Self-Consumption, Gifting, and Chinese Wine Consumers

Ping Qing[1] and Wuyang Hu[2]

[1] Professor, College of Economics and Management, Huazhong Agricultural University, Wuhan, China.

[2] Professor, Department of Agricultural Economics, University of Kentucky, Lexington, KY, USA. wuyang.hu@uky.edu

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Abstract

Chins is the world largest red grape wine consuming country. Using data from a recent survey conducted in three diverse cities in China, this study examines Chinese consumers' expenditure and preferences for wine for both self-consumption and gifting. Results indicate that in addition to price, Chinese consumers looked for other wine attributes such as brand and color but there are significant regional differences in wine preference and expenditure. On average, Chinese spend more on gift wines than for their own consumption. Increase in self-consumption contributed significantly to increases in gifting but the reverse effect was much weaker. Factors contributing to self-consumption and gifting are different and sometimes the effects were completely opposite such as consumers' experiences with wine, the role of wine advertisement, and the occasions when wine was consumed. Implications are drawn for wine standards and classification policies and for wine producers and marketers in China as well as around the world.

Keywords: China, expenditure, gift, regional, self-consumption, wine

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Introduction

Grape wine[1] is one of the most valuable agricultural products traded internationally with a market of 22 billion U.S. dollars in 2011 (Vlahović et al. 2013). Corsi et al. (2010) noted that the steady growth in global wine industry is due to a large degree by the expansion of the Asian market, particularly China, Japan, India, Singapore and South Korea. Morrison and Rabellotti (2014) reported that China and Japan alone consumed 90% of all wine imported to Asia. The demand from China is particularly noteworthy where it consumes seven times the amount by Japan and 100 times of that by India. Anderson and Wittwer (2013) found that virtually all increases in world grape and wine trade in the recent two years can be attributed to China's import growth. These authors further noticed that while the world grape and wine industry capital remained stagnant after depreciation, such capital will likely increase at 1.5% in China each year. China's wine industry has been highly active in the past five years, attracting and dispensing capital across the world (Morrison and Rabellotti 2014). While relatively new on the international wine business, China has already flashed its ambition by investing heavily in the French Bordeaux area and extending acquisitions in the U.S. California's Napa Valley, as well as in the Australian Barossa Valley and in New Zealand major production regions (Bouzdine-Chameeva et al. 2013). Morrison and Rabellotti (2014) even went on by saying that China has saved Australian wineries.

Given the importance of China for the international wine industry, economic research on Chinese wine consumption and preference is surprisingly sparse. For instance, a search of the Journal of Wine Economics between its inception in 2006 and 2014 returned only one study in 2009 (Lee et al. 2009) conducted to understand wine sales in Chinese supermarkets. For the existing limited

[1] The reference to wine suggests grape wine for the rest of this article unless explicitly noted.

literature on Chinese wine demand and preference, either aggregate secondary data were used (e.g., Muhammad et al. 2013) or primary data from a relatively small Chinese region was adopted (e.g., Lin and Tavoletti 2013).

The goal of this study is first to use data collected through a recent survey to offer an updated overview of current Chinese wine consumption habit and preferences. Second, wine consumption data from three widely different Chinese cities are gathered to provide a more complete view of Chinese wine demand. The three cities are Shenzhen, Wuhan, and Shenyang, representing southern, central, and northern China. Third, as a distinctive culture in China, gifting or treat-offering through wine is a significant portion of the total wine consumption. This study offers one of the first looks at wine self-consumption and gifting separately and explains factors contributing for each type of demand. This research is timely considering the increasingly strong anti-graft and austerity campaigns implemented by the Chinese central government that are expected to greatly reduce gift expenditure on luxurious wines.

Background and Past Literature

Traditionally grape wine does not enter Chinese gastronomic culture but the situation changed drastically over the past 40 years (Wen et al. 2010). Chinese wine consumption was almost negligible in the 1970's and production was about 85ML (million litre) per year (Bouzdine-Chameeva et al. 2013). In 2011, the total production was 1450ML. During 1996-2001, Chinese wine output grew by 58%. The growth was 99% for 2001-2006, and 192% for 2006-2011. During 2012-2013 alone, Chinese wine production has increased by 77% making China the fifth largest wine producing country in the world (Morrison and Rabellotti 2014). Vlahović et al.

(2013) predicted that by 2016, China will produce 2 billion bottles and by 2018, the output will further increase by 50% compared to the 2008-2013 period.

Morrison and Rabellotti (2014) showed that China has sustained the fastest consumption growth over the past decade. They calculated that between 1970-2009, the annual growth rate of China's wine consumption was an astonishing 145541%.[2] The second fastest growing country was Australia with 810% annual growth rate, followed by New Zealand and the U.S. As a comparison, during the same time period, the Old World country France and Italy registered negative annual growth rate of -53% and -62%, respectively. In terms of quantity, the demand for wine in China increased by 290% in the past ten years (Bouzdine-Chameeva et al. 2013) reaching 1.63BL as of 2013 (Anderson and Wittwer 2013). Vlahović et al. (2013) and Yet et al. (2014) predicted that China will become world largest wine market in 20 years even some researchers believe that time could come much sooner (Anderson and Wittwer 2013).

Some research indicates that the Chinese per capita annual wine consumption is about 0.75L to 1.2L (Marquis and Yang 2014; Bouzdine-Chameeva et al. 2013). This is about 5% of total average per capita annual alcohol consumption in China (Anderson and Wittwer 2013). For France and Italy, the average per capita annual wine consumption is 54L and 49L respectively (Bouzdine-Chameeva et al. 2013). If China were to reach a level even close to the French or Italian, the market potential is immense. Anderson and Wittwer (2013) projected that an additional 620-940ML of wine will be consumed by Chinese in 2018 on top of the current 1.63BL level. Recognizing the current and predicted Chinese domestic production level, these

[2] This number appears to be unreasonably large due to the fact that in 1970, wine consumption in China was close to non-existent. As a result, when changes were calculated, a near "dividing by zero" occurred. Nevertheless, the increases in later years in China have been significant.

authors also projected that there will be an additional need of 330-740ML of imported wine in China in 2018.

China has already been keen on importing wine from across the world. During 2000-2011, China's imports increased by 26000% (Muhammad et al. 2013) reaching 627ML (Anderson and Wittwer 2013). Red wine is the most preferred type in China. Lee et al. (2009) found that 93% of domestic and 82% of imported wines sold in China are red. With the 1.4BL consumption, China is world largest red wine consumer clipping France and Italy (Willsher 2014). For the past ten year, red wine sales in China grew by 175% while dropping by 18% and 5.8% in France and Italy respectively. As a result, in this current research, we focus on red wine only. The internet has also been used more heavily as an outlet of selling wine. Marquis and Yang (2014) predicted that e-sales will increase by 47% by 2020. In addition to large cities, second and third tier cities as well as wine-tourism are areas receiving increasing attention (Ye et al. 2014 and Zhang et al. 2013). In this study, we consider the factors of e-sales and sales in relatively smaller cities such as Shenyang.

With fast rising disposable income, China has developed a large demand for consumption goods, particularly food (Wang and McCluskey 2010). Researchers generally agree that income plays a major role to explain the increasing demand for wine (e.g., Anderson and Wittwer 2013 and Somogyi et al. 2011). However, studies show the general Chinese consumers' knowledge on wine is still low (Marquis and Yang 2014) and concerns on authenticity cannot be neglected (Zhang et al. 2013, Muhammad et al. 2013). As a result, this study includes the impact from consumers' knowledge on their wine demand.

Gift giving is an integrative part of the Chinese culture. In recent years, gifting luxurious consumer products have become popular and sometimes individual even have to cut back their spending on essential household items (Xi et al. 2012). Yu et al. (2009) found that Chinese spend more on purchasing wine as a gift than for their own consumption. Lee (2009) and Liu and Murphy (2007) further suggested that giving high-end wine may be associated with displaying an image of high social standing and prestige from the giver. Muhammad et al. (2013) noticed a continued trend of purchasing wine as gift but Marquis and Yang (2014) predicted that wine gifting may slow down given the government's drive for austerity. Nevertheless, there has been no research on Chinese wine gifting expenditure in recent years especially after the strong government clampdowns on wasteful and showy spending. This study fills this void.

As indicated previously, past research on Chinese wine consumption is scarce. Gallet (2007) included over 100 studies on wine consumers across the world but none was conducted in China. Ye et al. (2013) listed seven papers prior to 2010. There have been just a few more in recent years but these studies either focus on the aggregate market without consumer specifics (e.g, Muhammad et al. 2013), or use primary data collected only from large cities—predominantly Beijing and Shanghai (Lin and Tavoletti 2013, Ye et al. 2013, and Wang and McCluskey 2010). The current analysis uses consumer-level data collected from a range of Chinese cities representing different culture, household income, and food consumption habits.

Data Collection

Data used in this study were completed through a consumer survey in spring 2014. To offer a more representative view of Chinese consumers, the survey was implemented in three Chinese cities: Shenzhen, Wuhan, and Shenyang. Shenzhen (population seven million) was chosen because it's one of the symbolic cities marking China's "openness to the outside world" policy in the 70's. Wuhan (population eight million) was selected due to its unique location in central inland China. The northern city Shenyang (population five million) was chosen because it represents the rarely studied northeast region of China. As the city trying to catch up in its economic development, it is useful to include its wine consumers in the study.

The survey instruments were created after consulting four separate focus groups: two formed by wine experts, marketers, as well as importers and two by general consumers. These focus groups helped improve the survey by including key relevant questions and presenting the questions in a clear and non-misleading manner. Two pilot surveys were conducted to enable researchers to test the questions and make final adjustments. During the final survey, respondents were approached in front of grocery stores in each of the three cities. Three ties of stores were chosen in each according to their customer basis, including neighborhood stores, low-price discount-warehouse stores, as well as high-end grocery stores. To improve data representativeness, professionally trained surveyors intercepted respondents during different time and day of the week. The survey took about 10 minutes to complete and respondents were thanked with ¥30 RMB.[3] A total of 1,023 respondents answered the survey. The response rate was similar in each city reaching about 75%. Of the returned questionnaires, 996 were useable. The survey used a filter question to select only wine consumers resulting to sample sizes of 285, 315, and 285 for Shenzhen, Wuhan, and Shenyang respectively.

[3] At the time of the study, RMB ¥1 = USD $0.16 and RMB ¥30 is roughly USD $4.8.

Descriptive Result on Consumption Habit and Preferences

Table 1 reports key demographic characteristics of the overall sample as well as the sample in each of the three cities. Information from the 2010 Chinese demographic census is also given in the table. Overall, gender is relatively well represented by the sample. For age and years of education, the census did not give one single number. However, based on the CIA's world factbook (CIA 2014), the median age and average education in China was 36.7 and 13 respectively. As can be seen from the table, the observed sample had lower than average age and higher education. Furthermore, household income of the sample was about twice as high as the city average. Despite the fact that there does not appear to have a demographic census of Chinese wine consumers, multiple researchers found that Chinese wine consumers tended to be young, well educated, and had higher than average income (Lin and Tavoletti 2013, Ye et al. 2013, and Muhammad et al. 2013). Nevertheless, an intrinsic nature of a sample from an unknown population is the issue of representation. Readers are cautioned on this and future studies can help better understand representativeness of the current studies.

Besides demographic questions, the survey asked questions about consumers' wine consumption habit and perceptions. Differences exist between consumption patterns of the three cities but most differences were not statistically significant. As a result, the numbers were pooled across cities. On average, consumers spent ¥67 and ¥127 per month on wine for self-consumption and gifting respectively. This confirms results from previous studies that Chinese consumers spent more on wine as a gift than for their own (e.g., Yu et al. 2009). To offer a basis to control for the total amount of alcohol consumed, the survey asked respondents to record their total alcohol

expenditure of all kinds during all events in the previous month. The number was ¥417.5. This indicates that while total wine consumption still accounted for less than half of Chinese consumers' total alcohol expenditure, the proportion is greater than some other studies have suggested (Anderson and Wittwer 2013). A total of 55.5% of the surveyed consumers had never been a regular wine drinker. There were only 2.7% reported they had been regularly drinking wine for over 10 years. In terms of quantity, consumers drank about 1.8 classes (150ml per class) every week. The survey asked respondents to rank under what circumstances they would purchase wine from the most common cause to the least. Figure 1 reports the result.

According to the figure, of the 800 respondents who indicated their top reason to purchase wine, 27.6% and 24.4% said it was for consumption at home and for family outings in restaurants respectively. There were respectively 20.8% and 17.9% of the consumers chose treating friends in restaurants and visit friends as gifts as their top reason. The remaining 9.4% consumers indicated consuming in bars being their top reason for purchase.[4] For the second most important reason, treating friends or buying as a gift for friends accounted for 35.1% and 23.0% of the consumers respectively. For the least important reason, more than 55% of the consumers who gave an answer for the question indicated consumption in bars.

The survey asked consumers where they purchased their wine. Interestingly, the most common place to purchase wine for self-consumption was the supermarkets accounting for 54.7% of the 878 consumers who answered that question. The second most common place was wine specialty stores accounting for 28.6% of those who answered the question. For gift-purchasing, the most

[4] The reasons offered in the survey were determined by extensive focus group discussions and pre-testing. Consumers were allowed to enter other reasons in an open space but only a few consumers (in single digits) ever did and this is true for the rest of the questions in this section.

commonly visited venue was the specialty stores for 47.6% of the 864 consumers answered that question. The second popular place for gift wine purchasing was the supermarkets for 40.5% of the consumers. The survey included other possible wine purchasing locations and more detailed result can be seen in Table 2, which will be explained later.

When asked which country's wine consumers purchased the most often, of the 851 respondents who answered the question, 48.2% indicated domestic wine. For the rest of the countries, 32.7% indicated France, 5.9% for Italy, and based on popularity, the rest of the countries were Australia, New Zealand, Spain, Chile/USA (a tie), and South Africa. This finding is also consistent with previous literature in that Chinese domestic wine has a dominating market share (Lee et al., 2009). French wine is the most preferred imported wine but wines from New World producers are making their way to the Chinese market as well. It is noteworthy to point out that this question in the survey asked the most often country consumers buy wine from, not the largest quantity or expenditure.

The survey further asked consumers to rank what were the reasons they consume wine for. Five reasons were offered in the survey: enjoyment, health benefit, cosmetic reasons, culture associated with wine, and business occasions. Figure 2 reports the result. For the top rated reason, of the 818 consumers who gave their answer, 27.8% indicated business. A total of 23.7 and 23.4% of the consumers indicated health and enjoyment respectively. The lowest percentage (10%) reported cosmetic reasons. Among the consumers who provided their second most important reason for wine consumption (647 consumers), 28.7%, 21.2%, 20.2%, 15.5%, and 14.4% chose health, culture, enjoyment, cosmetic and business reasons respectively. Not all

consumers included all five reasons in their ranking. For the 214 consumers who indicated their fifth reason for consumption, business occasions took the highest percentage of 32.7%, followed by cosmetic reasons at 29%.

Understanding consumer wine consumption habit and preferences in the form of descriptive statistics is useful but a quantitative analysis will provide more details regarding the expenditure. Table 2 summarizes the variables to be used in the regression analysis. Missing observations were replaced with sample median. For questions where consumers were asked to rank, dummy variables were created to indicate whether a particular option was chosen to be in at least one of the top two spots. For instance, the variable "mostly buy for self" is a dummy variable equal to one if either "consumer at home" or "family outings in restaurants" was indicated by a consumer as one of the top two reasons for wine consumption. Since the survey included only wine drinkers, no consumers had zero expenditure on either self-consumption or gifting. Linear regression models were adopted to analyze both type of expenditure.

Regression Result Explaining Self-Consumption and Gifting

The dependent variables used in the regression analysis are monthly expenditures consumers reported for self-consumption and gifting. One of the goals of this study is to examine regional differences in expenditure. For either self-consumption or gifting, parameter equality was tested between models using data from the three cities separately. Based on the 95% confidence interval and in both consumption situations, parameter equality between Shenzhen and Wuhan could not be rejected but was rejected between Shenzhen and Shenyang as well as between Wuhan and Shenyang. Thus, regression results using the overall sample as well as the sample

from each individual city are reported. In the overall sample, dummy variables indicating Shenzhen and Wuhan were also included to establish comparison to the omitted category Shenyang. Variables insignificant in all models were excluded in the final analysis. For the model using Wuhan's sample, since no respondents indicated they often purchased wine from Chile or South Africa, these two variables were not included. All significance tests were based on robust standard errors.

Table 3 reports the result for self-consumption. As expected, in general, higher expenditure on gift wine purchase and overall alcohol consumption led to higher self-consumption. For each additional ¥1 spent on gift wine, consumers in Shenzhen, Wuhan, and Shenyang would increase their self-consumption by ¥0.11, ¥0.25, and ¥0.2 respectively. Increase in total alcohol expenditure by ¥1 meant increase of about ¥0.05 for consumers in Shenzhen and Wuhan but not significantly for Shenyang consumers. Overall, as indicated by the city-specific dummy variable, holding all factors constant, consumers in Wuhan spent ¥129 more per month on wine for self-consumption compared to the other cities. Interestingly, compared to other consumers, consumers with over ten years of regular wine drinking experience spent ¥114 and ¥66 less in Wuhan and Shenyang respectively. On the other hand, each additional glass (150 ml) of wine consumers drink per week, their monthly expenditure would go up by ¥8.8 and ¥15.8 in Shenzhen and Wuhan respectively. These findings indicate that while expenditure went up along with the amount consumed, consumers having more experience with wine were probably more selective on their purchases and spent only moderately. Wine marketers should note this reverse impact of experience on consumption and target sales effort appropriate towards consumers with less experience.

Consumers who visited wine specialty store most often were more likely to spend more. In Shenzhen and Wuhan, compared to consumers who frequented other types of stores, specialty store visitors spent ¥61 and ¥60 per month more respectively. There was no significant difference in wine expenditure for consumers in Shenyang based on types of store visited most often. Despite previous literature predicting increased sales for online stores (Marquis and Yang 2014), we did not find consumers shopped online most frequently differ in wine expenditure from other consumers. Consumers in Shenyang were the only ones who would spend ¥90 more per month if they were most likely to purchase wine from Italy.

For reasons why respondents may consume wine, those who consumed mostly for enjoyment purposes were more likely to spend more. This type of consumers would spend ¥34 and ¥35 more per month in Shenzhen and Wuhan respectively. On the other hand, consumers in Wuhan and Shenyang would spend ¥37 and ¥22 less if they consumed wine mostly for business purposes. Consumers in Shenyang who believed advertisement was important for their decision to purchase wine would spend ¥20 less per month. Knowledge played a rather significant role in consumer purchase decisions. For those who claimed they did not know wine well, their expenditure was reduced by ¥33 and ¥28 per month respectively in Wuhan and Shenyang. For those who believed they had good knowledge about wine, their expenditure was ¥62 more in Wuhan.[5] This result confirms previous finding that consumer education on wine is important to increase demand (Ye et al. 2013; Marquis and Yang 2014).

[5] The two knowledge variables were both dummy variables and the omitted category was the "somewhat knowledgeable" category. The two included variables had coefficient of correlation less than 0.2.

In regards to wine attributes consumers consider when making a purchase, those in Shenzhen who believed country of origin being important would spend ¥32 more per month. Wuhan consumers who focused on brand would spend ¥35 less. For Shenyang consumers who valued grape varieties, the expenditure would be ¥27 more. Finally for color, consumers in Wuhan who treated color as an important attribute would spend ¥43 less on wine per month. This result confirms previous belief that recent Chinese wine consumers are also attracted by wine sensory attributes rather than simply the image and price attributes (Corsi et al. 2010). Consumer demographic features did not affect much their wine expenditure for self-consumption. The only significant variable was gender in Shenyang. Male consumers spent ¥15 more on wine per month on average.

Table 4 reports the regression result for gift expenditure. There are similar trends as observed for self-consumption expenditures. However, there also exist sharp differences between the two types of expenditure. Similar to self-consumption, consumers who spent more on self-consumption would correspondingly spend more on gift wines. However, the marginal impact from self-consumption on gift expenditure was much greater than the other way around. As indicated in the table, each ¥1 increase in self-consumption would increase gift expenditure by ¥0.4, ¥0.6, and ¥1.6 per month for Shenzhen, Wuhan and Shenyang respectively. At ¥0.16 and ¥0.08 for consumers in Shenzhen and Wuhan respectively, the marginal effect from total alcohol expenditure on gift wine purchasing was also greater compared to self-consumption. Unlike purchasing for self-consumption, experience with wine played a positive role in gift purchasing. This is consistent with Chinese consumption on coffee (Yang et al. 2013). Consumers in

Shenyang who also had more than ten years of regular wine drinking experience would spend ¥257 per month more on gift wine purchasing.

None of the store of purchase significantly affected gift wine expenditure. For consumers who most often purchased New Zealand wine, their expenditure was ¥116 per month higher although it was not clear which specific city contributed to the additional expenditure. Consumers who drank wine mostly for enjoyment purpose would spend ¥35 less per month on gift wines, again with no specific city association identified. Consumers in Wuhan who drank wine mostly for cultural reasons spent ¥43 less per month on gift wines. Differently to self-consumption, consumers in Wuhan spent ¥44 more per month on gift wines if the most important reason for them to drink wine was for business. The importance of advertising also played a reversed role in gift wine purchasing. Shenyang consumers who believed advertisement was important in their purchasing decision bought less for self-consumption but ¥56 more per month for gifting. Unlike for self-consumption, consumers who reported having little knowledge on wine did not affect their expenditure on gift wines although knowing wine well increased gift expenditure for Shenyang consumers.

There were also differences between wine attributes consumers treated as important when making purchase decisions for self-consumption and for gifting. Viewing brand as an important attribute significantly affected consumers' gift wine expenditure but the effect was not consistent across cities. Consumers in Shenzhen would decrease their gift expenditure by ¥82 per month if they believed brand was important. However, consumers in Shenyang would increase their gift expenditure by ¥50 per month. Consumers in Shenzhen and Wuhan who valued color would

spend ¥124 and ¥57 more per month on gift wine purchase respectively. Aroma, when being recognized as important, would decrease gift expenditure by ¥107 and ¥68 per month respectively in Shenzhen and Wuhan but increase gift expenditure by ¥77 per month in Shenyang. Finally, older consumers in Shenzhen spent less on gift wines but overall consumers spent more if they received more education.

Conclusion and Implications

This article offers an updated overview of the current Chinese wine preference and consumption. Unlikely most previous research, this study collected consumer data from three diverse Chinese cities: Shenzhen, Wuhan, and Shenyang. Furthermore, differences in Chinese consumers' wine expenditure for self-consumption and gift purchasing are highlighted. The result confirms many previous conclusions in the literature but with new evidence and additional findings. Although wine consumption is still a minor component in Chinese total expenditure on alcohol, the percentage is larger than previously reported in other research. Chinese domestic wine claims the majority of market share and wine from the Old World countries remains to be preferred, especially French wine. Consumer knowledge is a significant determinant on their wine expenditure. Additional education on wine is expected to bring increased sales. As suspected, Chinese consumers drink wine not just for the prestige or the image. Wine sensory attributes are becoming important factors such as grape variety, color and aroma. Consumer knowledge still plays an important role in their wine purchasing decisions.

Unlike previous research, this study also reveals that there exist significant differences in consumer wine expenditure across China. It is shown that depending on region, consumers not

only spend different total amount on wine, the factors contributing to expenditure are also different. Some factors are found to have opposite effects on consumer purchases in the three cities. More importantly, purchasing wine for self-consumption or for gifts leads to drastically different spending patterns. First of all, Chinese consumers spend more on gift wines than for their own consumption despite the fact that the consumers purchase wines for themselves more often. Second, the reasons why wine is consumed are important predictors but play different roles for self-consumption or gifting. Lastly, when purchasing wine for themselves or as gifts, consumers look for different wine attributes. Understanding the differences in wine expenditure across regions and in different occasions are important for producers and marketers. There does not exist one single strategy to appeal to all consumers in China. As consumers grow more sophistication in their preferences, so will need the production, importing and marketing strategies. Additional research is justified to advance the understanding of consumers and their preferences while the Chinese wine market is evolving on the fast track.

This current study can also be useful for policy considerations. For instance, how does Chinese consumer wine preferences translate to policies guiding China's domestic production and importing/exporting activities is less understood. Although the Chinese Grape Wine Standard was established in 2008 (Corsi et al. 2010), there has been no study evaluating the cost and benefit aspects of the standard nor is there any research on the interaction between consumer responses and policy updates. A similar issue involves the feasibility of constructing a Chinese wine classification system. Given the size of China's wine market and its drastic different cultural and historical background to the western systems, creating the Chinese wine

classification system will require inputs from all stakeholders, particularly the consumers. Such effort will unavoidably lead to additional dimensions to the current world wine trade.

Table 1. Sample Characteristics

	Total Sample	Shenzhen		Wuhan		Shenyang	
		Sample	2010 Census	Sample	2010 Census	Sample	2010 Census
Male (dummy, indicating %)	0.534	0.481	0.542	0.543	0.514	0.579	0.505
Male std. dev.	*0.499*	*0.501*		*0.499*		*0.495*	
Age	31.687	31.938		30.321		32.946	
Age std. dev.	*8.990*	*8.167*		*9.103*		*9.463*	
Household income (monthly pre tax)	14973.453	17796.832	9176.961*	12357.887	5985.232*	14468.423	6189.791*
Income std. dev.	*15816.437*	*13230.551*		*18169.136*		*14922.007*	
Years of education	15.480	15.554		15.391		15.505	
Education std. dev.	*2.479*	*2.246*		*2.493*		*2.682*	

* Household income calculated by multiplying per capita income in census by Chinese average household size of 3.1.

Table 2. Definition of Variables and Descriptive Statistics

	Definition	Mean	Std. Dev.
Self consumption	Monthly self consumption expenditure in RMB	67.046	136.451
Gift consumption	Monthly gift expenditure in RMB	127.054	261.794
Alcohol expenditure	Total monthly expenditure on all alcohol	417.544	1781.205
Never	Never been a regular drinker = 1	0.555	0.497
Less than one year	Regular drinker for less than a year = 1	0.127	0.333
One to five years	Regular drinker between one and five years = 1	0.184	0.388
Five to ten years	Regular drinker between five and ten years = 1	0.076	0.265
Over ten years	Regular drinker for over ten years = 1	0.027	0.163
Glass per week	Number of glasses a week (150ml per glass)	1.823	2.114
Mostly buy for self	Mostly often buy for self consumption = 1	0.633	0.482
Mostly buy for gift	Mostly often buy for gift = 1	0.638	0.481
Self-supermarket	Most often buy from supermarket for self consumption = 1	0.542	0.498
Self-specialty	Most often buy from specialty store for self consumption = 1	0.284	0.451
Self-restaurant	Most often buy from restaurant for self consumption = 1	0.046	0.210
Self-bar	Most often buy from bar for self consumption = 1	0.036	0.187
Self-direct	Most often buy directly from winery for self consumption = 1	0.028	0.166
Self-internet	Most often buy from the interenet for self consumption = 1	0.031	0.172
Gift-supermarket	Most often buy from supermarket for self consumption = 1	0.395	0.489
Gift-specialty	Most often buy from specialty store for self consumption = 1	0.464	0.499
Gift-restaurant	Most often buy from restaurant for self consumption = 1	0.015	0.120
Gift-bar	Most often buy from bar for self consumption = 1	0.009	0.095
Gift-direct	Most often buy directly from winery for self consumption = 1	0.044	0.205
Gift-internet	Most often buy from the interenet for self consumption = 1	0.037	0.190
Most often buy-China	Most often buy wine from China = 1	0.463	0.499
Most often buy-France	Most often buy wine from France = 1	0.314	0.464
Most often buy-Italy	Most often buy wine from Italy = 1	0.056	0.231
Most often buy-Australia	Most often buy wine from Australia = 1	0.042	0.200
Most often buy-New Zealand	Most often buy wine from New Zealand = 1	0.020	0.141
Most often buy-Spain	Most often buy wine from Spain = 1	0.018	0.133
Most often buy-USA	Most often buy wine from USA = 1	0.017	0.129
Most often buy-Chile	Most often buy wine from Chile = 1	0.017	0.129
Most often buy-South Africa	Most often buy wine from South Africa = 1	0.003	0.058
Enjoyment	No. 1 purpose of consuming wine is enjoyment = 1	0.503	0.500
Health	No. 1 purpose of consuming wine is health benefit = 1	0.571	0.495
Cosmetic	No. 1 purpose of consuming wine is cosmetic benefit = 1	0.321	0.467
Culture	No. 1 purpose of consuming wine is culture reason = 1	0.420	0.494
Business	No. 1 purpose of consuming wine is business gathering = 1	0.461	0.499
Advertise important	Impact of wine advertisement in purchasing decision is large = 1	0.452	0.498
Not know	Do not know wine well as self reported = 1	0.470	0.499
Know	Know wine well as self reported = 1	0.038	0.192
Country	Most important wine attribute is origin country = 1	0.478	0.500
Year	Most important wine attribute is year made = 1	0.388	0.487
Brand	Most important wine attribute is brand = 1	0.496	0.500
Variety	Most important wine attribute is grape variety = 1	0.139	0.346
Taste	Most important wine attribute is taste = 1	0.481	0.500
Color	Most important wine attribute is color = 1	0.139	0.346
Aroma	Most important wine attribute is aroma = 1	0.153	0.360
Price	Most important wine attribute is price = 1	0.377	0.485
Male	Male = 1	0.534	0.499
Age	Age	31.687	8.990
Income	Household pre tax monthly income (divided by 1,000)	14.973	15.816
Education	Education in years	15.480	2.479

Table 3. Regression Result on Wine Self-Consumption Expenditure

	Total Sample		Shenzhen Sample		Wuhan Sample		Shenyang Sample	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
Intercept	10.008	38.692	-5.238	78.826	-8.170	71.593	58.063	42.241
Gift consumption	0.215***	0.016	0.110***	0.032	0.248***	0.036	0.195***	0.019
Alcohol expenditure	0.004*	0.003	0.053***	0.016	0.056***	0.012	0.000	0.003
Shenzhen	9.863	9.862						
Wuhan	29.426***	9.709						
Over ten years	-46.652*	23.920	28.050	47.184	-114.113**	48.029	-65.648**	25.815
Glass per week	9.716***	1.896	8.798**	3.452	15.835***	4.142	3.031	2.290
Self-supermarket	0.009	12.127	-2.167	25.141	9.409	23.886	-8.157	12.966
Self-specialty	38.517***	13.533	60.732**	28.121	60.218**	26.063	7.300	14.392
Self-internet	9.660	26.661	46.237	56.259	53.051	54.707	-32.133	30.022
Gift-supermarket	-9.530	14.461	9.135	28.410	16.019	29.197	-21.427	15.515
Gift-specialty	-6.905	14.158	0.092	28.720	2.806	28.560	-12.239	15.234
Gift-internet	-7.605	25.493	11.923	56.375	-28.909	48.618	12.034	28.601
Most often buy-China	4.464	18.757	-8.522	35.858	-11.741	29.984	33.036	29.572
Most often buy-France	20.987	19.213	25.792	36.580	-5.684	31.702	38.787	29.604
Most often buy-Italy	47.283*	23.588	20.221	44.896	44.392	38.281	89.911**	36.549
Most often buy-Australia	-12.029	25.849	-26.222	43.086	-38.138	50.852	17.012	39.146
Most often buy-New Zealand	-2.655	32.297	-26.356	59.739	7.256	62.974	33.086	42.926
Most often buy-Spain	9.421	33.366	25.210	73.193	-76.809	61.437	65.025	39.016
Most often buy-USA	-42.966	34.707	14.677	66.810	-68.588	53.493	11.288	68.478
Most often buy-Chile	6.672	34.711	-0.287	66.968			12.811	36.839
Most often buy-South Africa	-24.317	67.737	-46.049	99.954			-11.499	78.876
Enjoyment	19.350**	7.986	33.558**	16.179	35.338**	14.917	-6.517	9.613
Health	-0.614	8.584	9.959	17.707	-4.240	14.935	-13.811	10.301
Cosmetic	-10.761	9.037	-29.683	18.285	-5.857	16.253	3.258	10.992
Culture	-9.276	8.293	-8.516	17.829	-6.227	15.096	0.383	9.418
Business	-17.778**	8.239	-0.442	17.090	-36.619**	14.850	-21.800**	9.320
Advertise important	-12.642	7.764	-6.687	16.264	-15.602	14.154	-19.872**	8.884
Not know	-17.710**	8.008	4.482	16.555	-33.321**	14.371	-27.676***	9.241
Know	63.586***	20.412	42.658	43.241	62.152*	34.209	-2.290	25.312
Country	5.025	8.816	31.997*	18.392	-2.650	15.889	2.910	10.508
Year	4.397	8.790	23.594	17.841	-9.159	16.165	5.641	10.496
Brand	-19.330**	8.572	-17.800	17.617	-35.148**	15.477	-10.339	9.979
Variety	0.543	11.339	-9.742	26.171	-6.726	19.872	27.006**	12.463
Taste	8.377	8.529	23.242	17.184	3.566	15.357	0.360	10.302
Color	-16.838	12.081	-10.660	25.494	-42.789**	21.079	13.643	14.467
Aroma	13.616	11.784	21.664	20.920	36.531	22.897	-9.724	15.581
Price	5.315	8.652	-5.325	17.248	4.936	16.261	-1.822	9.797
Male	9.796	7.792	7.165	15.916	7.050	14.769	15.241*	8.852
Age	0.253	0.440	0.623	0.982	0.242	0.821	-0.197	0.459
Income	0.141	0.249	0.242	0.606	0.580	0.392	-0.375	0.300
Education	-9.274	15.810	-41.897	36.115	12.429	29.325	-3.855	16.717
N	885		285		315		285	
Adj. R^2	0.296		0.206		0.434		0.423	

*, **, and *** indicate significant at the 10%, 5%, and 1% levels respectively.

Table 4. Regression Result on Wine Gifting Expenditure

	Total Sample		Shenzhen Sample		Wuhan Sample		Shenyang Sample	
	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.	Coeff.	Std. Err.
Intercept	34.060	76.592	15.894	155.877	-15.200	111.098	-22.408	120.918
Self consumption	0.844**	0.061	0.431***	0.121	0.597***	0.084	1.590***	0.148
Alcohol expenditure	0.012***	0.005	0.164***	0.030	0.082***	0.018	0.006	0.006
Shenzhen	-5.942	19.533						
Wuhan	-3.298	19.319						
Over ten years	163.146***	47.140	110.251	93.119	68.160	75.138	257.026***	72.823
Glass per week	-0.564	3.806	1.323	6.910	1.375	6.584	-12.192	6.508
Self-supermarket	-9.240	24.005	-5.951	49.715	6.878	37.074	-47.431	36.895
Self-specialty	-13.474	26.908	9.584	56.101	-13.063	40.802	-16.213	41.058
Self-internet	-28.543	52.776	-15.601	111.391	43.030	84.993	-21.870	85.813
Gift-supermarket	8.577	28.632	86.030	55.939	-1.788	45.331	14.200	44.406
Gift-specialty	-7.140	28.031	-35.525	56.750	40.854	44.256	5.377	43.506
Gift-internet	7.639	50.469	38.691	111.466	114.865	75.194	-58.965	81.528
Most often buy-China	-14.036	37.130	-36.816	70.880	-10.063	46.538	-97.336	84.338
Most often buy-France	5.651	38.061	24.040	72.390	0.261	49.198	-103.410	84.478
Most often buy-Italy	-53.671	46.766	2.969	88.817	-88.626	59.315	-128.106	105.158
Most often buy-Australia	-3.384	51.179	18.304	85.256	-26.608	78.972	-77.655	111.599
Most often buy-New Zealand	166.495**	63.696	76.420	118.083	145.839	97.355	149.828	122.232
Most often buy-Spain	77.270	66.007	-91.431	144.660	-11.756	95.588	32.906	111.865
Most often buy-USA	-14.765	68.765	117.034	131.930	-23.608	83.232	-272.229	194.611
Most often buy-Chile	-27.433	68.712	-37.106	132.409			-97.239	104.933
Most often buy-South Africa	-31.159	134.105	-143.429	197.541			23.874	224.996
Enjoyment	-35.117**	15.817	-45.702	32.131	-22.135	23.332	-20.251	27.416
Health	24.295	16.973	49.635	34.900	24.328	23.136	33.683	29.410
Cosmetic	19.329	17.892	20.650	36.318	32.570	25.155	0.402	31.358
Culture	5.514	16.428	9.318	35.267	-42.764*	23.300	21.710	26.828
Business	37.467**	16.305	53.151	33.634	43.894*	23.140	16.966	26.839
Advertise important	3.297	15.391	-23.769	32.138	1.849	22.009	55.774**	25.346
Not know	-21.098	15.881	-39.733	32.648	-6.981	22.500	16.148	26.790
Know	33.005	40.612	-31.692	85.646	-87.195	53.140	189.560**	71.240
Country	-5.492	17.455	12.956	36.571	-26.317	24.610	35.354	29.897
Year	11.589	17.398	20.830	35.374	35.684	25.012	-1.563	29.955
Brand	3.357	17.016	-81.524**	34.538	5.917	24.224	49.770*	28.355
Variety	-16.021	22.441	-7.188	51.764	7.753	30.840	-49.891	35.733
Taste	5.918	16.892	44.396	33.989	17.335	23.812	13.580	29.371
Color	45.186*	23.895	124.422**	49.839	57.161*	32.769	-43.350	41.247
Aroma	-44.501*	23.298	-106.614**	40.924	-68.198*	35.463	76.723*	44.220
Price	-22.119	17.115	-17.717	34.097	-1.309	25.237	-31.494	27.877
Male	-4.987	15.437	-3.555	31.484	-26.213	22.875	-2.401	25.391
Age	-1.260	0.869	-3.388*	1.931	-0.597	1.273	0.467	1.306
Income	-0.579	0.492	-0.317	1.197	-0.383	0.609	-0.226	0.856
Education	55.115*	31.251	83.221	71.415	49.718	45.428	48.282	47.595
N	885		285		315		285	
Adj. R^2	0.251		0.234		0.343		0.441	

*, **, and *** indicate significant at the 10%, 5%, and 1% levels respectively.

Figure 1. Ranking of the Most often Purchasing Occasions

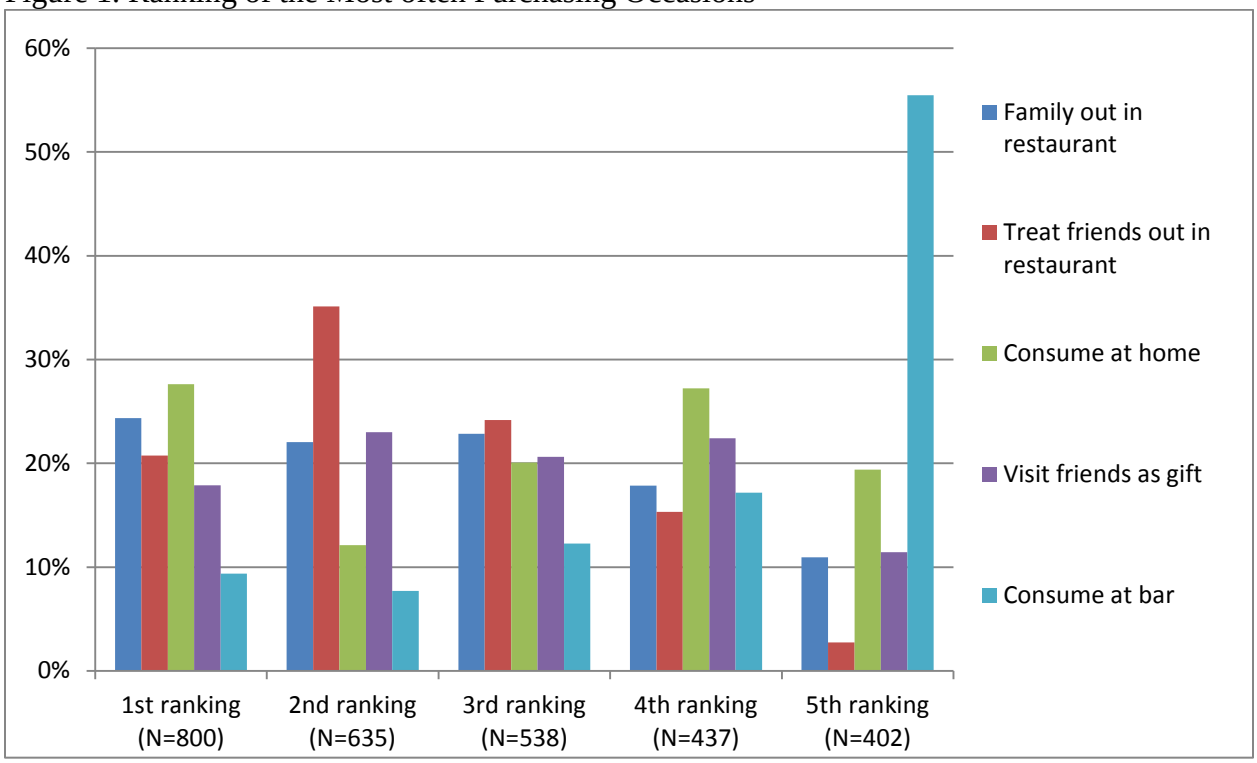
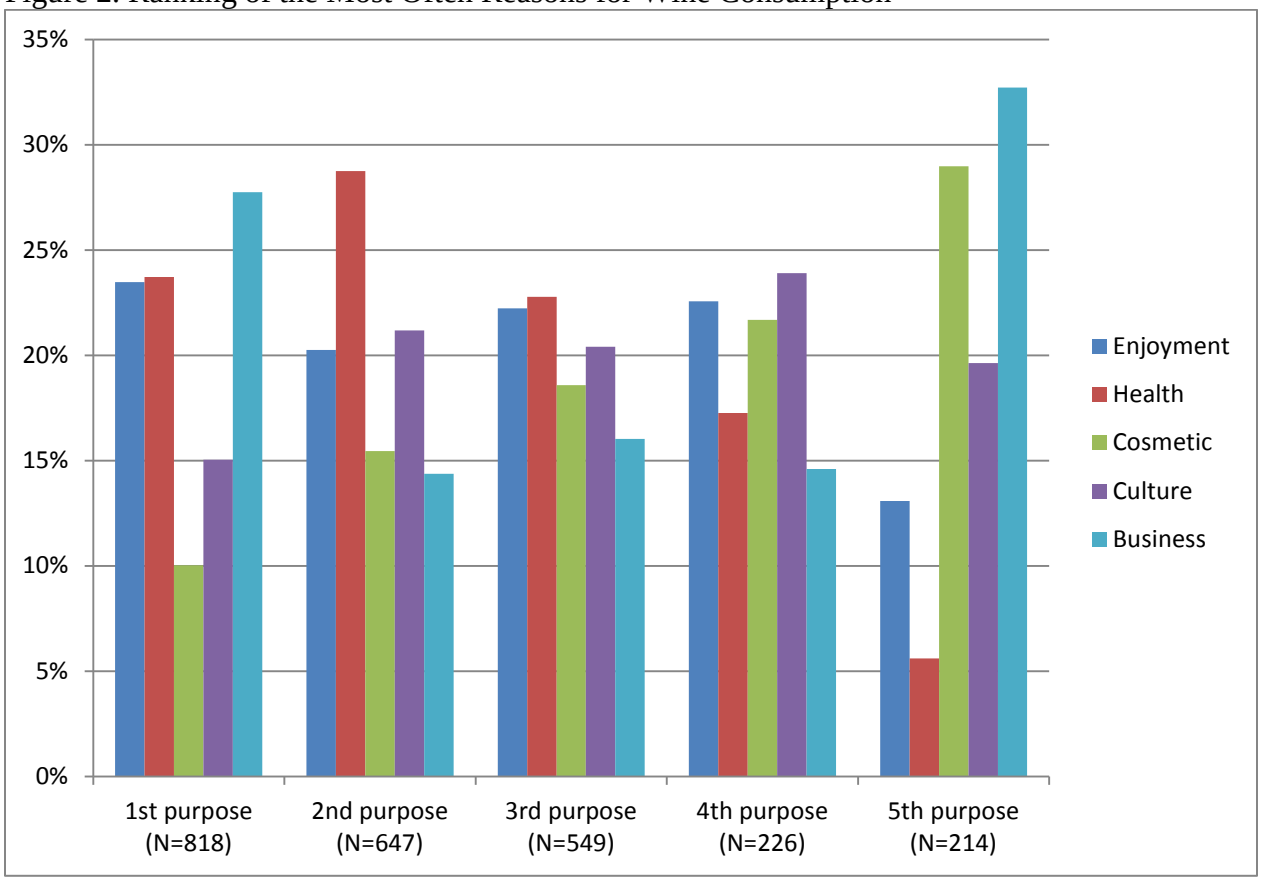


Figure 2. Ranking of the Most Often Reasons for Wine Consumption



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