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WILLINGNESS TO PAY FOR APPELLATION OF ORIGIN: RESULTS OF AN EXPERIMENT WITH PINOT NOIR WINES IN FRANCE AND GERMANY*

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Abstract: This paper proposes to estimate consumers' willingness to pay (WTP) for wine characteristics using incentive compatible laboratory experiments with participants randomly selected from the general population. The main question is to identify the value of a supposedly well known Appellation of Origin (namely "Appellation d'Origine Contrôlée Bourgogne") compared to other quality signals like grape variety or brand, in the lower-middle range segment of the market. In order to assess the respective values of these different characteristics for consumers, the experiments compares wine made from the same grape variety, "Pinot Noir", which is the grape variety of red Burgundy wines. Sessions were carried out in France, and Germany. Real sales at a random selling price, based on the Becker, DeGroot, Marschak (BDM) mechanism, revealed consumers' WTP in three different information conditions (blind tasting, label examination, tasting and label examination). Results show that sensory characteristics and label information influence differently French and German consumers. They also reveal that Appellation of Origin information is of little value outside the country of origin for middle range wines. Moreover, it appears that the small differences observed in mean WTP for each wine, in each country and information condition do not result from consumers' lack of discrimination. Participants in both samples display strong individual preferences, however being very heterogeneous these preferences tend to cancel out when individual WTP are aggregated.

Key Words: WILLINGNESS TO PAY, WINE, QUALITY SIGNAL, EXPERIMENTAL ECONOMICS
JEL Code: C91, D12, Q13

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Introduction

Ever-increasing international competition in the wine sector has sharpened the controversy among economists who are in charge of analysing the agricultural sector and regional development. The growth of exports from the so called “New World” countries (Australia, South Africa, Chile, Argentina, United States) questions rural concepts of wine-growing economy and makes it necessary to reconsider consumers’ expectations and the whole economic organisation and marketing strategies of the wine sector.

Indeed, more than other food markets, the wine market is highly segmented with many differentiation criteria. Consumers have to choose in extended product lines with a host of objective and subjective characteristics (grape variety, certification, brand, etc.). As a quality signal, the French certification "Appellation d’Origine Contrôlée" (AOC) is often criticized because of lack of readability. Irregularity in quality and too many different appellations are often used as arguments against this collective certification system. The classic opposition between Appellations of Origin and pure brand-named wines, is often perceived as a confrontation between, on the one hand, a worthy collective system based on a common investment on quality and, on the other hand, a commercial system characteristic of industrial economy and which would have as a sole objective the advancement of the private interests of the firm. However, on the consumer’s side, the actual trade-off between wine characteristics is not well understood. The relative impact of brand names, Appellations of Origin, and other items of information on labels, as well as their interactions with sensory characteristics are matters still in need of clarification.

This paper is an attempt to contribute to the debate by studying how wine consumers value these different characteristics, with a special focus on Appellations of Origin and private brands. We also investigate the impact of alternative front label designs and information.

Our interest is in the impact of quality signals on the lower middle-range market where competition is very tough. Therefore, our experiment was conducted with low and mid-price wines and ordinary consumers (as opposed to experts or connoisseurs). Red Burgundy wines have been chosen as a model, because in spite of the undisputable reputation of great Burgundies, mid-range wines, benefiting from the Appellation of Origin, nevertheless experience hard times on the international market. In order to control for grape variety, all the tested wines are from the same variety, namely "Pinot Noir", which is the grape variety of red Burgundy wines. In order to

assess the impact of the Appellations of Origin information outside the country from which it originates, the valuation task was conducted jointly in France and Germany.

To avoid hypothetical bias in consumers' evaluation of the wines, we used an incentive compatible elicitation method, the Becker, DeGroot, Marschak (BDM) mechanism (Becker et al., 1964), based on real sales with a random selling price [1].

After a brief review of previous work on willingness to pay for appellation of origin and other wine characteristics, section 2 presents the experiment design and method, and section 3 analyzes the results.

1. Willingness to Pay (WTP) for appellation of origin and other wine characteristics

Willingness to Pay for wine characteristics is a widely studied subject. Many researches have been conducted on this issue, using different methods and various kinds of data. A lot of papers also address the issue of identifying the determinants of wine prices.

Using hedonic pricing framework, Combris, Lecocq and Visser (1997, 2000) and Lecocq and Visser (2006), consider objective and sensory characteristics. Objective cues are defined by the information provided by the inspection of the bottle and its label (including appellation, vintage, grape). Results show that price differences are widely explained by objective characteristics, and that expert grade have a small positive impact on wine prices.

Several papers focus on consumers' valuation of Country-of-Origin certification, using contingent valuation surveys, choice experiments and experimental markets. Loureiro (2003) uses contingent valuation to estimate consumers' WTP for geographical and environmental labels. Based on survey data for Colorado (USA) wines, the main finding is that environmental labels are useless with what are perceived as poor quality wines. Skuras and Vakrou (2002) also employ contingent valuation method with Greek wine drinkers. Applying a choice model, they find that specific origin increase consumers' WTP. Brooks (2003) uses data from *The Wine Advocate* to measure Country-of-Origin bias in U.S. Wine import. The author assesses the valuation of wines according to objective and subjective cues. Country-of-Origin bias

[1] See J. Lusk and J. Shogren (2007) for a detailed presentation of experimental auctions as a tool to elicit consumers willingness to pay.

significantly affects the prices of U.S wine imports, the premium being particularly high for France and Italy. Unfortunately, data don't indicate region of origin, so the author could not isolate regional effects from country effects.

When market data on specific characteristics are not available, using a controlled laboratory environment is an efficient way to recreate a simplify market where these specific aspects are easily identifiable. Lecocq et al. (2005) used an experimental wine auction, in aim to assess the impact of product information on WTP. They compared 3 groups of participants. In a first group, participants evaluated four wines by examining labels and reading extracts form wine guides and technical details about each wine, they also taste them. In a second group, participants had the same information but they couldn't taste wines. In the third group, they only tasted the wine without added information. The authors show that WTP for wine is less related to the sensory attributes than information reported on the label and experts guide. The authors also find that several socio-economics characteristics have significant effects on WTP (women have a lower WTP than men, and regularly drinkers have a higher WTP than occasional drinkers).

Lange et al. (2002) and Combris et al. (2001, 2006) performed hedonic tests and experimental auctions to assess weights of sensory characteristics and reputation in the willingness to pay for Champagnes. They compared Vickrey auction, BDM mechanism and hedonic test. Their results show an extreme heterogeneity of preferences after blind tasting. Concordance between the hierarchy of market prices and mean participants' rankings appears only when labels are disclosed. So brand and reputation have significant and large impacts on willingness to pay. Nevertheless, detailed analysis of individual rankings reveals that preference heterogeneity remains significant even when participants are fully informed of products' characteristics and brands. A recent study by d'Hauteville, Fornerino and Perrouty (2007) measure the impact of the region-of-origin using the relation between expected and perceived quality. The experiments suggest that disconfirmation of expected quality may be used to measure region of origin equity on a behavioral basis.

2. Experiment Design and Method

The experiment is based on the protocol developed by Lange et al. (2002) and Combris et al. (2001, 2006). Experiments were conducted in Paris (France) and Munich (Germany).

2.1. Recruitment of participants

A total of 119 participants were recruited by market research companies (60 participants in Paris and 59 in Munich). The individuals selected had to meet three criteria [2]: (i) being wine drinkers (dinking wine at least once a week for French participants and once every two weeks for German participants), (ii) being involved in their household wine purchases, (iii) not having taken part in a marketing or consumer study in the previous three months. Subjects were offered a monetary compensation to participate in a study which was, first, loosely defined as a "preference experiment".

Each eligible participant was sent (by email or postal mail) information about how the experiment would to be conducted. The objective was to get participants to fully understand the revelation mechanism and to have time to become familiar with it. Instructions were nominal and contained an example with actual figures to ensure the revelation mechanism had been properly understood. To control for any potential anchoring bias, different examples were used for each participant.

2.2. Choice of Wines

Four wines from Pinot Noir grapes were selected for the experiments after a tasting session conducted by experts and professionals of the wine sector in Dijon. These wines were chosen in order to be relatively close substitutes, each one having a typical set of characteristics:

1) "Bourgogne, Appellation Bourgogne Contrôlée", represents the well known French certification of origin from the Burgundy region. Red wines from this Appellation are made only from Pinot Noir grapes. The market price of the wine used for the experiment was € 7.00 per bottle.

2) "Bourgogne, Appellation Bourgogne Contrôlée, Passe-tout-Grains", is another appellation from the Burgundy region. Red wines from this Appellation are made from Pinot Noir and Gamay grapes. These wines are rather on the low-price side of the market. The price of the Passe-tout-Grains used for the experiment was € 3.20 per bottle.

[2] The recruitment questionnaire is available on demand from the authors.

3) “Ernest & Julio Gallo, Turning Leaf, Pinot Noir” represents the pure brand-named wine. Gallo's brand is famous, and Gallo is one of the biggest company of the wine industry. Gallo's Pinot Noir price was € 6.80 per bottle.

4) “Pinot noir” represents the grape variety Pinot noir, without any other indication. This wine actually came from the south of France ("Pays d'Oc") but this origin was not mentioned on the label we used for the experiment. The market price of this wine was € 5.60 per bottle.

In the sequel of the paper, and in the tables and figures, these four wines are respectively denoted: Burgundy, PTG, Gallo and Pinot.

2.3. Sessions

Sessions were held in Munich and Paris. Participants took place in tasting rooms. There were twenty participants per session in Munich and 11 participants per session in Paris. The four wines were first evaluated after blind tasting, then after examination of the bottle with no tasting, and finally after examination of the bottle and tasting.

For the label-examination situation, four additional labels were included: the label of a German wine (“Spätburgunder”), a label where the name of the grape variety (Pinot Noir) was added to the appellation, a label with a traditional design (parchment), and a label with a modern design[3].

The session began by a presentation of the experiment and a detailed explanation of the BDM procedure. To ensure that the revelation mechanism and the selling procedure were properly understood, a fictive sale was conducted with almonds and cashews. Then, participants were seated in a sensory analysis room in such a way that they could not communicate with each other. They had a glass of water and some bread to take away the taste of the wines between each tasting.

The participants had to evaluate the wines in three informational situations:

- First each participant valued the four wines in turn (sequential monadic design) in a blind tasting. They could taste each wine but had no other indication beyond sensory information. After tasting each wine, participants wrote down their maximum buying price for the wine on a form. They were told to do it carefully, imagining that this wine could be the one sold at the

[3] The analysis of these additional labels is the subject of another study.

end of the experiment. They could indicate that they did not want to buy the wine by ticking a box. Forms were collected by the experimenter after each individual evaluation.

- In the second situation, participants examined the labels of eight wines in turn (cf. appendix 1) but without tasting them. Again participants wrote down their maximum buying price for each of the eight wines.
- In the third situation, participants valued the initial four wines in turn. They tasted each wine examining the corresponding label at the same time. After each tasting, participants wrote down their maximum buying price for each wine.

It should also be noted that the participants were never told that the wines presented in the three situations were actually the same wines. Participants tasted or visually assessed each wine sequentially. Each wine was served in a glass (20 ml per glass) at a temperature of 15±2°C. The wines were presented to each participant in a different sequence. So participants did not taste the same wine as their neighbours at any one time, and the impact of tasting a wine after or before another could be tested. After each tasting and each valuation, the wines (or labels) were taken away from the participants and their valuations were recorded. Participants could not revise their valuations with hindsight after experiencing the other wines or situations.

To avoid endowment effects and strategic behaviors, participants were informed, at the beginning of the session, that after they had completed the evaluation task, only one wine evaluated in one of the three situations would be randomly selected to be actually sold.

At the end of the session, each participant drew a token from a bag to select one situation and one wine. Then they individually drew a token from another bag containing selling prices. When a participant drew a selling price lower or equal to the maximum buying price she indicated for that wine, she had to buy the wine at the randomly drawn selling price. If the random selling price was higher than her maximum buying price, she did not buy. So participants had an incentive to indicate a maximum price they would not regret, whatever the actual selling price.

To avoid anchoring effects, the range of the selling price distribution was not indicated precisely. Participants were told that the price distribution reflected that of the tested wines, with a wider spread and that they could ask to check the bag with the price tokens at the end of the experiment.

3. Data and Results

The data analyzed in this paper were collected during experiments conducted in April 2007 (German data) and September 2007 (French data). Table 1 reports the main characteristics of each sample. The first session was conducted in Germany; 59 consumers from Munich participated. The second experimental session took place in France; 60 consumers from Paris participated.

Each of the 119 participants submitted 16 bids, which results in a total of 1904 observations. Age, gender, household income and size were collected (Table 1). The mean values of the different characteristics do not differ significantly between the two samples except for per capita income which is higher in the French than in the German sample.

Table 1: Characteristics of the two samples of participants

	Germany (Munich) (59 participants)				France (Paris) (60 participants)			
	Mean	Std Dev	Min	Max	Mean	Std Dev	Min	Max
Age	40.81	11.46	20	65	41.19	11.75	24	60
Gender (= 1 if male)	0.51	0.50	0	1	0.55	0.50	0	1
Household Size	2.39	1.06	1	5	2.41	0.99	1	6
Per capita income (€/month)	1240.96	705.72	133	3500	1558.47	865.02	100	5500
Usual price paid for wine	5.42	3.12	2.25	20	4.83	2.03	2	11

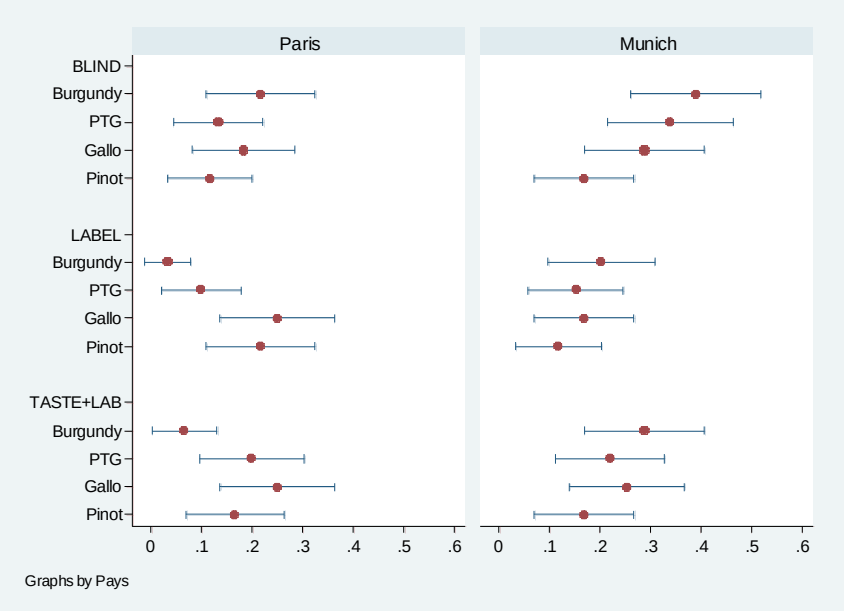
Analyzing the choice of a product as a two-step process (see for instance Haines, Guilkey and Popkin, 1988) allows to identify differences that may appear between factors influencing a consumer's decision to buy or not to buy a given product (the first step) and the amount she is willing to pay for it once she has decided to buy it (the second step). Unlike market data which do not always permit to identify the reasons why consumers do not purchase a product (preference or price), experiments bring clear information on this issue by eliciting refusals to buy and reservation prices. Participants, who refuse to buy a product, whatever its price, unambiguously reveal that they don't like it. This justifies separate analysis of each step of the decision process. So in a first sub-section, we discuss the factors influencing the decision to buy or not. In a second sub-section, we focus on factors explaining non-zero WTP.

3.1. Factors influencing the decision to buy

Considering the 4 wines (Burgundy, PTG, Gallo, Pinot) which were presented in each of the 3 situations, we obtain a total of 1428 prices (119 participants giving 4 prices in 3 situations). Out of this total, 279 bids (19.5 %) are zero and represent refusals to purchase. This percentage is higher in the German than in the French sample (23 % vs. 16.1 %). The largest proportion of refusals to buy is observed for the Burgundy (29.4 %) in Munich, and for the Gallo (22.8 %) in Paris.

Figure 1 shows means and 95% confidence intervals of the proportion of participants refusing to purchase according to wine and situation in Paris and in Munich. After blind tasting (situation 1), French participants display no significant difference between the four wines. On the contrary, German consumer show a clear preference for the Pinot Noir which is significantly less rejected than the other three wines. After examination of the labels (situation 2), French participants reject the Gallo and the Pinot Noir significantly more than the Burgundy and the "Passe Tout Grains" (PTG). German participants show no significant differences in their preferences based on examination of the different labels. In the last situation, where participants had full information, the Burgundy is less rejected than the other three wines by French participants, but no significant differences appear in the German sample.

Figure 1: Means and 95% confidence intervals of the proportion of participants refusing to buy



Wilcoxon matched-pairs signed-ranks tests on purchase refusals, confirm these results. In the German sample, significant differences appear only after blind tasting and show that Pinot Noir is preferred to Burgundy ($P<0.01$), PTG ($P<0.05$), and almost significantly to Gallo ($P=0.11$). After examination of the labels, French participants display a clear preference for Burgundy relatively to Gallo ($P<0.001$), Pinot Noir ($P<0.01$), and PTG ($P<0.05$), and also a preference for Passe-tout-Grains relatively to Gallo ($P<0.05$) and Pinot Noir ($P<0.10$). In the last situation, after tasting, preference for PTG is no longer significant and the Burgundy appears as the preferred wine.

To quantify more precisely the probability that participants would indicate a positive price, a probit model is estimated on the whole sample, and separately on the French and the German samples. The specification allows for interactions between situations and wines and controls for participant socio-demographic characteristics. Table 2 reports marginal effects on probability to buy which are in line with the preceding comments.

Results show very clearly that, compared to blind tasting, label examination has a positive and significant impact on the probability to purchase both in France and Germany.

Interactions between wines and situation show that label is a factor of rejection for PTG, Gallo and Pinot in France but not in Germany. It confirms that the Burgundy Appellation has a high and systematic impact in France but not in Germany.

Only two participant characteristics have an impact on the probability to purchase: gender and price usually paid when purchasing wine. The price usually paid for wine increases the probability to purchase, but is significant only in Germany and not in France. Being a woman decreases the probability to buy and, again, appears to be significant only in the German sample.

Table 2: Probit marginal probabilities of factors affecting participants' decision to buy

		Full sample	France	Germany
Blind		reference	reference	reference
Label		0.164 ***	0.226 ***	0.117 **
Full Info		0.105 ***	0.153 ***	0.067
Blind	X Bourg	reference	reference	reference
	X PTG	0.049	0.070	0.027
	X Gallo	0.028	0.026	0.032
	X Pinot	0.119 ***	0.081	0.151 ***
Label	X Bourg	reference	reference	reference
	X PTG	- 0.0003	- 0.156 **	0.083 **
	X Gallo	- 0.131 **	- 0.400 ***	0.057
	X Pinot	- 0.069	- 0.332 ***	0.105 **
Full Info	X Bourg	reference	reference	reference
	X PTG	- 0.091	- 0.274 ***	0.041 **
	X Gallo	- 0.053	- 0.200 **	0.045
	X Pinot	0.009	- 0.151	0.114 *
Country (ref=France)		-0.050		
Usual price		0.023 ***	0.016	0.028 **
Woman		- 0.066 *	- 0.005	- 0.151 ***
Household size		0.016	0.021	- 0.003
Income		- 0.023	- 0.026	- 0.006
Age		- 0.0003	0.001	- 0.002
Order		- 0.006	- 0.009	- 0.0004
Predicted purchase probability		0.825	0.848	0.825
Observed purchase probability		0.812	0.828	0.792
Observations		1247	671	576

Probit models with robust standard errors accounting for within subject correlation between observations. Marginal effects are evaluated at the means of the independent variables.

Number of observations as less than 1428 due to introduction of socio-economic variables with missing values.

* significant at 10%; ** significant at 5%; *** significant at 1%.

3.2. Factors influencing positive WTP

Table 3 reports prices means and standard deviations for positive prices proposed by participants when they decide to buy. It gives an overview of the average bids for each of the four products in each situation. After blind tasting, it appears that average prices are slightly higher for Burgundy than for the other wines, which suggests clear cut preference for this wine, which tends to be either rejected (highest refusal rates after blind tasting) or liked (highest price after blind tasting

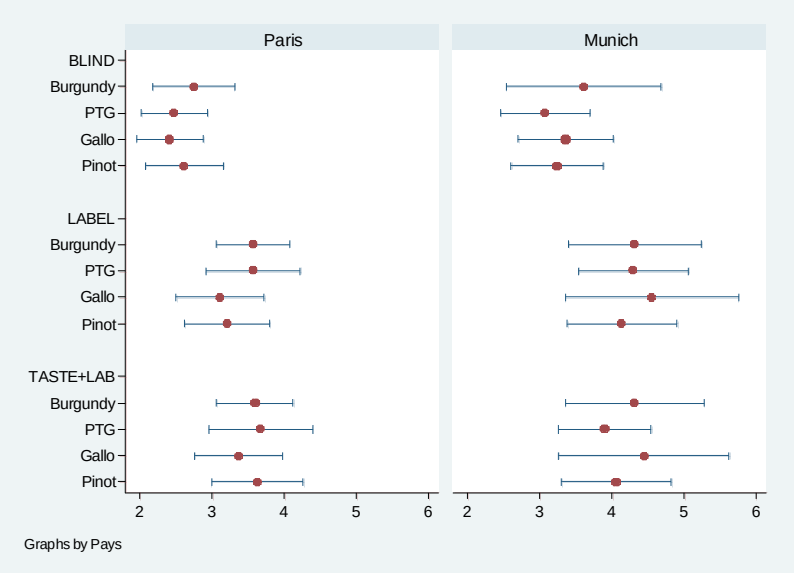
for those participants who accept to buy it). However, as figure 2 shows, positive WTP are not significantly different between the wines within each situation and country.

Comparing situations rather than wines, shows that labels globally increase the WTP relatively to blind tasting. Comparing countries shows that participants proposed higher prices in Germany than in France. This is in contrast with purchase probabilities which were lower in the German sample. This point probably deserves more attention, because increasing the probability to purchase does not require the same strategy as increasing the willingness to pay of consumers who agree to buy.

Table 3: Mean positive bids and standard deviations according to product and condition

	Total Sample				French Sample				German Sample			
	Blind	Label	B+Lab	Total	Blind	Label	B+Lab	Total	Blind	Label	B+Lab	Total
Burgundy	3.12	3.90	3.90	3.67	2.74	3.56	3.59	3.33	3.61	4.32	4.31	4.11
	(2.56)	*(2.56)*	*(2.53)*	*(2.57)*	*(1.92)*	*(1.93)*	*(1.99)*	*(1.97)*	*(3.18)*	*(3.14)*	*(3.09)*	*(3.13)*
PTG	2.73	3.92	3.78	3.50	2.47	3.56	3.67	3.23	3.07	4.30	3.90	3.81
	(1.78)	*(2.56)*	*(2.33)*	*(2.32)*	*(1.66)*	*(2.41)*	*(2.48)*	*(2.26)*	*(1.90)*	*(2.69)*	*(2.18)*	*(2.35)*
Gallo	2.85	3.86	3.90	3.54	2.41	3.11	3.36	2.95	3.36	4.56	4.45	4.15
	(1.93)	*(3.40)*	*(3.13)*	*(2.92)*	*(1.63)*	*(2.02)*	*(2.03)*	*(1.93)*	*(2.13)*	*(4.19)*	*(3.90)*	*(3.58)*
Pinot	2.91	3.70	3.84	3.48	2.61	3.21	3.63	3.14	3.24	4.14	4.06	3.82
	(2.11)	*(2.46)*	*(2.45)*	*(2.38)*	*(1.97)*	*(2.01)*	*(2.25)*	*(2.11)*	*(2.23)*	*(2.76)*	*(2.65)*	*(2.58)*
All	2.89	3.86	3.86	3.63	2.56	3.36	3.57	3.21	3.31	4.38	4.17	4.08
	(2.11)	*(2.77)*	*(2.61)*	*(2.61)*	*(1.79)*	*(2.06)*	*(2.18)*	*(2.06)*	*(2.36)*	*(3.27)*	*(2.98)*	*(3.04)*

Figure 2: Means and 95% confidence intervals of positive WTP (in Euros per bottle)



A regression of positive prices on all the explanatory variables confirms these results (see Appendix 2). Compared to the blind tasting situation, prices are higher in situation 2 (label) in both samples, and in situation 3 (full information) in France only. Again, this illustrates the positive influence of labels on WTP.

Interactions between wines and situations show no further influence, except a negative one for Pinot in the French sample. When analyzing positive prices, the differentiation among wines appears thus less significant than when focusing on the decision to buy. This means that, for the middle range wines tested in these experiments, market shares resulting from consumers' choices are not due to the amount consumers are ready to pay but are mainly the result of their decision to buy or not to buy.

An important factor that has to be taken into account at this stage is the usual price paid for wine. This variable is always significant and has more impact on the WTP than on the probability to buy. This could mean that once consumers have decided to buy a wine, they evaluate their WTP for this wine using the price they are used to pay as a reference.

3.3. Willingness to pay according to preferences

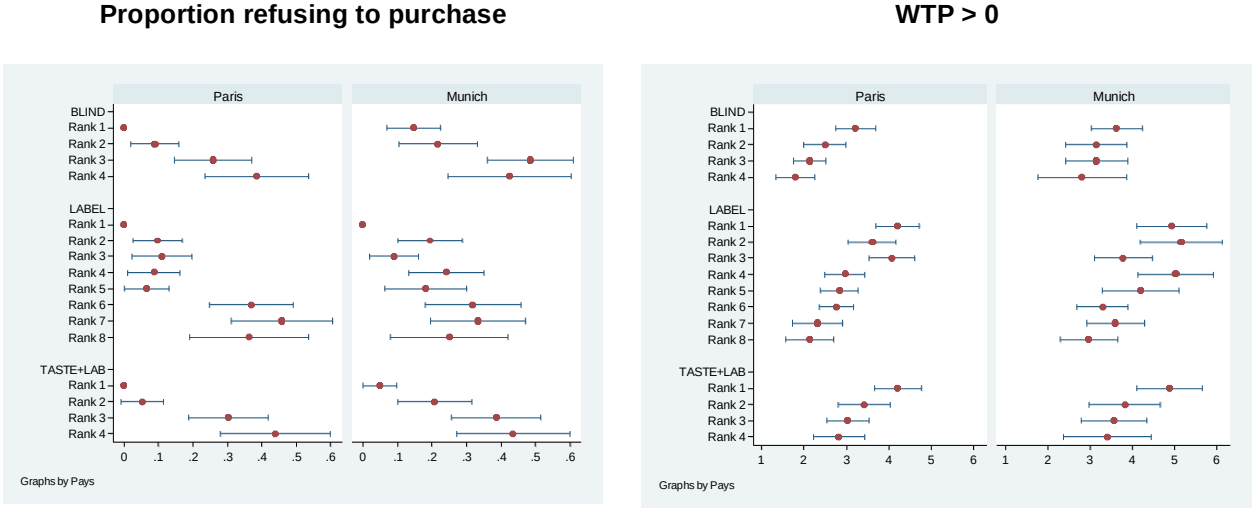
The previous analysis of buying decision and WTP has shown small differences among the wines that have been tested in this study. These small differences can result from almost identical evaluation of the wines by participants (due to close objective characteristics of the wines or to participants' lack of discriminating ability) or they can be the outcome of preferences aggregation. In this case, participants discriminate among wines, but their preferences are very heterogeneous and aggregations cancel out the differences. These two alternatives have totally different implications in terms of industrial strategies.

To know if participants have actually discriminated among wines during the experiments, their individual WTP are ranked in each situation, the highest WTP corresponding to the preferred wine. The wine with the highest WTP is ranked 1, and so on. No correction is made for ties, which means that the rank of a given wine is 1 + the number of wines that have a higher WTP.

Figure 3 shows mean purchase refusals and mean positive WTP computed according to rank. Both graphs suggest that preferences are actually strong.

The left part of figure 3 shows that, whatever the situation, French participants never refuse to purchase their favourite wine. In the blind-tasting situation, refusal rates for the three favourite wines are significantly different (P <0.02 for comparison between ranks 1 and 2, and between ranks 2 and 3). On the contrary, for the two least appreciated wines, refusal rates are not significantly different. In the label-examination situation, three groups appear clearly: the favourite label, then the next four labels, and finally the last three labels. In the full information situation, we find the same configuration than in the blind situation, with a more significant gap between the two favourite wines and the two least appreciated.

Figure 3: Mean and 95% confidence intervals according to wine ranking in each situation



In the blind-tasting situation, German participants' preferences are structured into two groups of two wines. In the label-examination situation, the refusal rate is 0 for the favourite wine, but no further significant differences appear between the other wines. This seems to confirm that there is no clear differentiation based on labels for the German consumers. In full information situation, a three group classification appears like for the French participants.

The right part of figure 3 displays non-zero WTP according to preferences. Contrary the outcome of the analysis by wine, which showed very little differences between positive WTP within each situation, the analysis by rank reveals that, once the purchase decision has been taken, the WTP can still vary a lot according to the preferences of the individual consumer.

In Paris, in the blind-tasting situation, the price offered for the favourite wine is significantly higher than for the other wines (P<0.04). In the label-examination situation, three groups of

wines can be distinguished: the first three wines, then the next three wines, and finally the last two wines. In the full information condition, only the price of the favourite wine is significantly higher than the other prices. This last result also applies to the German sample, whereas it is more difficult to bring to the foreground a relevant classification in the other conditions (blind-tasting and visual examination).

Conclusion

Based on real sales in three different information conditions, this study brings some results on consumers' willingness to pay for middle range Pinot Noir wines, according to their sensory and label characteristics. To assess the market value of the Burgundy "Appellation of Origin" relatively to other quality signals, French an German consumers were compared in order to control for a "country of origin" effect.

Results show that sensory characteristics and label information influence differently French and German consumers. They also show that Appellation information for middle range wines does not give a decisive advantage outside the country of origin. Comparisons of individual valuations reveal that the small differences observed in mean WTP for each wine, in each country and information condition do not result from consumers' lack of discrimination. Participants in both samples display strong individual preferences, however being very heterogeneous these preferences tend to cancel out when individual WTP are aggregated.

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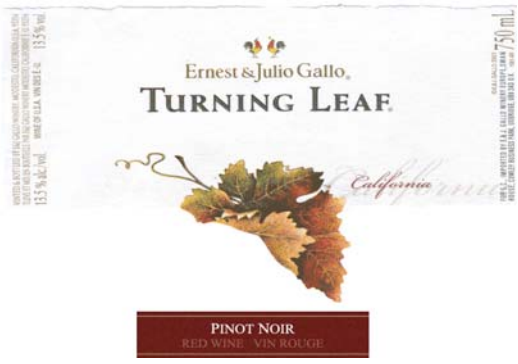
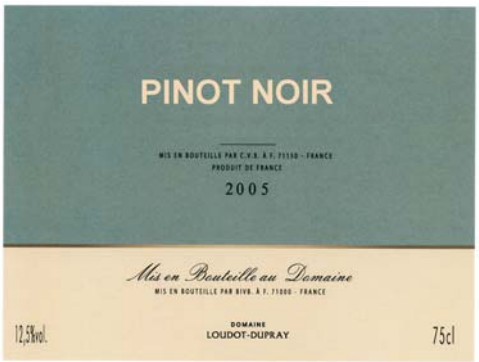
Appendix 1: Labels





Appendix 2: Factors influencing the level of positive reservation prices

		Full sample	France	Germany
Blind		reference	reference	reference
Label		0.834 ***	0.885 ***	0.821 ***
Full Info		0.869 ***	0.942 ***	0.789
Blind	X Bourg	reference	reference	reference
	X PTG	- 0.320	- 0.198	- 0.485
	X Gallo	- 0.212	- 0.132	- 0.276
	X Pinot	- 0.109	0.028	- 0.224
Label	X Bourg	reference	reference	reference
	X PTG	- 0.068	- 0.053	- 0.141
	X Gallo	- 0.090	- 0.359	0.136
	X Pinot	- 0.349	- 0.461 **	- 0.276
Full Info	X Bourg	reference	reference	reference
	X PTG	- 0.146	- 0.006	- 0.294
	X Gallo	- 0.014	- 0.141	0.124
	X Pinot	0.081	- 0.039	- 0.159
Country (ref=France)		0.424		
Usual price		0.500 ***	0.542 ***	0.450 ***
Woman		- 0.320	- 0.381	- 0.346
Household size		- 0.099	- 0.187	- 0.037
Income		- 0.156	- 0.506 **	0.327
Age		- 0.006	0.010	- 0.007
Order		- 0.041	- 0.038	- 0.045
Constant		0.426	1.084	0.477
Observations		1012	556	456

Note: OLS with Robust standard errors accounting for within subject correlation between observations.

* significant at 10%; ** significant at 5%; *** significant at 1%

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