Lausanne 2024 Abstract Submission

Title
Innovation and Innovators in the Wine Industry of Argentina: What a Novel Dataset Reveals

I want to submit an abstract for:
Conference Presentation

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Keywords
Innovation, Innovators, Quality Wines, Argentina

Research Question
We seek to understand the drivers (why?) and the patterns (how? where?) of innovation in the wine industry. Are exporters different?

Methods
Inverse Probability Weighted Regression Adjustment (IPWRA) is one approach to estimating unbiased treatment effects when we have confounding evidence on causality. We apply it to a novel winery dataset.
**Results**

Extremely Conceptual (40 percent) innovator firms sell less to the domestic market and more to export markets, both in volume and value. These innovators are predominant in exporting wineries.

**Abstract**

Wine production in Argentina has evolved from producing mostly bulk wine for domestic markets to becoming a relevant player in the international market, with a share in quality wine markets. This improvement is observed both in absolute values as well as a fraction of the average prices of French wine exports, the epitome of quality. The exporters comprise both, sellers of bulk and bottled wine (Elias et al., 2019). Bulk wine on average is cheaper than bottled. Among bottled wine exports, there are high-quality middle- and low-quality wines. On the other hand, of bottled wine exports, the most are varietals and overwhelmingly the local insignia grape, malbec.

The evolution of local industry towards exports, demanded innovation in products and processes to improve the average quality of local wines. Innovation sought differentiation through quality. Innovation can mean a new idea, method, process, product, or technology. However, to be considered an innovation, it must be implemented. From a business perspective, innovation is a new solution to a practical problem that generates value. Innovations stem from practical needs; they offer practical solutions; and, if successful, they yield value (Dogru and Peyrefitte, 2022).

Quality is a matter of differentiation, and it is awarded by the highest prices. It means adding valuable attributes to products by turning them differentiated for customers. Innovation means new and improved products and processes; thus, it is essential to succeed in international markets, which are dynamic and competitive. Argentine wineries have received higher average relative prices for their products compared to other similar countries The latter is a market premium for quality improvements.

Our research aims to identify and estimate the impact of innovators’ profiles on export outcomes. We are interested in the characteristics of innovators who produce high-quality wine for export markets. We use data on innovators’ profiles and their results in terms of internationalization and seek to establish links between innovators, their characteristics, and indicators of export performance. To answer our investigative questions and test our hypothesis we work with a database of 230 wineries in Argentina (one-fourth of the country’s wineries). We use a survey on wineries trying to detect why and how they innovate, generally intended as the generation of new or improved products and/or processes.

We seek to understand the drivers (why?) and the patterns (how? where?) of innovation in the wine industry. We detect some patterns of innovators and conclude that they respond both to economic stimulus and some personal characteristics that orient them to certain results in their search for quality (understood as a set of attributes - horizontal, vertical, or idiosyncratic- which in the mind of the customers increase their willingness to pay for the product, ceteris paribus).

We hypothesize that innovators who produce high-quality export wines are different from other types of producers (such as exporters of bulk wine, or non-exporters). Because exporting does not mean high quality per se (part of exports is made of bulk wine), we first investigate interactions between exports and quality (which we attribute in part to innovation), to characterize exporters concerning non-exporter firms. Secondly, we investigate the features of the innovators who produced these quality improvements and who allowed to increase in the international insertion of Argentine wines.

Inverse Probability Weighted Regression Adjustment (IPWRA) is one approach to estimating unbiased treatment effects when we have confounding evidence on causality. In several analyses the treatment is observable but there is no randomization of assignment to treatment, leading to different problems. One is confusion because of selection bias. If selection characteristics are observed in the data, treatment can be conditioned on those features to yield an unbiased estimate of the treatment effect. The method firstly estimates selection to treatment (treatment model), secondly predicts treatment for all observations, thirdly assigns the inverse probability of treatment for treated individuals and the inverse probability of not being treated for control individuals, and fourthly re-estimates the outcome model using these new weights. By magnifying treatment individuals who otherwise look like they would have selected treatment, the method creates counterfactuals that are not observed in the data. The model is double robust: if one of the models (treatment or outcome) is misspecified, the estimator is still consistent (Caldera, 2019).

We use the IPWRA model to evaluate how innovation profiles affect wine productivity and domestic and export sales. The idea of the IPWRA methodology is to perform a doubly robust estimation of how innovators’ profiles affect outcomes. We first estimate the Average Treatment Effect (ATE) which means to compare outcomes from firms that are considered extremely conceptual (EC) using Galenson’s methodology versus the rest. The second
The step is to look at the subgroup of firms that export and use the IPWRA to obtain the Average Treatment on the Treated (ATT). The idea of this second analysis is to explore whether extremely conceptual firms have a differential effect over their export counterparts that are not considered extremely conceptual firms. We estimate two logit models. The Average Treatment Effect (ATE) model compares outcomes from EC firms versus the rest. In contrast, the Average Treatment on the Treated (ATT) model explores whether EC firms have a differential effect over their export non-EC counterparts.

References
Innovation and Innovators in the Wine Industry of Argentina: What a Novel Dataset Reveals

Paper Presented to the 2024 AAWE Conference, Lausanne

Nicolás Depetris-Chauvin1, Julio J. Elías2, Gustavo Ferro3, Nicolás Gatti4, and Emiliano Villanueva5

Abstract

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