

Title: Consumer Response to Price Changes in Higher-Priced Brands

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Abstract

Price elasticity is a widely used measure of consumers' willingness or ability to pay for goods and services. This research examines the price elasticity of high-priced brands. We define high-priced brands as those that sell at or above the price point at which consumers begin to consider that product to be luxurious or premium in the category (Kapferer et al., 2014, Sjoström et al., 2016). More specifically, we use high-priced wine brands as the context for this research. Wine is an ideal product to use because it has a wide price range, and can be purchased for various consumption situations. When prices are high we anticipate that elasticities may no longer function as they do in everyday consumer packaged goods markets. Instead, they might become smaller or possibly even positive if consumers are prepared to pay for the quality they desire. We employ stated choice experiments to investigate how *Situational Factors*, *Consumer Factors* and *Contextual Factors* influence price elasticities for high-priced wine brands in Australia. Results are that price elasticity estimates for the high-priced brands in this study are -1.8 on average. This is lower than the commonly reported figure of -2.6 for brands in general; however, in one part of the experiment respondents chose for a 'high-importance' occasion. Smaller price elasticities were found when (1) the perceived importance of the consumption situation was high, (2) among regular high-priced wine buyers, and (3) among brands with a higher initial price position. These results demonstrate that the patterns of price elasticity for high-priced products are mainly similar to that for other FMCG products, but consumers are slightly less responsive.

Key words: Price, Elasticity, Experiment, Consumer

1. Introduction

Price is an important consideration in the consumer decision-making process (Monroe, 2003). It shapes consumer perceptions of a brand, and changes in price can markedly change demand for the brand. Correct pricing strategy is thus crucial to a brand's success (Lehmann and Winer, 2005).

The most widely used measure of consumer response to price changes is price elasticity (Schindler, 2012), which is the percentage change in demand for a one-percent change in price. Price elasticity is the numerical representation of consumer's price sensitivity towards a particular brand (or product). In turn, price sensitivity is the extent to which individual consumers perceive and respond to changes in price for products or services (Wakefield and Inman, 2003). Whilst individual consumers differ in their price sensitivity, their aggregate level response to price changes for a brand can be represented by the price elasticity for that brand. The focus of this study is price elasticity, and specifically for high-priced brands. A choice experiment is the method used for the study.

Price elasticity for consumer packaged goods brands is approximately -2.6 on average (Scriven and Ehrenberg, 2004, Tellis, 1988). That said, price elasticity for any specific brand has been found to vary across different situations (e.g., Dunn et al., 2013, Scriven and Ehrenberg, 2004). For example, the same brand of instant coffee was reported to have a price elasticity varying from -1.0 to -4.0 across ten studies (Scriven and Ehrenberg, 2004) depending on situational factors such as the direction of the price change. If brand price elasticities can vary, this means that consumers do not always necessarily have the same response to price changes. This phenomenon has led researchers to question why there are such differences, and whether any consistent factors underlie them.

Price elasticity is generally negative; when a brand's price increases, sales decrease, and vice versa. However, price elasticities can also be positive in rare cases. Positive elasticities are sometimes reported for luxury products that sell at very high prices (Kapferer, 2012), although the evidence tends to be anecdotal. For FMCGs, the price gap between the cheapest and most expensive brands may only be a few dollars, but at the same time the most expensive brand may be twice the price of the cheapest (as is the case for commonly bought categories such as instant coffee, toothpaste, toilet paper and pasta sauce).

By contrast, product categories such as wine, chocolate, or cosmetics have more dispersed prices. For example, many wine brands sell for under \$10 per bottle, yet many others sell for five or ten times that price or even higher (Romaniuk and Dawes, 2005). Therefore, prices vary proportionally by several hundred percent, and in absolute terms in multiples of \$10, indeed some brands in categories such as wine are hundreds of dollars more expensive than others.

Little research has been conducted to test consumers' responses to price changes for such brands that sell at higher price levels (Lockshin and Corsi, 2012). Therefore, not a great deal is known about consumer price sensitivity, and therefore the price elasticity, of high-priced

goods. Knowledge about price response for higher priced items would be useful for marketers, given the growth in the upper price tier in many markets (Britner, 2016, Stilinovic, 2016).

Moreover, while some studies have examined how factors such as the direction of the price change (e.g. Scriven and Ehrenberg, 2004) or situation (Wakefield and Inman, 2003) is linked to price response, little is known about how such factors might work in the context of higher-priced brands. This provides an initial rationale for the present study.

Studies of factors affecting brand price elasticity use three main methods: historical sales analysis (e.g., Bell et al., 1999, Bolton, 1989b, Danaher and Brodie, 2000), controlled in-store experiments (Anderson et al., 2009, Bemmaor and Mouchoux, 1991, Litvack et al., 1985) and choice experiments (Dunn et al., 2013, Ehrenberg and England, 1990, Scriven and Ehrenberg, 2004, Woodside and Ozcan, 2009). Although each method has advantages and disadvantages, the choice experiment approach was considered the most suitable for this research for several reasons. First, we wished to examine the impact of situational factors on price elasticity, and an experiment allows us to collect consumer choices made under various situational scenarios. Second, the use of an experiment avoids extraneous influences such as shelf position and in-store promotions. Third, we wish to include in the analysis factors such as the respondent's prior purchasing behavior, which can readily be obtained as part of a stated choice experiment.

The category chosen for the investigation is wine, because it has many brands that sell at higher prices. In addition, the demand for premium wine is increasing among consumers, and the industry is suggested to introduce more premium wines to adapt to this consumer shift (Corsi and Rowley, 2016). The intended contribution of this study is therefore to progress knowledge about price elasticity, specifically in the context of high-priced brands, and to incorporate both situational factors and buyer characteristics to determine how these affect price elasticities.

The remainder of this paper is divided into four major sections. First, we review previous studies and highlight gaps in the literature for further investigation resulting in research questions. Second, we present the data collection method and analysis approach. Third, we present the results of each research question. Lastly, we provide a general discussion of the findings, as well as limitations of the study and directions of future research.

2. Literature Review

2.1 Price elasticity

Price elasticity is almost always reported to be negative (Monroe, 2003): lower price means higher unit sales, and vice versa. However, in rare cases it is reportedly positive (Moore and Pareek, 2010, Tellis, 1988 p. 337), although the possible reasons are elusive. High-priced luxury goods are said to be an exception to the usual demand–price relationship. These products are relatively price insensitive, meaning that demand does not necessarily decline if

price increases, and may actually increase when the price increases (Moore and Pareek, 2010). Products such as these are classified by economists as ‘Veblen goods’. Veblen (1899) argued that most levels of consumption by the upper classes are merely ways of displaying wealth and social status. Expensive perfume and wine are good examples of items that economists would consider Veblen goods, as people who cannot easily tell the quality of a perfume or wine may use price as an indicator of quality instead. Therefore, the higher the price (within limits), the more likely it is that luxury-oriented consumers will buy that brand (Moore and Pareek, 2010). Many studies have supported the existence of the category of Veblen goods, and stated that consumers of high-priced brands respond to price changes differently from consumers of regular brands (Dolan and Hermann, 1996, Kapferer, 2012, Moore and Pareek, 2010). However, none of these studies have estimated actual price elasticities to support this claim. Furthermore, Veblen’s theory was developed more than a century ago, when luxury consumption was only accessible to a very limited number of people. In more than 100 years of development, society has changed, and luxury goods have become more accessible to the general public. Indeed, in recent years many manufacturers of luxury goods have launched lower-priced items, and there has been the emergence of the concept of ‘affordable luxury’ (Mundel et al., 2017). Such changes lead to doubt regarding whether Veblen’s theory is still applicable to contemporary society. That said, this study does not set out to specifically examine goods that may be classified as luxury. ‘Premium’ and ‘luxury’ are terms that are difficult to define. The characteristics of luxury brands are excellent quality, a prestige image, an element of uniqueness and exclusivity, and high prices (Kapferer, 2001). In fact, consumers shift their perceptions of a product from regular to luxury/premium at certain price points (Kapferer et al., 2014, Sjoström et al., 2013). This price point varies across different product categories. For example, for wine and spirits, the shift occurs at AUD50, for watches at AUD400 and for perfume at AUD150 (Sjoström et al., 2016). The focus of our study is high-priced wine brands. We do not explicitly define these as luxury or affordable luxury brands. However, it is likely the brands we incorporate are considered luxury, or affordable luxury by many consumers due to them being priced above AUD50. We further explain our rationale for this price range later in the paper.

2.2. Price elasticity magnitude and direction

The literature on price elasticity has found a reasonable degree of consistency in average price elasticity, with multiple studies producing similar figures of approximately -2.6 (Tellis, 1988; Scriven and Ehrenberg 2004; Bijmolt et al., 2005; Dunn et al., 2013). Knowing the likely range of price elasticity is of great value to marketing practitioners. However, those estimates are reported for brands in general and do not specifically examine if price elasticity is different for high-priced brands.

One of the very few studies that clearly indicates a price elasticity direction for high-priced brands is by Mandhachitara and Lockshin (2004) who conducted a study on high-priced Scotch whisky in Thai department stores. They found a negative elasticity, that is, when price was decreased, sales increased). This finding is in contrast to current belief about high-priced brands. However, the authors also found that the highest sales occurred during weeks in

which there were no price change at all, which suggests there were other factors at play.

A literature search found only one publication that has reported a smaller elasticity for a high-priced brand, Dolan and Simon (1996). These authors compared price elasticity for two different types of automobiles, and reported an absolute price elasticity of 0.7 to 1.5 for luxury automobiles, and an absolute price elasticity of larger than 1.5 for normal automobiles (Dolan and Simon 1996, p. 77). This result supports the claim that high-priced brands have smaller price elasticities. However, the study does not reveal the source of the data or its analytical approach. This makes it difficult to evaluate the generalisability of the findings. Furthermore, the price elasticities were reported in absolute value, making it impossible to determine the direction of how consumers responded to price changes.

In summary, the direction of price elasticity is generally negative. In addition, there is a reasonable degree of consistency in average price elasticity, with the most frequently occurring average magnitude being -2.6. High-priced brands are believed to be an exception to the demand-price relationship, and to have smaller price elasticities; however, there is a lack of empirical evidence to support such claims. This leads to the first set of research questions, as follows:

RQ1a: Does the direction (sign) of price elasticity differ for high-priced brands, compared to regular brands?

RQ1b: Does the magnitude of price elasticity differ for high-priced brands, compared to regular brands?

2.3 Factors that influence Price Elasticity

Price elasticity for specific brands has been found to vary considerably according to certain contextual factors (Dunn et al., 2013; Ehrenberg, 2004). If price elasticities vary, this means that consumers may not always have the same responses to changes in the price of a brand. This has led researchers to question why there are such different responses, and whether any consistent factors underlie them. After decades of research, an understanding of the factors affecting price elasticity has emerged, yet it is far from comprehensive. Factors that have been widely shown to correlate with larger price elasticities include: brands with smaller market shares (e.g. Bolton, 1989a, Guadagni and Little, 1983, Scriven and Ehrenberg, 2004); goods that can be stockpiled (e.g. Bell et al., 1999, Danaher and Brodie, 2000); and retailer support, such as in-store displays and feature advertising (e.g. Bemmaor and Mouchoux, 1991, Huber et al., 1986, van Heerde et al., 2001).

However, while a number of factors have been found to affect price elasticity, there has been considerable inconsistency between studies, and therefore there is no broad agreement on the effect of other factors. In addition, past studies on this area have predominately focused on examining FMCGs, which are typically low-priced; thus, it is uncertain whether the findings can be generalised for high-priced brands. This gap leads to the second overarching research question for this research: *What factors influence price elasticity for high-priced brands?* Trying to model all the factors that influence price elasticity is complex and the total number

of factors could make the design of such an experiment much too large to be practical. The literature review highlights that some of the most important factors that influence price elasticity are: situational factors, consumer factors and contextual factors. Therefore, this research focuses on investigating how these three factors influence price elasticity for high-priced brands.

Situational Factors: Any investigation of consumer behaviour that ignores situational effects is likely to provide unreliable results (Belk, 1974). Accordingly, it is crucial to identify the ‘product-use situation’ of an item, because this changes the relative importance of product factors (Fennell, 1978) such as price quality or features. Consumers are likely to select products or brands that are suitable for consumption on particular occasions (Dickson, 1982) or situations (Stoltman et al., 1999). For example, when purchasing wine for important occasions, such as business dinners, consumers consider the quality of wine to be an important attribute, and high price drives quality perceptions for such occasions (Hall et al., 2001). Studies such as the ones cited highlight the importance of price as a quality indicator for special situations, yet do not discuss how consumers respond to price changes in such situations. There remains a lack of understanding of how situational factors influence brand price elasticity. The published literature indicates that price differences between brands have the greatest effect when consumers’ attention is focused on price (Lichtenstein et al., 1993). It is anticipated that price elasticity will be lower when consumers are focused on factors other than price, such as the perceived importance of the occasion they are buying for, and the social environment connected to it. These findings have been further supported by many studies (Agnoli et al., 2011, Barber, 2009, d’Astous and Saint-Louis, 2005, Dodd et al., 2005, Orth, 2005, Wakefield and Inman, 2003). The above studies have examined consumer’s price sensitivity in relation to different situations; however, none of them reported an actual price elasticity estimate. Furthermore, none of these studies examined high-priced brands. The literature highlights the importance of price in relation to different situations, yet there remains a gap in understanding how situational factors such as the importance of occasion influence price elasticity for brands, especially high-priced brands. This leads to the following research question:

RQ2a: Does a more important consumption situation result in lower price elasticity for high-priced brands?

Consumer Factors: There is a large body of marketing literature that focuses on studying buyers based on the frequency and volume of products that they purchase or consume (e.g. Chrysochou et al., 2011, Scriven and Ehrenberg, 2004, Twedt, 1964). The literature indicates that these different groups of consumers may respond to price changes differently. Therefore, having a better understanding of the differences between heavy and light category buyers can assist in developing more effective pricing strategies. Many studies have found that heavy users of a brand are more responsive to price changes than light users. Kalyanaram and Little (1994) found that consumers with higher purchase frequencies are more sensitive to price changes because they are more aware of the range of price distributions. However, the focus of that study was on analysing the latitude of price acceptance in consumer packaged goods,

rather than investigating how consumers respond to price changes. Kim and Rossi (1994) found that consumers with high purchase frequency were much more price-sensitive than consumers with low purchase frequency. A third study examining price effects for new nondurables found that promotional price sensitivities are generally higher for repeat purchasers than for trial purchasers, and that heavy users in the product class are more price-sensitive than light users at the trial stage (Helsen and Schmittlein, 1994). However, other studies have found different results. Scriven and Ehrenberg (2004) reported no relationship between self-reported category usage and price elasticity. Dunn et al. (2013) found smaller brand price elasticities among heavy brand users. Given the lack of consensus in past work, further investigation is required to clarify the relationship between brand usage and price elasticity. Moreover, these studies mainly focused on low-priced products, such as FMCGs, and there is a gap in knowledge relating to the interplay between usage and price elasticity for high-priced brands. These points lead to the following research question:

RQ2b: Is price elasticity (for high priced brands) lower among light buyers of the category compared to heavy buyers of the category?

Buyers can be light, medium or heavy buyers of the product *category* (e.g. Twedt, 1964) but also could buy mostly from the high-price *tier* of that product category, or perhaps only occasionally, or not at all at that high tier. Of interest here is whether the tendency to buy from the high tier relates to sensitivity to price changes for brands in that tier. Arguably, greater familiarity with brands and prices in high tiers implies a lower perception of risk in choosing amongst them (e.g. Mieres et al., 2006). Therefore, the buyer has a greater tendency to switch to take advantage of a better price offered by comparable alternatives, leading to higher elasticity among regular high-tier buyers. Likewise, just as more regular buyers of a product category tend to have larger repertoires of brands (Banelis et al., 2013), regular buyers of the high price tier will likely have bought a larger variety of brands from that tier. Therefore, they are more familiar with alternatives and so switching between them is easier. A counter-argument can also be raised – buyers who tend to purchase expensive wine are likely to have higher income, which would likely make them less price-sensitive. Second, buyers of high-priced wine are likely to derive more hedonic value from their purchases, which may also make them less price-sensitive. However, there is little evidence specifically pertaining to these aspects of price response for high-price brands. Therefore, the next RQ is:

RQ2c: Is price elasticity (for high priced brands) lower among light buyers of high-priced brands compared to heavy buyers of high-priced brands?

Contextual Factors: A reference price is often defined as an internal price to which consumers compare observed prices (Lowengart, 2002). However, another conceptualisation is an external reference price. Consumers are reported to use other brands' prices as reference points to assess the focal brand's offer, in addition to comparing a brand's current price with its former price (Rajendran and Tellis, 1994). As a result, the initial price level of a brand relative to its competitors is anticipated to have a significant effect on its price elasticity – that is, is the normal price of the brand below most competitors, at the average, or priced at a

premium? Some past research examining grocery brands found lower promotional price elasticities for high price tier brands (Zenor et al., 1998). However, other work has found high price brands have larger promotion elasticities (Danaher and Brodie, 2000, Fok et al., 2006), but they should be less elastic for increases. The reason for expecting this asymmetric response to price changes is that a price increase takes the brand further away from competitor prices, hence the price response should be concave in line with prospect theory (Kahneman and Tversky, 1979). Moreover, a price increase for a high priced brand should pass fewer competitors compared to a price decrease. Evidence suggests price passing magnifies price elasticities (Scriven and Ehrenberg, 2004).

Studies have also indicated that consumers are less sensitive to price increases for FMCG brands with relatively high prices than they are to price increases of brands with relatively low prices (Woodside and Ozcan, 2009). In contrast to the above studies, which focused on two ends of the price spectrum, Scriven and Ehrenberg's (2004) analysis of regular price changes found larger elasticities among brands with prices closest to the average price of all brands. There is clear evidence from past studies that the relative position of an item's initial price within a price tier can have a significant effect on price elasticities. However, there were no high-priced brands used in the study by Woodside and Ozcan (2009), and it is difficult to determine whether particularly high-priced brands were used in the study by Scriven and Ehrenberg (2004). Therefore, it is unclear whether the generalisations from those studies can be applied to high-priced brands. This leads to the following research question:

RQ2d: How does the relative position of a brand's initial price (i.e. being the low-priced, mid-priced or high-priced brand in the high-price tier) affect price elasticity for high-priced brands?

A pictorial representation of the concepts and research questions is shown below as Figures 1 and 2. We show them separately for clarity.

Figure 1: Framework for RQ1

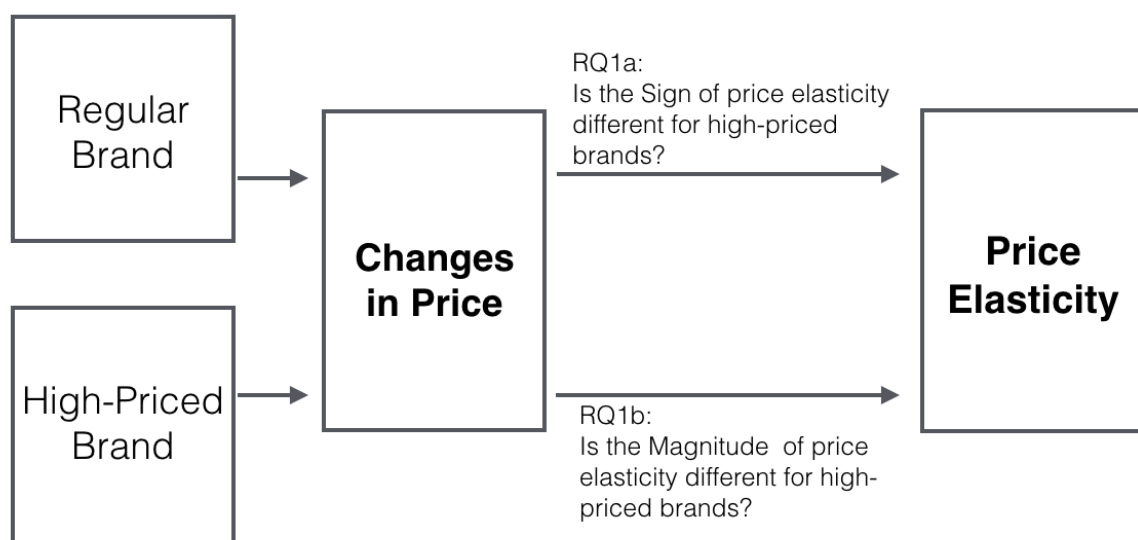
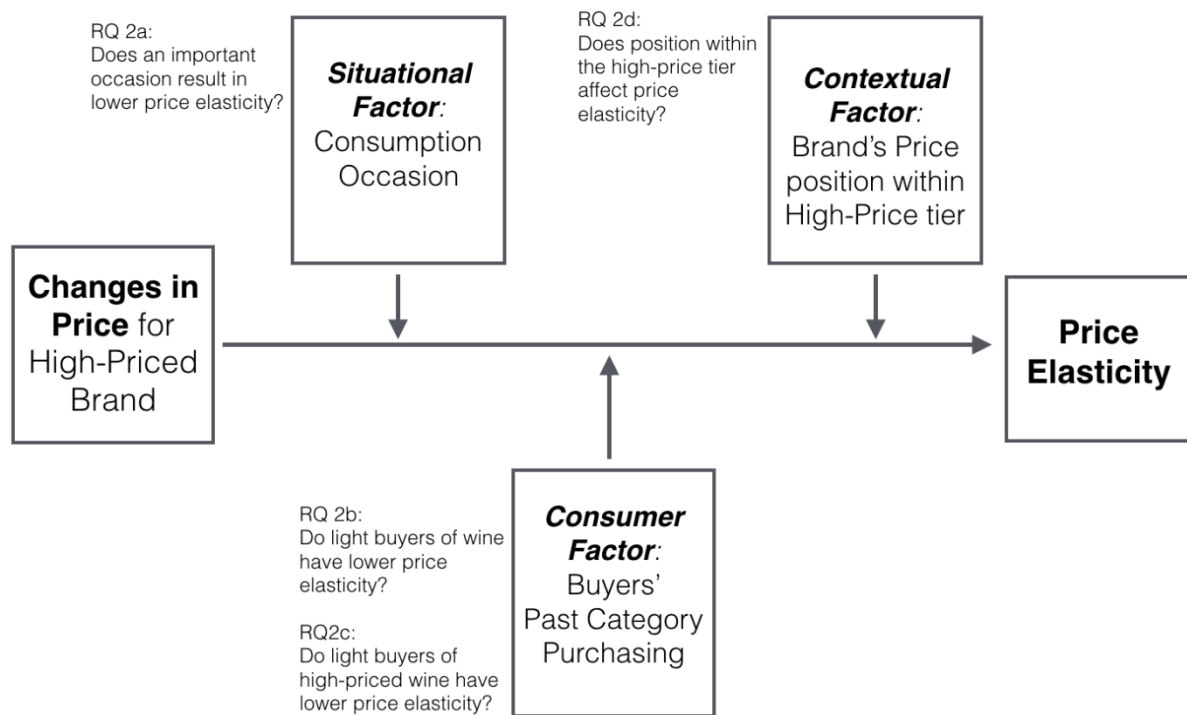


Figure 2: Framework for RQ2



3. Data Collection Method and Analysis approach

An online choice experiment was designed to test consumer responses to price changes for brands. To create a realistic choice environment, all brands presented in the choice experiment were real brands that were currently stocked by local wine retailers. The respondents were presented with 14 different choice sets, that each consisted of six brands. The prices of the brands were manipulated across the choice sets. At the beginning of the experiment, each respondent was shown the six brands at their normal in-market price under a specific situation and asked:

“Which one of the following wines would you be MOST likely to purchase?”. This was followed by a validation question, “Would you actually purchase the wine you just chose in real life?”. This validation question was asked for each choice set. We use only the stated choices that were confirmed by a positive response to this validation question.

Each respondent was shown the same six brands in different choice sets, with the price of one brand changed by either a price decrease or increase. At the end of the survey the original choice set with all the brands at their ‘normal’ in-market price was again shown to the respondents. To minimise any order effects, a William Design (Wang et al., 2009) was used to control the presenting order of choice set 2 to choice set 13, and the presenting order of the six brands within each choice set. Once the choice experiment was completed, the respondents were given a series of post-experiment questions, which included questions related to prior purchases and demographics. One might argue that a weakness of the

research is that it is based on a simulated choice experiment, rather than actual purchasing. However, there is support for using this method from past studies (e.g. Dunn et al., 2013, Woodside and Ozcan, 2009, Scriven and Ehrenberg, 2004). Moreover, several procedures ensured the conditions surrounding data collection were conducive to the results being valid. First, several questions were designed as manipulation checks to make sure the participants had purchased high priced wines and that they paid attention to the prices in the experiment. Also, the sample of participants was sourced from a professional online provider. We obtained a high-quality sample, and presented a realistic task that was not onerous to respondents. The total sample was 652, but was reduced to 541 after deleting respondents who failed the manipulation checks.

The final sample (n=541) encompassed Australian residents aged over 18 years, not currently working in the wine industry and had purchased wine over \$30/bottle in the last 12 months for off-premise consumption.

All wine brands chosen for the choice experiment were Shiraz from Australia. Using a common product type avoided introducing potential confounds into the results. To make the choice experiment more realistic, all brands presented to participants were real brands that are currently available in most leading wine retailers. Likewise, the attributes associated with each individual brand (i.e. grape variety, region, ratings) were all real information. The price levels of the brands ranged between \$50 and \$100 per bottle. There were three reasons for using this \$50-\$100 price range. First, Sjoström et al. (2016) reported that consumers shift their perceptions of wines from regular to luxury/premium at \$50. Second, it is common practice in Australia to group wines priced between \$50 and \$100 as a price category: most leading Australian wine retailers (such as Dan Murphy's, David Jones and Vintage Cellars) use this range as a category in their price tiers. Third, wine priced above \$50 represents the most expensive 4-5% of wine sold in the Australian market; therefore \$50-\$100 wine qualifies as high-priced. Note that while the lowest price in the actual experiment was \$50, the criteria for participants to be included was that they had bought wine at \$30 or more in the last 12 months. The reasons for this criterion were (a) it made it feasible to get a large sample, and (2) consumers who have bought \$30 can realistically be thought of as potential customers for wine priced at \$50 or more. Moreover, we also examined elasticities among those who had, or had not bought wine at or above the \$50 price point.

Each brand's prices were manipulated across three levels: (1) a 'base' or normal price; (2) decreased price; and (3) increased price. The magnitude of the price change was 15% for increases or decreases. The $\pm 15\%$ price change level was chosen based on the precedent in past pricing studies (e.g., Dunn et al., 2013; Ehrenberg, 1990; Scriven and Ehrenberg, 2004). However, as the prices presented to the respondents were rounded to two digits, the actual change ranged from 14 to 16% across the different brands. In ten of the choice sets, the price change took a brand past one or more of the prices of its competitors. In two others, the price change involved no passing.

All respondents were administered all 14 choice sets, but were randomly assigned to one of

the three usage situations replicated from a study by Quester and Smart (1998). In that study, these situations were formulated in conjunction with wine experts and retailers, and designed to represent different levels of perceived risk/importance. The level of perceived risk/importance of the three situations in ascending order was as follows:

Situation 1, to drink at home during the week over dinner;
Situation 2, to take to a dinner party at a friend's house; and
Situation 3, to give to a person you highly respect as a gift for their 50th birthday.

The variation in the importance of these situations serves as a segmentation base to answer RQ2a, pertaining to how the importance of the consumption situation influences price elasticity. The sample comprised a reasonable cross-section of the population in terms of age and gender as shown in Appendix 1.

To answer RQ2b and RQ2c, buyers of the product category were divided into segments created from the self-reported category purchase data. Respondents were asked how often they purchased wine, using response categories ranging from 1=less than once per year to 6=Once per week or more often. The respondents who selected this most-frequent category were classified as heavy buyers (n=147). We calculated that this heavy-buyer group, which comprises 27% of the sample, would account for approximately 60% of all purchases made by the total sample. This concentration of purchasing is approximately similar to Schmittlein, Morrison and Cooper (1993) who reported the concentration of purchases among the top 20% of buyers tends to be approximately 60%, rather than the oft-quoted Pareto 80/20 concentration.

High-Price Tier Buyers: Respondents were also asked about their purchasing of wine at various price levels. Respondents who had not purchased wines priced over \$50/bottle were defined as non-high-priced buyers of the product category. Respondents also reported what percentage of the wines they had purchased in the previous 12 months was in the \$51 to \$100 price category. They were also asked to report how many bottles of wine priced at over \$50/bottle they had purchased during the previous 12 months. The percentage of wines purchased in the \$51 to \$100 price category, and the quantity of bottles purchased over \$50/bottle, were combined to achieve a balanced weight of purchases in the high-priced category. A total of 243 respondents were classified as heavy buyers of high-priced wine. This figure is larger than the number of heavy buyers of wine generally, but it reflects that some lighter or medium buyers of wine generally may tend to confine their purchases to high-priced wine brands.

Each choice set yielded a count of respondents who chose each particular wine brand. From these counts, we calculated the proportion of choices given to each brand in each choice set. We then calculated the proportional change in choices for the brand arising from the price changes. From that method we then derived the price elasticity for each brand using the point elasticity formula (e.g., see Ehrenberg and England, 1990):

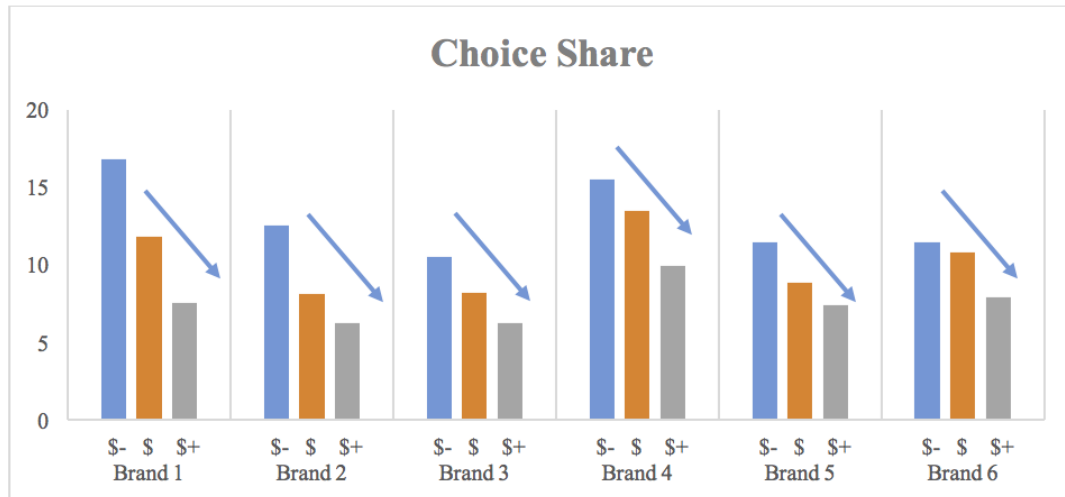
$$Elasticity = \frac{\frac{(quantity - base\ quantity)}{base\ quantity}}{\frac{(price - base\ price)}{base\ price}}$$

The point elasticity formula can be used to calculate the elasticity from a base price to a higher price, or to a lower price. Using this formula we calculated the average elasticity for price increases and decreases, as has been done in similar previous studies (e.g., Scriven and Ehrenberg, 2004); by consumption situation, by user group and so on. The elasticities are based on the proportion of respondents choosing a brand, hence standard errors for proportions were computed using the standard formula $SE(p) = \sqrt{\frac{p(1-p)}{n}}$. From the standard errors we calculated if any differences in elasticities were statistically significant at the $p=0.05$ level.

4. Results

Figure 3 shows the choice share for each brand of wine in the choice experiment at different price levels. It clearly shows that all six brands had their highest choice share when sold at a decreased price, and the lowest share when sold at an increased price. All the brands exhibited negative price elasticity. Therefore the answer to RQ1a is, the direction or sign of price elasticity is the same for these high-priced brands as has been reported for brands generally (e.g. Tellis, 1988).

Figure 3: Choice Share for each Brand at Different Price Levels



Next we examined the size of the average elasticity. We found the average elasticity for these brands to be -1.8. This is somewhat smaller than other studies or meta-analyses that have reported figures of -2.6 (e.g. Bijmolt et al., 2005, Danaher and Brodie, 2000). However, this result is partly due to the fact that 1/3 of the sample made their choices given the scenario they were buying a gift for a person's 50th birthday. This group exhibited a lower elasticity of -0.8, as discussed in detail later. Using the average elasticity of the other two more

‘everyday’ buying occasions the average elasticity is -2.7. We conclude that these high priced brands exhibit approximately similar price elasticities as everyday brands, answering RQ1b. This means that price increases for high-priced wine brands will result in a reduction in unit sales that in percentage terms is larger than the price change. The same can be said for decreases – high priced wine brands, if they decrease their price relative to others will exhibit heightened demand that is larger in percentage terms than the price decrease.

RQ2a posed the question as to whether price elasticity is lower for important consumption situations. To address this, we calculated the price elasticity according to the three consumption situations, which varied by importance. Table 1 indicates that price elasticity decreased in line with the perceived importance of the consumption situation. The most important occasion, a gift, yielded an elasticity of -0.8, lower than the other two less important occasions (significantly different at $p < 0.05$). However, whilst the elasticity for the medium-importance occasion was lower than for the least important occasion (-2.2 vs -2.7) the difference between them was not statistically significant ($p = 0.16$). Therefore, the answer to RQ2a is a qualified yes, price elasticity is lower for more important consumption occasions.

Note there is a somewhat anomalous result for the price elasticity of an increase in price for a dinner party of -1.4, compared to the elasticity for price decrease for a dinner party of -2.9. The lower elasticity for the increase is partly because one brand exhibited higher demand when its price was increased. If we remove that one brand from the results, the elasticity for a price increase for a dinner party is -2.0, and the overall elasticity for a dinner party is -2.5. The same pattern of declining elasticity for more important occasions with that one unusual observation removed would then be: -2.7 (drinking at home), -2.5 (dinner party), -0.8 (gift),. Table 1 shows the elasticity results.

This particular brand is from a reputable family-owned producer. It was named after one of the key founders of the winery Eric, who was one of the early pioneers of varietal labelling in Australia. We speculate the unique characteristics of this brand may have led to heightened demand at a higher price. However, this unusual result may be a chance event and replication would be needed to determine if the result is reproducible.

Table 1 Price Elasticity Results

	Elasticity	<i>Elasticity for Price Decrease</i>	<i>Elasticity for Price Increase</i>
RQ2a: Situation Factors			
Drinking at home (n=185)	-2.7	-2.7	-2.8
Dinner party (n=178)	-2.2	-2.9	-1.4
Gift for a 50 th birthday (n=178)	-0.8*	-0.9*	-0.7*
RQ2b: Consumer Factors (All Wine Buyers)			
Light buyers of wine (n=394)	-1.7	-1.8	-1.6
Heavy buyers of wine (n=147)	-2.1	-2.4	-1.7

RQ2c: Consumer Factors (High-Price Tier Buyers)

Non-buyers of high-priced wine (n=129)	-2.8	-3.2	-2.4
Light buyers of high-priced wine (n=169)	-3.6*	-4.6*	-2.5 *
Heavy buyers of high-priced wine (n=243)	-0.7	-0.4	-1.0

RQ2d: Initial Position in the Price Category

Brands with low initial price position	-2.5*	-3.2*	-1.9*
Brands with mid initial price position	-1.5	-1.4	-1.7
Brands with high initial price position	-1.3	-1.3	-1.4

* statistically significant difference to at least one other factor at $p \leq 0.05$ level

RQ2b asked if light category buyers exhibit less price elasticity. To test this, we calculated the price elasticity for two groups of respondents: light and heavy buyers of wine (wine generally, not specifically high-priced wine). Results are shown in Table 1. There was not a statistically significant difference in the elasticity between light wine buyers (-1.7) and heavy wine buyers (-2.1), with the p-value of the difference in proportions being $p=0.22$. However, this result does give some indicative support for heavy category buyers being more price-sensitive, consistent with past studies (e.g. Kalyanaram and Little, 1994).

Next, we examined RQ2c, price elasticity among light to heavy buyers of high-priced wine. As shown in Table 1, price elasticity is lowest among heavy buyers of high-priced wine at -0.7 (difference to either non or light-buyers significant at $p < 0.01$). Interestingly, price elasticity is highest among light buyers of high-priced wine, at -3.6, compared to non-buyers' -2.8 (significant difference at $p=0.06$). Elasticities follow this same pattern for price increases and decreases, being highest among light buyers and lowest among heavy buyers. The lower elasticity among heavy high-price buyers is counter to other results in the literature, but it could potentially be because of the unique nature of the product under investigation. A potential explanation is that there is a higher level of discernment among heavy buyers of expensive wine, therefore more fixed preferences, leading to lower price elasticity. Furthermore, light buyers who have at least some experience of buying high-priced wine are more price sensitive than non-buyers because they have more confidence to switch between brands to take advantage of favourable price changes.

The next question to be addressed is RQ2d, pertaining to initial price position and price elasticity. The results for RQ2d, as shown in Table 1, indicate that the magnitude of price elasticity decreases according to the brand's position in the price category. That is, the lower the initial price position, the larger the price elasticity. The elasticity for the brands with a low initial price position in the set was -2.5, significantly different ($p < 0.01$) to the -1.5 for brands with a mid initial price position and -1.3 for brands with a high initial price position. Whilst the directional difference between brands with mid and high initial positions was consistent with the notion of lower elasticity as the price point gets higher, the difference between -1.5 and -1.3 for brands with mid and high initial positions was not statistically significant. We also see that the pattern in declining elasticity is consistent for increases and decreases, as shown in Table 1. A summary of the research questions and results is shown in

Table 2.

Table 2 Summary of Research Questions and Results

	Research Questions	Results
1a	<i>Does the direction (sign) of price elasticity differ for high-priced brands, compared to regular brands?</i>	No. Price elasticity for these high-priced brands was negative, as is the case for regular brands.
1b	<i>Does the magnitude of price elasticity differ for high-priced brands, compared to regular brands?</i>	No. The magnitude of price elasticity for high-priced brands was found to be similar to what has been reported for regular brands.
2a	<i>Does a more important consumption situation result in lower price elasticity for high-priced brands?</i>	Yes. Price elasticity was found to be lower for an important consumption occasion.
2b	<i>Is price elasticity for high-priced brands lower among light buyers of the category compared to heavy buyers of the category ?</i>	No. The difference in price elasticity between light and heavy wine category buyers was not statistically significant.
2c	<i>Is price elasticity for high-priced brands lower among light buyers of high-priced wine compared to heavy buyers of high-priced wine?</i>	No. Price elasticity was found to be <i>higher</i> among non-and light buyers of high priced wine.
2d	<i>How does the relative position of a brand's initial price affect price elasticity for high-priced brands?</i>	Brands with a low initial price position (in a range of high priced brands) had larger elasticities.

5. Discussion

RQ1 examined whether the direction (RQ1a) and magnitude (RQ1b) of price elasticity differs for high-priced brands compared to regular brands. The results from this experiment indicate that, at the aggregate level, all brands involved in this experiment have negative elasticity, the same as regular brands.

Second, in answer to RQ1b the average elasticity in the study was -1.8 across three varying conditions of purchase occasion importance; or -2.3 using only the two more 'everyday' purchase occasions. However, given the complex nature of this research question, it is difficult to draw a generalised conclusion based on the results of a single experiment. The argument might arise that price elasticity estimates for high-priced brands from experiments may be smaller than those in real-world situations because participants are not completing

real purchases with their own money. This may lead to them show less price sensitivity than in a real purchase situation (Schindler, 2012). On the other hand, price elasticities from such choice experiments might also be greater than that in real-world situations because participants may give the prices presented in the experiment more attention than they otherwise would (Schindler, 2012). That said, the elasticity results from this experiment are relatively similar to the results from other price experiments (e.g. Dunn, 2014, Scriven and Ehrenberg, 2004) that used everyday brands. Whilst the sample in this study is different to other experimental price studies, the similarity in results suggests some commonality in the magnitude of consumer response to price changes across various conditions. Indeed, the pricing experiments cited above have yielded similar elasticities to studies using in-market data (e.g. Bijmolt et al., 2005). However, more work is needed to examine the external validity of elasticities from stated choice experiments.

RQ2a examined the three main factors of: situational factors, consumer factors and contextual factors. The results across different usage situations indicate that price elasticity decreased significantly when the perceived importance of the consumption situation increased. This result aligns with the findings from prior research on the topic (d'Astous and Saint-Louis, 2005, Hall et al., 2001, Quester and Smart, 1998, Wakefield and Inman, 2003). The differences between elasticities indicate that consumers are more tolerant of price increases for high-priced brands when they are buying for more important situations. This result supports prior findings that consumers usually move up one or two price points for gifts and special occasions (Lockshin, 2015). In conclusion, a more important consumption situation does result in lower price elasticity.

The results tentatively indicate heavy buyers of the wine category exhibit higher price elasticities. This is consistent with past research into grocery brands (Helsen and Schmittlein, 1994, Kalyanaram and Little, 1994). It matches theoretical expectations, in that heavy buyers are more price and quality informed (Woodside and Ozcan, 2009) and have a greater financial incentive to maximize the value they receive from their expenditure in the category (Danaher and Brodie, 2000).

However, what the study also found is that heavier buyers of *high-priced* wine showed lower price elasticities as a group. There are two potential explanations for this result. First is that buyers who tend to buy at the high price range in a category derive more pleasure from purchasing and consuming the product, e.g. they are more likely to be connoisseurs. They are therefore less sensitive to the particular prices on offer, in terms of brand choice. There is indirect evidence to support this explanation, in that hedonic consumption is linked to lowered price sensitivity (Wakefield and Inman, 2003). A second potential explanation is that people who can afford to purchase high-priced wines are more likely to have higher incomes. Higher income households in turn are likely to exhibit lower price elasticity because there is reduced household budget pressure to look for savings on purchases (Degeratu et al., 2000).

This finding indicates that the weight of consumers' level of prior expenditure at the high-

priced level in the product category has more influence on their response to price changes than their overall purchase frequency for wine. For products with a small range of selling prices, such as FMCGs, the price gap between the cheapest and most expensive brands may only be a few dollars. Thus, it may not be necessary to consider segmenting buyers into different price-level buying groups. However, for products with a wide range of selling prices, it may be important to consider consumers' weight of purchase at different price levels. An additional finding is that consumers do react to price reductions for high-priced wines, and that light buyers of this price range are the most responsive consumer group. This finding potentially gives a guide to how promotional activities might work for high-priced wines and among which groups. This finding should also be heartening to the industry as light buyers are also the most numerous consumer group in the market (Sharp, 2010).

Next, the results indicate that the magnitude of price elasticity for a high-priced brand decreases according to the brand's price position within the high end of the category. The lower the initial price position (within the range of prices at the high end), the larger the price elasticity. These results align with research that has previously identified the relationship between initial price level and price elasticity for regular priced brands (Danaher and Brodie, 2000, Fok et al., 2006, Woodside and Ozcan, 2009). An additional finding here is that the elasticity for mid-priced brands and high-priced brands (within the high price tier) are very similar, compared to that of lower-priced brands. This suggests that there may be a threshold effect within the high-price category, and when the brand's price reaches a certain level, consumers become less sensitive to price changes. It is common for a company to have multiple brands with different price positions. These results indicate that brands at different price positions respond to price changes differently, and therefore applying a uniform pricing strategy, such as applying the same percentage of price decrease/increase across an entire portfolio, may not be the most effective approach to managing prices. Instead, brand managers should leverage the differences in price response to help overall performance. For example, if a company must increase prices, it may be more beneficial to substantially increase the prices of those brands whose consumers are less sensitive to price increase, rather than spreading the increase across every brand in the portfolio.

6. Conclusions

This research is the first to investigate the direction and magnitude of price elasticity for high-priced brands, as well as the factors that influence price elasticity at higher price tiers. It contributes to understanding of the complex nature of pricing, and has yielded several implications for both academics, and industry practitioners.

For academic pricing research, this research highlights the importance of addressing price dynamics in a broader context. While past pricing investigations using in-market data (Kalyanaram and Little, 1994) and experiments (Dunn, 2014, Scriven and Ehrenberg, 2004) have not been completely dependent on everyday grocery products, such products have certainly dominated findings to date. This study provides a starting point for future replication and exploration of the topic. By expanding the research from mainly FMCGs to

high-priced brands, it also contributes new knowledge about how consumers respond to price changes. The findings from the study also provide marketing practitioners with more accurate information about how consumers respond to price changes at higher price tiers. This can assist those marketers in developing more effective pricing strategies, particularly those who manage high-priced brands in their portfolio.

The results of this research also make a contribution to the area of wine marketing research. There is a lack of research in the area of premium/luxury wines, and subsequently a lack of understanding of whether consumer behaviour towards premium/luxury wines is different from behaviour towards regularly priced products (Lockshin and Corsi, 2012). This study contributes some knowledge to this research gap, and provides some insight into how consumers respond to price changes for high-priced goods.

For managers – particularly of high-priced brands in categories such as wine, the study provides some practical implications. First, high-priced brands are not immune to the inverse relationship between price and demand; such brands have negatively signed price elasticity that is approximately similar to normal brands. Therefore, price increases for high priced brands will dampen demand and price decreases will increase demand. That said, it appears that brands that sit at the higher price points within the high end are less price-elastic. This means temporary reductions for them are less likely to generate large sales uplifts than reductions for somewhat less expensive brands. A second practical implication pertains to situations: higher importance situations are linked to lower price elasticity. A brand manager interested in reducing price elasticity for their brand should consider linking it to more important consumption occasions via marketing communications, such as what the Champagne producers have done focusing on celebrations. Third, retailers of high-priced wine can plan targeted offers to heavy users of wine generally, and light users of high-priced wine more specifically, knowing these groups are more price-sensitive in brand choice decisions.

7. Limitations & Directions for Future Research

No study is exempt from limitations, and this one is no exception. The study was based on a simulated choice experiment, rather than actual purchases made in a store. However, there is considerable support for using the stated choice method in the literature (e.g. Scriven and Ehrenberg, 2004, Wittnick, 2004). The current study used fairly simple verbal descriptions of purchase situations that varied in importance to the purchaser. A direction for future research would be to build purchasing scenarios relating to the importance of the occasion using a broader range of cues to the respondent, perhaps incorporating not only textual descriptions, but graphics (pictorial representations of low and high importance events for example). These would enable a more in-depth investigation of how purchase situation impacts on the choice of high-priced items.

Another limitation of this research is that it only focused on the off-trade (i.e. retailer) market for wines selling between \$50 and \$100 per bottle. Further work that includes the on-trad

market, and wines at even higher price points would provide richer results. Indeed, an extension of the present study would be to change the purchase situation in which wine is purchased at a retailer to a restaurant. For example, how is the choice of fine wines on restaurant wine lists impacted by price; and whether this price-demand relationship is moderated by the importance of the dining occasion.

Next, this research only included a single product category in a single country. This means it not possible to confidently generalize to different categories or countries. There are other potential categories that would be excellent vehicles to further examine questions about high priced brands, such as leather goods and perfume. Such products lend themselves to questions about the importance of the purchase occasion, as they can be purchased for particular occasions, or for others as gifts and those gift occasions may vary in perceived importance also. Given the rise in popularity for products at the premium end in many markets (e.g. Deloitte, 2016, Shullman, 2016, Mundel et al., 2017), more findings on these issues would be valuable to marketing research and practice.

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Appendix 1 Sample Composition

		Situation 1 (<i>n</i> = 185) (%)	Situation 2 (<i>n</i> = 178) (%)	Situation 3 (<i>n</i> = 178) (%)	Total (<i>n</i> = 541) (%)
Gender	Male	46	47	50	48
	Female	54	53	50	52
Age	18–24	14	9	16	13
	25–34	30	34	22	29
	35–49	24	28	29	27
	50 or above	32	29	32	31
Marital status	Single	28	31	26	28
	Married/de facto	72	69	74	71
Personal income (AUD)	Less than \$20,800	15	11	14	13
	\$20,801–31,200	8	7	9	8
	\$31,201–52,000	12	17	17	15
	\$52,001–72,800	19	17	20	19
	\$72,801 or above	45	48	40	45

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