

Evaluating the worth of nascent old vine cues for South African wines

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Abstract

Purpose – In increasingly competitive markets, opportunities exist to meaningfully differentiate product offerings by cue signalling the claims of emergent categories. Therefore, and within the context of wine sales, the purpose of this study models the supply-led price importance of nascent, extrinsic old vine (OV) cues for South African wines to establish whether to what extent and how producers prioritise such nascent cues relative to more established extrinsic cues of worth.

Design/methodology/approach – A data set was compiled of 159 South African wines with OV category cues signalled on front labels, back labels or via marketing material. The play of contending cue variables was computed through an ordinary least square hedonic pricing model.

Findings – In addition to the contribution of established cues such as aggregated critic ratings, grape varieties and area of origin, this study confirms that vineyard age contributes significantly to wine price, particularly when signalled on back labels.

Practical implications – In price setting and positional models, such as brand extensions, the findings prove useful in understanding the inherent value of nascent cues and specifically vineyard age, relative to competing established wine cues of worth.

Originality/value – This study extends the wine pricing theory by validating the viability of nascent OV cues in the modelling of a wine's value.

Keywords Marketing, Old vineyards, Market signaling, Hedonic pricing, Nascent cues, South Africa, Wines, Regression, Analytical economic model, Marketing research

Paper type Research paper

1. Introduction

Product claims such as origin and grape variety are typically signalled to market audiences through extrinsic informational cues that lie outside the physical product itself (Zeithaml, 1988; Boatto, Defrancesco and Trestini, 2011). Serving as markers of quality and value, extrinsic cues provide believable, trustworthy, and therefore, credible reasons for product purchase (Wall, Liefeld and Heslop, 1991; Grewal *et al.*, 1994; Erdem and Swait, 2004). Intrinsic wine cues, such as sensory traits are only experienced in the act of consumption (Oczkowski, 2001; Share *et al.*, 2018). Prior to consumption, therefore, producers are more knowledgeable about a product's intrinsic properties (Erdem and Swait, 2004). To overcome this producer-consumer information asymmetry, and thus, to reduce risk and inspire



purchase confidence, producers employ extrinsic cues to communicate credible claims of expertise and quality (Bearden and Shimp, 1982; Lacey *et al.*, 2009).

The efficacy of such cues will tend to correlate with the time-tested credibility of their underpinning claims (Erdem and Swait, 2004). For example, on one hand, some claims may be clearly defined, regulated, standardised or be underwritten by long-standing warranty assurances (Bearden and Shimp, 1982; Grewal *et al.*, 1994). They may hold as a form of a common currency: being well-known, understood and taken for granted (Zuckerman, 1999; Humphreys, 2010; Anthony *et al.*, 2016), with an established reputational status (White, 1981; Delmestri and Greenwood, 2016). On the other hand, some competing cues may be relatively novel and untested in the market. They may emerge from obscurity, sometimes proliferating spontaneously without any format or laid out agenda (Mukherjee and Hoyer, 2001; Barlow *et al.*, 2018). These we term nascent cues.

The term nascence implies a degree of mainstream marginality coupled with a degree of novelty and authenticity (Carroll and Swaminathan, 2010; Humphreys, 2010), as with: nascent *markets* (Santos and Eisenhardt, 2009), nascent *categories* (Rosa *et al.*, 1999; Jones *et al.*, 2012; Lee *et al.*, 2017), nascent *practices* (Jones and Massa, 2013), nascent *organisations* (Verhaal *et al.*, 2017) and nascent *products* (Hargadon, 2001). Using nascent cues is risky (Bearden and Shimp, 1982; Mukherjee and Hoyer, 2001; Lacey *et al.*, 2009), as they are often overshadowed by established, mainstream cues whose underlying claims may have acquired greater credibility, though possibly also a degree of staleness. As cue familiarity does not improve market traction, the introduction of nascent cues may disturb the delicate equilibrium of established cues (Mukherjee and Hoyer, 2001).

According to pricing theory, marketers control product positioning by signalling a portfolio of extrinsic cues, such as on the product label, in marketing material, media releases (Spence, 1974; Eliashberg and Robertson, 1988), digital media, and so forth. Prices may signal a range of experiential benefits, including quality (Escalas and Bettman, 2005). It follows, therefore, that consumers willing to purchase a product at a particular price point, must see value at this price point (Gerstner, 1985; Herbig and Milewicz, 1996). This being so, producers may use a portfolio of extrinsic cues to signal maximal price value for targeted consumers (Rosen, 1974; Escalas and Bettman, 2005; Aaker, 2009).

As extrinsic cues appearing on wine labels are generally held to be the most trustworthy form of market signalling (Charters *et al.*, 1999; Mueller *et al.*, 2010), producers tend to tailor wine label cue selection in a manner that is both credible and seeks to maximise economic return. Hedonic pricing theory (Rosen, 1974) suggests that extrinsic price cues will vary in relative importance, with the overall estimated wine value serving as an aggregator of the implicit prices of each underlying cue (Rosen, 1974; Priilaid, 2016). While models estimating price variation amongst established cues are relatively commonplace in wine pricing studies (Oczkowski and Doucouliagos, 2015), the literature on models showcasing the relationships between nascent and established cues is scant, flagging an important though hitherto unexplored subsection of wine pricing research.

In lieu of the above, we present a study on the pricing of nascent OV cues as used in the sale of South African wines. OV's have been widely regarded as a nascent wine market category useful in market signalling (Negro *et al.*, 2015), and contributing to heritage and pedigree perceptions in luxury wine brand authenticity[1] (Beverland, 2006). Some studies suggest that OV's produce better wine because their age contributes to lower yields (Howell, 1999), a factor generally appreciated by wine consumers (Beverland, 2006). Whether true or not, the OV cue has until recently remained relatively obscure, ambiguous and unstandardised in South Africa. Therefore, its comparative price importance in relation to more established cues such as origin, quality ratings and grape variety has been largely

speculative. By way of redress, this paper asks whether to what extent and how South African wine producers prioritise the price of nascent OV cues compared to established cues of worth.

2. Background

In the late 1990s, extrinsic OV cues began to appear on South African wine packaging and associated marketing. In recent times this trend has accelerated. In the local Platter's wine guide[2], for example, the use of the OV cue increased from 38 mentions in 2008 to 139 in 2016. This proliferation of OV cues occurred in the lead up to the 2016 formalisation of the Old Vines Project (OVP), a business association established to protect, promote and unlock market value for South Africa's OV resources. The OVP's communications have consistently referred to OV's as vineyards older than 35 years old. Due to the perceived correlation between low yields and vineyard age[3] (Fridjhon, 2016), South African vineyards are typically renewed after 20 years, with very few vineyards subsequently reaching OV status. Thus, of South Africa's vineyard area of 94545 ha in 2017, only 3 per cent (3197 ha) were above the 35-year threshold. As per Table I, in terms of district-cultivar distribution, Chenin Blanc and Pinotage combined comprised 58 per cent of all plantings over the OV threshold (1851 ha). While there are significant plantings of Colombard (11,275 ha), this resource is predominantly used in brandy production. In district terms, Paarl[4], Stellenbosch and Swartland contributed 73 per cent to OV plantings (2,332 ha). Albeit by slim margin, Paarl has the highest proportion of OV vineyards (5.6 per cent), followed by Swartland (5.3 per cent) and then Stellenbosch (5.25 per cent).

In March 2018, OV status was formally standardised by the OVP and South African Wine Industry Information and Systems (SAWIS), through the introduction of a Certified Vineyard Heritage Seal (incorporated as a sticker on the bottle or into the back label) specifying the age of the oldest vineyard used in the making of the wine (Riley, 2018). This certification also guarantees that 85 per cent of grapes used in making the wine originate from a vineyard older than 35 years old, ostensibly to prevent the uncontrolled use of the OV term in the market and achieve the stated aims of the OVP and its members.

3. Literature review

In addressing the stated research question two pricing literature proved informative, namely, hedonic pricing and market signalling.

Hedonic pricing theory provides the methodological grounding necessary to compare the values of competing for extrinsic cues within the governing function of a wine's price. In conjunction, market signalling theory contends that producers control price through selectively emphasising credible market signals (Herbig and Milewicz, 1996). This strain of logic proves useful in interpreting the underpinning value claims of extrinsic cues. As a complex product, several extrinsic cues may compete for wine price relevance (Oczkowski, 2001; Priilaid and Van Rensburg, 2012; Share *et al.*, 2018). Here, regression based hedonic pricing is helpful in estimating the price-function of a class of differentiated products through the valuation of its underlying cues (Boatto *et al.*, 2011). As such, hedonic pricing positions a product as an aggregate of these cues, each of which can be priced (Priilaid, 2016). This literature offers a comprehensive list of candidate extrinsic cues potentially employable in any given wine function (Oczkowski and Doucouliagos, 2015). Several scholars have suggested that there is an implicit cue hierarchy, with primacy placed on quality, reputation and objective wine characteristics (Oczkowski, 2001; Share *et al.*, 2018), as per Oczkowski's (2001, p. 375), hedonic wine price function below:

	SA Total		OV Total		Stellenbosch		Swartland		OV Swartland		Paarl		OV Paarl		Other		OV Other	
	ha		ha	OV (%)	SA (%)	ha		ha		ha		ha		ha		ha		ha
Chenin Blanc	17,543	1,693	52.94	1.79		482	1,367	2571	404	2802	530	10,803	277					
Colombard	11,275	285	8.91	0.30		14	37	209	19	371	25	10,657	228					
Sauvignon Blanc	9,277	213	6.65	0.22		116	2,612	1,133	36	941	57	4,590	4					
Pinotage	6,979	158	4.94	0.17		73	1,195	1,517	37	1,343	35	2,924	13					
Other	49,471	849	26.55	0.90		117	10,040	7,462	187	9,693	202	22,276	343					
Total hectares	94,545	3,197		3.38		801	15,252	12,892	683	15,150	848	51,251	865					

Source: SAWIS (2017B)

Wine price = f (quality, reputation, objective characteristics)

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Each of the three underlying variables is worthy of some elaboration. As, in the case of quality, for example, a wine can only be sensorially assessed in the act of consumption (Negro *et al.*, 2015), aggregated wine critic ratings serve often as critical anticipatory signals of quality (Oczkowski, 2001; Cuellar and Claps, 2013). More so, because producers tend to react slowly to changes in product quality (Landon and Smith, 1997), longer term reputational cues have been shown to have a greater price impact than shorter term variations in quality. Finally, objective wine cues like varietal (Landon and Smith, 1997; Benfratello, Piacenza and Sacchetto, 2009; Share *et al.*, 2018), region of origin (Angulo *et al.*, 2000; Schamel, 2009) and method of production (Gergaud and Ginsburgh, 2008; Corsi and Strøm, 2013) have also proven useful indicators of value (Oczkowski, 2001; Share *et al.*, 2018).

With respect to market signalling theory, nascent cues are seen as commonplace in product innovations, such as new product development and brand extensions. However, such positioning practices are beset with risk, complexity, and therefore, uncertainty (Hirschman, 1980). Producers speeding products to market with nascent cues may struggle to price them because of insufficient market data (Schoonhoven *et al.*, 1990), and consequent uncertainty over whether the nascent cue will justify any price premia in the mind of the consumer (Hirschman, 1980; Mukherjee and Hoyer, 2001). Furthermore, producers may require a sufficiently significant price premium to offset higher input costs related to differentiation (i.e. lower yields or certification) (Negro *et al.*, 2015).

Three types of cue claims are outlined in the literature, namely, characteristics, attributes and categories. Characteristics generate little credibility because they amount to subjective statements describing a product property, experience or production method (Percy and Rosenbaum-Elliott, 2016). Attributes, on the other hand, are legitimated[5] characteristics that serve as credible market signals (Zuckerman, 1999; Humphreys, 2010; Percy and Rosenbaum-Elliott, 2016). In the instance of old vines, as the term “old” is subjective, wine label cues claiming OV status serve merely as vague characteristics unless validated by credible objective criteria such as laws, standards, certification or warranties. Finally, market categories can imbue cues with high levels of credibility. As socially constructed containers of similar attributes, they carry significant weight in differentiating and affecting product evaluations (Zuckerman, 1999; Durand and Khaire, 2016). As a nascent cue claim, categories emerge through signalling in an existing product class category system (Durand and Khaire, 2016), such as wine. Then, as fuzzy sets of similar attributes agglomerate to become understood and eventually culturally legitimated, categories may begin to cohere (Viswanathan and Childers, 1999; Zuckerman, 1999; Humphreys, 2010). As category membership rules harden over time, category boundaries sharpen, crystallising category identity (Kovács *et al.*, 2014; Negro *et al.*, 2015; Lee *et al.*, 2017). Categories within a product class compete for reputation, and less recognised categories face significant challenges in the battle for premium status (White, 1981; Delmestri and Greenwood, 2016). In this sense, nascence is often relative.

Research has identified a raft of nascent wine cues including organic and biodynamic wines (Corsi and Strøm, 2013; Negro *et al.*, 2015), climatically affected wines (Ashenfelter and Storchmann, 2010), fairtrade wines (Niklas *et al.*, 2017) and water-saving wines (Pomarici *et al.*, 2018). Notably, these nascent cues seem to be signalled with little if any significant price premia, this despite claims having been validated through certifications. Margins in signalling these nascent wine cues seem to be created primarily to offset higher input costs (Negro *et al.*, 2015).

The pricing effects of bottle age and barrel age-related wine claims have also been studied (Angulo *et al.*, 2000; Benfratello *et al.*, 2009; Boatto *et al.*, 2011). Here consumers appear to accept that wines have the potential to improve with age (Charters and Pettigrew, 2007) and there is literature suggesting that price and wine age positively correlate (Haeger and Storchmann, 2006). As a proxy for quality, age serves as a risk reducing factor and therefore generates positive consumer evaluations (Boatto *et al.*, 2011).

A further line of inquiry concerns the worth of nascent extrinsic cues according to their placement on a wine bottle. Mueller *et al.* (2010) show how various label positions perform different purposes. While front labels tend to convey legally required information, such as grape variety, origin, brand and alcohol levels (Gluckman, 1990), back labels tend to contain richer narratives to elicit emotional consumer responses (Barber and Almanza, 2006). For consumers, informational cues on back labels are useful motivators for purchase behaviour, but are confined to descriptors of taste and aroma, method of production, history and food pairing (Charters *et al.*, 1999; Mueller *et al.*, 2010).

4. Methodology

4.1 Research hypotheses

The preceding review prompts the conceptual model presented in Figure 1. This proposes that the value of a nascent OV cue can be estimated through its hedonic price, which, in turn, can be interpreted by the credibility of the underlying claim, relative to contending candidate cues.

Accordingly, in the estimation of a hedonic pricing model of South African OV wines, the following set of hypotheses for five candidate extrinsic cues apply:

- H1. Quality ratings will present as a statistically significant price premium.
- H2. Vineyard age will present as a statistically significant price premium.
- H3. Grape variety effects will present as a statistically significant price premium.

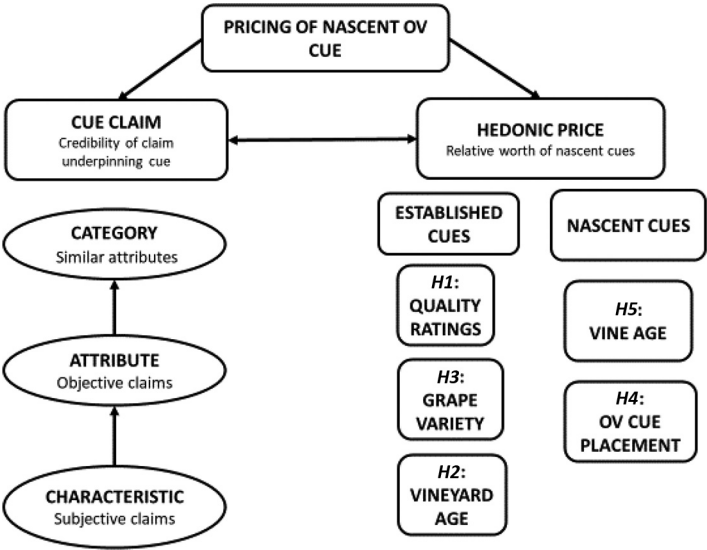


Figure 1.
Conceptual model for
relative worth of
nascent OV cues

- H4. Front and back label communication of OV cues will present as a statistically significant price premium.
- H5. Area of origin effects will present as a statistically significant price premium.

4.2 Data collection and variable description

In the period between August 2017 and February 2018, a data set of 159 South African wines with OV cues communicated either on the front label, back label and/or in marketing material was compiled. [Table II](#) below presents a description of the data pertaining to price, quality and vineyard age. These, along with the variety, cue location and area of origin variables are discussed below.

4.2.1 Price. Prices are given in (ZA) rand value. The preferred primary source of pricing for OV wines was the international *Wine-Searcher* online platform along with five local informational sources, namely, *Wine Cellar*, *Caroline's Fine Wine Cellar*, *The Vineyard Connection*, *Cybercellar* and the online rating platform, *Winemag.co.za*. [Table III](#) summarizes the distribution of the 159 OV wines classified across entry-level (R55-R100), premium (R101-R200), super-premium (R201-R500) and ultra-super premium (R501-R1590) price bands.

4.2.2 Quality rating. Quality ratings were sourced from the online platform *Wine-Searcher* which provides each wine with a score out of 100, a relatively stable aggregator of critic ratings on individual vintages, employing a Bayesian methodology to calculate a

	Price	Quality	Vineyard age
Mean	312.54	89.76	52.60
Median	280	90	45
Mode	280	89	43
Std. deviation	221.63	1.47	21.04
Range	1,535	7	99
Minimum	55	86	30
Maximum	1,590	93	129

Table II.
Descriptive statistics
of price, quality and
vineyard age metrics

Notes: In ZA Rands, as of 2018. 1US\$ = R14

Price segment	Total	Mean price	Mean vine age	Mean quality
Super ultra-premium (R501-R1590)	18	R787	69	91.10
Ultra-premium (R201-R500)	93	R310	54	90.02
Premium (R101-R200)	40	R153	43	88.85
Entry-level (R55-R100)	8	R75	45	88.25
	159			

Table III.
The distribution of
price segment by
mean price and mean
vine age

Notes: In ZA Rands, as of 2018. 1US\$ = R14

weighted average of scores from, amongst others, Robert Parker, Jancis Robinson, Tim Atkin, Wine Spectator, Decanter, Cellar Tracker, Wine Enthusiast and Platter's Wine Guide. As per Table IV's analysis of average price by quality point, without statistical control, prices are shown to increase by R68.20 per quality increment.

4.2.3 Vineyard age. At the time of data collection there was no established standardised schema to register specific blocks of vines as being of a certain age and therefore some of the vineyard age data, while constituted within a broad age-band of vines older than 35 years old, is not entirely precise. The vineyard's age is ordinarily mentioned on the front and back label of the wine or the marketing material. Where there was no specific indication of the vineyard age, the producer or grower was contacted. If several vineyards were blended, the age of the oldest vineyard was used, irrespective of the percentage of the blend attributable to a specific vineyard. The OVP website, social media streams and events communications also served as an important source of data on vine age.

4.2.4 Grape variety. Each entry was defined by a specific grape variety or a blend (white or red). In the case of a blend, the cultivars were captured in separate fields with the dominant variety in the blend arranged as the first qualifier. The challenge, in this case, was that the age of the vines relevant to each cultivar component could vary if only one portion, cultivar or block used in the blend was from an old vineyard. In this instance, the wine still qualified as an OV wine.

4.2.5 OV cue location: front, back label and available marketing material. The front and back labels, as well as marketing material from websites, were consulted for mention of OV-related cues. The following terms qualified as valid for the OV category: "Old Vines", "Matured Vines", "Old Block", "Ou Blok", "Ou Stokke" or "Ou Wingerd"[6]. Worth noting is that 148 wines were sourced from vineyards 35 years old or more, with the remaining 11 wines originating from vineyards between 30 and 34 years old. The information for the marketing material was collected from websites and from the producers directly, provided relevant wines were available in the market.

4.2.6 Origin. All wine-of-origin data was populated according to the South African wine-of-origin scheme architecture, defined by the Wine and Spirits Board and Liquor Products Act 60 of 1989. As per this Act, the hierarchy of production areas follows from largest to smallest: that being: Region, District and Ward. For a label to carry the status of a specific area all the grapes used to make the wine must originate from that specifically registered area. If grapes are used from two different areas, the greater area that encompasses both areas is used. For the purposes of this analysis, we test for origin effects across three districts: Stellenbosch, Franschhoek and Swartland. Due to limited data, the testing for detail emanating from wards was not possible. More so, while Paarl features strongly in OV plantings, it is still to feature significantly on OV designated wines. Paarl was thus not included as a candidate origin variable.

Note: in unreported tests, the vintage and brand variables appeared to offer a little significant contribution to explanation of price and both were consequently deleted from the list of candidate variables under analysis here.

4.3 Model specification

Proceeding from the above, our aim is to establish how these contending cues configure in the production of a hedonic function representing fair value, using the ordinary least squares (OLS) regression methodology as a basis of inquiry.

Thus, the spread of old vine prices (*price*) is modelled for the old vine wines $i = 1 \dots n$ as a function of K (BC_k where $k = 1, \dots, K$) characteristics:

$$price_i = \alpha + \sum_{k=1}^K b_k BC_K + \varepsilon_i \quad (2)$$

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where:

α = the estimated intercept term;

b = the K slope coefficients as estimated by OLS;

BC = the K 'Bottle Cues'; and

ε = a random residual error term following classic assumptions.

Linking the candidate bottle cue (BC) variables to those cues highlighted in the preceding section, our model decomposes the price of each OV wine into elements of mispricing and value. The 'value' of each old vine wine, i , is thus computed as:

$$value_i = price_i - \varepsilon_i = \alpha + \sum_{k=1}^K b_k BC_K \quad (3)$$

As with previous valuation studies in the extant literature, (Priilaid and Van Rensburg, 2012; Priilaid, 2016), each fitted estimate equates to the value of the wine in question, with the difference between value and price reflecting the level of mispricing (ε_i) in each case. Through this OLS approach, an OV valuation model may be computed through the incorporation of pricing effects derived from the extrinsic bottle cues as previously described in the five hypotheses noted in Section 4.1.

The final model is specified as follows:

$$\begin{aligned} Price_i = & \alpha + b_1 * Quality_i + b_2 * VineAge_i + b_3 * D^{Pinotage}_i + b_4 * D^{Cinsault}_i + b_5 * D^{Chenin}_i \\ & + b_6 * D^{Red Blend}_i + b_7 * D^{White Blend}_i + b_8 * D^{Mkt}_i + b_9 * D^{Front Label}_i \\ & + b_{10} * D^{Back Label}_i + b_{11} * D^{Stellenbosch}_i + b_{12} * D^{Franschoek}_i + b_{13} * D^{Swarthland}_i + \varepsilon_i \end{aligned} \quad (4)$$

where:

α = the regression's estimated intercept term;

$Quality$ = Quality rating of wine as per Wine-Searcher;

$Vine Age$ = the age of the vineyard;

$D^{Pinotage}$ = 1 if wine is a Pinotage, otherwise 0;

$D^{Cinsault}$ = 1 if wine is a Cinsault, otherwise 0;

D^{Chenin} = 1 if wine is a Chenin Blanc, otherwise 0;

$D^{Red Blend}$ = 1 if wine is a Red Blend, otherwise 0;

$D^{White Blend}$ = 1 if wine is a White Blend, otherwise 0;

D^{Mkt} = 1 if OV marketing material is available either from websites or cellar door, otherwise 0;

$D^{Front Label}$ = 1 if OV marketing cues are visible on the front label, otherwise 0;

$D^{Back Label}$ = 1 if OV marketing cues are visible on the back label, otherwise 0;

$D^{Stellenbosch}$ = 1 if area of origin is Stellenbosch, otherwise 0;

$D^{Franschoek}$ = 1 if area of origin is Franschoek, otherwise 0;

$D^{Swarthland}$ = 1 if area of origin is Swarthland, otherwise 0;

- b_1 = the marginal effect of quality across the sample of all wines;
 b_2 = the marginal effect of vine age across the sample of all wines;
 b_3 to b_7 = the marginal effect of Pinotage, Cinsault, Chenin Blanc, Red Blends and White Blends, respectively;
 b_8 = the marginal effect of wines with any marketing material appearing on the bottle;
 b_9 and b_{10} = the marginal effect of wines with the age of vineyard appearing on the front and back labels, respectively; and
 b_{11} to b_{13} = the marginal effect of the following wine-growing areas: Stellenbosch, Franschhoek and Swartland.

To avoid the dummy trap, we specify the following variables as categorical comparators: “Wine type” (all wines types excluding Pinotage, Cinsault, Red Blends and White Blends), “No marketing” (all wines with no marketing material), “No labels” (all wines without vineyard age featured on either the front or back of the bottle) and “area of origin” (all areas excluding Stellenbosch, Franschhoek and Swartland). Coefficients b_3 to b_{13} should, therefore, be contrasted against these comparators, which in sum, is proxied by α , the constant intercept term derived in Equation (3).

5. Research results

5.1 Preliminary analysis

Analysing the (Pearson) correlation matrix of the dataset’s ratio-styled variables (Table V), a strong positive correlation (0.53) is observed between price and quality together with a positive-medium (0.35) price-to-age correlation. The age-to-quality correlation is also positive medium (0.31), suggesting, without control, that these two variables are likely to provide explanatory power to the pricing model without the risk of multi-collinearity. All correlations are significant ($p \leq 0.00$).

5.2 Final model output

In line with Equation (4), the OLS model explaining OV wine prices across a suite of extrinsic variables is presented in Table VI. All factors yield some degree of statistically significant explanation, thus verifying hypotheses $H1$ to $H5$. With respect to the cited output, certain key findings should be noted. Firstly, though at first glance the model’s constant of $-5,783.72$ appears perhaps nonsensical, this figure represents a wine price with all candidate variables held at zero. As shall be shown, the introduction of each variable class (especially quality) rapidly shifts this negative value into positive territory.

5.2.1 Quality. As per Table VI, quality (65.62, $t = 10.53$) offers the most significant explanation of price, implying a price increment of R65.62 for every 1/100 unit increase in quality. Now with control, this differential is lower than the R68.20 average price increment presented earlier in Table IV.

5.2.2 Vineyard age. The age of the vineyard is the second most significant variable in the price model (2.96, $t = 3.05$). The cited coefficient implies a price increment of R2.96 for every additional year in vineyard age.

5.2.3 Grape variety. As a basis of explanation, the output relating to the grape varieties on offer is varied. Relative to non-designated base-case areas in the dataset, Pinotage (R332.51, $t = 4.41$), and white blends ($-R153.89$, $t = -2.53$), were the only statistically significant area-effects identified. Note that while Pinotage appears to contribute to the value offering, white blends detract. All other varieties in the sample appear to be insignificant.

				Evaluating the worth of nascent old vine
Quality level	Samples (<i>N</i> = 159)	Avg. price per bottle	Avg. price increment	
86-87	9	R180.78	–	
88	20	R208.85	R28.07	
89	44	R239.74	R30.89	
90	33	R283.48	R43.74	
91	37	R431.19	R147.71	
92	10	R449.20	R18.01	
93	6	R590.00	R140.80	
Avg increment			R68.20	

Notes: In ZA Rands, as of 2018. 1US\$= R14

Table IV.
Price increment per
quality increase

Variable	Price	Vineyard age	Quality	Table V. Correlation matrix of price, vineyard age and quality (<i>N</i> = 159)
Price	1			
Vineyard age	0.35	1		
Quality	0.53	0.31	1	

Pricing model: Adj R^2 : 39.24%, F : 8.85 (p = 0.0000), N = 159				
Variable	Coefficient	t -value	p -value	
Constant	–5,783.72	–6.21	0.00	Table VI. Regression result explaining OV prices as per Equation (4)
Quality	65.62	10.53	0.00	
Vineyard age	2.96	3.05	0.00	
Pinotage	332.51	4.41	0.00	
Cinsault	–9.68	–0.14	0.89	
Chenin blanc	7.89	0.17	0.86	
Red blend	30.83	0.34	0.73	
White blend	–153.89	–2.53	0.01	
Marketing material	13.47	0.27	0.81	
Front label	–85.01	–2.27	0.02	
Back label	67.84	1.99	0.05	
Stellenbosch	58.37	1.62	0.11	
Franschhoek	85.81	1.07	0.29	
Swartland	22.13	0.61	0.54	

5.2.4 Labelling. This study examined three aspects of labelling. Relative to the base case, wines carrying the vine age on the back label (n = 72) add a sum of R67.84 (t = 1.99) to the wine price. By contrast, those wines with vine age on the front label (n = 43) subtract R85.01 (t = –2.27). (Those wines carrying vineyard age on both front and back (n = 37) thus, subtract R17.17 from the value of their wines.) OV wines carrying additional non-bottle marketing material add an insignificant R13.47 (t = 0.27) to the value assemblage.

5.2.5 *Area of origin*. Within our limited sample of data, no fully significant area of origin price effects were identifiable. As one of the oldest winegrowing areas in South Africa, Stellenbosch presented with close to highly significant price premia: R58.37 ($t = 1.62$).

6. Conclusions

Several conclusions are worth noting here. Firstly, a vineyard's age appears to provide a significant means by which to price OV wines, contributing a premium of R2.96 for every year of vineyard age, thus creating a R102.90 price premium when taken at the 35-year threshold. At the time of data collection, the Certified Heritage Vineyard seal would not have had any impact on wine pricing since it was only introduced in March 2018. However, a certain amount of information about the 35-year-old threshold had diffused into the market in the normal course of communication by the OVP, such as on their website, market communication, vineyard classification protocol, membership enrolment, and so forth. That said, it is uncertain what portion of the OV cue premium is explained by producers offsetting the cost implications of lower yields. Nonetheless, the absence of clearly regulated, objective criteria with which to evaluate OV cues meant any OV claim would merely have been subjective and therefore signalled and sold with a certain degree of ambiguity and risk attached, potentially diminishing cue confidence and therefore worth.

Secondly, the placement of extrinsic OV cues yielded some surprising results. With respect to front label positioning, our model suggests that front-facing OV cues detract significantly (R-85.01) from bottle price. Front label cues ordinarily signal legally credible claims (Charters *et al.*, 1999; Mueller *et al.*, 2010), and hence, the lack of price confidence in front label OV cues may be indicative of its unregulated status at that point. By contrast, wines with OV cues on the back label were found to offer significant price premia (R67.84). While this may seem odd, back labels are an important basis for consumer purchase decisions (Mueller *et al.*, 2010; Pomarici *et al.*, 2018). However, back label information contains richer discourse about a wine's intrinsic properties, serving as an experiential link to other signalling mechanisms such as websites, tasting sheets, and so forth (Howland, 2013), engendering greater credibility and emotional attachment, and thus justifying greater hedonic price importance.

Thirdly, the findings suggest significant price importance related to established critic ratings (R65.62). High quality ratings confirm value for status-generating audiences (Massa *et al.*, 2017), and the results from this study prove no exception. Similarly, we also observe significantly greater price efficacy relating to established cues such as grape variety and origin. However, the precise nature of these price contributions is, in some respects, somewhat peculiar. On one hand, Pinotage, a variety crafted in South Africa and emblematic of its wine heritage, attracted a significant price premium (R332.41), white blends attracted a statistically significant negative price importance (−R154), and a historically important varietal like Chenin Blanc [7] offered close to zero contribution to price. This result we interpret as being due to insufficiently sharp boundaries in the case of white blends and low category reputational status in the case of Chenin Blanc. In terms of origin, only Stellenbosch, a district with a quality pedigree, offered significantly positive price contributions (R78). It is equally surprising to note that Swartland and Franschhoek had no significant price premia. This we similarly interpret as a result of low category status, impacted by commodity market orientation. The import of these findings is summarised in Table VII below.

Attribute	Measure	Coeff.	<i>p</i> -value	Interpretation	Evaluating the worth of nascent old vine
<i>H1</i> : Quality ratings	Wine-Searcher ratings	R65.62	0.00	For every 1-point increase on Wine-Searcher 100-point ratings scale price increases by R65.62	
<i>H2</i> : Vineyard age	Age or approximate age of the vineyard	R2.96	0.00	For every year of additional age of the vineyard, price of wine increases by R2.96	
<i>H3</i> : Grape variety	Pinotage White blend	R332.51 −R153.89	0.00 0.01	Premium of R332.51 on Pinotage cue. R153.89 discount on white blend cue or absence of cultivar designation	
<i>H4</i> : Cue location	OV mentions on the front label OV mentions on the back label	−R85.01 R67.84	0.02 0.05	Discount of R85.01 on worth of OV cue on the front label Premium of R67.84 placed on worth of OV cue on the back label	
<i>H5</i> : Origin	Stellenbosch	R58.37	0.11	Premium of R58.37 on Stellenbosch district of origin	Table VII. Significant cues, measures and interpretation

7. Practical implications, limitations and future research

This study links nascent OV cues to a robust pricing model to assess their market viability compared to a range of long-established cues that ultimately construct the prevailing wine price. So doing, it makes two contributions. Firstly, while nascent categories, markets, organisations and products have all been studied, the sensemaking of product level nascent claims and cues are a black box in wine pricing theory. This study we believe establishes that nascent cues, in this case, South African OV cues, can make a significant contribution to the product price and measures the extent of that premium. Secondly, it proposes an interpretative model to assess how such a premium for nascent cues is generated. Practically, the introduction of nascent product claims in new product development or brand extensions is complex and risky. This study we believe will go some way in providing practitioners with an insight into how best to interpret the comparative credibility and value-add of nascent cues, specifically vine age.

This research is, however, subject to certain limitations that present several future research opportunities. Analytically, it should be noted that though the developed model is robust and offers insights into the pricing of nascent cues, it is not consumer facing. The assumption here is that a product is offered along the lines of “what you see is what you get”, and therefore, if a product with a certain portfolio of cues is sold on the market, consumers must be willing to pay for it at that price. In this respect, hedonic pricing while useful does not take environmental factors, such as regulatory conventions impacting price into account (Garrod and Willis, 1992). It should be noted too that our findings are skewed towards “ultra-premium” wines where 93 of the 159 wines were positioned. As OV datasets expand, we believe that the risk of segmental bias will reduce. It would be interesting, in future to test for variations in cue significance across the various price segments identified in this study.

An additional future line of inquiry would be to ask customers what combination of cues *they* believe offers the best indication of quality and/or value for money through choice-based models or neuroscientific marketing research techniques (Green and Srinivasan, 1990; Camerer and Yoon, 2015). Prices for nascent product categories are often constructed through a sensemaking process between producers and consumers influencing each other’s pricing preferences (Rosa *et al.*, 1999). With nascent products there is likely to be some variance between the weighting of cues which producers and marketers offer as heuristics of

quality – and the weighting by which customers assess quality and price. There appears to be little or no work on the interactions between sensory-driven “bottom-up” and marketing-driven “top-down” measures of quality, and there is ample scope for exploration in this regard. This point leads to an additional limitation: that being of the relative paucity of academic level literature on either nascent cues or OV category wines as a retail and marketing phenomenon. To compensate, this study consequently used certain “unofficial” internet-based sources of information. It is anticipated that with time the publication of further relevant journal-level publications will make this substitutive practice unnecessary.

Finally, while the study offers an evaluation model for the pricing of nascent cues, the research is cross-sectional and applied in a singular context. This points to a further constraint with hedonic pricing studies in that they struggle to account for consumer preferences over time and in various contexts (Garrod and Willis, 1992). Therefore, the credibility of claims underlying OV cues could not be confidently connected to their worth. By nature, nascent cues are dynamic and may proliferate exponentially as they mainstream, making them difficult to study cross-sectionally. A more robust approach would, therefore, involve multiple contextual and longitudinal comparisons between OV’s and established cues, something to be tackled in further empirical research.

As such, we must conclude that OV cues were relatively abstract at the time of data collection as no standards schema was in place to validate and add credence to the cue. Based on the findings we would imagine that that would have impacted the premia attached to the back-front OV cue placement. The introduction and diffusion of certification schema through the Certified Heritage Vineyard seal and further activities of the OVP are likely to significantly affect pricing of nascent OV category wines in future. In summary, as the anticipated proliferation of OV cues further accelerates with elevated credibility, we expect the premia, importance and significance of this nascent category cue to increase for buyers and sellers alike.

Notes

1. Products considered as real, true, genuine or credible, and therefore being what they appear or claim to be. (Carroll, 2015; Lehman, *et al.*, 2019).
2. Accessible at www.wineonaplatte.com
3. In South Africa this is approximated as 4 tons per ha for OV (Fridjhon, 2016), against an industry average of 18 tons (SAWIS, 2017).
4. This includes Franschhoek (1,245 ha total vineyards), which, while legally its own district according to the Wine of Origin scheme, is incorporated into Paarl for statistical purposes by SAWIS (2017).
5. A social process of becoming legally, normatively and culturally acceptable or appropriate (Humphreys, 2010).
6. Afrikaans for “Old block”, “Old vines” and “Old vineyard”.
7. 53 per cent of Chenin Blanc global vineyard area is located in South Africa (Budd, 2019).

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Further reading

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