### Title
Quantifying the willingness to pay for wine grapes delivered to the cooperative winery.

### Conference Presentation

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### Keywords
Wine cooperative, incentive, wine quality, membership type, grape variety, price.

### Research Question
How can cooperative wineries motivate their members to deliver high quality wine grapes and how are these incentives reflected in the payments for grapes delivered?

### Methods
We estimate the willingness to pay for varietal wine grapes delivered to a cooperative based on grape quality and vineyard attributes, herbicide use, member types and efforts they expend.

### Results
The results exhibit the expected signs for all significant quality variables including sugar content, eligible wine quality line, actual quantity delivered, vineyard attributes, and member type.

### Abstract
Both problems and solutions related to cooperative structures in the wine sector have been analyzed in the scientific literature. Among the problems discussed are low-quality standards, resulting from opportunistic behavior by member growers in wine cooperatives (Garrido, 2022). Fares and Orozco (2014) discuss moral hazard and adverse selection problems plaguing the relationship between wine cooperatives and its member growers. Schamel (2015) shows that negative reputation effects for wines produced by cooperatives in Germany impede their economic performance. Grashuis and Su (2019) review the empirical literature on farmer cooperatives concentrating on performance and structural indicators among others, presenting some evidence that wine cooperatives are not able to produce quality products as well as other organizational forms. On the other hand, a growing number of papers have explained the continued existence of cooperative organizations by their strengths and ability to overcome structural problems (Fahlbeck, 2007; Figueredo and Franco, 2018; Valentinov, 2007). Santos-Arteaga and Schamel (2018) provide theoretical evidence that cooperative may outperform private firms (IOFs) in terms of social surplus they can generate and Schamel (2014) provides some empirical evidence for this. The main goal of this paper is to show how a wine cooperative winery in Alto Adige motivates its members to deliver high quality grapes and to estimate the willingness to pay for the grapes delivered to the cooperative by full and probationary members. To this end, we describe in detail the parameters of their quality incentive and control scheme. For the cooperative winery, the quality of wine grapes is the most crucial resource necessary to produce high quality wines. To raise wine quality, lower yields are an explicit incentive parameter which members are facing...
to receive a better price for their grapes. The cooperative also encourages its members not to spray herbicides, monitoring its use and paying a price premium for untreated grapes. Furthermore, the winery pre-classifies the vineyards for three product quality lines of wine to be produced (basic, location, and selection wines). Grape growers able to raise the quality of their grapes may qualify for a higher quality line, but they may also be declassified if the grapes do not meet the expected quality needed for a higher line. Moreover, the vineyard classification leads to an ongoing review and evaluation of the work done in vineyard throughout the growing season. In this way, the cooperative can monitor, and reward extra efforts spent or penalize any opportunistic member behavior. Moreover, the requirement to deliver all their grapes to the cooperative and the pre-classification for product quality lines enables the winery to assess and motivate the productive ability of the members and their vineyards. This will also address the adverse selection problem which otherwise may occur. Given the quality incentive scheme just outlined, we analyze a detailed data set of all grape deliveries by variety from individual members of a cooperative covering the vintages 2016 to 2019. The data set lists the amounts of grapes delivered, the price per kg received, and the quality parameters affecting the final value of the grapes delivered to the winery as well as member characteristics, such as farm size and type of membership. Together with the information on the incentive and quality control scheme, we estimate the willingness to pay for wine grapes delivered to the winery by full and probationary members and propose that it depends on quality parameters and member characteristics. 

Empirically, we estimate the willingness to pay for eight grape varieties within the wine portfolio that the cooperative markets (Chardonnay, Pinot Noir, Pinot Blanc, Gewürztraminer, Lagrein, Merlot, Sauvignon Blanc and Schiava) as well as an overall WTP for all grapes with varieties entering as dummy variables. The results exhibit the expected signs for all significant quality variables which include sugar content, the vineyard classification, herbicide use, the product quality line of wine and membership type.

References:

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