

Franchising, Local Market Characteristics and Alcohol Sales to Minors

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February 2015

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Acknowledgements: This research began while the first author was employed at the Department of Marketing at the BI Norwegian Business School. The authors thank the Center for Advanced Research in Retailing at BI Norwegian Business School for its support in data collection. The authors appreciate the comments from the two special issue guest editors as well as the two reviewers.

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Abstract

This study examines how organizational form (corporate or franchised store) and local market characteristics (competition, size and risk of sanctions) influence retail stores' likelihood of selling alcohol to minors. Drawing on agency theory, we hypothesize that franchised stores are more likely than corporate stores to sell alcohol to minors. We also examine whether local market competition, risk of sanctions, and market size influence the relationship between franchising and alcohol sales to minors. We test the hypotheses with data collected by minors attempting to purchase alcohol in retail stores. The results offer partial support to the theoretical predictions and have implications for retail chains and regulators.

Keywords: Franchising, competition, sanctions, market size, alcohol, minors

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Introduction

Alcohol consumption is an appreciable global problem associated with four percent of global deaths and related costs that amount to more than one percent of the gross national product in high and middle-income countries (Rehm, Mathers, Popova, Thavorncharoensap, Teerawattananon, and Patra, 2009). Although hazards of alcohol consumption are substantial at any age, consumption is particularly problematic among young people. Alcohol abusing adolescents display decrements in delayed memory functions, diminished retrieval of verbal and non-verbal material, and poorer performance on tests requiring attention skills (Brown and Tapert, 2004). In contrast to alcohol abuse manifest later in life, teen alcoholics are twice as likely to be incarcerated for violent crimes, three times as likely to be depressed, and four times as likely to attempt suicide (Buydens-Branchey, Branchey, and Noumair, 1989).

Alcohol use becomes compulsive when the behavior is maintained despite personal consequences and attempts to control consumption (Elliott, 1994; Hirschman, 1992; Vengeliene, Bilbao, Molander, and Spanagel, 2008). Given the egregious consequences of this compulsive behavior in teens, substantial research has examined treatment and prevention. Treatment can involve several practices such as intervention (Schaefer, 2013), twelve-step programs (Sussman, 2010), and pharmacological remedies (Lowery and Thiele, 2010). Preventing addiction involves limiting the opportunity to consume at an early age and reducing exposure to alcohol (Volkow and Li, 2005). Raised drinking ages, lower legal blood alcohol levels, vigorous reinforcement of purchase laws, and youth-targeted educational programs are among the procedures employed to prevent alcohol abuse (Boyd, Howard, and Zucker, 2013). Despite the insight gleaned from prior studies, they do not consider whether the organizational form of the retailer influences underage alcohol consumption.

The goal of this study is to examine how organizational form and local market characteristics influence alcohol purchases among minors. We employ logic from agency theory (Bergen, Dutta, and Walker, 1992; Eisenhardt, 1989) to predict the likelihood of underage sales. Agency theory examines the efforts of a principal to control the activity of agents that represent them at the retail level. In many retail settings, principals discriminately select between corporately-ownership and franchised operations (Bradach, 1997). A downside of franchising is the incentive for units to free-ride by maximizing their own profits at the expense of the other members of the chain (Greve, 2003; Kidwell, Nygaard, and Silkoset, 2007). Franchised stores engage in free-riding, for instance, by not providing agreed levels of quality or service, withholding advertising support, or charging higher prices. Underage alcohol sales are forms of free-riding that increase profits for the merchant at the expense of social interests. We examine whether the likelihood of underage alcohol purchases is related to these alternative organizational structures. Organizational forms that increase the opportunity to consume at an early age raise the number of adolescents exposed to alcohol, and raised exposure increases the opportunity to develop addictive behaviors (Drummond, 2000).

Agency theory recognizes that the main effects of organizational form on social performance may be moderated by local market characteristics. We consider whether local competition, public monitoring, and market size moderate the relationship between underage purchases and organizational form. Recognizing that competition may serve as an incentive scheme that increases the efficiency of corporate stores (Hart, 1983), we examine whether competition influences underage consumption in franchised and corporately-owned locations. Since public agencies typically use monitoring and financial sanctions to control firm behavior, we examine whether franchised stores are more sensitive to these efforts. Similarly, reputation effects in small markets can ensure good quality when quality is not directly observable (Jin and Leslie, 2009; Shapiro, 1982). Thus, we examine whether franchisees in small markets improve their social performance and become more similar to corporate stores.

The paper is organized as follows: In the next section, we introduce agency theory and develop the hypotheses. We then describe the method and present the findings of the empirical analysis. Finally, we discuss the implications for theory and managerial practice.

Theoretical background and hypotheses

Agency theory uses the metaphor of the contract to model relationships where one party (the principal) delegates work to another (the agent) (Eisenhardt, 1989). The principal-agent problem generally deals with motivating the agent to act on behalf of the principal (Milgrom and Roberts, 1992). Agency theory has frequently been used to study franchising and corporate ownership in retailing. In franchising, the principal (franchisor) sells the rights to use the brand name and business systems to the agent (franchisee). The franchisee normally has to make an initial investment in the store and pays royalties to the chain. The franchisee has the right to all profits after costs. In corporate stores, the store manager is an employee and the chain claims any profits.

Franchisees have strong financial incentives to maximize their profits, but this motivation can come at the expense of product quality and brand reputation. The free-riding problem refers to the inclination of the franchisees to reduce quality if profitable for them, regardless of externalities such as the impact on the chain reputation (Kidwell and Nygaard, 2011). Since managers of corporate stores do not benefit financially from reducing quality, free-riding is a smaller problem for these stores. Aware of this problem, retail chains monitor franchisees' quality. However, monitoring is expensive and difficult, and chains may still have problems with enforcing similar quality in corporate and franchised units.

Franchising and social performance

Corporate social performance (CSP) is a concept frequently used to characterize a "business organization's configuration of principles of social responsibility, processes of

social responsiveness, and policies, programs, and observable outcomes as they relate to the firm's societal relationships" (Wood, 1991, p. 693). CSP is a broad concept that essentially deals with doing well towards others or avoiding harming those affected by the firm's activities. Limiting consumption of alcoholic beverages among young people provides one manifestation of social performance.

Following agency theory, retail stores and chains will produce the amount of social performance that maximizes their profits (Connelly, Ketchen, and Slater, 2010). Franchised stores have larger financial incentives than chain stores to maximize the profits at the store level, since the franchisee can keep all the additional profit while the corporate store manager forwards profits to the chain. Whether franchising will lead to better social performance depends on the relationship between social performance and profits. Economics research suggests that high levels of CSP in many cases will be profitable, as the firm's reputation with important groups can be improved, giving important benefits to the firm (Fernández-Kranz and Santaló, 2010; Siegel and Vitaliano, 2007). If social performance is positively correlated with profits at the store level, franchised stores should perform better than corporate stores. If good social performance is costly at the store level, corporate stores should perform better than franchised ones (Holmstrom and Milgrom, 1991).

Recent studies have found evidence for lower social performance among franchised units than corporate units. Franchised restaurants have worse hygiene than corporate restaurants (Jin and Leslie 2009), and have back-wages approximately four times large than corporate locations (Ji and Weil 2009). Franchised units are more likely to pass cars in vehicle emissions tests than corporate subsidiaries (Pierce and Toffel, 2013). Finally, Ater and Rigbi (2015) find that franchised McDonald's restaurants charge higher prices than corporate restaurants for the same products.

Sales of alcohol to minors should similarly vary between franchised and corporate stores.

Since store behavior is costly to monitor for outsiders and the chain management, franchised

stores have the incentive to sell alcohol to minors to increase their profits. Corporate stores do not have this incentive. The sale of alcohol to minors is not necessarily an active choice by store management, but maybe a side effect of general operational efficiency and cost reductions in franchised stores. While the additional profits from the actual sales may be negligible, the stores can save considerably by using fewer resources on training and supervision, hiring less qualified staff, and having fewer staff employed in the store. Identification checks may also be unpopular by customers above the minor age (Gosselt, Van Hoof, and De Jong, 2012) and thereby increase the costs of enforcing the alcohol regulations.

H1: Franchised stores are more likely than corporate stores to sell alcohol to minors.

Moderators of the Relationship between Franchising and Social Performance

The influences of organization form on performance are tempered by other theoretically salient factors. Agency and prior empirical research suggest that the prevailing level of competition, public monitoring, and local market size may moderate the relationship between franchising and social performance. Main effects of competition (e.g. Bennett, Pierce, Snyder and Toffel, 2013), monitoring and sanctions (e.g. Wagenaar, Toomey and Erickson, 2005) and small markets (e.g. Jin and Leslie, 2009) have been illustrated, but their influences on the relationship between organizational form and social performance have not been addressed.

The moderating effect of competition. The relationship between competition and social performance is not linear (Schwieren and Weichselbaumer, 2010; Shleifer, 2004). Competition contributes positively where the social performance is valued by the market, since competition creates incentives to produce quality when customers easily can switch to alternatives. For instance, airline routes served by more than one airline evince fewer delays (Mazzeo, 2003). Supermarkets with more competition have less inventory shortfalls, and when Wal-Mart establishes in an area, the existing supermarkets reduce their shortfalls (Matsa, 2011).

When social performance is not valued by the market, competition cannot be expected to provide social performance (Hart, 1983). In a study of vehicle emissions tests, Bennett *et al.* (2013) find that firms with more local competitors are more likely to pass cars in the emissions test. They suggest that increased pressure to give the customers what they want comes at the expense of social welfare. Others have named the practice “unethical demand” (Pierce and Snyder, 2014). This behavior can take place since the relevant market does not value good social performance (reduced vehicles emissions) and the behavior of the firms testing for vehicle emissions is expensive to monitor for outsiders. The sales of alcohol to minors by retail stores is a parallel to the vehicle emission testing, as the state outsources the task of selecting which customers can buy alcohol in retail stores. The relevant market (i.e., underage teens) does not appreciate the social performance; on the contrary, they prefer the poor social performance. Tougher competition should therefore increase the likelihood of alcohol sales to minors.

Although competition may influence all retailers’ efforts, we anticipate contrasting effects with alternative organizational forms. Franchisees bear the risks inherent to operations because their income is determined by the difference between revenue inflows and operating costs (Bradach and Eccles, 1989; Norton, 1988). As entrepreneurs, franchisees have strong incentives to develop procedures that fit local demands (Sorenson and Sørensen, 2001). In part, this adaptation comes from observation of competition in the local market (Kaufmann and Eroglu, 1998). Although managers of corporate stores also benefit from store revenues, they have weaker incentives to generate revenue and should correspondingly have less concern with competition. However, as competition escalates, corporate store managers also have the incentives to improve sales performance, as they have to keep up with the franchised and independent stores in the market to stay in business (Nygaard and Myrveit, 2000). Competition thus works as an incentive scheme in itself (Hart, 1983) and gives corporate stores similar incentives to the ones franchised stores have by design.

H2: Competition increases the likelihood of alcohol sales to minors more for corporate stores than for franchised stores.

The moderating effect of public monitoring and sanctions. The state has a key role in ensuring social performance through creating and enforcing laws and regulations and by providing financial incentives that reward good behavior and punishing bad social performance (Campbell, 2007). Most states have a long history of regulating alcohol sales, as witnessed for instance by the prohibition period in the US. Historical and cultural reasons are behind the regulations, but another important reason is the negative effects of alcohol use on health (Ornstein and Hanssens, 1985). Public monitoring and sanctioning strategies vary considerably, yet many countries implement a system with fines and license suspensions for breaches of the regulations. In Europe, 28 out of 29 countries punish those responsible for sales to minors, and in 14 of the countries alcohol licenses can be revoked for repeated violations (Mulder and de Greeff, 2013).

In a rational economic model, the costs of selling alcohol to minors for a store manager is the punishment if caught, weighed by the risk of getting caught (Becker, 1968). The cost of the punishment can have several components. The fine can in itself be substantial, and the withdrawal of the sales license can have consequences beyond the lost profits from alcohol sales. Shoppers may choose to change stores altogether when they cannot buy alcohol in their regular shop. In addition, a local firm faces reputational consequences due to a revoked license (Alexander, 1999). Experiments and field studies in a range of fields show that monitoring and the risk of punishment reduce the likelihood of wrongdoing or crime (Cole, 1989; Nagin and Pogarsky, 2003; Nagin, Rebitzer, Sanders, and Taylor, 2002). Studies of monitoring and punishment of stores that do not comply with the age regulations have generally found a negative effect on the likelihood of sales to minors. In a field experiment in the Mid-West in the US, law enforcement checks reduced the likelihood of sales to minors by 17%. The

announcement of the law enforcement checks in the local media had an independent, negative effect on sales to minors (Wagenaar *et al.* 2005). Other studies also find that enforcement of drinking laws reduced teenage purchases (Grube, 1997; Scribner and Cohen, 2001).

Managers of franchised and corporately-run stores face different consequences for selling to minors, and the likelihood of these sales should similarly differ. Franchised stores should be more sensitive to sanctions manifest in fines or revoked licenses. Managers of chain stores and franchised stores alike face negative consequences from sanctions, but only the franchisee has to cover the financial loss personally. Franchisees therefore have stronger incentives to monitor employees and give them incentives to follow regulations.

H3: Risk of sanctions reduces the likelihood of alcohol sales more for franchised stores than for corporate stores.

The moderating effect of market size. Market size has been implicated as a determinant of organizational form (Carney and Gedajlovic 1991; Hunt 1972). *Ceteris paribus*, profit-oriented firms are more likely to develop corporate outlets in large markets and sell franchises elsewhere. Franchisees operating in small markets should be particularly sensitive to reputation effects as their livelihood depends on repeat consumer purchases (Weaven and Frazer 2006). Consumers learn about the unobserved quality of a product or service by their own experience or from other consumers. This has consequences for the behavior of firms since producing good quality can become profitable even if quality is (directly) unobservable (Brickley and Dark, 1987). Repeat customers learn about quality and increase the cost of producing low quality since the future income stream of the business may be lost. Similarly, potential customers can learn about a firm's quality from other customers, the media, or expert reviews. Since firm reputation reduces free-riding, franchising should be more efficient in locations with strong reputation mechanisms (Brickley and Dark, 1987; Jin and Leslie, 2009).

Empirical studies have confirmed that small markets influence firm behavior. In general, small communities rely less on formal governance mechanisms such as formal punishments and more on informal methods (Henrich *et al.*, 2010). In business settings, repeat customers are treated better than one-time customers (Schneider, 2012), and companies with low reputational concerns are more likely to overcharge their customers (Rasch and Waibel, 2013). In total, firms in small markets are more sensitive to changes in their reputation than firms in larger markets (McDevitt, 2011).

Stores in small markets have incentives to provide good quality because they have a substantial amount of repeat customers and because reputation effects are strong. Reputational effects of small markets should particularly reduce the free-riding problem of franchised stores. The financial value of a good reputation is larger for the franchised stores who will benefit more directly from the future income stream created by a good reputation. The sale of alcohol to minors is generally seen as negative and taints the reputation of a store (Österberg and Karlsson, 2002). In smaller markets, franchised stores should be more protective of their reputation and less willing to sell alcohol to minors. The behavior of franchised stores becomes similar to corporate stores in small markets.

H4: Location in a small market reduces the likelihood of alcohol sales to minors more for franchised stores than for corporate stores.

Method

Data

To test our hypotheses we use data from alcohol purchase attempts by underage teens as mystery shoppers. The data for the purchase attempts by minors have been collected by Juvente, a Norwegian NGO working to limit alcohol consumption among young people. As part of the organization's activities, underage members between 13 and 17 visit stores and attempt to buy alcohol. The results of these attempts, together with other relevant information

about the visits, are systematically recorded and used to produce statistics for an annual report (Juvente, 2008-2012). The purpose is to influence retail stores to reduce sales to minors while enabling authorities to strengthen their monitoring efforts (Juvente, 2013).

The purchase attempts follow a standardized procedure. Members visit retail stores and attempt to purchase beer and some other retail products. If successful, they leave the store without notifying the staff. The members are instructed not to alter their looks or behavior to appear older than their actual age (Juvente, 2013). The underage buyers are assisted by a member above 18 who waits outside the store, checks that procedures are followed, and signs a form with the information about the purchase attempt. This study uses data from 2008-2011, as the data from 2007 are not available. In total, we have data from 2607 purchase attempts in 736 stores. All stores are supermarkets selling a broad range of products, including alcohol.

To check the representativeness we compared the sample with the full population of stores in the Norwegian market on available indicators. The stores in the sample are significantly larger than the average Norwegian store (mean sample = 47.8 MNOK, all retail stores = 32.2 MNOK, $Z = 10.4$, $p < .01$). Teenage shoppers visited stores in 17 of the 19 Norwegian regions and 87 out of 428 Norwegian municipalities. Larger cities and their surroundings are over-represented in the data, most likely a result of the NGO having the most active members in these locations. The coverage across retail chains is good and the purchase attempts follow the market shares of the different retail chains (ACNielsen, 2012). Overall, the sample is a good representation of the Norwegian retail market.

Measures

Sales of alcohol to minors is measured as a dichotomous variable set to 1 if a given purchase attempt was successful, meaning that the underage teen was allowed to purchase alcohol, and 0 if not.

Organizational form is measured as a dummy set to 1 for franchised stores and 0 for corporate stores. A store is defined as corporate if the chain has a majority stake in the store.

The organizational form data were collected from the Norwegian corporate register (Eniro Norge AS, 2012).

Competition is measured as the number of retail stores located within a radius of 500 meters around each supermarket. This logic is consistent with other recent studies in retail and similar industries (Bennett *et al.*, 2013; Mayzlin, Dover, and Chevalier, 2014).

Risk of sanctions is measured as the number of breaches detected by municipalities divided by the number of sales permits in a municipality in a given year. Local municipalities are responsible for monitoring and sanctioning stores that do not follow the rules and regulations regarding alcohol sales, including sales to minors. We include all types of breaches including sales to minors, sales to drunken customers, sales outside the given time frame, and other sanctions. Note that this variable is on the municipality level as data for monitoring and sanctions of individual stores are not available. The data were collected from an annual publication of the Norwegian Institute for Drug and Alcohol Research (Lauritzen, 2008; Skjælaen 2009-2011).

Market size is measured using a dummy indicating whether the market where the store is located has more than 10,000 inhabitants (Paschall *et al.*, 2007). We use a dummy and not the number of inhabitants since theoretically we do not expect a linear effect. The number of inhabitants is measured at the urban settlement level and comes from Statistics Norway (2012).

Control variables

Attitudes to alcohol in the local market. Like countries, local markets have different attitudes towards alcohol, because of historical, religious and cultural factors. As a proxy for attitudes towards alcohol, we use a measure of religiosity. In most religions, including Christianity, moderation in alcohol use is encouraged. Several studies have found that people that identify themselves as Christian are more negative towards alcohol and use less alcohol themselves (Francis, 1997; Michalak, Trocki, and Bond, 2007;). As the indicator of religion we use church attendance (McCleary and Barro, 2006; Shachar, Erdem, Cutright and

Fitzsimons, 2011) measured as the average percentage of the population in the municipality that attended church in 2010 (Statistics Norway, 2013).

Monitoring costs. The retail chain's monitoring costs influence its ability to enforce quality standards in its stores. We control for monitoring cost by including the log of the shortest driving distance from the chain headquarters to the store (Dahlstrom, Haugland, Nygaard and Rokkan, 2009). The data come from Google maps.

Proximity to highway. Stores close to highways may have less repeat customers and therefore lower quality (Brickley and Dark, 1987). We control for a location close to a highway by including a dummy for whether a given store is within of 3 kilometers from the closest highway. The data come from Google maps.

Store size. Previous studies have found that large stores are less likely to sell alcohol to minors (Paschall *et al.*, 2007). We control for size by including the log of the estimated net sales for the stores in 2010. These data were provided by a retail consultancy that has developed a database of retail space and sales for Norwegian stores (Experian, 2013).

Age and gender of purchaser. Older looking buyers are more likely to be or perceived to be above the age limit, reducing the likelihood that the stores will question their age (Wagenaar *et al.* 2005; Willner, Hart, Binmore, Cavendish, and Dunphy, 2000). The model controls for the age of the buyer at the time of the purchase attempt. Previous studies have found that girls are more likely to be allowed to buy alcohol than are boys of the same age (Gosselt, Van Hoof, De Jong, and Prinsen, 2007; St-Pierre, Derevensky, Gupta, and Martin, 2011).

Day, month and year of the purchase. Some studies have found a correlation between the time of the purchase attempt and the success rate. For instance, purchase attempts on weekends are more likely to be successful (Paschall *et al.*, 2007). To account for time-specific effects we include day, month and year dummies in the model.

Number and results of previous purchase attempts. Some stores have been subject to

several purchase attempts in the same year, which, especially if recent, may influence the likelihood of sales the next time. To control for this possibility, we include variables indicating the *number of previous purchase occasions in the same year* and another variable indicating the *number of purchase attempts in all years*. The results of previous recent purchase attempts may also influence subsequent attempts. If a minor is identified and not permitted to buy alcohol, staff may become more skeptical. We include a dummy (*attempt previously denied in same year*) to control for this possibility.

Number of testers together. Many of the purchase attempts have been in groups from two to six persons. Even if only one person enters the store at any given time, this may influence the sales likelihood, since stores may find it suspicious that of a stream of young people purchases alcohol. To control this potential problem, the model includes a variable for the number of teens involved in the purchase.

Retail chain. All stores belong to one of 15 different retail chains. These chains may have different policies and routines towards alcohol sales. To control for chain differences, the model includes a series of chain dummies.

Descriptive statistics

Table 1 presents the descriptive statistics. Note that these data are at the purchase attempt level, meaning that a store subject to many purchase attempts will count more towards the mean than a store subject to one purchase attempt. The main difference between corporate and franchised stores is store size as the corporate stores are significantly larger. Consequently, more purchase attempts have been done in corporate stores.

Table 1 here

Table 2 shows the correlation matrix. As expected, sales of alcohol to minors are significantly correlated with the age and gender of the buyer. The correlations also indicate a

learning effect in the stores, since the number of previous occasions and attempts are correlated negatively with sales to minors. We mean-centered the continuous variables that are part of interaction terms (Aiken and West, 1991) for the regression models.

Multicollinearity should not be a problem since the variance inflation factors for all variables are below 4.

Table 2 here

Model and results

To test the hypotheses we estimate logistic regression models with the result of a purchase attempt (sales or no sales) as the dependent variable. Since many stores have been visited multiple times, many buyers have done multiple purchase attempts, many purchase attempts have been done in groups, and many stores are located in the same markets; we include random effects for stores, buyers, groups, and markets (measured at the zip code level).

We estimate two models, one with only the main effect of the organizational form testing H1 and one with the additional interaction effects testing H2-H4. The models are estimated with the statistical software R (R Core Team, 2012), using the package lme4 (Bates, Maechler, and Bolker, 2012). To calculate the pseudo R-square for the models, we use the code developed by Lefcheck and Casallas (2014) based on the procedure suggested by Nakagawa and Schielzeth (2013). Table 3 shows the results.

Table 3 here

H1 suggested that franchised stores are more likely to sell alcohol to minors than corporate stores. The data supports this, franchised stores are more likely to sell alcohol to

minors than corporate stores ($b = .37, p < .05$). H2 is not supported, the interaction between organizational form and competition is weak and insignificant ($b = .03, p > .05$). The third hypothesis, that franchised stores are more sensitive to the risk of monitoring and financial sanctions, is supported, as the interaction between franchised stores and risk of sanctions is negative and significant ($b = -2.28, p < .05$). For the interaction between organizational form and small market, we hypothesized that franchised stores would reduce their sales likelihood more than corporate stores. H4 is not supported ($b = .60, p < .05$). The positive interaction suggests that corporate stores are more sensitive to the influence of the small market.

The results for the control variables are also informative. We find no main effects of competition or risk of sanctions. Stores in small markets are less likely to sell alcohol to minors ($b = -.42, p < .05$). Distance to headquarters and store size has no effect on sales. The number of previous same-year purchase unsuccessful occasions is negatively related to the likelihood of sales ($b = -.76, p < .01$). Dummy variables for 2009 ($b = -.54, p < .05$), 2010 ($b = -.83, p < .01$) and 2011 ($b = -1.16, p < .001$) are significant and suggest that stores have improved their compliance rate in the period.

Discussion

Franchising is the object of rigorous research efforts in finance (Brickley and Dark, 1987), economics (Lafontaine, 1992), strategic management (Sorensen and Sørensen, 2001), marketing (Lal, 1990), management (Combs, Michael, and Castrogiovanni, 2009), entrepreneurship (Kaufman and Eroglu, 1999) and other areas of business research. Literature reviews on franchising research (Combs *et al.* 2009; Dant, Grünhagen, and Windsperger, 2011; Fried and Elango, 1997) reveal three major research avenues (Agrawal and Lal, 1995); a) comparative research of franchising as one of several structural alternatives, b) studies of incentives, royalties or franchise fees or c) life cycle analyses of structural dynamics. This

study contributes to the analysis of structural alternatives by exploring social implications of franchising as a structural alternative to chain ownership.

The purpose of this study is to examine how the organizational form of retail stores influence their social performance and how this effect is influenced by characteristics of the local market. To the extent that organizational form reduces opportunities to consume alcohol, it lowers the potential for adolescents to develop addictive, compulsive consumption (Drummond, 2000). The main hypothesis is that franchised stores, because of the stronger financial incentives, are more inclined to sell alcohol to teens. This effect is influenced by variations in the financial sanction intensity and size of the local market. Franchised stores are more likely to sell alcohol to minors, and more sensitive to the risk of sanctions than corporate stores. In contrast to our hypothesis, corporate stores are more sensitive to the influence of small markets. Before we elaborate on the implications of these findings, consider some limitations of the research.

Limitations and future research

This study has examined a specific type of social performance, alcohol sales to minors, and the findings may not be applicable to other types of social performance. While the findings should be generalizable to other issues of unethical demand where both the seller and the buyer have an interest in the transaction taking place and where information asymmetry is high, the results may be different for issues where the parties have different interests or monitoring is easy.

While the data in this study have several strengths, they also suffer from some weaknesses. The NGO whose members have collected the data may have an interest in exaggerating the problem to get media attention or to motivate their members into continuing their efforts. For the purpose of this study, this should not be a major problem, since it is unlikely that members have chosen stores systematically based on the independent or dependent variables in this study. The trend has also been towards a smaller likelihood of

selling alcohol to minors, indicating that the organization is not exaggerating the problem. Another limitation is the assumption of the store organizational form as exogenous. Unobserved variables may influence both the choice of organizational form and the social performance of the stores. Previous studies of alcohol sales to minors have mainly used mystery shoppers above the age limit that looked younger than their actual age, typically as assessed by expert judges. We have relied on data collected by actual underage teens. While the current study may have higher external validity, it may suffer from slightly lower internal validity, since we could not control the perceived age of the buyers. In addition, the buyers' places of residence have not been available for the analysis. The place of residence may influence the results since buyers may be known in their local stores.

This study is from a single market and the findings should be replicated in other countries and with other types of products. Furthermore, this study only uses observational data with its inherent limitations in its abilities to explain the processes going on in the individual firms. One promising avenue for future research would be to combine observational studies with surveys or interviews with store managers and employees.

Agency theory applied in the analyses of structural alternatives alcohol sales to minors might describe the effect of behavioral opportunism. Our data though, cannot distinguish between opportunism (Williamson, 1991) and bounded rationality (Simon, 1955) as the explanation. Further analyses based on case studies or qualitative interviews might contribute to understanding of effects of contractual alternatives.

Implications

Our study has implications for agency and public policy. We illustrate that organizational form influences the likelihood of underage sales, and we identify theoretically relevant factors that moderate this effect. That franchised stores are more likely to sell alcohol to minors than corporate stores is not surprising, since they have larger financial benefits from doing so (Heath, 2008). Our research, however, contributes by examining whether

competition, risk of sanctions and market size moderate this effect. We find no effect of competition and no interaction with organizational form. These results may partially be due to a measure that focuses on distance (i.e., 500 meters) rather than the relevant trade area. Our study is consistent with previous research that has failed to find an effect of competition on organizational form (Dahlstrom, *et al.* 2009; Nygaard and Myrtveit, 2000). Agency theory suggests that competition removes the slack that managers can appropriate, but whether the competitive forces observed in this study in fact remove managerial slack is unclear. New research could enhance our findings through refined competitive measures that capture relevant trade markets and assessing influences of competition on managerial behavior.

Public authorities can use the findings when designing monitoring strategies. Based on the findings in this study authorities should divert resources from corporate to franchised stores. They should also consider the interaction between financial sanctions and other local market conditions. In smaller markets where company stores are more likely to sell to minors, financial sanctioning may take on more importance.

This study also illustrates how small markets, where reputation effects are strong, can reduce some agency costs. Previous research on agency theory has focused on how monitoring can be less expensive in large markets (Brickley and Dark, 1987), but this study suggests that the need for monitoring is lower in small markets, at least for issues of social performance, where reputation effects can ensure performance. Contrary to our hypothesis, we find that corporate stores are more influenced by the small market effects than franchised stores. Indirectly, this finding lends some support to Jensen and Meckling (1976) who saw manager's desire for status and reputation as a source of agency cost. Corporate managers prioritize to maintain a good reputation, thereby forfeiting some additional sales. The hypothesis was based on the premise that franchisees in small markets must attend to reputation effects which make them less likely to sell to underage consumers. Weaven and Frazer (2006) suggest that small franchisees are more attentive to reputation effects whereas their large firm counterparts are more focused on proper

implementation of the business format. To the extent that the business format emphasizes the prohibition of sales to minors, however, these organizations are less likely to sell alcohol to minors. Future research could augment our findings by examining the degree to which the business operating system and related communiqués emphasize prohibition of sales to minors.

Our study also contributes to public policy considerations by underscoring the influence of agent behavior on consumer welfare. For decades, worries about potential negative effects of franchising have existed, but these have mainly been concerned with the unequal power relationship between the franchisor and franchisee (Hunt, 1972; Storholm and Scheuing, 1994). Our study is consistent with other research illustrating negative consequences for parties external to the principal-agent dyad. Whereas prior studies report lower quality (Jin and Leslie, 2009) and higher prices (Ater and Rigbi, 2015) for franchises, we illustrate more miscreant behavior—in the form of underage sales in franchising. Combined with these prior studies, the findings pose more questions about the effects of franchising on broader social interests.

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Table 1
Descriptive statistics

	<u>Mean</u>			P-value	<u>SD</u>	
	Overall	Corporate	Franchised		Corporate	Franchised
Sales (dichotomous)	0.32	0.32	0.34	0.28	0.46	0.47
Franchise	0.35	0	1	-	-	-
Competition	8.59	8.88	8.03	0.07	11.87	11.05
Risk of sanctions	0.07	0.06	0.07	0.13	0.14	0.16
Small market	0.29	0.28	0.31	0.14	0.45	0.46
Church attendance	1.05	1.06	1.05	0.83	0.38	0.37
Distance to headquarters	387.46	380.90	399.87	0.17	327.26	244.29
Close to highway	0.71	0.72	0.69	0.05	0.45	0.46
Store size	53.02	55.09	49.09	0.00	61.76	27.14
Age of buyer	15.77	15.76	15.79	0.44	0.81	0.81
Female	0.62	0.63	0.60	0.19	0.48	0.49
Number of attempts in occasion	2.15	2.18	2.09	0.02	0.92	0.83
Number of previous occasions same year	1.28	1.29	1.26	0.27	0.69	0.59
Number of total attempts	2.03	2.06	1.96	0.08	1.36	1.53
Attempt previously denied in same year	0.18	0.18	0.18	0.87	0.38	0.38
N	2607	1706	901			
Chains (categorical) (N)	15					
Stores (categorical) (N)	736					
Buyers (categorical) (N)	273					
Purchase occasions (categorical) (N)	1455					
Year (categorical)	2008: 44%, 2009: 13%, 2010: 20%, 2011: 24%					
Month (categorical)	Jan-Sep: 4%, Oct: 38%, Nov: 53%, Dec: 4%.					
Day (categorical)	Monday: 4%, Tuesday: 6%, Wednesday: 11%, Thursday: 7%, Friday: 19%, Saturday: 53%					

Table 2
Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Sales														
2 Franchise	0.02													
3 Competition	-0.03	-0.03												
4 Risk of sanctions	0.02	0.02	0.00											
5 Small market	-0.02	0.02	0.33	0.17										
6 Church attendance	-0.05	0.00	-0.52	-0.12	0.55									
7 Distance to headquarters	0.00	0.03	-0.42	-0.02	0.00	0.21								
8 Close to highway	-0.06	-0.04	0.32	0.00	-0.23	-0.25	-0.25							
9 Store size	0.01	-0.06	-0.04	0.00	-0.16	-0.12	0.10	0.06						
10 Age of buyer	0.12	0.02	0.05	0.06	-0.03	-0.06	-0.14	0.06	-0.01					
11 Female buyer	0.09	-0.02	-0.07	-0.02	0.02	0.11	0.05	-0.07	-0.04	0.02				
12 Number of attempts in occasion	0.01	-0.04	-0.08	-0.01	0.10	0.07	-0.11	0.06	0.14	-0.05	0.13			
13 Number of previous occasions same year	-0.06	-0.02	0.06	0.01	0.07	0.02	-0.11	0.05	-0.02	0.05	-0.02	-0.03		
14 Number of total attempts	-0.08	-0.04	0.11	-0.05	-0.10	0.01	-0.02	0.07	0.04	0.06	0.05	-0.01	0.49	
15 Attempt previously denied in same year	-0.09	-0.01	0.07	0.03	0.03	0.01	-0.09	0.02	-0.01	0.01	0.00	-0.04	0.82	0.44

N=2607. Correlations larger than 0.05 are significant at $p < 0.05$. Correlations are at the purchase attempt level

Table 3

Antecedents to alcohol sales to minors

	(1)	(2)
Constant	-9.50 (1.74) ***	-9.71(1.75) ***
Franchised store (H1)	0.37 (0.20) *	0.36 (0.20) *
Franchised store x competition (H2)		0.03 (0.03)
Franchised store x risk of sanctions (H3)		-2.28 (0.82) **
Franchised store x small market (H4)		0.60 (0.29) *
Competition	0.01 (0.02)	-0.00 (0.02)
Risk of sanctions	-0.37 (0.45)	0.59 (0.55)
Small market	-0.42 (0.20) *	-0.67 (0.23) **
Church attendance	-0.37 (0.27)	-0.39 (0.27)
Distance to headquarters	-0.00 (0.00)	-0.00 (0.00)
Close to highway	-0.30 (0.16)	-0.31 (0.16)
Store size	-0.00 (0.00)	-0.00 (0.00)
Age of buyer	0.56 (0.11) ***	0.57 (0.10) ***
Female buyer	0.55 (0.19) **	0.57 (0.19) **
Number of attempts in occasion	0.15 (0.08)	0.15 (0.08)
Number of previous occasions same year	0.01 (0.18)	0.03 (0.18)
Number of total attempts	0.02 (0.06)	0.02 (0.06)
Attempt previously denied in same year	-0.76 (0.30) **	-0.76 (0.29) *
2009	-0.54 (0.27) *	-0.53 (0.27)
2010	-0.83 (0.26) **	-0.82 (0.26) **
2011	-1.16 (0.27) ***	-1.17 (0.27) ***
Other controls	Month, day, chain (dummies)	
Random effects	Purchase occasion, buyer, store, market (zip code)	
Log-likelihood	-1431.7	-1426.7
AIC	2951.5	2947.5
R Squared	45,0%	45,3%
N	2607	2607

Notes: Coefficients are unstandardized regression coefficients. Standard errors in parentheses. One-way tests for hypothesized effects, two-way tests otherwise. Reference category franchised store: Corporate store. Reference category year: 2008.

* Significant at the 5% level, **Significant at the 1% level, ***Significant at the 0.1% level