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Evaluating the net benefits of collective reputation: The case of Bordeaux wine ☆

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ABSTRACT

In this paper we develop an original approach to assess the net benefits associated with a generic promotion program using an application to Bordeaux wines. The benefit is computed from the marginal impact of the program's collective reputation on the individual reputation for sub-regions within Bordeaux. These different marginal impacts are estimated using detailed survey data about the image of Bordeaux wines in seven European countries. We find positive and significant spillover effects from the collective reputation (Bordeaux) that moreover increase with the reputation of the sub-region. These spillover effects, when significantly positive, vary from a minimum of 5% to a maximum of 15% of additional favorable quality opinions. We then calculate a measure of the average net benefits earned by producers from the regional promotion program in selected sub-regions within Bordeaux. Our results indicate that producers in some sub-regions are more likely to benefit from the promotion program and suggest that the current fee structure may not be properly aligned with market conditions.

1. Introduction

Agricultural economists have a long tradition of evaluating the net benefits of both domestic and export promotion programs. This is typically done using time series data to estimate demand for the commodity in question as a function of prices, income, seasonality constraints, and promotion expenditures. The estimated coefficient for promotion expenditures is used to quantify the additional revenue generated by the promotion efforts. Given the fees associated with the check-off program, a benefit-cost ratio (BCR) can subsequently be calculated to show the ratio of estimated benefits to the costs for a specific promotion effort. In a review of a wide range of agricultural commodities, Kaiser (2011) reports that the median BCR for generic promotion programs in the United States has been approximately 6.0. That is, for each dollar invested in promotion, the average increase in industry-wide profits was $6.00, and in many cases it has been found that producers could have profitably invested more in promotion, not less. Examples of estimated average BCRs for major commodities include 5.7 for beef (Ward, 1996), 16.0 for pork (Davis et al., 2000), 3.4 for dairy (Kaiser, 1997), and between 2.9 and 7.0 for orange juice (Williams et al., 2004). [1]

Such promotion or check-off programs exist for a wide range of agricultural commodities in the EU, in the United States, and elsewhere (Carman and Alston, 2005). Assessments are typically applied per unit of output and therefore larger firms contribute a larger share of the total promotion budget. Larger firms may also use branded advertising efforts to promote their products, and as a result there have been a number of controversial legal cases in the United States where large firms have requested to leave the

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[1] The BCRs for highly differentiated products that also conduct branded promotion, such as wines, are expected to be lower. In addition, we expect that the BCR for a regional promotion program for wine will be lower than a national promotion program for a major commodity.

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mandatory generic program (Crespi, 2003). However, the overwhelming bulk of empirical evidence supports the notion that generic advertising has a positive and statistically significant impact on the demand for agricultural commodities and that there are gains to producers from these programs net of costs.

Generic programs are used to promote wine in many regions, but there has been very little economic research conducted to examine the implications of such efforts. For a variety of reasons, it is difficult to evaluate the effects of generic promotion for wines from a specific region following the approach that has been employed in the agricultural economics literature. In the Bordeaux region it is particularly complicated because the quantity of wines produced in each sub-region each year is relatively constant, and therefore it is difficult to directly estimate the effect of the promotion expenditures on demand (i.e., the promotion elasticity measure).

In this paper, we shed new light on the net benefits of the program used to promote all wines from the different sub-regions in the greater Bordeaux appellation. Because producers are required to fund these programs, it is important to conduct the appropriate economic analysis to better understand the net benefits of the program. This is not an issue that is specific to the sub-regions in Bordeaux; recently, wine producers in a sub-region within the Loire Valley in France decided to terminate their participation (and contributions towards) a regional promotion program (Anson, 2013). In Bordeaux, producers in different sub-regions pay different per unit fees towards the regional promotion effort. The variety of fees suggests that some sub-regions may have greater capacity to contribute, but it also suggests that some sub-regions earn a disproportionally greater share of the benefits from the promotion effort.

Our paper provides two interconnected contributions on the analysis of collective reputation in food and beverage markets. First, we are interested in developing a better understanding for how a regional reputation influences the reputation for its sub-regions. Second, we use our results to assess the likely net benefits of regional promotion efforts for stakeholders in sub-regions. This is particularly interesting for the promotion of Bordeaux wine as different sub-regions contribute towards the regional promotion at different levels. In terms of policy, this is important because many regions in the world utilize promotion efforts that are funded, in part or in whole, by all producers in the region. In cases with highly differentiated products being promoted collectively, it is not clear that such programs offer net benefits to all producers.

2. A description of the methodology

Our main theoretical inspiration comes from Tirole's (1996) collective reputation theory, where the collective reputation emerges as an aggregate of individual reputations, and belonging to a higher reputation group generates higher rents. While his analysis focuses on the incentive effects, the aim of our empirical work is to measure the benefits from collective reputation and what it implies for producers in selected sub-regions. Besides Tirole (1996), our paper is also related to the umbrella branding literature, where collective reputation effects are analyzed from the point of view of the multi-product firm. This literature is mostly concerned with brand extension, i.e. the use of an established brand name to launch a product in a new market in order to reduce introductory costs (see Tauber, 1988). A collective brand or name may also act as a quality signal through spillovers that create reputation linkages among various products or individuals (Choi et al., 1995). In this context, individual incentives are associated with those of the group, and this mechanism provides a strong commitment to maintain a high quality level for each product.

Closer to us, Winfree and McCluskey (2005) explore, both theoretically and empirically, a market situation where several producers of a differentiated product (apples) are concerned with a single collective name at the regional level (Washington State). In such a context, where a single name is used by several producers, the collective reputation becomes a public good and the incentives to provide quality decrease as the size of the group increases (free riding on quality). Indeed, it is impossible to exclude a producer from the benefits of the umbrella and there is non-rivalry in the sense that the use of the collective name from one producer does not prevent another one from using the same name at the same time. Rickard et al. (2015) use an experiment to understand how references to French umbrella reputations by U.S. wine regions influence consumers. They find that such references have the capacity to increase consumer valuation for wines in burgeoning U.S. wine regions, and the research highlights how collective reputations can even affect individual reputations outside of the umbrella region.

In a seminal application to Bordeaux wines, Landon and Smith (1997, 1998) show that both individual and collective reputations account for a substantial fraction of price variations observed for this product. Here, the collective reputation refers to the appellation name and individual reputations at the firm level are proxied by the average ratings the wines have received from a popular wine guide. Costanigro et al. (2010) examine the demand, and reputation, for wines with nested names (i.e., when the wine label may include information about the firm, the sub-appellation and the larger region). Using data describing wines produced in California, Costanigro et al. (2010) show that consumers are willing to pay for more information to form accurate quality expectations on specific names when prices (i.e. opportunity costs) are high, while they accept to use aggregated names for inexpensive products. For Mosel Valley wines, Frick (2010) finds statistically significant non-linear returns for individual reputation as well as significant returns for collective reputation.

We propose a novel approach to assess the net returns to wine producers from the generic promotion effort in the Bordeaux region. We start with a careful estimation strategy to identify the impact of the reputation of the group (the collective reputation premium) on the reputation of its members (the individual reputations for selected sub-regions). We use a dataset that provides European respondents' views on the quality of the collective reputation for the Bordeaux region and for selected sub-regions with Bordeaux. As a second step we use the econometric results to calculate a proxy of the net benefits of the regional promotion efforts for the stakeholders in different sub-regions.

2.1. Empirical reputation model

In the survey, respondents made a series of binary choices to state their opinion on the quality of wine from different regions and sub-regions in France. Individual respondents chose whether the region or sub-region was associated with a high quality wine (a quality score of 1) or not (a quality score of 0). Denoting h as an index for individual survey respondents, $i = 1, \ldots, n$ as an index for the various sub-regions (appellations) and g as a group index (which in our case is the Bordeaux region), we can write the perceived quality of the group g and each sub-region i by individual h (q_g^h and q_i^h) as:

$$\begin{cases} q_g^h = X_g^h \beta_g + \sum_{i=1}^{n} q_i^h \gamma_i + \varepsilon_g^h & (0) \\ q_1^h = X_1^h \beta_1 + \delta_1 q_g^h + \varepsilon_1^h & (1) \\ \vdots & \\ q_n^h = X_n^h \beta_n + \delta_n q_g^h + \varepsilon_n^h & (n) \end{cases}$$