

## Padua 2017 Abstract Submission

### Title

Supply Chain Organization, Wine Quality and Prices in South Tyrol

### I want to submit an abstract for:

Conference Presentation

### Corresponding Author

Guenter Schamel

### E-Mail

[guenter.schamel@unibz.it](mailto:guenter.schamel@unibz.it)

### Affiliation

Free University of Bozen-Bolzano

### Keywords

Supply Chain, Cooperatives, Organization, Organic, Wine Quality, Prices

### Research Question

We study the impact of differences in supply chain organization and production (i.e. grape supply, organic production, denomination rules) on wine quality and prices in South Tyrol.

### Methods

We evaluate if differences in how wineries organize their supply chain and production have a significant impact on wine quality and prices.

### Results

We observe significant effects of grape supply chain organization, organic production and denomination rules on wine quality, resulting prices and identify specialized supply chains.

### Abstract

We analyze how differences in the organization of the grape supply chain affect individual wine quality and prices for different types of wineries. We distinguish cooperative wineries receiving all of their grapes from small member growers, private wineries also buying in grapes from independent grape growers and wineries only using their own grown grapes to make wine. As wine regions differ with respect to their climatic potential to grow (organic) wine and in terms of their rules of production, differences in the grape supply chain are also observed due to organic production and quality denomination rules (e.g. DOC, IGT). Compared to wineries who exclusively use their own grapes, cooperatives and private wineries that also buy in grapes face the challenge to raise wine quality through appropriate incentives that induce external growers to supply high quality grapes (e.g. grape quality management in the vineyard and/or grape prices rewarding better quality). Thus, incentive schemes to induce small individual growers to supply high quality grapes, existing quality denomination rules and organic grape production will determine the organization of the supply chain and in turn wine quality, prices and the quality reputation of wineries with consumers.

The question of how supply chain organization affects product quality has recently received increased attention in the literature, especially related to agricultural cooperatives. Schamel (2014) has looked at how cooperatives and private wineries compete regarding wine quality and reputation. Pennerstorfer and Weiss (2013) study the impact of decentralized decision making on product quality and conclude that growers have an incentive to overproduce and free-ride on wine quality. Cai, Ma and Su (2016) study apple cooperatives and identify an inverse U-shaped relation between the size of membership and product quality. Thus, the size of cooperatives may play an important role in determining product quality.

We analyze a data set for wineries from South Tyrol (Alto Adige) in Northern Italy. The data differentiates small to medium sized cooperatives and privately owned wineries that also buy in grapes from independent growers

(mixed grape supply) and those wineries that only use their own grown grapes (own grape supply). We also have information on wine prices and quality evaluations for wine and indicators of wine quality reputation, regional denomination rules and on how the supply chain is organized for different types of wines. We estimate two hedonic models to determine reputational effects of specific and specialized supply chains on wine prices with and without interaction effects. The two models are used to address the following questions: Do cooperative wineries suffer a reputation and wine quality discount relative to wines from private producers that also buy in grapes? Do private wineries that buy in grapes suffer a significant reputation and wine quality discount relative to private wineries that only use own grown grapes? Do organic wines have to suffer a discount for wine quality as shown by other authors and is IGT wine really of lower quality as the denomination rules may suggest? We also test if specific interaction effects exist between how the grape supply is organized, whether organic wine is produced, and the regional denomination rules.

Our results are mixed, but we can reject the hypothesis that cooperatives suffer a significant reputation and wine quality discount relative to wines from private producers that also buy in grapes. However, private wineries with a mixed grape supply will also gain a significant reputation and wine quality premium relative to private wineries only using their own grown own grapes to make wine. Organic wines receive a small quality premium as do IGT denominated wines. Finally, we identify three specialized supply chains receiving a price premium for their wines: DOC wine from cooperatives, organic wine from mixed grape supply wineries and IGT wine from own grape supply wineries.

We analyze the effects of supply chain organization on wine quality and prices for different types of wineries and how they organize their supply chain. In South Tyrol, cooperatives are able to implement an effective incentive schemes to raise grape quality and the subsequent wine quality of DOC wine. Thus, they are able to gain a significant price premium for wine quality and the reputation of their wines. Distinguishing private wineries that also buy in grapes from independent growers and those that only use own grown grapes, highlights the significance of this result, as wineries with a mixed grape supply also receive a reputation and quality premium for their wines.

Cai, R., Ma, W., and Su, Y. (2016) "Effects of member size and selective incentives of agricultural cooperatives on product quality", *British Food Journal*, 118(4), pp.858 - 870.

Pennerstorfer, D., Weiss, C., 2013, "Product quality in the agri-food chain: Do cooperatives offer high quality wine?" *European Review of Agricultural Economics*, 40(1), pp. 143-162

Schamel, G., 2014, *Wine Quality, Reputation and Price: How Cooperatives and Private Wineries Compete?* BIO Web of Conferences 3, 03008.