Title
Bottled or boxed wine? Evidence from an experimental auction.

I want to submit an abstract for:
Conference Presentation

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Keywords
Packaging; Bag in Box; Auction; Bottled Wine; Willingness to Pay; Organic wine; Consumers' preferences.

Research Question
Does the consumer recognize a bottled wine from a bag-in-box by taste?
Does WTP of a bag-in-box wine depend on taste or on organic labelling?

Methods
We used a second-price auction. 8 auction sessions were organized for a total of one hundred participants. Each auction was splitted in three rounds: blind tasting, information, information + tasting.
**Results**
WTP for bag-in-box wine is lower than that for bottled wine for the same quantity;  
No differences in blind tasting between the two formats;  
Organic-labelling does not affect bag-in-box-wine WTP.

**Abstract**
Packaging consists of the wrapping of a product, with a function not only of conservation and protection, but also of recognition and promotion. Initially, the theme of packaging was mainly relegated to the definition of the process and the materials used, to then take on extremely broader connotations over time, involving a real conception and design of an enclosure that also allows the producer to promote its company and thus enhance its brand. Packaging very often influences consumers who are more attentive to environmental sustainability, but it has substantial power in consumer choices also with respect to the recognizability of the product on the market. Packaging is increasingly becoming a tool of differentiation and characterization for companies in the agri-food sector. In fact, the growing attention of consumers towards sustainability has an impact on company choices, directing them towards packaging methods capable of more respect for the environment. There are various types of packaging that make it possible to have a more sustainable impact in the production phase, saving inputs and energy, in the transport and distribution phase, limiting CO2 emissions and, finally, in the recovery and recycling phase of materials after their employment.

The wine sector is particularly interested in this aspect as packaging is an important attribute for the production, preservation and marketing of the product. However, the issue of sustainable packaging for the wine sector is a delicate one since modifying the processes or materials used to contain a product could also compromise the organoleptic characteristics of the wines, as well as their quality.

In fact, if on the one hand some consumers appreciate the sustainable approach and evaluate it as a surplus of the brand and/or product, another group tends to remain more rooted in the past, preferring a common and already used packaging, showing a resistance to change various reasons, including those related to image and impact on product quality.

In this context, the bag in box format is among the most sustainable from an environmental point of view (Comparative life cycle assessment of alternative systems for wine packaging in Italy ferrara de feo) representing one of the main options available to wineries. However, in the face of lower production costs compared to other formats and the environmental benefits associated with this type, the consumer shows contrasting attitudes. In fact, numerous authors highlight how this format is completely ignored by German consumers who show a high involvement for wine (Nesselhauf et al. 2017) or how 92% of Italian consumers are not willing to change their purchasing habits with respect to the format of wine by continuing to favor only glass (Ferrara 2020), a material that is confirmed to be the best for keeping the chemical and organoleptic characteristics of wine unaltered (Thompson-Witrick et al. 2021). On the other hand, the analysis of bag-in-box sales in large-scale distribution has recorded a strong increase in recent years (Gerini et al. 2022)

The aim of our work is to investigate specifically and in more detail the behaviour, characteristics, expectations and willingness to pay of those who know and use this format. In particular, we want to answer the following research questions:

1. Is a bottled DOC wine better than the one contained in the bag in box?
2. Does the willingness to pay (WTP) of a DOC wine in bag in box depend on the perception of taste?
3. Does organic certification impact the willingness to pay of a bag in box wine?

To answer our research questions, an experimental auction was developed in November 2022 involving 100 subjects representative by gender and age of the universe of Italian boxed wine consumers. The definition of the socio-demographic characteristics of the sample used for the auction was done by carrying out a pre-test on a sample of 500 subjects representative by gender and age of wine consumers in Italy. We used a second-price auction (Vickrey, 1961), in which the auction winner is the one who bids the highest and, for the article he wins, pays a price equal to the second highest bid. Participants were not provided with a reference price, as previous research has detected that providing reference prices influences participants’ bids (Corrigan and Rousu, 2006, Drichoutis et al., 2008). The sessions were conducted in a sensory analysis laboratory with separate tasting cabins equipped with computers. All told, 8 auction sessions were organised, each of which saw the participation of 12-13
people, for a total of one hundred participants. The experiment was based on a within-subject design. All the participants were exposed to the same treatments in all of the sessions. Each session consisted of three rounds: Blind tasting, Information and Information with tasting (Stefani et al. 2006). In particular, the Information round tested whether the wine packaging method influenced the consumer’s expectations. The Blind tasting round assessed whether the packaging had an effect on the appreciation of the wines’ taste. The final round (Information with tasting) observed the combined effect on consumers’ preferences of information about the packaging and wine taste. The purpose of the final round was to observe whether the expectation for the wine’s packaging was strengthened by the wine’s taste, or contrarily, whether the taste prevailed over the value associated with the packaging. The three rounds were conducted using z-Tree software (Fischbacher, 2007), which through the presentation of screen shots made it possible to guide the procedure and to record participants’ bids, as well as to identify the round winner. Each session lasted approximately 1.5 h. At the end of the auction and for each session, a round was randomly extracted in order to identify the winners. After the auction a questionnaire was administered in order to count consumers' attitudes, behaviors and sociodemographics.

The results of the study allowed us to draw the main characteristics and drivers of boxed wines consumers’ and made us possible to segment market in order to define specific marketing strategies. We were able to answer our research questions highlighting how consumers, despite having a taste expectation for bottled wine higher than that of bag-in-box, do not perceive differences between the two formats during a blind tasting. The WTP for the same volume of wine is always higher if it is bottled rather than boxed. We also fixed that the WTP for the two different packaging systems is independent of the taste and of the organic production method.

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