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The European Union and African, Caribbean and Pacific Group of States: Economic Partnership Agreements and the Effects of Reciprocity.

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Abstract

The authors investigated whether the European Union has any comparative advantage or whether under ACP-EU EPAs will replace efficient producers in favour of the inefficient European Union resulting in a trade diversion. The results reveal that the European Union has comparative advantage. There is going to be a minimal trade diversion due to a small group of EU countries which possess very little comparative advantage. However, trade creation will outweigh trade diversion. The gains will accrue to the EU as the reciprocity of free trade will lead to the losses of fiscal revenues, jobs and closure of some industries in the ACP Group of States. Individual ACP Group of States should institute comprehensive studies to determine the extent their economies will be negatively affected.

Keywords: Comparative advantage, competiveness, international trade, trade creation, trade diversion.

Introduction

According to Ndyeshobola (2004) and Mzumara (2012) the major programme in the African, Caribbean and Pacific Group of States is the Economic Partnership Agreements (EPAs) under the African, Caribbean and Pacific – European Union (ACP-EU) agreement which was established on 27 September 2002. The fundamental principles and objectives of the EPAs are contained in the Cotonou Agreement of June 2000. The objectives of EPA include poverty reduction, sustainable development in ACP nations and smooth integration in the world market. The specific objectives include economic diversification of the ACP nations in context of regional integration; increasing production and supply capacities of the ACP nations; promoting structural processes and enhancement of sustainable growth. The EPAs were to be negotiated in two phases. The first phase involved negotiations by the two multilateral organisations namely, the African, Caribbean and Pacific nations and the European Union. In this phase it involved reaching agreement on development dynamics of EPAs, specifically agriculture

and fisheries, legal matters, market access and trade related matters. The second phase was supposed to be carried out at the level of the ACP region, involving specific commitments (Ndyeshobola, 2004: Mzumara, 2012).

There is a difference in the interpretation of the Cotonou Agreement. The European Union (EU) interprets the EPAs as being on a reciprocal between an individual ACP state and the EU, the same as of a Free Trade Agreement (FTA) in conformity of the World Trade Organization (WTO)'s requirement. The ACP countries however, interpret the Cotonou Agreement as referring to the goals outlined above (Ndyeshobola, 2004: Mzumara, 2012). The EPA has an ingredient of reciprocity and non-discrimination clause in order to be in line with WTO provisions. WTO rules do not allow non-reciprocity on free trade agreements. However, the ACP countries will have to abide and liberalise gradually (ZimTrade, 2010: Mzumara, 2012). According to Mzumara (2012) various ACP countries have negotiated a period in which the reciprocity will come to effect for example Zimbabwe, will be expected to reciprocate, by eliminating duty on 80% of imports from the European Union by 2022. It is further expected to have removed duties on 45% of its imports from the European Union by 2012 and by 2022 thereby making 80% of imports from the European Union into Zimbabwe have to be duty free (ZimTrade, 2010: Mzumara, 2012). Zimbabwe has taken steps by negotiating a protective package of its key products which constitute 20% which will not be covered by FTA (ZimTrade, 2010: Mzumara, 2012).

Concerns have, however, been expressed whether EPA would be beneficial for the ACP countries on grounds of several reasons. Firstly, since the ACP countries were already enjoying trade preferences to the EU, reciprocal arrangements under the EPA could imply surges in EU exports into the region triggering adjustment costs for a range of local industries. Many ACP members are also critically dependent on trade taxes for government revenues. Since 'reciprocity' is intended to be a feature of an EPA, requiring ACP countries to remove their tariffs on 'substantially all imports from the EU, the new arrangement could result in considerable loss in government revenues in the absence of any new fiscal measure thereby jeopardizing the provisioning some critical public services (Raihan et.al, 2007).

Secondly, an important issue in the on-going EPA negotiations is the need for addressing the concerns of the least developed countries (LDCs). There are concerns that EPA outcomes would reduce the current preferences enjoyed by these countries on the one hand, and result in their reciprocating with trade preferences to EU suppliers on the other. At present under the Everything But Arms(EBA) arrangement all LDCs are eligible to duty-free quota-free market access to EU market without needing them to reciprocate. Therefore, if, under the EPA, the participating countries are required to reciprocate, in terms of market access, LDCs will likely to be better-off with the existing mechanism of EBA, since Commission negotiators have not confirmed that the EPA will provide at least the benefits of EBA. That is why some suggest that additional benefits must be provided to make EPAs attractive to LDCs. The issue of additional incentives is often linked to the demand for introducing the development dimensions into the EPAs, which would be beneficial to LDC and non-LDC participating members. Furthermore, there are concerns about the impact of EPA on the currently existing regional integration schemes, particularly in Africa. Both parties negotiating EPAs – the EU and the ACP – appear to agree that regional integration in ACP is desirable. Currently, the ACP countries give a lot of emphasis on their regional schemes as these are sometimes viewed as 'stepping stones' towards a successful global integration process. The negotiating arrangements and views subscribed by the EU negotiators seem to suggest that EPA outcomes

are being foreseen as beneficial to internal trade amongst the African countries within the regional trading blocs. However, there are concerns about EPA's impact on regional trade (Raihan et.al, 2007).

It is of paramount importance to assess the economic impacts of the trade liberalization aspects of the proposed EPAs between the EU and ACP countries. While a number of issues make the task of impact assessment of any kind of partnership arrangement very complicated, a quantitative assessment of the likely implications of EPAs establishing FTAs between the EU and the ACP countries would be very useful (Raihan et.al, 2007).

The objective of this paper is to investigate whether the European Union has any comparative advantage or whether under the ACP-EU EPAs the African, Caribbean Group of States will replace efficient producers in favour of the inefficient European Union resulting in a trade diversion.

Background

The European Union (EU) was founded by six nations i.e Belgium, France, Germany, Italy, Luxembourg, and the Netherlands in the initial treaty. The precursor to the EU was established after World War II in the late 1940s in an effort to unite the countries of Europe and end the period of wars between neighboring countries. These nations began to officially unite in 1949 with the Council of Europe. In 1950 the creation of the European Coal and Steel Community expanded the cooperation. During the 1950s, the Cold War, protests, and divisions between Eastern and Western Europe showed the need for further European unification. In order to do this, the Treaty of Rome was signed on March 25, 1957, thus creating the European Economic Community (EEC) or 'Common Market and allowing people and products to move throughout Europe. Throughout the decades additional countries joined the community (European Union, 2013).

In order to further unify Europe, the Single European Act was signed in 1987 with the aim of eventually creating a "single market" for trade. Europe was further unified in 1989 with the elimination of the boundary between Eastern and Western Europe - the Berlin Wall. Throughout the 1990s, the "single market" idea allowed easier trade, more citizen interaction on issues such as the environment and security, and easier travel through the different countries (European Union, 2013).

Even though the countries of Europe had various treaties in place prior to the early 1990s, this time is generally recognized as the period when the modern day European Union arose due to the Treaty of Maastricht on European Union which was signed on February 7, 1992 and put into action on November 1, 1993 (European Union, 2013).

The Treaty of Maastricht identified five goals designed to unify Europe in more ways than just economically. The goals are to strengthen the democratic governing of participating nations; improve the efficiency of the nations; establish an economic and financial unification; develop the "Community social dimension" and to establish a security policy for involved nations (European Union, 2013).

In order to reach these goals, the Treaty of Maastricht has various policies dealing with issues such as industry, education, and youth. In addition, the Treaty put a single European currency, the euro (€), in the works to establish fiscal unification in 1999. In 2004 and 2007, the EU expanded, bringing the total number of member states as of 2008 to 27. The following are the EU member states and year of joining the trading bloc:- Austria (1995), Belgium (1952), Bulgaria (2007), Cyprus (2004), Czech Republic (2004), Denmark(1973),

Estonia (2004), Finland (1995), France (1952), Germany (1952), Greece (1981), Hungary (2004), Ireland (1973), Italy (1952), Latvia (2004), Lithuania(2004), Luxembourg (1952), Malta (2004), Netherlands (1952), Poland (2004), Portugal (1986), Romania (2007), Slovakia (2004), Slovenia (2004), Spain (1986), Sweden (1995) and United Kingdom (1973). On the road to EU membership is the acceding country Croatia. Candidate countries are Iceland, Montenegro, Serbia, the former Yugoslav Republic of Macedonia and Turkey. Potential candidate member states are Albania, Bosnia and Herzegovina and Kosovo (European Union, 2013).

In December 2007, all of the member nations signed the Treaty of Lisbon in hope of making the EU more democratic and efficient to deal with climate change, national security, and sustainable development (European Union, 2013).

The EU institutional set up is made of the European Council, which brings together national and EU-level leaders. The European Council sets up the EU's broad categories. Directly elected MEPs represent European citizens in the European Parliament. The interests of the EU as a whole are promoted by the European Commission, whose members are appointed by national governments. Governments defend their own countries' national interests in the Council of the European Union. The European Council sets the EU's overall political direction, but has no powers to pass laws. There are 3 main institutions involved in EU legislation which are the European Parliament, the Council of the European Union and the European Commission. Two other institutions play vital roles are the Court of Justice which upholds the rule of the European Law and the Court of Auditors which is responsible for checking the financing of the EU activities. The EU has a number of other institutions and institutional bodies that play specialized roles. These are the European Economic and Social Committee, Committee of the Regions, European Investment Bank, European Investment Fund, European Central Bank, European Ombudsman, European Data Protection Supervisor, Publications Office, European Personnel Selection Office, European School of Administration, Specialized agencies and Decentralized Bodies and the European External Action Service (European Union, 2013).

The African, Caribbean and Pacific Group of States (ACP) is an organization created by the Georgetown Agreement in 1975 (ACP: 2013). It is composed of 79 African, Caribbean and Pacific states, with all of them, save Cuba, signatories to the Cotonou Agreement, also known as the "ACP-EC Partnership Agreement" which binds them to the European Union. There are 48 countries from Sub-Saharan Africa, 16 from the Caribbean and 15 from the Pacific. ACP countries are: Angola, Antigua and Barbuda, Belize, Cape Verde, Comoros, Bahamas, Barbados, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo (Brazzaville), Democratic Republic of Congo, Cook Islands, Cote d'Ivoire, Cuba, Djibouti, Dominica, Dominican Republic, Eritrea, Ethiopia, Fiji, Gabon, Gambia, Ghana, Grenada, Republic of Guinea, Guinea-Bissau, Equatorial Guinea, Guyana, Haiti, Jamaica, Kenya, Kiribati, Lesotho, Liberia, Madagascar, Malawi, Mali, Marshall Islands, Mauritania, Mauritius, Micronesia, Mozambique, Namibia, Nauru, Niger, Nigeria, Niue, Palau, Papua New Guinea, Rwanda, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Solomon Islands, Samoa, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Suriname, Swaziland, Tanzania, Timor Leste, Togo, Tonga, Trinidad and Tobago, Tuvalu, Uganda, Vanuatu, Zambia and Zimbabwe. The ACP countries are divided into the following groups: Caribbean, East and South Africa, Pacific, West African, Southern African, Central African and East Africa (ACP, 2013).

The ACP Group´s main objectives are: sustainable development of its Member-States and their gradual integration into the global economy, which entails making poverty reduction a matter of priority and establishing a new, fairer, and more equitable world order; coordination of the activities of the ACP Group in the framework of the implementation of ACP-EC Partnership Agreements; consolidation of unity and solidarity among ACP States, as well as understanding among their peoples; and establishment and consolidation of peace and stability in a free and democratic society (ACP, 2013).

Among the treaties signed between ACP and the EU are: the Younde Agreements, the Lome Conventions and the Cotonou Agreements. Since the establishment of the European Economic Community in 1957 and the decolonisation process, the European Union (EU), and the group of the African, Caribbean and Pacific (ACP) countries have established a privileged relationship among themselves. Under the Yaoundé agreements (1963-1969; and 1969-1975), and four successive Lomé Conventions (1975-2000), such a relationship has been further fostered. Under these agreements, the EU has granted, on a non-reciprocal basis, a preferential market access to ACP imports (almost free market access on most of the imports into EU from ACP countries). This has also been accompanied by a substantial development (aid) component. In 2000, with the signing of the Cotonou Agreement – the successor to Lomé IV Convention – the ACP countries (six ACP regions: Central Africa, East and Southern Africa, Southern Africa, West Africa, the Caribbean and the Pacific) and the EU agreed to enter into a new phase of negotiations, namely economic partnership agreements (EPAs). EPAs are envisaged to establish free trade agreements (FTAs) between the EU and ACP regions. This will create a free trade area (ACP, 2013). Organizations such as the European Free Trade Association (EFTA) from the beginning of 1990s has come up with an extensive network of agreements on Free Trade around the globe (EFTA, 2013). This shows how popular such agreements have become.

Free Trade Area

Free Trade Area refers to a group of countries which do invoke little or without any price control for example tariffs or quantitative restrictions between each other. Free trade area enables the contracting countries to focus on their competitive advantage and to trade without any hindrance for the products they do not have capability to produce. It increases profitability as well as efficiency (Investopedia, 2013). Free Trade Areas are established through Free Trade Agreements. They are known for providing an avenue of opening up international markets. They also reduce trade restrictions. The reduction of trade restriction and the establishment of relatively stable open trading and investment condition makes it possible for one country to export to other countries it has Free Trade Agreement with (International Trade Administration, 2013). According to Krueger (1995) a Free Trade Agreement is a Preferential where tariff rates between members are zero even though tariffs against third parties may be at different levels. Further Free Trade Agreements are not capable to provide more gains than are reachable under a customs union. At the same time, there is nothing in theory that neighboring countries are in a better position to gain than preferential arrangements with non-neighbors. That means trade creation and trade diversion are not based on geographical proximity. Comparative advantage plays a major role to whether such free trade agreements would lead to trade creation or trade diversion.

Comparative Advantage

According to Bender and Li (2002) and Mzumara et al (2012) the classical theory of comparative advantage

focuses on the fact that gains from exchange increase welfare, further trade without barriers leads to a prosperous global economy. Different theories give different sources of comparative advantage. The Ricardian theory states that comparative advantage originates from the differences in costs as well as technological achievements. The Heckscher-Ohlin-Samuelson theory focuses on factor prices differential. The Neo-Factor-Proportion theory attributes comparative advantage on efficiency of the factors of production. The technology gap and product cycle theory attributes comparative advantage to originate from technological innovations.

In Heckscher-Ohlin theorem the source of comparative advantage is factor endowment (Widgren, 2005). Mzumara (2006) goes further that the Heckscher-Ohlin theorem the source of the comparative advantage is the differences in international costs arising from factor endowments. Khatibi (2008) introduces a very independent idea that the sources of comparative advantage arise from factor scarcity.

The comparative advantage attained by individual countries leads to specialization. A country with an abundant factor say capital will produce and export goods which use capital most intensively at the same time it will import goods which use its scarce factor less intensively (Mzumara, 2006). Comparative advantage is sometimes used synonymously with competitive advantage.

Competitiveness

The President's Commission on Industrial Competitiveness (1985) defines the competitiveness as a degree to which a country under free and fair market environment produces products and services that conform the standards of international markets while at the same time retaining and broadening the real incomes of its people.

The concept of competitiveness involves many factors which influence a particular nation's macroeconomics performance. These include productivity and technological innovations. These in turn are influenced by investment in human and physical capital, and on institutional and structural policy conditions. Competitiveness is essential for a country's/region's performance in the tradeable sector (Durand et al. 1992). According to Fanelli and Medhara (2002) competitiveness of a particular nation is determined by both the price and non-price attributes. In order to improve price competitiveness, devaluation may be an answer in the short term. However, the non-price competitiveness can be induced in sectors or industries by improving productivity.

According to Porter (1990) competiveness is measured by two sets of indicators namely: the significant presence and sustained exports to many other countries and substantial outbound foreign investment based on human skills and asset accumulation in the home country. The Bank of England (1982) has suggested that competiveness, specifically in the manufacturing sector can be measured in terms of relative export prices, productivity and unit labour cost. Of the three indicators as a measure, unit labour cost is mostly used (Fagerberg, 1988). The measurement of a country's or region's competiveness will be affected by the location and the structure of the markets for which is computed. There are a number of approaches that may be used based on a particular objective the indicator can be used. There are three options available namely: each country's export markets, domestic market or both (Durand et al., 1992). The focus then is to measure comparative advantage or competitiveness.

Methodology

The paper has used (Balassa, 1965) Revealed Comparative Advantage (RCA) as below:

$$RCA = \left(\frac{X_{i,j}}{X_{W,j}} \right) / \left(\frac{X_{i,tot}}{X_{W,tot}} \right)$$

With:

$X_{i,j}$ denoting country *i*'s exports of product *j*;

$X_{i,tot}$ denoting country *i*'s total exports;

$X_{w,j}$ denoting the world's (all countries) export of product *j*; and

$X_{w,tot}$ denoting total exports in the world.

It was first used by Balassa (1965) and by Krugell and Matthee (2009) in their study that measured the export capability of South African regions. Mzumara (2011) has used the technique to measure performance of Mozambique. The method has been found to be reliable in identifying goods with export potential. The method is further justified as Wu and Chen (2004) put it that in a dynamic competitive market economy, comparative advantage as revealed in export composition, is consistent with comparative advantage based on the country's economy factor endowment, and evolves along with economic development. It reveals products a country may have comparative advantage in.

An RCA of equal and greater than 1 demonstrates that the country has Revealed Comparative Advantage. In other words, the exporting country is relatively specialized in producing and exporting the product line under consideration. An RCA of less than 1 demonstrates that the country has no Revealed Comparative Advantage and is not specialized in the product line (Balassa, 1965; Krugell & Matthee, 2009). The index can be used to represent both the relative competitiveness of the same product in various countries and the relative competitiveness of various products within the same country (Wu and Chen, 2004).

Exports data for the 27 European member states was obtained from International Trade Centre (ITC)'s Trademap. The world export data was also obtained from the same source. The paper has used the more acceptable international product classification based on 6-digit level. The data used is for 2008, 2009 and 2010. This was done so because in some countries data after 2010 is not yet available. Most of the countries have data up to 2010. This has impact on the total world export used to compute RCA. RCA was computed for each member state of the European Union for 2008, 2009 and 2010 and then their average was computed.

Results and Discussion

It was not possible to tabulate all the results due to the large number of the countries and the product lines involved. Only top ten product lines of each member states were tabulated.

Italy was found to have RCA≥1 in 2108 product lines. Italy is specialized and has comparative advantage in the production of 2108 product lines. Table 1 shows the top ten product lines in which Italy has comparative advantage.

Table 1: Top ten product lines in which Italy has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
200210	Tomatoes, whole/pieces, prepared/preserved, no vinega	22.23883	22.82893	24.82394	23.29723
620429	Women's, girls' ensembles, material, not knit	21.55465	21.82019	24.83486	22.73657
620421	Women's, girls' ensembles, of wool or hair, not knit	21.84356	20.53322	23.28383	21.88687
411420	Patent leather & patent laminated leather, metalized leather	18.29121	17.99923	19.66468	18.65171
845310	Machinery to prepare, tan, work hides, skins, leather	17.33318	18.26275	19.61972	18.40522
551634	Wooven fabric <85% artificial staple + wool or hair, yarn dye	16.21397	19.11381	19.68516	18.33765
190219	Uncooked pasta, not stuffed or prepared without eggs	18.33404	17.95002	18.65171	18.31192
844711	Circular knitting machines diameter <165mm	16.54017	18.32292	19.69602	18.18637
847681	Automatic vending machine	18.78653	17.52429	17.94831	18.08637
220900	Vinegar and substitutes for vinegar from acetic acid	16.08839	16.00664	18.18156	16.75886

Source: Computed using the data from Trademap (2013).

Tomatoes in table 1 have the highest RCA index of 23.3 followed by women's and girls' ensembles material not knit with an index of 22.7. The third position is occupied by women's and girls' ensembles, of wool or hair with an index of 21.9. Italy has the highest number of the product lines with comparative advantage in the whole of the European Union.

Of the 5403 product lines examined and computed, Germany was found to have 1870 product lines with RCA≥1. These product lines in which Germany has comparative advantage are more than the 1791 in which the United States has a comparative advantage in (Mzumara et al., 2012). Table 2 shows the top ten product lines in which Germany has comparative advantage.

Table 2: Top ten product lines in which Germany has comparative advantage

Product code	Product description	RCA 2008	RCA 2009	RCA 2010	Average RCA
253020	Kieserite epsomite (natural magnesium sulphites)	9.491414	9.708792	9.03843	9.412879
293999	Vegetable alkaloids/reproduced by synthesis and their salt	9.830156	9.28535	8.137414	9.084306
281390	Sulphides of non-	8.67463	7.504903	6.71852	7.631795

	metals except carbon disulphide				
090112	Coffee, not roasted, not decaffeinated	7.593446	7.469328	7.631681	7.564819
270220	Lignite, agglomerated	6.866057	7.220362	8.436483	7.507634
901110	Stereoscopic, microscopes	7.028161	7.381396	8.067828	7.492462
470691	Mechanical pulps of other fibrous material	7.529899	7.61756	6.671507	7.272988
843840	Brewery machinery	7.166328	7.741183	6.645797	7.184436
860110	Railway locomotives, externally electrically powered	8.766326	6.973847	5.553096	7.097756
903220	Manostats	6.685181	7.056466	7.045912	6.929183

Source: Computed from data obtained from Trademap (2013).

Kieserite epsomite in table 2 has the highest RCA index of 9.4. It is followed by vegetable alkaloids with an index of 9.1. The third position is occupied by sulphides with an index of 7.6. Germany occupies the second position after Italy with the highest number of product lines having comparative advantage.

Spain was found to have 1752 product lines in which it has RCA≥1. This means that Spain is specialized in the production of such products in the 1752 product lines in which it has revealed comparative advantage. Table 3 below shows top ten product lines in which Spain has comparative advantage.

Table 3: Top ten product lines in which Spain has comparative advantage

Product code	Product description	RCA 2008	RCA2009	RCA2010	Average RCA
450200	Natural cork debacked, roughly squared in blocks	41.1728	32.30869	36.51095	36.64897
450110	Natural cork, raw or imply prepared	32.86722	31.81701	39.10675	34.59699
680300	Worked slate, articles of slate or agglomerated	29.85534	28.08853	29.80558	29.24982

	slate				
150990	Olive oil, fractions, refined not chemically modified	27.54621	24.91471	29.1707	27.21054
080520	Mandarin, clementine & citrus hybridsn fresh or dried	30.35678	26.0556	24.94275	27.11838
200570	Olives, prepared or preserved, not frozen/vinegar	27.36566	26.01536	27.69395	27.02499
070511	Cabbage lettuce (head lettuce) fresh or chilled	25.45845	26.26808	29.34734	27.02462
010631	Live birds of prey	26.68141	25.17766	26.73085	26.19664
521151	Plain weave cotton, <85% + manmade fibre, >200g	23.41079	22.7637	31.51825	25.89758
150910	Olive oil, virgin	24.90994	23.90933	28.20684	25.67537

Source: Computed using the data obtained from Trademap (2013).

Natural cork debacked in table 3 has the highest RCA index of 36.6 followed by natural cork, raw with a index of 34.6. The third position is occupied by worked slate with an index of 29.2. Spain is the third in the group with highest number of product lines it has comparative advantage in.

5403 product lines were examined and computed for RCA and France was found to have an RCA≥1 in 1733 product lines. This means that France has comparative advantage in the production of 1733 product lines. This is higher than the combined product lines in which Canada (814) and Mexico (749) have comparative advantage in (Mzumara et al., 2012). Table 4 shows the top ten product lines in which France has comparative advantage.

Table 4: Top ten product lines in which France has comparative advantage

Product code	Product description	RCA 2008	RCA 2009	RCA 2010	Average RCA
844811	Dobbies, jacquards,etc for spinning machines & looms	18.76703	18.57238	22.43992	19.92644
480610	Paper, vegetable parchment	19.47917	20.56369	20.56369	19.91752
291431	Phenylacetone (phenylpro)	20.33803	14.50113	24.05478	19.63131
880260	Spacecraft	15.88532	17.09348	21.06218	18.01366
441600	Wooden casks, barrels, vats, tubs,etc	17.80774	16.64858	18.09814	17.51816
020735	Poultry cuts & offal frozen	18.71594	16.54036	16.54911	17.26847
010519	Poultry live except domestic fowl<185 grams	15.97301	16.62277	16.30696	16.30091
220410	Grape wines, sparkling	15.96879	15.5762	17.10137	16.21556
530129	Flax fibre, otherwise processed but not spun	15.39865	15.15468	16.79537	15.7829
220820	Spirits obtained by stilling grape wine, grape marc	14.36805	14.17399	16.51687	15.01964

Source: Computed using the data obtained from Trademap (2013).

Dobbies and jacquards in table 4 have the highest index of 19.92 followed by paper and vegetable parchment with an index of 19.91. The third position is occupied by phenylacetone with an index of 19.63. France occupies the fourth position in the European Union of being competitive.

Denmark was found to have RCA≥1 in1688 product lines signifying comparative advantage in such product lines. It also signifies specialization in such product lines. Table 5 shows the top ten product lines in which Denmark has a comparative advantage.

Table 5: Top ten product lines in which Denmark has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
230890	Vegetable wastes and residues for animal feed	1673204	0	0	557734.7
010593	Fowls, domestic, live	1197044	0	0	399014.7
420690	Articles of gut, gold beater skin, bladder tendons	810849.2	0	0	270283.1
151410	Canola, rape, colza or mustard oil crude	547315.5	0	0	182438.5
130214	Pyrethrum, roots containing rotenone, extract	511552.8	0	0	170517.6
410130	Bovine hides, raw	493047.7	0	0	164349.2
010119	Horses, live except pure-breed breeding	328269.9	0	0	109423.3
481012	Paper, fine wood free, >150g/m² clay coated	265860.9	0	0	88620.31
050300	Horse hair, waste	145990.7	0	0	48663.55
262100	Slag and ash including sea weed ash	107448.8	0	0	35816.27

Source: Computed using data obtained from Trademap (2013).

Vegetable wastes in table 5 have the highest index of 557734.7 followed by fowls with index of 399014.7. The third position is occupied by articles of gut and gold beater skin with index of 270283.1. Denmark has very high indices signifying that it is the major producer and exporter of the product lines. It is highly specialized. In terms of the numbers of the product lines in which it has comparative advantage, it is ranked fifth.

The United Kingdom was found to have RCA≥1 in 1447 products lines in which it has revealed comparative in out of 5403 products examined and the RCAs were computed. The results shows the United Kingdom is specialized in the production of 1447 product lines. Table 6 shows top ten product lines in which the United Kingdom has comparative advantage.

Table 6: Top ten product lines in which the United Kingdom has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
220850	Gin and Geneva	27.92955	28.01432	27.72967	27.89118
300340	Alkaloids, derivs, without antibiotics, hormones	23.16063	26.82036	27.58455	25.85518
220830	Whiskies	22.74665	22.35857	22.02121	22.37547
721891	Semifinished rect crosss	23.57886	17.98477	23.44357	21.66907
020410	Lamb carcasses and half carcases fresh or chilled	18.11162	17.755548	17.04652	17.63787
490191	Dictionaries and encyclopedias	12.67883	14.6325	17.93452	15.08195
010110	Live horses/asses/mules/hinnies: pure-bred breeding animals	17.00638	15.18328	12.86581	15.01849
551442	Wooven t will>85% polyster>170g/m^2	15.56077	13.16775	14.95299	14.5605
940110	Seats, aircraft	11.73174	14.10632	17.51938	14.45248
510330	Waste of course animal hair except garneted stock	1.82957	16.10921	25.39122	14.44333

Source: Computed using the data obtained from Trademap(2013).

Gin and geneva in table 6 have the highest index of 27.9 followed by alkaloids with an index of 25.9. The third position is occupied by whiskies with an index of 22.4. The United Kingdom occupies the sixth position in the European Union in having comparative advantage.

Belgium was found to have RCA≥1 in 1422 product lines in which has comparative advantage. Table 7 shows top ten product lines in which Belgium has comparative advantage.

Table 7: Top ten product lines in which the Belgium has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
230620	Linseed oil-cake and other solid residue	19.68027	24.03164	25.96821	23.22671
251820	Calcined dolomite	22.87826	22.767697	22.7774	22.81088
110820	Insulin	20.04367	21.84392	22.54487	21.47728
292145	Naphthylamines, derivatives, salts thereof	16.95352	24.3202	20.00628	20.42667
270720	Toluole	18.85931	17.82139	20.77506	18.87881
290260	Ethylbenzene	20.85931	16.53951	18.07822	18.49235
251720	Macadam of slag, dross or similar industrial waste	21.43415	18.43121	14.04828	17.97121
370250	Photographic film in rolls, colours, width >35mm	16.35306	20.01533	16.86625	17.74488
151511	Linseed oil-crude	18.46363	16.33324	17.03827	17.27838
370295	Photographic film rolls, of width <=35mm	15.13077	16.41372	16.4331	16.42439

Source: Computed using data obtained from Trademap (2013).

Linseed oil-cake and other solid residue in table 7 have the highest index of 23.2 followed by calcined with an index of 22.8. Then it is followed by insulin with an index of 21.5. Belgium in the European Union is ranked number seventh in terms of comparative advantage

Cyprus was found to have RCA≥1 in 1406 product lines. This means that Cyprus is specialized and has comparative advantage in the production of such product lines. Table 8 shows top ten product lines in which Cyprus has comparative advantage.

Table 8: Top ten product lines in which Cyprus has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
620329	Men's, boys' ensembles, of material, not knit	5175.742	7090.406	14635.77	8967.306
750711	Tubes and pipe, nickel, not alloyed	4082.964	9742.17	12734.4	8853.177
620411	Women's, girls' suits, of wool or hair, not knit	4984.244	6845.929	11599.09	7809.755
911110	Watch cases of, or clad with, precious metal	3753.906	9939.16	9618.236	7770.434
840731	Engines, spark-ignition reciprocating,<50cc	3983.138	8496.877	10066.92	7515.644
845310	Machinery to prepare tan, work hides, skins, leather	5481.116	8568.636	6209738	6753.164
847681	Automatic vending machine	5940.695	6818.317	6341.945	6366.986
600523	Warp knit fabrics including those made on galloon knitting machines	4583.328	6613.328	7519.786	6238.814
640359	Footwear outer soles and uppers of leather	5130.346	6343.799	6395.527	5956.557
551522	Wooven fabric acrylics + wool or hair	5111.172	6090.8	6313.501	5838.491

Source: Computed using data obtained from Trademap (2013)

Men's and boy's ensembles in table 8 have the highest index of 8967.3 followed by tubes and pipes with an index of 8853.2. Women's and girls' suits follow with an index of 7809.8. Cyprus like Denmark have very high index. It occupies the eighth position in terms of competitiveness.

Austria was found to have RCA≥1 in 1351 product lines signifying that it has comparative advantage and is specialized in the production of such products. Table 9 shows top ten product lines in which Austria has comparative advantage.

Table 9: Top ten product lines in which the United Kingdom has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
842860	Teleferiques, chair-ifts, ski-ifts	49.89649	51.4014	50.44339	50.58043
811222	Chromium waste & scrap	35.06935	39.66254	58.11381	44.2819
681490	Worked mica and articles of mica except sheet mica	40.09386	38.91977	44.36944	41.12769
860400	Railway maintenance-of-way service vehicles	38.39727	39.01036	35.75536	37.721
441840	Shuttering for concrete construction work, of wood	36.87623	29.6218	35.87872	34.12559
860711	Railway & tramway driving bogies & bissel-bogies	22.73081	35.73343	42.42489	33.62971
841630	Mechanical stockers, grates, ash discharge	33.40381	32.63301	33.58872	33.20851
950611	Snow-skis and parts	27.96967	32.22376	32.87593	31.02312
750521	Wire, nickel, not alloyed	31.32749	28.21227	31.24268	30.26081
251741	Marble granules, chipping and powder	30.17414	26.42488	32.26218	29.6204

Source: Computed using data obtained from Trademap (2013).

Teleferiques, chair-ifs and ski-ifts in table 9 have the highest index of 50.6 followed by chromium waste and scrap with an index of 44.3. Worked mica and articles of mica have an index of 41.1. Austria occupies number nine in regard to comparative advantage.

Poland was found to have RCA≥1 in 1206 product lines signifying the country is specialized in the production of such products. Table 10 shows the top ten product lines in which Poland has comparative advantage.

Table 10: Top ten product lines in which the Poland has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
030541	Salmon, smoked, including fillets	37.69709	36.53419	42.55635	38.92921
940140	Seats convertible into beds	34.89004	32.36913	32.87898	33.37938
410692	Tanned/crust hides & skins without wool/hair on, in the wet state	15.224	27.39176	52.5756	31.73045
855121	Drying machines, capacity <10kg, except washer-drier	26.03179	32.40884	32.94284	30.46116
071151	Mushrooms of the gems agarious provisionally preserved	32.3255	27.58529	25.80336	28.57138
821220	Safety razor blades including blanks in strips	30.17248	23.48251	25.82789	26.49429
382520	Sewage sludge	7.984	39.55863	30.1378	25.85214
070951	Mushrooms fresh or chilled	24.93329	23.82468	28.04639	25.60145
160412	Herrings prepared or preserved, not minced	26.09794	22.77672	24.15299	24.34255
740312	Wire bars,	38.24956	10.13544	24.26726	24.21742

	copper, unwrought				

Source: Computed using data obtained from Trademap (2013).

Salmon smoked in table 10 has the highest index of 38.9 followed by seats convertible into beds with an index of 33.4. Tanned/crust hides have an index of 31.7. Poland is ranked the tenth in terms of comparative advantage.

Netherlands was found to have 1191 product lines with RCA ≥1. This demonstrates that Netherlands is specialized in production of such products. Table 11 shows the top ten product lines in which Netherlands has comparative advantage.

Table 11: Top ten product lines in which Netherlands has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
890610	Warships	24.07875	25.96004	143.1893	64.40937
060110	Bulbs, tubers, corm, crowns and rhizomes	24.17764	23.39112	24.54963	24.03946
570410	Tiles of felt of textile materials>0.3m²	17.79985	19.40037	18.20741	18.46921
110510	Potato flour or meal	19.14338	18.11093	17.52916	18.26116
060120	Bulbs, tubers, corms, crown etc in growth, chicory plant	18.41746	17.36064	17.04843	17.60884
290270	Cumene	18.82666	15.16943	16.23592	16.74401
843410	Milking machines	16.32485	17.07417	15.25992	16.21965
070110	Potatoes seed, fresh or chilled	14.72396	15.0595	17.56241	15.78195
840120	Machinery & apparatus for isotopic separation & parts	17.70467	12.92245	13.51331	14.71348
060290	Plants live, mushroom	14.06311	14.26389	14.85383	14.39361

Source: Computed using data obtained from Trademap (2013).

Warships in table 11 have the highest index of 64.4 followed by bulbs, tubes corm, crowns and rhizomes with an index of 24. The third position is tiles with an index of 18. Warships are goods of very high value. Netherlands occupies the eleventh position in terms of competiveness.

Portugal was found to have RCA≥1 in 1170 product lines. This means that Portugal is specialized in the production of 1170 product lines. Table 12 shows top ten product lines in which Portugal has comparative advantage.

Table 12: Top ten product lines in which Portugal has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
450310	Corks and stoppers, natural cork	206.8034	201.6818	210.0981	206.1944
450410	Blocks, sheets strip and tiles of agglomerated cork	175.0467	180.0313	190.803	181.9603
450190	Waste cork, crushed, granulated or ground	135.3498	137.1308	155.8064	142.7623
450490	Articles of agglomerated cork	94.02645	97.50381	92.58923	94.7065
650100	Hat-forms, etc of felt, not shaped, not formed brim	88.13006	88.39017	93.83905	90.11976
430390	Articles of furskin except clothing and accessories	56.97911	92.61313	91.28992	80.29405
550700	Artificial staple fibres, carded or combed, not spun	76.91773	56.89212	106.1166	79.97547
450110	Natural cork, raw or simply prepared	96.70751	81.58109	58.58869	78.9591
470429	Chem wood pulp	77.16944	61.5504	85.90686	74.91044

	sulphite, non-coniferous, bleached				
450200	Natural cork debacked, roughly squared	50.99024	78.09421	77.50241	68.86228

Source: Computed using data obtained from Trademap (2013).

Corks and stoppers in table 12 have the highest index of 206.2. They are followed by blocks, sheets strip and tiles with an index of 181.96. The third one is waste cork with an index of142.8. Portugal occupies the twelfth position in terms of possessing comparative advantage.

Czech Republic was found to have RCA≥1 in 1131 product lines. This demonstrates that Czech Republic has comparative advantage in those product lines and is specialized in them. Table 13 shows the top ten product lines in which Czech Republic has comparative advantage.

Table 13: Top ten product lines in which Czech Republic has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
470693	Semi-chemical pulps of other fibrous material	49.50166	77.09699	83.82088	70.13984
121140	Poppy straw	77.96258	64.89723	64.89723	69.17336
030193	Carp, live	60.24878	60.16292	55.59163	58.66778
540310	Hi-ten yarn not sewing, viscose, rayon not retail	45.8031	52.56699	45.65618	48.00876
293961	Ergotamine	51.192221	35.82916	53.14754	46.72297
700232	Tubes of low expansion glass (pyrex)	42.41053	41.85266	33.67747	39.31356
470421	Chem wood pulp, sulphite, coniferous bleached	37.16808	43.98967	36.7042	39.28732
701810	Ornamental glass beads, pearls, stones worked	35.66134	36.43554	37.15389	36.41693

	items				
120791	Poppy seeds	38.93223	30.13586	28.20773	32.42527
293962	Ergotamine	33.30875	28.77918	34.65563	32.24885

Source: Computed using data from Trademap (2013).

Semi-chemical pulps in table 13 have the highest index of 70.1 followed by poppy straw with index of 69.2. The third product line is Hi-ten yarn with an index of 48. In terms of comparative advantage Czech Republic is ranked number ten.

Sweden was found to have RCA≥1 in 1050 product lines. This indicates that Sweden has a comparative advantage in the production of such products. Table 14 shows top ten product lines in which Sweden has comparative advantage.

Table 14: Top ten product lines in which Sweden has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
293341	Levorphanol (INN) & its salts	0	79.83351	84.23282	54.68878
722710	Bar/rod, of high speed steel, irregular coils	52.95897	51.0963	55.16082	53.07203
293711	Samatotropin, its derivs. & structural analogues	39.8519	50.63507	39.36344	43.28347
480459	Paper, kraft, >225g/m², uncoated	46.11571	36.79935	25.82364	36.24623
292512	Glutethimide (INN)	0	82.15157	21.9826	34.71139
480449	Paper, Kraft, 150-225 g/m², uncoated	33.59878	47.62133	22.6983	34.63947
722620	Flat rolled high speed steel <600 mm wide	33.81556	32.2283	35.20539	33.74793
840110	Nuclear reactors	5.174027	15.19925	76.46278	32.27869
480429	Paper, sack kraft, other than unbleached, uncoated	26.4996	36.43427	32.05888	31.66425
480419	Paper, kraft liner,	27.43312	32.42319	31.6495	30.50194

	other than unbleached, uncoated				

Source: Computed using data obtained from Trademap (2013).

Lavorphanol in table 14 has the highest index of 54.7 followed by bar/rod of high speed steel with an index of 43.3. Sweden is the fourteenth in terms of competiveness within the European Union.

Bulgaria was found to have RCA≥1 in 977 product lines. It demonstrates that Bulgaria has comparative advantage in such products. Table 15 shows the top ten product lines in which Bulgaria has comparative advantage.

Table 15: Top ten product lines in which Bulgaria has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average
081210	Cherries provisionally preserved	194.3424	138.6576	133.4936	155.4979
090920	Coriander seeds	161.271	152.9024	120.4933	144.8889
811213	Beryllium	0	0	403.7953	134.5984
120600	Sunflower seeds	91.88754	112.649	93.62047	99.38567
510400	Garnetted stock of wool or animal hair	137.5724	78.45328	52.0339	89.35301
120590	Rape/colza seeds whether or not broken	42.99245	59.77382	149.0717	83.94598
740200	Unrefined copper, copper annodes, electrolytic refining	126.4806	81.35395	27.64909	78.49453
020736	Poultry cuts & offal, frozen	67.71415	85.91842	75.85868	76.49708
020735	Poultry cuts & offal, fresh	67.01328	79.40542	81.17698	75.86523
200860	Cherries, otherwise prepared or	52.94	78.00305	95.75069	75.56458

	preserved				

Source: Computed using the data obtained from Trademap (2013).

Cherries in table 15 have the highest index of 155.5 followed by coriander seeds with an index of 144. The third position is occupied by beryllium with an index of 134.6. Bulgaria ranks fifteenth in terms of comparative advantage.

Estonia was found to have 916 product lines with RCA≥1 an indicative of possession of comparative advantage. Table 16 shows the top ten product lines in which Estonia has comparative advantage.

Table 16: Top ten product lines in which Estonia has comparative advantage

Product code	**Product description**	**2008 RCA**	**2009 RCA**	**2010RCA**	**Average RCA**
291631	Benzoic acid, its salts & esters	207.1507	194.8379	173.3592	191.7826
470100	Mechanical wood pulp	179.1115	167.9946	219.1498	188.752
810330	Tentalum waste & scrap	84.68933	371.6793	46.95673	167.7751
820560	Blow lamps	180.691	63.67657	57.82421	100.7306
151499	Rape/colza oil (excluding low erucic oil) mustard oil other than crude	44.60602	64.52403	95.03193	68.05399
440410	Poles, piles etc, coniferous, pointed but not sawn	68.53613	60.2204	72.2615	67.00601
270300	Peat (including peat litter)	81.17389	38.29951	79.4258	66.29974
030371	Sardines, brisling, sprats, frozen, whole	60.9575	62.43745	55.55296	59.64931
270820	Pitch coke	50.41432	53.3543	62.41365	58.72742
950790	Fishing and hunting equipment and requisites	52.41804	55.91268	52.00328	55.44467

Source: Computed using data obtained from Trademap (2013).

Benzoic in table 16 have the highest index of 191.8 followed by mechanical wood pulp with an index of 188.8. The third position is occupied by tentalum waste and scrap with an index of 167.8 Estonia is the sixteenth in terms of comparative advantage in the European Union.

Greece was found to have RCA≥1 in 953 product lines. This indicates that Greece is specialized and has comparative advantage in the production of the 953 product lines. Table 17 shows top ten product lines in which Greece has comparative advantage.

Table 17: Top ten product lines in which Greece has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
200870	Peaches, otherwise prepared or preserved	216.9802	209.8153	229.0071	218.6009
120720	Cotton seeds	179.2466	143.2369	152.9529	158.4788
430220	Tanned or dressed furskin pieces (hecids, tails, paws)	129.2321	106.7922	119.112	118.3788
720690	Iron or non-alloy steel, primary <99.9% iron	129.2321	106.7922	119.112	118.3788
253010	Vermiculite, perlite and chlorites, unexpanded	118.1386	118.8772	102.9344	113.3168
030269	Fish, fresh or chilled, whole	96.47687	103.9097	122.042	107.4762
200570	Olives, prepared or preserved, not frozen/vinegar	93.21918	87.98299	111.8622	97.68811
560129	Wadding, products, material, not sanitary items	64.27073	84.98196	142.5868	97.27985
071120	Olives	91.70304	93.03864	103.0292	95.92363

	provisionally preserved				
401011	Conveyor belt metal rein	108.5963	91.76319	87.2495	95.86965

Source: Computed using data obtained from Trademap (2013).

Peaches in table 17 have the highest index of 218.6, followed by cotton seeds then furskin with an index of 118.4. Greece occupies the seventeenth position in comparative advantage.

Romania was found to have RCA≥1 in 936 product lines. This demonstrates that the country has comparative advantage and is specialized in the production of such goods. Table 18 shows top ten products in which Romania has comparative advantage.

Table 18: Top ten product lines in which Romania has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
930320	Shotguns, shotgun-rifles for sport, hunting or target	156.0255	173.0305	164.3092	164.4551
930510	Parts and accessories of revolvers or pistols	82.86764	79.21541	96.03101	86.03802
930310	Muzzle-loading firearms	102.1432	101.9311	48.65537	84.24322
930521	Shotgun barrels	78.36314	76.33708	84.86015	79.85346
120590	Rapelcolza seeds (excluding low erucic acid) whether or not broken	71.81361	84.53878	80.9171	79.08983
440792	Lumber, Beech (Fagus spp)	77.59169	85.29607	74.29403	79.0606
930629	Airgun pellets, parts of shotgun cartridges	73.16233	58.07881	56.87165	62.70426
930621	Cartridges	58.64265	55.84861	57.32926	57.2735

640212	Ski-boots c-c, snow board	54.21323	54.89675	51.14104	53.41701
930200	Revolvers and pistols	56.40525	45.57674	47.33125	49.77108

Source: Computed using data from Trademap (2013).

Shot guns and rifles in table 18 have the highest RCA 164.5 followed by parts and accessories of revolvers with an index of 86 then they are followed by muzzle loading fire arms with an index of 84.2. In terms of competiveness Romania is ranked eighteenth.

Latvia was found to have RCA≥1 in 915 product lines signifying the existence of comparative advantage in them. Table 19 shows the top ten product lines Latvia has comparative advantage.

Table 19: Top ten product lines in which Latvia has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
440110	Fuel wood	130.6072	198.8894	270.2904	199.929
110210	Rye	237.2406	208.012	45.23233	163.495
270300	Peat (including peat litter)	156.7707	104.6436	196.297	152.5704
370291	Photo film in rolls width <16mm, <14m long	37.8982	176.2441	215.7984	143.3136
440121	Wood in chips coniferous	149.7027	132.5186	132.8797	138.367
160413	Sardine brisling, sprat prepared/preserved not mince	130.9469	82.1218	83.90992	98.99286
440130	Sawdust, wood waste or scrap	90.89504	96.34378	92.37037	93.20306
440410	Poles piles etc, coniferous pointed but not sawn	57.29992	83.95417	116.5301	85.92807
110200	Rye	145.1131	72.42027	35.79195	84.44177
701919	Silvers, of glass fibres	78.46539	85.64149	80.80971	81.63886

Source: Computed using data obtained from Trademap (2013)

Fuel wood in table 19 has the highest index of 199.9 followed by rye with an index of 163.5. The third position is occupied by peat with an index of 152.6. Latvia is the nineteenth in terms of comparative advantage.

Slovenia was found to have RCA≥1 in 914 product lines demonstrating the country has comparative advantage and is specialized in the production of such products. Table 20 shows the top ten product lines in which Slovenia has comparative advantage.

Table 20: Top ten product lines in which Slovenia has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
121010	Hop cones, not ground powdered or pelleted	122.8468	88.55394	116.6949	109.
401695	Rubber articles, inflatable, vulcanized rubber	95.66432	74.22672	75.78966	81.89357
721921	Hot rolled stainless steel flat, w>600, t4.75-10m	52.1976	62.06011	73.24647	62.5014
841012	Hydraulic turbines water wheels, power 1000-10000 kw	65.01454	28.92514	80.14429	58.02799
841013	Hydraulic turbines, water wheels power >10000 kw	56.09813	92.14598	17.24956	55.16456
830510	Office binder/file fittings, of base metal	38.65916	52.29026	63.81911	51.58951
790500	Zinc plates, sheets, strip and foil	30.73696	64.06155	57.77832	50.85894
320190	Vegetable	51.13254	47.51099	53.259	50.63418

	tanning extracts, tannis, salts				
901820	Ultra-violet or infra-red ray apparatus	49.23012	43.57588	56.58013	49.79538
820120	Forks	47.8925	48.13745	48.91137	48.31377

Source: Computed using data from Trademap (2013).

Hop cones in table 20 have the highest index of 109 followed by rubber articles with an index of 81.9. This then is followed by hot rolled stainless steel with an index of 62.5. Slovenia is the twentieth in terms of competitiveness.

Lithuania was found to have RCA≥1 in 905 product lines. This signifies that Lithuania is specialized in the production of such products. Table 21 shows the top ten product lines in which Lithuania has comparative advantage.

Table 21: Top ten product lines in which Lithuania has comparative advantage

Product code	**Product description**	**2008 RCA**	**2009 RCA**	**2010 RCA**	**Average RCA**
310280	Urea-ammonium nitrate mixes in solution pack >10kg	140.356	124.145	75.46457	113.3219
540333	Yarn of cellulose acetate, single not retail	89.79727	118.5109	123.6549	110.6543
110811	Wheat starch	100.467	123.2804	106.0036	109.917
890790	Buoys beacons coffer-dems pantoons, floats	102.185	78.53877	55.98912	78.9107
851621	Electric storage heating radiators	49.57803	66.53108	86.75299	67.6207
630120	Blankets (non electric) & travelling rug, wool	69.62271	66.94101	57.17542	64.57971
630259	Table linen, of material, not knit	53.28306	66.4855	48.98421	56.25092

530610	Flax yarn single	53.20466	50.02642	31.92711	45.05275
160420	Fish prepared or preserved, except whole, in pieces	31.64459	47.6348	53.0718	44.11706
510610	Yarn of carded wool >85% wool, not retail	32.07947	51.8285	44.50139	42.80312

Source: Computed using data obtained from Trademap (2013)

Urea-ammonium nitrate in table 21 has the highest index of 113.3 and is followed by arn with an index of 110.7 then followed by wheat with an index 109.9. Lithuania is twenty- first in terms of comparative advantage.

Slovakia was found to have RCA≥1 in 830 product lines. This demonstrates that Slovakia has comparative advantage in the production of such product. Table 22 shows the top ten product lines in which Slovakia has comparative advantage.

Table 22: Top ten product lines in which Slovakia has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
870710	Bodies for passenger carrying vehicles	94.37865	122.6978	87.001131	101.3626
860699	Railway cars	42.94273	65.24767	82.91015	63.70018
284910	Calcium carbide	47.32488	40.34878	36.33724	41.33697
840390	Parts of central heating boiler	42.74005	39.98922	38.82683	40.5187
730539	Pipes, iron/steel, welded, diameter >406.4m	43.46269	30.81389	26.4822	33.58626
441840	Shuttering for concrete constructional work	37.36622	30.08101	34.28819	30.57948
850132	DC motors, DC generators, of any output c 37.5 watts	26.19105	31.49632	25.42981	27.70573
850120	Universal AC/DC motors of an output <37.5 watts				
722619	Flat –rlp silicon-electric	32.7931	24.11726	21.61929	26.17655
902810	Gas supply/production/calibration meters	23.59494	24.21281	29.87992	25.89589

Source: Computed using data obtained from the Trademap (2013).

Bodies for passenger carrying vehicles in table 22 have the highest index of 101.4. This followed by railways cars with an index of 63.7 then followed by calcium carbide with an index of 41.3. Slovakia is twenty-second in terms of competiveness.

Hungary was found to have RCA≥1 in 742 product lines. It demonstrates that Hungary is specialized in the production of such products. Table 23 shows top ten product lines in which Hungary has comparative advantage.

Table 23: Top ten product lines in which Hungary has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
911110	Watch cases of, or clad with, precious metal	31.5405	86.29323	81.208	66.34461
020734	Fatty livers of geese	48.80213	55.0084	56.41735	53.40929
020733	Ducks, geese, not cut, frozen	33.57595	43.11381	44.72011	40.46996
200540	Peas, prepared or preserved, not frozen/vinegar	45.64299	34.23701	35.89625	38.59208
200580	Sweet corn, prepared or preserved, not frozen/vinegar	34.39853	31.92903	32.65082	32.99279
930629	Air gun pellets, parts of shot gun cartridges	35.46025	30.2493	31.41989	32.37648
930200	Revolvers and pistols	31.74154	27.56101	30.36064	29.88773
020736	Poultry cuts & offal, frozen	29.31381	26.14816	29.67107	28.37768
200860	Cherries, otherwise prepared or preserved	29.41453	26.69591	23.55167	26.55404
930521	Shotgun barrels	24.23274	25.36703	29.91224	26.55404

Source: Computed using data from the Trademap (2013).

Watch cases in table 23 have the highest index of 66.3. This is followed by fatty livers of geese with an index of 53.4. Then this is followed by ducks and geese with an index of 40.5. Hungary is ranked twenty- third in comparative advantage in the European Union.

Finland was found to have RCA≥1 in 702 product lines in which it had revealed comparative advantage. Table 24 shows the top ten product lines in which Finland has comparative advantage.

Table 24: Top ten product lines in which Finland has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
430160	Raw for furskins, whole	110.9558	119.0676	180.5744	136.8659
843920	Machinery for making paper or paperboard	50.10386	81.99086	51.98626	61.36033
480640	Paper glassine, glazed transparent or translucent	50.03403	59.2098	70.42031	59.88805
480459	Paper, kraft >225g/m² uncoated	29.98813	53.74827	71.42894	51.72178
430130	Raw Persian and similar lamb furskins whole	58.01773	55.54761	40.454	51.33978
481013	Paper & paperboard of a kind used for writing/printing/other graphic purposes	46.31097	52.51851	53.56165	50.79704
902213	X-rays apparatus dental	44.84544	46.64789	53.01059	48.16797
481022	Light-weight coated paper, coated on one/both side with kaolin (China clay)	35.55416	47.83226	59.47682	47.62108
480452	Paper, kraft >225g/m² chemical pulp, bleached, uncoated	32.47331	47.95308	56.65569	45.69403
382313	Tall oil fatty acids	65.1628	0	62.817	42.65994

Source: Computed using the data obtained from Trademap (2013).

Furskins in table 24 have the highest index of 136.9 followed by machinery for making paper or paper board with an

Ireland was found to have RCA≥1 in 440 product lines in which it has comparative advantage. Table 25 shows the top ten products in which Ireland has comparative advantage.

Table 25: Top ten product lines in which Ireland has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
293391	Alprazolam, camazepam, chlordiazepoxide, clonazepam clorazepate, delorazep	95.16027	93.82692	108.5115	99.16624
293349	Heterocyclic, comps. Cont. in the structure a quineline/isoquinoline ring system	93.80631	81.47539	92.66951	89.31707
291819	Carboxylic acids (alcohol function only) derivatives	80.10988	69.22227	62.81119	70.7144
292111	Methylamine di-otrimethlamine, salts	77.58336	74.44388	58.18183	70.06969
330210	Mixed odoriferous substances-food & drink industries	72.74387	59.84762	64.79045	85.79398
293499	Nucleic acids & their salts, whether or not chemically defined	53.0025	39.51556	42.25283	44.92365
293359	Heteriyclic compounds with pyrimidine ring	42.25059	32.87001	53.17855	42.76638
021091	Meat & edible meat offal of primates salted/ in brine/dried/smoked	11.18668	88.57611	14.47505	38.05928
293410	Heterocylic compounds with an unfused thiazole ring	20.26339	45.68953	44.93379	36.96224
293491	Aminorex, brotizolam, clatiazepam, cloxazolam,	4.122537	7.126492	96.47667	35.90854

	dextromopamide, haloxazolam				

Source: Computed using data from Trademap (2013).

Alprazolam, camazepam, chlordiazepoxide, clonazepam, clorazepate and delorazep in table 25 have an index of 99.2. They are followed by heterocyclic and comps with an index of 89.3. Carboxylic acids are the third with an index of 70.7. Ireland is ranked twenty-fifth in terms of having comparative advantage within the European Union.

Malta was found to have 209 product lines with RCA≥1. This demonstrates that Malta is specialized in the production of such products. Table 26 shows top ten product lines in which Malta has comparative advantage.

Table 26: Top ten product lines in which Malta has comparative advantage

Product code	Product description	2008 RCA	2009 RCA	2010 RCA	Average RCA
030345	Bluefin tunas (thunnus thynnus), frozen	3541.656	56.94064	8088.881	3895.826
854150	Semiconductor devices, not light	909.7495	859.2816	596.5507	788.5272
600531	Warp knit fabrics including those made on galloon knitting machines	574.4634	728.1306	531.5813	611.3918
030235	Bluefin tunas (thunnus thynnus), fresh/chilled	739.9766	217.3431	435.25	464.1889
210230	Baking powders, prepared	142.7853	186.5907	187.7896	172.3885
540251	Yarn, nylon, polyamide, single >50 turn/m not retail	96.47515	194.2657	132.5389	141.0932
490700	Documents of title (bond etc), unused stamps	132.6794	170.9161	90.48845	131.3613
710900	Base metals or silver, clad with	101.4973	86.48433	18.50022	68.82728

	gold, semi-manufactured				
732410	Sinks and wash basins, stainless steel	70.67663	85.62369	47.27298	67.85777
711100	Metals, clad with platinum, semi-manufactured	9.584276	101.4248	25.7453	45.5848

Source: Computed using the data obtained from Trademap (2013).

Bluefin tunas in table 26 have the highest index of 3895.8 followed by semiconductor devices with an index of 788.5. The third place is occupied by warp knit fabrics which have an index of 611.4. Malta is ranked twenty-sixth with regards to comparative advantage.

Luxembourg has 156 product lines with RCA≥1. It has comparative advantage in the production of such products. Table 27 shows top ten product lines in which Luxembourg has comparative advantage.

Table 27: Top ten product lines in which Luxembourg has comparative advantage

Product code	Product Description	2008 RCA	2009 RCA	2010 RCA	Average RCA
854150	Semi-conductor devices, not light sensitive	135.7643	180.7866	159.384	158.6449
721061	Flat rid prd al-zinc	125.8125	196.3381	149.9704	157.3737
600531	Warp knit fabrics including those made on galloon knitting machines	121.1494	177.3735	142.0258	146.8495
721633	Sections, H, iron or non-alloy steel, nfw hot roll/drawn/extruded >80m	111.591	149.9225	149.6011	137.0382
391810	Floor, wall, ceiling cover, roll, tile, vinyl chlorid	59.12723	68.8495	66.96068	64.97914

841111	Turbo-jet engines of a thrust <25KN	0	121.023	71.41463	64.14586
853340	Variable resistors, rheostats and potentiometers	55.24909	48.05745	53.28521	52.19725
721621	Sections, L, iron or non-aloy steel, nfw hot-roll/drawn/extruded <80m	54.17723	50.24687	28.20474	44.20961
080250	Pistachios, fresh or dried	21.26767	40.01862	65.75614	42.34747
252390	Hydraulic cements except Portland or aluminous	44.90273	23.04992	46.75417	38.23561

Source: Computed using data from Trademap (2013).

Semi conductor devices in Table 27 has the highest index of 158.6. This is followed by flat rid with an index of 197.4. The third place is occupied by warp knit fabrics with an index of 146.8. Luxembourg ranks the last in the European Union in term of competitiveness.

Analysis of Results

Italy, Germany, Spain, France, France, Denmark, United Kingdom, Belgium, Cyprus, Austria, Poland, Netherlands, Portugal, Czech Republic, Sweden, Bulgaria, Estonia, Greece, Romania, Latvia, Slovenia, Lithuania, Slovakia, Hungary and Finland trade with them can lead to trade creation. They are highly competitive and specialized in a very large number of product lines. Ireland, Malta and Luxembourg, trading with them in Free Trade Arrangements would result in trade diversion specifically due to small product lines in which these countries have comparative advantage in. Since the European Union enter Free Trade Arrangements as a group, there is likelihood that Ireland, Malta and Luxembourg can be exporting products which they may have proved to be competent to produce and that would result in ACP Group of States replacing highly efficient suppliers from other countries in favour of them. This would lead to a small extent trade diversion. However, since the large number of countries in the European Union undeniably possess significant supply capabilities, the extent of trade diversion may not exist at all or reduced to minimal thereby giving way to trade creation.

The danger comes when the reciprocity principle will be implemented by individual ACP Group of States. For example in the case of Zimbabwe, it will have accorded 45% of products from EU duty free status by 2012. Then by 2022 this will have increased to 80%. Although a 20% has been reserved by Zimbabwe to protect itself, such may not save Zimbabwe from some of its industries collapsing as a result of Economic Partnership Agreement with the European Union. This picture is likely to be the same through out the ACP

Group of States. Results have shown that most of the European Union member states are highly competitive especially Italy in which it has comparative advantage in 2108 product lines well above the United States of America's comparative advantage in 1791 product lines. Most of the problems of ACP Group of States will arise from the fact that the European Union as a bloc is also competent in producing products which are traditionally produced by ACP Group of States. For example Kenya, Malawi, Uganda, Zimbabwe etc produce coffee. Germany also produces coffee and has a very high degree of specialization in it as demonstrated in its comparative advantage index of 7.7. Other products which are traditionally produced by ACP Group of States and are also produced by the EU and it has significant comparative advantage in them include: plain weave cotton, vegetable alkaloids, woven fabrics, tomatoes, cabbage, lettuce, poultry, grape wines, vegetable wastes, bovine hides, chromium waste and scrap, potatoes seeds, furskins, unrefined copper, peaches, cotton seeds, iron or non alloy steel in primary form, rubber articles, zinc plates, vegetable tanning extracts, yarn wheat starch, blanket (non-electric), pipe-iron/steel, peas, base metals, etc. It is likely when ACP Group of States will reciprocate by granting duty free status to the EU some of their industries will collapse.

Those countries that have negotiated a small percentage of protection in their agreements will probably not be spared from onslaught effects of reciprocity in EPAs. Results have shown that the EU as a group has a very high number of product lines in which it has comparative advantage. Importers of various products in ACP Group of States are likely to opt importing from the EU once the Free Trade status is reciprocated by ACP Group of States than buying domestically. This will cripple local industries and result in loss of jobs. The EU with its efficient transport networks will further give competitive advantage over local suppliers in individual ACP Group of States. The ACP Group of States will also suffer the loss of fiscal revenue from foregone duty when a reverse free trade is implemented by them. Since the European Union products will flood their markets, fiscal revenue loss will be substantial. The loss will come via, loss in import duty income, as industries close corporate tax revenue for the governments will also be lost and as jobs are lost so will be the payee income tax revenue loss. The fiscal space of governments' revenue will become small then affect the delivery of public goods and other services essential for well being of the countries.

Initially, the Economic Partnership Agreements were meant to help ACP Group of countries to reduce poverty. However, given the impact of reciprocity principle that will likely lead to job losses and closure of certain affected industries thereby worsening the incidences of poverty. The extent of impact of the reciprocity in implementing the EPAs on individual ACP Group of States is beyond the scope of this paper. However what is clear is that the EU is bound to gain from EPAs than helping ACP Group of States to reduce poverty. There are bound to be net losses for the ACP Group of States. The EU will gain by extending markets for its product and maintain its jobs at home while ACP Group of States will experience loss of fiscal revenue and loss of jobs in their economies. The EU gains will be reaped without any significant sacrifice on its part. The ACP Group of States will pay ultimate price without justification of rewards.

Conclusions and Recommendations

It is concluded that the European Union possesses comparative advantage. The reciprocity of according the EU duty free status by ACP Group of States will have minimal trade diversion with substantial trade creation. However, trade creation will be wiped by losses of fiscal revenue, jobs and increase in the incidences of poverty which individual ACP Group of States will likely suffer.

It is recommended that new studies be instituted by individual ACP Group of States to determine to what extent their economies will be negatively affected when they begin to implement the reciprocity principle. The studies will need to be comprehensive beyond the concepts of trade creation and trade diversion but also look at fiscal revenue losses, job losses and closure of industries due to competition from more efficient suppliers from the European Union.

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