

## The role of Producer Organisations in the vegetable value chain: an application to the red chicory from Veneto

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### **Astract**

This paper is about agricultural value chain and aims at evaluating the impact of Producer Organizations (POs) on a vegetable value chain. In particular, the objective of this study is to compare added value distribution among players in the vegetable sectors in different supply chain scenarios, i.e. supply chain with a PO as intermediary and supply chain with a wholesaler as intermediary. We will focus on an empirical application of ISMEA value chain to the supply chain of two vegetables: the "Radicchio rosso di Treviso tardivo IGP" and its equivalent not certified product, the "spadone" chicory, which are both produced in the Veneto region only. The case study evidence suggests that POs allow farmers to reach a greater benefit, compared to ordinary supply chain, even if such efficiencies could have been higher. Since the substantial review and reduction of direct support to agricultural income, the tools improving supply concentration appear as the few tools, which can enable a return to profitability, as well as efficiency of the supply chains themselves.

### **Keywords**

vegetables value-chain, CAP, coordination, producer organisations, input-output analysis

### **Introduction**

The organization of agrifood supply chain is a sensitive issue and its optimization can improve the profitability of agricultural activities. One of the objectives of many scholars and politicians is to identify tools and organizational models, which reduce the scattering of producers and coordinate the different players in supply chain, to ensure a fairer and more effective income distribution.

Typically, farmers are competitors, but, at the same time, they often suffer the buyer power exerted by wholesalers, traders, and distributors. In addition, as shown by some studies (Zaghi and Bono, 2011; Nomisma, 2009; AGCM, 2007; Pezzoli, 2011) agricultural supply chains suffer from system inefficiencies.

In order to improve the competitive position of farmers increasing their margins, it is fundamental to assess concentration and qualification of the supply. Both these issues are important, given the growing demand for quality and services by consumers (Frascarelli, 2008; Giacomini, 2013).

The Common Agricultural Policy (CAP) in fruit and vegetable (F&V) sector identifies Producer Organizations (POs) as responsible for planning, focusing and qualifying supply in order to adapt it to the demand. Therefore POs should facilitate the improvement of the bargaining position of producers (EC 1182/2007; EC 1234/2007; EC 2200/1996; EEC 23/1962).

Despite some evaluations focused on positive results achieved by POs (Agrosynergie, 2008; ISMEA and MIPAAF, 2012; Camanzi et al., 2009), in literature there is a lack in the real impact in terms of rationalization, efficiency and equity in the distribution of value added along the supply chain (European Commission, 2014).

Therefore, the main objective of this research is to assess whether the presence of POs in the F&V industry improves equity and efficiency in the distribution of value added among the players, in particular for farmers.

From this general objective two research questions arise:

1. Do POs transfer any benefit to their members?
2. Does product differentiation, such as organic or Geographical Indications (GIs), have some effects on margins distribution along the supply chain, with a real benefit for farmers?

This is a particularly relevant theme given the increasing centrality of coordination between the different stages of the supply chain in recent years.

Over more than fifty years, CAP main objectives established in the Treaties have remained unchanged. However, the tools to achieve those objectives have changed: policy makers started from direct intervention and then gradually moved to reorient agriculture to the market. Especially by the last Reform in 2013, CAP moved toward a decentralized management of the Common Market Organization (CMO), delegating POs and interbranch organizations (IBO) the policy negotiation and implementation activities (Frascarelli, 2012a; 2012b; 2012c; Canali, 2013; 2007).

POs system in F&V sector is considered a model for the other sectors. One of the most important key elements of CAP 2014-2020 refers to a significant modification in the application of competition rules in the agricultural sector (European Commission COM, 2014). According to the new CMO, in the olive oil, beef and veal, and arable crops sectors POs will assume a central role in the negotiation of the contract terms (including pricing) for the sale of some or all of their production, notwithstanding the application of competition rules. In order to gain benefits from this derogation, the efficiencies created by POs should overtake the possible negative effects of joint selling<sup>1</sup>.

Therefore, in order to provide policy makers with new evidences to incentive POs development, it is worth investigating the impact of POs on agriculture system, focusing on their ability to increase efficiency in the use of public resources.

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<sup>1</sup> In this way, the efficiencies assessed should guarantee the activities of POs contribute to the fulfillment of the objectives of the CAP set out in Article 39 of the Treaty on the functioning of the European Union. New regulations aim to give some exceptions to the competition rules, in accordance with Articles 169, 170 and 171 of the CMO regulation (EU Reg. n. 1308/2013).

Unlike the fruit sector, in the vegetable sector supply chain historically suffers from a high level of fragmentation, but recently the number of cooperative experiences has increased. In addition, in literature there is a lack of empirical studies comparing the distribution of value added among players in different supply chain schemes. For these reasons, we decided to investigate the vegetable sector.

With the purpose of answering the research questions, the remainder of the paper is structured as follows: in the next section the methodology used in the study is described in detail; in the third section the case study is presented; the fourth section focuses on the results of the empirical analysis; finally, in the last section we discuss the findings of the study concerning theoretical implications of supply concentration and qualification.

## Method

### *Input-output method and ISMEA value chain*

With the aim of answering the research questions, we implemented the ISMEA value chain method. This tool is based on Leontief input-output model (Leontief, 1941; Alvaro, 1999; Guarini and Tassinari, 1995; Miller and Blair 1985). The aim of ISMEA value chain is to share the household spending for a product among all the players who directly and indirectly contribute to the manufacturing process (ISMEA, 2014a; 2014b; 2009; 2008). This methodology relies on the ISMEA system of input-output tables of agrifood sector, for 2011, which consist of a focus of ISTAT input-output tables for Italian economy, which are updated to 2011<sup>2</sup> (ISMEA, 2005; 2004; 1998; 1997; ISTAT, 2006; Mantegazza and Pascarella, 2006). Given the complexity of the vegetable sector, in the study we focused on two varieties of the same product: the "Spadone" chicory and the corresponding Protected Geographical Indication (PGI) "Radicchio Rosso di Treviso tardivo". Both grow only in Veneto and their production process is very hard-working and expensive, so that they can be considered as "niche products".

The first step of the empirical analysis was to outline the flowchart of products chosen for the case study, collecting and attributing prices and quantities produced and sold to the different stages of the supply chain.

The dataset was built by referring to ISMEA, ISTAT, Regione Veneto and Veneto Agricoltura data. Where data were missing, we integrated them with information from telephone and in-depth interviews to members of POs, and individual farmers, to wholesalers and to other experts from Veneto.

By using the matrix of direct and indirect requirements and that of the coefficients of primary inputs<sup>3</sup>, it is possible to share the value added to each industry (the remuneration of inputs) and to allocate the expenditure for the purchase of intermediate goods to supply industries.

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<sup>2</sup> ISTAT input-output tables for the Italian economy has 63 industries, whereof one referred to Agriculture, one to Fisheries, one to Food and beverages industry. ISMEA input-output tables focuses on these three industries, splitting into 27 agricultural and fisheries sectors, into 9 food and beverages sectors, and into 3 chemical sectors.

Direct requirement coefficients refer to the proportion of inputs directly required from industries by industries to produce 1 unit of output. On the other hand, indirect requirements coefficients depend on the chain of calculations of output requirements, and can be continued beyond the direct requirements of an industry.

Indirect requirements can arise even when there is no direct dependence between sectors. For example, the red chicory sector may not directly require any input from the chemical industry, but it requires inputs from the plant nursery sector, which cannot be satisfied without inputs from the chemical industry.

The basic equation of the model is:

$$[1] \quad (I - A) X = D$$

where I is the unit matrix, A is the matrix of direct requirements, X is the vector of the total production and D the demand vector.

If we know the demand D and the direct requirements, we can calculate the vector of production:

$$[2] \quad X = (I - A)^{-1} D$$

$(I - A)^{-1}$  is the Leontief matrix, that is the matrix of direct and indirect coefficients.

Giving the coefficients of primary inputs, we can calculate the value added in function of the production too:

$$[3] \quad Y_j = \vartheta_j (I - A)^{-1} D$$

If we multiply the rows of the matrix of the primary inputs for the columns of Leontief matrix, we obtain the matrix of direct and indirect coefficients of primary inputs.

This final equation allows to calculate value added in function of the final demand of the sectors. Therefore, the coefficients of this matrix indicate the value added increase for each sector, corresponding to a unit demand increase of the sector considered.

### *Case study*

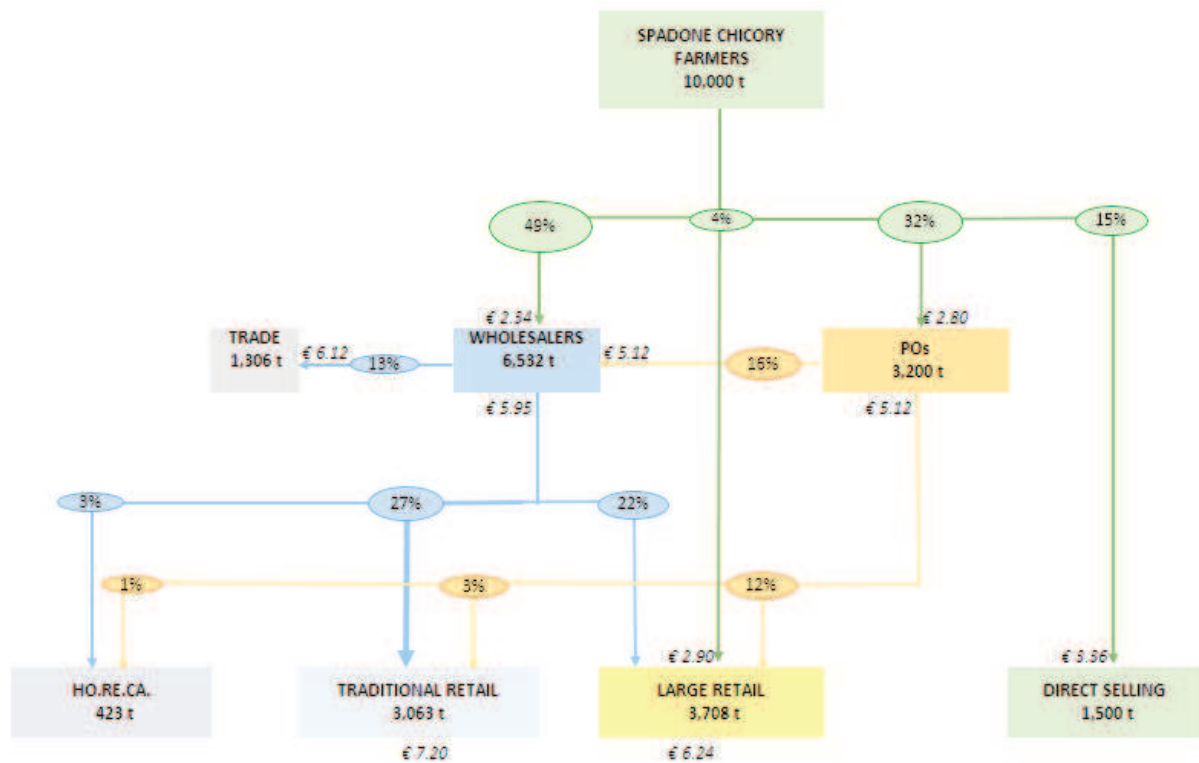
During the first phase of the case study, through the analysis of product flows (in terms of prices and quantity), we identified three supply chain types: a very short chain (direct selling), a medium chain (large retailing channels), a long chain (traditional retail).

Figure 1 illustrates the flowchart of *Spadone* chicory supply chain, while figure 2 those of *Radicchio Rosso di Treviso tardivo*.

Wholesale (both directly and indirectly) is the most important channel for both products, as resulted that wholesalers market half of the production collected by POs. Wholesalers are very heterogeneous: there are traders that operate both in and out Treviso market, others pick and pack the products. Usually wholesalers' channels are characterized by many intermediate steps to get the product from farm to fork. This fragmentation creates inefficiencies in the system, as resulted from a survey conducted by the Italian Competition Authority (AGCM 2007).

The amount of product managed by POs is still limited: it is about 32%, half of which is channeled to the final retailers through wholesalers. This is mainly due to the fact that the majority of Italian POs doesn't feature a commercial structure, and work with wholesaler partners to market its products. This phenomenon represents an additional product passage, leading to an inefficiency of the chain.

Figure 1. Chartflow of Spadone chicory



Source: own elaborations on data from ISMEA, ISTAT, Regione Veneto – Veneto Agricoltura

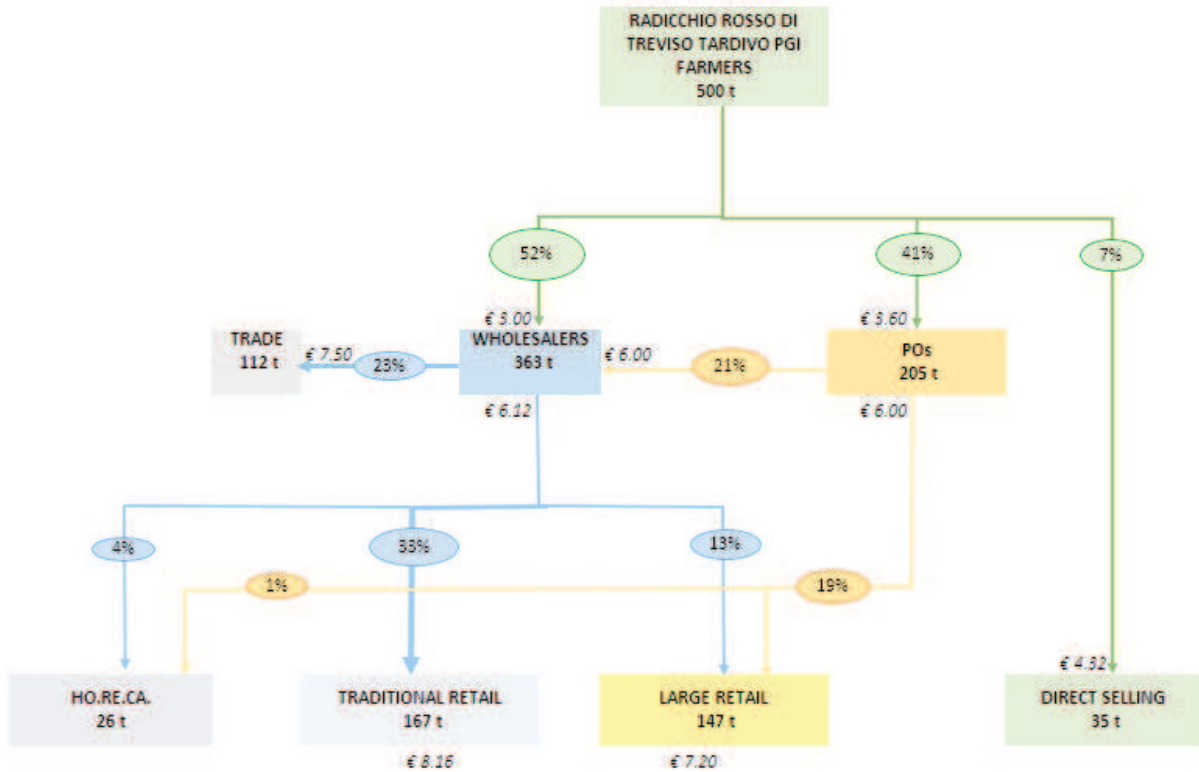
Almost half of the production value of the whole chicories produced in Veneto goes through POs (Veneto Agricoltura, 2012a). This is due to the limited size of farms in Treviso, the lack of ability to associate among farmers and the relevance of wholesalers in the region. According to the Observatory on Trade of the Ministry of Economic Development, in 2013 Veneto has the highest density of intermediaries (5.3 per 1,000 inhabitants). More in details, Veneto concentrates over 10% of Italian agricultural wholesalers/brokers (MISE, 2014).

POs in the red chicory supply chain (certified or not) do not export: they sell the products to specialized wholesalers, who sell it abroad. Also this phenomenon represents a significant inefficiency for the sector. In 2011 only 500 tons of *Radicchio Rosso di Treviso tardivo* were produced. They only represent 3% of the quantity, which potentially can be certified in municipalities covered by the regulations (Rossetto, 2014).

The low impact of certification is due to the strict production regulations. Producers believe, in fact, that the process is long and costly, with high possibility that produce does not comply with the requirements in order to be certified. Consequently, the high non-compliance risk encourages many entrepreneurs to produce and market conventional product. Farmers highlighted other complicated aspect for certification in the commercial channels. Indeed, certification will raise the cost of production and selling price, which doesn't meet modern retailing policies, highly concerned with the quality/price ratio (Rossetto, 2014). The PGI label is compatible only with the channels, such as specialty stores and export, able to perform high pricing policies. Furthermore, the production of

*Radicchio Rosso di Treviso tardivo* is only possible for very specialized and financially solid farms, oriented to innovation and investment (Veneto Agricoltura, 2012b).

Figure 2. Chartflow of *Radicchio Rosso di Treviso tardivo*



Source: own elaborations on data from ISMEA, ISTAT, Regione Veneto – Veneto Agricoltura. Another important issue is the “uncertainty of certification”, as to say that producers depend on wholesaler book orders to establish the quota of certified products. Wholesalers decide if the products have to be labeled with the PGI mark or not, only on the basis of their buyers requests, whether or not the red chicory was grown following the PGI specification.

## Results

Figure 3 reports findings of the selected model. It shows the distribution of € 1 of consumer’s expenditure among stakeholders for both types of product (certified or not) and for all type of final distribution.

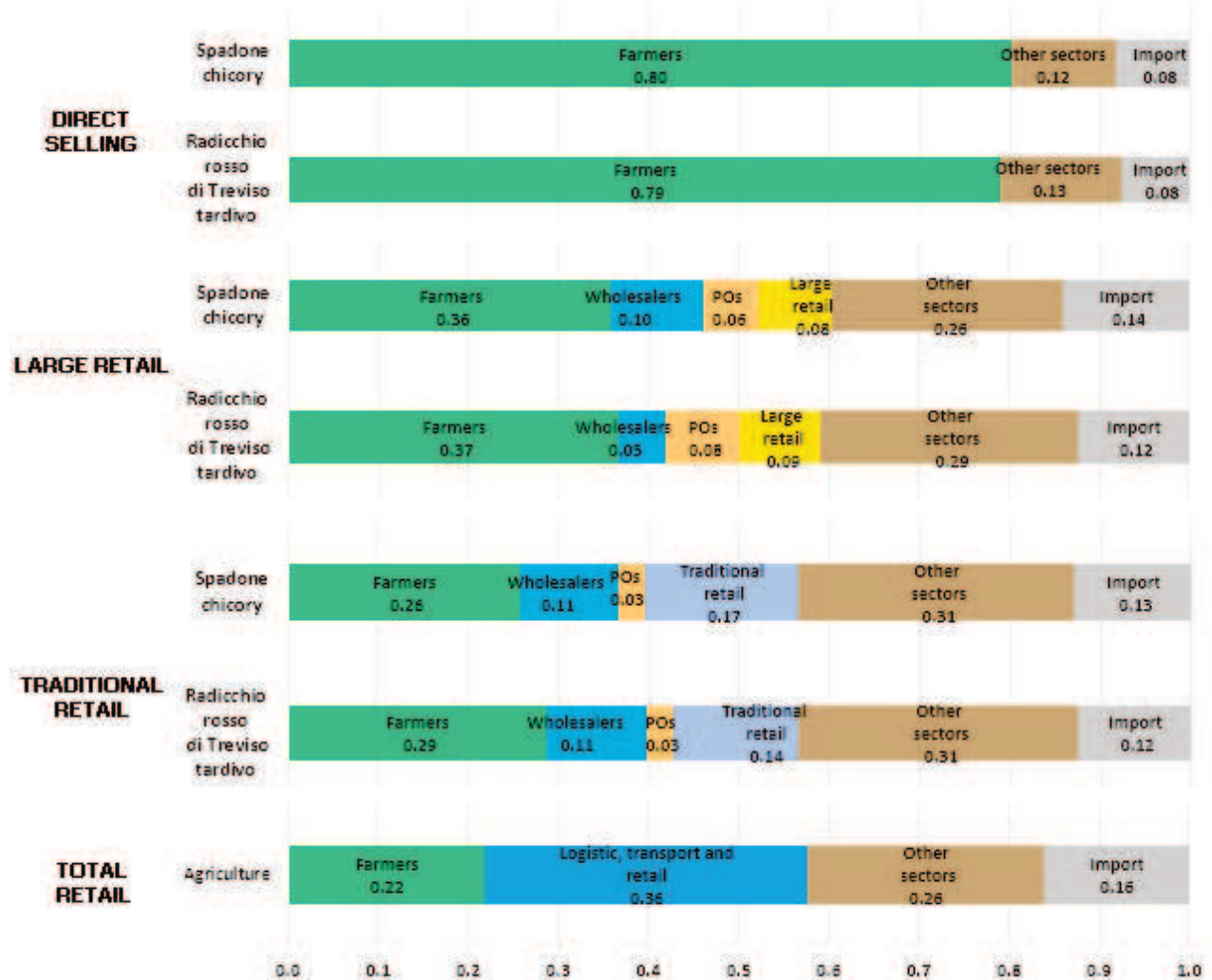
First, the farmers’ value added share is higher in the case of chicory – whether certified or not - than in the case of the agricultural sector considered as a whole. In fact, in the second case the benefit of farmers is equal to € 0.22 (ISMEA, 2014a), while for red chicory farmers it acquires a value between € 0.26 - 0.80 in the case of the conventional product, instead between € 0.29 - 0.79 in the case of certified product.

Second, there is no significant difference in the value added gained by the farmers between certified and conventional product. The quota of income gained by farmers is related to the type of final retailing channels and to the length of the supply chain (AGCM, 2007). As



expected, it is the highest when consumers buy the product by direct selling, medium when the product is purchased in large retail store, and the lowest when it is acquired in a traditional store.

Figure 3. Results of ISMEA value chain on Spadone chicory and Radicchio Rosso di Treviso tardivo by type of final distribution. Results of ISMEA value chain on total agricultural sectors



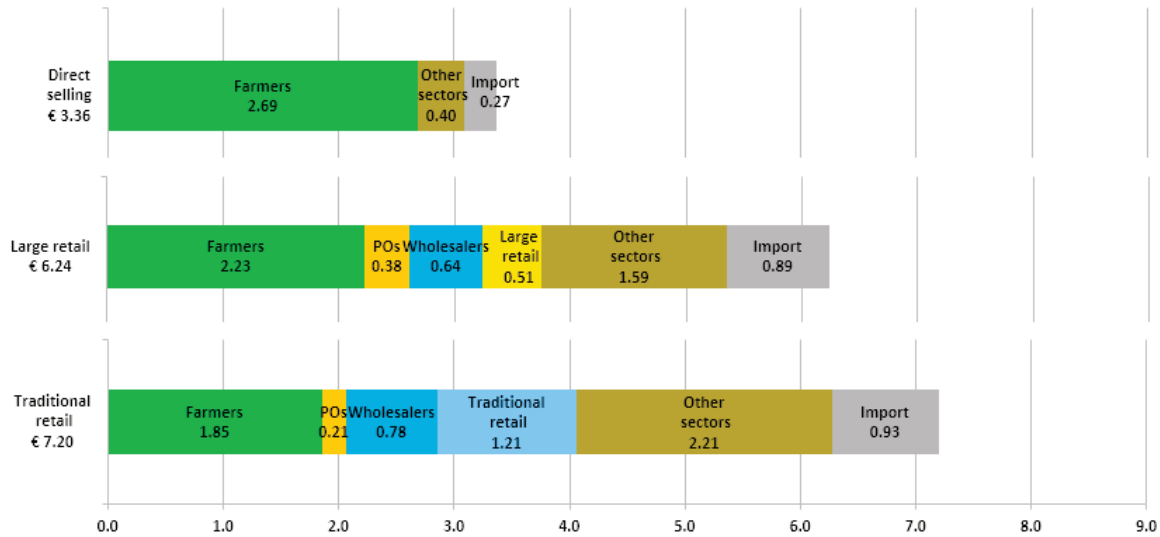
Source: own elaborations on data from ISMEA, ISTAT, Regione Veneto – Veneto Agricoltura

Direct selling is the most profitable channel for the farmer, but it concerns 15% of the volumes of *Spadone* chicory and only 7% of the PGI product (see fig. 1 and 2). Indeed, the intervention of intermediaries between growers and retailers increases the product final cost. At the same time, it activates other sectors, and their activities and services aiming at marketing the product.

In order to verify if there is an efficiency gain (that is an increase in farmers' margins and a decrease in consumer prices, or an increase in additional services to the product), we analyzed ISMEA value chain results combined with final consumer prices. Results are shown in fig. 4 and 5. First, as already tested, direct selling is the most efficient channel for both products. Otherwise, considering the other channels, we can conclude that large retail is

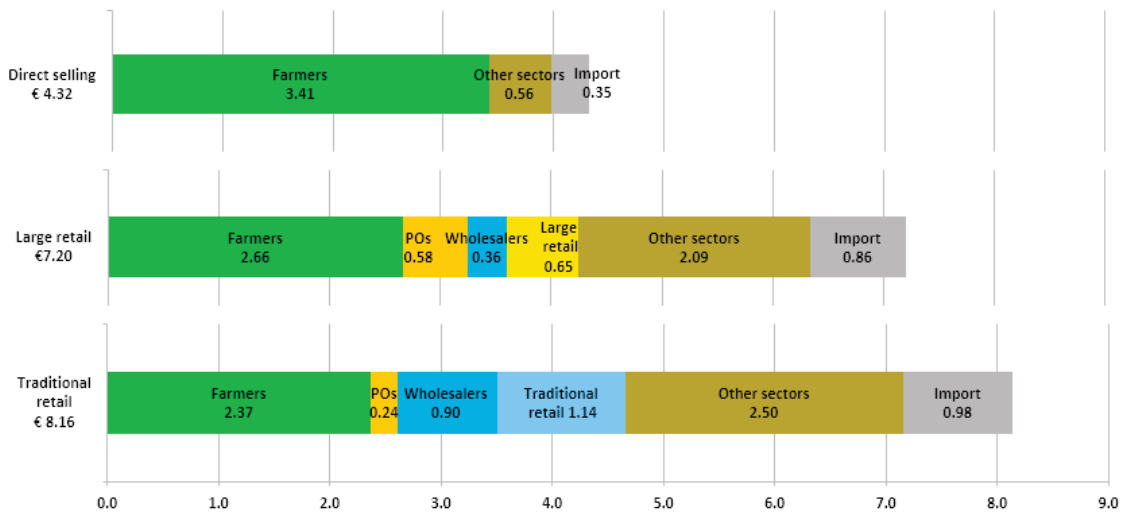
more efficient than traditional retail. Indeed, in both product chains, farmers' income share is greater than in the traditional retail one; at the same time, when consumers purchase the product in a large retailing store, the price is lower than the one in the traditional stores.

Figure 4. Results of ISMEA value chain on Spadone chicory by type of final distribution. Distribution of the consumer expenditure for 1 kg of product



Source: Own elaborations on data from ISMEA, ISTAT, Regione Veneto – Veneto Agricoltura

Figure 5. Results of ISMEA value chain on Radicchio rosso di Treviso tardivo by type of final distribution. Distribution of the consumer expenditure for 1 kg of product



Source: own elaborations on data from ISMEA, ISTAT, Regione Veneto – Veneto Agricoltura

Generally, the PGI products have higher prices compared to the conventional ones, because of their costly process of production implying additional costs, such as the certification compliance production costs (farmers) and the certification administrative and bureaucracy costs (POs and other sectors). This fact can support the finding that in the PGI chicory chain



there is a slight increase of the income share belonging to farmers, to POs and other sectors (except wholesalers) because of the certification administrative and bureaucracy costs. If on the one hand, in both product chains POs value added is higher in the case of large retailing purchasing than in the traditional retailing one, on the other hand for wholesalers it is the opposite. Finally, the added value addressed to traditional retailing is higher than that allocated to large retailing.

These results suggested improving the analysis with a simulation, in order to answer the research question, namely, if the presence of POs in the supply chain is rewarding for growers in both cases, conventional and certified product.

More closely, in the simulation we provided two extreme scenarios. In both cases, the quantity of products addressed to final consumption and to retailers is not considered.

In the first scenario, we considered that the product is brokered only by wholesalers to retailers, while, in the second scenario, we suppose that the whole production is managed by POs.

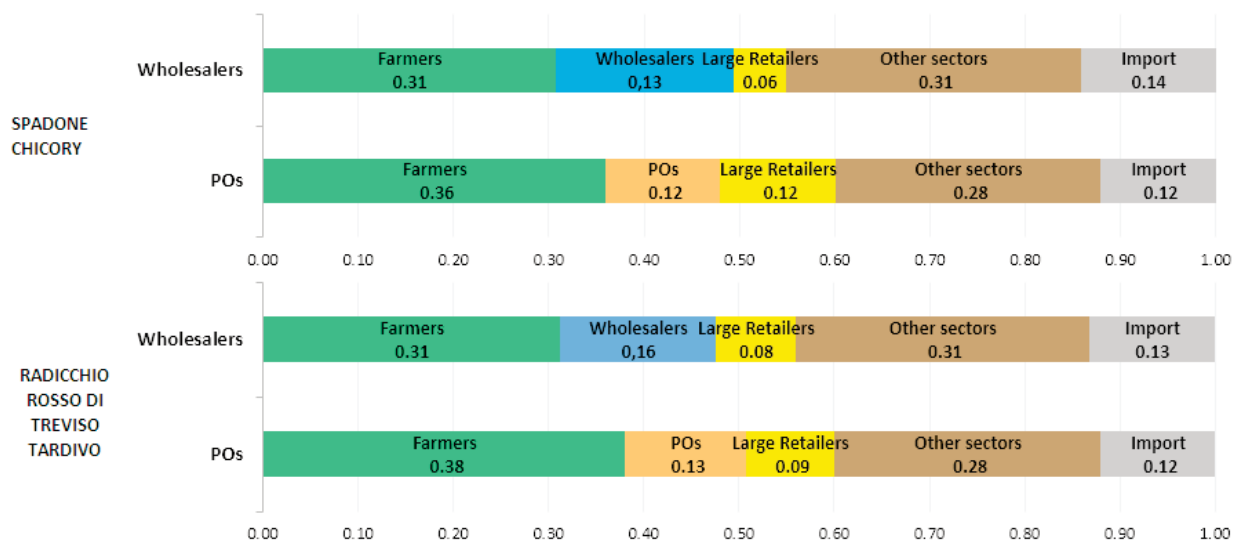
Figure 6 shows the results of simulation focusing on the products (certified and not certified) marketed on large retailing, while figure 7 illustrates findings in the case of traditional retailing.

From the simulations, the farmers gain higher value added when POs are the only broker of the products (scenario 2), compared to the share acquired in the scenario 1.

At the same time, these results suggest that when consumers purchase conventional products at the supermarket or at the traditional retail store, wholesalers and other sectors take over a share of the farmers and final retailers' income. This is not the case of scenario 2.

Indeed, in scenario 2, the increase of farmers' income share depends on the higher price paid to the producer by POs compared to the usual market price. This is due to the mutual goal of a cooperative venture (Cotterill, 1984; 1987).

*Figure 6. Results of simulations of scenarios on ISMEA value chain on Spadone chicory and Radicchio Rosso di Treviso tardivo, when consumer buys the product at large retailing*



Source: own elaborations on data from ISMEA, ISTAT, Regione Veneto – Veneto Agricoltura

Figure 7. Results of simulations of scenarios on ISMEA value chain on Spadone chicory and Radicchio Rosso di Treviso tardivo, when consumer buys the product at traditional retailing



Source: own elaborations on data from ISMEA, ISTAT, Regione Veneto – Veneto Agricoltura

Focusing on the other sectors in the chain (other agricultural sectors, industry, services), their value added shares are slightly lower when a PO intermediates the product instead of a wholesaler, probably because of the capacity to "internalize" through POs some of the activities otherwise outsourced.

These results suggest that, shifting from wholesalers to POs, an income share transfer from wholesalers and other services to retailers and farmers. It could mean that, in the POs scenario, the extreme sides of the supply chain – farmers and retailers – tend to carry out themselves some services otherwise provided by other sectors.

## Conclusions

This paper discusses if the presence of POs can improve fairness and efficiency in the distribution of the value added along the supply chain in the F&V sector, in particular if it could improve farmers' position in the first stage of the supply chain. Indeed, on the basis of the results of the study, it is possible to point out some interesting features of the market structure and of the GIs system in the F&V sector.

Firstly, the analysis confirms that farmers gain a wider value added by adopting direct marketing system, thus the development of this channel of distribution should be incentivized and promoted. However, as in Italy F&V production is very specialized and locally concentrated, for sure intermediate and final distribution (traditional, specialty, large retailing) will continue to represent the main outlet for these products, therefore it has to be investigated with the aim of revealing possible inefficiencies in it.

In particular, inefficiencies are generated because of the huge amount of intermediate passages of the product from farm to fork. Often wholesalers create additional stages of marketing intermediation, without adding a real value to the product. This system disadvantages both the producer, who gains less profit, and the final consumer, who spends more money.

Sometimes Venetian POs create some inefficiencies. First of all, POs sell part of the members' produce through wholesalers, who are members on their turn, since they don't feature their own commercial structure. This leads to an additional passage to get to the final market, i.e. to inefficiency. Secondly, they do not export, but they sell chicories to commercial intermediaries who sell abroad. Such markets are becoming a very interesting option because the product covered by this study is particularly appreciated and requested by Northern European markets, particularly Germany and the Netherlands.

Nevertheless, POs contribute to create much efficiency and fairness in value added distribution along the supply chain, as they guarantee higher profits to their members compared to what they would obtain by selling their products to wholesalers.

These findings endorse the POs presence and importance in the supply chain organization, highlighting the necessity of strengthening their role through the activities of IBO in charge of improving the efficiency of the supply chain (producers, intermediates, retailers). The interaction among the different market players can be improved by implementing the wide range of tools that can facilitate both vertical and horizontal coordination of the production chain. This idea is also well explained in the *consideranda* of the EU Reg. n. 1308/2013: "interbranch organizations can play a central role in facilitating the dialogue among the different actors along the supply chain, and in promoting good practice and fair trade". On the basis of this thesis suggesting the empowerment of POs, these results support also the innovative elements introduced by the latest fruit and vegetables sector CMO, which provides for financial funds addressed to Associations of Producers Organizations (APO), with the aim of strengthening their operative role in the process of coordination in F&V sector (supply concentration and higher level of efficiency in along the production chain).

Indeed, organizations operating at a superior level can coordinate the activities of the different parts of the supply chain in a better way, as they operate in a wider territorial area, and they can control the inefficiencies in the intermediate stages.

If on the one hand POs and IBO result to be fundamental institutions to be promoted, on the other hand, taking into account the importance of the intermediate phase in the Italian F&V sector, it is worth considering effective tools that can make more transparent the intermediation of these products through actions that involve directly the wholesalers.

Another important evidence arises during the study is the low economic impact of the GIs on the distribution of the value added along the supply chain, without any evident advantage for the farmer. This result confirms the general weakness of GIs in the F&V sector, where the products are not so adaptable to standardization as other processed food.

This is due to problems linked both to poor coordination of producers and the lack of recognition of the market for short knowledge of the brands, outclassed by the increased effectiveness of commercial brands. Second, in the case of *Radicchio Rosso di Treviso tardivo* there are other difficulties in retailing: the product has a very limited diffusion among consumers (only Veneto region and neighboring regions). Many actions would be necessary

to expanding and explore alternative marketing channels, by means of commercial promotion of the PGI label in agreement with large retailing. These ventures should also reduce the uncertainty of the certification at the discretion of the intermediaries, although this is a very ambitious goal.

Third, a more radical reflection is requested about the real potential of this PGI label, in fact *Spadone* chicory has already a strong identity widely recognized by the local market. In general, this research suggests using GIs only when this can get some positive effects on affecting significantly farmers' profitability. GIs should be a tool for enlarging the market to other regions and distribution channels, but achieving such an ambitious objective require a strong collective and coordinated action involving all the actors in the supply chain<sup>4</sup>.

As evidenced by other studies, GIs are often weak and fragile because of the large number and diversity of whose aims and objectives of stakeholders which addresses (Galli, 2011; Galli *et al.*, 2010).

Actually EC Reg. 510/2006 shows several objectives of GIs, linked each other by a complex system of synergies and trade off:

1. indicating to consumers the origin of the product associated with specific rules of production;
2. increasing product differentiation on the market, by promoting a balance between supply and demand;
3. improving the performance of farmers, for example in terms of market share and premium price compared to conventional products;
4. improving the bargaining power of farmers of local products of high quality, whose economic size is often a limit that does not allow to do promotional activities able to make known the quality of the product;
5. indirectly promoting local development of the place of origin, especially in rural areas, safeguarding its identity and the continuation of the traditions and cultural activities related to the product (Galli *et al.*, 2010).

The heterogeneity of the objectives just mentioned, the corresponding stakeholders and the different expectations on the results, make GIs extremely vulnerable.

These empirical findings and their generalization must be carefully evaluated, taking into account that the analysis is based on a F&V supply chain case study, thus partly influenced by the peculiar structure of this supply chain.

Nevertheless, this analysis can be useful for policy makers in consideration of the recent EU public consultation about the application of the waiver from the competition regime for olive oil, beef and cereals sectors.

## References

AGCM - Autorità Garante della Concorrenza e del Mercato (2007), Indagine sulla distribuzione agroalimentare, IC28, <http://www.agcm.it/indagini-conoscitive->

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<sup>4</sup> Of course these policies make sense only if consumers' willingness to pay WTP for the GIs is proved and returns to certification are higher than the associated costs.

db/open/C12564CE0049D161/8D9113CAEBAB738CC12572FB003CE5D3.html (accessed on december 2014).

Agrosynergie (2008), Évaluation des mesures concernant les organisations de producteurs dans le secteur des fruits et légumes. Rapport final.

Alvaro, G. (1999). Contabilità nazionale e statistica economica, Cacucci: Bari.

Camanzi, Malorgio e Azcarate (2009), The role of Producer Organizations in supply concentration and marketing: a comparison between European Countries in the fruit and vegetables sector Paper prepared for presentation at the 113th EAAE Seminar "A resilient European food industry and food chain in a challenging world", Chania, Crete, Greece, date as in: September 3 - 6, 2009.

Canali G. (2013), La nuova OCM unica, Workshop "La nuova Pac. Un'analisi dell'accordo del 26 giugno 2013", Gruppo 2013, Roma, 22 luglio.

Canali G. (2007), La nuova OCM Ortofrutta e la sua applicazione in Italia, Working paper Gruppo 2013, luglio 2007.

Cotterill R.W. (1987). Agricultural Cooperatives: A Unified Theory of Pricing, Finance and Investment. In: Royer, J.S .(ed.). ASC Service Reports: Vol. 18. Cooperative Theory. New Approaches. US Department of Agriculture, Washington D.C.

Cotterill R.W. (1984). The Competitive Yardstick School of Cooperative Thought. In American Institute of Cooperation (ed.): American Cooperation 1984. Washington D.C.

Council Regulation (EC) No 1182/2007 of 26 September 2007 laying down specific rules as regards the fruit and vegetable sector, amending Directives 2001/112/EC and 2001/113/EC and Regulations (EEC) No 827/68, (EC) No 2200/96, (EC) No 2201/96, (EC) No 2826/2000, (EC) No 1782/2003 and (EC) No 318/2006 and repealing Regulation (EC) No 2202/96.

Council Regulation (EC) No 1234/2007 of 22 October 2007 establishing a common organisation of agricultural markets and on specific provisions for certain agricultural products (Single CMO Regulation).

Council Regulation (EC) No 2200/1996 of 28 October 1996 on the common organization of the market in fruit and vegetables.

Council Regulation (EEC) No 23/1962 of 4 April 1962 on the rules of market to apply to the main agricultural products.

European Commission COM (2014), Guidelines on the application of the specific rules set out in Articles 169, 170 and 171 of the CMO Regulation for the olive oil, beef and veal and arable crops sectors, draft.

European Commission – Directorate General for Competition (2014), Assessing efficiencies generated by agricultural Producer Organizations, Luxembourg: Publications Office of the European Union.

Frascarelli A. (2012a), "Migliorare il funzionamento della filiera alimentare: una valutazione degli strumenti per la PAC dopo il 2013", Rivista di Economia Agroalimentare, n.1/2012, 319-341.

Frascarelli A. (2012b), Dalla politica dei mercati al funzionamento della filiera alimentare: un nuovo paradigma della Pac. *Agriregionieuropa* n.30, anno 8.



- Frascarelli A. (2012c), Le Organizzazioni interprofessionali in Italia. *Agriregionieuropa* n.30, anno 8.
- Frascarelli A. (2008), Differenziazione, tutela della qualità e concentrazione dell'offerta: come riprendersi il valore, *Agriregionieuropa* n.15, anno 4.
- Galli F. (2011), Una DOP per quali obiettivi? Le aspettative dei diversi portatori di interesse. *Agriregionieuropa*, n. 25, anno 7.
- Galli F., Carbone A., Caswell J.A., Sorrentino A. (2010). A Multi-Criteria Analysis for the Assessment of the Performance of Italian PDO Cheeses, XLVII Convention "L'agricoltura oltre la crisi", September 22-25 2010, Campobasso.
- Giacomini C. (2013), La politica della UE per l'aggregazione delle imprese agroalimentari. *Agriregionieuropa*, n. 35, anno 9.
- Guarini R., Tassinari F. (1995). *Statistica economica: problemi e metodi di analisi*. Il mulino, Bologna.
- ISMEA (2014a). *La competitività dell'agroalimentare italiano. Check-up 2014*, October, Rome.
- ISMEA (2014b). *La catena del valore della filiera olivicola-olearia*, March, Rome.
- ISMEA (2009). *Le tavole delle risorse e degli impieghi del sistema agroalimentare italiano 2003*, September, Rome.
- ISMEA (2008). *Outlook dell'agroalimentare italiano - Rapporto annuale*, Rome
- ISMEA (2005). *Agricoltura e ruralità*. Franco Angeli, Milan.
- ISMEA (2004). *L'impatto della Riforma PAC sulle imprese agricole e sull'economia italiana*. Franco Angeli, Milan.
- ISMEA (1998). Un'analisi del sistema agroalimentare italiano attraverso le tavole Input-Output. In: *Rapporto annuale sulle tendenze del sistema agroalimentare italiano*, Rome.
- ISMEA (1997). *La tavola delle interdipendenze settoriali del sistema agroalimentare italiano 1995*, Rome.
- ISMEA, MIPAAF (2012). *Valutazione della Strategia nazionale in materia di programmi operativi sostenibili nel settore ortofrutticolo (ai sensi degli artt. 125-127 del Reg. (UE) n. 543/2011) – final report*.
- ISTAT, *Le tavole delle risorse e degli impieghi e la loro trasformazione in tavole simmetriche. Nota metodologica*, October 2006.
- Leontief W. (1941). *The Structure of the American Economy, 1919-1939*. Oxford University Press, Oxford, UK.
- Mantegazza S., Pascarella C. (2006). *Il nuovo approccio integrato ai conti nazionali–Le tavole delle risorse e degli impieghi*.
- Miller R.E., Blair P.D. (1985). *Input–Output Analysis. Foundations and Extentions*. Prentice-Hall.
- Englewood-Cliffs, NJ.Lerman, Z., Parliament, C. (1991). Size and industry effects in the performance of agricultural cooperatives. *Agricultural Economics*, 6(1), 15-29.



MISE (2014). *Rapporto sul sistema distributivo. Analisi economico-strutturale del commercio italiano*. [http://osservatoriocommercio.sviluppoeconomico.gov.it/Rapporto\\_2013web.pdf](http://osservatoriocommercio.sviluppoeconomico.gov.it/Rapporto_2013web.pdf) (accessed in April 2015)

Nomisma (2009). *La filiera agroalimentare tra successi, aspettative e nuove mitologie*, Bologna.

Pezzoli A. (2011), La filiera agroalimentare: i profili di rilevanza concorrenziale. *Agriregionieuropa*, n. 27.

Rossetto R. (2014). Una rete informativa per conoscere l'Agricoltura veneta, convention report "Lo spazio economico dell'agricoltura veneta. Tipologia e sinergie territoriali" Venice, April 3 2014.

Veneto Agricoltura (2012a). Organizzazioni di produttori ortofrutticoli del Veneto: report 2011.

Veneto Agricoltura (2012b). Le Denominazioni di Origine in Veneto: un'analisi del comparto ortofrutticolo.

Zaghi A., Bono P. (2011). La distribuzione del valore nella filiera agroalimentare italiana. *Agriregionieuropa*, n. 27.