Tbilisi 2022 Abstract Submission

Title
The state-of-the-art of wine GIs: insights from the literature and the competitive landscape of Italian GI wines

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Conference Presentation

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Keywords
Wine, Geographical Indications, Italy, Competition, Network Analysis

Research Question
We aim at a state-of-the-art network analysis on the literature about GI wines and to explore the competitive framework analysis for Italian GIs based on price and sales volume data.

Methods
We perform a co-occurrence network analysis on keywords to identify the core thematic areas on wine GIs and identify four GI clusters for Italy (scaled-up quality, quantity oriented, emerging, niche).

Results
Co-occurrence network analysis detects four thematic areas in the literature on wine GIs and we reveal a distinct competitive landscape for white, sparkling, rosè and red wine GIs.

Abstract
Wine has become one of the pillars of the international agri-food market, rapidly affirming as one of the world's most popular beverages (Goncharuk, 2017). Indeed, global wine consumption exceeds 230 million hectoliters (OIV, 2022), with an estimated production of 260 million hectoliters from a total area under vine of 7.3 million hectares. Accordingly, wine has become one of the most traded food products, with a total trade volume exceeding 111 million hectoliters in 2021 (OIV, 2022).
In this scenario, Italy stands out as one of the sector's top players. The nation is the top wine producer in volume (50.2 million hectoliters in 2021; OIV 2022) and the third in wine consumption worldwide (24.2 million hectoliters in 2021; OIV 2022) behind France and the US. Accordingly, drinking wine is deeply rooted in the Italian population's habits as daily wine drinkers account for 17.6% of the population, while only 5.3% and 0.6% of consumers drink beer and spirits daily, respectively (ISTAT, 2020). Moreover, Italy trades 20% of the wine exported globally, recording the most significant export volume among nations (22.2 million hectolitres in 2021; OIV 2022).
The strong link between the territory and wine production reflects in a remarkable wine heritage, counting well over 500 Geographical Indications (GIs) for wine, i.e., "products whose quality, reputation or other such characteristics relate to their geographical origin" (European Commission). Notably, this GI sector is worth 9.3 billion €, 80% of which comes from PDO wines only (Ismea-Qualivita, 2022). The most crucial GI districts concentrate in northern Italy, with Veneto, Tuscany and Piedmont making up 54.5% of the total value of Italian GI wines (Ismea-Qualivita, 2022).
Therefore, the present exploratory analysis aims at depicting a state-of-the-art on literature about GI wines while further exploring the competitive framework for Italian GIs. Furthermore, this analysis is the baseline of a deeper cross-country investigation of wine GIs.
As a first step, we collected all references containing Wine and Geographical Indications as keywords (n=205) and further restricted the sample to publications written in English from 2010 upwards (n=171). We excluded older publications as they were only a few observations per year. For this initial step, we relied on Scopus only. Similarly to recent studies (Khitous et al. 2020; Grames et al., 2019), we then run a network analysis on keywords (co-occurrence network) to identify the core thematic areas on the topic present in extant literature using VOSviewer. Secondly, we proceeded with Italian wine GIs analysis considering reds, rosé, whites and sparkling separately, relying on average price per litre, sales volume and price premium as indicators.
We relied on 2021 data on average price at origin to select the preliminary GIs samples. Such data was retrieved from ISMEA's website, the Italian Institute for the Services in the Agrifood Market or, when not available, from the related chamber of commerce. Specifically, we first downloaded all data on the average price per liter for white and red GIs available on ISMEA's website (66 GIs in total; 28 whites and 38 reds) and computed the average for 2021. We further ranked red and white GIs based on this information to identify the top 10 for each product category as a sample for preliminary analysis. In total, we selected 20 wine GIs for this purpose. We avoided excluding niche GI products by considering prices at origin instead of production volume to identify eligible cases. To ensure consistency, only PDO wines were considered (i.e., DOC and DOCGs) as they are also the most relevant in terms of turnover on the overall national production.
We then collected the latest data available on sales volume and sales value (2019), which in the present analysis are represented by certified hectoliters and revenue at production, from a dedicated ISMEA's website called ISMEA Retevino. Based on these two indicators, we proceeded to classify the selected GIs into four clusters: Cluster 1 is a combination of high price premium and a large development on the market in terms of sales volumes, Cluster 2 involves "mass production" GIs characterized by a large-scale production that is sold at lower prices, Cluster 3 covers niche markets with high price premium and low sales values. In contrast, Cluster 4 includes emerging GIs with smaller-scale productions that still gain a limited price premium (Figure 1).
Preliminary findings on keyword co-occurrence analysis detect four thematic areas (wine quality and viticulture; wine sensory analysis; wine chemistry; GI wines market and industry). GIs clustering highlighted that most white and sparkling GIs fall into Cluster 3 (niche GIs) or Cluster 4 (emerging GIs). Veneto's Prosecco DOC (2,936,540 hl certified in 2019) stands out as a quantity-oriented GI belonging to Cluster 2, while Conegliano Valdobbiadene Prosecco Superiore DOCG locates in Cluster 3 (690,648 hl certified in 2019, average prices around 2.3 €/l). Trento DOC (Trentino Alto Adige) and Roero Arneis DOCG (Piedmont) are the other two relevant GIs belonging to Cluster 3. Less famous GIs like Fior d'Arancio DOCG and Asolo Prosecco DOCG (both from Veneto) fall both in Cluster 4.
Red wines show a similar scenario, although most wines locate in Cluster 4 while only three GIs classify as high-end niches (Cluster 3): Amarone Classico DOCG (Veneto), Brunello di Montalcino DOCG (Tuscany) and Barolo DOCG (Piedmont). At the same time, Chianti DOCG (Tuscany) shows similar performance as Prosecco DOC, falling into Cluster 2.

The analysis will be extended to a larger sample of GIs. The findings will improve our understanding on the structure of the Italian wine GI sector, which are helpful to academia and sector stakeholders in light of the significant economic relevance of the industry and the upcoming modifications to the European GI's regulatory framework.

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The state-of-the-art of wine GIs: insights from the literature and the competitive landscape of Italian GI wines.

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Wine has become one of the pillars of the international agri-food market, rapidly affirming as one of the world's most popular beverages (Goncharuk, 2017). Indeed, global wine consumption exceeds 230 million hectoliters (OIV, 2022), with an estimated production of 260 million hectoliters from a total area under vine of 7.3 million hectares. Accordingly, wine has become one of the most traded food products, with a total trade volume exceeding 111 million hectoliters in 2021 (OIV, 2022).

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As a first step, we collected all references containing *Wine* and *Geographical Indications* as keywords (n=205) and further restricted the sample to publications written in English from 2010 upwards (n=171). We excluded older publications as they were only a few observations per year. For this initial step, we relied on Scopus only. Similarly to recent studies (Khitous et al. 2020; Grames et al., 2019), we then run a network analysis on keywords (co-occurrence network) to identify the core thematic areas on the topic present in extant literature using VOSviewer.

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Figure 1 Description of GI clusters identification

		Sales Volume	
		Low	High
Price Premium	High	**CLUSTER 3 (Niche)**	**CLUSTER 1 (Scaled-up quality)**
	Low	**CLUSTER 4 (Emerging)**	**CLUSTER 2 (Quantity oriented)**

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[1] https://www.ismeamercati.it/retevino-dop-igp#MenuV

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The analysis will be extended to a larger sample of GIs. The findings will improve our understanding on the structure of the Italian wine GI sector, which are helpful to academia and sector stakeholders in light of the significant economic relevance of the industry and the upcoming modifications to the European GI's regulatory framework.

Figure 2 Competitive landscape of the main red Italian GIs - preliminary results

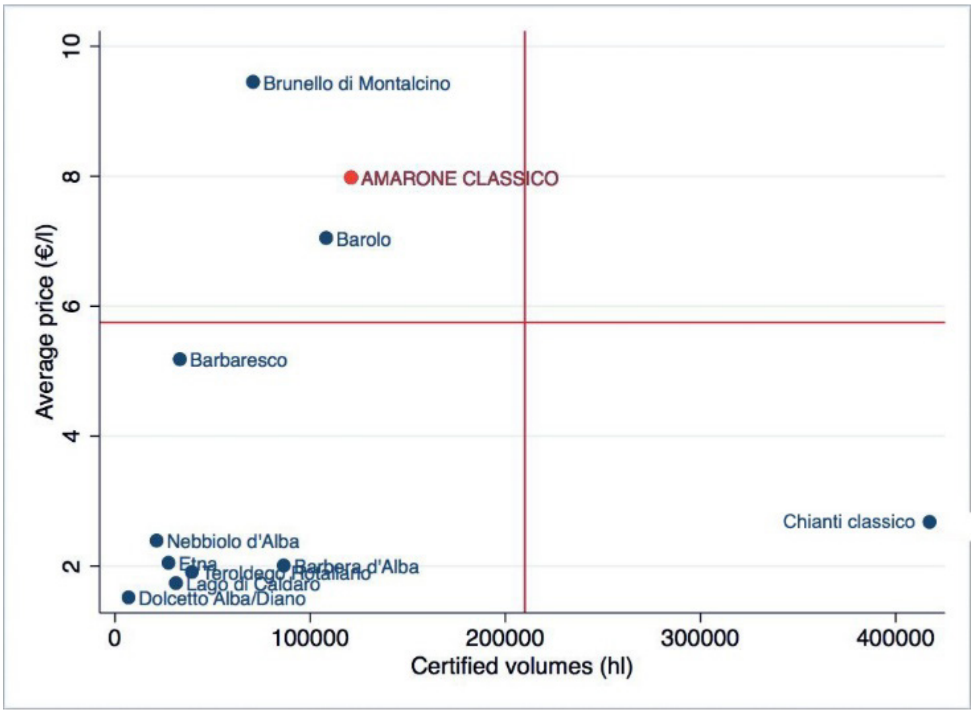
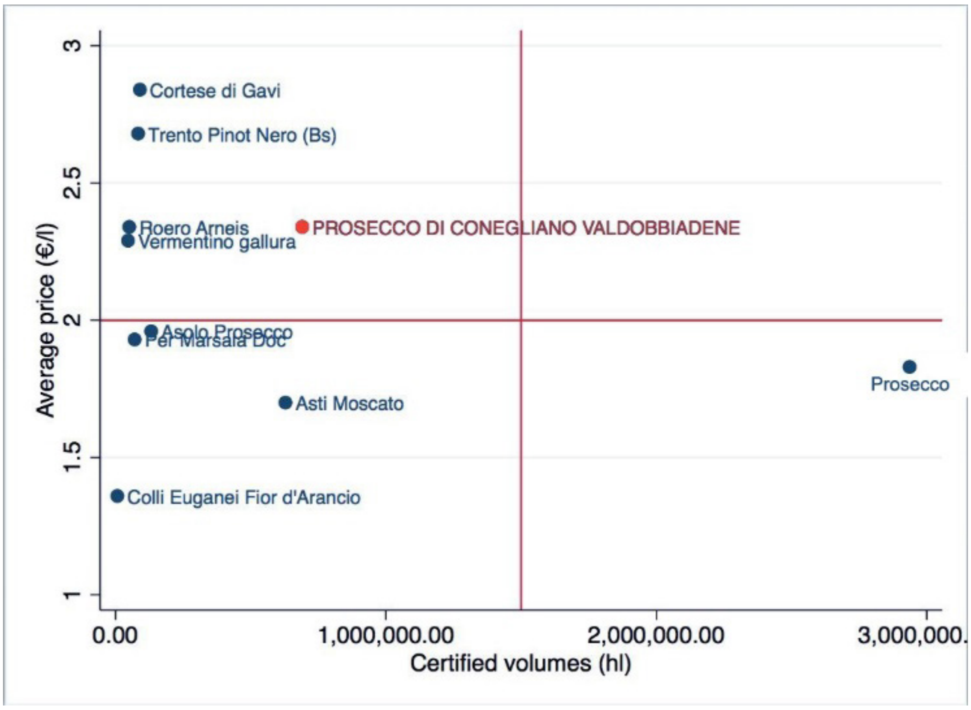


Figure 3 Competitive landscape of the main white and sparklind Italian GIs – preliminary results



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