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Chinese Consumer Preference for Red Wine Attributes

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Abstract

China has risen to be the largest red wine consumer in the world but related studies using disaggregated and consumer-based data are scarce. This article examines Chinese preferences and willingness to pay for different wine attributes through a recent national survey including a choice experiment. Results indicate that country of origin is still one of the most important attributes for wine. Taste of wine and organic production are also relevant to consumers. Wine vintage is not as important as expected. Key implications on Chinese domestic and imported wines are discussed under the context of recent profound structural changes in wine consumption induced by policy shifts.

Keywords: China, wine

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Introduction

For grape wine¹, new world countries, prominently represented by Australia, China and the US, have increasingly become the major players in the global wine business. While the US has become the world largest wine consuming country in 2013, beginning in the same year, China

¹ For simplicity, grape wine is replaced by wine for the remainder of this paper.

surpassed all other countries and became the world's leading red wine consumer (International Vine and Wine Organization 2014).

There are several noteworthy patterns in the recent development of the wine industry in China. First, over the past 15 years, China has doubled its wine producing areas to become world's third largest. Given the three- to five-year gap before vines become productive, China's wine output is expected to continue increasing. Second, Chinese consumers predominantly drink red wine. Lee et al. (2009) reported that over 93% of domestically produced wine in China is red while for imported wines, that percentage is 82%. Third, in China, domestic wines claim majority of the market share. Lin and Tavoletti (2013) noted that 88% of wines sold in China were red and Lee et al. (2009) found a similar result indicating that 79% wine shelf space was used for domestic wines. On the other hand, however, using macro data, Muhammad et al. (2013) suggested that China's wine imports increased 260 times from 2000-2011. Anderson and Wittwer (2013) predicted that China will likely double its current wine imports by 2018. Fourth, despite the optimistic estimates, red wine sales have decreased by almost 8% over the past two years, mainly due to the Chinese government's austerity campaigns and strict anti-graft regulations against buying wine as gifts for government employees. Given these new conditions on the Chinese wine market, how do consumers behave and how do consumer preferences translate into wine production and international trade are questions needing immediate attention.

Despite these drastic changes in China's red wine market and its significant impact on world wine industry, there has been little work on Chinese consumer preference on wine. The existing literature on Chinese wine demand and preference is limited in one or both of the two ways:

First, aggregated and secondary data obtained from the market are used. While these data are useful generating trend analysis, they often are not sufficient providing detailed consumer profiling. Understanding consumer individual preferences and heterogeneity is of significant importance to understanding the wine market since this is one product driven greatly by individual taste differences. Second, when primary data are collected, they often are limited by their coverage. Beyond Qing et al. (2015), there has not been a China-based study using primary consumer data collected from a region wider than a city. Without sufficient understanding of consumers, production, such as continued increase of wine growing regions in China can be misguided. Similarly, international trade partners can benefit from understanding preferences of the largest and most important red wine consumer on the market.

We make a contribution to literature by trying to understand consumer preference and willingness to pay for red wine attributes using data collected from three representative cities in China. In addition to the price, wine attributes considered are taste, country of origin, year of production and the manner of sustainable production.

Background

Although Chinese consumers are increasingly adapted to the taste of wine (Wen et al. 2010), their preference may still be consistent with their choices of other types of traditional Chinese fruit wine, which is generally more sweet. As a result, the first attribute considered in this study is whether the taste is sweet or dry (not sweet).

As a product with strong association with search and credence attributes, the country of origin has always been an important factor in consumer preference. While French luxurious iconic brands have always been popular in China, Australian super premium wines have also joined suite as one of the most desired and highest valued types on the Chinese market (Marrison and Rabellotti 2014). Muhammad et al. (2013) found that half of every dollar spent on imported wine went to French brands. As another powerful new world wine country, the US has been increasing its wine export to China drastically overall the year. According to Muhammad et al. (2013), in 2002, less than 1% of wine produced by the US went to China but by 2010, the percentage rose to 4%.

However, this landscape of imported wines may be changing. This is triggered by the unprecedented effort from the Chinese government crushing down corruption and lavish gifting in the public sector and flamboyant packaging and expense in all social occasions (Willsher 2014). Most of these efforts started in early 2012 but have increasingly become more pervasive. Marquis and Yang (2014) observed that in 2013, while the volume of imported wine increased by 5%, the value only grew by 0.5% (Lin and Tavoletti 2013). Consumers are now more attracted to “accessible luxury” with more focus on mid-range priced imports (Willsher 2014). Consumers today are more likely to base their preferences on taste rather than price as an indicator of luxury or merely the product image. Compared to domestic products with similar quality, the average 40% higher prices associated with imported wines due to taxes do not favor imports particularly in the context of gifting (Corsi et al. 2010).

Meanwhile, China's domestic wine production has been thriving. The fast expanding of China's wine industry can only be partially attributed to its geographic suitability. As Corsi et al. (2010) reported, China's Xinjiang, Gansu, and Shandong provinces are located on the 30th and 50th parallel "sweet spot" where most wine grapes grow in the world. Although land management issues challenge vineyard developers and acquisitions (Ly et al. 2014), it is the demand both internationally and within China, particularly from bigger Chinese cities, that drives up the production (Corsi et al. 2010). With the three leading Chinese producers, Changyu, Great Wall, and Dynasty, consumers in China will see continued market success of domestically produced wines. For these reasons, this study considers four possible countries where wines may be produced and sold in China: Australia, China, France, and the US.

In China, the year of wine is traditionally regarded as an important factor indicating wine quality. Although not all wines are suitable for storage for a long time, longer years is often more desirable. The year of wine is considered as an attribute in this study. Given the rising concerns on food safety issues from both the government and individual consumers, green production or organic food have been gaining momentum in China. Whether a wine is produced using organically grown grapes is another attribute considered. Finally, prices of wine are included to allow attaching dollar values to the attributes. In our study, wine prices can vary from ¥25 to ¥400 (¥1 ≈ \$0.16 at the time of this study).

Data and Model Results

We implemented a Chinese consumer survey in the spring of 2014 collecting 1,023 observations. The survey contained questions regarding consumers' general perceptions on wine including

their historical consumption information. The survey also included demographic questions to establish necessary controls for the analysis of their preferences for wine attributes. The key component of the survey is a discrete choice experiment where we queried consumer preference on the wine attributes previously defined. Given the attributes and levels considered, we applied an fractional factorial experiment design allowing first-order interaction effect. This generates 36 choice profiles which were then used to form 18 choice sets. Each choice set contained 3 options. Options A and B are product profiles and option C in each choice set is the fixed option of “choosing neither A nor B.” The block design allowed us to break the design into 3 blocks each with 6 choice sets. Each consumer was randomly assigned to one of these 3 blocks.

For discrete choice experiments, standard choice models such as the logit and mixed logit models can be applied. This study employs the mixed logit model. It is well known that in a hypothetical choice experiment survey like ours, respondents may behave strategically. In our survey, in addition to the most preferred, we also asked the respondents to indicate their least favorite option. Previous literature suggests that in many cases, it is easier for consumers to indicate the “worst” rather than the “best” option (Flynn et al. 2007). We construct two choice models in the first stage, using both the most and the least preferred option as the dependent variable. A cognitive dissonance index is then created based on the similarity of the characteristics of the predicted choices under these two models. This index is subsequently used to weigh the data in the second stage choice model where the most preferred choice is recursively analyzed.

Preliminary results indicate that our cognitive dissonance weighted recursive choice model outperforms the standard mixed logit model. The gain comes from the fact that in a conventional choice model, all none-chosen options are treated the same. In our model, however, the least preferred option gives additional information making choices in each choice set similar to a rank-ordered task. This increases the model's explanation power. However, our method is much easier to estimate than a true ranking task. It is shown that holding everything else constant, Chinese consumers still prefer wines from France. Sweeter and organic wines claim an average premium of 9% and 26%, respectively. The age of wine attribute, though significant, is not associated with a large premium. Each additional year of wine age generates about 1% price premium. However, when jointly considered with the country of origin, the wine age attribute produces a much higher price premium with French wine than with other countries. These findings suggest that although China's overall demand of red wine may decrease due to the government's battle against luxurious or wasteful spending, driven by consumer demand, the decrease will likely be disproportional across wines from different countries. While older wines are generally more preferred, new Chinese wines and wines that better fit Chinese palates will not be specifically disadvantaged on the Chinese market. The same holds true for organic wine.

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