Old and New Partners: Similarity and Competition in the EU Foreign Trade [*]

Alessandro Antimiani and Roberto Henke

The National Institute of Agricultural Economics (INEA), Rome, Italy

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Abstract

The paper analyses the trade relationships among EU-15 members and some emerging partners: the NMS, Turkey and China. The EU enlargement to 10 countries has modified quite remarkably the features of agri-food trade in Europe. Some of the NMS, such as Poland, Hungary and the Check Republic, contribute to a large extent to the international agri-food trade and, since the beginning of the process of EU accession, have modified dramatically the exchanges with the EU-15. More recently, other countries are facing new relationships with the EU: Turkey and China. Turkey is a large Mediterranean country and, as a candidate to the EU accession, enjoys a differential treatment in the agri-food trade relationships with the EU. China can be considered as a new international competitor, growing at faster pace after having joined the WTO and increasing its agri-food trade exchanges with the EU.

The analysis will focus on the measurement of the similarity of agri-food exports of Italy and other EU-15 member States with the new partners to the EU-15 market. It will be carried out with the support of three different indicators: the export structure similarity index (ES), the product similarity index (PSI) and the quality similarity index (QSI), using the Eurostat database with an eight "digit" merchandise disaggregation and with reference only to agri-food exchanges.

It can be concluded that the similarity is quite low, especially if compared to that of the exports of the EU-15 countries to the EU market. Moreover, looking at the level of quality of export products, it is highlighted how quality remains a crucial factor for Italian and European agri-food products to compete with external products.

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[**] The authors are both researchers at the National Institute of Agricultural Economics (INEA), Rome, Italy.

1. Introduction

In the last decade agri-food trade in Europe has remarkably changed, following both internal and external forces. The European Union (EU) enlargement to ten new partners in 2004 had a crucial impact on the volumes and the direction of flows. Some of New Members States (NMS), such as Poland, Hungary and the Check Republic, contribute in a significant way to the international agri-food trade, both as importers and exporters. Their trade relationships with some of the EU-15 members have increased dramatically, both in terms of volume and quality of exchanged products, thanks mainly to the preferential relationships set up during the pre-accession phase, but also to the fast technological change occurred in many of the NMS (Zaghini, 2003). It is widely acknowledged that the recent dynamics of trade among old and new partners in the EU have a common root in the start of economic transition in the Central Eastern European Countries (CEECs) at the beginning of the Nineties, when a sudden process of trade diversion took place for them, from the former Soviet Union and the satellites countries to the EU[1].

More recently, other countries are facing new relations with the EU, in a way that can highly influence the composition and the specialization of the agri-food flows. In particular, two are worth specific attention: Turkey, as a future member State with a large agricultural sector that already enjoys a beneficial status in the agri-food trade relations with the EU, and China, a new international competitor whose fast and often uncontrolled growth has worried the European (and non European also) producers and dealers, not only in the agri-food business.

Given this scenario, the paper aims at analysing the agri-food trade relationships between a selected number of EU-15 Member States and some emerging partners: the NMS, Turkey and China. Each of such partners features a specific commercial position towards the EU that render the analysis particularly interesting. Moreover, the three cases represent as many different levels of relationship with the EU-15: the NMS have joined the EU in 2004 as full members; Turkey has recently gained the status of candidate country; finally, China has joined the WTO in 2001 and after that the country has dealt new conditions in the agri-food relationship with the EU, particularly in terms of protection at the borders.

After a brief description of the evolution and the most recent dynamics of agri-food trade of the EU-15 members with the new partners aforementioned, the paper will focus on the measurement of the similarity among the exports of Italy and other selected members of the EU and the new partners to the EU-15 market, with the support of some similarity indexes. Such indexes are used to evaluate the export specialisation towards a specific market, on the ground that "similar" goods that two countries export toward a common reference market can be considered as competitors. In particular, the analysis will be carried out with the help of three specific indicators: the export structure similarity index (ES), the product similarity index (PSI) and the quality similarity index (QSI). The indicators have been computed using Eurostat data, at the "eight digit" merchandise disaggregation level and referring exclusively to agri-food exchanges.

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[1] The NMS include 8 CEECs (Poland, Hungary, Czech Republic, Slovakia, Estonia, Lithuania, Latvia and Slovenia, plus two Mediterranean islands: Cyprus and Malta. Two more CEECs, Bulgaria and Romania, are supposed to join the EU in 2007.

The indexes above mentioned are utilised to analyse the level of similarity of Italian and other Member States exports with those of the new partners to the EU-15 market. The similarity level of exports tend to be generally very low, compared to the similarity of EU-15 members to the European market. However, if one looks at the level of quality of export products, the similarity decreases dramatically, although with different results according to the new partners considered. In other words, there is a clear evidence that agri-food exports to the EU-15 market from emerging partner countries involve, so far, products that can compete with those of the EU-15 partners mainly via price rather than via quality. Quality remains a very important discriminatory factor for Italian and European agri-food products to compete with external products in the EU market.

2. The structure of EU agri-food trade with the new partners

From 1993 on, soon after the transition to the market economy of the CEECs and in coincidence with the beginning of the trade liberalisation with the EU, agri-food trade between EU and CEECs have grown quite fast, in line with the more general increase in trade. Looking at the flows with NMS, EU imports from the new EU partners increased remarkably from 1993 to 1998 (around 42%); however, exports grew much faster, about 70%. That is to say that the progressive opening of the national borders of the NMS had an impact that was opposite to the preoccupations of EU, with a resulting improvement of the EU balance, which almost doubled in absolute terms (Antimiani, Henke, De Filippis, 2006). In this framework, Italian trade with NMS performed even better, with a similar increase of exports and a substantial stability of imports, that led to a change in the sign of the balance, from negative to positive.
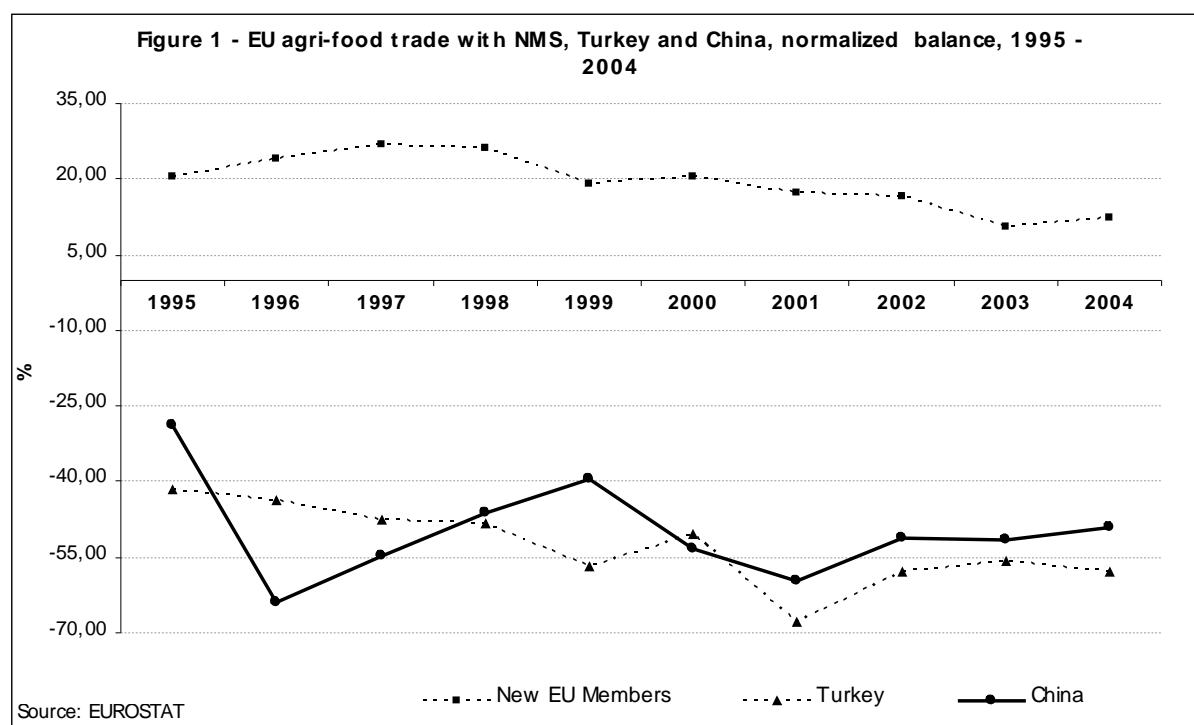
Starting in 1999 the trend slightly changed, turning less unfavourable for the NMS: in 2003 EU exports towards the NMS decreased (-6.3%), as a probable consequence of the euro revaluation, while imports kept growing (+10.9%). As a result, the net positive balance shrunk, suddenly returning at the levels of the mid-Nineties (Fig. 1). However, in 2004 flows with the NMS seemed to be back at the same levels of the beginning of the Nineties decade. Even in this case, looking at the trend of the Italian trade with the NMS, the picture is slightly different from that of the EU: in 2003, in fact, Italian exports towards the NMS marginally decreased (-0.3%) while imports increased at a very slow pace (+1.4%). As a consequence, the net balance remained rather stable; however, as seen for the EU-15, between 2003 and 2004 Italian imports grew quite considerably, with a negative effect on the net trade balance.

The increase in the agri-food sector flows between EU and the NMS has been lower than the one in the general trade, following a physiological process according which trade integration among countries liberalising their economies is usually more dynamic in the non-food sectors (Zaghini, 2003). The case of Italy is once again an exception, with a decline of the agri-food component of trade limited only to imports, while the ratio of agri-food exports to overall exports remain rather stable, at around 5% (INEA, 1998 and 2005).

Looking at the structure of agri-food trade, EU exports are mainly composed by fruits and vegetables and feedstuff. Comparing such structure with that in 1996/97, it does not significantly modify but for a general increase in the volumes of flows, and for a relatively higher increase of fresh products compared to processed ones. Italian exports towards the NMS reflect the

European structure, with marginal differences, limited to shifts of position in the product ranking. Moving to imports, they appear generally more concentrated than exports, even if the concentration ratio tends to reduce from 1996/97 to 2003/04 (Table 1). Imports are dominated by livestock products and fruits and vegetables. As for Italy, main imports from the NMS have all to do with the livestock *filiére*[2].

With regards to trade with Turkey, it is important to stress its characteristics of a large Mediterranean country, that would − at least in part − counterbalance the recent EU enlargement, definitely more concentrated in the Continental area of Europe (Cakmak, 2004).

Figure 1 - EU agri-food trade with NMS, Turkey and China, normalized balance, 1995 - 2004

Source: EUROSTAT

Both EU and Italy show a wide agri-food trade deficit with Turkey, that increases by time, as shown by the trend in the normalised balance (Fig. 1). However, the weight of agri-food exports on total trade is decreasing rather fast for both EU and Italy, while imports decrease at a much slower pace (INEA, 2005). Turkey purchases mainly tobacco, beverages and cereals from the EU, while EU imports are mostly composed by fruits and vegetables, both fresh and processed (table 1). Tobacco is relatively important also on the import side. The structure of imports does not change substantially in the years analysed. The composition of trade between Italy and Turkey is partially different: Turkey imports from Italy cereals, cacao and cacao products, food preparations and beverages, while it exports fruits and vegetables, but also oils and fishery products.

The position of China in the world market changed drastically when it entered the World Trade Organisation (WTO) in 2001 (Huang, Rozelle, 2002). Following the agreement, China undertook to reduce its import tariffs, to

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[2] It is worth noting that from 1996/97 to 2003/04 imports of dairy products tend to increase, while imports of live animals decline. That can be connected to the dynamics of EU trade flows, which in turn are tied to the EU rules governing import-exports (common market organisations, import controls, EU trade preferences, sanitary controls, and so on).

eliminate the non-tariff barriers for industrial products and to widen import quotas for agricultural products between 2001 and 2004. China's adhesion to the WTO also caused a redefinition of the agri-food trade with the EU, given the complex negotiation on the bilateral tariffs to protect imports. Such negotiation saw the EU defending very evidently its own continental production (cereals, meat, sugar, dairy), while turning to a wider opening for other products (fruits and vegetables, coffee, beverages, etc.). China, on its side, kept higher tariffs especially for cereals, sugar, beverages, fruits and vegetables, while the country opened it borders especially for oilseeds, live animals, fish products, cocoa and forestry productions.

The agri-food normalised balance shows a negative trend, although rather unstable during the years here analysed (Fig. 1). Between 1993/94 and 2003/04 EU imports from China grew remarkably, and the quota of the first 5 sectors increased from 64.7% to 70% (Table 1). Imports are composed mainly by fishery products, processed fruits and vegetables and oil seeds. It is interesting to note that the structure of imports changed quite deeply in the amount of time here considered. EU sells to China fishery products, beverages and dairy products. The set of exported products have changed rather substantially in the years analysed: in 1996/97 the main exports included oils and fats, cereals and meat. It is also worth noting that exports more than doubled in value from 1996/97 to 2003/04.

Tab. 1 - EU Agri-food import from NMS, Turkey and China (mio euro)

	(1996/97)	%		(2003/04)	%
NMS					
Meat	460,4	16,8	Meat	718,2	13,8
Fruit and nuts	317,1	11,6	Dairy products	520,4	10,0
Live animals	251,8	9,2	Edible vegetables	410,6	7,9
Edible vegetables	242,5	8,9	Prep. of fruit and vegetables	408,2	7,8
Prep. of fruit and vegetables	218,9	8,0	Fruit and nuts	386,0	7,4
first 5 sectors	*1.490,6*	*54,5*	*first 5 sectors*	*2.443,4*	*46,9*
Total Agri-food	**2.734,7**	**100,0**	**Total Agri-food**	**5.205,6**	**100,0**
Turkey					
Fruit and nuts	821,8	46,5	Fruit and nuts	856,7	38,7
Prep. of fruit and vegetables	360,1	20,4	Prep. of fruit and vegetables	527,8	23,9
Edible vegetables	140,0	7,9	Edible vegetables	194,0	8,8
Tobacco (raw and manuf.)	106,9	6,1	Tobacco (raw and manuf.)	117,6	5,3
Oils and fats	49,9	2,8	Fish	85,0	3,8
first 5 sectors	*1.478,8*	*83,7*	*first 5 sectors*	*1.781,0*	*80,5*
Total Agri-food	**1.765,8**	**100,0**	**Total Agri-food**	**2.211,7**	**100,0**
China					
Cereals	515,2	19,1	Fish	894,6	21,3
Fruit and nuts	327,8	12,2	Prep. of fruit and vegetables	713,6	17,0
Meat	310,0	11,5	Oil seeds	501,4	11,9
Cocoa and cocoa prep.	300,7	11,2	Edible vegetables	456,4	10,8
Tobacco (raw and manuf.)	289,5	10,7	Products of animal origin	373,7	8,9
first 5 sectors	*1.743,2*	*64,7*	*first 5 sectors*	*2.939,7*	*69,8*
Total Agri-food	**2.695,1**	**100,0**	**Total Agri-food**	**4.209,2**	**100,0**

Source: elaborations on EUROSTAT data

With regard to Italy, agri-food trade only marginally contributes to the total trade with China: in 2004 it represented only 1.2% of the total trade volume, and this quota has remained basically constant through time. In fact, China is quite an important agri-food product supplier, but its importance as a client

for Italian exports is marginal [3]. In particular, Italian imports are dominated by vegetables (processed and dried) and processed fish products, while on the export side the most typical sectors of Italian overseas agri-food sales stand out. More specifically, the typical *"made in Italy"* agri-food items show a relatively fast growth: biscuits and confectionery (18%), quality and table red wines (together 8%), olive oil (8%), and pasta (3%).

3. Trade similarity indicators

In this paper agri-food trade specialisation indicators have been used to measure the similarity between the export flows of two countries in the same reference market. The use of these indexes as an analytical instrument for evaluating competitiveness between exports towards a specific market is based on the fact that two countries exporting "similar" goods toward a common reference market" can be considered as competitors for those goods. The analysis was carried out using three different indicators: the export structure similarity index (ES), the product similarity index (PSI) and the quality similarity index (QSI) (Grubel, Lloyd, 1975; Finger, Kreinin, 1979; De Nardis, Traù, 1999; Iapadre, 2001; Rolli, Zaghini, 2001; Monti, 2003; Zaghini, 2003). The indicators have been computed using the Eurostat database with an eight "digit" merchandise disaggregation and with reference only to agri-industrial exchanges [4]. The flows utilised are the imports of EU from the partners indicated; it is worth underlining that import values do not include import tariffs.

Starting from ES, it compares the relative dimension of the export flows for a given merchandise aggregate between two countries towards a specific reference market. The index is based on the quota of each item to the total of the agri-industrial exports for each of the two countries compared. In formula:

$$ES = \sum_i \left[\min\left(x_{iA}, x_{iB} \right) \right] * 100 \qquad [1]$$

where x_{iA} and x_{iB} are, respectively, the quotas of the total agri-industrial exports of country A and country B, regarding the item i ("eight digit" level). The index varies between 0 and 100: in the first case the similarity is null, while in the second the flows are identical.

Differently from ES, which refers only to the flow merchandise structure, PSI is based on the absolute export values (Grubel, Lloyd, 1975; Monti, 2003).

Expressed as a formula, the PSI is given by:

$$PSI = \left\{ 1 - \left[\sum_i \left| X_{iA} - X_{iB} \right| / \sum_i \left(X_{iA} + X_{iB} \right) \right] \right\} * 100 \qquad [2]$$

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[3] On the export side, the 2004 quota reached just 0.13% (against 0.03% in 1994), and imports moved from 1.4% in 1994 to 1.3% in 2004.

[4] The term "digit" refers to the number of figures in the code which, in the *Harmonized Commodity Description and Coding System* used by Eurostat, are used to define a product. While the digit number increases, the level of disaggregation also increases, therefore the goods merchandise definition level. Classification has moved from 2 digits, which represent the "chapters" to 4 digits, which represent the "items", to 12 digits which represent the maximum available merchandise disaggregation.

where X_{iA} and X_{iB} are, respectively, the export flows of the item i ("eight digit" level) for countries A and B (De Nardis, Traù, 1999). As in the case of ES, this index varies between 0 and 100: in the first case the similarity is null, in the second the flows are identical.

Finally QSI, which is a PSI component, can be used to include the quality aspect of the goods exported from two countries to a common reference market. QSI is created from PSI with the difference, however, that in this case only the commercial flows judged as being similar in quality contribute to the index (Aturupane, Djankov, Hoekman, 1999). In other words, all the flows of the products exported towards a specific market by two countries are taken into consideration when calculating PSI, while with QSI the similarity is only calculated on the flow of products that are similar in quality. The others are given a null value. To carry out this selection the average unitary value (AUV) of each item i that the two countries export to the reference market was used as a *proxy* of the quality level.

In formula:

$$QSI = \left\{ 1 - \left[\sum_i \left| X_{iA}^q - X_{iB}^q \right| / \sum_i \left(X_{iA}^q + X_{iB}^q \right) \right] \right\} * \left(\sum_i \left(X_{iA}^q + X_{iB}^q \right) / \sum_i \left(X_{iA} + X_{iB} \right) \right) * 100 \qquad [3]$$

where X^q_{iA} and X^q_{iB} represent respectively the exports of country A and country B of the item i ("eight digit" level) limited by cases for which the quality similarity condition is respected, namely:

$$(1-a) < \left(A\,UV_{X_{iA}} / A\,UV_{X_{iB}} \right) < (1+a) \qquad [4]$$

where the coefficient a is normally positioned between 0.15 and 0.25. In this case, a relatively high coefficient equal to 0.25 was selected given the heterogeneity of the economic systems of the countries being compared.

Once defined the three indicators, they have been used to analyse the level of similarity of the agri-food exports of some selected EU-15 Member States and the new partners (NMS, Turkey and China) to the EU-15 market; the exercise has been run for two 2-year periods: 1996/97 and 2003/2004.

4. Main results

4.1 The similarity of agri-food trade between EU-15 and the new partners

In this section the trade similarity has been calculated with the support of the three indicators described above. The reference market for the calculation of the indexes is the EU-15 and the partners considered are the NMS, Turkey and China[5]. For each of them the similarity of agri-food exports to the EU-15 market with five EU-15 partners (Italy, France, Germany, Spain and the Netherlands) has been computed. However, in table 2 the matrix of the similarity indexes among EU Member States is supplied as a comparative element for the further analysis. From table 2 it is quite evident that, generally speaking, the value of the indexes tends to increase from 1996/97 to 2003/04.

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[5] In reality the reference market is the EU-14 when the index is calculated for one of the EU-15 Member States, because the single country interested is excluded by the calculation.

Moreover, moving from ES to QSI, as expected, values tend to reduce, according to the quality of flows compared [6]. The similarity of exports to the EU market is higher between continental partners, and especially between France and Germany, and Germany and the Netherlands. Quite surprisingly, the similarity between Italy and Spain is relatively low; moreover, the value of QSI decreases from 1996/97 and 2003/04.

Table 2 - Matrix of similarity indexes among EU members

	Italy		France		Germany		Spain	
	1996-97	2003-04	1996-97	2003-04	1996-97	2003-04	1996-97	2003-04
ES								
Italy	-	-	-	-	-	-	-	-
France	28,0	33,1	-	-	-	-	-	-
Germany	26,1	31,2	40,6	44,0	-	-	-	-
Spain	32,2	33,4	25,8	28,2	22,4	28,1	-	-
Netherlands	23,4	26,0	29,4	31,5	39,2	43,4	27,3	31,7
PSI								
Italy	-	-	-	-	-	-	-	-
France	25,3	30,7	-	-	-	-	-	-
Germany	24,4	28,3	39,4	44,3	-	-	-	-
Spain	32,1	33,1	21,9	26,9	20,6	26,0	-	-
Netherlands	19,4	22,1	29,4	31,2	37,0	43,2	23,1	29,7
QSI								
Italy	-	-	-	-	-	-	-	-
France	12,7	15,3	-	-	-	-	-	-
Germany	12,8	13,8	28,0	28,1	-	-	-	-
Spain	15,0	12,3	12,0	11,9	12,9	15,0	-	-
Netherlands	8,3	9,3	19,5	19,5	22,7	26,1	9,7	13,0

Source: our elaboration on EUROSTAT data

Looking at the new partners here considered, ES for the NMS tends to grow from 1996/97 to 2003/2004 with all EU-15 Member States here considered (table 3). The growth is particularly evident for France and Germany, while in the case of Italy both the values and the growth rate are relatively lower than all the other Member States. Moving to PSI, the values of the index are all lower, meaning that the dimension of flows matters. However, in case of France, Germany and the Netherlands the values tend to halve, while in the case of Italy and Spain the reduction is much more limited. The values are even smaller if one looks at QSI, which considers only goods within the same range of quality. In this case, values drop drastically for all the Member States. It is interesting to underline how from 1996/97 to 2003/04 the value of QSI grows especially for Germany, while tends to improve, but at a much lower pace, for Spain and Italy. This result can be the consequence of the exchange structure: where agri-food trade are concentrated on commodities, quality tends to play a minor role compared to exchanges based on more diversified goods, characterised by a higher value added.

Moving to Turkey, the main result to highlight is the general lower level of the indicators compared to the ones for the NMS (table 4). The similarity of agri-food Turkish exports and the EU-15 partners to the EU-15 markets tend to be rather small. This can be read also as a larger rate of complementarity of export flows between Turkey and the EU partners. The ES figures are always

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[6] The reduction of the value is due to the fact that the PSI takes into account the absolute values of the exports and that the QSI is computed only for goods within a pre-determined range of prices (similar quality). If the quality of exports on EU market were similar, then the QSI would be closer to the PSI.

over 10 for the five Member States here considered, but it goes from 10.5 in the case of Germany to 19.3 for Spain. With respect to 1996/97, the ES figures grew only marginally. Moving to PSI, for 2003/04 values are all under 10 with the only exception of Italy (10.1). This means that flows compared in the similarity calculation are still quite different in absolute terms, especially with respect to the continental EU partners. Finally, looking at QSI, all the values tend to halve, ranking from 1.5 in the case of Germany to 4.8 for Spain. It is worth noting that in the case of Germany and Spain the value of QSI index decreases from 1996/97 to 2003/04.

Table 3 - Similarity indexes between exports of the NMS and EU members to the EU-15 market

	ES		PSI		QSI	
	1996-97	**2003-04**	**1996-97**	**2003-04**	**1996-97**	**2003-04**
Italy	14,5	18,8	10,0	16,4	4,3	6,9
France	19,0	30,5	7,5	13,9	2,7	5,1
Germany	21,1	29,7	9,9	17,1	3,5	10,0
Spain	15,7	20,9	12,5	17,5	4,5	4,9
Netherlands	17,7	24,6	7,7	12,9	2,5	4,5

Source: elaborations on EUROSTAT data

Table 4 - Similarity indexes between exports of Turkey and EU members to the EU-15 market

	ES		PSI		QSI	
	1996-97	2003-04	1996-97	2003-04	1996-97	2003-04
Italy	11,8	15,7	9,1	10,1	4,4	4,7
France	6,9	11,0	2,9	2,5	1,3	1,6
Germany	7,3	10,5	5,1	5,4	2,0	1,5
Spain	15,6	19,3	8,9	9,4	5,6	4,8
Netherlands	8,2	13,4	3,3	4,5	1,5	2,0

Source: elaborations on EUROSTAT data

Table 5 - Similarity indexes between the export of China and EU members to the EU-15 market

	ES		PSI		QSI	
	1996-97	**2003-04**	**1996-97**	**2003-04**	**1996-97**	**2003-04**
Italy	8,4	11,9	3,5	8,2	1,1	2,3
France	7,7	9,7	5,0	4,4	1,1	1,4
Germany	9,2	11,3	6,3	7,3	1,8	1,5
Spain	10,4	12,3	7,0	8,1	2,9	2,8
Netherlands	12,1	12,5	5,5	5,5	2,0	2,0

Source: elaborations on EUROSTAT data

The last case considered is that of the similarity between agri-food exports of EU partners and China (table 5). Even in this case all the figures are really low. In 2003/04, values of QSI rank from 1.4 in the case of France to 2.3 in the case of Italy. Moreover, for Germany and Spain computed values decrease compared to the previous decade, while the value for the Netherlands tends to remain stable.

The analysis carried out shows that the similarity of flows in agri-food exports between EU-15 and the new partners is very low and not particularly growing by time. The dimension of flows is also very important in evaluating similarity: as the PSI figures show, even in the case of the NMS (which include 10 countries) the absolute values of flows tend to reduce the value of the export similarity to the EU-15 markets. It is even smaller when one considers only flows of goods qualitatively similar. In other words, quality plays a crucial role in the agri-food trade with EU-15 for all the partners considered in this work. In other words, for agri-food trade vertical trade tends to prevail on horizontal trade, and products imported by the EU-15 from the new partners

tend to compete more via prices than quality (Greenway, Hine, Milner, 1996; Aturupane, Dyancov, Hoeckman, 1999; Wu, Ma, 1999). In conclusion, the incoming flows of agri-food trade from the new partners cannot really be considered a threat to the EU-15 partners; on the contrary, the new partners should be considered an opportunity as final markets for the EU agri-food products.

4.2 The similarity of agri-food trade between Italy and the new partners

This section focuses on the similarity between Italy and the new partners, with refer to the exports to the EU-15 market. The similarity, in this case, is computed at the level of the single agri-food branch (eight digits, then re-aggregated at the two digit level), considering both PSI and QSI for 1996/97 and 2003/04.

In general, it is worth underlining how the similarity of exports is explained by a relatively low number of flows (Castellano, Henke, 1998). Values of PSI in 2003/04 are relatively high for the NMS, especially for cacao products, livestock products and fishery products (table 6). In the case of China, the similarity tends to be lower and it is clearly explained by some specific flows: live animals, animal products, sugar and fats and oils. A similar feature is shown by the similarity with Turkey: the value is particularly high in the case of animal products, fishery products and fresh vegetables.

Particularly interesting is to look at QSI for the similarity within single agri-food branches. Moving from PSI to QSI, the values tend to decrease quite dramatically for all the new partners considered, and especially for China and Turkey. For NMS, in 2003/04 values are significantly higher than in 1996/97; QSI is higher than 20 for two items (meat and sugar) and higher than 10 for two other (meat products and fats and oils). For all these items the similarity value decreases only up to a limited extent moving from PSI to QSI, as a consequence of the comparable level of quality between the export flows towards the EU market. Definitely lower are the similarity values in the case of China and Turkey: for the former only sugar shows a value higher than 10, for the latter fishery products, fruits and sugar. It is also worth highlighting that the variation coefficient of the similarity values per branch is higher for China in the case of QSI (1.6), while it is slightly higher for Turkey in the case of PSI (1.3, table 6).

Tab 6 - PSI and QSI indexes between Italy and NMS, Turkey and China

	PSI						QSI					
	NMS		Turkey		China		NMS		Turkey		China	
	1996-97	2003-04	1996-97	2003-04	1996-97	2003-04	1996-97	2003-04	1996-97	2003-04	1996-97	2003-04
Live animals	19.0	18.7	13.0	16.1	0.0	25.9	1.3	6.5	9.1	–	–	–
Meat	21.9	32.7	0.2	0.2	0.8	0.0	12.3	28.8	–	–	0.0	–
Fish	9.8	9.6	19.1	28.4	9.2	10.0	2.8	4.3	4.1	10.0	1.0	2.7
Dairy products	11.3	23.0	1.9	1.9	0.1	0.4	0.8	9.3	–	–	0.0	–
Product of animal origin	47.9	44.4	38.6	54.2	10.0	22.4	0.9	3.6	–	–	4.2	0.1
Trees and other plants	10.8	14.9	8.6	7.5	3.9	12.7	1.8	4.3	0.3	0.6	1.9	0.9
Edible vegetables	22.3	26.4	12.6	21.9	1.5	11.8	7.7	9.4	5.9	3.0	0.6	1.9
Fruit and nuts	8.8	12.7	13.9	16.2	5.2	8.5	2.9	2.7	10.5	14.0	1.0	4.1
Coffee and tea	7.4	13.9	2.7	4.1	2.4	4.9	2.8	0.7	0.2	0.4	1.2	0.0
Cereals	9.6	13.7	2.3	7.9	0.1	2.7	5.0	5.8	0.1	3.0	–	0.3
Product of the milling industry	3.9	15.6	29.7	19.7	2.0	1.5	0.4	0.3	0.2	0.0	0.0	0.6
Oilseeds	13.6	12.1	12.7	12.4	10.8	17.3	3.5	3.4	2.2	4.7	–	2.0
Oils and fats	4.4	13.8	18.9	16.1	0.7	2.3	2.9	10.0	0.2	1.4	0.0	0.3
Prep of meat and fish	32.5	36.5	12.5	7.8	3.8	2.5	31.0	18.4	1.0	0.0	0.2	–
Sugar and sugar confect	21.2	35.6	9.7	19.6	3.7	22.9	6.8	20.9	7.5	14.0	2.0	16.7
Cocoa and cocoa prep	28.0	61.6	2.7	8.2	0.0	2.9	2.0	8.6	2.0	5.0	0.0	2.5
Preparations of cereals	3.5	19.2	1.4	4.1	1.8	5.9	0.8	6.1	0.5	0.5	0.9	1.2
Prep of fruit and vegetables	16.1	17.3	17.9	15.8	2.0	17.8	2.5	7.3	11.4	7.6	0.2	3.0
Beverages	9.3	20.1	1.5	2.5	0.8	1.7	4.4	4.5	0.6	1.7	0.2	1.1
Variation coefficient	0.6	0.7	0.9	1.3	1.1	0.9	1.4	0.9	1.1	1.1	1.3	1.6

Source: our elaboration on EUROSTAT data

These results allow some reflections: generally speaking, when the similarity is computed considering only qualitatively similar goods, the values tend to collapse; however, the process of EU enlargement has probably forced the dynamics of quality assimilation in the NMS, so that their values tend to be higher than the other partners and to grow at a faster pace than the other countries here considered. This is also true in the case of Italy and Turkey exports towards EU, in spite of the fact that the two countries are similar in terms of production specialisation and could, in theory, compete more in the EU markets. One can conclude, for this analysis, that Italian agri-food exports still compete in the EU-15 market with those of other partners at the quality level: flows are only apparently similar, but if quality is used to discriminate among different flows, then the similarity decreases (Scoppola, 2003).

5. Concluding remarks

This paper focused on the trade relationships of the EU-15 Member States with new Member and non-Member partners, looking specifically at the export specialisation to the EU-15 market through the analysis of the similarity of agri-food exports. The similarity was measured with the support of three indexes that take into account different aspects of trade flows: ES measures the similarity of the agri-food export structure; PSI takes into account the similarity according to the absolute values of agri-food flows; QSI measures the similarity only considering qualitatively similar products. With each of these indicators, it emerges that export similarity of the new partners with the EU-15 to the EU-15 market is relatively small, and decreases dramatically when one considers the dimension of flows and quality as a discriminating factor. Such an evidence highlights that flows, only apparently similar, are actually directed to different market segments and that competition occurs more via price than via quality.

Moving to specific agri-food items, the analysis highlights that agri-food trade is highly "sector specific", being most of the flows explained by a relatively

small number of exchanges. The analysis of the similarity is influenced by such characteristics of the exchanges, with the indexes reaching a meaningful value only for very specific transactions. Moreover, it is quite evident that the similarity, especially in the case of QSI, does not improve significantly in the years considered.

Said that as a general framework, the three case studies here appear quite different. The NMS show the highest values of the indexes, even if at the QSI level figures are very low even for them. Such behaviour is probably due to the EU policy for the former candidate countries, and in particular to the implementation of preferential quotas for agri-food trade, that led to a progressive similarity of goods traded.

As one could expect, export similarity to the EU-15 market is quite evidently influenced by geographical and proximity factors, and also by the structure of exports: for the NMS it is higher than the other countries with Germany, while for Turkey it is higher with Italy and Spain (even though it is still very low). In the case of China values are all very low for the three indexes, not changing significantly from 1996/97 to 2003/04. Although overall trade as well as agri-food trade have been increasing in the last years, especially after 2001 − when China joined the WTO − it is quite evident in this work that at the moment the risk of a tough competition from China for EU-15 members to the EU market is relatively low. Exports flows are rather small in absolute terms and only to a limited extent they tend to overlap, being more complementary than similar. Looking at QSI, values for all the EU members with China are extremely small.

As far as Italy agri-food trade is concerned, the results at the main sectors level confirm what seen at the more aggregate level. Comparing the EU-15 partners with the new ones, the value of the indexes at the sector level is more homogeneous (and of course higher) for trade with France more than for the others, but also with Germany, Spain and the Netherlands. In the case of the new partners, the overall values are lower and only a very selected number of products contribute specifically to the agri-food exchanges.

In conclusion, it seems that the new partners tend to favour the competition in the EU-15 market at the price level, and product quality still remains a discrimination factor to join the EU-15 markets. For all of the new partners analysed here, quality standard still represents a relevant non-tariff barrier to reach agri-food market, even for the NMS and in spite of the trade preferences and quotas offered by the EU. At the moment, the opening of new trade relationships and the increase of the existing ones seem to be more an opportunity for the EU-15 members than a threat for the imports. This is particularly true in the case of Italy for two main reasons: the higher level of complementarity of agri-food exports to the EU-15 market with the new partners, and the higher quality standards of agri-food products exported, given that they are usually processed, territory specific and highly recognisable as "made in Italy".

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