

The country brand trap

Rodrigo Berríos and Rodrigo Saens

ABSTRACT

Data on 14,284 bottles of wine from six regions or countries, namely Argentina, Australia, Chile, California (United States), Burgundy (France) and South Africa, and from five vintages (1997, 1999, 2001, 2004 and 2005), are used to estimate a hedonic price model that causally relates wine prices to individual quality and country brands. A positive and statistically significant relationship between price and individual quality is confirmed, and it is found that the premium or penalty attaching to wines because of their associated country brand has held steady over time, as has price-quality elasticity. Individual quality being equal, Chilean and Argentine wines continue to suffer a penalty of over 50% relative to Californian wines. Another finding is that the country brand problem will not be solved until countries that are newcomers to the industry, such as Chile and Argentina, succeed in producing a critical mass of wines of outstanding quality, for this is the factor that will ultimately determine whether their producers benefit from a good collective image or reputation.

KEYWORDS

Wine, hedonic pricing model, country brand, price-quality elasticity, exports, marketing, statistics, Argentina, Chile, Australia, France, South Africa, United States

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I

Introduction

The hopes surrounding the entry strategy followed by Chilean winemakers in the United States market in the 1990s, which consisted in offering good wines at low prices, have given way 20 years on to a growing frustration. In the words of one of the best winegrowers in the industry: “Chilean wines are drunk essentially because they are cheap.”

If price is a signal of quality, it might be suggested that the strategy of entering the United States market with a large-scale, low-priced and relatively undifferentiated initial offering risks protracting indefinitely the period in which Chilean wine, having gained a reputation for cheapness, is penalized by consumers unwilling to pay the prices its sensory or objective quality merit.

Consumers are unlikely to discern the quality of an experience good like wine, particularly when it is produced in a little-known country like Chile. Instead, they tend to infer quality from the good's price. The modest initial success of the Chilean strategy at a time when there were no cheap wines on the United States market, and the ensuing stagnation as other competitors (such as the South Africans and the Argentines) came in with even lower prices, are two developments that may be due to the same cause.

A number of organizations have argued for the need to speed up the differentiation of Chilean wine, and three approaches have been suggested for this: (i) creating a country image or brand that confers identity and enhances the value of the various wines produced in Chile, (ii) investing more in innovation and quality, as the Australians have done, and (iii) changing the expectations of United States consumers by producing world-class wines.

The aim of this study is to supply empirical evidence that can be used to assess the brand power of a country like Chile which is a new entrant in the market. Using the hedonic price method of Rosen (1974), it analyses how sensitive international wine prices are to indicators of quality and reputation. The study includes five cross-sectional samples of five vintages between 1997 and 2005, using indicators published by *Wine Spectator* for red wines produced in Argentina, Australia, the United States (Napa and Sonoma), Chile, France (Burgundy) and South Africa.

In public policy terms, the challenge for a new entrant country is to induce consumers to rate its different

wines on their own merits (individual quality) rather than inferring their quality in a general way from its weak country image (collective reputation). This is not easy. According to Roberts and Reagans (2007), consumers are more comfortable assessing the best-known wines, such as those of France and California, than wines that are not well represented in the United States quality classification, such as those of Argentina, Chile and South Africa.

The findings of this study reveal that the problem will not be solved until the countries that have recently entered the industry, such as Chile and Argentina, produce a critical mass of wines of outstanding quality, which is what ultimately creates a good collective image or reputation for a country's producers.

The marketing short cut of building image without quality does not work. Even when quality is heavily invested in, as has been done by the Australians, building up a reputation in the wine market is a slow and cumbersome process, particularly if the aim is to compete with French and Californian wines, which defined and shaped the cultural meaning of modern wine by constructing powerful and unique image associations. It is precisely this inertia that is responsible for the heavy price penalty still paid by Chilean and Argentine wines.

Nor are there any easy solutions to this inertia along the lines suggested by Gibbs, Tapia and Warzynski (2009), who argue that globalization and the unprecedented increase in products of non-traditional origin in the United States market have increased the proportion of consumers seeking more information on the objective quality of wine, thus enhancing the importance of the individual quality classifications published by specialist journals such as *Wine Spectator*. If this theory were correct, the price-quality elasticity of wines would be increasing and the country penalty paid by Chilean and Argentine wines would be decreasing over time. The findings of the present study provide evidence for the opposite: price-quality elasticity appears to have been stable over the 1997-2005 study period. The market still goes on reputation.

But the battle between the leading global brands may be an opportunity for the newcomers. The findings of this study show that France is losing brand power by comparison with California, and also relative to some of the new entrant countries. A possible cause of this is

an abuse of reputation on the part of the dominant brand at the end of its cycle.

This article is organized as follows. Section II briefly reviews the literature. The stylized facts, drawing on

indicators of wine quality and reputation by country of origin, are explained in section III. Section IV presents the empirical model and analyses the main findings. Lastly, section V summarizes the principal conclusions.

II

Image or quality?

In the wine market, better quality is no guarantee of a higher price. The relationship between price and quality depends more on consumers' perceptions of the wine's country of origin than on the individual quality of the product. According to the findings of Brooks (2003) on the basis of data from the United States market, any Chilean or Argentine winemaker can only charge half as much as a winemaker producing wine of the same quality in the Napa Valley of California.

As argued by Costanigro, McCluskey and Mittelhammer (2007), a country's image is a kind of public good. The fate of any pioneering exporter from Chile trying to compete in the premium market in the United States or Europe will depend on the image that has been projected by Chilean wines as a whole, i.e., on what Tirole (1996) calls collective reputation.

In these circumstances, all the wines of a newcomer country, be they good or middling, are heavily penalized. The situation is particularly bad for the ambitions of winemakers from the New World. Landon and Smith (1998) highlight the fact that prices for wines from France (Bordeaux) in the United States market owe 20 times as much to their past reputation as to their objective individual quality. Country images are slow to change, and there is a strong incentive for reputations to be abused—a commercial practice that will go unnoticed for a considerable time.

Following Tirole (1996) and Winfree and McCluskey (2005), we can understand a winemaking reputation as the accumulated prestige, renown and image associated with the name of a producer (individual reputation) or a group of producers (collective reputation) as a result of the quality history of their wines over a substantial period of time.

As Combris, Lecocq and Visser (1997) and Barber, Almanza and Donovan (2006) argue, the fact that wine is an experience good means that consumers are not able to distinguish its quality before trying it. It is the prestige associated with a region or country which

assures consumers that wines from there are of a certain quality, and this country image can only be altered at the margins and very slowly by the entry of a few wines of a quality superior to that of the wines currently available.

According to Castriota and Delmastro (2008), consumers are willing to pay a price premium for this assurance, particularly if the region is world-renowned, such as Bordeaux in France or Napa in California. Furthermore, Lockshin and Rhodus (1993) and Schamel and Anderson (2003) argue that the existence of aggregated wine brands makes life easier for consumers, who would otherwise be faced with the need to pick out a bottle from among thousands.

The difficulty consumers have in distinguishing quality will mean that they do not discriminate much between individual brands, thus facilitating their proliferation to the point where there are thousands in the United States market, making them increasingly meaningless as a guide to wine quality. In this situation, it is not profitable for producers to invest individually in creating brand power. Only if they choose to collaborate will winemakers from a particular region be better placed to make these investments and generate a powerful collective brand, as, according to Aylward and Zanko (2006), California did in the 1970s.

Most other regions of origin, and particularly those in new entrant countries, will become aggregated brands by default, essentially because their low prices create a perception of lower quality, or at best because they suggest a different style of wine.

Brooks (2001 and 2003) bears this out by showing how countries operate as collective brands in the wine market, introducing a price differential that cannot be accounted for by any other variable. Thus, a wine from the Napa Valley in California will sell for twice as much as a wine of the same quality from Chile or Argentina. Similar findings have been obtained by Schamel (2000 and 2002) and Schamel and Anderson (2003) for Napa Valley wines relative to those from

Oregon, Washington, New Zealand, Australia, Chile, Argentina and South Africa.¹

As is pointed out by Gergaud and Livat (2007) and Costanigro, McCluskey and Mittelhammer (2007), in building a reputation or a brand, or both, the objectives are always the same: to differentiate a region's wines in order to enhance their perceived quality and thereby command a higher price.

1. Newcomers from the ends of the earth

According to Moguillansky, Salas and Cares (2006), the value for money strategy followed by the major Chilean exporters, consisting in offering medium-quality wines at prices lower than those charged by European producers, may have been an initial success, securing 5% of the United States import market in 20 years, but it resulted in 80% of Chilean wines being concentrated in the low-price segment.

According to Van Tienhoven (2008), this association of Chilean wine with low prices is the only image that the bulk of United States consumers have been able to perceive, so that they have stereotyped it as an acceptable wine, but one suitable only for ordinary use. As Stein (2008) explains, this has become a real image trap for producers, preventing consumers from paying for the real quality of the product.

United States consumers lack the time and motivation to ascertain the individual quality of a wine. That is what reputations are for. According to Schamel and Anderson (2003), consumers use the stereotyped image of a product's country of origin as a rule of thumb to guide their purchasing, especially in the case of cheap wines.

The market is continually reinforcing these stereotypes. Consumers see that in supermarkets and specialist outlets, Argentine, Chilean and South African wines are on the shelves where the cheap wines are stacked, while Californian wines, and especially French ones, are on the expensive shelves. Accustomed to associating quality directly with price, consumers learn to relate quality to origin. As Lockshin and Rhodus (1993) and Chaney (2000) point out, rightly or wrongly,

the country a wine comes from is ascribed a quality in its own right. In short, this is a veritable vicious circle for new entrants.

2. The sample

The sample of 14,284 red wines is from *Wine Spectator*. The low presence of Argentine, Chilean and South African wines in *Wine Spectator* reflects the reality of their penetration of the United States market, which only began in the 1990s. This is why the analysis begins with the 1997 vintage, as earlier than that it would not have been possible to arrive at econometric estimates of the parameters studied.

The sampling method used is similar to the cluster method, with a full selection of all its elements (wines). Each cluster is a region/country chosen a priori for its role in the price dynamic of this market. Burgundy, whose wines have traditionally had a strong presence in the United States market, embodies the French export strategy. The Napa and Sonoma valleys exemplify the successful ascending strategy of California, while Australia, Argentina, Chile and South Africa exemplify the strategy of those newcomer countries that have managed to improve their positioning in the United States over the past two decades.

The differing sample sizes that ensue for the various regions/countries (see table 1) reflect the actual weight of their wines in the United States market for acceptable to excellent wines (70 to 100 points) as covered by *Wine Spectator*. Variations in sample size between vintages reflect supply or demand factors, or both, an example being the volume goals of the industry plan in Australia.

The share of wines from newcomer countries (and from France) in the *Wine Spectator* universe is greater than their share of the actual United States market, where four of every 10 wines are from Napa and Sonoma, two are from the rest of California, one is from another state in the United States, and just three are imported. This is because countries tend to export their best wines.

Although selecting just some of the competing regions/countries means that the sample is skewed in favour of new entrant wines (four out of every 10 wines are from these countries), the inclusion of all wines from each region/country selected means that these retain their original proportions, allowing realistic comparisons to be made between their quality averages and proportions of outstanding wines; it also provides robust sample sizes for the econometric estimates.

¹ The fact that Napa also has a better reputation than the states of Oregon and Washington rules out the possibility that its premium may be due to variations in labour costs relative to other countries, and shows how geographical brands can be circumscribed to just a single region in a country.

TABLE 1

Sample used, by country and vintage

Vintage	Country or region of origin						Vintage total
	Argentina	Australia	California	Chile	Burgundy	South Africa	
1997	76	358	1 018	191	544	107	2 294
1999	114	514	1 102	219	575	115	2 639
2001	120	624	1 217	250	339	212	2 762
2004	328	674	1 159	234	360	236	2 991
2005	358	622	1 471	284	609	254	3 598
<i>Country total</i>	<i>996</i>	<i>2 792</i>	<i>5 967</i>	<i>1 178</i>	<i>2 427</i>	<i>924</i>	<i>14 284</i>

Source: prepared by the authors on the basis of data from *Wine Spectator*.

Note: Each value in the table represents the annual number of red wines from each country/region used in this study. Most wine is sold two or three years after the year of the vintage.

III

The stylized facts: an interpretation

The average price and quality indicators in table 2 show that consumers' willingness to pay is heavily influenced not so much by the objective quality of a wine as by the reputation or image, or both, of its country of origin, with French wines fetching the highest price relative

to their average quality, which was actually lower than that of their main competitor, California, and similar to that of new entrants, such as Chile, in the late 1990s.

This can be seen more plainly in the evolution of the price per unit of average quality ratio for French

TABLE 2

**Evolution of the price and quality of wines
from six countries of the world, 1997-2005**

Vintage	Indicator	Country or region of origin					
		Argentina	Australia	California	Chile	Burgundy	South Africa
1997	Price	15.6	26.2	40.8	13.8	75.0	19.5
	Quality	81.4	86.4	87.6	82.9	83.5	84.5
	Ratio	0.20	0.30	0.47	0.17	0.90	0.23
1999	Price	20.1	29.3	46.4	16.2	56.3	20.0
	Quality	84.5	86.5	87.6	83.8	84.7	84.6
	Ratio	0.24	0.34	0.53	0.19	0.66	0.24
2001	Price	21.9	28.8	48.0	16.3	59.0	23.9
	Quality	84.1	86.8	86.0	83.4	86.3	85.4
	Ratio	0.26	0.33	0.56	0.19	0.68	0.28
2004	Price	25.2	37.2	59.5	20.0	76.0	26.1
	Quality	85.6	88.0	87.2	84.5	87.9	85.8
	Ratio	0.30	0.42	0.68	0.24	0.86	0.30
2005	Price	25.4	38.8	55.6	22.2	84.2	27.1
	Quality	85.3	88.6	86.9	85.6	89.9	85.6
	Ratio	0.30	0.44	0.64	0.26	0.99	0.32

Source: prepared by the authors on the basis of data from *Wine Spectator*.

Note: The values in the table are the annual country averages for each indicator. Most wine is sold two or three years after the year of the vintage. The *Wine Spectator* rating runs from 50 points (very poor) to 100 points (outstanding).

wines, which was still three times that of wines from new entrant countries and one and a half times that of Californian wines in 2005, at the end of the period analysed. According to Heslop, Cray and Armenakyan (2009), nothing seems to have changed in the mindset of United States consumers, for whom French wine continued to be synonymous with excellence.

When the evidence is analysed more carefully, however, it becomes clear that something began to change for French wines in the late 1990s, with their price/quality ratio dropping sharply from 0.9 to 0.68 between 1997 and 2001, and thereby converging towards the rising ratio of Californian wine, suggesting a weakening both of their brand and of their price premium.

This decline was only temporary, however. From 2001, the French reacted by steadily raising the mediocre average starting quality of their wines, until they attained the remarkable level of 90 points in 2005. Achieving this meant steadily increasing the proportion of outstanding wines awarded 90 points and over to 44%, more than any competitor, while at the same time drastically curtailing exports of poor-quality wines, as can be seen in table 3.

This change was not down to chance. The most plausible explanation is the growing difficulty the French were having in continuing to sell what were merely acceptable wines at two or three times the price of equivalent New World wines. The analysis by Barco, Navarro and Langreo (2005) supports this hypothesis, noting that the French share of United States wine imports dropped from 28% to 14% between 1993 and 2003, largely owing to the entry of Australian wines.

Cox and Bridwell (2007) round out the hypothesis by showing how the French successfully repositioned their wines in the highest-quality segments from 1999 on, raising their prices by up to 100% and at the same

time pulling out of the lower-quality segments where their cost structure did not allow them to compete.

Thus, the final average price/quality ratio of 0.99 for French wines needs to be analysed with care and always in the awareness that it is circumscribed to very good or outstanding wines, a segment where wines from France still retain their glamour. In most of the market, however, French wines are losing brand power relative to Californian ones, along with their ability to command a price premium.

The initial paradox in the situation of French wine in 1997, with its low average quality and excellent reputation, is consistent with the theories of Tirole (1996). A high level of collective prestige creates irresistible incentives for some producers, distributors or both to sell wines of middling quality at high prices. This happened in the late 1990s in the United States, as reported by Landon and Smith (1997 and 1998).

According to Roberts and Reagans (2007), it is very likely that the gradually increasing transparency of the wine market (greater disclosure of ratings) made it less tolerable for consumers to keep paying more for poor French wines than for better New World ones.

1. The marketing short cut

Building a reputation like that of France, which dominated the United States market for about a century, is a process that it is practically impossible to replicate. As Hadj and Nauges (2007) explain, this reputation was shaped from 1855 onward by means of strict quality rules that endure today, and through image associations that penetrated deeply into the outlook of the country's consumers.

From Hollywood cinema, with soldiers savouring a French wine in the din of the battle for Europe, to mass

TABLE 3

Number of outstanding wines in the Californian market, by country, 1997-2005

	Vintage									
	1997		1999		2001		2004		2005	
	N>90	Percentage	N>90	Percentage	N>90	Percentage	N>90	Percentage	N>90	Percentage
Argentina	3	4	18	16	18	15	62	19	57	16
Australia	70	20	98	19	137	22	228	34	246	40
California	267	26	200	18	275	23	336	29	377	24
Chile	9	5	17	8	30	12	30	13	40	21
France (Burgundy)	83	15	104	18	82	25	122	34	268	44
South Africa	2	2	12	11	31	15	51	22	86	34

Source: prepared by the authors on the basis of data from *Wine Spectator*.

Note: The figures in each cell show the number (N) and percentage of wines from each country scoring 90 or over in the *Wine Spectator* classification.

tourism to French castles and vineyards, where Americans adopted the language and experience of wine, image associations that projected French brand strength were created (Keller, 1993), the result being that consumers would pay more for the experience of consuming the country's wines than their objective quality merited.

It is a myth that the rising California brand was constructed quickly. Brosnan (2006) reports that it took the best producers about 30 years to attain the quality and consistency of French wines, but almost a century to adapt the best of their tradition to a unique and glamorous cultural setting in the Napa Valley. This meant that their best wines were able to generate emotional benefits more like those of French ones, but seemingly only within the United States market.

When Australian wines made their entry in the 1990s, they were able to adapt global technology and rapidly caught up with the quality of French and Californian wines. The stumbling block was the lack of a winegrowing history, and the method chosen to remedy this was an unconventional marketing campaign linking Australian wines with concepts such as straightforwardness, friendliness and honesty, in contrast to the snobbish associations of French wine.

They achieved a partial success. According to Heslop, Cray and Armenakyan (2009), the merit of fun, cheap wines (such as Yellow Trail) was to attract consumers who were tired of specialized criticism. Although the "fun" stereotype of Australian wines generated volume, it did not result in glamour or in prices reflecting their quality, and nor did it at all enhance their brand power relative to California.

Table 3 shows the number and proportion of outstanding wines (over 90 points on the *Wine Spectator* scale) produced each year by the winegrowers of each region/country.

A comparison of the proportions confirms the pattern of reputation abuse, excessive image dominance or both that has already been touched upon.

While the proportion of outstanding Australian wines rose from 20% in 1997 to 40% in 2005, the figure for California fell from 26% to 24%. The Australians have shown a greater commitment to quality than the successful Californian producers, whose indicator ranks about equal with those of countries with a low collective commitment such as Argentina and Chile.

These findings confirm the misgivings of Shapiro (1983) concerning the stagnation and erosion of average quality that can result from a successful collective

reputation. Despite producing the world's largest number of outstanding wines, the Napa Valley has drawn in an enormous influx of free riders looking to charge a price premium purely by claiming location in the Valley. Benjamin and Podolny (1999) estimate that 50% of bottles labelled as being from Napa are actually from other valleys, this being made possible by the laxity of United States rules of origin legislation.

2. Critical mass

Production of a large absolute number of outstanding wines translates directly into prices that are proportional to the reputation of the region concerned, and thus leverages the image of iconic countries or regions.

California may have a low indicator of collective commitment (and lower average quality than competitors like Australia), but its larger absolute number of outstanding wines (377 versus 246) and its rising reputation have assured its dominance of the high-priced segment of the market, sending out an important signal of quality for all its wines. As table 2 shows, France continues to command extraordinary prices with a smaller but still considerable number of outstanding wines.

According to Easingwood (2007), consumers use a region or country's mass of high-priced wines to infer the quality of the rest of its wines. This critical mass not only interacts with reputation, but actually creates it. It is currently helping California more than France, which can no longer project its brand influence on to its lower-quality wines.

The change in brand power in most of the United States market has been mainly a matter of changing images. California has been supplanting France, much as Pepsi has been overtaking Coca-Cola among the younger generations: it is cooler. Quality does not seem to be such a big issue and consumers do not much understand it. According to Costanigro, McCluskey and Goemans (2009), the exact mechanism whereby a reputation emerges and is converted into higher prices is not yet fully understood.

To sum up, in public policy terms the findings of the descriptive analysis call into question the effectiveness of marketing and investment in quality as quick methods of freeing producers from the country brand trap they are caught in. As tables 2 and 3 highlight, there are no short cuts when it comes to solving this problem: the inertia of the brand image created by France, and later by California, makes it very intractable.

IV

Empirical model and findings

In most empirical studies relating wine price to quality, variants of the following equation are estimated:

$$\ln p_i = \beta_0 + \beta_1 \ln x_i + \beta_2 \ln Y_i + \beta_3 D_j \quad (1)$$

where p_i is the price of bottle i , x_i is the individual sensory or “objective” quality score awarded to the wine after a blind tasting, and Y_i is a vector of control variables, which include the age of the wine, the amount produced and the individual reputation or brand of the producer or vineyard. Price-quality elasticity is given by the coefficient β_1 , since the specification is double-logarithmic.

Landon and Smith (1997 and 1998) show how leaving out regional reputation or wine origin variables leads to overestimation of the importance of quality in price-setting, as their impact on this is several times greater.

Following the same approach, Schamel (2000), Schamel and Anderson (2003) and Costanigro, McCluskey and Goemans (2009) incorporate as predictors of wine prices not just the reputation of the producer (individual reputation) but also the reputation of the wine’s country or region of origin (collective reputation).

To calculate the (percentage) premium or penalty in the price of a country’s wines relative to the price of a benchmark region or country’s wines, a dichotomous variable D_j is incorporated into equation (1), taking the value 1 if the wine is from region/country j and 0 if it is not. β_3 will be positive (negative) and statistically significant when the reputation of the region/country as a wine producer is better (worse) than that of the region/country used as the benchmark.

In this study, the region/country used as the benchmark is California. Thus, the absolute value of β_3 is the percentage premium or penalty (collective reputation) of the region/country’s wine relative to Californian wine.

Models like the one expressed in equation (1) can be used to measure, separately, how much the reputation of the country of origin and the actual quality of the wine influence consumers’ willingness to pay.

1. Estimating the model

The data for estimating equation (1) come from five cross-sectional series reported by *Wine Spectator* for the

1997, 1999, 2001, 2004 and 2005 vintages. These series include: market price (in each year’s current dollars), brand, number of cases sold, age, sensory quality score, and country and region of origin of each bottle.

Age is obtained by subtracting the year of the vintage from the year in which the wine was rated. This variable would be expected to have a coefficient with a positive sign. Letting a wine age is an investment decision: this option is chosen when the increase in the selling price resulting from the expected increase in quality exceeds the costs (including capital costs) of storing the product.

It is also to be expected that the amount of wine produced will have a negative sign as an explanatory variable in vector Y_i in equation (1): consumers sense that to produce large amounts of a particular wine, a vineyard will have to buy in grapes from other estates, thus losing control over the quality of the product.

Schamel (2000) and Costanigro, McCluskey and Mittelhammer (2007) measure a producer’s reputation by the number of outstanding wines (those scoring 90 or over on the *Wine Spectator* scale) produced by the vineyard in the last two years.

2. Findings

Table 4 presents the outcome of five cross-sectional regressions used to analyse the relationship between price, quality rating, individual reputation and collective reputation by region/country in the wine market. Given that price and the other non-dichotomous variables are all expressed in log terms, the coefficients can be interpreted as elasticities.

The five regressions show price-quality elasticity coefficients that are statistically significant, positive in sign and of the expected magnitude, within the range of the findings reported by Brooks (2001) and Schamel (2000).

The results also indicate that, contrary to what Gibbs, Tapia and Warzynski (2009) expected, price-quality elasticity has held fairly steady over time, ranging between 2.7 and 4.5.

Assuming a best case scenario in which price-quality elasticity was 4.5 and Chilean winemakers increased average quality on the *Wine Spectator* scale by one percentage point, approaching the quality of Napa Valley wines (not an easy task), the market price of Chilean wines would rise by an average of 4.5%, i.e., just US\$ 1,

TABLE 4

Evolution of price-quality elasticity and the country of origin premium (penalty) in the United States wine market, 1997-2005

Variable	Vintage				
	1997	1999	2001	2004	2005
Constant	-12.257 (11.8)	-16.274 (-17.5)	-8.231 (-10.5)	-13.034 (-14.5)	-15.822 (-17.4)
Individual price-quality elasticity	3.545 (15.3)	4.533 (21.9)	2.735 (15.6)	3.826 (19.1)	4.504 (22.2)
Individual price-reputation elasticity	0.125 (9.2)	0.081 (6.8)	0.150 (13.6)	0.126 (11.9)	0.121 (12.2)
Argentina brand	-0.331 (-5.1)	-0.433 (-9.7)	-0.475 (-10.8)	-0.559 (-17.8)	-0.546 (-18.9)
Australia brand	-0.193 (-7.1)	-0.322 (-14.4)	-0.406 (-18.3)	-0.426 (17.2)	-0.458 (-19.1)
Chile brand	-0.339 (7.8)	-0.382 (-10.1)	-0.599 (-18.3)	-0.597 (-16.1)	-0.564 (-17.8)
France brand	0.570 (15.7)	0.146 (4.9)	-0.092 (-3.1)	-0.135 (-4.2)	-0.225 (-8.6)
South Africa brand	-0.435 (-8.7)	-0.496 (-11.0)	-0.496 (-15.0)	-0.540 (-15.2)	-0.612 (-17.9)
Age of wine	0.609 (24.7)	0.506 (19.5)	0.537 (20.1)	0.511 (19.2)	0.453 (15.8)
Cases produced	-0.121 (-17.2)	-0.133 (-22.5)	-0.136 (-24.8)	-0.123 (-21.3)	-0.148 (-27.9)
Adjusted R ²	0.64	0.63	0.63	0.62	0.58
Observations	1 842	2 639	2 646	2 881	3 407

Source: prepared by the authors on the basis of data from *Wine Spectator*.

Note: The values in the cells show the parameters estimated for each variable in cross-sectional regressions, one for each year. The quality variable is the score awarded to the producer's wine in the *Wine Spectator* classification. Prestige or individual reputation is equivalent to the number of wines with the producer's brand scoring over 90 points in the classification. All variables other than the dichotomous variables by country are measured in natural logarithms. Prestige or the country brand is obtained by estimating the coefficient of a dichotomous variable taking the value 1 if the wine is produced in the country and 0 if it is not. The numbers in parentheses are Student's t-statistics.

from US\$ 22 to US\$ 23 a bottle. Thus, increasing the average price of a region's wines by improving their quality is too slow a process.

Where the evolution of the France and California brands is concerned, United States consumers were prepared to pay 57% more for French wines than for Californian wines of the same quality in the case of the 1997 vintage, but their willingness to pay this price premium quickly diminished, something that can be clearly seen in the coefficients of the France brand: starting in 2001, the French premium first disappeared and then became a penalty, until by 2005 consumers were paying 22% less for these wines than for Californian wines of the same quality. This reveals the decline in the country's brand power compared to that of California.

The possibility that France may retain brand power in the small segment of outstanding wines cannot be ruled out and is suggested by the descriptive data, but this is hard to prove econometrically owing to the small quantity and limited quality variance of wines in this segment, and exceeds the scope of this study.

Argentina, Chile and South Africa have not improved their brand power at all, and their wines are subject to a fairly similar pricing penalty. In particular, consumers have been penalizing Chilean wines with a discount (in dollars per bottle) that increased from 34% in 1997 to 56% in 2005, as the country brand coefficients in table 4 show.

The decline in the brand power of Chilean wines has been magnified in relative terms by the rise in the

brand power of California to the detriment of France. If this is corrected for by comparing the Chile data with those of France as a benchmark, it transpires that the price penalty for Chilean wines compared to French ones of the same quality actually fell from 96% to 78% (this is obtained by adding up the absolute values of each country's coefficients).

The results in table 4 also reveal that the price penalty for Australia was just 10% less than Chile's in 2005. This finding should not be interpreted as meaning that the Australian investment in marketing and quality was pointless; it only illustrates the difficulty of gaining market power when competing with strong reputations.

Considering that Australia sells three times as much in volume terms and commands an average price 10% higher than Chile's for a given quality, Australian wines have more country brand power than their Chilean competitors.

3. Price-quality elasticity by country

The price-quality elasticity obtained is really an average of the price-quality elasticities of the different countries analysed.

With a view to ascertaining whether this parameter has evolved similarly or differently from country to

country, the equation (1) model was reestimated, but this time with separate specifications by country. The country brand variable disappears from the equation.

If, as Gibbs, Tapia and Warzynski (2009) claim, the globalization of the wine market has caused price-quality elasticity to rise with time, the importance of country brands ought to have diminished: wines should increasingly be assessed on their individual quality and less on their region or country of origin.

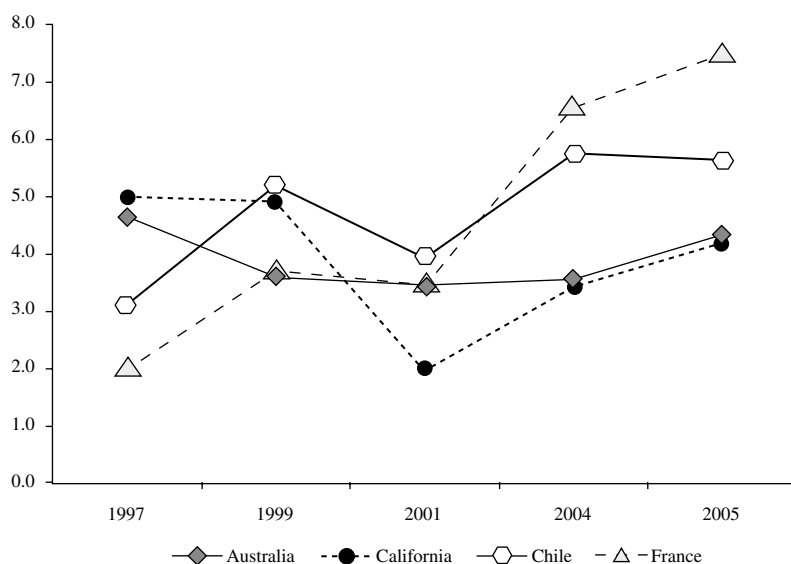
However, figure 1 shows that this elasticity has only clearly risen in the case of France; for California, on the other hand, price-quality elasticity has declined as the region has enhanced its reputation and brand power.

In the present study, this finding is largely explained by the shift in reputation and brand power between the two places of origin. Consumers do not go to great lengths to check the quality of Californian wine: its growing reputation suffices for them to pay the asking price. Conversely, the higher prices of French wines make it worthwhile for consumers to incur the opportunity cost of checking their prices.

The other countries analysed present a modest upward trend, which is good news for the new entrants, but it is much too slight for us to infer that consumers are choosing on the basis of quality: it is still country brands they go by.

FIGURE 1

Price-quality elasticities by country, 1997-2005



Source: prepared by the authors on the basis of data from *Wine Spectator*.

4. Explaining country image

The specifications analysed in table 4 and figure 1 monitor the evolution of the brand power of the various competing countries, with a negative finding for New World wines: because of their weak country brands, improving individual quality is too slow a way of increasing the average prices of their wines.

The coefficient that measures a region's brand power does not reveal how far this is determined by the actual (sensory or objective) quality of its wines and how far by its image alone. The two concepts are intertwined and hard to disentangle.

In an effort to explain what the country brand concept means, an additional specification is added to the model proposed in equation (1): the dichotomous variable representing each region/country is replaced by the number of wines produced by a country's winemakers that are rated outstanding (scoring 90 or over) on the *Wine Spectator* scale.²

² Besides being intuitively reasonable as a way of explaining a country's prestige or brand, the critical mass or number of outstanding wines is an econometrically attractive variable: constant for a given

Country prestige becomes a variable. In other words, it varies between countries depending on the number of outstanding wines each one produces and is constant for all a country's wines. Thus, as table 3 shows, a bottle of wine in the 1997 sample will take one of the following values: 3, 70, 267, 9, 83 or 2 depending on whether it is from Argentina, Australia, California, Chile, France or South Africa, respectively.

With this way of recasting the model, clearly, the assumption is that the reputation of a country which only produces nine outstanding wines, like Chile in 1997, cannot but be very low compared to that of a region like California which produces 267. The objective is a different one: if the goodness of fit of the model and the statistical significance of this new variable can be demonstrated, the results will serve to show the critical mass of outstanding wines that a new entrant country needs to have in order for the prestige thus acquired to rub off on the rest of its wines.

country's wines, but differing greatly between countries, it covaries with wine price and has a low correlation with the other explanatory variables of the model.

TABLE 5

Evolution of price-quality elasticity and price-country brand elasticity in the United States wine market

Variable	Vintage				
	1997	1999	2001	2004	2005
Constant	-3.361 (-3.34)	-14.301 (-15.41)	-7.868 (-9.76)	12.361 (-13.56)	15.700 (-16.91)
Price-quality elasticity	1.575 (6.87)	3.943 (18.83)	2.394 (13.28)	3.369 (16.38)	4.085 (19.68)
Price-producer brand elasticity	0.192 (13.2)	0.096 (7.93)	0.171 (15.12)	0.141 (13.06)	0.103 (10.32)
Price-country prestige elasticity (no. of wines >90 points)	0.088 (10.16)	0.151 (15.36)	0.199 (19.55)	0.218 (19.07)	0.253 (22.93)
Age of wine	0.507 (19.6)	0.492 (18.49)	0.617 (23.01)	0.617 (23.36)	0.553 (19.43)
Cases produced	-0.187 (-28.3)	-0.160 (-28.96)	-0.153 (-28.84)	-0.142 (-25.73)	-0.141 (-27.22)
Adjusted R ²	0.57	0.59	0.60	0.59	0.62
Observations	1 842	2 639	2 646	2 881	3 407

Source: prepared by the authors on the basis of data from *Wine Spectator*.

Note: the values in the cells show the parameters estimated for each variable in cross-sectional regressions, one for each year. Individual quality is measured by the score awarded to the producer's wine in the *Wine Spectator* classification. The individual prestige and country prestige variables equate to the number of wines from the producer and from all the country's producers, respectively, scoring over 90 points in this classification each year. All the variables are measured in natural logarithms. The values in parentheses are the Student's t-statistic.

The findings reported in table 5 show that price-country prestige elasticity, i.e., the sensitivity of wine prices to the number of outstanding wines produced by winemakers in the producer's country of origin, was not only statistically significant for all the vintages analysed, but rose from about 0.1 in 1997 to 0.25 in 2005.

The price of wine in the United States market, heavily determined by image effects predating the vintages of the year 2000 (the period of French predominance), would come to acquire a larger quality component: the critical mass of outstanding wines. Image would operate through this.

Considering that for the 2005 vintage California had a critical mass of 377 outstanding wines and Chile only 40 (as shown in table 3), it can be concluded that Californian wines, on average, cost $213\% = 0.253 \times$

843% as much as Chilean ones, a result that is in line with previous results shown in table 4.

An increase in the critical mass of outstanding wines not only raises the average quality of a country's wines, but also leverages its image, increasing the average price of all its wines. If Chilean winemakers were to double their output of outstanding wines from 40 in the 2005 vintage to 80, then, all other things being equal, the average price of their wines would rise by some $25\% = 0.253 \times 100\%$, i.e., from US\$ 22 to just over US\$ 28 a bottle on average.

These findings show how, through exposure to specialized professional criticism, a country producing a large quantity of outstanding wines sends out a powerful signal of quality to the market, enhancing perceptions and prices for all its wines.

V

Conclusions and limitations

On the basis of data for red wines in the United States market, this study has set out to evaluate empirically how important individual product quality is in a wine's market price as against the collective reputation of its region or country of origin. Another objective has been to suggest public policy approaches that can help new entrant countries such as Argentina and Chile to enhance the positioning of their country brand more effectively.

The estimates of the hedonic price model reveal that country brands still exert a considerable effect on the prices of all wines, something that a new entrant country such as Chile, subject as it is to a price penalty that has remained almost unchanged since the late 1990s, cannot easily remedy.

Although the increasing critical scrutiny to which producers have been exposed has made the wine market more transparent than it was in the 1990s, this has only partially eroded the role of reputations; thus, although France's reputation has declined as a result, the same has not happened with California's.

In estimating the model by region/country, the findings of this study have shown that, with the exception of France, price-quality elasticity has proved stable over time rather than rising as suggested by Gibbs, Tapia and Warzynski (2009), confirming once again that the market continues to judge the quality of wines more on their collective reputation than on their individual quality, as would happen in a transparent market.

The message for wines from new entrant countries such as Chile is straightforward: it is not possible to improve a country brand with a "value for money" concept. Despite its initial effectiveness as a penetration strategy, this has equated to devaluing the reputation of good Chilean wines in advance.

It is extraordinarily difficult to convince the wine market to appreciate new entrants. The findings of this research reveal that producers from France formerly, and those from California today, have been able to deploy their superior brand power and command higher prices even with an average quality that may be lower than that of new entrants. Their power has consisted, and still consists, in a strong collective image.

This study has also revealed that when the market is opaque, the average quality of the dominant country brand has a natural tendency to stagnate or even decline, owing to the entry of free-riding producers who use the good reputation of their region of origin to sell low-quality wines for high prices. For new entrant countries such as Argentina and Chile, however, hoping that a dominant collective reputation may decline for this reason is a slow and uncertain approach.

Although, as Roberts and Reagans (2007) point out, the wine ratings of specialist journals such as *Wine Spectator* have helped to increase transparency in the market, consumers' relationship with these publications is not direct but is affected by their price and is subject to a lag.

This explains why regions such as California can carry on dominating the bulk of the market, and commanding a price premium, by producing a large mass of outstanding wines, even if their average regional quality is lower than that of other contenders. It is the absolute critical mass of outstanding wines rather than the proportion of outstanding wines that creates a signal of quality or brand halo around all a country's wines in the minds of consumers.

The results obtained in this study reveal that increasing the critical mass of outstanding wines (scoring 90 or over in the *Wine Spectator* classification) enhances a new entrant country's reputation, and thereby strengthens the average price-quality ratio of its wines, more quickly than does raising average quality. A country's collective reputation or brand acts as a public good, and the resulting premium or penalty extends to all the region/country's wines.

Consequently, rather than using marketing in an effort to change the narrative through image association,

it would be more fruitful to strongly encourage and reward (subsidize) outstanding quality in Chilean and Argentine wines until a substantial critical mass has been attained. There will be no solution to the country brand problem until these new entrant countries produce a critical mass of outstanding wines, this being the factor that will ultimately determine whether their producers benefit from a good collective image or reputation.

Limitations of the study

The *Wine Spectator* data present some shortcomings. One stumbling block in these and other investigations is that it is not entirely clear how *Wine Spectator* arrives at prices, and aggregate volumes by country are not that precise. This is made up for, in our view, by the opportunity to conduct causal analyses of the importance of country brands and individual quality in determining prices.

(Original: Spanish)

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