Isolating the Symbolic Implications of Employee Mobility:

Price Increases after Hiring Winemakers from Prominent Wineries

Peter W. Roberts
Goizueta Business School, Emory University
1300 Clifton Road, Atlanta, Georgia 30322
404-727-8585 (w) 404-727-6313 (f)
peter_roberts@bus.emory.edu

Mukti Khaire
Harvard Business School
Soldier's Field Park, Boston MA 02163
617-496-4621 (w) 617-496-4877 (f)
mkhaire@hbs.edu

Christopher Rider
Goizueta Business School, Emory University
1300 Clifton Road, Atlanta, Georgia 30322
404-727-4198 (w) 404-727-6313 (f)
Chris_Rider@bus.emory.edu

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Chair: Karl Storchmann

Discussants: Bronwyn Hall

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Because wines are aged for several years before they are released, newly-hired winemakers arrive as wines made by their predecessors enter the market. An analysis of winemaker hiring events reveals that wines released right after a new winemaker's arrival from a prominent competitor are priced significantly higher than corresponding wines released in the preceding year. However, the wines released before and after the hiring event are indistinguishable in terms of quality. These findings isolate a 'purely symbolic' effect of employee mobility, which affirm sociological accounts of markets – under conditions of uncertainty, inter-organizational affiliations condition producers' returns to quality demonstrations.

When a firm hires a skilled employee from a prominent competitor, an indirect affiliation between the two firms is created. Recent organizational research indicates that such affiliations may influence the hiring firm's prices, both substantively and symbolically (e.g., Podolny 2003). Substantively, product quality may be enhanced by the human capital the new employee transfers from their prior employer. If so, then the hiring firm's prices should increase. Symbolically, because the prior employer was a prominent competitor, the move signals to consumers that the hiring firm's quality may be better than previously believed. Accordingly, prices should increase.

These substantive and symbolic effects are difficult to disentangle empirically. Consequently, their independent effects are more theoretically-advanced than empirically-supported.

We leverage an idiosyncratic feature of wine markets to isolate the substance from symbol in the hiring of skilled winemakers. Because wines are aged before they are released, evaluated and priced, new winemakers start work as wines made by their predecessors enter the market. Assuming that winemakers exert little influence on the quality of wines that are already in the cellar (an assumption we validate empirically), then post-hire pricing effects are primarily, if not purely symbolic. As such, once we control for the propensity of wineries to hire new winemakers, we isolate signaling (i.e., symbolic) from human capital effects on wine prices following hiring events.

Symbolic Effects of Hiring from Prominent Competitors

"Prominent actors are highly visible because of their extensive involvement in substantively important relationships (Knoke and Burt 1983, pg. 195)." Merton's (1968) analysis

of reward and communication systems in science shows that with uncertainty and with large numbers of scientists vying for attention, ties to prominent others have focusing effects. They condition scientists' own visibility and, therefore, the returns to their scholarly contributions. In markets, Stuart *et al*. (1999) find that young biotech ventures are valued more highly when they are allied with commercially-prominent life sciences firms (i.e., those with longer track records of working with new ventures). Similarly, Burton *et al.* (2002) show that entrepreneurially prominent firms (i.e., those that spawned more entrepreneurial ventures) provide visibility for their departing employees' new ventures, and that this visibility helps attract financing.

We invoke a similar conception of prominence in the context of employee mobility. Hiring an employee from a prominent competitor (i.e., one reputed to be a source of skilled employees) creates a tie between the hiring firm and the individual's former employer. The visibility of the hiring firm's products and market actors' confidence in their quality increases with the prior employer's prominence, enabling the hiring firm to charge higher prices than it would otherwise. The post-hire price increases that are due to increased visibility and confidence are the symbolic (or signaling) implications of hiring events.

There may also be substantive (or human capital) effects of hiring employees from prominent competitors. Newly-hired employees bring knowledge and experience from former employers that might enhance the hiring firm's product quality. Because higher product quality also allows hiring producers to charge higher prices, it is typically difficult to empirically isolate the theorized symbolic implications.

In the wine industry, however, wines are typically aged for two or three years before they are released to the market. Because virtually all of the actions that affect wine quality are already completed prior to hiring, newly-hired winemakers do not influence the quality of wines made

from vintages that predate their arrival. If this assumption about a winemaker's contributions is largely correct, then we predict that *hiring a head winemaker from a prominent competitor will have a positive* <u>*and purely symbolic*</u> *effect on the prices charged for wines reviewed after but made before the winemaker's arrival.*

Data and Analysis

We interviewed fifteen head winemakers in California. Nearly all respondents stated that hiring an individual "with a big name [*sic*]" might justify a price increase. The following analysis reflects this sentiment.

Our identification strategy entails comparing prices charged for chardonnay and cabernet sauvignon wines released in the year of a hiring event to those charged for the same wines released in the previous year. For example, we compare Hess' list price for its 1998 California Select Chardonnay (released in 2000) to the 1997 vintage of the same wine (released in 1999). Furthermore, we analyze a case-control sample consisting of wines whose producers did hire new winemakers matched to wines from wineries that were equally likely to hire new winemakers but did not.

We constructed two samples for our analysis: (1) a sample of wine reviews and prices and (2) a sample of winemaker hiring events. From the *Wine Spectator*, we downloaded 15,412 reviews of California wines published between 1992 and 2006. We recorded the year of review, the wine's vintage year, the producing winery, the wine's quality score, and the suggested list price. We also recorded varietal type (i.e., chardonnay or cabernet sauvignon) and the region from which the grapes were sourced; i.e., Bay Area/Central Coast, Carneros, Mendocino/Lake, Napa, Sierra Foothills, Sonoma, South Coast, and Other California.

The dependent variable in our main analysis is the real price of a bottle of wine. To

convert list prices into real prices, we compute the average price charged for chardonnays or cabernet sauvignons in each year and then use this information to create two price indices normalized to unity in 1994. The real price is the list price divided by the corresponding varietal price index. Because the distribution of real wine prices is highly skewed, we use the log transformation of real prices as our dependent variable.

To be included in the sample, two additional criteria have to be met. First, chardonnays must be two years old and cabernet sauvignons three years old when released and reviewed by the *Wine Spectator*. These are the typical ages at which these two varietals are released to the market. We then consider wines that were also reviewed in the previous year. The first restriction ensures that our comparisons are focused, while the second allows us to examine price and quality across successive vintages of the same wines.

To create a sample of head winemaker hiring events, we identified all California wineries that reported the name of their head winemakers in the 1995 issue of *Wines and Vines*.[1] We also recorded the winery's size (in tons of storage capacity) and year of establishment. We then tracked each winery forward – until either 2004 or its year of exit from the industry – and recorded every year in which the name of the head winemaker changed. We repeated this process beginning with the 2000 issue to capture wineries that neglected to name a head winemaker in 1995 and those that were established more recently. The final hiring sample contains 646 wineries, 4,353 annual observations, and 342 head winemaker hiring events.

After identifying a hiring year and the new head winemaker's name, we retraced the *Wines and Vines* directories to determine where that individual was employed in the previous year. For example, after determining that Rideau Vineyard hired Ariel Lavie in 2002, we learned

[1] We began in 1995 in order to have three years of lagged product-level data for our propensity score matching procedure (see below).

that he was previously employed as an assistant winemaker at Babcock Winery by examining the 2001 issue of *Wines and Vines*. When we could not find this information in the *Wines and Vines* directories, we conducted an exhaustive searched of the Internet.

Not all former employers are prominent. Wineries voluntarily identified by competitors as sources of their winemakers (i.e., former employers) are defined as prominent former employers. For this to occur, a competitor must first hire from the focal winery and then elect to publicize the prior employment affiliation (Roberts and Khaire 2008). To measure prominence, we examined the websites of a random sample of 425 California wineries in 2005 and recorded all of the named former employers of current head winemakers. A total of 327 wineries were mentioned 563 times on other wineries' websites. We code as prominent all wineries mentioned at least once on these websites. For each winemaker hire, we record the prominence of the former employer. The former employer prominence variable is set to zero if the focal hire represents a winemaker's first winemaking job or if we could not ascertain the name of the former employer.

To evaluate the face validity of this prominence indicator, we compared visibility, quality, and prices for wineries mentioned one or more times to those not mentioned. Relative to wineries not classified as prominent, prominent wineries tended to receive many more published *Wine Spectator* reviews for their chardonnays and cabernet sauvignons between 1992 and 2006 (22.7 versus 3.3). They also produced wines of higher quality (86.3 versus 84.2 points) and charged higher real prices ($15.93 versus $11.98 in 1994 dollars). Separate t-tests reveal that the quality and price differences are statistically significant ($p<0.01$).

The intersection of the winemaker hiring sample and the wine review sample contains 184 product-level observations. To draw valid inferences about the effects of hiring on prices, we

compare observed changes in this sample with a matched sample of observations in which no hires were observed. We use nearest neighbor propensity-score matching (Rosenbaum and Rubin 1983) to account for nonrandom determinants of hiring events. Specifically, we identify 184 additional product-level observations that did not involve hiring events but otherwise closely resembled those in the hiring sample.

Table 1. Probit Regression Results

	Model 1
Winery age	-0.003*
	(0.001)
Winery size (ln storage capacity)	0.060*
	(0.020)
Chardonnay or cabernet sauvignon among top-3 varietals	0.205*
	(0.065)
Prominence (website mentions)	0.048*
	(0.020)
No prior reviews (last 3 years)	-0.022
	(0.070)
Average quality (last 3 years)	-0.009
	(0.010)
Average price (last 3 years)	0.002
	(0.003)
Fixed Year Effects	*(yes)*
N	4,353
Log-Likelihood	-1,169.227

(standard errors clustered on winery)
* *Significant at the 5 percent level*

First, we estimate a probit model that generates propensity scores from the winemaker hiring data (see table 1). Older and smaller wineries are less likely to experience hiring events than younger or larger wineries. Wineries that emphasize chardonnay or cabernet sauvignon wines in their portfolios are more likely to experience hiring events. The likelihood of a hiring event also increases with a winery's own prominence. A variable that indicates whether the focal winery received any *Wine Spectator* reviews for its chardonnay or cabernet sauvignon wines in

the preceding three years returns an insignificant coefficient estimate. Average wine quality scores and average real wine prices over the prior three years had no significant effect on winemaker mobility.

These latter effects are important as they suggest that winemaker hiring events are not influenced by a winery's recent history of critical reviews, wine quality or prices. Our interviewees corroborated these null results by indicating that winemaker mobility tends to be driven by factors unrelated to specific concerns about quality or price. Most accepted their current head winemaking job because it promoted them from assistant to head winemaker. In most cases, the previous head winemaker left to join a different winery, to establish a new winery, or to retire.

Results

To identify the effect of hiring a new winemaker on real list prices we regress the hiring-year value of a wine's logged real price against that charged for the same wine released in the previous year. Given our focus on two- and three-year-old wines, we are confident that all of these wines were made prior to the new winemakers' arrival. The final sample consists of 368 product-level observations spread across 161 California wineries; 184 associated with hiring events and their 184 nearest-neighbor matches. Our ordinary least squared models include fixed region and year effects and a dummy variable for chardonnay wines (cabernet sauvignons are omitted). The coefficient on the variable that identifies observations with newly-hired head winemakers tests our prediction.

In table 2, the coefficient estimate on the lagged price variable suggests a strong carry-over in pricing for wines across successive years. The estimated effect of the variable that identifies hiring observations is positive but marginally significant ($p=0.052$). Model 3

decomposes this hiring effect into three components: internal promotions (n=48), external hires from non-prominent wineries (n=84), and external hires from prominent wineries (n=52). The former two coefficient estimates are positive but not significant, while the latter estimate is larger in magnitude and significant (p=0.021). On average, hiring a head winemaker from a prominent winery leads to a 10.5 percent increase in real list prices for wines that are otherwise indistinguishable.

Table 2. OLS Regression Results

	Model 2 (Price)	Model 3 (Price)	Model 4 (Quality)
Chardonnay	-0.063	-0.063	0.380
	(0.037)	(0.044)	(0.323)
Ln (Real Price)$_{\text{prior year}}$	0.700*	0.697*	-
	(0.045)	(0.044)	
Wine Quality$_{\text{prior year}}$	-	-	0.226*
			(0.051)
New Winemaker Hired	0.068	-	-
	(0.035)		
- Internal Hire	-	0.042	1.20*
		(0.057)	(0.575)
- External Hire – Not Prominent	-	0.061	0.400
		(0.043)	(0.413)
- External Hire – Prominent	-	0.105*	1.04
		(0.045)	(0.611)
Fixed Region Effects	*(yes)*	*(yes)*	*(yes)*
Fixed Year Effects	*(yes)*	*(yes)*	*(yes)*
N	368	368	368
R^2	0.641	0.642	0.269

(standard errors clustered on winery)
* *Significant at the 5 percent level*

This pricing effect is purely symbolic if the new winemaker cannot influence the quality of wines already in the cellar. We validate this assumption in a model that replaces the price variable with a quality variable for the focal and prior-year wines. The quality variable is the rating (reported on a 100-point scale) obtained in the blind tastings conducted by the *Wine Spectator*. In Model 4, the estimated effect on quality of hiring from a prominent competitor is

not significantly different from zero.[2]

Concluding Comments

Despite the fact that there is little opportunity for a newly-hired winemaker to improve the quality of wines that are already in the cellar, hiring wineries still increase prices by, on average, 10.5 percent after hiring from prominent competitors. This begs the question of why this practice sustains itself. An account of price increases that includes substantive effects on quality sits comfortably within prevailing conceptions of how markets operate. Mobility events open channels through which productive knowledge and resources flow, and so we observe quality improvements that substantiate higher prices.

When hiring effects are purely symbolic one is tempted to view price increases as unjustified or temporary. However, just as individuals in scientific communities cannot read all that is published (Merton 1968), market participants cannot evaluate all product offerings. When attention is limited and applied discriminately in proportion to a producer's prominence, price increases need not be accompanied by quality improvements.

Sociological research demonstrates how critics and analysts create order in markets by identifying subsets of producers more worthy of consideration (Zuckerman 1999). In a similar fashion, movement of skilled employees from prominent competitors attracts attention and enhances the visibility of their new employers. Our data suggest that prominent wineries are able to charge substantially higher prices than those without prominence based on relatively small differences in wine quality. By offering their career capital as a form of collateral, winemakers provide credible signals that the wines made by their new employers are like those made by their former employers and worthy of more attention and confidence. In this way, their arrival has a

[2] There is a discernible quality improvement associated with the internal hires. Notwithstanding this effect, wineries that promoted from within did not set higher prices.

positive effect on prices even before they have an opportunity to influence actual wine quality.

Of course, it remains to be seen whether this kind of purely symbolic influence of employee mobility on pricing is also observed in other market settings.

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