MARKETING MARGINS OF FOOD PRODUCTS IN EUROPEAN COUNTRIES USING INPUT-OUTPUT TABLES

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1. Aims of the paper

It's well known, both from economic theory and by empirical evidence, that in the long run prices of food products grow less than those of other goods and services. The reduction in the real value of agri-food goods in the long term is offset by productivity gains both in the agriculture and at processing and distribution stages (Butault, 2008). At the same time, raw agricultural products prices grow less than those received by food industry and paid by consumers (Rouchet, 2002). The latter dynamic is due to the progressive incorporation of services along the food chain (preparation and packaging, cold chain, logistics, promotion, etc..) that increase the value of the consumer good.
Such dynamics have been described empirically using deflated prices of raw materials, the ratio between raw agricultural and processed food prices and at a more aggregate level, using price indices at the various stages of the food chain. Such analysis agree in observing that the agricultural stage is reducing its value as compared to those of final product with an increase in processing, transportation and marketing margins (Canning, 2011; Boyer *et al.*, 2013).
During an expansion phase of the economic cycle, a lower growth in food prices compared to inflation and an increase of per capita income results in a decreasing share of consumers income devoted to food consumption.

The global economic crisis began in 2007 caused a break in previous long-run dynamics: according to Eurostat data, the price index of household consumption in the EU-27 (2005 = 100) report an increase in food and non-alcoholic beverage prices higher than that of total consumption (in 2011 such index reached a value of 116.5 for food items against the value of 111.6 for the set of goods and services). Such trend has been a common feature for all EU countries[1].

Some analysis carried out on EU countries macroeconomic data (source Eurostat) found another effect of economic crisis on food system: the ratio between agricultural products value (producer price) and food, beverages and catering value (consumer price) has felt from 25,8% in 1998 to 20,8% in 2006 and then increased again, to 23.2% in 2012. Such trend seems due to a reduction in retail margins rather than to an increased bargaining power of farmers. The 2007 economic crisis has also induced a high volatility of agricultural commodity prices that has, in turn, caused tensions in the relationships among segments and stakeholder of food supply chains.
While the calculation of the overall margin (as an aggregation of marketing, transport and fiscal components) is relatively easy using macroeconomic data, such computation is quite complex when carried out for each stage of food supply chains, moreover, analysis on the extent and time dynamics of such values are rare in the literature. A notable exception are the USA where the "Food Dollar Series", the "Marketing Bill"

[1] HICP index price for Food and non-alcoholic beverages is lower than HICP index price for All-items only in Ireland, Greece, Spain, Luxembourg, Portugal, Romania.

and its components (Labour, packaging, transportation, energy costs, income before taxes, depreciation, interest, maintenance, taxes) are computed out each year by 'ERS/USDA' both for the whole food system and the main food chains In Europe similar analyses are made in some countries, among which the most complete one is certainly that of the "Observatoire des prix et des marges" of the French Ministry of Agriculture that yields the "Euro alimentaire" indicator.

In order to compute the "Marketing Bill" for the different countries of the EU and for the EU-27 as a whole, we propose to use the new input-output tables released by Eurostat in 2008 and 2009, (ESA 95 Supply, Use and input-Output tables NACE Rev. 2) that include supply and use tables at current and constant prices.

Using data from input-output tables we can estimate the value of flows among agri-food system components (Agriculture, Food Industry, Catering) and among these and intermediate and final consumption; furthermore marketing, transport and taxation margins (splitting domestic production margins from those of imported goods) can be computed as well.

The paper is structured as follows:

1) A brief summary of the ongoing dynamics within European agri-food system using macroeconomic data from National Accounts of each European country and EU-27 as a whole, providing also a comparison of pre and post 2007 economics crisis periods;
2) Input-output tables computation methodology and their possible uses for a better knowledge of economic flows within agri-food system and among agri-food system, other economic sectors and the final consumption;
3) Data analysis of above mentioned economic flows, with a comparison of food systems across UE-27 countries;
4) Estimation of marketing margins (absolute and relative values) in EU countries for 2008 and 2009 at current and constant prices;
5) Identification of potentiality and limitations of using input-output tables for the knowledge of economic relations among food system components and between agri-food system and the rest of the economy.

2. Agri-food sector dynamics

The economic crisis began in 2007 with a strong fluctuation in agricultural commodity prices, continued involving all other economic sectors. Such events has brought wide and remarkable consequences on food and beverage consumption. The concern for agricultural commodity price fluctuation effects on consumer prices lead the European Commission to inquire into the functioning of food supply chains in Europe (EU Commission, 2008) suggesting actions to improve their functioning (EU Commission, 2009).
Since then a number of researches have been carried out on food supply chain and on strategies aimed at reducing marketing margins (Bukeviciute et al, 2009), followed by monitoring tools (Eurostat, 2009) and by analysis on food supply chain functioning (Malpel et al, 2013) also aimed at screening for anti-competitive behavior along the food chains (Cavicchioli, 2009; Cavicchioli, 2010; Lloyd et. al., 2009)

Using some of the above mentioned researches as a starting point, and introducing some changes in the computation methodology, we point out some considerations that should be taken into account in calculating the ratio between agricultural production and food consumption values:

a) Agricultural production value without subsidies and taxes; then will be used only agricultural production value at producer prices;
b) Only the value of agricultural production devoted to food consumption: consequently the value of agricultural products used as inputs in agricultural production processes (seeds, fertilizers and feedingstuffs) have been subtracted to agricultural production value;
c) Agricultural production values have been splitted between goods devoted to food processing and goods for direct consumption: such distinction have been based on import-export BEC classification for agricultural products; crop products mainly intended for human consumption pertain to BEC 112 code, while animal products and other crop products (intended for re-use or processing) fall into BEC 111 code.

Table 1 shows data obtained by elaborations from Eurostat; from such data emerges that:

a) UE-27 agricultural production value has increased by 30,9% from 2005 to 2012;
b) such increase has been greater for crop products than animal products;
c) over the period 2005-2012 agricultural goods output mainly for household consumption has increased little (+7,6%) while agricultural goods mainly for industry has increased to a bigger extent (+42,1%)

Table 1- Agricultural production value at producer price
EU-27 Millions Euro at current prices

	2004	2005	2006	2007	2008	2009	2010	2011	2012	*2012/05 %*
Crop Output	**165.976**	**155.225**	**161.190**	**185.538**	**194.046**	**167.897**	**186.828**	**202.700**	**207.861**	***33,9%***
111 Cereals (including seeds)	35.283	27.944	30.927	47.055	49.655	33.284	43.612	54.641	58.995	*111,1%*
111 Industrial crops	14.356	14.041	11.759	13.435	14.921	13.262	15.817	19.072	18.974	*35,1%*
111 Forage plants	18.078	18.201	18.309	21.058	23.972	24.657	24.467	26.377	27.607	*51,7%*
112 Vegetables and horticultural	45.349	46.683	46.834	49.371	49.674	47.097	50.372	47.681	48.060	*3,0%*
112 Potatoes (including seeds)	8.226	7.228	10.316	10.898	9.905	8.875	10.053	9.934	9.438	*30,6%*
112 Fruits	21.760	20.803	22.322	22.494	24.057	21.583	23.278	23.585	23.222	*11,6%*
112 Wine	14.745	12.588	12.895	13.769	13.785	13.273	12.918	14.864	14.443	*14,7%*
112 Olive oil	5.272	4.941	4.879	4.436	4.606	3.408	3.921	3.931	4.177	*-15,5%*
112 Other crop products	2.906	2.796	2.949	3.022	3.471	2.458	2.390	2.613	2.946	*5,4%*
Animal Output	**125.775**	**128.584**	**131.451**	**139.219**	**148.577**	**133.988**	**140.014**	**156.033**	**163.769**	***27,4%***
111 Animals	75.039	77.445	80.705	81.956	86.581	82.087	82.524	92.639	98.893	*27,7%*
111 Animal products	50.736	51.140	50.746	57.263	61.996	51.902	57.490	63.394	64.876	*26,9%*
Agricultural Goods output	**291.751**	**283.809**	**292.641**	**324.757**	**342.624**	**301.887**	**326.841**	**358.733**	**371.630**	***30,9%***
- Seeds and Planting Stock supplied by other agricultural holdings	-885	-923	-977	-1.161	-1.169	-1.211	-1.187	-1.253	-1.100	*19,2%*
- Fertilisers supplied by other agricultural holdings	-63	-63	-57	-51	-66	-86	-125	-164	-146	*132,5%*
- Feedingstuffs supplied by other agricultural holdings	-4.445	-4.430	-4.559	-5.608	-5.804	-4.714	-4.930	-5.016	-5.321	*20,1%*
- Feedingstuffs produced and consumed by the same holding	-20.796	-21.468	-22.511	-26.961	-28.260	-26.580	-27.901	-32.128	-32.818	*52,9%*
Agricultural Intra-sector Good Output	-26.189	-26.884	-28.104	-33.781	-35.299	-32.592	-34.143	-38.560	-39.384	*46,5%*
Agricultural Extra-sector Goods Output	**265.562**	**256.925**	**264.537**	**290.976**	**307.324**	**269.295**	**292.698**	**320.172**	**332.245**	***29,3%***
111 Primary / Mainly for Industry	**167.304**	**161.886**	**164.342**	**186.986**	**201.826**	**172.599**	**189.767**	**217.563**	**229.960**	***42,1%***
112 Primary / Mainly for Household Consumption	**98.258**	**95.039**	**100.195**	**103.991**	**105.498**	**96.696**	**102.932**	**102.609**	**102.286**	***7,6%***

Source: own elaboration on Eurostat data

According to Table 2, agricultural goods output value at chain-linked 2005 price has increased little (+3,4%) over the period 2004-2012, while crop production shows strong volatility and animal output growth has been more constant.

Table 2- Agricultural production value at producer price EU-27
Millions Euro chain-linked 2005 prices

	2004	2005	2006	2007	2008	2009	2010	2011	2012	*2012/05 %*
Crop Output	165.335	155.209	152.538	151.351	159.840	160.356	157.692	164.773	159.029	*2,5%*
Animal Output	128.365	128.582	127.787	129.855	128.852	128.213	130.386	135.377	134.496	*4,6%*
Agricultural Goods output	**293.700**	**283.791**	**280.326**	**281.206**	**288.692**	**288.569**	**288.078**	**300.150**	**293.525**	***3,4%***
- Agricultural Intra-sector Good Output	-25.681	-26.884	-26.749	-27.252	-26.769	-28.823	-28.490	-29.714	-29.653	*10,3%*
Agricultural Extra-sector Goods Output	**268.019**	**256.907**	**253.577**	**253.955**	**261.923**	**259.746**	**259.588**	**270.436**	**263.872**	***2,7%***
Crop Output (% on previous year)		*-6,1%*	*-1,7%*	*-0,8%*	*5,6%*	*0,3%*	*-1,7%*	*4,5%*	*-3,5%*	
Animal Output (% on previous year)		*0,2%*	*-0,6%*	*1,6%*	*-0,8%*	*-0,5%*	*1,7%*	*3,8%*	*-0,7%*	
Agricultural Goods output (% on previous year)		*-3,4%*	*-1,2%*	*0,3%*	*2,7%*	*0,0%*	*-0,2%*	*4,2%*	*-2,2%*	

Source: own elaboration on Eurostat data

In analyzing final consumption expenditure of households have been considered both at home (food and beverages) and out-of-home consumptions (catering services).
Over the period 2005-2012 final consumption expenditure of households in EU-27 has risen by 17,6% at constant prices and has decreased by 3,5% in quantity.

At-home food and non-alcoholic beverages consumption has increased, in value, more than catering services, while there has been a general decrease of all kind of consumption, in particular for alcoholic beverages.
Final consumption other than alcoholic beverages has increased, in quantity, until 2007; from 2008 there has been a generalized decrease in consumption quantities except for 2010.
It seems that economic crisis has therefore had a strong effect on food consumption. Food expenditure has increased, at current prices, more than total one; in percentage it has decreased until 2007, then has remained stable at 21% over the next period.
In quantity terms total consumption has slightly increased and food consumption share has fallen by 20,3%.
The above mentioned consumption dynamics seem to be in constrast to economic theory, according to which during an economic downturn period consumptions should concentrate on non-luxury goods.

Table 3- EU-27 Final consumption expenditure of households Million of Euro

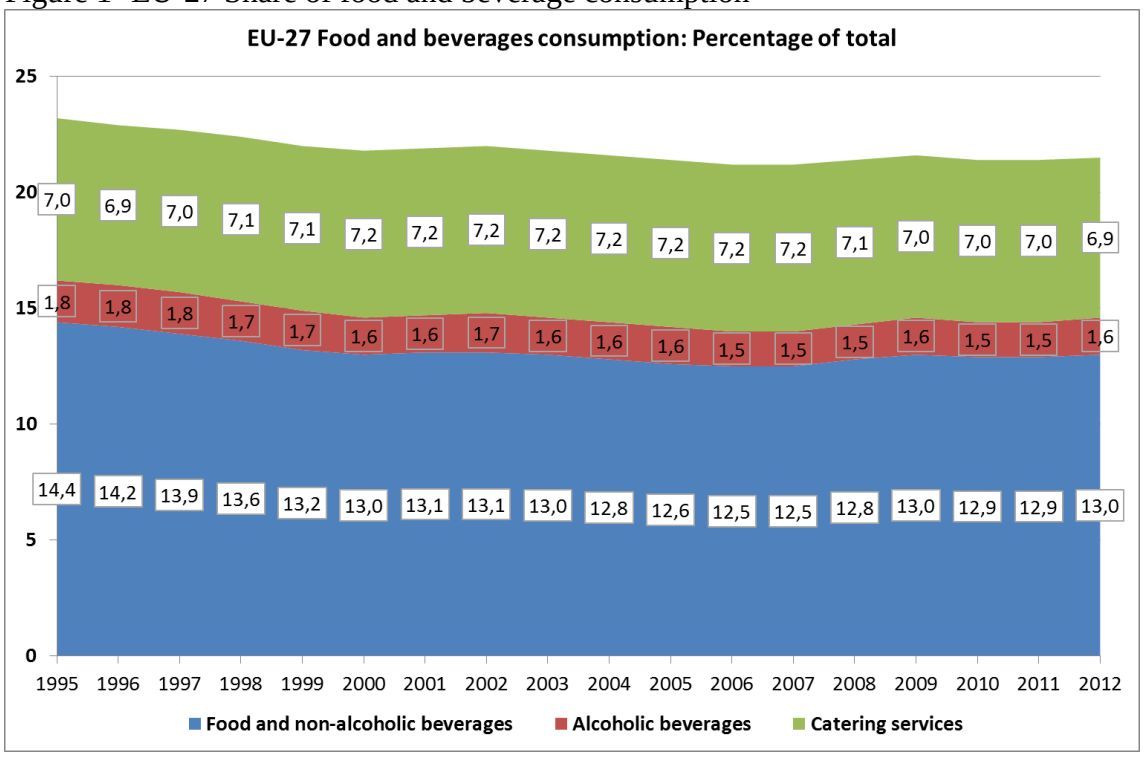
	2004	2005	2006	2007	2008	2009	2010	2011	2012	*2012/05 %*
Food and non-alcoholic beverages Current	774.763	795.206	826.146	864.633	899.392	871.637	900.303	927.803	958.721	20,6%
Food and non-alcoholic beverages Pr.2005	*787.384*	*795.206*	*799.280*	*801.612*	*789.013*	*774.053*	*790.604*	*787.226*	*781.871*	*-1,7%*
Alcoholic beverages Current	97.591	100.117	102.288	105.987	106.799	104.805	108.037	110.853	116.231	16,1%
Alcoholic beverages Prices 2005	*99.378*	*100.117*	*98.458*	*97.512*	*94.360*	*90.214*	*90.048*	*88.940*	*88.264*	*-11,8%*
Catering services Current	437.316	455.973	478.317	501.307	495.431	472.401	486.282	501.017	513.505	12,6%
Catering services Prices 2005	*451.676*	*455.973*	*462.123*	*466.998*	*456.198*	*434.473*	*436.748*	*439.598*	*433.494*	*-4,9%*
Total food consumption Current	**1.309.671**	**1.351.297**	**1.406.751**	**1.471.927**	**1.501.621**	**1.448.843**	**1.494.622**	**1.539.673**	**1.588.457**	**17,6%**
Total food consumption Prices 2005	***1.338.438***	***1.351.297***	***1.359.861***	***1.366.122***	***1.339.570***	***1.298.739***	***1.317.400***	***1.315.763***	***1.303.628***	***-3,5%***
Total consumption Current	6.046.533	6.322.352	6.630.471	6.944.361	7.006.679	6.705.813	6.994.452	7.206.745	7.389.434	16,9%
Total consumption Prices 2005	*6.205.295*	*6.322.352*	*6.428.082*	*6.531.198*	*6.517.841*	*6.373.026*	*6.484.351*	*6.482.967*	*6.431.739*	*1,7%*
Food % on total consumption Current	21,7%	21,4%	21,2%	21,2%	21,4%	21,6%	21,4%	21,4%	21,5%	
Food % on total consumption Prices 2005	*21,6%*	*21,4%*	*21,2%*	*20,9%*	*20,6%*	*20,4%*	*20,3%*	*20,3%*	*20,3%*	

Source: own elaboration on Eurostat data

Figure 1 reports long run data on food and beverage consumption in EU-27, splitted into three main categories, expressed as share of total consumption.

It may be appreciate that such shares was declining till 2006, while afterwards they stayed quite stable with little increases.

Figure 1- EU-27 Share of food and beverage consumption



Source: own elaboration on Eurostat data

The comparison between prices and quantities dynamics of agricultural products and food consumption (Table 4) highlights that:

a) strong fluctuations in agricultural product prices with a smaller extent for food product prices; this is due both to the limited share value of raw agricultural product with respect to food price and to the food retail strategies aimed at curbing consumer prices fluctuations;
b) strong prices and quantity variations from 2008 to 2010: as Input-Output data analysis cover such period it is appropriate to account for such fluctuations

Table 4- Dynamics of Value, Quantity and Prices in EU-27 (%TAV)

		2005	2006	2007	2008	2009	2010	2011	2012
Agricultural Extra-sector Goods	Value	-3,3%	3,0%	10,0%	5,6%	-12,4%	8,7%	9,4%	3,8%
	Quantity	-4,1%	-1,3%	0,1%	3,1%	-0,8%	-0,1%	4,2%	-2,4%
	Prices	0,9%	4,3%	9,8%	2,4%	-11,6%	8,8%	5,0%	6,4%
Total food consumption	Value	3,2%	4,1%	4,6%	2,0%	-3,5%	3,2%	3,0%	3,2%
	Quantity	1,0%	0,6%	0,5%	-1,9%	-3,0%	1,4%	-0,1%	-0,9%
	Prices	2,2%	3,4%	4,2%	4,0%	-0,5%	1,7%	3,1%	4,1%

Source: own elaboration on Eurostat data

We have considered consumption and production dynamics at UE-27 aggregated level, so far. However, the effect of economic crisis have been diverse across EU countries. Such difference is due to:

a) unequal economic conditions in many countries with consequences on employment and consumptions;
b) The duration of EU enlargement: 10 countries entered into the Union in 2004 and subsequently 2 did it in 2007;

c) Participation of some countries to the monetary union with different timing in the adoption of the euro
d) The position in terms of agri-food trade balance (net importing or net exporting country).

Table 5 are shown indexes of values, quantities and prices (2005=100) for agricultural products and food consumption in 27 EU countries. Such data are used to make figure 2,3 and 4, in which are compared changes in value, price and quantity of agricultural products and food consumption. Using the UE-27 average as a reference point strong differences can be observed.

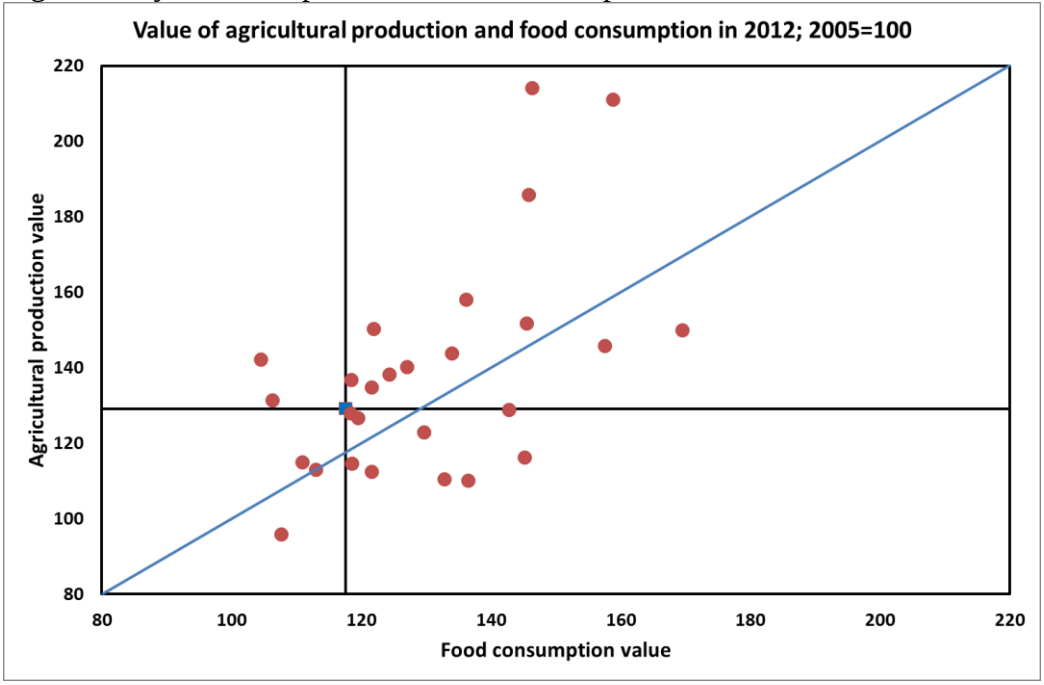
Table 5 - Index of Value, Quantity and Prices in European Countries 2005=100

	Value of Agriculture production	Value of Food expenditure	Quantity of Agriculture production	Quantitiy of Food consumption	Agriculture prices 2005-2012	Food prices 2005-2012
European Union (27)	**129,1**	**117,6**	**102,8**	**96,5**	**125,6**	**121,8**
Austria	140,1	127,0	108,7	105,0	128,9	120,9
Belgium	122,7	129,7	76,7	106,6	160,0	121,6
Bulgaria	128,8	142,8	85,8	91,9	150,2	155,4
Cyprus	110,0	136,5	78,5	109,8	140,1	124,3
Czech Republic	145,7	157,6	101,3	106,1	143,9	148,6
Denmark	150,2	121,9	97,3	98,1	154,4	124,3
Estonia	185,8	145,9	134,9	96,4	137,7	151,2
Finland	143,8	134,0	99,2	108,0	144,9	124,1
France	136,7	118,4	99,0	103,2	138,1	114,7
Germany	138,2	124,3	130,8	106,3	105,6	117,0
Greece	95,9	107,6	93,9	90,6	102,0	118,8
Hungary	128,0	118,4	82,4	90,0	155,3	131,6
Ireland	131,3	106,3	98,2	99,4	133,8	106,9
Italy	112,9	113,0	92,6	95,7	121,9	118,1
Latvia	211,0	158,8	136,3	99,1	154,8	160,3
Lithuania	214,1	146,3	153,1	91,7	139,8	159,5
Luxembourg	134,8	121,6	118,3	101,1	113,9	120,2
Malta	116,1	145,2	88,8	117,8	130,7	123,3
Netherlands	126,5	119,5	106,8	100,7	118,5	118,7
Poland	158,0	136,1	115,9	109,9	136,4	123,8
Portugal	114,6	118,6	101,6	103,2	112,9	115,0
Romania	112,4	121,6	88,2	109,3	127,4	111,2
Slovakia	149,9	169,5	93,4	107,6	160,5	157,5
Slovenia	110,5	132,8	81,2	102,0	136,1	130,3
Spain	114,9	111,0	104,9	94,9	109,5	117,0
Sweden	151,6	145,5	100,2	115,5	151,4	126,0
United Kingdom	142,2	104,5	99,0	92,4	143,7	113,1

Source: own elaboration on Eurostat data

Considering value of agricultural production and food consumption (figure 2) in the majority of countries the former have grown (see all the points above the diagonal) more than the latter. 12 countries have grown less, in term of agricultural production, than the EU-27 average, while in the other 15 countries the increase has been above the average. On the other side 22 countries increased more than the average in term of food consumption: among these, the majority are small countries, while bigger ones, in terms of population, have had variations below or close to EU average.

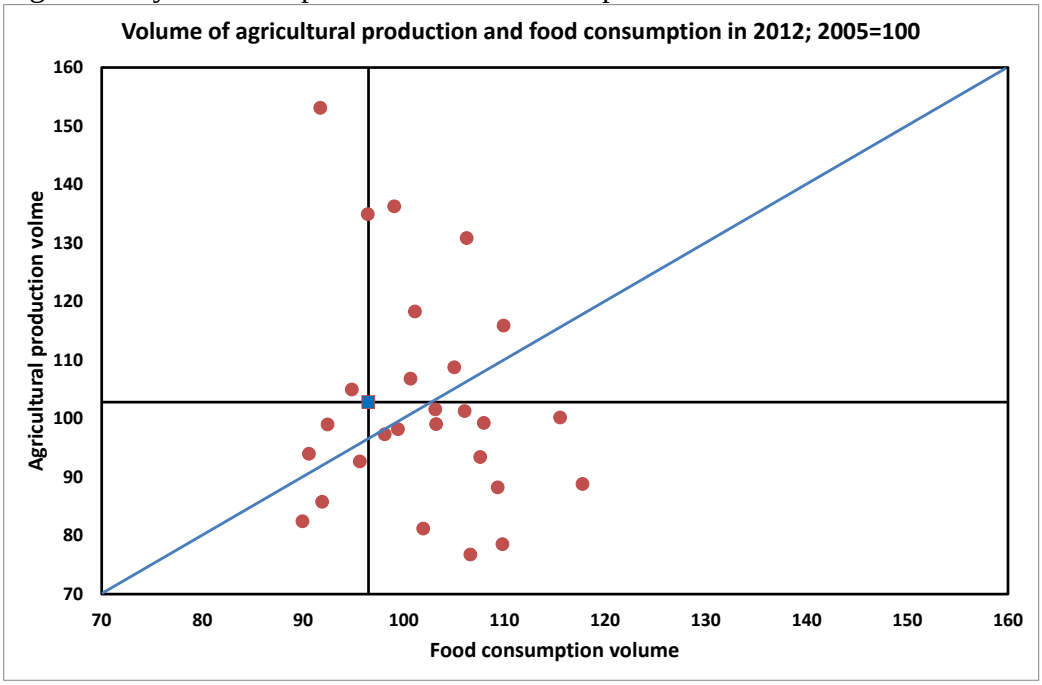
Figure 2- Dynamics of production and consumption value – EU-27 Countries



Source: own elaboration on Eurostat data

Changes in quantities of production and consumption (figure 3) show that agricultural production has grown more (of decreased less) than food consumption in 11 countries, among which, many are big countries. In 11 countries quantity of food consumption has decreased, and in many others it has increased little because of population growth.

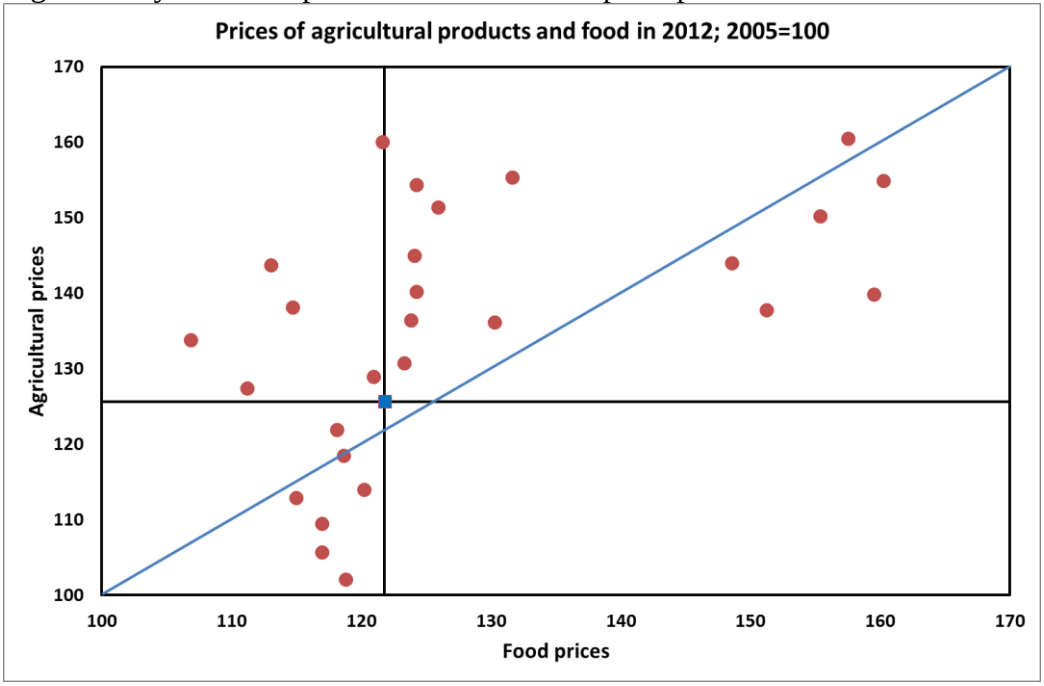
Figure 3- Dynamics of production and consumption volume – EU-27 Countries



Source: own elaboration on Eurostat data

Figure 4 shows price changes for agricultural products and food consumption, in index term. The main part of countries (16 on 27) agricultural prices has grown more than food consumer prices.

Figure 4- Dynamics of production and consumption prices – EU-27 Countries



Source: own elaboration on Eurostat data

However a simple comparison between quantities of agricultural production and food consumption would not be appropriate as it would account for intra-UE and extra-UE trade.

Input-Output tables account both for agricultural products destination (intermediate consumption, domestic final consumption and export) and for the origin of food products (domestic or imported). To render a structure similar to input-output tables, agricultural production data - separating those aimed for intermediate consumption from those devoted to final consumption – are considered with trade data for different stages, classified according to BEC for agricultural and processed products.

Table 6 reports computations carried out for EU-27: import and export data include both intra and extra UE-27 trade. As intra-UE trade break-even, differences between import and export represent extra-UE trade balance for each product. However we have preferred to show in the table whole trade data in order to highlight its strong increase over the last years, definitely higher than production growth.

By adding to agricultural production intended for final consumption the Import of BEC 112 goods and then subtracting the Export for the same goods we obtain the availability of agricultural product non-processed for final consumption (A112).

Sources of good for food industry are computed by subtracting Export for of BEC 111 goods from the agricultural production and by adding Import of BEC 111 and BEC 121 goods (intermediate product of food processing). As a result of these computations we get the availability of raw agricultural input for food processing, representing the intermediate consumption of food manufactory industry.

Using Eurostat data on food industry value of production and value added we can compute, for difference, the values of other intermediate consumption good employed by food industry. To compute the availability of food industry products intended for final domestic consumption (A122) it is necessary to add imports of BEC 122 and to subtract exports of BEC 121 and 122.
The availability of food and agricultural goods intended for final consumption is the value of inputs for the retail system (ATOT).
The last rows of the table report consumption values, splitted in Food and non-alcoholic beverages, alcoholic beverages and catering services that in complex are defined as CTOT. The difference CTOT-ATOT represents distribution and transport margins plus taxes (TM). Such difference can be expressed in absolute value or in percentage with respect to total consumption (TM/CTOT).
Such process of computing and estimation leads to results shown in Table 6, from which some dynamics can be observed:

a) Limited growth (+7,6%) both in production and in availability of agricultural products intended for final consumption;
b) Strong increase in agricultural products trade (+42% in export and +33% in import) with the self-sufficiency rate of 85%;
c) a big increase in value of agricultural products intended for processing (+42%);
d) a huge growth in trade, with all flows almost doubled and a worsening in self-sufficiency rate (from 87% to 83%);
e) a limited increase in value of other intermediate consumption (+14%) and of food industry value added (+9%), that lead to a 20% increase in food products value;
f) a remarkable increase in food products export and lower growth of import, with a consequent improvement of self-sufficiency rate, from 104% to 108%;
g) availability of agricultural and food products as a whole has increased, in value, by 15,7% between 2005 and 2012, while consumption value has grown by 17,6%;
h) the difference between the percentage quoted in the previous point has been caused by an increase in marketing margins, estimated in 21,3% over the period 2005-2012;
i) The share of the whole marketing margin with respect to final consumption has increased about one percentage point between 2005 and 2012 (from 33% to 34%) even if irregularly over the period;
j) the agricultural production value with respect to consumption (table 7) remained at around 20%, fluctuating from a minimum level in 2009 (18,6%) to a maximum level in 2012 (20,9%)

As pointed out before, the dynamics of production and consumption quantities has been fluctuating over the last years, however, over such period, productions has increased little and consumptions has declined to a limited extent. On the other side, price dynamic has been intense and in complex higher than those of agricultural goods.
So far we have considered implicit prices derived from national accountancy macroeconomic data. The above mentioned differences can be however confirmed by index of prices in each stage of food supply chain and provided by Eurostat for each EU-27 country.

Table 6 - Dynamics of production, processing and consumption of food;
EU-27 Millions Euro at current prices

	ELEMENT	2004	2005	2006	2007	2008	2009	2010	2011	2012	2012/05 %
P TOTAL	**Primary: production value at producer price**	**265.562**	**256.925**	**264.537**	**290.976**	**307.324**	**269.295**	**292.698**	**320.172**	**332.245**	***29,3%***
P112	Production Primary/mainly for household	98.258	95.039	100.195	103.991	105.498	96.696	102.932	102.609	102.286	*7,6%*
E112	- Export: primary/mainly for household consumption	40.592	43.705	47.218	51.455	53.784	50.811	57.789	59.209	62.118	*42,1%*
I112	+ Import: primary/mainly for household consumption	55.675	60.318	65.010	69.934	71.980	67.288	75.340	78.020	79.972	*32,6%*
A112=P-E+I	**Availability food primary for household consumption**	**113.341**	**111.651**	**117.987**	**122.470**	**123.695**	**113.173**	**120.482**	**121.420**	**120.139**	***7,6%***
P111	Production Primary/mainly for industry	167.304	161.886	164.342	186.986	201.826	172.599	189.767	217.563	229.960	*42,1%*
E111	- Export: primary/mainly for industry	14.724	16.207	17.275	20.220	26.899	23.344	26.461	31.613	33.497	*106,7%*
I111	+ Import: primary/mainly for industry	22.932	23.979	25.658	30.432	38.257	34.263	37.296	46.014	47.204	*96,9%*
I121	+ Import: processed/mainly fo industry	16.804	17.725	19.669	23.739	28.420	23.938	27.028	33.056	33.854	*91,0%*
A111=P-E+I	Availability primary/for industry=intermediate consumption	192.315	187.383	192.395	220.937	241.604	207.456	227.629	265.020	277.520	*48,1%*
OC	Others intermediate consumption	405.782	425.776	449.243	467.520	486.971	455.889	461.923	479.222	485.505	*14,0%*
VA	Value Added Manufacture of food,beverages, tobacco	211.320	214.275	216.849	224.625	222.288	221.383	223.740	228.478	234.244	*9,3%*
VF=A111+OC+VA	**Value of food products, beverages, tobacco**	**809.417**	**827.434**	**858.486**	**913.081**	**950.863**	**884.727**	**913.292**	**972.719**	**997.269**	***20,5%***
E121	- Export: processed/mainly for industry	15.494	15.821	16.840	20.798	23.392	20.665	23.693	28.556	30.676	*93,9%*
E122	- Export: processed/mainly for household consumption	141.942	151.921	165.990	179.720	193.670	181.214	198.916	222.224	237.777	*56,5%*
I122	+ Import: processed/mainly for household consumption	124.187	133.950	146.339	159.381	170.760	162.895	171.491	188.560	198.278	*48,0%*
A122=VF-E+I	**Availability food processed from manufacture**	**776.168**	**793.642**	**821.995**	**871.944**	**904.561**	**845.743**	**862.173**	**910.500**	**927.093**	***16,8%***
ATOT=A112+A122	**Availability food total for household consumption**	**889.510**	**905.293**	**939.982**	**994.414**	**1.028.255**	**958.916**	**982.655**	**1.031.920**	**1.047.232**	***15,7%***
C1	Consumption: Food and non-alcoholic beverages	774.763	795.206	826.146	864.633	899.392	871.637	900.303	927.803	958.721	*20,6%*
C2	Consumption: Alcoholic beverages	97.591	100.117	102.288	105.987	106.799	104.805	108.037	110.853	116.231	*16,1%*
C3	Consumption: Catering services	437.316	455.973	478.317	501.307	495.431	472.401	486.282	501.017	513.505	*12,6%*
CTOT=C1+C2+C3	**Total consumption**	**1.309.671**	**1.351.297**	**1.406.751**	**1.471.927**	**1.501.621**	**1.448.843**	**1.494.622**	**1.539.673**	**1.588.457**	***17,6%***
TM=CTOT-ATOT	**Estimated Trade and transport margins;taxes**	**420.161**	**446.004**	**466.769**	**477.513**	**473.366**	**489.927**	**511.967**	**507.753**	**541.224**	***21,3%***
EM=TM/TOT	***Estimated margins and taxes (% of consumption)***	***32,1%***	***33,0%***	***33,2%***	***32,4%***	***31,5%***	***33,8%***	***34,3%***	***33,0%***	***34,1%***	

Source: own elaboration on Eurostat data

Table 7 - Composition of total consumption value EU-27

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Primary: production value at producer price	20,3%	19,0%	18,8%	19,8%	20,5%	18,6%	19,6%	20,8%	20,9%
Food Industry: Others intermediate consumption	31,0%	31,5%	31,9%	31,8%	32,4%	31,5%	30,9%	31,1%	30,6%
Food Industry: Value added	16,1%	15,9%	15,4%	15,3%	14,8%	15,3%	15,0%	14,8%	14,7%
Net import of agricultural and food products	0,5%	0,6%	0,7%	0,8%	0,8%	0,9%	0,3%	0,3%	-0,3%
Estimated margins and taxes	32,1%	33,0%	33,2%	32,4%	31,5%	33,8%	34,3%	33,0%	34,1%
Total consumption	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%	100,0%

Source: own elaboration on Eurostat data

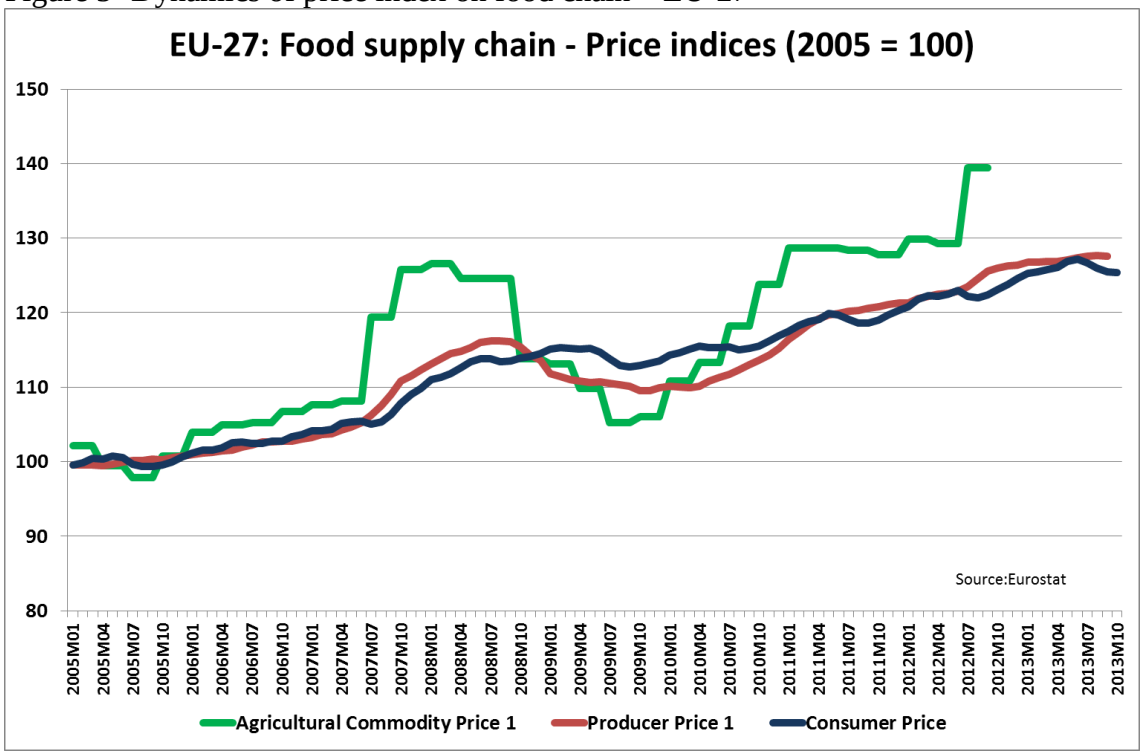
Three price indexes (2005=100) have been compared at different level of the supply chain: farm gate (Agricultural Commodity price 1), food processor gate (producer price 1) and final consumption (consumer price). The first one is quarterly and data are available until December 2012, while the others are monthly and updated to 2013.

The comparison at EU-27 level (figure 5) points out:

a) a bigger growth of raw agricultural prices in recent years (from 2010 onwards) in contrast with the previous period and with respect long run dynamics;
b) a similar trend between producer (food industry) and consumer prices;
c) strong fluctuations in agricultural commodity price index, with the well know "price spikes" in 2007-08 followed by a drop in 2009 and by a new increase in 2010 after which a stabilization took place until summer 2012;
d) apparently agricultural prices fluctuations has been transmitted to a little extent to food prices; however, as we are observing price indexes for all food and agricultural products averaged over 27 countries, some price transmission asymmetries along each supply chain in each area can take place, being masked by the averaging process[2].
e) It seems that retail sector pricing policy has allowed for a marketing margin reduction (in 2008) recovering such gap as soon as possible (2009)

[2] To better detect asymmetric price transmission along vertically related markets, such as food supply chains, a graphical approach may not be sufficient, and quantitative tools for time series econometric analysis may be necessary. For a review of such methods see Meyer and Von Cramon-Taubadel, 2004 and Vavra and Goodwin, 2005

Figure 5- Dynamics of price index on food chain – EU-27



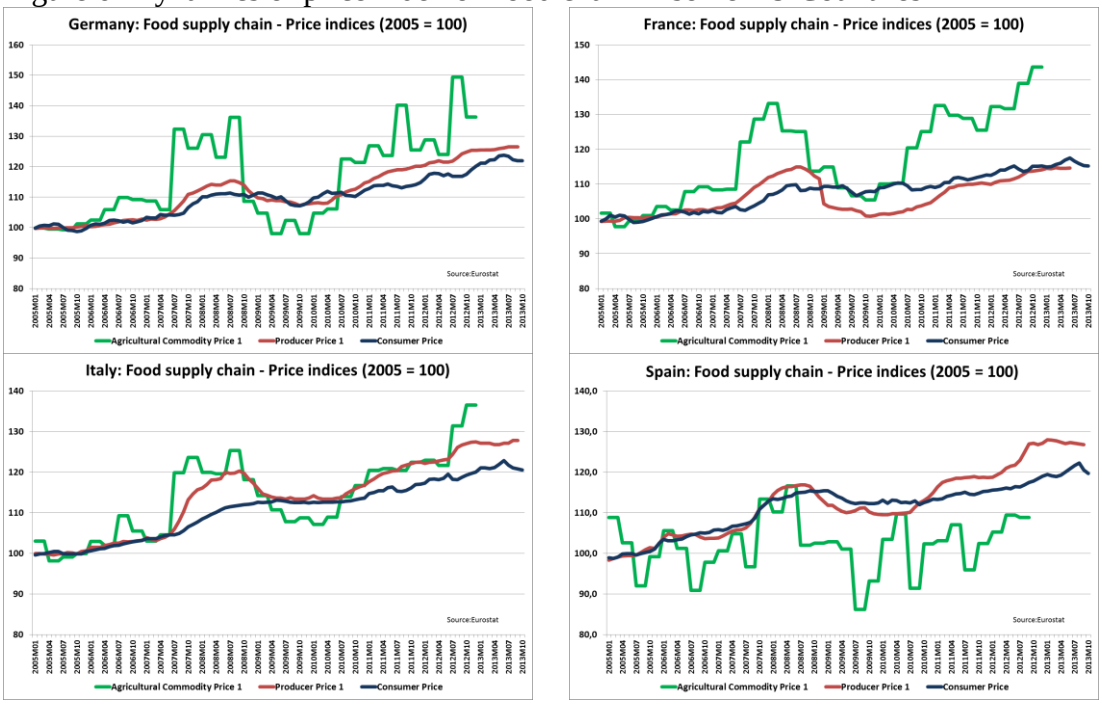
Source: own elaboration on Eurostat data

Phenomena above descripted at EU-27 level are found to be similar in many member countries; however differences among countries are observable and in some cases a opposite dynamics, with respect to the aggregated one, are observed.

Figure 6 reports agricultural and food price indexes in main EU producer and consumer countries (Germany, France, Italy and Spain). Differences are evident in Spain agricultural prices remained steady to a lower level than producer and consumer prices; In Italy the indices dynamics cross each other often with similar trend; in Germany consumer price variation seems smaller than producer and agricultural prices; In France agricultural price changes are remarkably bigger than other two indexes, while food industry producer prices grow to a little extent.

Many factors determine such differences, among which unequal bargaining power within each food supply chain and the trade role of each country (net importer of net exporter) deserve to be mentioned.

Figure 6- Dynamics of price index on food chain in some EU Countries



Source: own elaboration on Eurostat data

3 The input-output tables methodology

Input-Output (I-O) tables allow to quantify and put in evidence the relationships among economic sectors. Relationships matrix is divided in output allocated to intermediate consumption (that are used as input by other sectors) and output for final consumption (domestic and export).
The methodology of construction of IO tables (Eurostat, 2008) provides that, in all EU countries three table have to be computed and released:

a) The Supply table at basic prices, including a transformation into purchasers' prices (SUP)
b) The Use table at purchasers' prices (USE)
c) The Symmetric Input-output table at basic prices (SIOT)

Tables may be computed at constant prices or at chain-linked prices; SIOT table can be divided into domestic products (DOM) and imported one (IMP).
Tables are built up according to the European System of Accounts (ESA95) and are disseminated in Nace rev 1.1 for the years 2000 to 2007; after 2008 they are available in the new activities classification Nace Rev 2. Unfortunately are not completely comparable.
The tables are available on the Eurostat website for all EU-27 countries for 2008 and 2009, but often they are not complete: all countries have provided SUP and USE tables, while SIOT are available for 11 countries only. For this paper also Italian and Spanish SIOT have been recovered from national statistical institutes.
Marketing margins and the difference between taxes and subsidies for each output sector are provided at aggregated level in SUP. The availability of SIOT data is

essential to analyze in details marketing margins in each relationship among input and output sectors.
I-O tables have been used in many researches to analyze relationships within agri-food system (Edmondson et al.,1998; Schluter, 1998; Pizzoli, 2004; Rueda-Cantuche et al., 2005, Butault, 2008; Pretolani et al.,2010). Such contributions put in evidence, on one side the strong economic interrelation among different segments of the agri-food system and, on the other side, differences in marketing margins at processing and retailing stages.

4 Use of input-output tables for analyzing agri-food system

In this paper we make use of 64 branches IO tables for 27 EU countries for different aims:

a) Highlight differences among EU countries in terms of agri-food products destination;
b) Compute marketing margins for each product destination;
c) Compute the aggregated marketing margin and its dynamic in 2008 and 2009; such period is of particular interest, even if limited in time span, because during it strong agricultural and food price fluctuations took place (see paragraph 2)

Activity branches considered in the analysis are:

1) Products of agriculture, hunting and related services (CPA_A01);
2) Fish and other fishing products; aquaculture products; support services to fishing (CPA_A03);
3) Food, beverages and tobacco products (CPA_C10-C12)
4) Accommodation and food services (CPA_I)

The complex of such branches may be named as (agri-food) System.
Each branch yield some outputs computed at purchase price; we can compute the destination of such outputs as inputs intended for subsequent stages. Such stages are intermediate consumptions within the system, intermediate consumption for other branches, domestic final consumptions and export.
More than a half of crop and animal products at EU-27 level (Table 8) is devoted to intermediate consumption in other branches of the system, about one third is allocated to final consumption and one seventh to the export.
Such quota differs across countries for: differences in agricultural production composition, represented by crop product devoted to final consumption and crop and animal products used intended for processing; little importance is attached to the export.

Table 8 – Resources destination at final prices: crop and animal products

Output -->	Intermediate consumption intra-system		Intermediate consumption extra-system		Total Intermediate consumption		Final consumption expenditure		Exports	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Austria	56%	54%	3%	3%	59%	57%	30%	33%	9%	8%
Belgium	43%	44%	7%	7%	50%	51%	24%	27%	23%	21%
Bulgaria	47%	51%	14%	9%	61%	60%	19%	18%	19%	21%
Cyprus	57%	59%	1%	1%	58%	60%	33%	32%	9%	9%
Czech Republic	53%	52%	6%	6%	59%	58%	26%	28%	12%	13%
Denmark	55%	49%	4%	4%	59%	52%	24%	24%	21%	22%
Estonia	57%	54%	4%	3%	61%	56%	31%	31%	11%	11%
Finland	53%	49%	4%	4%	57%	53%	36%	38%	7%	8%
France	55%	55%	1%	1%	56%	55%	29%	30%	14%	13%
Germany	52%	51%	3%	3%	54%	54%	28%	31%	9%	10%
Greece	51%	43%	1%	1%	52%	44%	37%	37%	10%	11%
Hungary	50%	52%	3%	3%	54%	56%	19%	20%	22%	23%
Ireland	70%	67%	1%	2%	71%	69%	19%	25%	10%	7%
Italy	48%	47%	7%	6%	54%	53%	38%	41%	6%	6%
Latvia	19%	24%	28%	26%	48%	50%	34%	31%	18%	21%
Lithuania	43%	47%	4%	4%	47%	51%	35%	41%	30%	32%
Luxembourg	37%	35%	6%	6%	44%	42%	41%	36%	14%	19%
Malta	33%	n.a.	2%	n.a.	35%	n.a.	57%	n.a.	6%	n.a.
Netherlands	45%	44%	2%	2%	47%	46%	11%	12%	41%	41%
Poland	51%	47%	5%	4%	56%	52%	38%	40%	5%	7%
Portugal	57%	56%	6%	5%	63%	61%	29%	31%	5%	6%
Romania	49%	49%	3%	3%	52%	52%	42%	39%	5%	7%
Slovakia	34%	39%	4%	6%	38%	44%	37%	39%	13%	18%
Slovenia	36%	32%	5%	4%	41%	36%	46%	49%	9%	7%
Spain	47%	44%	6%	5%	53%	50%	28%	29%	17%	19%
Sweden	50%	47%	5%	5%	55%	52%	39%	43%	5%	4%
United Kingdom	41%	42%	2%	2%	43%	45%	48%	48%	5%	5%
EU-27	**50%**	**48%**	**4%**	**4%**	**53%**	**52%**	**31%**	**32%**	**13%**	**14%**

Source: own elaboration on Eurostat

Considering food and beverages products at EU-27 level (Table 9) less than 25% is re-used within the system, 6% is allocated for intermediate consumption in other activity branches, more than 55% to domestic final consumption and 15% is exported

These productions show lower differences among countries in terms of product share used for intermediate consumption , while highly variable are shares of export and domestic consumption. In Belgium, Denmark, Ireland, Netherlands a high share of total output is exported.

Table 9 - Resources destination at final prices: food and beverages products

Output -->	Intermediate consumption intra-system		Intermediate consumption extra-system		Total Intermediate consumption		Final consumption expenditure		Exports	
	2008	2009	2008	2009	2008	2009	2008	2009	2008	2009
Austria	19%	20%	5%	5%	24%	25%	55%	57%	21%	19%
Belgium	24%	23%	5%	5%	29%	28%	39%	42%	31%	31%
Bulgaria	18%	20%	7%	6%	26%	26%	59%	61%	11%	12%
Cyprus	26%	27%	5%	5%	32%	32%	64%	62%	6%	6%
Czech Republic	27%	25%	2%	3%	29%	28%	59%	60%	12%	11%
Denmark	25%	25%	4%	3%	29%	28%	37%	40%	33%	32%
Estonia	15%	13%	2%	2%	17%	16%	65%	63%	19%	18%
Finland	20%	20%	10%	10%	30%	30%	63%	65%	6%	5%
France	24%	23%	8%	8%	32%	31%	55%	56%	13%	12%
Germany	18%	17%	4%	5%	22%	22%	59%	63%	16%	16%
Greece	18%	17%	3%	3%	20%	20%	75%	76%	8%	6%
Hungary	19%	19%	3%	3%	21%	22%	60%	59%	17%	17%
Ireland	21%	18%	3%	4%	24%	22%	34%	32%	43%	48%
Italy	27%	26%	4%	3%	31%	29%	59%	61%	10%	10%
Latvia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lithuania	10%	10%	1%	2%	12%	11%	62%	63%	21%	23%
Luxembourg	15%	13%	4%	4%	19%	18%	64%	65%	18%	18%
Malta	30%	n.a.	3%	n.a.	33%	n.a.	60%	n.a.	7%	n.a.
Netherlands	24%	23%	4%	4%	29%	27%	33%	35%	39%	38%
Poland	23%	24%	7%	7%	30%	31%	55%	55%	12%	14%
Portugal	26%	25%	3%	3%	29%	28%	59%	61%	11%	11%
Romania	21%	20%	18%	16%	40%	36%	59%	56%	2%	2%
Slovakia	16%	13%	3%	2%	18%	15%	76%	74%	18%	14%
Slovenia	19%	16%	10%	7%	28%	23%	60%	65%	11%	11%
Spain	34%	32%	3%	3%	37%	34%	52%	54%	11%	11%
Sweden	19%	18%	6%	6%	25%	24%	63%	65%	11%	11%
United Kingdom	23%	24%	8%	9%	32%	32%	60%	59%	8%	8%
EU-27	**24%**	**23%**	**6%**	**6%**	**29%**	**28%**	**55%**	**57%**	**15%**	**15%**

Source: our elaboration on Eurostat

For those countries that make Symmetric Input Output Tables (SIOT) available it is possible to compare, for each destination, output values at basic prices with input at purchase prices; for difference we can compute margins and taxes in each flow.
Table 10 reports an example of margin determination for France in 2008
Computed values highlight lower margins (in percentage) for exchanges within the system (16,8%) and higher for final consumption (31,9%). Particularly high are margins for final consumption of agricultural products (48,3%), of fishing (68,4%) and of food manufacture (40,5).

The ratio between the whole margin (by adding margins in each intermediate and final flow) and final use is 38,5%

Table 10 - Example of margins determination: France 2008 (millions euro)

Output -> Input↓	Crop and animal production	Fishing and aquacul-ture	Manufactu re of food, beverages and tobacco	Accommo-dation and food service activities	**Interme-diate consum-ption Intra System**	Intermedia-te consum-ption Extra System	**Total Interme-diate consum-ption**	Final consum-ption expen-diture	Exports	**Final use**	Trade and transport margins	Taxes less subsidies on products	Total supply
USE Crop & animal	14.412	0	34.731	1.052	**50.196**	1.050	**51.246**	26.343	13.027	**40.712**			91.958
SIOT Crop & animal	12.034	0	34.635	1.000	**47.772**	893	**48.665**	13.623	9.900	**24.898**			73.563
Margins	2.378	0	96	53	**2.424**	157	**2.580**	12.720	3.127	**15.814**	19.489	-1.094	18.395
USE Fishing	0	33	1.738	63	**1.834**	190	**2.024**	3.537	536	**4.067**			6.091
SIOT Fishing	0	26	1.343	49	**1.421**	143	**1.564**	1.119	475	**1.588**			3.152
Margins	0	8	395	14	**413**	47	**460**	2.418	61	**2.479**	2.759	180	2.939
USE Manufacture	8.779	79	36.440	22.945	**68.242**	23.451	**91.693**	156.635	36.225	**194.156**			285.849
SIOT Manufacture	6.516	56	27.851	16.196	**50.625**	16.916	**67.541**	93.169	28.980	**123.445**			190.986
Margins	2.264	23	8.588	6.749	**17.617**	6.535	**24.152**	63.466	7.245	**70.711**	69.428	25.435	94.863
USE Food service	33	0	197	1.022	**1.252**	11.675	**12.927**	76.327	0	**76.327**			89.254
SIOT Food service	29	0	200	1.020	**1.252**	11.619	**12.871**	71.134	0	**71.134**			84.005
Margins	4	0	-3	2	**0**	56	**56**	5.193	0	**5.193**		5.249	5.249
USE SYSTEM	23.224	112	73.105	25.082	**121.523**	36.366	**157.890**	262.842	49.788	**315.262**			473.152
SIOT SYSTEM	18.578	81	64.029	18.264	**101.070**	29.572	**130.642**	179.044	39.355	**221.064**			351.706
Margins TOTAL	4.646	31	9.076	6.818	**20.454**	6.794	**27.248**	83.798	10.433	**94.198**	91.676	29.769	121.446
% MARGINS+TAXES													***% on final use***
Crop & animal	16,5%		0,3%	5,0%	**4,8%**	14,9%	**5,0%**	48,3%	24,0%	**38,8%**			***45,2%***
Fishing		22,7%	22,7%	22,7%	**22,5%**	24,7%	**22,7%**	68,4%	11,4%	**61,0%**			***72,3%***
Manufacture	25,8%	29,5%	23,6%	29,4%	**25,8%**	27,9%	**26,3%**	40,5%	20,0%	**36,4%**			***48,9%***
Food service	12,2%		-1,5%	0,2%	**0,0%**	0,5%	**0,4%**	6,8%		**6,8%**			***6,9%***
TOTAL SYSTEM	20,0%	27,5%	12,4%	27,2%	**16,8%**	18,7%	**17,3%**	31,9%	21,0%	**29,9%**			***38,5%***

Source: our elaboration on Eurostat

The same computation for 12 countries for which SIOT tables are available, allows to compare margin differences for each destination.
For crop and animal products (Table 11) margins are, in general, low for output allocated to intermediate consumption, while are higher for products allocated to final domestic consumption; the latter are particularly high in Italy, Sweden and France, while are quite low in Greece Spain, Hungary and Romania.

Table 11 - Margins on crop and animal products by destination

Output -->	Total Intermediate consumption		Final consumption expenditure		Exports	
	2008	2009	2008	2009	2008	2009
Austria	5,8%	n.a.	45,2%	47,0%	11,3%	11,3%
Czech Republic	n.a.	17,4%	n.a.	17,0%	n.a.	0,0%
France	5,0%	5,2%	48,3%	49,3%	24,0%	21,8%
Germany	16,3%	19,2%	37,7%	36,4%	13,1%	6,6%
Greece	21,5%	23,7%	20,6%	22,7%	20,3%	22,9%
Hungary	9,2%	n.a.	28,8%	n.a.	17,3%	n.a.
Italy	11,6%	12,2%	57,4%	56,1%	14,1%	13,2%
Netherlands	5,6%	5,8%	55,0%	54,6%	19,2%	19,7%
Portugal	9,5%	n.a.	43,3%	n.a.	8,2%	n.a.
Romania	7,8%	n.a.	7,8%	n.a.	4,1%	n.a.
Spain	9,5%	13,3%	34,8%	33,8%	17,1%	22,0%
Sweden	14,3%	n.a.	54,1%	n.a.	11,0%	n.a.

Source: own elaboration on Eurostat

For food and beverages products (Table 12) margins on intermediate consumption goods are higher than those for agricultural products and quite variables. For food and beverages products intended for domestic final consumption margins are more homogeneous across countries, even if some differences are observable: in Austria, Hungary and Sweden margins are higher, while in Greece and Romania they are lower.

Table 12 - Margins on food and beverages products by destination

Output -->	Total Intermediate consumption		Final consumption expenditure		Exports	
	2008	2009	2008	2009	2008	2009
Austria	16,1%	17,5%	51,3%	52,2%	1,0%	1,2%
Czech Republic	n.a.	22,4%	n.a.	46,2%	n.a.	0,0%
France	26,3%	34,4%	40,5%	40,8%	20,0%	19,9%
Germany (until 19	27,9%	31,2%	41,8%	41,2%	12,4%	12,2%
Greece	38,6%	39,4%	37,7%	38,6%	22,8%	23,4%
Hungary	15,5%	n.a.	53,2%	n.a.	7,5%	n.a.
Italy	13,5%	15,1%	45,2%	46,8%	5,6%	5,8%
Netherlands	10,0%	10,7%	45,4%	46,9%	4,9%	4,7%
Portugal	19,5%	n.a.	46,3%	n.a.	10,2%	n.a.
Romania	37,6%	n.a.	27,8%	n.a.	9,6%	n.a.
Spain	15,8%	18,5%	42,1%	42,6%	8,5%	6,7%
Sweden	15,5%	n.a.	49,8%	n.a.	9,0%	n.a.

Source: own elaboration on Eurostat

Finally, the ratio between whole margins and final uses give us total margins of the system in all EU-27 countries and for the Union as a whole, in 2008 and 2009 (Table 13).

With respect to the average margin of EU-27 (35% in 2008 and 36% in 2009) Finland, Poland and Sweden show higher margins and Cyprus, Latvia, Malta and Spain are under the average.

By comparing 2008 and 2009 emerges that margins have risen in 18 countries while have decreased in 8 countries. This is a confirmation of what stated in paragraph 1: The retail system has, in general, reduced its margins during the agricultural price "spike" (2008) and increased them the next year (2009). Countries in which margin have decreased are those in transition (Bulgaria, Latvia, Poland, Romania, Slovenia) or those more severely hit by the economic downturn (Greece, Ireland, Portugal).

Table 13 - Total margins on System – EU-27 Countries 2008-2009

	2008	2009		2008	2009
Austria	29,9%	30,9%	Latvia	23,4%	22,9%
Belgium	33,3%	33,4%	Lithuania	31,8%	32,0%
Bulgaria	33,2%	29,7%	Luxembourg	36,6%	37,8%
Cyprus	19,7%	20,8%	Malta	24,6%	n.a.
Czech Republic	35,2%	38,0%	Netherlands	30,2%	31,3%
Denmark	37,4%	39,2%	Poland	45,2%	43,3%
Estonia	36,0%	40,2%	Portugal	36,4%	35,8%
Finland	50,2%	50,8%	Romania	35,3%	34,2%
France	38,5%	40,5%	Slovakia	29,1%	32,8%
Germany	35,7%	37,9%	Slovenia	38,4%	34,4%
Greece	32,7%	32,6%	Spain	26,4%	26,9%
Hungary	37,5%	39,0%	Sweden	43,9%	44,1%
Ireland	30,8%	30,7%	United Kingdom	36,3%	37,1%
Italy	35,5%	36,4%	EU-27	35,0%	36,0%

Source: own elaboration on Eurostat

5 Conclusions and suggestion for future research

In this paper we have used IO tables in order to compute marketing margins for those economic activity branches of the agri-food system in their exchanges both with other economic activity branches and with final uses.

For a complete analysis all the table have to be available (SUP, USE, SIOT) and so far such availability is confined only to some EU-27 countries.

The change of activity branches definition between NACE rev1 e rev 2 prevent an homogeneous comparison over a long time span. Such kind of analysis will be possible when homogeneous data series will cover at list a period of 5 years.

The currently available tables allow to observe some interesting phenomena:

- Exchange relationships among for activity branches constituting the agri-food system;
- Production uses splitted between intermediate and final consumption;
- Value and variation of whole margins for each branch and for the system as a whole;
- Variations of margins over the period of strong fluctuation in raw agricultural prices.

It will be possible to carry out further deeper analysis when chain-linked price tables will be available for more years: whit these information will be possible to separate the price component and quantity component of value changes.

Input-output tables allows a more accurate estimation of marketing margins than those obtained using macroeconomic aggregated data from national accounts.

Furthermore, margins computed suing IO tables are bigger than those from macroeconomic data (for EU-27, 35% vs 31,8% in 2008 and 36% vs 33,8% in 2009).

On the other side data from national accounts provide useful information in the short run such as production and consumption dynamics of agri-food products, making also possible the computation of aggregated marketing margins.

Both of the methods of margins computation may be considered effective. Data obtained, with those obtained from the computation of Euro alimentaire (in France) or of the Food dollar (in the USA), may be employed for a better knowledge of the relationships among branches constituting the agri-food system and for analyzing its ongoing changes.

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