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Quality signals in wine marketing: the role of exhibition awards

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Abstract

Wine producers have their products evaluated at various wine exhibitions for the purpose of receiving awards that can be displayed on the bottles. This contribution introduces an approach to estimate optimal prices for wine exhibition awards. A case study has been employed in cooperation with a major Czech wine company to investigate the practical usefulness of the method. Estimating the relative importance of selected wine exhibitions as award origins and determining the partial utilities of selected awards (medals) is based on a conjoint experiment. Price equivalents and markups can be derived based on consumer preferences. © 2002 Elsevier Science Inc. All rights reserved.

1. Introduction

Competition in the Czech market for bottled wines has already been stiff with the entry of European Union suppliers resulting in a significant downsizing of national production areas (EU, 1998). Major importers are Italy, Spain, Hungary, Slovenia and Yugoslavia (Czech Ministry of Agriculture, 1999). The recent appearance of an increasing number of wines from ‘new’ production areas worldwide (e.g., California, Chile, South Africa, Australia) still increases the pressure on national suppliers. Consequently, Czech wine producers are searching for ways to match their offers more closely to consumer preferences to maintain or to increase their market share as well as to generate sufficient income from their sales.

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2. Quality perception, quality evaluation, and quality signals

Quality has been found to be amongst the most prominent factors influencing consumer's choice of wine (Hauck, 1991). The question arises as to what factors can be employed by producers (or by the retail trade) for creating favorable product quality perception leading to higher preference and/or to the willingness to pay higher prices.

Product attributes, in general, can be classified as either search, trust or experience attributes. For a particular product, all three categories may be relevant (Kaas & Busch, 1996). Search attributes like, i.e., the price are usually accessible prior to purchase and are being employed by consumers to identify relevant offers (evoked set). Experience attributes (i.e., the taste), can only be evaluated after the purchase. Trust attributes (Darby & Karni, 1973) cannot at all be evaluated by the consumers or only at high costs. Typical trust attributes for wine are alcohol content, sulphur content or preservatives content.

The cues used by consumers to judge product quality can be classified as either "intrinsic" or "extrinsic" (Olson & Jacoby, 1973). Intrinsic cues are those product attributes which cannot be changed without also changing the physical properties of the product itself, i.e., sugar content of a wine. Typically, those intrinsic cues are responsible for the taste, the ultimate product quality measure in food marketing. Extrinsic cues are attributes which, while product-related, are not a part of the physical product, i.e., labels. Earlier quality-perception studies have suggested that consumers' quality perceptions are strongly affected by extrinsic cues (for an overview see Rao & Monroe, 1989) but little attention has been paid to wine labels (Schrattenecker, 1986; Gierl, 1993) and no study could be found examining exhibition awards.

Prior to purchase, consumers do not recognize whether or not a product meets his/her quality standards. This indicates deficits in quality perception. Deficiencies in consumer quality perception are closely associated with the absence of complete information. Only very few markets exist where market transparency is perfect. Most frequently, one party (usually the seller) has better access to product information than the other party (usually the buyer); resulting in information asymmetry (Von der Schulenburg, 1993). Incomplete and asymmetric information has a strong impact on consumer quality perception and evaluation. Quality labels (created by producers or as a third party certification mark) are designed to provide consumers with product quality information, hence reducing information asymmetry between supplier and buyer (Kaas & Busch, 1996). Quality signals are being most frequently employed by producers and retailers in markets where product quality information is distributed asymmetrically. That makes quality labels an important cue in consumer quality perception.

Wine exhibition awards can be categorized as third party certification marks. Those are granted by numerous institutions to products that meet their predetermined standards (Taylor, 1958). According to the information content provided by third party certification marks those may be classified into three major categories: factual certification, evaluative certification, and warranty certification (Laric & Sarel, 1981). Wine exhibition awards belong to the group of evaluative certifications providing attribute-specific evaluation. The certifying party is committed to present evaluative opinions (e.g., varietal-specific quality assessments) carrying affective connotations.

Past research indicates that certification marks enjoy high levels of recognition and are perceived as an important source of product related information across product categories (Parkinson, 1975). The understanding of information content seems to be a more complex issue, especially when consumers perceive the mark to be highly credible and trustworthy. High recognition of a mark coupled with misperceptions of their information content can lead consumers to inappropriate decisions. It is, therefore, important to examine the potential for such misperceptions, inasmuch as they may lead to less than optimal purchasing choices.

Wine exhibition awards are of special interest to the retailers/producers since they are considered to be easy recognizable and support consumers' choice by communicating superior quality (Sattler, 1991). It is assumed that consumers rely to a great extent on easy recognizable labels or tags (i.e., medals) when choosing products instead of carefully studying all the information written in usually small letters on the main bottle label (e.g., Krischik, 1998). In general, respective quality signals can be designed in a variety of ways (Burger, Wagner, & Müller, 1995). Customary options for the label "wine exhibition award" are "gold", "silver", or "bronze" medal awarded during a particular wine exhibition.

In the past, wine exhibitions have been established all over the world both at the regional (in Czech Republic, e.g., Valticka vinne trhy) as well as at the national (e.g., VinoForum) and at the international level (e.g., Macon Exposition des Grandes Vins/Foire International des Vins). The exhibitions are being attended by producers, wholesalers, retailers and consumers. In their course, groups of experts (producers, traders, sommeliers, restaurant managers, etc.) evaluate wines in different categories and select outstanding products to be awarded. Respective awards usually come as medals, diplomas or other recognitions. Producers and retailers may or may not decide to promote awarded wines using the officially registered award.

A summarizing framework for explaining consumers' choice of wine is shown in Fig. 1. Various factors influence consumers' choice of bottled wine. They include push factors, pull factors, exogenous factors and economic restraints (i.e., time and money). Examining the

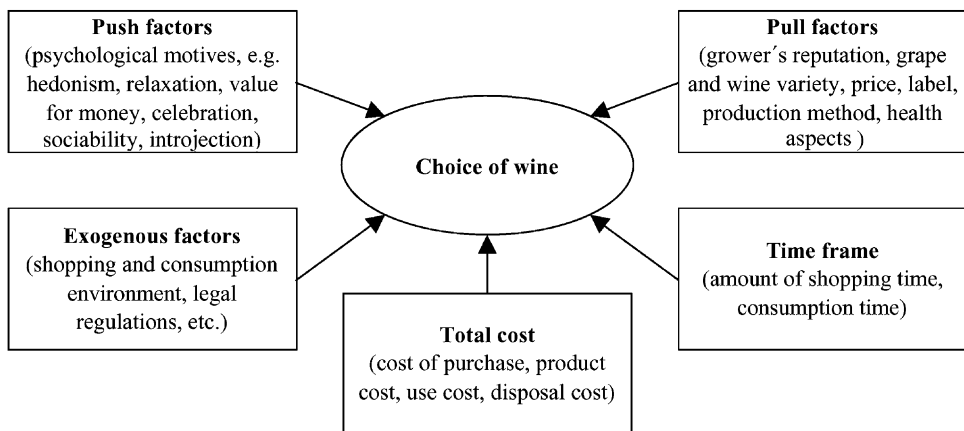


Fig. 1. Factors influencing consumers' choice of (bottled) wine.

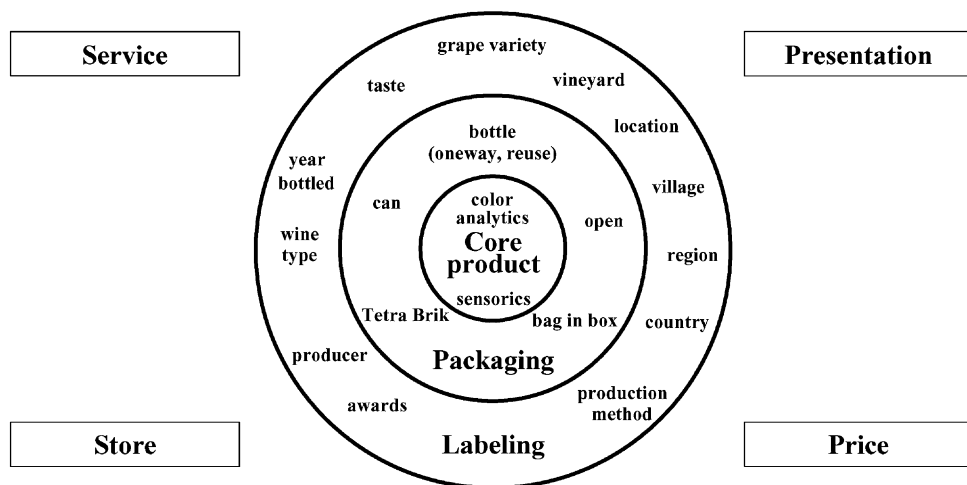


Fig. 2. Attributes of the product 'wine' (after Hauck, 1990).

role of wine exhibition awards in consumer quality perception, the contribution has its focus on pull factors. Selected push-factors are included in the research for the purpose of explaining the motivational background causing to be stated (un)importance.

While some determinants can be controlled by the supplier (producer/retailer) others cannot. Product attributes (pull factors) belong to the factors that can be designed by producers/retailers. A selection is displayed in Fig. 2. Not all consumers build their preferences on all criteria. Instead, an individual usually relies on a few criteria for his/her choice.

3. Purpose of the study

According to the previous paragraph, potential buyers compare competing wine offers at the point of purchase (in supermarkets or “vinotekas”) by selected attributes (respectively attribute levels) and weight their importance against the price. Hence, the question arises for suppliers how important wine medals are to consumers and what amount consumers are willing to pay for particular levels of this attribute. However, even major wine companies lack the exact knowledge on how consumers evaluate wine awards. Furthermore, there is a complete lack of information on the monetary value they might place on a particular medal. Therefore, the goal of an applied research project conducted in cooperation with a major Czech wine company was to address the following questions:

- Are wine exhibition awards sufficiently important to affect consumer preferences?
- What are the price equivalents for awards of different origin and type?
- What are prices (markups) for maximum turnover?
- What makes consumers believe in wine awards (information content, credibility)?

4. Methodology

Attempts to answer the question why consumers choose a particular product lead to the concept of utility (Trommsdorff, Bleicker, & Hildebrandt, 1980). This concept expresses an individualistic measure of need satisfaction. (Vershofen, 1959). For the purpose of designing products and setting prices, marketing managers need to know what partial utilities product attributes (e.g., the price) and attribute levels (i.e., \$18, \$20, or \$22 per bottle) contribute to an overall product utility. Wine marketers are interested to know whether target consumers place a higher utility on a quality label or on the packaging of bottled wine. Eqs. (1) and (2) express the concept of total (product) utility and partial (attribute level) utility (Gierl, 1995):

$$u_s = f(u_{s1}, \dots, u_{sh}, \dots, u_{sH}) \quad (1)$$

where u_s is the total utility of/preference for object s , and u_{sh} is the partial utility of attribute h at object s .

$$u_{sh} = f_h(x_{sh}, x_h^*) \quad (2)$$

where x_{sh} is the individually perceived level of attribute h at s , x_h^* the ideal level of h , and f_h is the evaluative function for attribute h .

The term conjoint analysis comprises a group of similar methods employed by marketing researchers for deriving utilities for selected attribute levels from respondents' evaluations of systematically presented attributes and attribute levels (Green & Srinivasan, 1978). Available references (Green & Srinivasan, 1990; Wittink, Vriens, & Burhenne, 1994) show numerous applications in business administration with the initial development of conjoint analysis (also known as conjoint measurement) in the early 1960s (Luce & Tuckey, 1964). Contrary to compositional approaches, conjoint analysis derives partial utilities of relevant product attribute levels from the estimated total utility of a product. This characterizes conjoint analysis as a de-compositional approach. Most common assumption is that the total product utility is made of the partial utilities for all relevant components (see Eq. (3)). Data basis for a conjoint experiment are overall product evaluations (preferences) elicited from respondents.

$$u_{si} = \hat{u}_{0i} + \sum_{h=1}^H \sum_{k=1}^{K_h-1} u_{hki} x_{shk} + \varepsilon_{si} \quad (3)$$

where u_{si} is the total utility (preference) of object s for individual i (elicited), u_{0i} the total utility of referencing object for individual i (estimated), u_{hki} the partial utility of attribute h , level k for individual i , x_{shk} the dummy variable (1 if object s has level k for attribute h , 0 otherwise), k the level of attribute h ($k = 1, \dots, K_h$), and ε_{si} is the error term.

Eliciting consumer preferences in an environment characterized by a number of alternatives that are competing for buyers' budgets increases the practical usefulness and explanatory power of conjoint analysis results (Elrod, Louviere, & Davey, 1992). When compared to compositional methods, another advantage of the approach is that sufficient results can be obtained even through relatively small samples (Gierl, 1995). The quality of

Table 1
Design of the conjoint experiment

Factors	Level		
	Riesling (low price level)	Svatovavřinecke (aka St. Laurent) (medium price level)	Rulanské bílé (aka Pinot Gris) (high price level)
Price	Original price	Original price: 5%	Original price +5%
Exhibition	Exhibition F (international level)	Exhibition X (national level)	Exhibition V (regional level)
Award	Gold award	Silver award	No award

individual and aggregated results may be judged by the quality parameters Pearson’s *R* and Kendall’s τ . While Pearson’s *R* describes the correlation between the metric total utilities and the factual ranks of the bottles, Kendall’s τ describes the correlation between the factual ranks and those results that stem from the conjoint analysis.

Our research utilizes conjoint analysis to assess the relative importance of awards and price in consumers’ choice of bottled wine. It is assumed that consumers would be more positive towards awarded wines and this would offset any negative perceptions associated with reasonably higher prices. The general approach of assigning monetary values to attribute levels has been developed by Schweickl (1985) and Gierl (1995) and has been adjusted to fit wine.

A consumer survey was conducted in fall/winter 1999. In coordination with the wine producer, special wine shops (“vinotekas”) in several cities and towns of the Czech Republic were selected as locations. This choice reflects the important role of those shops as major retail outlets for the client’s produce. In the stores, three groups of nine 0.75 l-bottles each were displayed (see Table 1 for the design of the experiment). The respective wines were selected to cover the medium as well as the high-priced level as well as different colors (one red and two white varieties). They were displayed with their regular labels. Three prices were used for each wine in the study: original price of the wine, original price +5%, original price –5%. Employing a fractional factorial (orthogonal) design reduced the stimuli to be evaluated by the consumers to nine bottles per wine (profiling method). Customers to the stores were selected randomly by interviewers. They were asked to choose one wine (varietal) and to rank the nine bottles according to their preferences. A total of 69 respondents participated in the study by ranking at least one group of bottles and answering a supplementary questionnaire.

5. Results

5.1. Sample profile

According to the store managers the collected sample gives an accurate picture of the store customership. Among the respondents are citizens of several nations (i.e., Czech

Table 2

Importance of selected wine attributes to buyers (aided question)

Attribute	N	Mean	SE
Varietal (grape variety)	65	4.55 ^a	.87
Country of origin	68	4.18 ^b	.90
Region of origin	67	3.98 ^{b,c}	1.07
Vintage (year of harvest)	66	3.98 ^{b,c}	1.05
Wine type (e.g., cabinet)	68	3.94 ^{b,c}	1.05
Stopper (e.g., cork)	67	3.87 ^c	1.17
Color (e.g., red, white, rosé)	66	3.77 ^c	1.52
Awards (e.g., medals)	67	3.46	1.27
Producer	67	3.43	1.32
Production method (e.g., Barrique)	66	3.35	1.25
Packaging	67	3.26	1.31
Price	69	3.11	1.16
Village of origin	66	3.06	1.36
Store	65	2.69	1.49

Note: Scale ranged from 1 = “not important at all” to 5 = “very important”. Any two (or more) criteria with a common superscript are not significantly different from $p \leq 0.5$. Example: The attribute ‘varietal’ is significantly more important than all other attributes since it is the only one with an ‘a’-superscript. The attribute ‘region of origin’, however, is not significantly more important than the attributes ‘vintage’, ‘wine type’, ‘stopper’, or ‘color’ since it shares the superscript ‘c’ with the latter.

Republic, Slovakia, Norway, Israel, Germany, Canada, U.S.). Of all age groups male store customers are nearly double the number of female customers which is properly reflected in the sample (one-third female respondents, two-thirds male respondents). The surveyed visitors represent annual wine expenditures of nearly 350,000 CZK¹ (individual range: 400–40,000 CZK) and expect to spend between 40 and 1,000 CZK for a bottle of decent wine.

5.2. Product attributes affecting consumers’ choice

The respondents were asked to rate 14 given criteria on a 5-point Likert-scale in order to assess their importance when buying wine for personal purposes. The results are listed in Table 2. They confirm the peak importance of the attribute ‘varietal’ in the respondents’ choice of wine. While rated equally important as color or price, wine exhibition awards appear to be a somewhat important attribute.

5.3. Price equivalents for wine exhibition awards

Conjoint analysis (Luce & Tuckey, 1964) has been employed to assess the value of wine exhibition awards to consumers (Balderjahn, 1994; Levin & Johnson, 1984; Simon & Kucher, 1988). The method allows for simultaneously estimating (1) the relative importance of selected product attributes in the consumer choice process and (2) the partial utilities of selected attribute levels (Green & Srinivasan, 1978, 1990). Table 3 holds the results for the analysis aggregating individual responses.

Table 3
Aggregated results of the conjoint experiment

	Evaluated wine		
	St. Laurent	Riesling	Pinot Gris
Number of valid cases	13	13	15
Relative importance of “award”	50.41	57.12	49.39
Relative importance of “price”	49.59	42.88	50.61
Partial utilities			
No award	−1.5165	−.7582	−1.7048
Exhibition F gold medal	.6630	3700	5397
Exhibition F silver medal	−.6447	−4377	3063
Exhibition X gold medal	1.7399	−7454	11730
Exhibition X silver medal	−1.1062	7546	4063
Exhibition V gold medal	8168	3315	3730
Exhibition V silver medal	476	4853	−1.0937
Pearson’s <i>R</i>	.985	.978	.996
Kendall’s τ	.944	.944	.833
Significance	0.000	0.000	0.000

The number of valid cases for each wine is lower than the number of cases in the original sample since some respondents performed only one ranking procedure and some individual results did not fulfill quality measures and had been excluded. The quality of the results can be judged by the correlation coefficients Pearson’s *R* and Kendall’s τ . Both quality measures for all evaluated stimuli are close to or nearly equal 1.0, thus, indicating highly significant findings for the analysis.

The aggregated results of the conjoint experiment confirm the previously stated equal importance of award and price. Additionally, consumer preferences for particular awards and exhibitions become visible. In all cases, respondents exhibit the least preference for wines without awards. Except for Riesling and the exhibitions X (national) and V (regional), gold medals are valued higher than silver medals. It cannot be generalized, however, that a gold medal is always preferred over a silver medal: for the wine Pinot Gris, a silver medal from exhibition X comes with a higher partial utility than a gold medal from exhibition V.

Table 4
Price equivalents for selected awards, respondent #50 (Pinot Gris)

Award	Partial utility as compared to no award	Price equivalent for the award (CZK)	Recommended price per bottle (CZK)
X gold medal	2.8778	32.21	232
F gold medal	2.2445	25.13	225
X silver medal	2.1111	23.63	224
V gold medal	2.0778	23.26	223
F silver medal	2.0111	22.51	223
V silver medal	.6111	6.85	207

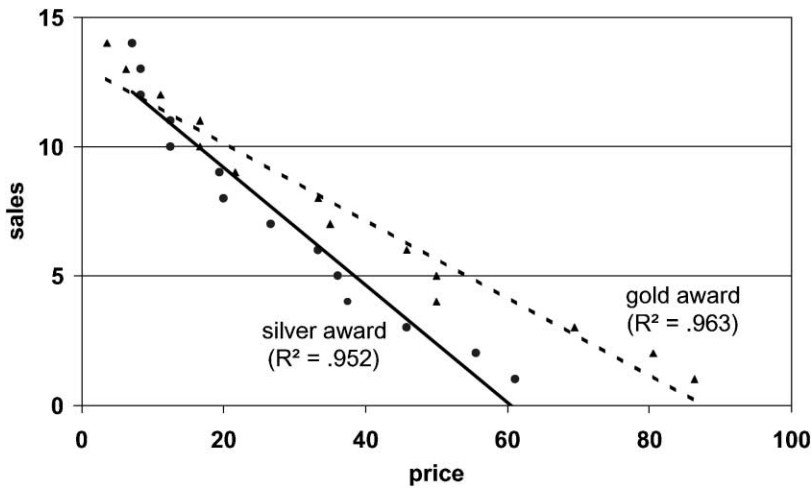


Fig. 3. Price–sales relationship for Pinot Gris, awards from wine exhibition X.

At the aggregated level, a total of 41 respondents assigned positive partial utilities to silver and gold medals as compared to no award. At the level of each individual, however, partial utilities can be translated into price equivalents (Wittkin, Krishnamurti, & Nutter, 1982) since the price had been also included in the conjoint experiment as another product attribute. The corresponding numbers for one particular respondent in Table 4 represent a measure for the amount an individual is willing to pay (at the most) for a bottle of Pinot Gris labeled with the respective award.

In order to identify prices (markups) for maximum turnover, price–sales–functions have been established for specific attribute levels (price scale p : maximum prices that respondents are willing to pay for a particular award; sales scale y : number of individuals that are willing to purchase a respectively labeled bottle at a particular or at a lower price). Price–sales–functions for Pinot Gris and awards from the exhibition X are displayed in Fig. 3.

Obviously, a linear relationship exists between price and sales. The parameters can be estimated through regression analysis: $\hat{y} = a + bp$. The price (increases) for maximum turnover (awards from exhibition X) can be estimated at $-59.923/[2(-4.392)] = 6.92$ CZK (silver medal) and $-84.774/[2(-6.262)] = 6.77$ CZK (gold medal). To calculate the retail price, award prices (markups) have to be added to the original price. Hence, the optimal retail price for Pinot Gris with a silver medal from exhibition X is $200 + 6.92 = 206.92$ CZK. The quality of the results may be judged by R^2 that describes the goodness-of-fit between the empirical data and the regression curve. The majority of R^2 close to 1.0 confirms the assumption of a linear price–sales–function and supports the significance of the results. Data on other exhibitions is listed in Table 5.

Except for the international wine exhibition, price markups are slightly higher for gold medals than for silver awards. Additionally, price increases appear to be slightly higher for the international exhibition awards than for awards at the national or at the regional level.

Table 5
Price–sales–functions and price markups for maximum turnover (Pinot Gris)

	Exhibition award					
	X		F		V	
	Silver	Gold	Silver	Gold	Silver	Gold
R^2	.952	.963	7.75	.925	.976	.850
Constant	59.923	84.774	63.210	64.475	74.932	58.329
Regression factor	−4.392	−6.262	−5.207	−4.916	−6.771	−4.496
Price markup for maximum turnover	6.92	6.77	6.07	6.56	5.53	6.49
Original price	200					

The conclusion for the commercial wine producer is obvious: price markups for wine exhibition awards should be carefully planned and executed. In the case of the exhibition X silver medal, setting the retail price 1.0 CZK above the price for maximum turnover reduces the number of sales by 1.67%. The higher income generated by the markup does not compensate for the smaller number of potential buyers that are willing to spend this amount for an awarded wine. On the other hand, setting the retail price 1.0 CZK below the price for maximum turnover costs the producer in terms of lost income since consumers are willing to spend more money on that awarded wine.

Finally, the question arises as to what are the causes for this apparent appreciation of wine exhibition awards by consumers. According to previous research on motivational factors influencing wine purchase it has been assumed that quality assurance as well as prestige and shopping time play an important role (e.g., Hauck, 1990). Corresponding statements have been included in the questionnaire for evaluation by the respondents. The results listed in Table 6 confirm the suitability of wine exhibition awards for quality assurance since they are recognized by the consumers for building confidence and for signaling value for money. Additionally, the respondents firmly belief in the independence of awarding committees.

Table 6
Motivational aspects driving the choice of awarded wines

Statement	Number of cases	Mean	SE
Awarded wines have their quality certified by independent experts.	67	.836	.93
I feel more confidence to choose a decent wine when selecting an awarded wine.	67	.642	.88
When buying awarded wine I can be sure to receive value for my money.	67	.552	.98
Wine awards help me to save time when choosing wine.	66	.455	.81
Serving awarded wine to guests makes me feel more prestigious.	66	.424	1.08
I feel that awarded wines generally taste better.	67	.239	.86

Note: The 5-point Likert-scale ranged from −2 = “absolutely disagree” to +2 = “absolutely agree” with the midpoint at 0 = “neither agree nor disagree”.

Saving time and prestige are also among the motives for relying on awards as well as the perception that awarded wines taste better.

6. Conclusions

A generally limiting factor of the approach is the static nature of conjoint analysis. Strictly speaking, it restricts the usefulness of results to the examined period. Periodically repeated data collection and analysis can solve this problem for the purpose of marketing planning and controlling.

In our study, the results of the empirical investigation are not founded on an extensive sample. Nevertheless, according to the quality parameters, the contribution demonstrates more than merely the practicability of the theoretical approach. Some significant conclusions can be drawn to support pricing decisions.

Clearly, wine exhibition awards are among the important product attributes affecting consumer preferences. Attending wine exhibitions for the purpose of receiving prestigious awards that are recognized and appreciated by the clientele appears to be a basically promising strategy for producers. The study examined consumers' recognition of different award levels to support future decisions on bottle labeling. The results of the survey seem to suggest that the origin of the award (place of the exhibition) affects consumer preferences (e.g., significant differences in partial utilities could be identified for the wine St. Laurent). However, a thorough evaluation of this hypothesis was not possible due to the small-cell-size problem. This could be an area for future research with a larger sample that could also examine the impact of consumer expertise and education on the preferences for particular award origins. If the results were to indicate that target groups recognize differences in the demand level of a particular grading procedure, the producer should make every effort to satisfy consumer expectations by winning the appropriate medals. In case the consumers do not distinguish between different exhibitions, the producer could either focus on easily available medals, or educating consumers (for example, in cooperation with the organizers of the exhibition) by communicating the more stringent grading standards of a particular exhibition.

Calculating the individual price equivalents for a number of awards and wines allows to estimate prices for maximum turnover. The corresponding markups range from 3.6 to 6.8 CZK being lower than the markups currently employed by the producer following a rule-of-thumb-approach. While awards for the more expensive wine Pinot Gris seem to come with higher markups than awards for the less expensive wines St. Laurent and Riesling, the sample was not adequate to sufficiently address this issue. Again, this question has to be examined in another study based on a larger sample.

Our contribution introduces an approach for estimating the value of wine exhibition awards. Most of the questions examined can be answered only in a highly specific fashion for an individual producer or for an individual retailer. At each location, consumers share different preferences. Depending on the retailer's goals and objectives, some consumer groups might be more interesting than others. Employing the approach, price equivalents and markups can be estimated based on consumer preferences. Retailers can use the

procedure for pricing their offers to target group's needs and wants in their individual market. It enables them to measure the monetary value of not only this type of quality signals.

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