The Price You Pay: Price Setting as a Response to Norm Violations in the Market for Champagne Grapes

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Abstract

Contrary to the general view that markets are shaped by economic forces, bargaining power, and the prior relationships between exchange partners, this paper posits that markets can sometimes also be purely socially constructed, in the sense that prices can vary irrespective of the economic value embedded in the exchange. Building on insights from the literature on categories, we argue that sellers may react to violations of local norms on the part of particular buyers by charging them higher prices. Sellers thus provide economic benefits, in the form of lower prices, to buyers who closely adhere to the category's norms. We test these ideas using data on the market for Champagne grapes, examining the exchange between grape growers (the sellers) and the 66 houses that make the sparkling wine (the buyers). Interviews and survey data informed us that growers have clear, normative ideas about what a Champagne house should look like and do: houses that are no longer headed by a descendant of the founder, are not located in one of the traditional Champagne villages, are relative newcomers to the industry, are part of a corporate group, supply supermarket brands, operate winemaking subsidiaries abroad, or acquire their own vineyards are all viewed in a negative light. Our models provide strong support for our prediction, showing that the prices different organizations are charged for their purchases depend substantially on whether they meet local expectations for who they are and what they do. Our qualitative evidence confirms that this differential pricing by growers occurs not through collusion but through a spontaneous, bottom-up process.

Keywords: price-setting, categories, norm violations, Champagne industry

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Price is a fundamental market mechanism, and neoclassical economic theory has shown how organizations choose their prices and quantities in order to maximize profits. This literature generally depicts price dynamics as the result of an interaction between sellers' and buyers' strategies, including issues of supply and demand, differentiation, and bargaining power. Economic sociologists have challenged this view of markets and argued that prices are also socially constructed (Granovetter, 1985; Fligstein, 1996). They describe markets as imperfectly competitive social arenas in which firms, their suppliers, and customers repeatedly interact (Fligstein and Dauter, 2007). Exchange partners are often faced with uncertainty, either about the true quality of the goods sold or the trustworthiness of their transaction partner, or both (Sorenson and Waguespack, 2006; Fernandez-Mateo, 2007). In the presence of uncertainty, actors may assess potential exchange partners on the basis of information derived from status positions, social ties (such as board interlocks), and prior exchange history (Granovetter 1974; White, 1981; Uzzi 1997).

Embedded ties may produce lower prices between exchange partners because they reduce transaction costs by prompting private information flows and informal governance arrangements (Uzzi and Lancaster, 2004). Trust, developed through repeated exchange, helps explain why rational sellers may offer lower prices to buyers with whom they share close ties (e.g., Uzzi, 1999; Uzzi and Lancaster, 2004): they expect to enjoy some form of savings in terms of search or enforcement costs when transacting with a known buyer. Hence embeddedness and trust translate into economic value; transaction partners— whether rightly or not (Sorenson and Waguespack, 2006)—value the perceived reduction in uncertainty and are for that reason willing to accept lower prices. In this paper, we argue that prices can also be influenced by factors that have nothing to do with the economic value embedded in the exchange or the economic value derived from trust or embeddedness. Instead, sellers may charge buyers substantially different prices purely based on who they are and how they behave (e.g., Frank, 1996). Even for ''routine'' transactions in which no additional value is to be derived from embeddedness (Uzzi and Lancaster, 2004), prices may differ across buyers.

Instead of looking at pricing decisions from an economic or embeddedness perspective, this paper focuses on the role of norm violations. Drawing on insights from the literature on market categories, we propose that sellers discriminate on price based on whether the buyer violates or adheres to the category's local norms. Most economic sociologists agree that local practices and normative understandings play an important role in the functioning of markets (Fligstein and Dauter, 2007), yet few have examined how they affect behaviors in transactions (Halpern, 1997). There certainly are indicators that societal norms of morality influence actors' behavior when the stakes are relatively low—for example, when a customer chooses to leave a tip in a roadside restaurant far from home (Granovetter, 1985: 489). Such societal norms may also be tied to actors'''moral satisfaction'' with particular exchange partners. For instance, Frank (1996) found that expert witnesses hired to testify in court charge lower fees to anti-smoking interest groups than to tobacco companies. They derive some moral satisfaction from interacting with clients who are recognized as occupying the moral high ground in the tobacco hearings. These examples challenge the assumption that pricing decisions merely follow a rational cost-benefit analysis (Gaertig et al., 2012); they are more consistent

with the idea that these decisions are influenced by societal norms (Halpern, 1997).

We go beyond societal norms of morality and further explore the validity of this proposition for local norms. In line with the literature on market categories (Hannan, Pólos, and Carroll, 2007), we theorize that, in mature industries, buyers and sellers can represent subcategories with associated expectations in terms of their roles, characteristics, and behaviors. These expectations represent the category's local norms: social agreements about what type of behavior is appropriate and desirable. We hypothesize that the more that buyers violate these norms of conduct, the higher the price the seller will charge in order to agree to transact with them. Conversely, buyers who adhere closely to shared, local norms are given better prices. In this situation, prices are also determined by how socially acceptable a transaction partner is. Local norm violations may not affect the economic value involved in a transaction, but they can affect a seller's willingness to interact with certain buyers. As a form of compensation (Frank, 1996), sellers demand higher prices.

The Champagne grape market is ideal for the study of price-setting in response to norm violations because it rules out some confounding influences. For instance, there is a clear distinction between buyers (Champagne houses) and sellers (grape growers). Although there are about 15,000 growers and merely 66 houses in the industry, because of the very high demand for Champagne and limited supply of grapes, the growers have considerable influence on price. In fact, they are considered price-setters. Because the product (the Champagne grape) is homogeneous and in demand, and there is no information asymmetry concerning grape quality, there is little uncertainty surrounding the transaction, and there are no other goods or services that may add unique value to the exchange (e.g., Uzzi and Lancaster, 2004). Moreover, it is clear that some houses' characteristics and behaviors are perceived by grape growers as deviations from what they expect a Champagne house to look like and do. In Hannan, Pólos, and Carroll's (2007) terminology, they are seen as more peripheral to the collective identity of the Champagne category.

PRICING AS A RESPONSE TO NORM VIOLATIONS

The Social Functioning of Markets

Economic theory explains how market prices are determined by the value of the goods being exchanged and the transaction partners' ability to appropriate that value. By contrast, organizational theorists have emphasized the role of the transactors themselves. Starting with White (1981), the literature on the social construction of markets suggests that exchange is also governed by market actors' relationships, beliefs, and interests. Using this perspective, studies have revealed a variety of influences on the formation and functioning of markets, ranging from public policy (e.g., Dobbin and Dowd, 1997) to collective beliefs (e.g., Porac et al., 1995).

One important strand in this literature has examined how firms, facing uncertainty about the value of what is on offer, interpret cues about who is making the offer to assess that value. For example, a firm's status is used as a signal of quality (Podolny, 1994) so that buyers are willing to pay higher prices for goods and services from high-status sellers (Podolny, 1993; Benjamin and

Podolny, 1999). Buyers may also be more willing to transact with sellers about whom they have more information, for instance through social ties such as board interlocks (e.g., Uzzi and Lancaster, 2004). Similarly, actors may favor partners with whom they have had positive dealings in the past, because prior relations increase their perceived trustworthiness (Gulati, 1995), which may increase partners' propensity to engage in an exchange again (e.g., Geertz, 1978; Sorenson and Waguespack, 2006). Hence, apart from what is being exchanged, transaction partners also assign value to those with whom they are dealing.

A related stream of research holds that markets may form distinct ''categories'' (e.g., Hannan, Pólos, and Carroll, 2007). Categories are also thought to reduce uncertainty because they come with some agreement about what characteristics and behaviors are expected from their members. When the producers claiming membership in a category conform to these expectations, it creates the impression that the reality expressed by the category is natural (Hannan, Pólos, and Carroll, 2007: 79). Hence the category becomes taken for granted, and people treat as a default the idea that members conform. Because audiences rely on categorical boundaries to identify and make sense of producers, firms that straddle different categories are perceived as less coherent, less committed, or less suited to buyers' needs (Hsu, Hannan, and Polos, 2009). Studies confirm that category spanners often suffer some economic disadvantages, including lower prices (Zuckerman, 1999; Hsu, 2006).

Categories and Local Norms

In mature industries, especially those concentrated in a specific geographical region (Porac, Thomas, and Baden-Fuller, 1989; Romanelli and Khessina, 2005), organizations develop a collective sense of identity (Negro, Hannan, and Rao, 2011). They perceive their shared economic interests, leading to a growing agreement about what type of behavior is appropriate and what actions are not acceptable. They thus form a distinct category (Hannan, Pólos, and Carroll, 2007). Categories can also include a range of organizations sharing economic interdependencies. These include direct competitors (e.g., Porac, Thomas, and Baden-Fuller, 1989) as well as firms with whom producers engage in market exchanges. For example, the category of Champagne includes both grape growers (sellers) and buyers (houses), which form two subcategories within the larger whole.

The social agreements about what type of behavior is appropriate form the categories' local norms. Local norms in Champagne are thus partly shaped by the growers upon whom the houses depend for critical input and whose evaluation therefore matters. These norms are more contextual than wider societal norms, in the sense that they are specific to the members of the category (Alexander, 1987). Typically, they aim at differentiating members of the associated category from potential competitors. White (1981: 520) proposed that firms try to find and maintain stable niches in ''much the same way as organisms seek niches in ecology.'' This social process contributes to the formation of market boundaries; stable niches reflect firms' ability to segregate their markets. For instance, producers of Barolo and Barbaresco constitute a distinct category within the Italian wine industry; they strive to maintain crisp

categorical boundaries through a differentiated product offering (Negro, Hannan, and Rao, 2010).

Our conception of local norms is similar to what Phillips, Turco, and Zuckerman (2011) referred to as ''membership norms,'' or what Hannan Pólos, and Carroll (2007) described as ''codes.'' They defined a category's code as a set of rules of conduct: for example, members of the modern microbrew movement defined ''a code concerning the producer (that the brewer not also produce beer by other means or grow beyond a certain size) as well as the product'' (Hannan, Pólos, and Carroll, 2007: 116). Some local norms pertain to actors' characteristics, for instance, whether they follow the (perhaps arbitrary) jargon or dress associated with serving a target audience (Phillips, Turco, and Zuckerman, 2011). Others pertain to particular actions; for example, membership in the corporate law market requires that actors restrain from engaging in activities that are ''not specifically legal,'' such as practicing family law (Phillips and Zuckerman, 2001).

Consequences of Norm Violations

To date, scholars have almost exclusively looked at violations of membership norms from the perspective of customers, a specific audience. They showed that customers used membership norms as indirect signals that actors can (or cannot) satisfy their particular wants and needs (Phillips, Turco, and Zuckerman, 2011). They found that firms experience lower market appeal—and hence incur higher costs or receive lower prices—when they do not follow their category's membership norms: the audience assumes that their offering does not fit with their expectations (e.g., Hsu, 2006). Yet firms rarely cater to one single audience (Phillips and Zuckerman, 2001). Similar to law firms or securities analysts, Champagne houses orient themselves toward two primary audiences: customers (output) and grape growers (input). In this paper, we focus on how sellers (grape growers) respond to norm violations by their buyers, i.e., Champagne houses.

Local norms can pertain to both organizations' actions and their stable characteristics. It seems possible that norm violations elicit different reactions depending on whether the norm pertains to an action or a state. Research on social perception suggests that people view some outcomes as largely determined by the situation but see others as driven by chronic dispositions, such as traits or motives (Ross, 1977). They may also draw different conclusions about the severity of a particular violation depending on whether it is attributed to internal or external causes. On the one hand, to the extent that actions are perceived to be more deliberate than characteristics, which can be inherited, one could expect this type of violation to be viewed as more provocative, especially if the action is repeated. On the other hand, because agents can correct their actions over time, the latter may be perceived as a potentially temporary violation and therefore less offensive. Notwithstanding these potential differences, norm violations in both actions and states could be expected to trigger a response by transaction partners. When actors are economically interdependent, local-norm violations may affect the other members of the category by lowering the degree to which the category stands out from others in customers' eyes. Negro, Hannan, and Rao (2010) notably documented the dissatisfaction experienced by traditional Barolo and Barbaresco producers when some of

their peers engaged in perceived violations of the category's code, such as aging the wines in barriques (used for most New World wines) rather than in botti grandi. By lowering the categorical contrast, the boundaries of a category become fuzzier (Hannan, Pólos, and Carroll, 2007). Unlike customers, Champagne grape growers directly experience the negative consequences of a lower categorical contrast, which may influence their perceptions of and behavior toward norm violators. In fact, the economic interdependency between grape buyers and grape sellers creates an opportunity for the latter to sanction norm violators during market exchanges so that local norms come to play a role in regulating prices in markets.

Norm Violations and Price-setting

In well-established categories, there is a ''minimal test code'' for whether a particular producer belongs to it—for example, producing Champagne qualifies a firm as belonging to its category—but depending on how closely the organization adheres to local norms, it is considered more or less central to it. The more central the producer, the higher its constitutive legitimacy (Hannan, Pólos, and Carroll, 2007), meaning that audiences accept and take for granted that the organization is part of the category. Perceived violations of local norms trigger a loss in constitutive legitimacy, so that producers' membership in the category becomes increasingly questioned (Hannan, Pólos, and Carroll, 2007). In itself, constitutive legitimacy does not necessarily come with moral implications: an audience may stand positive, negative, or neutral toward a deviation from expectations (Jepperson, 1991). But for some audiences, the loss of constitutive legitimacy also comes with a loss of moral legitimacy. When sellers and buyers, for example, together form a wider category, as in the case of Champagne, the category's sellers may consider a particular buyer's deviation from local norms as undesirable. This is because, to them, category membership reflects a collective identity considered worth preserving (Negro, Hannan, and Rao, 2011). Hence, for this audience, the constitutive characteristics and behaviors associated with membership in a category are not neutral; some are viewed as ''better'' than others. Operating within a particular category thus comes with moral expectations for how the buying organization should behave: what it should look like and do.

   Overall, members who do not meet the expectations associated with operating within their category will experience a drop in their moral legitimacy. Other actors, including suppliers, will consider an organization that does not adhere to local norms to be more peripheral (Porac, Thomas, and Baden-Fuller, 1989; Hannan, Pólos, and Carroll, 2007). A consequence of being a more-peripheral player to a category is that the organization becomes less attractive to potential exchange partners. Or, as Hannan, Pólos, and Carroll (2007) postulated, a firm's intrinsic appeal is directly related to its grade of membership in a category. We expect that sellers will require higher prices to transact with a more-peripheral buyer. As norm violators experience a drop in their grade of membership and a loss in expected intrinsic appeal, sellers will charge higher prices because they wish to be compensated for dealing with them. People seek compensation to deal with norm violators because the violation is viewed as a ''moral transgression'' (Hannan, Pólos, and Carroll, 2007: 85). This,

according to Hannan and colleagues (2007), may trigger feelings of irritation and indignation, something we observed in our interviews in the Champagne industry.

We expect that grape growers will require financial compensation to deal with houses that are considered more-peripheral actors because they violate some of the local norms of the category, thus lowering the categorical contrast for all. Thus suppliers will not like dealing with buyers who violate the norms of their category, but if the price is high enough, they will. They use the high price to justify dealing with buyers whom they find less palatable. Perhaps a more positive view of this is that actors can be ''true believers'' in a norm (Centola, Willer, and Macy, 2005). If they observe that expectations are violated when members deviate from the local norms, they need to feel that ''justice has been done'' (Horne, 2004: 1040). Justice may take the form of charging higher prices to violators. Or, vice versa, they may feel inclined to give price advantages to those firms that do adhere to their normative expectations. This relates to what Coleman (1994) referred to as positive ''heroic sanctioning''; perhaps a seller could have sold the goods at a higher price—whether to the same buyer or to a different one—but it chooses to reward a firm for adhering to the category's local norms. Therefore we formulate the following prediction:

> **Hypothesis:** Buyers who violate local norms, through their characteristics and actions, are charged higher prices for the same good.

METHODS

Empirical Setting: The Champagne Industry

We chose to study the Champagne industry because it has certain characteristics that make it an ideal testing ground for our theory. It is located in a precisely defined area (the so-called *Appellation d'Origine Controlée*, or AOC), and only sparkling wines made from grapes grown in that region can legally be called Champagne. It is ''required that all wines bearing the name champagne be from grapes harvested in Champagne and that all aspects of the production be completed in the region. All [houses are] expected to conform'' (Guy, 2003: 79). In this centuries-old industry, the houses are expected to conform to a number of more-or-less explicit norms (see below). Champagne grapes are grown in vineyards by grape growers and are generally sold to Champagne houses—such as Bollinger or Moët & Chandon—who use them to produce the sparkling wine. There are about 15,000 growers and 66 Champagne houses. They are often referred to by industry insiders as ''the two families'' within Champagne. There is one combined Champagne trade association for both growers and houses. The Comité Interprofessionnel des Vins de Champagne (CIVC) comprises two trade associations: the houses' (UMC: Union des maisons de Champagne) and the growers' (SGV: Syndicat Général des Vignerons). The CIVC is headed by two co-presidents: one representing the growers and one representing the houses.

Although there are many more growers than houses, for various reasons the growers largely act as price-setters. The AOC legal framework limits the amount of land that can be cultivated for wine production, as well as the yield of the vines. The region has reached peak production (Besse, Tegner, and Wilkins, 2006); it is fully planted, and vineyard productivity is at its maximum.

Although historically some houses have some vineyards of their own—the grape growers own 90 percent of the vineyards and the Champagne houses about 10 percent—since the 1960s, French law has made it difficult for houses to integrate vertically and acquire vineyards from growers. As a consequence, most Champagne houses have very low self-supply ratios and thus depend on growers for the vast majority of their supplies. In contrast, the growers are not so dependent on Champagne houses for distribution: they can potentially participate in a so-called co-op, a co-operative of growers that produces Champagne. In fact, although it represents fairly small volumes, about one in three growers is involved in the production of Champagne.

Whereas the grape supply is limited, demand for Champagne is booming. Although the domestic market remains strong, international demand—especially from countries such as Russia and China—has risen dramatically over the past two decades.[1] This has made the grapes a very scarce resource. In what people in the industry refer to as the supply race, Champagne houses compete fiercely to secure supplies: ''All that is required to sell unallocated Champagne grapes is a 30-second telephone call. They'll be bought, unseen with gratitude and alacrity. They all need grapes desperately. Each house tries to outdo the other both psychologically and financially to attract and keep hold of the grapes'' (Jefford, 2008). Grape purchase now represents about 67 percent of the total production cost of a bottle (Besse, Tegner, and Wilkins, 2006). As can be expected, the high demand for and limited supply of Champagne grapes have boosted prices. For example, whereas one hectare of vines in neighboring Burgundy costs approximately 87,000 euros, it costs 734,000 euros in Champagne. Consequently, the average grower's margins are estimated to be close to 100 percent.

The Champagne grape is very homogeneous. As one of our interviewees explained, ''In all other wine regions, you pay according to the quality. This is not the case here.'' Insofar as differences in grape quality exist, we were able to control for them in our regression models. Furthermore, all transactions occur around the same time of year, immediately following the harvest—depending on weather conditions, the harvest typically starts in September and ends in November. Because of the relative smallness and transparency of the region, search costs and information asymmetries in terms of the availability of grapes or of interested buyers also are minimal. Yet, for such a homogeneous product, price differences are surprisingly large. Whereas during a normal season a kilogram of raw material costs about 9 euros on average, the within-year standard deviation is about 6 euros. We triangulated this information using two independent databases: the database used in this study and contractual data on 8,920 individual transactions.

Exchange relations between buyers and suppliers in the industry are quite stable, in the sense that switching is rare. Existing relationships are seldom terminated, something we observed both in our interviews and by studying the sample of longitudinal contractual data. Most growers sign declarations of intent to supply a given house for a number of years. But even when a seller signs a declaration for multiple years, prices are systematically renegotiated

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[1] France is the world's largest exporter of wine in value, but Champagne represents a third of all exports (2.3 billion euros in 2007), whereas it covers only 4 percent of the French vineyard area. It sold 339 million bottles in 2007 (some 46 million more than in 1998), and exports have grown 116 percent in value since 1998 (twice as fast as the other French wine categories).

after each harvest. Furthermore, there is no formal collusion between grape growers; prices are not agreed upon by a central body. We also found no indication in the responses to our questionnaire or our confidential interviews—whether with growers, representatives of houses, or outside industry-experts—that any form of informal collusion is taking place among the 15,000 growers in the region.

Sample

Approximately 100 companies claim to be Champagne houses, but only 66 are officially listed as members of their professional association (UMC). Conversations with the UMC director and a careful examination of the firms excluded from the list reveal that most are ''négociants'' rather than houses; that is, they sell Champagne but produce barely any wine. Because we are specifically interested in Champagne houses, we chose to focus on the 66 companies listed by the UMC. Data were unavailable for two of these firms due to their small size, but we obtained complete financial data for 64 of the Champagne houses between 1998 and 2007. Before this date, prices were not fully determined by market forces; the price of grapes was negotiated and fixed at the industry level between growers and houses. We gathered the quantitative data from three data sources: (1) DIANE, a Bureau Van Dijk database containing detailed financial information on 974,000 French private and public companies, (2) the National Registry of Trade & Companies, the official source of financial and legal information on French private and public companies and, (3) the *Guide Curien de la Champagne*, a publication created in 1991 by Champagne experts that provides detailed information about Champagne companies. Insiders describe this as the ''Champagne Bible.''

Dependent Variable

The dependent variable of our study is the average price that a house pays for the raw materials it uses in its Champagne production in a given year. The grapes that a house purchases typically come from a large number of growers and therefore potentially have different costs. For this reason, for each of the houses, in line with previous studies on winemaking (Benjamin and Podolny, 1999), we constructed this measure by dividing the annual purchase cost of raw material by the volume of grapes. Houses do not report the costs of grapes separately from the costs of other raw materials. But production processes in Champagne are strictly controlled: yeast and sugar are the only other raw materials that can be added to make the wine. These materials are used in very small quantities relative to the grapes and are both commodities, which do not vary in price between different houses. Hence we used the average price of raw materials in a given year as a proxy for the costs of grapes that a house purchases. We did not lag this variable because harvest prices are determined at the end of the year.

Independent Variables

As a first step, to determine our independent variables, we conducted a round of qualitative research to identify local norms, or characteristics and actions that

Table 1. Overview of Respondents Interviewed

Number of informants	Number of interviews	Affiliation
3	4	Heads of Champagne industry associations (CIVC, UMC and SGV)
12	16	Industry experts*
14	18	Grape growers
14	14	CEOs of Champagne houses

* Industry experts include Masters of Wine (MW), a scholar from the Champagne Management Chair - Reims Business School, a UBS analyst for European Luxury Goods, the managing director of the Champagne Bureau in the UK, Champagne agents, oenologists, and the former head of UMC.

are expected (or not) of Champagne houses. We interviewed 43 people from the industry—see table 1 for an overview. The interviewees were very consistent in their answers. Growers perceived as intrinsically attractive those houses that were still family-controlled, exemplified by the fact that the CEO was a descendant of the founder. They were wary of houses that were not located in one of the traditional Champagne villages (e.g., Reims, Epernay, Chalons en Champagne, Essoyes, Hautvilliers, or Les Riceys) and of houses they considered relative newcomers to the industry. Some houses are owned by larger, often listed corporate groups—another thing growers generally frown upon. In terms of actions, as representative of unattractive norm violations, the growers indicated that they did not like houses that supplied Champagne to be sold by supermarkets under their own brands, houses that had set up subsidiaries to make sparkling wine abroad, or houses that had been acquiring their own vineyards (by taking over other, smaller houses that historically owned a vineyard). We measured each of these norm violations.

Family CEO. Our interviews indicated that family management is a longstanding norm in Champagne, that is, that houses are run by descendants of the founder. Although today this is true of about 40 percent of the houses, among growers there is a perception that the region's prosperity is tied to the families who made the region's name and to the tradition that management is passed on from one generation to the next. Management by a founder's descendants is thought to distinguish Champagne from other French wine regions (Guy, 2003), which is also reflected in the fact that brand names are often tied to families rather than just to estates (e.g., Domaine La Romanée Contie in Burgundy); various houses still bear a traditional family's name (e.g., Krug or Billecart Salmon). As one interviewee commented, ''Firms that keep the family spirit, that's what matters. That is to say, the spirit of the founder.'' Consistent with prior studies (e.g., Anderson and Reeb, 2003; Villalonga and Amit, 2006), we measured family management as firms whose CEO is a descendant of the founder by either blood or marriage. We created a binary variable coded 1 if this is the case and 0 otherwise. These data were obtained from firms' corporate websites, cross-checked with the French Who's Who and the *Guide Curien de la Champagne*. We predict that houses whose CEO is a descendant of the founder will, on average, pay lower prices for the grapes they purchase.

Village density. Collective identity is often connected to geography (Porac, Thomas, and Baden-Fuller, 1989). In Champagne, some villages are considered the cradles of the industry and recognized as its historical centers. Over time, as the industry developed, producers also located further away from these

villages, venturing further afield within the Champagne region. Yet these alternative locations are still seen as secondary, not places where a ''true Champagne house'' should be located—or, as Guy (2003: 51), in his historical study of the region described it, ''marginal vineyards along the periphery of the main viticultural areas.'' The limits of the ''true'' Champagne have always raised considerable debates throughout the development of the industry. One grower commented about the recent project of geographical expansion: ''I mean, come on! In some places, there have never even been any vines! Any tradition of wine.'' Another stated, ''They cannot expand in the traditional villages. It would have to be north of here in regions where there are no vines, no tradition of vines.'' Growers perceived as more intrinsically appealing those houses located in the traditional villages. In those villages, there is a relatively high number of Champagne houses. Therefore we measured the relative density of houses in the various villages in Champagne by collecting location data for each house; we then computed the number of houses relative to the village's population (measured in hundreds). This information was collected from the *Guide Curien de la Champagne*. We predict that the higher the density of Champagne houses in the village in which the house is located, the lower the price it pays for its grapes.[2]

Newcomers. As proclaimed by many of our interviewees, a sense of history is a central characteristic of Champagne. Almost a fifth of all Champagne houses date back to the eighteenth century; 70 percent were founded before Champagne received the AOC recognition in 1926. Firms that entered several decades ago, after the industry took its present form, are often still referred to as newcomers. Such entrants are viewed as opportunistic and with some suspicion as to whether they will honor and conform to the industry's traditions and practices. Houses that are seen as having helped build the name and fame of Champagne are (almost affectionately) referred to as old-timers. One grower stated about a particular old house, ''This is a beautiful firm. They have a history, a great legacy. It has taken them time and effort to build the brand . . . a colossal amount of work. They have little to learn from anyone in the industry! I respect that.'' Another commented, ''Some of these firms, they come and go. Who knows for how long they're here, where they'll be in 5 or 10 years? They would leave tomorrow if they stopped making money. They don't care about Champagne.'' We measured the extent to which a Champagne house was a newcomer by means of a proxy that indicated to what extent it was relatively late entering the industry. The variable was coded 0 if the particular house was founded before 1960; otherwise, the variable took on the value of year of entry minus 1960. We chose 1960 as a cut-off point because it was around this time that the industry took its present form; for instance, the French government adopted legislation in the early 1960s that prevents houses from easily acquiring grower-owned vineyards. Our interviews suggested that this was often seen as a crucial cut-off point, distinguishing newcomers from old-timers. We predict that the ''old-timers'' are given price advantages when purchasing their grapes and that, vice versa, the more a house is a newcomer, the higher the price it pays for its grapes.

Corporate and listed groups. The production of Champagne is still seen by many as an artisanal process, with symbols such as handpicking of the grapes or hand-riddling of the bottles. One producer commented, ''Some talk about

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[2] We obtained near-identical results with dummy variables for traditional Champagne villages.

the Champagne industry; ['industry' is] a word that doesn't belong in Champagne. Champagne is a luxury product and an artisanal product; it relies on human skills, even if there is some mechanization of course.'' In contrast, the emergence of large corporate groups, which own some of the Champagne houses, some of which are listed on the stock exchange, is poorly perceived. Typically, the co-president of the Champagne trade association (CIVC) recently advocated ''remain[ing] artisans, artists, men of the vine and men of wine'' and ''not becom[ing] agro-food industrial groups.'' To distinguish between the Champagne houses that belong to a larger corporate group and those that operate independently, we created a binary variable coded 1 for the former and 0 for the latter. For example, Moët & Chandon was coded 1 (because it belongs to the LVMH group), whereas Pol Roger was coded 0 (because it is still operated as an organization). We also created a dummy variable coded 1 if the group was listed on the Paris stock exchange; 0 otherwise. Few independent houses were listed. We used DIANE and the French Registry of Trade & Companies to track the houses' corporate structures. When necessary, we cross-checked this information with firms' corporate websites. We predict that the independent houses are charged better prices for their grapes; houses that are owned by corporate or publicly owned financial groups will pay more.

Supermarket brands. One action by houses that is viewed as a norm violation by growers is supplying Champagne for supermarket brands. This practice emerged in the 1990s and is considered economically attractive for houses because it leads to a stable flow of demand and eliminates many of the hassles of distribution. At the same time, it is perceived as lowering the product's overall image, weakening the distinction between Champagne and other sparkling wines. As one interviewee commented, ''With this type of behavior [supply of wine for supermarket brands], how do you want consumers to understand why they should pay more for Champagne—these products are cheaper than some [non-Champagne] sparkling wines. The other day, I saw an English sparkling whose retail price was higher!'' Another stated, ''It [supplying wine for supermarket brands] devaluates the product with prices that are not worthy of Champagne.'' An industry observer summed up the general sentiment among growers: ''Some almost see it as the absolute evil'' (SGV, 2006). We obtained information on whether houses produced wine for supermarkets' private labels using the annual *Buyer's Own Brand Listing of Rayon Boissons*, a trade publication dedicated to beverages in supermarkets. This document reports information on all major supermarket labels as well as their original producers. Subsequently, for each Champagne house in each year, we measured the total number of supermarket brands it supplied in that year. We took the natural logarithm of this variable, because its influence on price can be expected not to be entirely linear; for instance, the difference between supplying 0 and 1 supermarket brands may be perceived differently than the difference between supplying 5 and 6.[3] We predict that the greater the number of supermarket brands a house supplies, the higher the prices it pays for its grapes.

Foreign subsidiaries. Growers were also wary of houses that internationalize by setting up winemaking subsidiaries. These subsidiaries make wines that could be seen by consumers as a substitute for Champagne. Although the

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[3] We obtained similar results with a dummy for whether a firm supplies any supermarket brands and with a measure of the cumulative change in the number of supermarket brands supplied.

appellation itself is not used to brand the foreign wine, the name of the house often is. As observed by one CEO of a Champagne house: ''Come on, Moët & Chandon and Chandon [Napa]? It's really, really similar, right?'' Setting up subsidiaries involves taking winemaking expertise outside the region. A grower commented, ''I think it's dreadful when our own people, our own Champagne companies, go to other countries and set up production facilities for sparkling wine in these countries that is going to compete with Champagne.'' We collected data on whether houses opened winemaking subsidiaries outside of France in a given year as follows: first, we used DIANE and the French Registry of Trade & Companies to track all subsidiaries in each house's corporate structure. Second, we used the various national registries of trade to ensure that only subsidiaries dedicated to the production—and not the mere distribution—of wine were included. Some houses have had subsidiaries abroad for more than half a century, which we suspected would be held against them less. Therefore, for this variable, we computed the cumulative increase in the number of subsidiaries a house owned outside of France between 1998 and 2007.[4] We predict that the more winemaking subsidiaries a house operates abroad, the higher the price it pays for its grapes.

Vineyards acquired. French legislation may prevent houses from vertically integrating by buying up growers, but a house can increase its vineyard area by taking over other houses that owned land prior to the enforcement of the regulation (in the 1960s). Growers view this as a clear norm violation because it challenges the existing role structure within the industry, distinct to Champagne, which separates vine growing and winemaking. As one interviewee proclaimed, ''[This separation] is unique. We're the only ones who were able to do that! Look at Cognac; it's a mess.'' Another commented, ''We are two families. We are on the same boat but let's stick to our respective roles.'' To measure the acquisition of vineyards by houses, we used the *Guide Curien de la Champagne* as well as archival data to track the size of the vineyard owned by each Champagne house in a given year. *Vineyards acquired* refers to the cumulative number of hectares purchased by each house in Champagne during our sample period (1998–2007).[5] We did not use the total number of hectares of vineyard owned by each of the houses because, historically, some Champagne houses have owned their own vines. In line with our theory and interview data, we assumed that vineyards owned by houses for historical reasons (which they may have owned for centuries) are not seen as a norm violation; it is the more recent additions in terms of vineyard purchases that are poorly perceived. We predict that the more vineyards a house acquired during the sample period, the higher the price it pays growers for grapes.

Construct Validity

For a robustness test involving a direct measure of embeddedness, we managed to obtain network data directly from 222 growers (see below for details). In the process, we also asked them to fill out a questionnaire. We used data

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[4] Only one house closed more subsidiaries than it opened. Hence, it was assigned the value of −1. Results don't change with a dummy for the cumulative change in the number of subsidiaries owned.
[5] We obtained similar results with a variable coded 1 or −1 when a firm acquired or sold vineyards.

from this questionnaire to determine the construct validity of our independent variables, particularly how they were related to perceptional measures of conformity with shared, local norms. Providing them with a list of all 66 houses, we asked them to check off ''which Champagne houses, if any, have values and beliefs about Champagne that coincide with yours'' and ''which Champagne houses, if any, have values and beliefs about Champagne that conflict with yours?'' For each respondent-house dyad (14,652 dyads), we computed a measure based on the two questionnaire items: the variable is coded –1 when the respondent views the house as having values and beliefs that conflict with his or hers, 1 when the grower views the house's values and beliefs as coinciding with his or her own, and 0 when it is neither.

Using an ordered probit specification, we then regressed this variable on all our independent variables and controls. We repeated the analysis using multinomial and bivariate probit regressions. The results are displayed in table 2. In general, our predictors are significant and in the expected direction.[6] The one exception is the variable corporate group. This variable is associated with conflicting values and beliefs—in line with our expectation—but also with coinciding values and beliefs. Careful examination of the data showed that this result was entirely driven by two specific houses that we know from our interviews have high intrinsic appeal with the growers but which, together, form a group: the houses Bollinger and Ayala form the group Société Jacques Bollinger but they are not part of a large corporate group. The two of them have formed their own group since the Bollinger family acquired Ayala in 2005. When we recoded these two houses as independent, the results fell completely in line with our expectations, leaving all other results unaffected. For reasons of consistency, in the analyses reported below, we retained our original coding, but sensitivity analysis using the alternative measurement clearly replicated all the results. Overall, these findings confirm the construct validity of all our measures.

Control Variables

In our models, we controlled for several variables pertaining to common economic explanations of price formation, particularly a house's demand. Size of the Champagne house was controlled for through its annual *volumes* of bottles sold. This also represents the amount of grapes purchased, because all producers need approximately 1.2 kilos of grapes to produce 750 ml of Champagne. We collected these data from the *Guide Curien de la Champagne* and a variety of company and industry reports. We had no particular expectation about the direction of its effect. On the one hand, firms that require larger volumes may be expected to receive discounts so that the price they are charged is lower. On the other hand, larger houses may have to pay higher prices to secure the larger volumes of grapes they require. We also controlled for vineyard ownership, because this may affect a house's bargaining position vis-à-vis the growers and potentially lower the price it pays for grapes sourced through them. We measured the size of the *vineyard owned* by each firm by taking the

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[6] For a few variables, we see that growers find some houses intrinsically appealing if they display the characteristic or action, but do not find them unappealing if they do not, and vice versa. This seems a matter of relative numbers. For example, growers find houses with a family CEO attractive, but do not perceive as unattractive those houses that do not have a family CEO. It is understandable given that most houses no longer have a family CEO.

Table 2. Regressions Predicting Perceptions That a House Violates or Conforms with Local Norms (N = 14,208)*

Variable	Ordered probit Conforms	Multinomial probit†		Bivariate probit	
		Violates	Conforms	Violates	Conforms
Predictors					
Family CEO	0.063••••	–0.016	0.150••••	–0.040•	0.110••••
	(0.021)	(0.038)	(0.034)	(0.029)	(0.025)
Village density	0.165••••	–0.012	0.277••••	–0.070•••	0.210••••
	(0.019)	(0.035)	(0.024)	(0.028)	(0.018)
Newcomer	0.000	0.001••••	0.000	0.001•	0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)
Corporate group	0.214••••	0.095••	0.503••••	–0.020	0.357••••
	(0.033)	(0.057)	(0.055)	(0.043)	(0.040)
Listed	–0.274••••	0.067•	–0.484••••	0.138••••	–0.376••••
	(0.034)	(0.047)	(0.052)	(0.038)	(0.040)
Supermarket brands	–0.031•••	0.067••••	0.010	0.050••••	–0.006
	(0.012)	(0.020)	(0.021)	(0.015)	(0.015)
Foreign subsidiaries	–0.182••••	0.294••••	–0.021	0.228••••	–0.070••••
	(0.024)	(0.034)	(0.026)	(0.025)	(0.020)
Vineyards acquired	–0.004••••	0.004••••	–0.004••••	0.004••••	–0.003••••
	(0.000)	(0.001)	(0.001)	(0.001)	(0.000)
Control variables					
Volumes	0.001	–0.002••	–0.001	–0.002••	–0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Vineyards owned	0.002••••	–0.002••••	0.002••••	–0.002••••	0.002••••
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
RoA	0.002•	0.002	0.009••••	0.001	0.007••••
	(0.001)	(0.002)	(0.003)	(0.002)	(0.002)
Prestige	–0.003••••	0.001	–0.005••••	0.001	–0.004••••
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Grape quality	–0.004•••	0.008•••	–0.001	0.006•••	–0.002
	(0.001)	(0.003)	(0.003)	(0.002)	(0.002)
Growing area size	0.001	–0.035••••	–0.028•••	–0.021•••	–0.017••
	(0.006)	(0.010)	(0.010)	(0.007)	(0.008)
Constant		–2.320••••	–1.557••••	–1.776••••	–1.075••••
		(0.303)	(0.289)	(0.218)	(0.210)
Wald chi^2 (d.f.)	177.55(14)	293.87(28)		292.53(28)	
Prob.	0.0000	0.0000		0.0000	

• $p < .10$; •• $p < .05$; ••• $p < .01$; •••• $p < .001$; significance tests are one-tailed for predictors, two-tailed for control variables.

* Robust standard errors are in parentheses, clustered by respondent. Data were unavailable for two of the 66 firms due to their small size (N < 14,652).

† The default category is neither violates nor conforms.

natural logarithm of the number of hectares owned by the firm. We also controlled for firms' *return on assets* (RoA) because suppliers may potentially assess a firm's demand function according to its profitability and may try to price-discriminate against the most profitable firms. We also ran models with *return on capital* as an alternative control and obtained nearly identical results.

We also wanted to control for how prestigious a particular house is, because sellers may be more eager to deal with more prestigious buyers and therefore charge them different prices (e.g., Benjamin and Podolny, 1999). Therefore we

created an index composed of two measures: the first was obtained by asking an industry expert to rank Champagne companies according to their level of prestige. The second measure consists of an official ranking of Champagne companies by the *Revue des Vins de France*, a leading publication for wine connoisseurs in France. The expert ranking was highly correlated with this public ranking (correlation = 0.76). We mean-centered each measure and took its average, although using the variables independently yielded nearly identical results. We labeled this variable *prestige*, to distinguish it from our measure of status—intended to capture embeddedness—which we discuss in the section on additional analyses.

We also controlled for the *size of the growing area* of the village in which the house is located. As part of the AOC framework, the vineyard area is legally delimited in Champagne; each village is associated with a clearly defined growing area. For example, the village of Ay features a growing area of about 350 hectares. We had no particular expectations about the direction of the effect of this variable. On the one hand, one might expect larger growing areas to be associated with higher local supply, which could suppress prices. On the other hand, it is possible that houses located in areas with little local supply are more accustomed to sourcing grapes from more distant areas, which enables them to obtain them for a relatively good price, whereas houses located in larger growing areas are perhaps more inclined to source their grapes locally, where there may be high demand and correspondingly high prices.[7]

Finally, we controlled for *grape quality*, which represented the average quality of the grapes purchased by a particular house in a given year. This is reported by each of the houses and is measured according to the ''echelle des crus,'' an official scale ranging from 80 to 100 used to measure the quality of grapes depending on their origin. Although, according to our interviewees, grape-quality differences within Champagne are thought to be minor and to have relatively little influence, if any, on grape price, we expect houses that purchase higher-quality grapes to pay higher prices. Finally, because the harvest and year of sale may affect the price of grapes, we included dummy variables for each *year* in all of our models.

Modeling Approach

To account for changes in grape prices across firms and over time, we used various panel-data estimation methods. First, we used a random-effects specification. A Hausman test rejected the null hypothesis that there is a significant difference in the coefficients of our random-effects specification and a fixed-effects specification (prob. $> \chi^2 = .1774$). We also tested the assumption that the individual random component is zero: the χ^2 test we obtained in the sample was 98.28 (with one degree of freedom). This test allows us to reject the null hypothesis (Castilla, 2007), supporting the use of random effects. Furthermore, we estimated generalized estimation equation (GEE) models, a population-averaged panel model. In case our estimates were confounded by endogeneity problems, regular random-effects and GEE models would have led to divergent estimates (Crouchley and Davies, 2001), yet both sets of models produced highly similar results. Hence they alleviate potential concerns of endogeneity.

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[7] This variable is time-variant because some growing areas were revised between 1998 and 2007.

Because the GEE models are so similar, and for reasons of parsimony, we opted not to include them in the tables.

   Nevertheless, we also present the results of a fixed-effects analysis, which controls for all time-invariant house-specific influences, showing the within-house estimated effects. Merely using a fixed-effects specification, however, would not be ideal because several of our predictors are time-invariant (location and newcomer) or lack sufficient across-year variance (corporate group and listed). Therefore they would drop out of the analysis. To account for this, following Reitzig and Puranam (2009), we first estimated a regular fixed-effects model, which allowed us to predict the pure firm component of the error term η_i. In a second-stage model, we then regressed this firm-specific error $\hat{\eta}_i$ on the time-invariant regressors. In combination, this two-stage model can be expressed as follows:

$$Price_{it} = \propto_{it} + \beta_1 . x_{it} + \varepsilon_{it} + \eta_i \qquad (Stage\ 1)$$

$$\hat{\eta}_i = const_i + \gamma . z_i + controls_i + \mu_i \qquad (Stage\ 2)$$

   The estimates obtained in the second stage are unbiased in that they do not spuriously capture other elements of unobserved heterogeneity at the firm level (Reitzig and Puranam, 2009). To address potential issues of heteroskedasticity, we used robust variance estimators.

   Additionally, we followed Mundlak (1978) and ran a random-effects model that inserts additional instrumental variables that are time-invariant. These are the firm-specific averages of the time-varying regressors. Teasing out the firm-specific variance caused by the time-varying regressors, these instruments are intended to replicate the ''within'' transformation of classic fixed-effects estimation with a random-effects design. The model can be expressed by the following equation:

$$Price_{it} = \propto_{it} + \beta_1 . x_{it} + \beta_2 . \bar{x}_i + \mu . z_i + \varepsilon_{it} + \eta_i$$

where x_{it} is a set of time-varying covariates, z_i is a set of time-invariant covariates, and $\bar{x}_i$ are the Mundlak instruments. The error term is split between the firm-year component ε_{it} and the pure firm component η_i. This one-step estimation model allowed us to take into account the individual-level differences between firms over time periods and to capture the heterogeneity in the error term.

   Finally, because there could potentially still be various remaining endogeneity concerns—about the time-invariant predictors or pertaining to other, time-varying omitted variables—we also endeavored to develop instrumental variables (IV), which we were able to do for six out of eight predictors. Following Wooldridge (2003), we chose the linear combination of instruments that most highly correlated with each predictor while being uncorrelated with the residuals of the dependent variable. The results of these various estimation methods are reported in the text and tables below.

RESULTS

Table 3 presents descriptive statistics and correlations for all the variables. Because these statistics and correlations are based on both within- and across-year comparisons, the large variance in price is partly also determined by

Table 3. Descriptive Statistics and Correlations (N = 636)

Variable		Mean	S.D.	1	2	3	4	5	6	7
1.	Price	8.96	7.16							
2.	Family CEO	0.43	.49	−.15						
3.	Density	0.26	.55	−.11	.04					
4.	Newcomer	4.22	9.20	.12	−.01	.17				
5.	Corporate group	0.56	.50	.22	−.45	−.24	−.20			
6.	Listed	0.35	.48	.06	−.41	−.14	−.19	.55		
7.	Supermarket brands	0.17	.40	.11	.00	−.07	.03	.13	.04	
8.	Foreign subsidiaries	0.03	.28	.05	−.13	−.06	.04	.08	.18	.15
9.	Vineyards acquired	12.10	46.07	.03	−.17	.02	−.04	.17	.18	.07
10.	Volumes	27.10	50.07	.00	−.21	−.05	−.14	.33	.34	.20
11.	Vineyards owned	2.70	1.78	.04	−.01	.05	−.01	.06	.11	.01
12.	RoA	4.55	6.08	−.04	.01	−.07	−.08	.25	.23	−.06
13.	Prestige	0.03	.94	.02	−.08	−.13	−.34	.34	.24	−.25
14.	Grape quality	90.76	5.76	.04	−.09	.01	−.21	.28	.25	−.12
15.	Growing area size	215.07	140.85	−.04	.24	.17	.16	−.40	−.40	−.05

Variable		8	9	10	11	12	13	14
9.	Vineyards acquired	.29						
10.	Volumes	.35	.73					
11.	Vineyards owned	.20	.39	.38				
12.	RoA	.15	.18	.26	.30			
13.	Prestige	.00	.06	.09	.35	.32		
14.	Grape quality	.03	−.01	.03	.07	.12	.56	
15.	Growing area size	−.18	−.03	−.19	−.09	−.15	−.14	−.11

price differences between years (rather than merely between houses), depending on whether the harvest in a particular year was good or bad. A few of the correlations are quite high (> .50), but this is to be expected in longitudinal data. Notably, this only concerns some of the control variables, so it could not lead to biased estimates on our predictors (Wooldridge, 2003). Nevertheless, we computed variance-inflation factors (VIFs) for all the variables in the full model, and the average VIF was 1.75 with a maximum of 2.84, which, without exception, is well below the standard cut-off rate of 10 used in the literature (Greene, 2003). Hence, multicollinearity is not an issue in our models.

Table 4 presents the results of panel regressions predicting price.

Family CEO. We first predicted that houses run by a CEO who is a direct descendant of the founder would be charged lower prices for their grapes. In the random-effects model (model 1), the coefficient on this variable is in the expected direction but is not statistically significant. The coefficient itself is substantial—it suggests that houses with a family CEO pay 85 eurocents less for a kilogram of grapes—but due to a high variance is not statistically significant. The estimates in model 2a, the fixed-effects model, and in the Mundlak model (model 3), which tease out fixed effects for houses, are statistically significant, however, supporting our prediction. These models estimate the effect of a family CEO to be no less than 3 euros per kilogram of grapes. Because these models concern within-house comparisons, this result suggests that it is the houses that are run by a family CEO but which then switch to a non-family CEO during our sample period that are especially confronted with a large

Table 4. Panel Regressions Predicting Price*

Variable	RE regression	Two-stage residual estimation		Panel regression
		FE	OLS	Mundlak
	Model 1	Model 2a	Model 2b	Model 3
Predictors				
Family CEO	−0.845	−3.177••		−3.104••
	(0.917)	(1.884)		(1.731)
Village density	−1.099••		−2.229••••	−1.187••
	(0.671)		(0.677)	(0.632)
Newcomer	0.104•••		0.043	0.113•••
	(0.044)		(0.085)	(0.042)
Corporate group	5.056••••		5.896•••	4.752•••
	(1.664)		(2.493)	(1.686)
Listed	−1.151		7.667•••	−1.684
	(1.239)		(2.688)	(1.295)
Supermarket brands	2.240••	4.107••		3.850•
	(1.064)	(2.439)		(2.578)
Foreign subsidiaries	1.454••	1.391••		1.404••
	(0.749)	(0.683)		(0.700)
Vineyards acquired	0.030••••	0.045••••		0.042••••
	(0.009)	(0.012)		(0.013)
Control variables				
Volumes	−0.039••••	−0.136•		−0.122•
	(0.010)	(0.072)		(0.072)
Vineyards owned	0.300	−0.298		0.073
	(0.500)	(1.297)		(1.164)
RoA	−0.138•	−0.146		−0.143
	(0.077)	(0.092)		(0.088)
Prestige	0.202		2.827••	−0.050
	(0.901)		(1.194)	(0.908)
Grape quality	−0.019	−0.697		−0.599
	(0.102)	(0.595)		(0.532)
Growing area size	0.004	0.043•••		0.046•••
	(0.004)	(0.015)		(0.018)
Constant	14.40	74.58	−6.14••••	10.87
	(9.001)	(53.803)	(1.802)	(8.871)
N	636	636	64	636
Wald chi^2 (d.f.)	186.76(23)			256.73(32)
F(d.f.)		F(18,63)	F(5,63)	
Prob.	0.0000	0.0000	0.0000	0.0000

• $p < .10$; •• $p < .05$; ••• $p < .01$; •••• $p < .001$; significance tests are one-tailed for predictors, two-tailed for control variables.

* Heteroskedasticity-consistent robust standard errors are in parentheses, clustered by firm. All models except the two-stage OLS model include year dummies.

increase in price. Hence the negative effect on price of having a non-family CEO appears to be especially driven by houses that abandon family management during our sample period.[8]

In addition to these models, we also estimated a two-stage least squares model instrumenting the predictor family CEO to rule out any endogeneity

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[8] In theory, the effect could also be driven by houses that switch from a non-family CEO to a family CEO, but that event only occurred once during our sample period.

problems pertaining to time-variant confounding effects. We used the linear combination of two variables for our instrument. First, we used the firm's legal structure, because French law allows family firms to adopt relatively favorable legal structures for tax purposes (e.g., SARL vs. SA or SCS). Second, we used CEO gender, building on insights from prior research that family firms relatively often have a female CEO (e.g., Jorissen et al., 2002). We felt some hesitation about whether CEO gender would fulfill the second criterion of being uncorrelated with the residuals of the dependent variable—because it seems possible that in a conservative industry such as Champagne, firms with a female CEO would be charged more for their grapes—but, if so, the effect would run the other way around and hence not bias the results. We performed a Sargan-Hansen test of overidentification; the test does not allow us to reject the joint null hypothesis that the instruments are valid, that is, uncorrelated with the error term, and that the instruments are correctly excluded from the estimated equation ($p < .7724$). In addition, our instruments pass the weak identification test with a Wald statistic of 49.40 in the first-stage equation, which is well above the standard cut-off value of 10 (Staiger and Stock, 1997). The results are displayed in model 1 of table 5. The effect of the variable family CEO is again negative and significant, providing further support for our prediction.

Village density. Our second prediction was that houses located in Champagne villages with a high density of houses are charged lower prices for their grapes. This prediction is also supported. The random-effects and Mundlak models indicate that houses in villages with a relatively high density (1 S.D. above the mean) pay about 1.20 euros less per kilogram for their grapes than houses located in a village with relatively low density (1 S.D. below the mean). The results are even stronger for the two-stage model, which suggests a price difference equal to about 2.23 euros. Note that because the location of houses is time-invariant (no houses in the sample switched location), in the two-stage model we added this variable to the second-stage estimation.[9]

Especially because the variable is time-invariant, there might be issues of unobserved heterogeneity. For example, houses in traditional villages might be better connected and integrated into the community, making local embeddedness the explanation for price advantages rather than norm violation. Therefore we also developed two instruments for this predictor. First, we made use of tourist maps of the region: we expected traditional Champagne villages to appear more prominently on these maps, indicated as places of interest. This variable is unlikely to be correlated with the residuals of the dependent variable, in the sense that appearance on a tourist map per se would not influence the price of grapes, which fulfills the criteria for it to serve as an instrument.[10] We coded as 1 those villages that were listed within the color-coded vineyard area on the map; 0 otherwise. Furthermore, since 1911, all Champagne villages are ranked on an official quality scale, called ''échelle des crus,'' thought to reflect the quality of the village's soil. We used this as a second instrument, because traditional villages are likely to be ranked higher on this scale, but the ranking

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[9] Because the number of inhabitants may vary a little over time, technically this variable is somewhat time-variant. This may explain the discrepancy between the Mundlak and two-stage estimators.

[10] One may worry that our instruments proxy for the same underlying construct but this is not an issue, because these variables do not correlate with the residuals of the dependent variable (Bascle, 2008).

Table 5. Random-effects Regressions Predicting Price with Instrumental Variables*

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Predictors						
Family CEO	**−4.813•••**	−1.354	−0.869	−1.015•	−1.431•	−0.687
	(1.990)	(1.107)	(1.046)	(0.685)	(1.062)	(1.039)
Village density	−1.353••••	**−2.325•**	−1.584••	−0.893••	−2.623	−1.008
	(0.350)	**(1.792)**	(0.933)	(0.479)	(2.125)	(0.854)
Newcomer	0.089•••	0.104•	**0.403•**	0.117••••	0.085	0.117••
	(0.031)	(0.070)	**(0.287)**	(0.030)	(0.232)	(0.059)
Corporate group	2.841•••	5.363••••	4.650••••	3.506••••	4.801••••	4.472••••
	(1.0720)	(1.689)	(1.489)	(1.145)	(1.458)	(1.476)
Listed	−1.607••	−1.756	−0.619	−0.116	−3.264•••	−0.893
	(0.890)	(1.384)	(1.371)	(0.778)	(1.209)	(1.272)
Supermarket brands	2.020•••	2.754••	2.865••	**7.360••**	4.077••	2.667••
	(0.818)	(1.458)	(1.350)	**(3.279)**	(1.839)	(1.405)
Foreign subsidiaries	0.992•	1.412•••	1.187••	0.662	**6.871••**	1.369••
	(0.633)	(0.517)	(0.623)	(0.789)	**(4.031)**	(0.821)
Vineyards acquired	0.013•	0.034••••	0.033••••	0.025•••	0.036•••	**0.081••**
	(0.008)	(0.009)	(0.010)	(0.009)	(0.012)	**(0.040)**
Control variables						
Volumes	−0.028••••	−0.045••••	−0.037•••	−0.043••••	−0.069••	−0.070••
	(0.007)	(0.011)	(0.012)	(0.011)	(0.032)	(0.027)
Vineyards owned	0.410•	0.309	0.020	0.270	−1.059•••	−0.052
	(0.237)	(0.459)	(0.422)	(0.271)	(0.379)	(0.473)
RoA	−0.095	−0.131••	−0.101•	−0.137••	−0.088	−0.151••
	(0.070)	(0.056)	(0.055)	(0.063)	(0.062)	(0.059)
Prestige	0.065	0.262	1.257	0.832	2.096	0.519
	(0.495)	(1.093)	(1.267)	(0.643)	(2.296)	(0.970)
Grape quality	0.025	−0.033	−0.018	−0.003	−0.051	−0.017
	(0.059)	(0.135)	(0.118)	(0.060)	(0.209)	(0.108)
Growing area size	0.003	0.007	0.004	0.001	0.025••	0.002
	(0.002)	(0.004)	(0.004)	(0.002)	(0.010)	(0.004)
Constant	12.96••	8.83	6.69	6.84	10.96	8.41
	(5.649)	(12.217)	(10.838)	(5.407)	(19.339)	(9.935)
N†	636	636	626	614	585	555
Wald chi² (d.f.)	165.79(23)	142.86(23)	140.16(23)	157.12(23)	109.65(23)	115.68(23)
Prob.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

• $p < .10$; •• $p < .05$; ••• $p < .01$; •••• $p < .001$; significance tests are one-tailed for predictors, two-tailed for control variables.

* Standard errors are in parentheses; in bold are the coefficients for the instrumented variables. All instrumental variables pass the Sargan-Hansen test of overidentifying restrictions (i.e., instruments are uncorrelated with the error term) and the weak identification test (F-values $>$ 10 in the first-stage equation). All models include year dummies.

† Data for the instruments were unavailable for some years of observation (N $<$ 636).

itself should not influence the residuals of our dependent variable, especially because we controlled for grape quality and age. Results for a Sargan-Hansen test supported the validity of our instruments ($p < .3411$), and the Wald statistic (11.19) also confirmed that they are not weak. The estimate of the instrumented variable village density, as displayed in model 2 in table 5, is again negative (albeit only marginally significant at $p < .10$), in conformity with our hypothesis.

Newcomer. In the random-effects and Mundlak models in table 4, the coefficient for the newcomer variable, used to test our third prediction, is positive as predicted and statistically significant. This suggests that the houses that had entered the industry later were charged higher prices for their grapes, about 10 eurocents more per kilogram for each year after 1960 that they entered. We dropped it from the fixed-effects estimation because the founding year of a house is fixed. The variable is insignificant in the second stage of the two-stage estimation. The way we measured the variable—as the number of years since 1960—makes it somewhat unsuitable for this technique, however, because it is time-invariant for houses established before 1960 (they were assigned the value 0) but time-variant for houses founded after 1960. Moreover, given that the variable is largely time-invariant, it leaves open the possibility of unobserved heterogeneity, including explanations centering on the effect of embeddedness. Therefore we again developed a set of instruments.

The first instrument we developed makes use of street names in the various villages in Champagne. The original founders of established Champagne houses often have streets named after them (e.g., Rue Pierre Taittinger in Reims). Old Champagne houses are more likely than newcomers to have streets named after their founders. Using official maps of the region, we computed the number of streets named after each Champagne house and used this variable as an instrument for firm newcomer. In addition, using data from the *Guide Curien de la Champagne*, we also computed the average age of each firm's stock of bottles, assuming that older firms have had more time to age their wines, while again there seems no reason to suspect that this would influence the residuals of the dependent variable. The Sargan-Hansen test supported the joint validity of our instruments ($p < .4626$), and the Wald statistic (23.49) confirmed that they are not weak. The estimates of the corresponding model are displayed in model 3 of table 5. The coefficient for the variable newcomer is positive and significant as predicted, offering further support for our hypothesis. Sensitivity analyses using a different cut-off point to compute lateness of entry, namely, 1926 (the year the region received its formal AOC recognition) instead of 1960, were also positive and significant.

Corporate and listed group. Our prediction that houses that were part of a larger corporation would be charged higher prices for their grapes received support from all models: the three model specifications displayed a positive and significant coefficient for houses that are part of a corporate group, suggesting that they are charged between 4.75 and 5.89 euros more than independent houses for each kilogram of grapes they purchase.[11] But the estimate on the variable that indicates whether a firm is listed or not is significant only in the two-stage model. Therefore this part of the prediction is not supported. To conclude, growers charge substantially higher prices to houses that are part of a corporate group, regardless of whether the group is listed.

We did not have sufficient variance on these variables to estimate a model with fixed house effects, and, unfortunately, we were unable to find an appropriate instrument for corporate groups and listed. Hence the estimates show

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[11] In the two-stage model, we had to add the variable to the second stage, because in the entire sample only seven houses switched from being independent to being part of a corporation, and none had switched the other way, making the variable basically time-invariant; likewise for the variable listed. Therefore these estimates are between-firm, rather than within-firm, comparisons.

that houses that are part of a corporate group pay significantly more for their grapes, but we cannot entirely rule out issues of unobserved heterogeneity.

Supermarket brands. We also predicted that the more supermarket brands a house supplies, the higher the price it is charged for grapes. All three model specifications using random and fixed effects—displayed in table 4—support this hypothesis. The random-effects models, as displayed in the columns labeled model 1 and model 4, show that a house that supplies a supermarket brand pays almost 2.24 euros more per kilogram of grapes than a house that supplies no supermarket brands. The effects of the fixed-effects estimator display even higher values. These fixed-effects models make us confident that there are no obvious endogeneity problems, for instance, pertaining to issues of local integration.

To address potential issues of time-varying omitted variables, we developed instruments that passed both the Sargan-Hansen ($p < .6727$) and weak identification tests (Wald statistic of 23.70). First, we assumed that the CEO's educational background would influence the extent to which he or she would see supermarket brands as a business opportunity. We coded as 1 firms whose CEO received some form of business education (e.g., Magistère of Management from Université Paris Dauphine), and 0 otherwise. We also know that firms with large teams of oenologists on the payroll are often more reluctant to supply supermarket brands: developing an in-house team—instead of hiring consultants based on need—signals a house's commitment to controlling the taste of its wines. By contrast, retailers determine all taste-related aspects of their own brands; typically an executive in charge of the retailer's wine and spirits department is in charge of making such decisions. As a respondent explained, ''They [houses that supply supermarket brands] are not masters in their own house. They basically follow a bill of specifications.'' Using the *Guide Curien de la Champagne*, we computed the size of the oenology team for each Champagne house and used this as a second instrument. The estimate in model 4 of table 5 of the instrumented variable supermarket brands is positive and significant, offering further support for our hypothesis.

Foreign winemaking subsidiaries. We predicted that the more winemaking subsidiaries a house operates abroad, the higher the price it is charged for grapes. This hypothesis is supported in the various random- and fixed-effects specifications reported in table 4. According to the random-effects model (model 1), houses that operate a subsidiary abroad pay about 1.45 euros more for a kilogram of grapes. When we take into account and tease out fixed effects, the results remain strong, both in the two-stage and in the Mundlak model. Houses that open up a subsidiary abroad face a price increase of about 1.40 euros per kilogram.

As a first instrument, we used the number of subsidiaries a house operated in France. Various houses have subsidiaries elsewhere in France to make non-sparkling wine. We expected this variable to be correlated with the number of foreign subsidiaries houses operate abroad, because those houses accustomed to having subsidiaries might also be more inclined to open them abroad. This variable is unlikely to be correlated with the residuals of the dependent variable, however, because non-sparkling wine, which the growers do not consider to be a substitute for Champagne, does not constitute a norm violation. As a second instrument, we used the natural logarithm of each firm's exports in thousands of euros. We assumed that firms with large volumes of exports would be more aware of international opportunities and thus more likely to open

subsidiaries abroad than firms that focused exclusively on the French national market, though there is no reason to assume that this might be correlated with the residuals of the dependent variable. A Sargan-Hansen test supported the validity of our instruments ($p < .6186$); the Wald test (10.95) also confirmed that the instruments are not weak. The estimate in model 5 of table 5 of foreign subsidiaries is also positive and significant, supporting our hypothesis.

Vineyard acquisition. Finally, we predicted that the more vineyards a house acquires in Champagne, the higher the price it pays for its grapes. Again, this hypothesis is supported across all model specifications, as displayed in table 4. According to the random-effects model, houses paid 3 eurocents more for a kilogram of grapes for each hectare of vineyard acquired during our sample period. In our sample, the average vineyard acquisition is about 12 hectares, which corresponds to a higher price per kilogram of about 36 eurocents compared with houses that acquired no vineyards. The within-house effects, estimated in models 2 and 3, amount to an increase of about 4.5 eurocents per kilogram for each hectare acquired by a particular house.

As instruments, we first used the value of a house's fixed assets (in thousands of euros), lagged one year. Houses with vineyards will have higher amounts of fixed assets on their balance sheet in the following year, because vineyards are expensive. We expect this variable to be related to vineyard acquisition, because houses that already own vineyards may be more inclined to purchase more. Yet it is not likely to be correlated with the residuals of the dependent variable, because the houses owning vineyards for historical reasons are not viewed as violating local norms. Moreover, we controlled for vineyard size in the current year in all our models. We also assumed that if a firm's CEO is from the region, he or she is more likely to invest in Champagne and to buy vineyards. Hence, we included as a second instrument a variable coded 1 if the CEO was born in Champagne and 0 otherwise. Although we initially had some doubts about whether this variable might influence the residuals of the dependent variable, the Sargan-Hansen test supported the validity of these instruments ($p < .2334$), and the Wald test (12.51) confirmed that there is no weak identification problem. Estimates of the effect of vineyard acquisition making use of these instruments, displayed in column 6 of table 5, are still positive and significant, confirming our prediction.

Additional Analyses of Embeddedness

Our conceptual mechanism centers on the violation of local norms within the Champagne industry. A potential alternative explanation for some of the empirical associations between grape price and house characteristics could be embeddedness (Granovetter, 1985; Uzzi and Lancaster, 2004). It may be, for example, that older houses in traditional villages can secure better prices for the grapes they purchase because they are more socially integrated. According to Uzzi and colleagues (e.g., Uzzi, 1997, 1999; Uzzi and Lancaster, 2004), embeddedness can add unique value to a transaction due to informational advantages and informal governance mechanisms.

We did several things to ensure that the effects we observe are not due to embeddedness. First, the choice of our setting should already alleviate such concerns. The grapes are a commodity and, in Champagne, all buyers and sellers transact at the same time, and virtually all transactions are recorded

by independent agencies that guarantee the origin and quality of the grapes on an official scale. Information asymmetries and informal governance are therefore largely absent. Furthermore, the Champagne production process is the same for all buyers (as constrained by legal regulations), and it involves no co-development or partnership with sellers (i.e., grape buyers make their own Champagne, independently of the sellers). Hence there are no informal governance arrangements. Embedded relations are unlikely to help exchange partners obtain better information, improve the production process, or add unique goods or services to the transaction. Thus embeddedness is unlikely to play a role. In fact, this argument is in line with Uzzi and Lancaster's (2004) suggestion that embedded relations are unlikely to economize on transaction costs or create value in routine transactions, such as the purchase of grapes in this industry.

Furthermore, our models with fixed house effects, the GEE model, and our models with instrumental variables should also alleviate concerns that the effects are driven by omitted variables concerning embeddedness. Nonetheless, in additional analyses, we also tried to single out the possible influence of embeddedness empirically. Uzzi and Lancaster (2004) identified three forms of embeddedness: board memberships, status, and network ties. We collected additional data on each of these three variables to examine their influence.

Board memberships. Using DIANE and the National Registry of Trade & Companies, we collected data on board interlocks for each Champagne house during the 1998–2007 period. We created two time-varying measures for embeddedness: the number of seats one holds on another house's board and the number of seats held by another house on one's own board. Subsequently, using t-tests, we checked for any negative correlations between our independent variables and these embeddedness variables; the presence of such correlations could mean that those houses paying higher prices for their grapes are simply those that are less embedded in the industry. Yet we found no evidence for this: there were no significant negative correlations between our independent variables and the number of seats one holds on another Champagne house's board. With the exception of newcomer, there is also no negative correlation with the number of seats held by another house on one's board. When we included these board-membership variables in our regression analyses as additional controls—see models 1 to 4 in table 6—our results conform with those reported in table 4 and with our hypothesis.

Status. To capture status as an indicator of embeddedness, we created a measure based on the number of reviews each firm received annually for its wines in two key consumer publications (*60 Millions de Consommateurs* and *Que Choisir?*) between 1998 and 2007. These publications always review the wines of high-status houses but are less concerned with lower-status houses. So the products of high-status Champagne houses are more likely to receive coverage than those of lower-status players. Although our status measure was correlated with our control for prestige, there were no significant correlations between the houses' actions or characteristics and this measure of status, which suggests that our predictors also do not pick up this aspect of embeddedness.[12] When we included this status measure as an additional control in our

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[12] The significant but modest correlation of status with our prestige variable (.21) shows that it picks up a partially different effect.

Table 6. Panel Regressions Predicting Price*

Variable	RE regression Model 1	Two-stage residual estimation		Panel regression Mundlak Model 3	RE regression Model 4	Two-stage residual estimation		Panel regression Mundlak Model 6
		FE Model 2a	OLS Model 2b			FE Model 5a	OLS Model 5b	
Predictors								
Family CEO	−0.729	−3.606•••		−3.826•••	0.546	−5.099•••		−5.075••
	(0.915)	(1.424)		(1.444)	(1.134)	(1.700)		(2.299)
Village density	−1.229••		−2.983••••	−1.109••	−0.678		7.789	−0.422
	(0.678)		(0.699)	(0.571)	(0.846)		(11.732)	(0.798)
Newcomer	0.107•••		0.045	0.141••••	0.092••		0.181••	0.113•••
	(0.045)		(0.087)	(0.031)	(0.052)		(0.108)	(0.044)
Corporate group	5.360•••		7.133•••	3.588••	6.260•••		12.603•••	2.414
	(1.842)		(2.695)	(1.802)	(2.336)		(5.130)	(2.368)
Listed	−0.414		9.023•••	−2.056	−0.462		15.793•••	−2.153•
	(1.669)		(2.897)	(1.570)	(2.205)		(5.296)	(1.639)
Supermarket brands	2.647•••	4.016•		3.938•	3.736•••	7.438••		8.070••
	(1.098)	(2.654)		(2.750)	(1.550)	(3.536)		(3.546)
Foreign subsidiaries	1.375••	1.585•••		1.587•••	1.341••	1.418•		1.512•
	(0.728)	(0.643)		(0.660)	(0.787)	(1.080)		(1.160)
Vineyards acquired	0.033••••	0.051••••		0.049••••	0.043••••	0.061••••		0.058•••
	(0.009)	(0.012)		(0.012)	(0.011)	(0.012)		(0.014)
Control variables								
Board ties outward	−0.003	−0.043		0.000	0.359	0.386		0.515
	(0.349)	(0.329)		(0.339)	(0.347)	(0.361)		(0.370)
Board ties inward	−0.556	−1.964•		−1.950••	−1.967•	−2.929••		−3.233••
	(0.965)	(0.989)		(0.981)	(1.071)	(1.243)		(1.280)
Status	−0.389•	−0.261		−0.201	−0.503	−0.382		−0.290
	(0.229)	(0.316)		(0.305)	(0.504)	(0.606)		(0.643)
Exchange ties					−0.072	−0.116		−0.105
					(0.066)	(0.086)		(0.081)
Average tie duration					0.310	0.419		0.466
					(0.324)	(0.389)		(0.383)
Volumes	−0.040••••	−0.124•		−0.115•	−0.054•••	−0.092		−0.104
	(0.011)	(0.067)		(0.068)	(0.021)	(0.103)		(0.106)
Vineyards owned	0.261	−0.773		−0.469	0.614	0.016		0.280
	(0.444)	(1.072)		(0.977)	(0.565)	(1.160)		(1.111)
RoA	−0.144•	−0.173•		−0.170	−0.136	−0.205•		−0.228•
	(0.080)	(0.092)		(0.090)	(0.106)	(0.113)		(0.118)
Prestige	0.181		2.279•	0.374	0.405		5.447•••	0.464
	(0.948)		(1.261)	(0.731)	(1.060)		(1.963)	(0.805)
Grape quality	−0.001	−0.517		−0.451	0.042	−0.822		−0.769
	(0.100)	(0.468)		(0.431)	(0.139)	(0.619)		(0.572)
Growing area size	0.003	0.045•••		0.047•••	−0.004	0.082		0.084
	(0.004)	(0.016)		(0.018)	(0.006)	(0.058)		(0.059)
Constant	13.15	60.69	−7.18••••	13.00•	7.34	75.88	−14.52•••	8.75
	(8.916)	(43.384)	(1.813)	(7.749)	(12.199)	(63.203)	(4.870)	(10.260)
Year dummies	YES	YES	NO	YES	YES	YES	NO	YES
N	636	636	64	636	375	375	43	375
Wald chi^2 (d.f.)	193.62(26)			376.79(38)	428.31(27)			2327.74(41)
F(d.f.)		F(21,63)	F(5,63)			F(22,47)	F(5,42)	
Prob.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

• $p < .10$; •• $p < .05$; ••• $p < .01$; •••• $p < .001$; significance tests are one-tailed for predictors, two-tailed for control variables.

* Heteroskedasticity-consistent robust standard errors are in parentheses, clustered by firm.

regression analyses, its estimates were insignificant—see models 1 to 4 in table 6—while leaving the results of our predictors, used to test our hypothesis, virtually unaltered. Again, this test suggests that our study's findings are not driven by differences in embeddedness between houses.

Embedded network ties. Finally, we endeavored to measure embeddedness in the form of network ties. To this end, we sent out a mailing to growers asking if they would be willing to share with us their buyer data, in terms of which houses they were working with or had worked with in the past, including the duration of their exchange relations.[13] Of these, 222 growers complied with our request. This allowed us to map a current and past network of exchange relations between these sellers and their buyers. Following previous work in this area, we used this as a proxy for a house's embeddedness and computed two types of measures for each buyer: one for network position—the number of unique ties maintained by each buyer—and one for relationship quality—the average duration of a buyer's exchange relations (Uzzi and Lancaster, 2004). With the exception of the newcomer variable, the houses' characteristics or actions were not significantly associated with embeddedness. Furthermore, adding these controls to the board-membership and status controls did not change our results.[14] This increases our confidence that our predictors are not picking up an embeddedness effect.

Because these data are self-reported and not fully longitudinal, we also collected another database, which comprised the contracts for 8,920 individual transactions over the period 1992–2009 drawn up by one particular agency, which gave us confidential access to its entire database. Using these data, we were able to compute time-varying centrality and embeddedness measures for over half of all Champagne houses for our entire sample period. Specifically, as before, we created a time-varying embeddedness measure equal to the number of unique ties maintained by each buyer; we also created a time-varying measure equal to the average duration of a buyer's exchange relations. With the exception of listed and family CEO, we found no significant correlation between the houses' characteristics and the network position variable. Except for foreign subsidiaries, we also found no evidence of negative correlations with the relationship quality variable. Hence, with these possible exceptions, we have no indication that our predictors are picking up an embeddedness effect owing to differences in network ties.

Furthermore, we also included these time-varying embeddedness variables in our regression analyses as controls. Their estimates are insignificant, which shows that embeddedness in our context does not result in price differentiation. Although we lost about half our sample, our results remained unchanged—see models 4 to 6 in table 6—with the exception of village density, which loses significance. Repeating the analysis on the same subsample

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[13] We sent this request by regular mail to about 9,000 mailing contacts from the French national Institute for Statistics and Economic Studies. This organization tracks French firm foundings, but not exits. Therefore there is no way to determine what percentage of growers who received our request complied. Yet some data provided to us by the Champagne trade association on all grape growers (N = 15,567) suggests there is no selection bias, as the sample was representative on several dimensions.

[14] When we ran our analyses with these embeddedness measures as additional controls, despite their being time-invariant, both tie duration (–.059, $p < .150$) and exchange ties (–.027, $p < .816$) remained insignificant. Importantly, all other estimates as reported in table 4 remained unchanged.

of data but without the embeddedness controls, however, also yielded an insignificant estimate of the effect of village density. This indicates that the loss of significance is due to the loss of observations, and not because houses in traditional villages are more embedded.

DISCUSSION

Our findings indicate that Champagne houses paid different prices for the same raw materials: grapes. These price differences could be quite substantial; a gap of several euros at an average price of 9 euros per kilogram was not unusual. We showed that this was not an economically rational act owing to varying bargaining positions or different levels of embeddedness but was due to direct reactions by the grape growers to the various attributes and actions of their buyers, the houses. In this industry, as in many others, actors have developed a shared belief about what type of behavior is acceptable. Based on these beliefs, some buyers were viewed as more or less palatable and therefore were charged different prices. This implies that, at least in Champagne, markets can be purely socially constructed: the sellers—grape growers—did not follow a rational cost-benefit analysis; they at times accepted lower prices than what they could have charged because of subjective preferences about their buyer's characteristics and actions. Irrespective of the value embedded in the exchange, buyers thus paid different prices purely based on who they were and what they did.

    We theorized that sellers react in such a way to these buyers' characteristics and actions—by charging higher prices—because they are considered local norm violations. Being part of a category, such as Champagne, comes with clear expectations in terms of conduct: what organizations operating within the category should look like and do. Buyers who violate these expectations will be viewed as more-peripheral members of the category and as having lower intrinsic appeal (Hannan, Pólos, and Carroll, 2007). This results in their being charged higher prices. Organizations that violate local norms are thought to reduce a category's contrast and to therefore potentially harm its collective identity and long-term economic interests. By contrast, organizations that closely adhere to local norms are rewarded with better prices. In Champagne, the prevailing norm and expectation is that a house is old, located in a traditional village, and independently managed by a descendant of the founder. Moreover, it is expected to stick to its role of making and selling Champagne wine, meaning that it does not acquire vineyards of its own, avoids supermarket brands, and does not make sparkling wine abroad. Houses that violated any of these characteristics were made to pay more for their grapes.

    We believe these findings have important implications for how we view the functioning of markets, and price-setting in particular. Traditional explanations of pricing have focused on economic rationales. Prior literature on the social construction of markets highlighted the roles of legitimacy (e.g., Zuckerman, 1999; Litov, Moreton, and Zenger, 2012) and embeddedness (Uzzi and Lancaster, 2004). Our paper adds to but is also uniquely different from these contributions. Organizations act on issues of legitimacy and embeddedness because eventually these translate into real economic value. In contrast, our findings highlight behaviors that are motivated by other considerations: organizations—such as the growers in our setting—just prefer to deal with

certain buyers more than others (Becker, 1971). Although not economically rational, they are willing to incur costs for this, in the form of lower prices for their goods. They accept lower prices from houses that adhere to local norms, while they could have easily held out for a different price, either in negotiations with the same house or by selling the grapes to a different house: 76 percent of our respondents stated that they could easily drop their current buyers and find new ones if they so desired. In contrast, they charge higher prices to engage in transactions with buyers whom they find less palatable because those buyers violate the norms of the category. As one grower we interviewed put: ''I do business with him [a perceived norm violator]. But he pays for it.''

Norm Violations and Related Constructs

Market transparency. We use extensive interviews in Champagne to iden-tify the local norms that the houses are expected to adhere to, but they also enable us to make some further qualitative observations about the processes uncovered in this study and to explore the relationship between norm violations in the category and other concepts from extant theory. Our first observation is that actors in the industry seemed largely unaware that any form of price dis-crimination was occurring. As one grower said, ''there may be some variations. I don't know all these figures. I'm not interested in this, it's not my job. In the same village, I think prices are quite homogeneous. It's hard to know because these are secret things. I don't know how much my neighbor gets. These things are confidential.'' Many of our interviewees believed prices to be homo-geneous across houses. As one grower told us, ''I'd be surprised if there were differences. There may be small differences but it cannot be major.'' Another, who also said ''prices are very homogeneous'' added ''but it's true that this year, we sold to three different houses and we have three different prices.'' A few indicated that they themselves engaged in price discrimination but did not believe others did, whereas a third contingent seemed aware of price discrimi-nation but chose not to know, considering it a private issue. One grower told us ''I know there is some extortion going on for some Champagne houses. But I mean, I think there's not a huge difference between the highest price point and the lowest price point. I don't want to know.''

Lack of awareness of price discrimination seems possible because pricing in Champagne has a tradition of secrecy, and total prices are allocated via a rela-tively complex system of various discounts and markups. In our short question-naire, less than 23 percent of our respondents believed that ''grape prices are transparent in Champagne.'' Many also had incorrect perceptions of the prices charged in the industry. Moreover, the information on individual transactions and their prices—as we were able to access on a confidential basis from the agency—are not publicly available. The data on the average prices that the vari-ous houses pay for their grapes are accessible, so it is possible and perhaps likely that houses do have a good sense of whether, on average, they pay more or less for their grapes than others—as our interviews with Champagne CEOs confirmed. But this information exists exclusively at an aggregate level, and the data are not known during the harvest itself but are revealed only several months later. Although the aspects of incomplete information and awareness are not essential to our theory, future researchers may want to examine in

more depth the role of transparency when prices are used as a response to norm violations.

Collusion. Some of the actions that houses engaged in could be argued to affect the growers' economic interests or the interests of the region as a whole. For example, the opening of winemaking subsidiaries abroad concerns the creation of substitute products, threatening the interests of the region, on which the growers remain dependent. Similarly, growers see supermarket brands as a menace, degrading the product of Champagne. And although houses' acquisition of vineyards does not threaten the economic interests of the region, it does make a house less dependent on growers, thus shifting the power balance in its favor—something the growers do not condone either. Characteristics such as CEO origin, newcomer, or location may not directly threaten the growers' interests, but they could still be seen as threatening the category's collective identity by lowering its categorical contrast, which may eventually harm its distinctiveness. Hence, although it is not possible to completely disentangle discrimination based on objective economic interests from discrimination based on attempts to preserve a collective identity, if growers were colluding to charge such houses higher prices, it could be seen as a rational act of deterrence. Such collusion could perhaps form a partial alternative explanation for the findings in this paper. But in our qualitative data from interviews, questionnaires, and trade publications, we found no indication that the price setting in Champagne was organized or even propagated by some overarching institution, such as a trade organization or union, or by a social norm according to which one should charge non-traditional houses higher prices. In our many interviews with growers, houses, and knowledgeable industry outsiders, no one suggested anything that led us to believe that some collusion could be occurring between growers. In fact, as mentioned earlier, most interviewees seemed to be unaware that price discrimination was happening. Overall, these observations suggest that the differential pricing, captured in our quantitative models, is not some conscious, collective act of deterrence, intended to protect the growers' economic interests. Instead, it seemed to occur through a spontaneous, bottom-up process.

Altruistic norm enforcement. We theorized that charging higher prices is a seller's response to a violation of a category's local norms. Given that there are about 15,000 growers and just 66 houses in the industry, the economic influence of an individual grower on one house—also in terms of economic value—is almost negligible, whereas a lower price per kilogram does represent a sizeable expense for the grower. Put differently, the value an individual grower obtains from deterrence through higher prices is many times smaller than the financial sacrifice he or she must make in terms of setting a lower price for those buyers who do not engage in norm violations. Yet one might still suspect that although deterrence through price discrimination may not be economically rational for an individual grower, it represents a case of altruistic norm enforcement (Bernhard, Fehr, and Fischbacher, 2006; Goette, Huffman, and Meier, 2006) or altruistic sanctioning in social collectives (Horne, 2004). Growers may be willing to incur costs that outweigh their individual benefits for the greater good of the collective of others who share their interests and identity

(Bernhard, Fehr, and Fischbacher, 2006). Thus perhaps growers' price discrimination is intended to sanction violators and enforce existing social norms (Bicchiery, 2006), protecting the category's collective identity (Hannan, Pólos, and Carroll, 2007).

Although this explanation is not inconsistent with our theorizing, we do not believe this is what is happening in the industry. Growers do interpret the characteristics and actions of houses examined in this paper as local norm violations, but it is unlikely that their price increases are intended as sanctioning mechanisms aimed at reining in and deterring further violators. Price discrimination in Champagne is essentially covert. If differentiated prices were altruistic attempts to bolster a norm, growers would want these sanctions to be overt and known. Yet, as reported earlier, growers often do not even know that price discrimination exists in the industry, let alone see it as a mechanism for enforcing norm compliance. They keep their prices secret, including the higher prices for norm violators. As Becker (1971) contended, some sellers just like dealing with particular buyers better than others and derive value from dealing with them. If they find a particular buyer less palatable—because that buyer violates local norms—the sellers need to be compensated for conducting business with it in the form of higher monetary rewards. Hence, although not central to our theory, we conjecture that the higher prices are in fact a reaction to norm violations, but not necessarily an attempt to enforce them.

Affect. Another observation during our interviews in Champagne was that interviewees often expressed considerable emotion when discussing norm violators. Hannan and colleagues (2007) also suggested that violations could trigger irritation because they are viewed as a ''moral transgression.'' Others have observed that negative emotions tend to decrease the willingness to trade (e.g., Hirshleifer, 2001) and possibly lead sellers to set more extreme prices for conducting a transaction (Zhang and Fishbach, 2005). In our interviews, many growers responded emotionally, for instance, to the firms that belonged to corporate groups. One grower observed, ''A guy like Bernard Arnaud [CEO of LVMH, a large French conglomerate], I hate him. I hate this guy. I hate all these financiers. He doesn't give a damn about us or about Champagne. Tomorrow, he'll sell everything if he stops making money.'' Another grower, who commented with negative emotion about houses that supply supermarkets, said, ''[Supermarket] brands. Please, I don't want to become rude!'' The growers we interviewed consistently demonstrated such emotional responses to houses: often negatively toward norm violators, but sometimes also positively toward typical houses that they considered central to the category and its collective identity. Future researchers may wish to examine reactions to norm violations, including price-setting, from the perspective of affect-based processes.

Limitations

Naturally, our study suffers from limitations. One limitation is that we exclusively examined characteristics of the buyers in our sample, who therefore also form our unit of analysis. We documented how actions and characteristics of Champagne houses trigger price discrimination, but we did not take into account suppliers' characteristics. Yet different suppliers could

potentially respond differently to norm violations. Moreover, examining dyadic relationships between particular buyers and suppliers (e.g., the duration of their relationship) may lead to additional interesting insights. Future studies that take into account characteristics of both buyers and sellers would shed greater light on the processes involved in responding to violations of local norms.

Furthermore, the generalizability of our results could not be assessed directly in this study. We chose the Champagne industry for our research setting because several of its idiosyncratic characteristics—the separation between buyers and suppliers, the homogeneity of the product, the precise delimitation of the area and population—made it an ideal and controlled testing ground for our ideas. At the same time, these characteristics also make it hard to judge the study's generalizability. They could also suggest potential boundary conditions for our theory. For example, in our questionnaire we asked growers how often they undercut their colleagues' price—86 percent answered that they never do. This may seem puzzling at first, but one has to realize that growers make good margins and can afford to forgo seemingly certain profits. Importantly, a characteristic of this industry is that the supply of grapes is limited, and growers cannot easily increase their harvest and vineyard size. Therefore even the minority of growers who are willing to undercut other suppliers will not be able to take the whole market. This implies that our findings may apply more to industries in which suppliers cannot easily and swiftly increase capacity. Overall, we are convinced that prices are often influenced by the processes identified in this paper, in all sorts of industries and settings, but future research examining this mechanism across different settings should enhance our understanding of how markets and collective identities are shaped and interact.

Acknowledgments

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