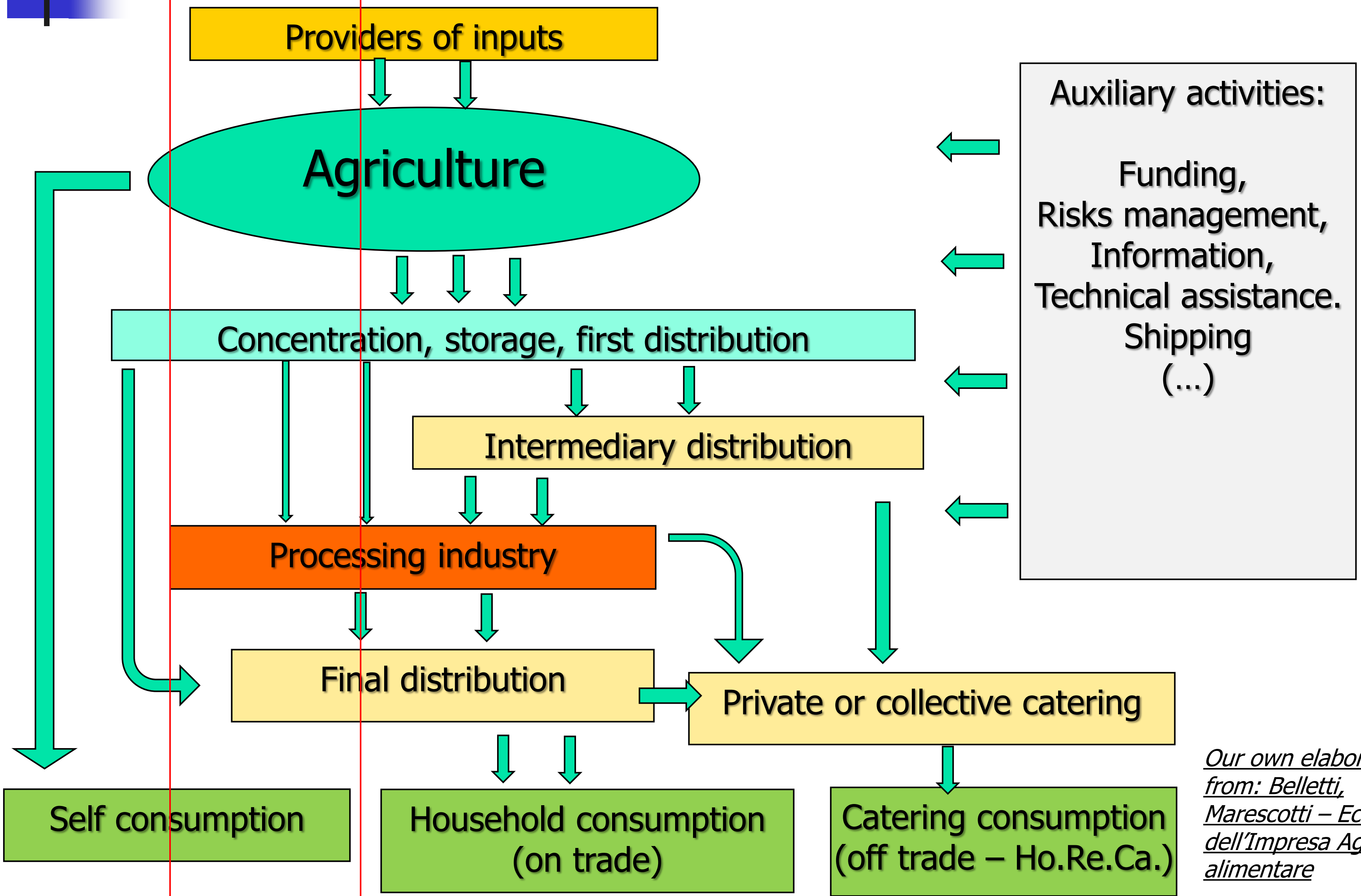
The agri-food system



Our own elaboration from: Belletti, Marescotti – Economia dell'Impresa Agro-alimentare

The agri-food chain

- The agrifood chain is a vertical section of the agri-food system
- Agrifood chains are the linked events in the agricultural production of food – the process being a chain of events - from production to processing, trading, distribution and consumption. Literally "from field to fork" (FAO).
- The combination of agents
- The series of processes by which food is grown or produced, transformed, sold, and eventually consumed.
- The functions carried out in an agricultural food chain: business functions (developed at different levels of the agricultural food chain), physical functions (i.e. stocking, transformation, shipping, etc.), and facilitative functions (i.e. funding, assumption of risks, information, etc…)
- We can identify two approaches:
  - a) product chain (output-input), starting from a final product (or group of products). From downstream to upstream.
  - b) production chain (input-output), starting from the agricultural product (raw material). From upstream to downstream.

See: https://www.bankpedia.org/index_voce.php?lingua=en&i_id=85&i_alias=a&c_id=23126-agricultural-food-chain-encyclopedia

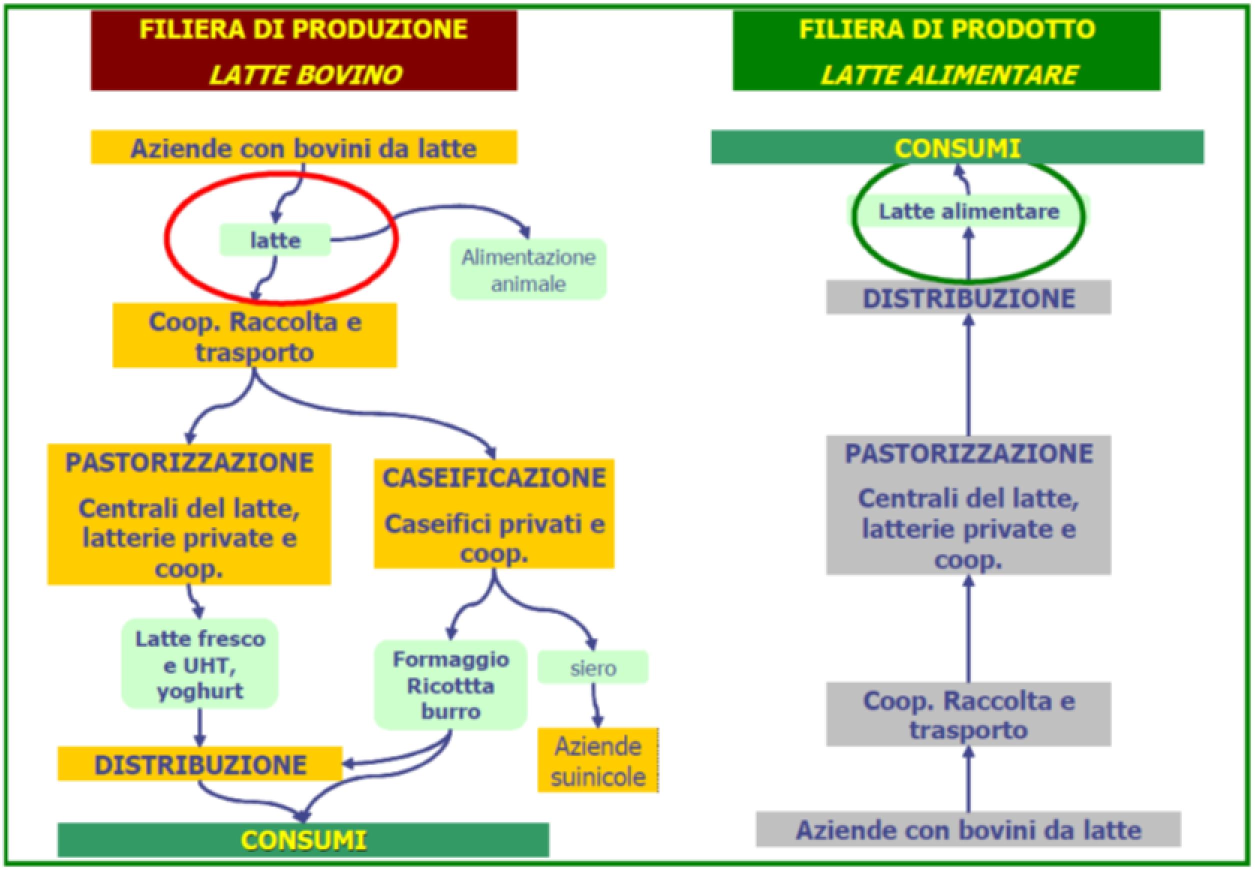
The agri-food system

Articolazione VERTICALE (*FILIERA*)	FILIERA OLIVICOLA	FILIERA VITICOLA	FILIERA FRUMENTO	FILIERA ORTOFRUTTA FRESCA
Articolazione ORIZZONTALE (*SETTORE*)				
Produzione di fattori (input)	industria meccanica, chimica, sementiera, ecc.			
AGRICOLTURA	**olivicoltura**	**Viticoltura**	**frumenticoltura**	**ortofrutticoltura**
Primo ingrosso e con-dizionamento	raccoglitori, commercianti	raccoglitori, grossisti, import-export	Commercianti, stoccatori	raccoglitori, grossisti, mercati alla pro-duzione, ecc.
....	....	....	....	....
Prima trasformazione	Molitura	Vinificazione	Molitura	Condizionamento
Secondo ingrosso	grossisti	Grossisti	Grossisti	grossisti
Seconda trasformazione	raffinazione, miscelazione, confezionamento	invecchiamento, imbottigliamento	panificazione, pastificazione	IV gamma V gamma
....	....	....	....	....
Distribuzione finale al dettaglio	vendita diretta, GDO, HORECA, piccolo dettaglio,			
Attività ausiliari	credito, formazione, trasporti, servizi vari			
CONSUMO	Modelli di consumo alimentare			
OUTPUT	oli d'oliva	vini	Pane, pasta,	ortofrutta fresca

Source: Belletti, Marescotti – Economia dell'Impresa Agro-alimentare

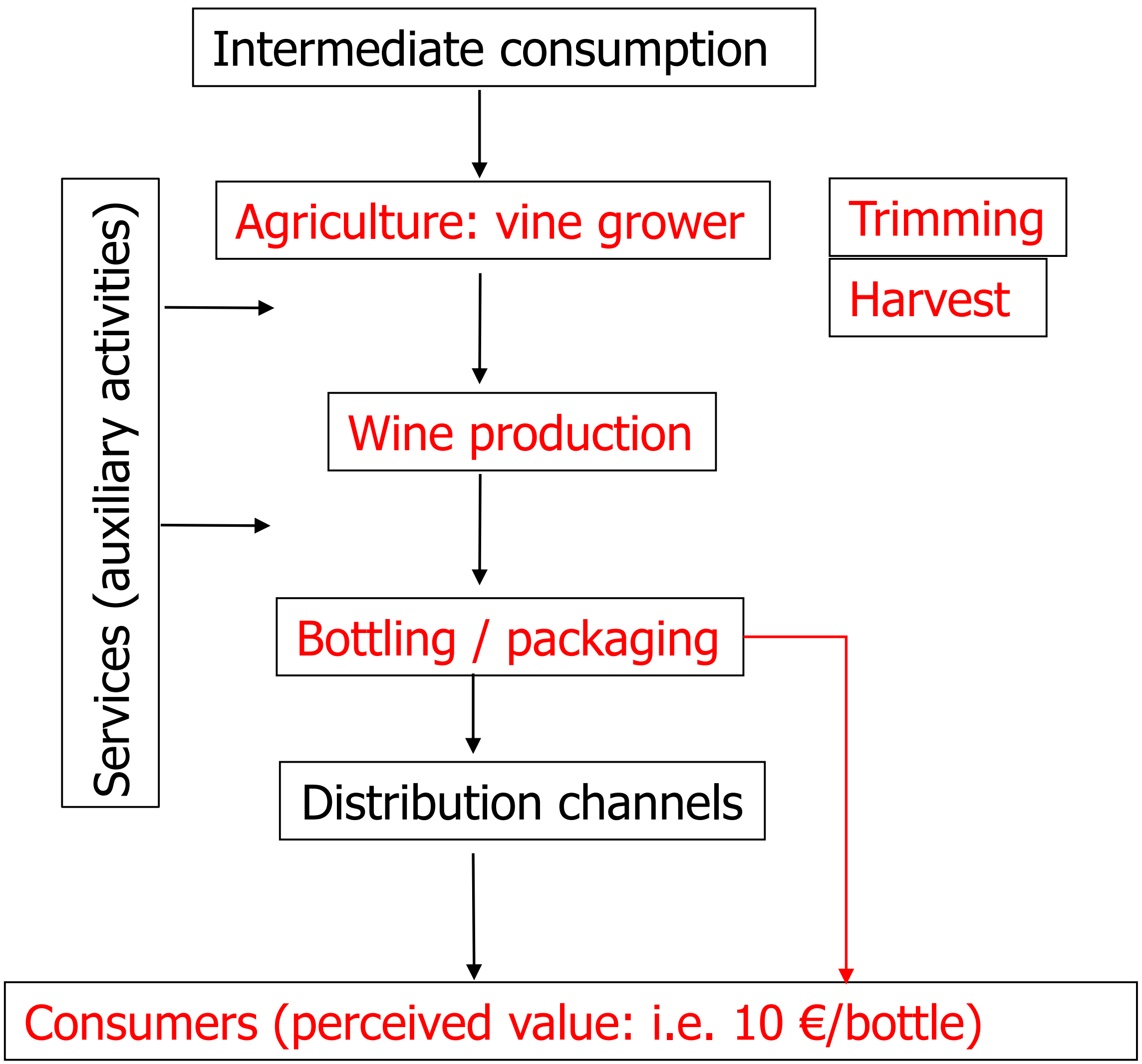
The agri-food chain

Production and product chain



Source: Belletti, Marescotti – Economia dell'Impresa Agro-alimentare

The wine supply chain



Wine grower/producer => Vertically integrated chain

Key aspects=>

- Added value
- Limited economies of scale (higher costs)
- Outsourcing of some phases of the production

The wine supply chain

Intermediate consumption

Vine growing: associated farmer

Trimming

Harvest

Wine production (cooperative)

Wholesalers

Bottling / Packaging

Distribution channels

Services (auxiliary activities)

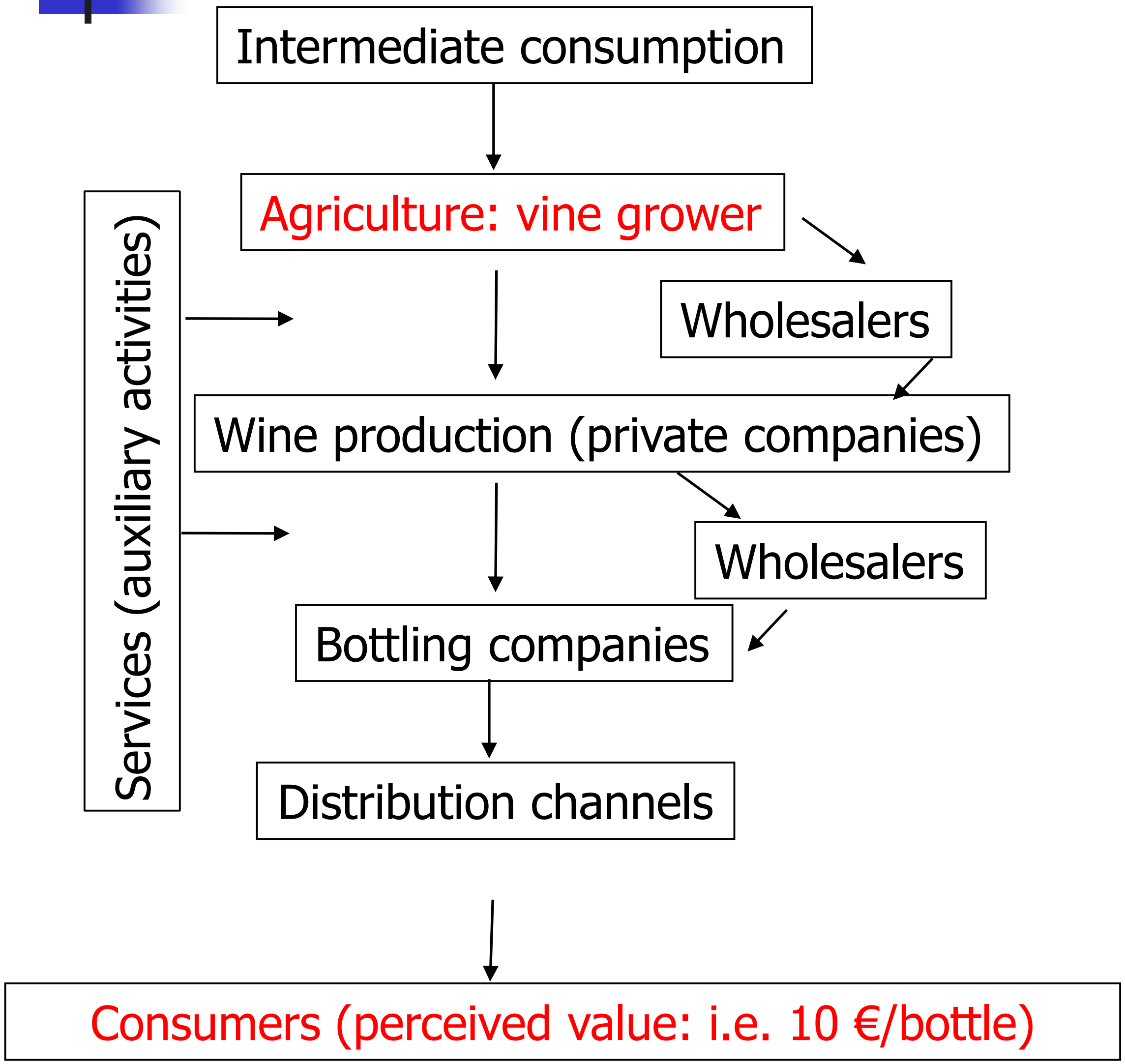
Consumers (perceived value: i.e. 10 €/bottle)

Cooperatives => Vertically integrated chain

Key aspects=>

- Winegrowers associated in the cooperative
- Value distribution among different coordinated companies
- Higher quantities
- Economies of scale (efficiency)
- Difficulties in managing the bottling phase
- Second level cooperatives

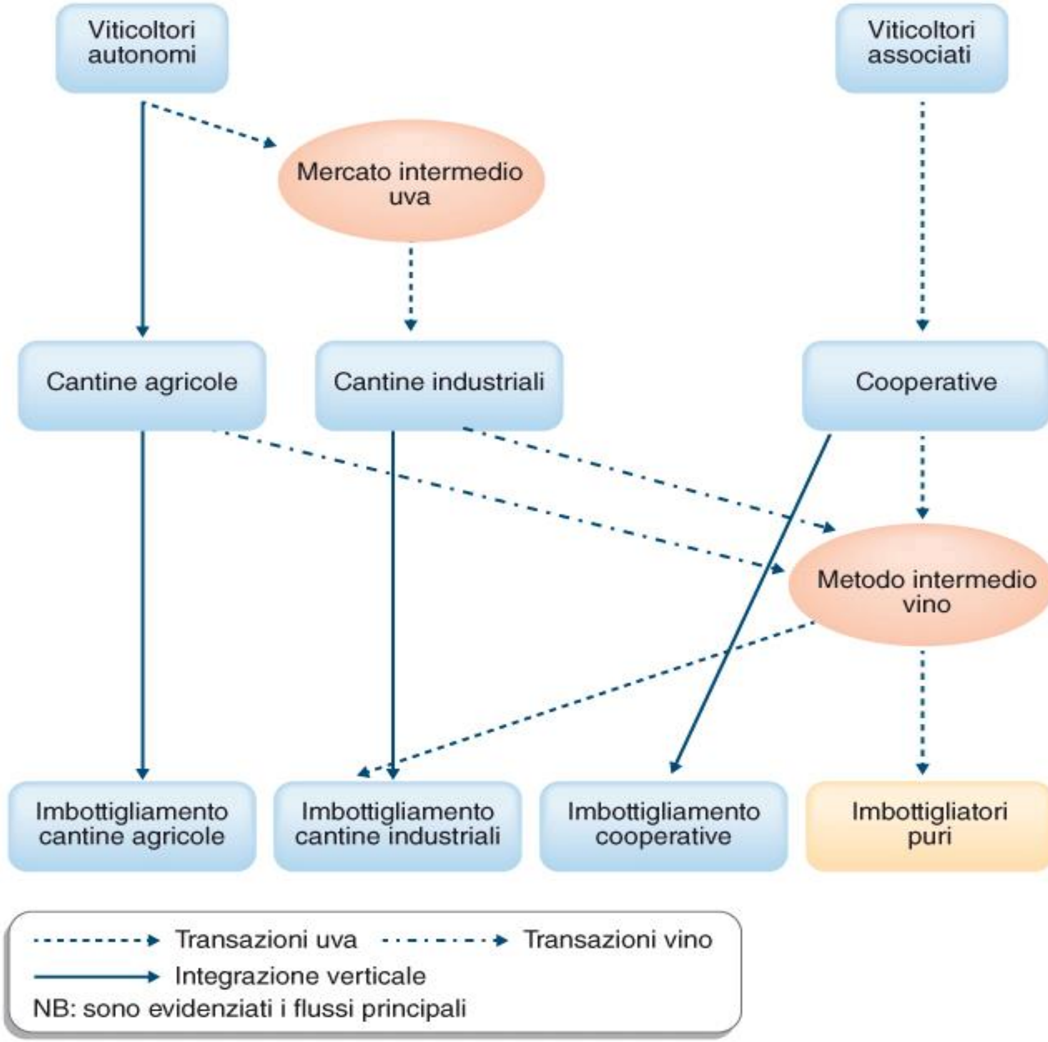
The wine supply chain



Not integrated chain

Key aspects=>

- Winegrowers sell the grapes in the market (weakness in the value distribution)
- interprofessional agreements.
- Important role of intermediate markets (both grapes and wine)
- Economies of scale in production and bottling



1 **Produzione di uva**

2 **Produzione di vino**

3 **Imbottigliamento vino a DO**

Figura 1.11
Unità tecniche, flussi e mercati intermedi nella filiera del vino italiano.
Fonte: ns. elaborazioni da Malorgio et al., 2011.

13 Mld di €
FATTURATO COMPLESSIVO

55 Mln di hl
PRODUZIONE (+29% rispetto al 2017)

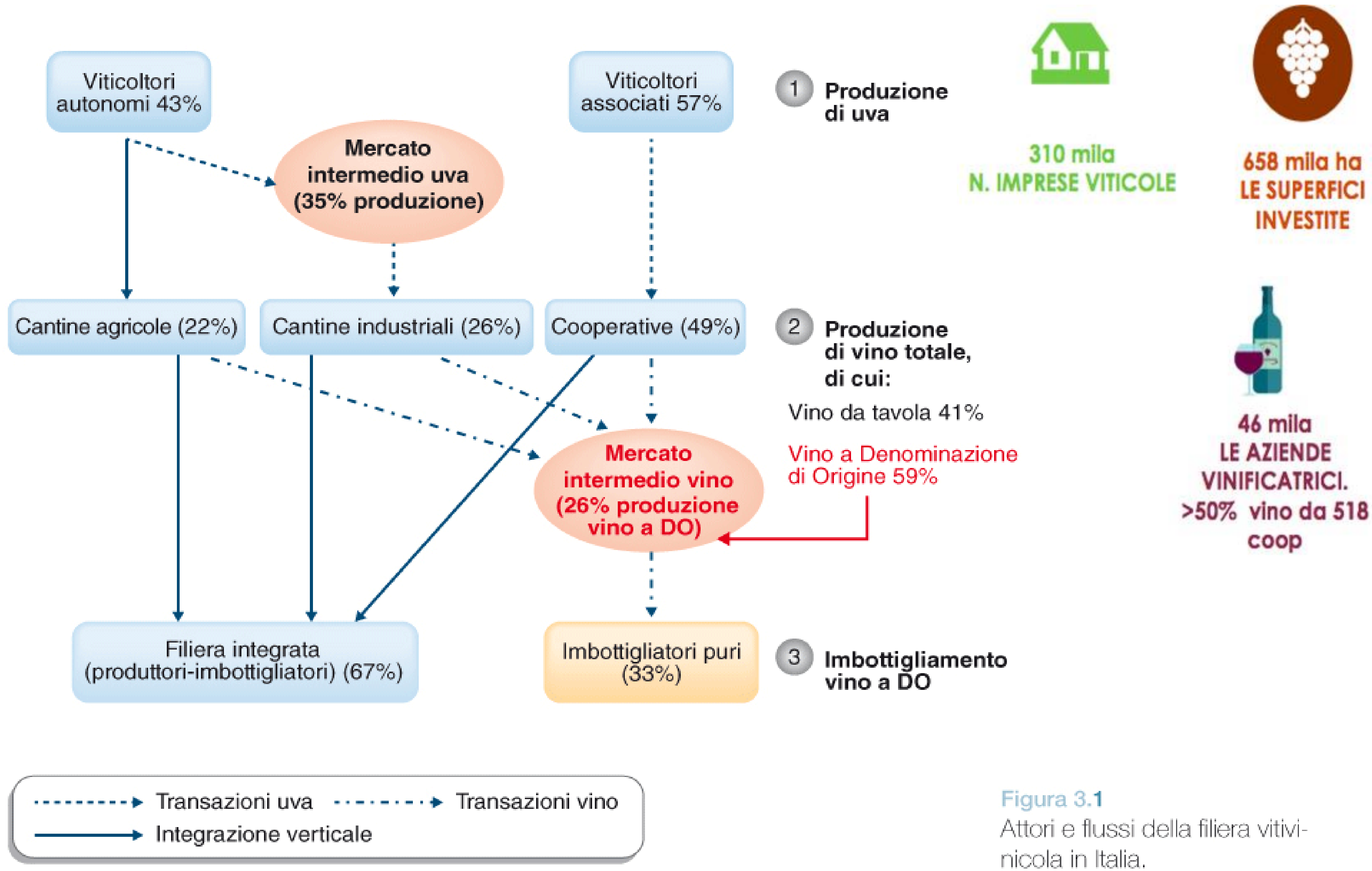
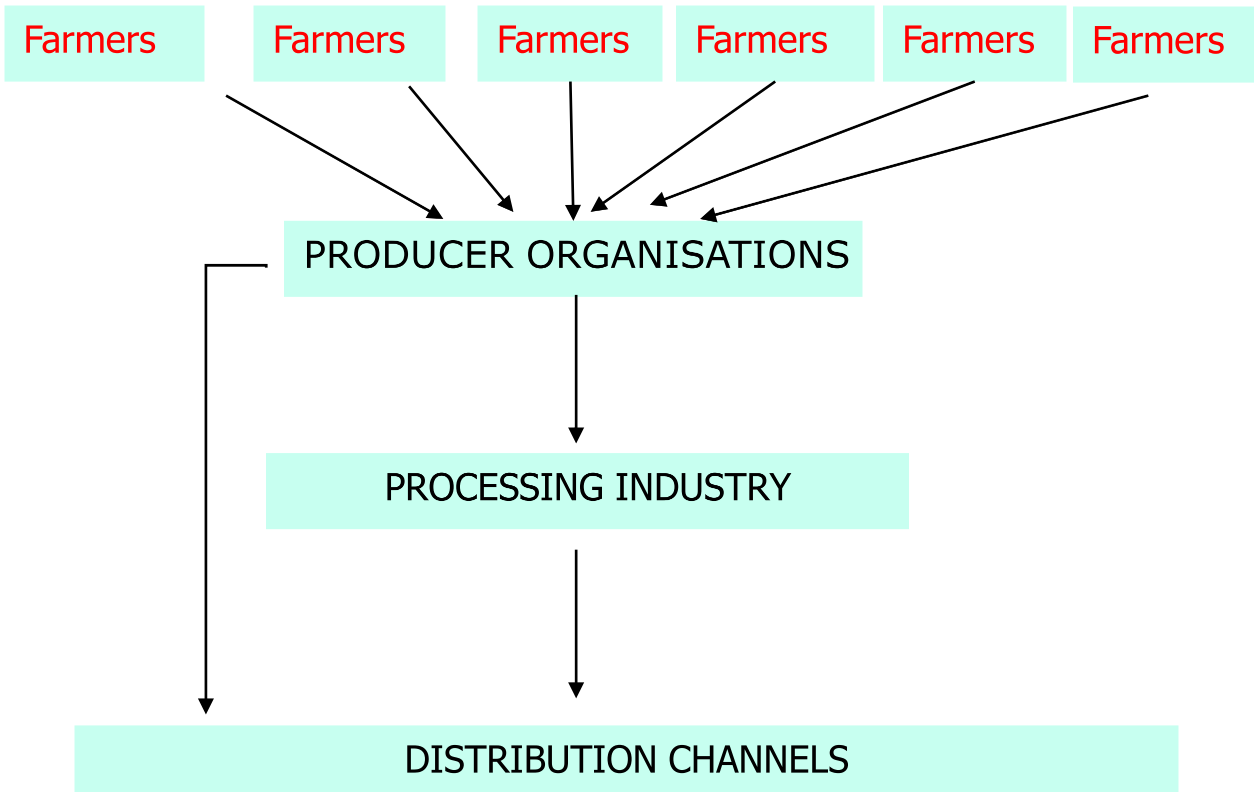
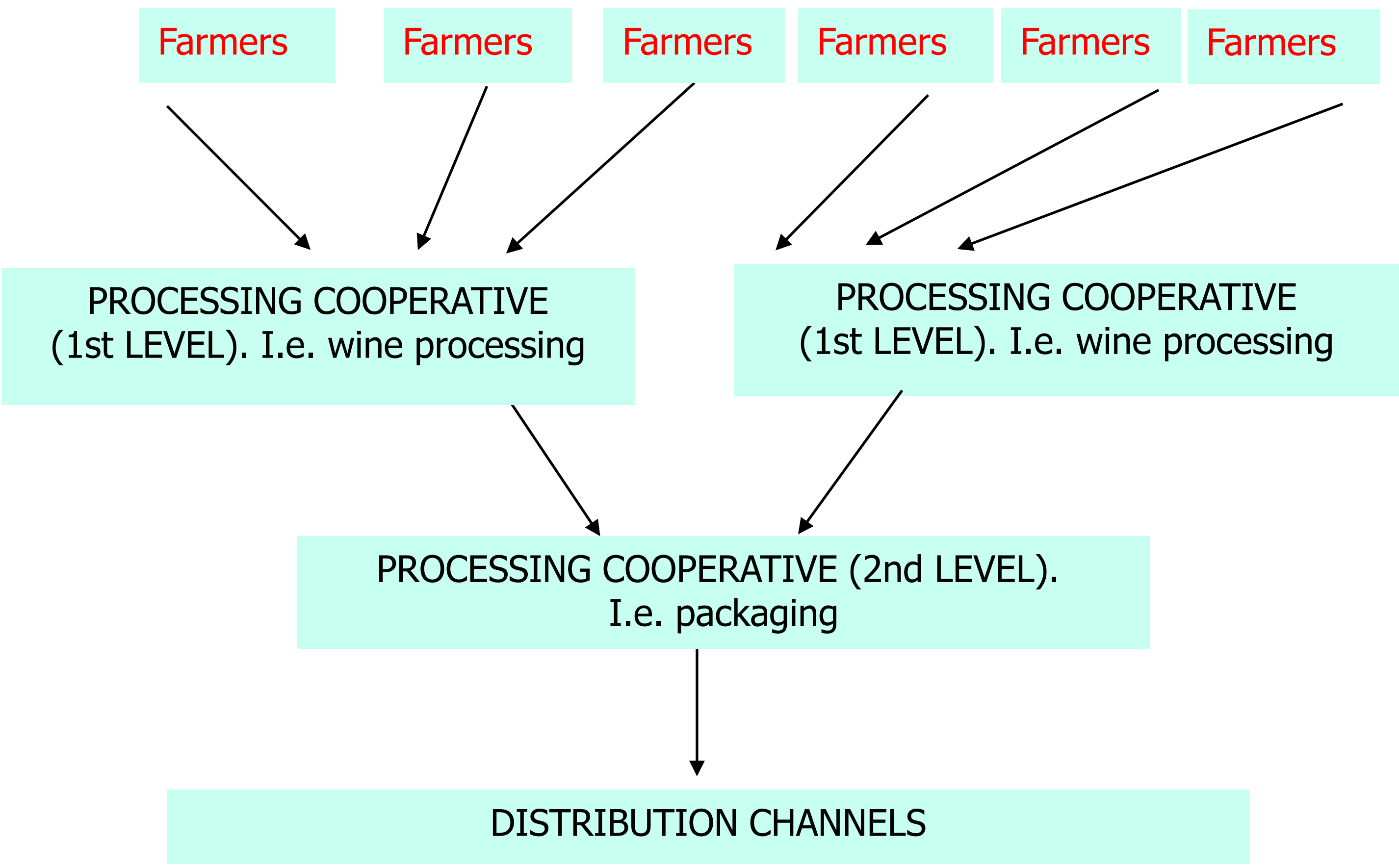


Figura 3.1
Attori e flussi della filiera vitivinicola in Italia.

Coordination of the chain



Coordination of the chain



Aggregation strategies

Issues relating to the agricultural sector:

- Many farmers work on relatively small family farms which operate independently of each other:
- Difficulties in the efficient management of the resources
- Supply atomisation
- perishable nature of the products and preservation costs
- Asymmetry of bargaining positions makes it difficult for farmers to defend their interests when negotiating with other actors in the supply chain (higher concentration amongst both processors and retailers).

Coordination mechanisms (aligning the productive processes, facilitating transactions and increasing efficiency)

- **Horizontal coordination**
- **Vertical integration**

Aggregation strategies

Horizontal coordination:

- Efficiency objectives:
  - investments with a high minimum threshold of capital
  - economies of scale and scope
  - product supply concentration (quality and quantity)
  - increase of the range of offered products
  - economies of costs: transaction costs, supply of inputs (seed, fertilizer, fungicides, pesticides, etc.).

- Power objectives: negotiating better terms of exchange
  - Increase of the bargaining power towards upstream and downstream operators
  - Increase of the lobbying power towards public and private institutions

Aggregation strategies

Producer and interbranch organisations

Producer organisations (POs) or associations of producer organisations (APOs) help farmers reduce transaction costs and collaborate when processing and marketing their products. Producer organisations strengthen the collective bargaining power of farmers by (for example):

- planning the production in relation to the demand (quality and quantity)
- concentrating supply and marketing directly the products
- providing technical and logistical assistance to their members
- helping with quality management
- transferring knowledge.

Objective: to strengthen farmers' collective bargaining power

Source: https://ec.europa.eu/

Aggregation strategies

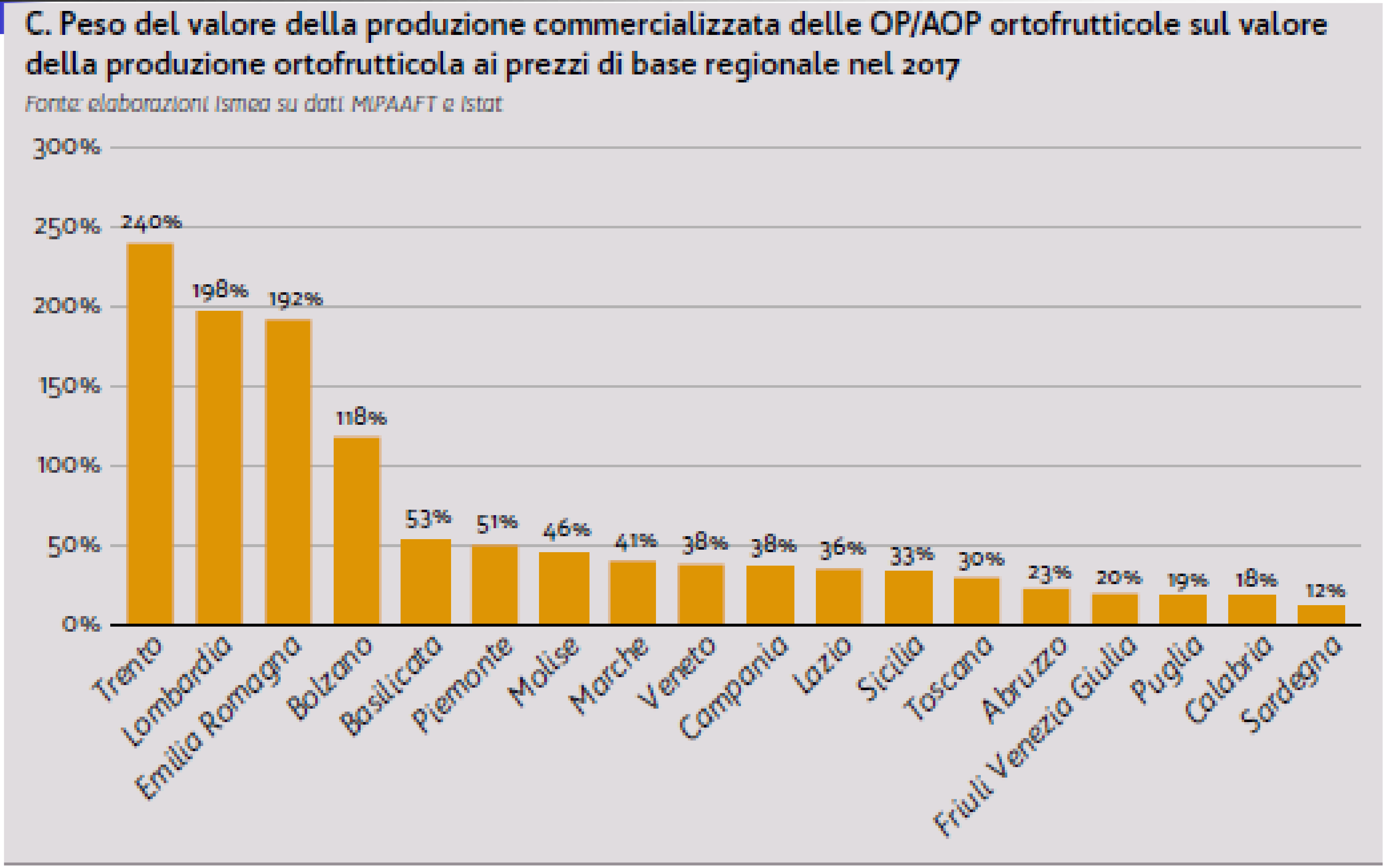
Producer and interbranch organisations

The EU acknowledges the special role played by producer organisations and, as a result, they can ask for recognition from the EU country they are based in. POs can take different legal forms, including agricultural cooperatives. Recognised POs can benefit from:

- exceptions from EU competition rules for certain activities, such as collective negotiations on behalf of their members, planning of production or for certain supply management measures;
- in the fruit and vegetables sector, access to EU funding within ‘operational programmes’, for example, to support collective investment in logistics to the benefit of their members.

Source: https://ec.europa.eu/

Aggregation strategies



Fonte: ISMEA (2019). Rapporto sulla competitività dell'agroalimentare nel Mezzogiorno

Aggregation strategies

The cooperative system in Italy

- In Italy 5 thousand cooperatives in the agri-food sector (75,5% agriculture, 14,8% processing industry, 11,7% wholesalers)

- 35 billions euro of revenues (27% agriculture production; 23% agri-food sector)

- 742 thousand members

- North: 45% companies, 81% revenues

- Center: 13% companies, 7% revenues

- South: 42% companies, 12% revenues

Aggregation strategies

The cooperatives specificity:

A cooperative is "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned enterprise".

The profit maximisation is not the objective of the company but it is the **common economic interest** of the members.

The cooperative members could be:

- **customers**
- **raw materials suppliers**
- **providers of production means**

Aggregation strategies

Cooperative typologies:

- collective purchasing (seed, fertilizer, fungicides, pesticides, etc.: horizontal integration)
- Agricultural products selling (i.e. PO)
- agricultural service cooperatives (i.e. purchase of mechanical equipment)
- worker cooperatives
- land management cooperatives
- agricultural products processing and selling

1st level cooperatives (members: farmers; *prevalently mutual cooperatives*)

2nd level cooperatives (members: cooperatives)