-0,32	-0,31	-0,33	
	Nepal	-0,27[1]	-0,26[1]	-0,19[1]	-0,24	
	Philippines	-0,27[1]	-0,26[1]	-0,24[1]	-0,26	
	Thailand	-0,18	-0,11	-0,07	-0,12	
Sub-Saharan Africa	Senegal	-0,21[1]	-0,16[1]	-0,11[1]	-0,16	-0,16

[1]*SITC35 is excluded.*

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Table 9. RSCAs Based on EIRG for Advanced Economies

Economy Group	Countries	2011	2012	2013	Mean	
Advanced Economies	Austria	-0,19	-0,19	-0,17	-0,18	-0,13
	Belgium	***0,23***	***0,23***	***0,23***	***0,23***	
	Canada	-0,24	-0,27	-0,25	-0,25	
	Estonia	-0,43	-0,43	-0,43	-0,43	
	Finland	-0,10	-0,09	-0,09	-0,09	
	France	***0,03***	***0,01***	***0,01***	***0,02***	
	Germany	***0,05***	***0,05***	***0,05***	***0,05***	
	Greece	-0,38	-0,42	-0,40	-0,40	
	Ireland	***0,18***	***0,20***	***0,24***	***0,21***	
	Israel	***0,24***	***0,26***	***0,24***	***0,25***	
	Italy	-0,15	-0,16	-0,14	-0,15	
	Lithuania	-0,24	-0,22	-0,22	-0,23	
	Luxembourg	-0,59	-0,57	-0,55	-0,57	
	Netherlands	***0,25***	***0,21***	***0,24***	***0,23***	
	Norway	-0,54	-0,60	-0,59	-0,58	
	Slovakia	-0,42	-0,46	-0,41	-0,43	
	Slovenia	-0,23	-0,20	-0,19	-0,21	
	Spain	-0,15	-0,14	-0,13	-0,14	
	Sweden	-0,21	-0,18	-0,13	-0,17	
	Switzerland	-0,01	-0,02	-0,03	-0,02	
	United Kingdom	-0,01	-0,01	-0,09	-0,04	
	USA	***0,13***	***0,11***	***0,10***	***0,11***	

Table 10. RSCAs Based on EIRG for Emerging Market and Developing Economies

Economy Group	Countries	2011	2012	2013	Mean	
Latin America	Argentina	-0,31	-0,30	-0,30	-0,30	-0,52
	Brasil	-0,38	-0,36	-0,39	-0,38	
	Chile	-0,54	-0,53	-0,53	-0,53	
	Colombia	-0,51	-0,50	-0,45	-0,49	
	Costa Rica	-0,42	-0,46	-0,43	-0,44	
	Ecuador	-0,80	-0,75	-0,83	-0,79	
	Jamaica	-0,60	-0,46	-0,50	-0,52	
	Mexico	-0,37	-0,36	-0,38	-0,37	
	Venezuela	-0,89	-0,87	-0,83	-0,86	
Middle East	Egypt	-0,19	-0,15	-0,12	-0,15	-0,30
	Iran	-0,39	-	-	-0,39	
	Jordan	-0,08	-0,04	-0,06	-0,06	
	Morocco	-0,60	-0,59	-0,59	-0,59	
Central and Eastern Europe	Albania	-0,84	-0,93	-0,91	-0,89	-0,42
	Bulgaria	-0,32	-0,30	-0,30	-0,31	
	Croatia	-0,45	-0,51	-0,45	-0,47	
	Hungary	-0,11	-0,07	-0,04	-0,07	
	Latvia	-0,31	-0,35	-0,38	-0,35	
	Poland	-0,21	-0,21	-0,20	-0,21	
	Romania	-0,47	-0,46	-0,51	-0,48	
	Turkey	-0,57	-0,55	-0,54	-0,55	
Commonwealth of Independent States	Russia	-0,65	-0,61	-0,59	-0,62	-0,66
	Azerbaijan	-0,87	-0,86	-0,88	-0,87	
	Kazakhstan	-0,69	-0,66	-0,67	-0,67	
	Ukraine	-0,44	-0,47	-0,50	-0,47	
Developing Asia	China	-0,11	-0,15	-0,15	-0,14	-0,27
	India	-0,18	-0,07	-0,14	-0,13	
	Indonesia	-0,36	-0,35	-0,35	-0,35	
	Malaysia	-0,19	-0,19	-0,17	-0,18	
	Nepal	-0,67	-0,66	-0,63	-0,65	
	Philippines	-0,33	-0,31	-0,28	-0,31	
	Thailand	-0,08	-0,07	-0,14	-0,10	
Sub-Saharan Africa	Senegal	-0,41	-0,40	-0,41	-0,41	-0,41

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Table 11. RSCAs Based on DIROG for Advanced Economies

Economy Group	Countries	2011	2012	2013	Mean	
Advanced Economies	Austria	-0,07	-0,07	-0,07	-0,07	-0,16
	Belgium	-0,16	-0,18	-0,20	-0,18	
	Canada	-0,37	-0,41	-0,41	-0,40	
	Estonia	-0,25	-0,25	-0,24	-0,25	
	Finland	-0,26	-0,25	-0,24	-0,25	
	France	***0,00***	-0,02	0,00	-0,01	
	Germany	***0,10***	***0,07***	***0,09***	***0,09***	
	Greece	-0,61	-0,62	-0,61	-0,61	
	Ireland	***0,01***	***0,00***	***0,02***	***0,01***	
	Israel	-0,04	-0,02	-0,03	-0,03	
	Italy	-0,01	-0,03	-0,02	-0,02	
	Lithuania	-0,39	-0,41	-0,38	-0,39	
	Luxembourg	-0,40	-0,36	-0,36	-0,37	
	Netherlands	-0,02	-0,07	-0,06	-0,05	
	Norway	-0,53	-0,53	-0,42	-0,49	
	Slovakia	-0,26	-0,27	-0,27	-0,27	
	Slovenia	-0,15	-0,17	-0,16	-0,16	
	Spain	-0,32	-0,34	-0,33	-0,33	
	Sweden	-0,14	-0,18	-0,17	-0,16	
	Switzerland	***0,31***	***0,28***	***0,28***	***0,29***	
	United Kingdom	-0,01	-0,01	-0,03	-0,02	
	USA	***0,08***	***0,06***	***0,06***	***0,07***	

Table 12. RSCAs Based on DIROG for Emerging Market and Developing Economies

Economy Group	Countries	2011	2012	2013	Mean	
Latin America	Argentina	-0,63	-0,68	-0,67	-0,66	-0,63
	Brasil	-0,66	-0,66	-0,64	-0,65	
	Chile	-0,90	-0,91	-0,91	-0,91	
	Colombia	-0,91	-0,92	-0,90	-0,91	
	Costa Rica	***0.18***	***0.20***	***0.20***	***0.19***	
	Ecuador	-0,92	-0,92	-0,95	-0,93	
	Jamaica	-0,80	-0,88	-0,78	-0,82	
	Mexico	-0,01	-0,03	-0,01	-0,02	
	Venezuela	-0,99	-1,00	-0,99	-0,99	
Middle East	Egypt	-0,85	-0,84	-0,84	-0,84	-0,78
	Iran	-0,97	-	-	-0,97	
	Jordan	-0,53	-0,62	-0,65	-0,60	
	Morocco	-0,72	-0,71	-0,68	-0,70	
Central and Eastern Europe	Albania	-0,90	-0,92	-0,90	-0,91	-0,43
	Bulgaria	-0,28	-0,41	-0,46	-0,38	
	Croatia	-0,44	-0,47	-0,46	-0,46	
	Hungary	***0.04***	-0,03	-0,02	0,00	
	Latvia	-0,42	-0,46	-0,38	-0,42	
	Poland	-0,32	-0,32	-0,31	-0,32	
	Romania	-0,36	-0,37	-0,35	-0,36	
	Turkey	-0,55	-0,58	-0,54	-0,56	
Commonwealth of Independent States	Russia	-0,87	-0,85	-0,84	-0,85	-0,86
	Azerbaijan	-0,98	-0,98	-0,97	-0,98	
	Kazakhstan	-0,97	-0,96	-0,95	-0,96	
	Ukraine	-0,65	-0,64	-0,65	-0,65	
Developing Asia	China	***0.10***	***0.12***	***0.11***	***0.11***	-0,30
	India	-0,59	-0,57	-0,58	-0,58	
	Indonesia	-0,70	-0,68	-0,68	-0,69	
	Malaysia	-0,02	-0,01	-0,03	-0,02	
	Nepal	-0,95	-0,97	-0,96	-0,96	
	Philippines	-0,19	***0,23***	***0,19***	***0,08***	
	Thailand	-0,05	-0,05	-0,02	-0,04	
Sub-Saharan Africa	Senegal	-0,90	-0,88	-0,91	-0,90	-0,90

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Table 13. Results of the Correlation Analysis between GDP per Capita and Competitiveness

		1. Raw material intensifies goods: (RMIG)	2. Labor intensive goods (LIG)	3. Capital-intensive goods (CIG)	4. Easy imitable research oriented goods (EIRG)	5. Difficultly imitable research-oriented goods (DIROG)
GDP per Capita ($)	Pearson Correlation	-,412**	-,058	,306*	,345**	,440**
	Sig. (2-tailed)	,002	,672	,023	,010	,001
	N	55	55	55	55	55

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Table 14. The Groups of Countries based on Cluster Analyses

1st Group	2nd Group	3rd Group	4th Group

	Canada Estonia Finland Lithuania Luxembourg Netherlands Slovakia Slovenia Spain Sweden Bulgaria Costa Rica Croatia Jordan Latvia Malaysia Philippines Poland Romania Thailand	Austria Belgium France Germany Ireland Israel Italy Switzerland UK USA China Hungary Mexico	Norway Azerbaijan Colombia Ecuador Iran Jamaica Kazakhstan Russia Venezuela	Greece Albania Argentina Brazil Chile Egypt India Indonesia Morocco Nepal Senegal Turkey Ukraine
1. RMIG	-.07 (.19)	-.38 (.19)	-.05 (.26)	***.15 (.20)***
2. LIG	-.16 (.13)	-.12 (.13)	-.71 (.17)	-.00 (.26)
3. CIG	***.01 (.20)***	-.09 (.25)	-.58 (.21)	-.15 (.15)
4. EIRG	-.26 (.19)	-.01 (.18)	-.64 (.17)	-.45 (.20)
5. DIROG	-.25 (.20)	***.02 (.11)***	-.88 (.16)	-.74 (.14)
GDP per Capita	25,810 (26,471)	39,422.5 (20,962.5)	19,001.2 (30,506)	7,427 (7,020.1)

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FIGURES

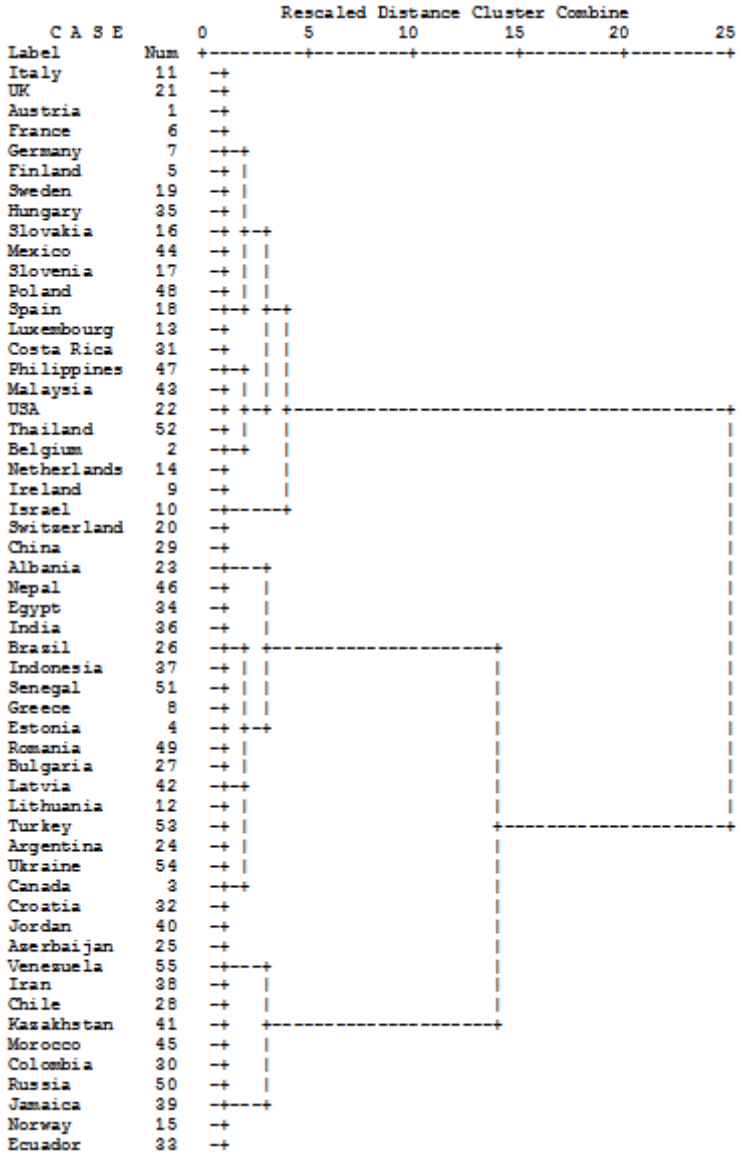

Figure 1. Dendrogram Provided by Hierarchical Cluster Analysis