



Research Article

The Analysis of Competitive Power of Eu States and Candidate States in Foreign Trade of Dairy Products

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ABSTRACT

Trade of dairies is one of the most discussed issues among EU states. Aim of the present study is to investigate basic structure of foreign trade of dairies of European Union states as well as Turkey, Iceland, Croatia and Macedonia, whose integration process is in progress. Thus, competitiveness levels of 27 member states and four candidate states were analyzed according to the code values from SITC Rev. 3 on dairies revealed for them between the years of 2009 and 2011. According to the results from the study, European Union region accounts for 58.33% of dairy import and 66.30% of dairy export. 97.47% of the import by European Union occurs within European Union region. It was concluded that a commercial polarization happened in foreign trade of dairies as a result of Customs Union and Common Agricultural Policies. It was determined that European Union's comparative advantage is on the fringe with respect to competition level in dairies. It is expected that the candidate nations lose their explainable competition advantage in foreign trade of dairies if they become a full member.

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Dairy industry has a large mass of producers and consumers. Today, milk, which is one of significant ingredients in food industry, is processed, stored and distributed by using various technologies to prevent it from spoiling in a short while.

Consumption of dairies is calculated by equalizing regional consumption, production and trade according to

Food and Agricultural Organization (FAO). Thus, 39% of global milk amount is consumed in Asia, 28% of it is consumed in Europe and 13% of it is consumed in North America (FAO, 2013).

Total EU27 milk production is estimated around 152 million tons per year (2011 data). The EU's main producers are Germany, France, the United Kingdom,

the Netherlands, Italy and Poland which together account for more than 70% of the EU production. The EU dairy herd has been decreasing steadily during the last years, as the milk yield per cow has improved. As a reference, in 2011 there were around 23 million cows in the EU27, averaging 6500 kg of milk produced per cow (USK, 2013).

Net dairy importers are seemed as Asian, African and Central American states while EU and North American states are exporters. Considering production, export and import rates, the most striking region in this position is Oceania states. The region of Oceania states is the only region in the world in which net export amount exceeds domestic consumption. 70% of total dairy production of this region takes place in global trade as export item (EU, 2013).

Showing foreign trade of dairy sector having a significant position in agricultural sector and comparison with the other countries are important for foreign trade of agricultural products. In the present study, foreign trade levels of dairies of European Union states as well as Turkey, Iceland, Croatia and Macedonia, whose integration process is in progress, are investigated with respect to explainable competition advantages. The situation of dairy sector after EU and enlargement process was shown in this study.

Materials and Methods

In the present study, foreign trade of dairies of European Union states as well as Turkey, Iceland, Croatia and Macedonia, whose integration process is in progress, was investigated. All export and import values related to dairies, which were used in the analysis stage, were

supplied from “Commodity Trade Statistics Database (COMTRADE)” belonging to statistics department of United Nations (UN, 2013). During calculation, those between the years of 2009 and 2011 were collected in the form of product compounds of 022 “Milk and cream and milk products other than butter or cheese”, 023 “Butter and other fats and oils derived from milk” and 024 “Cheese and curd” from foreign trade data SITC Rev. 3 code values.

Revealed Comparative Advantages (RCA) Index developed by studies of Balassa (1965). According to Balassa, there are many factors determining comparative advantages between countries. Some of these factors are more effective while others are weaker in determining comparative advantages. Measuring these factors becomes harder depending on such efficiency and weakness. Thus, Balassa made observable and observed commercial relations and named the measured comparative advantage as “Revealed Comparative Advantages”. The index of Revealed Comparative Advantages basically aims to empirically determine weaker or stronger sectors in export comparatively based on the revealed export figures or export shares (Hinloopen, 2004). Indexes, which may be alternative for Balassa’s Index of Revealed Comparative Advantages, have been proposed. One of them is V3 index developed by Vollrath that is mostly used in calculations of applied researches in the literature (Vollrath, 1991). In this study, (VI3) “revealed competitiveness” index (RCI) of Vollrath (1991) was used. Because the index is essentially based on the data obtained after the trade is accomplished between countries, it includes effects of non-price factors in addition to those of relative prices influencing comparative advantages between countries (Kui-W and Bender, 2002). Furthermore, the index allows

investigating the variation in relative factor densities and efficiencies of the countries with respect to export (Batra & Khan, 2005) because this index ensures better equilibrium between demand and supply (Utkulu & Seymen, 2004). Thus, the logarithmic index developed by Vollrath is formulated as the following:

$$V3 = \ln\left(\frac{X_{ij}/X_{it}}{X_{nj}/X_{nt}}\right) - \ln\left(\frac{M_{ij}/M_{it}}{M_{nj}/M_{nt}}\right)$$

Variables in the index formula are; X_{ij} : product of “j” exported by the country of i in global market, X_{it} : total export of the country of i in global market, M_{ij} : i product of “j” imported by the country of i from global market, M_{it} : total import of the country of i from global market, X_{nj} : total export of the product “j” to global market, X_{nt} : total export to global market, M_{nj} : total product “j” import in global market, M_{nt} : total import in global market.

If RCI is >5 in the calculated RCI indexes, this means that the country’s comparative advantage is high for the related industry or product group. If it is $-0.5 < RCI < 0.5$, its comparative advantage is on the fringe. Finally, if it is $RCI < -0.5$, the country’s comparative advantage is quite low.

Results and Discussion

Milk production is the most significant agricultural activity in EU and it accounts for 18% of the community’s gross agricultural production value (1). It was understood according to data about global trade volume for milk and dairies for the year of 2011 that it has a significant position in domestic trade of EU. 58.33% of global dairy import is made by EU

countries. 97.47% of this import value is accomplished in domestic trade of EU. This means that only the part of 2.53 of EU dairy demands are supplied by nonmember states. EU region having a significant position in global trade accounts for 66.30% of global export. Only 22.28% of EU-27 states’ dairy export is made to nonmember states. Appearance of a commercial polarization is an expected result in the manner of economics because customs taxes have been made zero between EU countries and there is no conservative policies against each other.

According to the VI3 index values calculated for European Union, investigating 022 Rev products’ category value, it is seen that The Czech Republic has the highest comparative competitive advantage with a value of 0.852 (Table 1). This is followed by Luxembourg with 0.567, Austria with 0.563 and Sweden with 0.557. Malta is in the worst position with a value of -6.885 related to competitive advantage for 022 Rev product and followed by Italy with -1.085 and Bulgaria with -1.073.

Considering 023 Rev. products including butter and other animal originated fats, Malta has the highest advantage with 3.061. Malta achieved this advantage due to its re-export activities in addition to its manufacturing as well as due to consideration of downloads data accomplished to North African states. Finland’s competitive advantage revealed as 2.133 was calculated as the most significant company. EU-27 states, which are in the worst position with respect to competitive advantage, are Cyprus with -3.804 and Greece with -3.619 respectively.

Considering foreign trade values taking place in the classification of 024 Rev including cheese and curd, Bulgaria with 1.265 and Lithuania with 1.244 are the countries, which have the highest competitive advantage.

Table 1. RCI means of EU-27 states and candidate states under consideration for the years of 2009-2011

EU Countries							
Countries	VI3-022	VI3-023	VI3-024	Countries	VI3-022	VI3-023	VI3-024
Austria	0.563	-0.847	-0.375	United Kingdom	0.445	-0.334	-0.377
Belgium	0.271	0.075	-0.544	Czech Rep.	0.852	-1.248	-0.999
Denmark	-0.281	-0.510	0.388	Cyprus	-2.154	-3.804	0.599
Finland	0.020	2.134	-0.397	Estonia	-0.230	0.670	0.255
France	0.061	-1.301	0.255	Hungary	0.344	-1.392	-0.753
Germany	0.374	-0.583	-0.212	Latvia	0.308	-0.139	-0.433
Greece	-0.579	-3.619	0.421	Lithuania	-0.610	0.096	1.244
Ireland	-0.679	1.877	0.137	Malta	-6.885	3.061	-6.860
Italy	-1.085	-1.013	0.646	Poland	0.070	-0.533	0.037
Luxembourg	0.567	-0.264	-0.155	Slovakia	0.167	-1.565	0.036
Netherlands	-0.504	0.418	0.566	Slovenia	0.410	-0.704	-1.338
Portugal	0.021	1.003	-0.873	Bulgaria	-1.073	-0.964	1.265
Spain	0.200	1.200	-0.534	Romania	0.237	-1.226	-0.232
Sweden	0.557	0.207	-0.936	EU-27	0.040	-0.136	-0.008
EU candidate countries							
Countries	VI3-022	VI3-023	VI3-024	Countries	VI3-022	VI3-023	VI3-024
Croatia	0.285	0.791	-0.984	Macedonia	-0.451	-2.631	0.808
Iceland	0.078	7.475	-1.042	Turkey	0.061	-1.021	0.699

*own calculation

They are followed by Cyprus with 0.649 and Italy with 0.646. EU countries, which have the lowest comparative advantage in foreign trade of cheese and curd, are Malta with -6.860 and Czech Republic with -0.999 respectively.

In general, competitive level of European Union in dairies in global market was calculated as 0.040 for Rev 022, as -0.136 for Rev 023 and as -0.008 for Rev 024. Because these values take place in the range of $-0.5 < RCI < 0.5$, it may be said that comparative advantage of EU-27 states for dairies is on the fringe. This is an expected result for EU region, which makes trade intensification especially depending on Customs Union inside it. It is possible to say depending on the results that EU states have specialized on trade of dairies in itself.

It may be believed that Turkey, which is one of candidates, may have certain advantages in long term

with respect to practicing the standards related to food safety (Aramagan et al. 2009).

It was understood as a result of the analysis of EU candidate states that Macedonia (0.808) and Turkey (0.699) have competitive advantages with respect to cheese and curd products while Croatia (0.791) and Iceland (7.475) have comparative competitive advantages in the group of butter and other animal-originated fats.

The said countries have this advantage with the help of especially import tax levied on dairies and high conservative policies. Customs taxes levied on dairies are 438.2% in Iceland, 170.2% in Turkey, 22.2% in Croatia and 20.1% in Macedonia (WTO 2013). Because EU leads to liberation in agricultural policies, candidates should be careful about sustaining conservation in livestock farming and should improve their competition

power (Atici *et al.* 2004). It is known that member states of EU produce milk in more effective and cheaper way compared to the candidates. It is expected that the candidate nations lose their explainable competition advantage in foreign trade of dairies due to zero tax levied on dairies if they become a full member.

Conclusion

It was concluded that a commercial polarization happened in foreign trade of dairies as a result of Customs Union and Common Agricultural Policies between EU members. The result of the study shows that trade intensification occurred between European Union members especially depending on Customs Union inside the region.

In general, it may be said that comparative competitive advantage of European Union for dairies is on the fringe in global market. It is possible to say depending on the results that EU states have specialized on trade of dairies in itself. It is expected in case that Turkey, Iceland, Croatia and Macedonia, which are among the candidates to EU, become full member to the Union, they lose their explainable competition advantage in foreign trade of dairies. Therefore, it will be helpful that the candidates work more efficiently in the issues of production and marketing against dairies that EU has higher standards and efficiency for adjustment of policies with EU.

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