Impact of Agricultural Trade Liberalization Between the EU and Mediterranean countries: the Case of the Tomato Processing Industry

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Abstract. This study aims to describe and explain the impact of trade liberalization between the EU-15 and the southern Mediterranean countries, with special emphasis on Southern EU (Portugal, Spain, France, Italy and Greece). The selected activity to be studied is the processing tomato industry. To do that, we use three related approaches (systems, industrial economics and management tools). After describing the tomato processing system, we introduce three case studies: Copador (member of CIO) located in Parma, Louis Martin SA nearby Avignon and Alsat SL located in Don Benito (Extremadura). Some conclusions: the EU processing tomato industry will continue and probably expand its activities on the Mediterranean borders; the competition between Italy and Spain will increase; the southern part of France risks losing its first-level processing activities; specialization of work within the European space will intensify, with the southern part specializing in raw materials and the northern part in high value added products; Greek and Portuguese activities will carry on. Three main reasons can be advanced: the raw materials have to meet some very rigorous standards; some activities (manufacturing of tomato paste) are highly mechanized and, second and third level finished products which are evolving very quickly (packaging, recipes and process techniques) require good logistics and flexible services.

Key words: EU, Mediterranean countries, trade liberalization, tomato products, commodity system, case studies (Copador, Louis Martin, Alsat)

1. Introduction

- The EU-Med AGPOL project, supported by the European Commission (sixth PCRD), aims to study the impacts of trade liberalization for farm and food products between the EU and the southern Mediterranean countries. This related research concerns specially the effects of trade liberalization on the southern EU countries (Portugal, Spain, France, Italy and Greece). The selected activity to be studied is the tomato processing industry (tomato paste, puree, sauces and ketchups, canned tomatoes). This choice can be justified by the fact that the tomato processing industry, in addition to its economic weight, is (through its sourcing) a central point within the production systems of numerous EU regions.
For the tomato products, the protection set up by the EU (Source: 10 digit TARIC code) is twofold:
* for semi-processed products (industrial), there is a 14.4% tariff barrier (MFN) whatever their origin with some exceptions: Chile who takes advantage of a progressive decline over 4 years (7.2% in 2006), Turkey and

Lebanon who own each one a quota for diced tomatoes (32 231 tons for Turkey and 9 787 tons for Lebanon)…;
* for finished products, presence of a 10.2% tariff barrier (MFN) for every countries except from Turkey, Lebanon, Jordan, Israel… (0%).

- The present situation (tables 1 and 2):

Table 1. The processed tomato commodity system in Portugal, Spain, France, Italy and Greece (2004) (in tons equivalent raw materials)

	Spain	France	Greece	Italy	Portugal	Total
Guarantee thresholds	1 238 606	401 608	1 211 241	4 350 000	1 050 000	8 251 455
Processed tomatoes	2 200 000	221 399	1 187 592	6 400 000	1 180 000	11 188 991
Processed tomatoes (preliminary 2005)	2 850 000	157 000	850 000	5 300 000	1 000 000	10 157 427
Area (ha)	35 800	2 950	18 316	88 000	14 000	159 066
Mechanical harvesting	85 %	100 %	30 %	90 %et 30	85 %	
PO number	70	7	?	69	35	
Average yield (tons/ha)	61.5	75.1	57	72.7	84.0	
Average price paid by processors (€/t)	**50.5 to 60 €/t**	**46 to 5 €/t *field gate***	**50 €/t**	**50 €/t**	**47 to 50 €/t *field gate***	
EU subsidies (€/t)	**34.5 to 29.36**	**34.5**	**34.5**	**34.5**	**34.5**	
Number of firms	79	9	20	200	11	319
Total consumption (2002- 03)	323 300	970 600	228 900	1 719 700	149 000	3 391 500
Consumption/head (kg) (2002- 03)	7.9	16.2	20.9	29.9	14.8	17.94

* 90 %in the northern and 30 %in the central and southern parts
Sources : Tomato News, July- August 2004 (p.11- 16), November 2004, January 2006 ; UNAPROA, SONITO, INGA….

Table 2. Main processed tomato producer countries in Mediterranean area

countries	Number of firms	Processed quantities in raw tomatoes (tons)			Area (en ha)	Yield (t/ha)
		2003	2004	2005 * *		
Algeria	26 of which the cannery Amor Ben Amor	260 000	276 000	150 000	27 000 in 2004 *	14 t/ha on 1970- 2004
Morocco	5 of which LKC and Conserves of Meknes	80 000	160 000	150 000	3 700 in 2004	40 t/ha in 2002
Tunisia	33 of which 17 in the Nabeul region	620 000	743 000	735 000	1 400 in 2005	45 t/ha in 2005
Turkey	42 of which Tat, Merko, Assan…	2 000	1 750 000	1 626 000	25 000 (2005 preliminary)	65 t/ha in 2005
Israel	5 of which Cham Foods	170 000	285 000	229 000	2 600 in 2004	72 t/ha in 2004

* areas are elevated since the products can be directed to the market or to processing; * * preliminary figures
Sources: Tomato Land, Yearbook 2004, Tomato News (N° 1, January 05), La Presse (Tunis) August 20, 2005, Tomato News (January 2006)

- The questions to be asked: what will be the consequences of the trade liberalization on the EU farm level ? How can the farmers and processors react ? Is the Mediterranean competition a real threat ? What regions in EU will emerge or disappear ?...

2. Hypothesis, methods and research framework

- Main hypothesis: the globalisation process is ultimately beneficial to everyone providing the WTO rules are respected (no trading discrimination, prohibition of quotas, reciprocity);
- Methods: the starting point is the definition of a vertical field of investigation (filière) which is the processing tomato commodity system in the southern part of EU (set of strongly connected, vertically integrated elements whose goal is to meet consumers' requirements). Three different tools are used [1]:
* a system approach that assumes the commodity system is a closed one that we study in an isolated manner. We try to isolate different types of techniques and firms which are re-combined in subsystems. We then study the relationships between the sub-systems and between each subsystem and the overall system (this approach is interdisciplinary). We try specially to locate the decision centres, feedbacks and regulation points;
* a "market structure analysis" that describes the permanent and reciprocal relationships between the strategies of firms and the main structures (concentration, product differentiation, qualities, EU regulations...) of the commodity system. During this step, we will focus on the adjustment processes of firms faced with the globalisation phenomena. But with this type of analysis, the commodity system as a field of investigation loses its significance. Indeed, the retailers but also the assembly plant operators and multinationals have other activities outside the system. Consequently, we are obliged to pass from a vertical analysis (the commodity system)) to an horizontal one (corporate strategy);
* management science (cost accounting, generic strategies, financial results...) that permit firms to exercise their leadership, to adapt and continue to exist.
- Operating framework: in a first step, we describe the tomato processed commodity system. In a second step, we leave the original commodity system to the processing units. For each country, we select the five most important firms. Then, three leader-firms are studied. Finally, we analyse the consequences on the upper levels of the system to formulate a diagnostic.

[1] For a description of the method, Cf. J-C Montigaud, L'analyse des filières agroalimentaires: méthodes et premiers résultats, in *Economies et Sociétés*, Série Développement agroalimentaires, AG n° 21, juin 1992, p.59-83.

3. Main results

3.1. A better understanding of the tomato commodity system (Diagram N°1)

- Three sub-systems coexist within the processed tomato commodity system: the **tomato paste sub-system** which concerns cold break, hot break[2] (in fast expansion) which enables the manufacturing of high quality ketchups, the **pulp, diced[3], passata[4] sub-system** which manufactures only semi-processed products destined to the assembly industries (pizzas, ready made dishes, sauces...) and the **peeled and pieces sub-system** that supplies products directly to retailers and the catering industry. According to business professionals, innovations are located not only in the hot break but also in the diced, passata and other break pulps that are in high demand. Concerning the economic weight of each sub-system, we estimate that the tomato paste accounts for approximately 70% of the total processed tomatoes, the pulp and diced about 25% and the peeled 5%. In fact, the diagram N° 1 is more complex since the sub-systems are connected to each others on the raw material and manufacturing levels. For instance, in order to produce peeled tomatoes, tomatoes which do not meet specifications are diverted to tomato paste production. At the manufacturing level, it is possible to make pizza sauces with pizza basis[5] or with diced and, in the same way, passata with paste or with raw pulps[6]. These relationships make compulsory for the concerned firms to compete on the technical, marketing and organizational levels. However, as we are getting far from the raw material level, the concept of commodity system becomes indistinct and we have to pass from the "filière" to the firms.

Diagram N°1. General description of the processed tomato commodity system

Tomatoes for processing (cultivars adapted to the different types of processing)

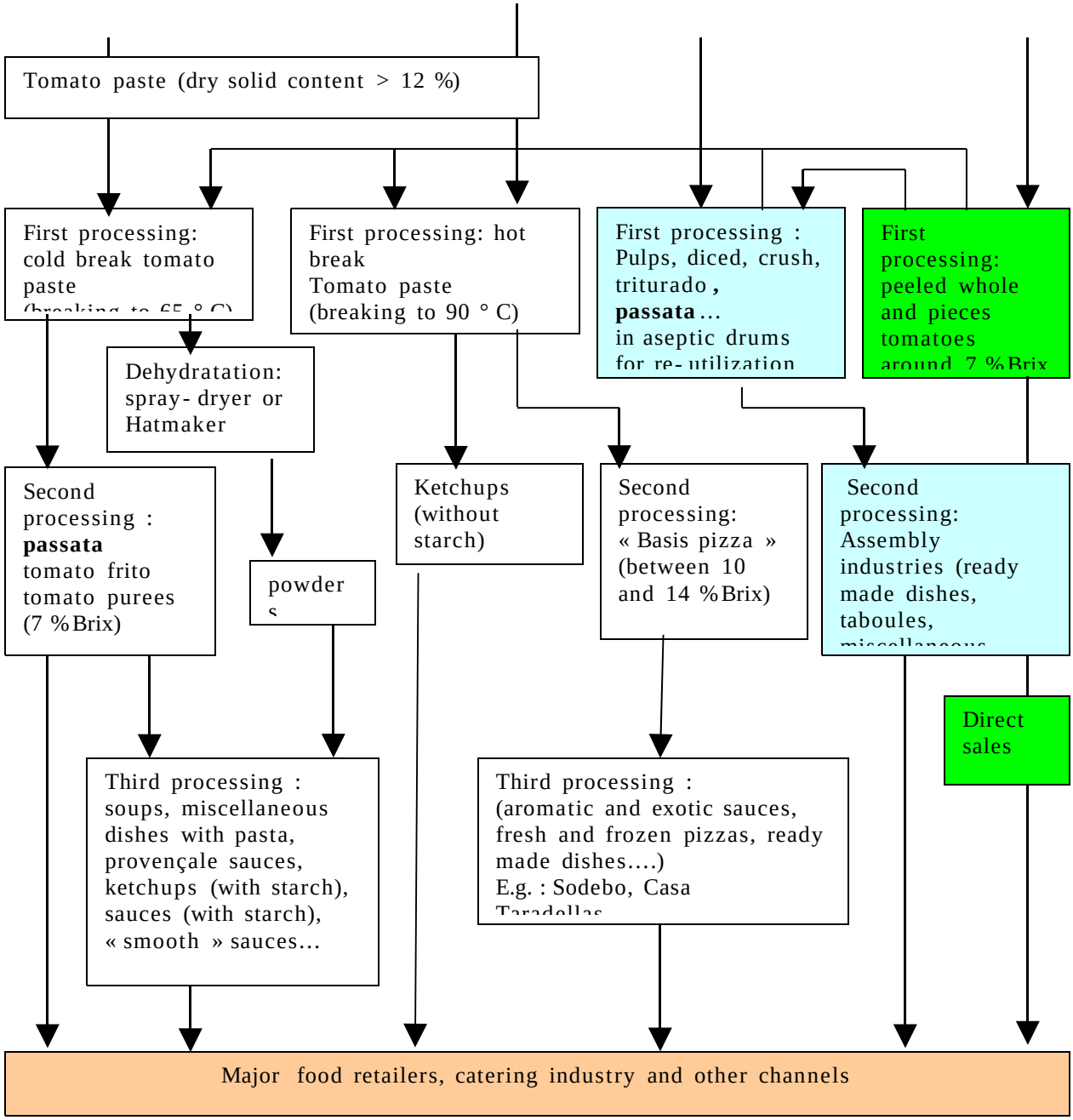
[2] Hot break: process which includes a very quick heating, either before or after crushing. The hot break aims to bring the pulp to 90° C in order to maintain firmness and thus avoid the addition of starch and be able to make ketchup. Indeed, a high quality ketchup can be obtained only from hot break (hot break preserves viscosity or "thickness" but at the slight cost of flavour). Cold break: same process as the previous one but with a lower temperature (65° C) in order to preserve enzymes (to favour flavour).

[3] Diced tomatoes: tomatoes sorted manually before dipping into a pool of water. Tomatoes are then directed to a peeler, sorted again, diced, processed in a calcium bath, mixed with topping juice, heated and cooled in a tube-in-tube cooler. Finally, the product is packed in aseptic bags which are set up inside plastic drums.

[4] Passata: puree obtained from tomato paste or from raw pulp with a rough breaking and just a little salt.

[5] Basis pizza: pulp obtained from hot break, roughly refined and lightly concentrated (between 10% and 14% Brix) in order to avoid the **syneresis phenomena** (separation between a liquid and a solid phase).

[6] In matter of « passata », the Italian processors are in favour of a production from raw tomatoes and not from concentrates. To that end, a statutory-order has been published by the Italian government (Decreto-legge 24 giugno 2004, n.157). The implementation law has been signed on September 23, 2005. Will this regulation be supported by Brussels and the industrial community?



- The power struggle within the processed tomato commodity system: we are here at the core of the functioning of agribusiness commodity systems whose control is carried out by the retailers. These last ones, by combining different strategies (i.e. **sourcing** : organizing the competition among the suppliers on the world level; **logistics** : analysing the different channels and identifying the most efficient solutions in order to decrease the costs or to increase the quality and services; **communication on the product** : making use of quality tools, merchandising and certification norms such as HACCP, ISO 9002- 2000, BRC, Eurep- Gap....) modify the structures of the system. In their turn, the food multinationals combine innovations, label strategies (i.e. positioning as a leader or a challenger) and, through the globalisation process, try to face up the pressure from large retailers. The achievement of

that purpose consists in transferring one part of this pressure to the suppliers. In this case, the manufacturers of concentrate, puree, sauces and other products…, while producing to the optimal conditions, feel compelled to find the right niche and (or) to develop the new products entailing high demand rates, either for the assembly industries, or to the central buying groups. Suppliers emerging late or not showing enough reactivity are eliminated.

- The relationship producer- processor and the prices that result: before the first enlargement (1978) this mechanism was managed in France by the so called compulsory inter- profession (negotiation of contracts between producers and processors that are made compulsory for the profession as a whole with a minimum price paid to producers through the processors). This device was re- utilized by the EEC (Agreement CE N° 1515 of July 30, 1978) and was maintained active with some modifications (deficiency payments and quotas) until 2001 (Agreement 2699/2000) where it was replaced by the system known as “double threshold” for Guaranteed Maximum Quantity (GMQ). Currently, the payment received by farmers includes a commercial price (€40 to €45€/ton) negotiated between producer organizations (POs) and processors, and the EU subsidy (€34.5/ton) paid to the producers through the POs. However, this subsidy causes some problems as it appears at the same time too low for some regions (the outcome is a shortage of raw tomatoes) and too high for others (high prices attract new members whereas the markets in the EU are in a situation of overproduction).

3.2. The firms and the tomato commodity system (the “filière”)

3.2.1. Presentation of the case studies (Copador, Louis Martin, Alsat SL)

We try now to analyse the relationships between the commodity system and the firms. To do that, we first listed the 5 top processing firms in Southern European countries (table 3) and, within this list, we made the choice of three firms: Copador in Italy (nearby Parma), Alsat in Spain (Extremadura) and Louis Martin in France (nearby Avignon). This choice took into account the size and quality of equipments, the reputation of managers and the geographical proximity. The availability of managers for providing information was decisive. For each firm, we analysed the internal organization, the marketing, the relations with the production level, the logistical issues, the main strategies (presence of economies of scale, learning economies…) and the problem of EU subsidies. This analysis was completed (through Amadeus) by a financial profile on the 2000- 2004 period. The main characteristics of the three firms are presented in the tables 4 and 5.

Table 3. The 5 top tomato processing firms in Southern European countries (2004)

Countries	Number of	Total tonnage (in	Total tonnage of the 5 top	The 5 top firms in each five countries

	firms	equi. raw)	firms	
Italy	200	6 400 000	1 780 000 (27.8%)	CIO (ARP, Casalasco, **Copador**, Ainpo), AR Industries, La Doria, Conserve Mediterraneo (Conserva Italia), Columbus (Freddy family)
Spain	79	2 200 000	1 170 000 (53.2%)	Conesa SA, Transa SA, Agraz SA, **Alsat SL** (Centunion), Tomates del Guadiana SC
Portugal	11	1 180 000	750 000 (63.5%)	Idal (Heinz), Italagro (Parmalat ?), Fit (Italagro), Sugal Alimentos (Costa family), Sopragol (Conserva Italia)
Greece	20	850 000	660 000 (76.6%)	Nomikos SA, Copais (Heinz), Asteris (Libyan holding), Prodakta SA, Elbak SA (KG Schroeder Group)
France	9	221 339	160 000 (72.3%)	Le Cabanon (Chalkis), Conserve France (Conserva Italia), Tomates d'Aquitaine, **Louis Martin**, Audia

Sources : Tomato year book (2004 and 2005), Sonito, Agrucon, Unaproa…Amadeus

Table 4. A brief description of the three leader- firms

Main characteristics	Copador	Louis Martin	Alsat
Processed tomatoes (in equivalent raw tomatoes)	300 000 tons	25 000 tons	180 000 tons
Juridiction statute	Cooperative	Private owned	Private owned
Main channels	Assembly industries (80%) and large retailers + catering (20%)	Large retailers and catering industry	Only assembly industries
Trademark	No trademark but appearing of Gustodora	Distributor'brand (80%) and Louis Martin (20%)	No trademark
Quality and certifications:			
HACCP	X	X	X
ISO 9002- 2000 *			X
ISO 9001- 2000 **	X		
IP management***	X		
Traceability	X	EAN 128	X
BRC (British Retail Consortium)	X	X	?
IFS (International Food Standard)	X	being studied	?
Economies of scale	high	low	medium
Learning economies	high	low	medium
District economies	high	low	low
Legitimacy	Medium	high	medium

* concerns the firm (norm in high demand) ; ** concerns the product : *** integrated pest management

Sources: Copador, Louis Martin and Alsat, Amadeus…

Table 5. A financial presentation of the three leader- firms *

The three leader- firms	2000	2001	2002	2003	2004
COPADOR Net sales (€M)	19.5	43.5	46.7	46.8	45.1
Profit margin (%)	- 0,52	0.20	- 0.16	0.20	0.19
Gearing (%)	174.30	175.18	141.29	149.46	222.18
Return on shareholders	- 1.67	0.53	- 0.35	0.57	0.58
Net sales/number of employees	0.72	0.24	0.25	0.216	0.73

L. MARTIN Net sales	29.42	27.4	29.0	30.3	30.7
Profit margin (%)	7.06	5.46	6.04	7.97	8.77
Gearing (%)	1.73	1.87	2.05	1.76	1.24
Return on shareholders	7.26	5.48	6.06	8.68	8.82
Net sales/number of employees	0.26	0.26	0.29	Nd	0.34
ALSAT Net sales	13.72	13.52	20.02	18.04	17.08
Profit margin(%)	- 1.14	- 10.83	0.79	3.91	1.25
Gearing (%)	129.03	193.48	146.80	131.26	117.02
Return on shareholders	- 2.19	- 19.12	2.00	8.28	1.97
Net sales/number of employees	0.19	0.237	0.36	0.30	0.28

* the analysis of ratios have to take into account the juridical status of Copador (specially, the under- capitalization of stockholder' equity for cooperatives)
Source: Amadeus

3.2.2. Opening of the market, strategies of firms and consequences

A/ Increase of competition on the world market (China, South Africa, United States..)

The analysis of the financial results concerning the three case studies (Cf. table 5) helped us to link the difficulties of the EU tomato industry to the progressive opening of the market[7]. In the case of Alsat and Copador (specialized in semi- processed products), the profit margin and the return on shareholder equity declined and even became negative during the 2001- 2002 period. Simultaneously, Alsat and Copador, in order to meet the competition challenge, invested heavily in the processing lines from 2003. The result was some very high gearing ratios (222% for Copador and 117% for Alsat). Within the same context, Louis Martin appeared as protected by its second and third level processing activities but its turnover did not increase.

Table 6. Imports of Chinese products in Europe (campaign 2002/2004)

Import countries	Triple concentrate (tons) Headings 200229091 & 20029099		Double concentrate (tons) Headings 2002290310 & 20029039	
	2002- 2003	2003- 2004	2002- 2003	2003- 2004
France	1 249	7 024	0	0
United Kingdom	915	3836	5 401	11 417
Italy	97 321	192 984	50 430	43 532

Source : Tomato News, N° 08, September 2005

Concerning the world market, there is an overproduction of tomato products (34 M tons for a 29 M tons consumption). The situation is aggravated by the Chinese exports to Italy (Table 6). The consequence is a decline in prices **(see in appendix 1 the monthly prices of semi- processed products on the Parma market for the years 2003, 2004 and 2005).** As a result, raw tomato prices paid to the farmers are declining everywhere in EU. In the case of

[7] China joined the WTO in Doha (November 9- 14, 2001).

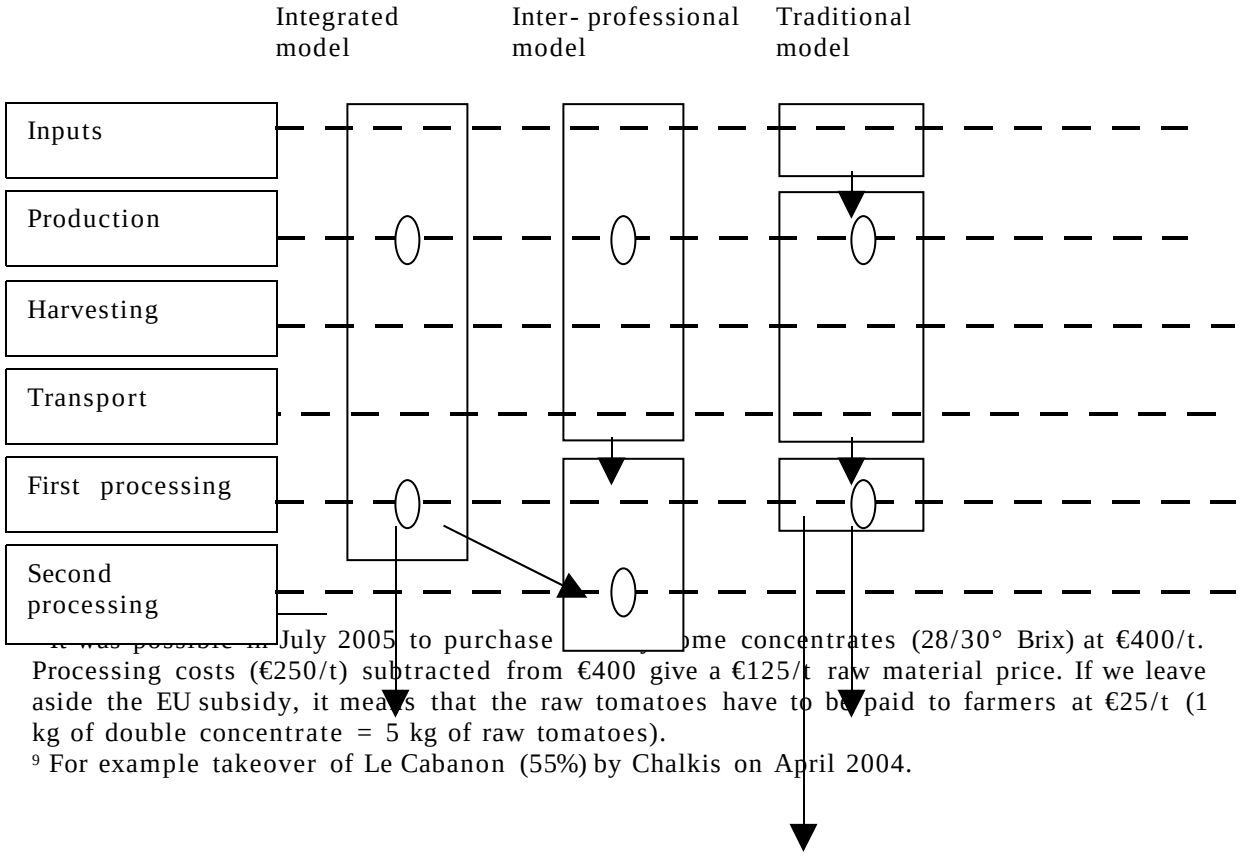
Italy, up to the year 2004, this price was about € 50.5/ton ; it decreased to € 41.04/ton by summer 2005 (i.e. a decrease of 20%) and continues to fall [8] .
This situation leads to a permanent increasing in the holding size (only farmers with a minimum size can compete) and to a phenomena concentration on the first processing level[9]. Finally, it makes compulsory for processors to become more efficient and, therefore, to adapt.

B/ How the firms adapt to the competition (table 5)

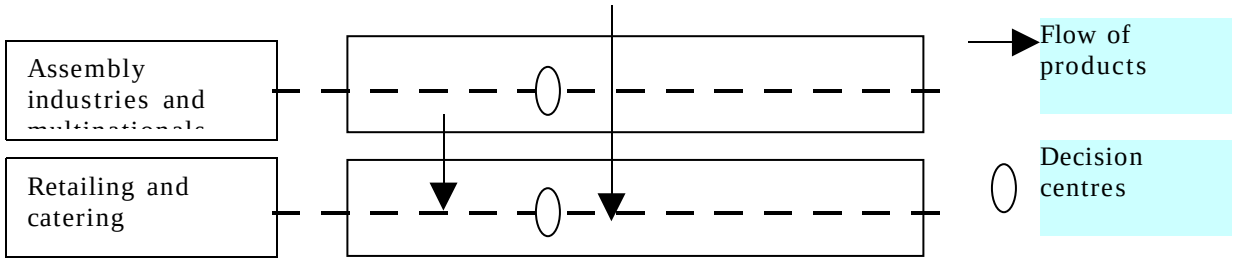
Three different strategies are emerging:
- Copador focuses on the organizational aspects (integrated structure, membership of an inter- regional association of POs), associated with the technology, the emphasis on the learning process (importance given to the human capital) and the economies of scale;
- Louis Martin is more and more oriented towards the production of high value added products sold to the large retailers and to the catering industry while focusing on trust and techniques ;
- Alsat targets only the assembly industries while dismissing the multinationals and, for that, follows a know- how based competition (i.e. in terms of technology employed, traceability, management of the system…) and the internationalization process (strengthening and increasing the capacity for exporting).

C/ The consequences on the "filière" (Diagram N° 2)

Diagram N° 2. The different types of functioning within the tomato commodity system



[8] It was possible in July 2005 to purchase double concentrates (28/30° Brix) at €400/t. Processing costs (€250/t) subtracted from €400 give a €125/t raw material price. If we leave aside the EU subsidy, it means that the raw tomatoes have to be paid to farmers at €25/t (1 kg of double concentrate = 5 kg of raw tomatoes).
[9] For example takeover of Le Cabanon (55%) by Chalkis on April 2004.



Source: field study

Three types of functioning can be distinguished:
- the integrated model (to be found in Extremadura and in Northern Italy): in this case, the inputs (seeds, fertilizers), production, farming operations, harvesting (fully mechanized), transportation to the plant, first and sometimes the second processing levels are managed by only one decision center. In the case of private-owned firms, the processor has control of the governance. In the case of cooperatives, the decisions have to be approved by the board of directors. This functioning could be efficient but needs some significant resources and, very often, financial help from the State ;
- the inter-professional model (mainly present in Southern France and, to some extent, in Northern Italy): the processors and the POs (regrouped under the same organization) gather inside an inter-profession (the SONITO) in order to discuss prices, functioning rules (grading), innovations (specially on the seed level) and exchanges of information. This model which was successful during the 1970-1990 period is currently facing major difficulties, due to the concentration phenomena of the processing industries, the increase of imports and the functioning costs ;
- the traditional model : it concerns processors (mainly located in Southern Italy) who, although utilizing the juridical structure of POs, still function "as in the past" combining simultaneously numerous domestic suppliers and imported semi-processed products. According to USDA[10], the utilization of the Temporary Import Regime should permit some operators to import (at zero duty) tomato paste from China, to re-process it and to re-export it to third countries or to market it in EU as "Made in Italy".
Concerning the food multinationals, they withdrew during the 1975-1990 period from the first and second processing levels and left the manufacturing of products to providers of services. However, when it concerns specific products (ketchup for instance), the food multinationals continue to produce directly (Heinz still runs factories in Portugal, Spain and Greece). Some more in-depth studies would be necessary to study their strategies.

3.3. A better understanding of the competition phenomena

3.3.1. The competition between the EU and the Mediterranean countries (Table 7)

[10] Cf. USDA, Global Agriculture Information Network, N° IT6015, 3/7/2006.

Table 7. Imports of the EU-15 and origin of products (2003-04)
(in metric tons of finished products)

Imports (in metric tons) of EU-15	Coming from the 5 countries	Other European countries	Other countries
Triple concentrate (> 30%) (447 466 t = 100 %)	45.3 %of which : Italy = 23.6 % Spain = 8.8 % Portugal = 7.1 % Greece = 5.6 %	2.2 %	52.5 %of which : China = 47.1 % Turkey = 0.3 % Northern America = 2.8 %
Double concentrate (12-30 %) (275 360 t = 100%)	67.8 %of which : Italy = 36.5 % Greece = 7.7 % Spain = 12.8 % Portugal = 10.8 %	3.45 %	28.75 %of which : China = 21.9 % Turkey = 5.8 % Africa = 0.3 %
Canned tomatoes (694 054 t = 100%)	87.3 %of which : Italy = 77.1 % Spain = 6.4 % Greece = 2.4 % Portugal = 1.2 %	5.5 %of which : Germany = 1.8 %	7.2 %of which : Turkey = 4.7 % Argentina = 1.3 %
Tomato purees (145 944 t = 100%)	90.6 %of which : Italy = 72.8 % Spain = 8.8 % Portugal = 7.3 % Greece = 0.8 %	7.8 %of which : Germany = 5.4 %	1.6 % of which : Turkey = 0.3 % China = 0.5 %
Sauces and ketchups (371 236 t = 100 %)	36.97 %of which : Italy = 16.3 % Spain = 16.1 % Portugal = 3.17 %	56.65 %of which : Netherlands = 36.3 % Germany = 9.1 % Belgium = 4.5 %	6.38 %of which : Turkey = 1.8 % Northern America = 0.5 %

Source: Tomato News

Except for Turkey, the imports coming from the Mediterranean countries are very low. The explanation is twofold. First, the manufactured products in northern Italy or in Extremadura are based on “capital intensity” (all the chain is mechanized, including harvesting). Moreover, the products are highly technical and, consequently, very difficult to imitate. This explains why the two regions produce mainly concentrate and diced which use little labour [11]. For example, the cost of raw tomatoes and packaging inside a 700 gr jar of “passata” are €0.05 and €0.16 while the processing cost is only €0.027. The consequences are unexpected: it is not the EU who has to protect against the exports from the Mediterranean countries but conversely Mediterranean countries (Algeria, Morocco, Tunisia, Egypt…) who set up barriers to the EU exports **(see, in appendix 2 the tariff barriers in Algeria, Morocco, Tunisia…).**

3.3.2. Competition within the EU

[11] A tomato paste line which processes 5 000 to 6 000t/day can function with 3 or 4 workers. Conversely, a peeled tomato line designed to process 500 t/day for example will need at least 10 to 12 workers, 5 to 6 of which are required to use in the quality grading.

- On the first and second processing levels, competition within the EU concerns mainly two countries, Italy and Spain. Italy doubled its production during the period 1980- 2004 but Spain is catching up (increase of 400 000 tons between 2000 and 2004). The Italian processors are afraid of Spanish competition for two reasons: presence in Extremadura of some very modern processing units and, also, the existing of a production system which leaves few choices to the farmers (cotton, tobacco… and animal products).
If we distinguish among the tomato products tomato paste, whole canned tomatoes and the other products (peeled piece tomatoes, juices, sauces, frozen tomatoes, unpeeled canned tomatoes, tomato flakes…), we note that Italy is the country, among the five European producers, which has increased the most its production in the other product category. This category accounted the strongest increase in demand and is characterized by high added value (the production passed from 0.730 M tons in 1998 to 1.3 M tons in 2003). The direct competitor, Spain, is also increasing its production for this type of products but at lower extent (0.160 M tons in 1998 and 0.224 M tons in 2003).

- The assembly plant activities: in fact, to understand the current reorganization process along the tomato commodity systems, we have to examine the demand coming from the assembly industries (soup processors, sauces, pizzas, miscellaneous preserves…) which supply the retailers and the catering industry. Indeed, more than prices, these industries focus on quality, reactivity and the sometimes very technical innovations (production of hot break concentrate, aseptic diced tomatoes, ketchups without starch…). Inside this framework, what about the production of tomato products in the other regions of Southern EU and specially in France ? Louis Martin is a good example of what is happening. At the beginning, this firm manufactured its own raw materials but, faced with the production cost issue, it has been forced to purchase semi- processed products coming from Spain or Italy[12]. This trend concerns also small scale firms which, by combining the “terroir” effect with the quality (ISO 9001….14000, PDO…)[13], compete successfully by achieving efficiency.
The consequence is a strengthening of the specialization process in the European space, the southern part being specialized in the production of semi- processed products and the central and northern parts in high value added products.

4. Elements of conclusion

4.1. About EU policies

[12] During the campaign 2004- 2005, the raw tomato cost for manufacturing tomato paste TCT 36% in aseptic drum (216 kg) was €111.152 versus €81.867 for the same product (including the transport) coming from Italy (Source: Louis Martin).
[13] An example of this type of firms can be found with Jean Martin Company, located in Maussane- les- Alpilles, nearby Marseille (see DAA Agro- manager, ENSA- M, Montpellier, seminar of the 16/03/2006).

- We cannot explain the current situation without referring to some EU policies (EC Agreement 22001/96). For example, the CIO[14] which regroups 3 processing POs (Copador, Arp, Casalasco) and a production PO (Ainpo) is one of the few inter- regional associations of POs based on an horizontal alliance (originally, the reason was to stop the competition between the three basis coops). This strategy has been applied by CIO with great success.

- The question EU subsidy:

* In Extremadura (2005), due to the high quantities of tomato products supplied by the companies (cooperative and private), about 100 000 tons of tomato paste (i.e. 500 000 t to 600 000 t in equi. raw) do not seem to find a buyer. As a result, prices are going down and stocks are increasing. This is a major problem for Spanish companies because the Extremadura brand image is at stake. The explanation is three fold:
a/ political, because the local and regional politicians, as a result of an intense lobbying, supported the subsidy policies in favour of the tomato processing industry ;
b/ agronomic, because the soils, the climate, the size of holdings…permit the tomato production on an industrial basis ;
c/ economic, because, within a production system dominated by the tomato-corn rotation, the choice of tomatoes is probably the most profitable. Indeed, the relatively high revenues received by the producers[15], combined with difficulties acknowledged on other products (tobacco, cotton…)[16], explain the interest in the production of tomatoes for processing.
This situation leads to a decrease of subsidies for the Spanish producers as a whole (when the processed quantities are above the guarantee threshold in a country, the subsidy is reduced for all producers) and, probably, the establishment of new mechanisms (decoupling)[17] whose practical consequences are unknown.

* In Emilia Romagna, the problem is different because the production system is more open. According to a recent study[18] performed by the Parma University, in case of total or partial decoupling, producers would shift towards other products (COP, fodder, rice…) and this would lead to a shortage of raw tomatoes for the processing plants.

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[14] CIO or Consorzio Interregioanale Ortofrutticoli, located in Parma (sales: €6million).
[15] For the campaign 2005/06, the subsidy is set to €34.50/ton except for Spain (€34.50/tonne for the whole peeled tomatoes and €31.29/ton for tomatoes destined to other types of processing (Reg. CE N° 170/2005).
[16] In matter of tobacco and cotton, the goal of the EU is to separate the financial help from the output with the removal of the EU tobacco Fund in order to facilitate the fitting process of farmers to markets.
[17] It is about “Single Farm Payments” that are based on a subsidy/ha, independent from production and calculated on declared areas for the period 2000- 2001- 2002 (Luxembourg, CAP reform of 26 June 2003).
[18] Report Pomodoro, Prime valutazioni sugli effetti della nuova OCM zucchero e della possible riforma dell’OCM ortofrutta in Emilia Romagna, Dipartamento di Economia, Università degli Studi di Parma, 8p.

In summary, in both cases, the financial help can be an outbreak factor for the tomato industry as a whole but not for the same reasons. Indeed, the consequences are different according **to the production systems, the nature of firms, the type of products, the size of holdings, the pressure put on the land….**

4.2. Is it possible to advance a diagnostic ?

- In spite of the Chinese pressure and the threats of Mediterranean countries (i.e. Turkey), the tomato processing industry of EU-15 is not, at the present time, seriously endangered by the liberalization process. On the contrary, the Mediterranean countries protect their industry against the EU exports. In reality, the competition occurs mainly between Italy and Spain while the specialization process within the European space is becoming more intense. The explanations could be found into three directions:
* the coverage of EU policies (subsidies to the POs in exchange of raw materials which have to meet some high quality standards) ;
* some efficient strategies and performances of firms: for instance, the organization of **the vertical relationship "input supplying- production- harvesting- transport to the plant- first processing"** under a unique decision centre is essential, and presence of highly mechanized activities (such as concentrate and diced) not sensitive to the competition of low wage countries ;
* some second and third processing level products evolving very quickly (packaging, recipe and process techniques) and requiring good logistics and flexible services. With respect to the later aspects, it is often better to produce near the consumption areas (ketchups for instance) rather than the production ones.

- These first conclusions have to be strengthened by some further observations in Greece, Portugal, southern Italy and by doing some comparisons with the Californian (Morning Star Company) and Chinese models. Indeed, to complete the "market structure analysis", we must also compare the economic performances of the world leaders. Moreover, some case studies concerning the major European retailers, multinationals (Heinz for instance) and high value added small processing firms seem to be a necessity. We did not investigate the price transfers either, as well as the value chain along the commodity system. Other simulations on a regional basis have to be undertaken to measure the impact of status quo, total or partial decoupling. But the solution is probably political !

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2/ Data bases and reviews:

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- Revues: Alimarket, Tomato News (www.tomatonewx.com), Exame, Linéaires, FLD.
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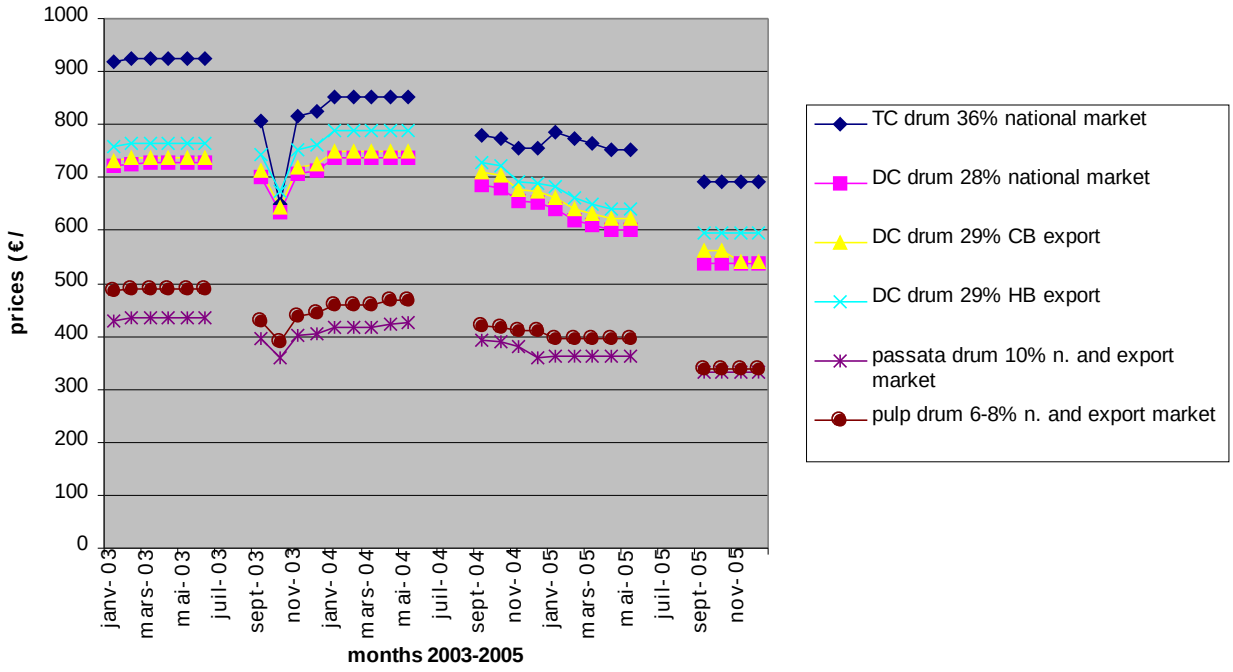
3/ Main relevant Community Legislation:

- N° 2200/96 of October 1996 on the common organization of the market in fruit and vegetables and N° 2201 of October 1996 on the common organization of the markets in processed fruit and vegetable products,
- N° 2699/96 laying down detailed rules concerning the set up of an European threshold distributed among the EU members and N° 1535/2003 of 29 August 2003 laying down detailed rules for applying EC N° 2201/96 as regards the aid scheme for processed fruit and vegetables.
- UE, Règlement (CE) N° 177/2004 du 30 janvier 2004 et Règlement (CE) N° 170/2005 du 31 janvier 2005.

Appendix 1. Monthly prices for semi-processed tomatoes on the Parma market (en €/ton)



Source: Chamber of commerce (Parma), deflated wholesale prices, low range, www.cdcpr.it/prezzi/index.htm

Appendix 2. Custom tariff of some Mediterranean countries for tomato products

Headings (SH)	Algeria				Morocco (situation on 18/04/04)	Tunisia	Egypt	Israel
	DD	PRCPT	TVA	DAP *	DI	DD	DD	DD
Whole Tomatoes **	30%	4%	17%		40% per kg	80%	32%	12%
Double concentrate	30%	4%	17%	12%	50% per kg	120%	5%	12%
Triple concentrate	30%	4%	17%	12%	?	120%	32%	8 % (powder)
Harissa	30%	?	17%	12%	50% per kg	120%	32%	?
Tomato juices	30%	4%	17%	?	50% per kg	?	32%	Does not exist
Ketchups and other sauces	30%	?	17%	?	50% per kg	63%	32%	0%

DD = custom tariffs, DAP = temporary additional duties, DI = import duties
* removal of DAP in September 2005
** diced tomatoes are included
Sources : www.douane.gov.dz./cnis/tarif. (for Algeria); www.douane.gov.ma (ADIL site) (for Morocco); www.customs.gov.eg/index.html (for Egypt); www.mof.gov.il/customs/eng/mazinpage.htm (for Israel, available from 01/09/2005); draft of Tunisian custom tariff (July 2005) (for Tunisia)

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