Title
Geographical Indications and Welfare: Evidence from US Wine Demand

I want to submit an abstract for:
Conference Presentation

Corresponding Author
GianCarlo Moschini

E-Mail Corresponding Author
moschini@iastate.edu

Affiliation
Iowa State University

Co-Author/s

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raj Chandra</td>
<td>Amazon</td>
</tr>
<tr>
<td>Gabe Lade</td>
<td>Macalester College</td>
</tr>
</tbody>
</table>

Keywords
American Viticulture Areas, geographic indications, nested logit, product differentiation, wine demand, willingness-to-pay, welfare.

Research Question
What is the US consumers' valuation of US wine appellations of origin, and what are the welfare gains associated with the product differentiation enabled by such designations of origin?

Methods

Results
Estimated WTPs for US wines' geographic origin is economically and statistically significant. Welfare gains from information about the geographic origin of wines are sizeable.

Abstract
As with other food products, wine consumers have incomplete information about many of the intrinsic attributes of wine that they value, and must make decisions based on the limited observable information disclosed on products' labels. This information typically includes the brand, variety, vintage, and geographic origin of the wine. The justification for the latter is that it convey information about climate and soil conditions where grapes were grown, which are believed to be associated with important sensory qualities of wine. This belief has long been a motivation for the development of the system of geographical indications (GIs) for wines. GIs are rooted in France’s pioneering development of “appellations” for wines, and have become the cornerstone of the European Union’s general policy on the protection of denominations of origin. In the United States, American viticulture areas (AVAs) are the primary identifiers US wine producers use to differentiate their products geographically. Administered by the
The federal government, the AVA program currently recognizes 267 areas across the United States. Other recognized appellations of origin that can be used on wine labels include the state (e.g., California) and county (e.g., Amador). Whereas the rapid diffusion of these certification of origin labels attests to the interest this collective certification has received, empirical evidence as to the extent of the actual impact of AVAs and other US designations of origin for wine is limited.

In this paper, we study consumers’ valuation of US appellations of origin in the US wine market. The basic premise is that the observable information concerning wine attributes, disclosed on wine labels, is credible and key to consumers’ choices. We, therefore, ask how much the origin per se is valued over and above other desirable quality attributes wine may possess. We do so by estimating a structural model of wine demand using a large data set for at-home wine consumption from Nielsen Consumer Panel data. The specification of this model is rooted in the discrete-choice framework, whereby the products in the consumers’ choice sets are explicitly defined by the attributes they possess. The estimated demand model provides the vehicle to assess consumers’ willingness to pay (WTP) for the product attributes explicitly encompassed by the model, which includes wines’ geographic origin.

The extent to which geography matters, for wines, has been the object of considerable research. In contrast with the approach taken in this paper, however, most of the existing work has utilized the hedonic price function methodology. Empirical hedonic price functions, however, represent equilibrium relations, and typically cannot disentangle the separate impacts of demand and supply factors. The structural model developed in this paper, on the other hand, offers the ability to uncover the consumers’ valuation of wines’ geographic origin.

The specific model that we implement is a two-level nested-logit demand model. The model is estimated using Nielsen Consumer Panel data from 2007 to 2019. The data cover the entire US market and include extensive and detailed product attributes. Given the intractably large number of distinct wines sold, we aggregate consumers’ alternatives in their choice sets along some key dimensions while preserving the identity of the attributes of interest. The final dataset includes about 2,941 wine “products” encompassing 33 varietals produced in 79 domestic and foreign geographic regions.

The estimated model permits us to infer consumers’ WTP for various wine characteristics. We find that consumers place a relatively high value on wines’ geographic origins, distinct from the value consumers place on brand and varietal information. Estimated WTPs for US geographic origin turn out to be economically and statistically significant. We also document substantial heterogeneity across wines in consumers’ WTP for AVAs, ranging from -$2.9 to $17.0 per bottle, relative to a generic California wine (the reference region). Appellations fetching the highest premiums are well-known AVAs, including Anderson Valley, Carneros, Chalk Hill, Knights Valley, Oakville, Santa Maria Valley, and Sonoma Valley.

Aggregating marginal WTP estimates provides a first-order approximation to measuring welfare gains attributable to US wine designations of origin. This method implies gains of about $1.95 billion from 2007 to 2019. The estimated model, however, permits a more thorough welfare assessment. By postulating an imperfectly competitive retailing supply side of the wine market, under the standard hypothesis of Bertrand-Nash price competition, we evaluate a counterfactual experiment where information about the geographic origin of US wine is stripped away, while all other product characteristics of the demand model are preserved, and equilibrium prices are adjusted. A comparison of the baseline and counterfactual models shows that, from 2007 to 2019, total consumer welfare was higher by $1.17 billion because of product differentiation enabled by US designations of origin. We also find that industry revenues are positively impacted by this product differentiation by $3.70 billion, for a total welfare gain attributable to information about the US origin of wine of $4.87 billion over the period of study.

This paper makes three main contributions. First, we add to the literature on wine economics by developing a structural framework, based on discrete-choice demand, suitable to evaluate the consumers’ valuation of different wine characteristics. Second, we contribute to the empirical study of the determinants of consumers’ preferences for wine by estimating the demand model using an extensive dataset on US wine purchases for home consumption. Beyond identifying the role of product attributes in wine demand, the model yields useful estimates of both product-level and aggregate wine demand elasticities. Third, we estimate the magnitude of some welfare effects of US wine appellations. These welfare measures contribute new evidence on the extent to which, by reducing
asymmetric information and enabling the provision of quality, GIs contribute to more efficient and diversified food markets. Our WTP estimates, elasticities, and welfare estimates also provide important market insights for winemakers and other wine industry participants.

There has been a widespread diffusion of AVAs since their introduction in 1980, even though establishing an AVA can be a lengthy and costly process. That growers and wineries invest time and money to establish AVAs suggests that they value the promotion of consumer awareness of their wines’ geographic origin. This study provides empirical backing for this perspective. Results from our structural model for at-home wine demand are broadly supportive of the role of GIs as an important instrument for product differentiation in the US wine market. We find that AVAs and other US appellations have an economically and statistically meaningful impact on wine demand and are associated with large welfare gains. In particular, our results indicate that the availability of information about the geographic origin of US wines leads to a sizeable increase in consumer surplus, and even larger increases in industry revenue.

Consent

✔ I agree to the privacy policy.

You find the link to our privacy policy at the bottom of the page. In the privacy policy you find a link for exporting and/or erasing your personal data stored in our database.