

Ithaca 2018 Abstract Submission

Title

The market organization in the wine industry

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Conference Presentation

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Keywords

Market organization; wine-making; vertical integration; joint investment; cooperative; spot market.

Research Question

Which firms decide to vertically integrate into wine-making? If a farm decides not to do it, should it join a cooperative or sell its grapes in the spot market?

Methods

In this paper we develop a theoretical model to explain the overall industrial organization of the wine sector and investigate questions like the previous ones.

Results

The Coop over-produces with respect to the IOF, because it offers a larger price, leading to more active firms and thus more entry for grape-growers when you have a Coop.

Abstract

The industrial organization of the wine sector is quite similar across European countries. Some firms are vertically integrated: they grow the grapes in their vineyards, and then transform them into wine in their own premises, i.e., in their wine-making facilities. Other farms only grow the grapes, which are then processed elsewhere. Grapes can then be sold in the spot market (with or without short- or long-term contracts) to private wine-making firms. In other cases, growers may deliver grapes to cooperatives, which therefore represent a 'collective' form of vertical integration.

In this paper we develop a theoretical model to explain the overall industrial organization of the wine sector and investigate questions like the following. First of all, which firms decide to vertically integrate and what are the benefits and costs of making wine 'in-house'? If a farm decides not to make wine in its own premises, should it join a cooperative to invest collectively and forward vertically-integrate to make wine together with other farms? Or would it be better to sell its grapes to other wine-making firms, in the spot market or through (short- or long-term) contracts? What are the benefits and costs of each option, and what explains individual farms' choices? Last, are

these choices affected when quality is an important dimension in wine production?

There are few papers that deal with some of these questions, but we are not aware of any contribution dealing with these quite general questions in a unified framework. This is what we propose in this contribution, which major features are the following. First of all, to make wine (i.e., to process or market a raw commodity), a firm needs to make a fixed investment, equal for every firm. Firms though are heterogeneous, and so only more productive (or bigger) firms can reach the scale needed to have positive returns from the fixed investment. The firms that do not find it profitable to make wine in-house can then have their grapes processed elsewhere. This can happen by selling them to specialized 'private' wine-makers (IOFs), or by delivering them to a wine-making cooperative.

As making wine requires some fixed investment, a cooperative represents a collective wine-making endeavor by which members share the investment costs. The second feature then is that we model the trade-offs members face. An individual producer may sell grapes into the spot market, but all value added created in the wine-making process rests with the buyer, i.e., the IOF. By joining a cooperative, he can appropriate some of value added of the wine-making stage, but only up to a point. In a cooperative, the members have collective control, but collective decision making is typically inefficient, because in a vote the views of the pivotal voter are not necessarily the same as those of the membership as a whole. To put it more formally, "a members' cooperative is first-best efficient if, and only if, the median voter has average preferences" (Hart and Moore, 1996: 66).

Moreover, the cooperative may have other problems, such as being captured by management (see, e.g., Hueth and Marcoul, 2008) or by bigger/more powerful members (see, e.g., Bourgeon and Chambers, 1999), or suffer from horizon (see, e.g., Rey and Tirole, 2007) or double-marginalization problems (Giraud-Hèraud et al., 1999), etc., leaving only a fraction of the wine-making stage surplus to the producers. So a member of a cooperative can get only some of the surplus of the wine-making process: more than a producer selling to a wine-making firm, but less than a vertically integrated firm.

We aim to explain the choices of the different farms and firms, deriving testable predictions that can match available empirical evidence. We find that more efficient farms are able to vertically integrate, while less efficient ones do sell grapes downstream. If the downstream is a cooperative, it will offer a higher price compared to an IOF, so that there will be more entry (or less exit) into the farming sector. We only have firm downstream, so that we do not consider the possible competition among different firms downstream. In addition, we do not consider yet how quality affects these choices.

Preliminary results

The Coop over-produces with respect to the IOF, because for the IOF - as a monopsonist - it is impossible to extract all the farmers' surplus with a unique instrument, i.e., the price; it thus distorts downwards the price offered to supplier in order to maximize its own profit.

The Coop does not suffer from this problem as it does not try to extract surplus from the farmers; instead, it offers a surplus maximizing price to the farmers which is larger than that offered by the IOF. Hence there are more active firms with a Coop than with an IOF. This in turn generates more entry for grape-growers when you have a Coop. Some other issues/questions to be considered are the following

We start by considering only quantity-efficiency for producers' heterogeneity. Since wine-making requires investments in fixed-costs, only more productive firms are able to vertically integrate.

Quality in some markets has an important role. We then need to extend this benchmark model to consider both quantity and quality efficiency for producers' heterogeneity, showing when relatively smaller- but higher-quality firms may be able to vertically integrate into wine- making.

How does the Coop fit into these different settings? Which producers would it attract? Quality-efficient and/or quantity-efficient?

What is the relevant metrics to use when comparing the quality of the wine produced by the IOF and by the Coop? Which is the relevant 'IOF'? The vertically-integrated one or the wine-making firm that buys grapes from farmers?

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