Perceived risk, gender behavior and the effect of bottle closure type on consumer purchase decision and price expectations

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Purpose – The purpose of this paper is to examine the purchase decision of consumers when faced with a perceived risk related to a “corked” wine for different levels of price and different type of bottle closure. This study examines the effect of different wine bottle closures, such as, natural cork, synthetic cork, screw cap, glass closure and Zork closure, in the retail purchase decision of wine. It provides an example of a study of consumer behavior in the context of risk aversion and when a risk-reduction strategy is proposed.

Design/methodology/approach – The experimental investigation on consumer risk perception of corked bottles of wine is based on a choice-based questionnaire distributed to graduate students. The context is the decision to purchase or not a bottle of wine at different price levels. Assuming the monotonicity of the demand function, the choice-based questionnaire is used to determine the maximum WTB and WTP for each participant.

Findings – Results demonstrate that when participants are asked simultaneously to reveal their perceived risk and purchase decision, the behavior significantly affects the WTB and WTP. At the same time, demand for risk-reduction devices also declines strongly with price and perceived risk.

Practical implications – Understanding the factors that influence consumers, wine purchase decisions are therefore important to wine producers, restaurant owners and retailers.

Keywords: Experiment, Willingness to buy, Willingness to pay, Logit/probit/tobit, Survey research, Consumer behavior, Perceived risk, corked wine

Introduction

Understanding what drives consumer behavior regarding wine purchases has long been developed in the marketing literature (Lockshin and Hall, 2003 and Lockshin and Corsi, 2012). The decision to purchase wine is a complex process compared to other consumer products, resulting from the consumers’ use of prior knowledge and experience (Nelson’s 1970, concept of experience good) and many information sources (Barber et al., 2006). Consumers are confronted with an enormous amount of information on prices, brands, vintages, ratings and reputation which impacts on perceived risk (Lacey et al., 2009) and the consumer behavior literature suggests that this is too complex an issue to be fully captured by these factors (Barber et al., 2009a).

It is therefore not surprising if the literature suggests that internal drivers also play an important role. Charters and Pettigrew (2008) found effects associated with situational factors. Dodd et al. (2005) found that outside sources such as friends, family, and wine reviews prompted customers to select specific wines. Search for information when making a purchasing decision is influenced by the type of risk, personality factors such as self-esteem or self-confidence and gender (Bearden et al., 2001; Olsen et al., 2003; Dodd et al., 2005; Barber and Taylor, 2013). Atkin et al. (2007) suggest to look first at gender differences when evaluating how consumers make wine buying decisions.
Gluckman (1990) contends that the act of purchasing wines is clouded with insecurity, and wine purchases involve risk aversion. The concept of perceived risk has been extensively debated in the wine marketing literature (Bruwer et al., 2013 for a comprehensive review), and the employment of risk-reduction strategies (RRS) by consumers is quite common (Johnson and Bruwer, 2004, 2007; McCutcheon et al., 2009; Bruwer and Johnson, 2010). Synthetic corks or screw-caps have been used as risk-reduction devices. Marin and Durham (2007) and Barber et al. (2009b) demonstrate the effect of bottle closure type on consumer purchase decision and price expectations.

The purpose of this paper is to examine the purchase decision of consumers when faced with a perceived risk related to a corked wine for different levels of price. Considering that the demand for risk reduction is linked to the existence of a perceived functional risk, the main objective of this paper is to analyze simultaneously the demand for risk reduction and the revealed perceived risk by consumers for different levels of price. It is in line with studies by Barber and Almanza (2006) and Barber et al. (2009b) considering how wine bottle packaging and gender influenced the wine purchase decision and it is an extension of the study by Lecat et al. (2016) considering perceived risk for “corked” bottles by consumers. This study examines the effect of different wine bottle closures, such as, natural cork, synthetic cork, screw cap, glass closure and Zork closure, in the retail purchase decision of wine.

**Literature review**

An estimated 2-15 per cent of all wine bottles using natural cork are damaged by cork taint (Choi et al., 2010). This happens when the wine reacts with a substance called 2,4,6-Trichloroanisole, commonly known as TCA. This complex chemical comes from reactions within corks, which involve natural molds and the chlorine bleach used in cork manufacture.

An important attribute of wine packaging used as a risk reduction strategy is the type of closure that, by its sealing properties, can directly influence the intrinsic attributes of wines. Various types of closures such as natural or synthetic corks, screw caps (Stelvin), glass closures (Vinilok) and Zork closure can be considered by consumers to be a direct reflection of the wine quality and in some extent influence their purchase decision (Chaney, 2000; Barber and Almanza, 2006; Marin and Durham, 2007; Barber et al., 2009b). Although research has been conducted on the importance of wine bottle closures in quality perception and purchase decisions of consumers in different countries, little is known about the relationship between the perceived risk, the price and how type of closure affects consumer expectations and willingness to purchase wines.

Marin and Durham (2007) examine the effects of natural cork, synthetic cork, and screwcap closures on the purchase intent and price expectation of wine consumers for two commercial wines, a Chardonnay and a Merlot. Results indicated that consumers expected to pay significantly less for a bottle with a screw cap for both wines. Barber et al. (2009b) examine the importance of different wine bottle closures, such as natural cork, synthetic cork, and screw caps, in the retail purchase decision of wine by Millennials and Baby Boomers. The results indicate that the type of bottle closure impacts the consumers purchase decision differently, depending on the type of purchase—whether for personal consumption, gift giving, or special occasion. These studies do not link simultaneously the demand for risk reduction and the revealed perceived risk by consumers for different levels of price.

Although an individual’s perception of risk is “subjective”, the manner in which it is perceived and information evaluated is related to gender (Gunay and Baker, 2011). For example, Charters et al. (1999) note a higher percentage of women as compared to men read the back
labels to help them choose a wine when shopping. The issue of gender plays a role in packaging preferences such as the type of closure preferred (Thach and Olsen, 2004). However, Atkin et al. (2007) find that the odds that men would adopt the screw cap is greater compared to women. Other studies (Hoffman, 2004, Thach, 2012) have examined the gender influence of wine behaviour. However, as Bruwer et al. (2011) argue, these studies did not probe whether the wine behaviours identified through gender research have a relationship with other individual characteristics.

Early experiments have been undertaken by psychologists and others in an attempt to define profiles of risk-taker and risk-averse persons. Differences in the behavior of individuals facing similar risky situations could be partially explained by the individual’s family background, gender, age, education, position, prior experience, and geographical location (Dohmen et al., 2011). Everything else being equal (controlling for the effects of other individual characteristics such as age, education, family status, and wealth), almost all studies confirm that women are more risk averse than men. Empirical investigations in laboratory experiments or field studies find the same result (see surveys by Eckel and Grossman, 2008; Croson and Gneezy, 2009; Outreville, 2014). For example, in the context of consumer decisions, Hersch (1996) finds that, on average, women made safer choices than men in a number of risky consumer decisions such as smoking, seat belt use, preventative dental care, and having regular blood pressure checks.

**Methodology:**

Earliest studies have used questionnaires to recover individual investors’ risk preferences (Lease et al., 1974; Lewellen et al., 1977). At the same time, attention has also focused on the conditions under which it is possible in principle to recover these individual preferences by observing their behavior (Cohn et al., 1975). The experimental investigation on consumer risk perception of corked bottles of wine is based on a choice-based questionnaire distributed to students. Contrary to the rational choice theory of consumer behavior, the agent in our analysis does not have a full set of alternative choices but only a limited choice, i.e. buy or not. Nevertheless, he/she is assumed to have his/her own utility function in a sense that he/she is assumed to make feasible choices that result in the highest possible value of his/her utility function or maximize the accuracy of his/her decision (Bettman et al., 1998). Assuming the monotonicity of the demand function, the choice-based questionnaire is used to determine the maximum WTB and WTP for each participant. To assess the extent of risk taking related to the price of a bottle, subjects are required to indicate whether they accept to buy L Euros a bottle of wine against the functional risk of buying a corked bottle and losing eventually L Euros. The answer is a statement of preference for which there is no right or wrong answer per se.