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OWNERSHIP CONVERSION AS A SOLUTION FOR EX POST AGENCY PROBLEMS:
THE CASE OF FRANCHISING

A Dissertation
presented in partial fulfillment of requirements
for the degree of Doctor of Philosophy
in the department of Management, School of Business Administration
The University of Mississippi

by

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May 2019

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ABSTRACT

This dissertation examines the strategic decision of franchising firms to convert company-owned outlets to franchise contracts in response to persistent agency problems. Moreover, this study investigates how franchisor-level, market-level, and outlet-level characteristics interact with this relationship. Using a longitudinal sample of company-owned fast-food restaurants, I find that increased agency problems at focal restaurants increases the likelihood of being converted to a franchise and that this relationship is moderated by both franchisor- and outlet-level characteristics but not market-level characteristics. Limitations and future research opportunities are discussed.

DEDICATION

I dedicate this manuscript to Mauri, Roe, and Liam. Thank you for your patience and understanding, persistent encouragement, and unwavering support.

ACKNOWLEDGEMENTS

First of all, I thank God for this amazing opportunity and my wife Mauri, and our two boys, Roe and Liam, for their endless support and commitment in the pursuit of this degree. I also need to thank my parents and extended family for their constant encouragement and belief in me. I owe much to my friends, Gabby, Bob, Dave, and Andrew, whom I thank for brightening each day. To Dr. Tom Payne, thank you for the many years of mentorship and encouragement to pursue this degree. Lastly, to my advisor, Dr. Hyun-Soo Woo, and committee members, thank you for being patient, responding to countless questions, and taking the time to help me be a better researcher.

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I. INTRODUCTION

Agency theory is among the most prevalent theories of organization and management (Dalton, Hitt, Certo, & Dalton, 2007); however, the agency problem continues to challenge scholars and practitioners (Shi, Connelly, & Hoskisson, 2017). Agency problems arise because of the potential for mischief when the interests of managers deviate from those of the owners (Jensen & Meckling, 1976). In such situations, and for various reasons, managers may attempt to extract greater rents than those contractually agreed upon by the owners (Eisenhardt, 1989). Unfortunately, contracts that attempt to bond the interests of both parties are costly (e.g., incentives), as are the mechanisms used to enforce them (e.g., monitoring) (Fama & Jensen, 1983b). Therefore, the focus of the theory is not only in determining *when* agency problems may arise, but which mechanisms are most effective for minimizing the tendency of managers to leverage their advantage (Eisenhardt, 1989; Fama & Jensen, 1983b; Jensen & Meckling, 1976).

Numerous reviews illustrate the extensive research on how firms attempt to mitigate the agency problem (e.g., Dalton et al., 2007; Eisenhardt, 1989; Kim & Mahoney, 2005). This vast line of research has uncovered a great deal of knowledge on curbing the agency problem, however, scholars also acknowledge that contracts and intervening mechanisms are imperfect instruments (Agarwal & Knoeber, 1996; Jap & Anderson, 2003; Parkhe, 1993), as agency problems still persist. Interestingly, how owners respond to such agency problems after the fact has attracted less research attention. Indeed, agency related research on the interaction between owners and agents tends to favor an *ex ante* position (Dalton et al., 2007; Kim & Mahoney,

2005), despite the seeming importance of responding to such problems occurring *ex post*.

Therefore, the current study compliments the extant literature by explicitly examining one such response - ownership conversion, as a mechanism for remedying agency problems in the *ex post* setting, as well as a number of conditions that may strengthen or weaken this expected response.

Examining the *ex post* setting is important for a number of reasons. First, because preemptive efforts to curtail agency problems may be unsuccessful, examining how principals respond to residual agency problems is important since lasting agency problems can erode the value of firm assets, increase costs, and damage important relationships (Jap & Anderson, 2003; Michael, 1998, Singh & Sirdeshmukh, 2000). However, and perhaps more importantly, decisions regarding agency remediation may look quite different in the *ex post* setting and, therefore, contingent upon a number of conditions. For example, organizational actions can provide information to key observers regarding firm attributes (Miller & Triana, 2009; Spence, 1974), which can impact firms economically (e.g., customer demand) and socially (e.g., desirability as a strategic partner) (Bergh, Connelly, Ketchen, & Shannon, 2014). Actions may also be contingent on the strategic importance of an asset (e.g., business unit) or the market it serves. Because these factors may influence how firms respond to agency problems, examining the factors that strengthen or weaken this response is important. Indeed, better understanding the boundary conditions that influence the *ex post* reactions of principals to potentially harmful agency problems has important implications for both theory development and practice. Therefore, this study also examines the moderating roles of owner-, market-, and business unit-level characteristics in *ex post* responses to agency problems.

To investigate these questions, this study draws on business-format franchising to show how principals (e.g., franchisors) use business unit (e.g., retail outlet) ownership conversion –

defined as the change in ownership of a focal outlet from company to franchisee – as an *ex post* response to enduring agency problems. Franchising provides an excellent context with a well-developed literature that has broadened our understanding of how firm’s attempt to mitigate agency concerns (Combs & Ketchen, 2003). For example, the ownership preference for new outlets, known as franchise choice, is determined by the franchisor at the time of establishment (Scott, 1995) and is based on observable local market factors (Combs & Ketchen, 2003). Furthermore, outlet ownership choice is assumed to remain fairly stable since the parent firm “has taken into account all relevant factors” at the time of establishment “and have chosen correctly and efficiently” (Parmigiani & Holloway, 2011:464). However, periodic monitoring may uncover evidence of agency problems at focal outlets, prompting the franchisor to modify the existing ownership structure (Manolis, Dahlstrom, & Nygaard, 1995). Despite anecdotal and objective evidence of such structural changes occurring within franchise systems over time (e.g., annual reports and franchise disclosure documents) and the strategic importance of responding to persistent agency problems, extant research on outlet ownership choice remains focused on *ex ante* selection.

This study thereby makes a number of contributions. First, it explicitly extends agency theory into the *ex post* setting by examining the responses of franchisors to lasting agency problems at company-operated units. In doing so, utilizing the context of fast-food restaurant chains, I extend extant franchising literature by capturing *ex post* managerial agency at focal restaurants using health code violations and subsequently show that converting outlets to a franchise is an effective mechanism for solving such problems. Next, this study shows that franchisor responses to agency problems at focal restaurants are contingent upon various factors. Specifically, organizational- and outlet-level characteristics act as boundary conditions for

exercising ownership change in the *ex post* setting, whereas market-level characteristics appear to play less of a role. This is interesting because more prominent franchisors appear to be more likely to unload problematic stores onto franchisees than their less visible counterparts. Even though these outlets are problematic, the increased visibility of the chain helps to overcome this issue in terms of franchisee demand. Lastly, this study uses outlet-level, panel data, thereby contributing methodologically to the franchise literature by taking a more granular approach to changes in franchise choice which aggregate to impact system composition.

In the sections that follow, I first review the relevant literature on agency theory, the mechanisms used to mitigate agency problems, and how this literature has been applied to franchise choice. Next, using arguments grounded in agency theory, I posit ownership conversion of company-managed units to franchised units as a mechanism for managing *ex post* agency problems. Then I propose boundary conditions that strengthen or weaken the tendency to use such a mechanism. Fourth, I describe the empirical setting and the method used for testing the hypotheses. Lastly, I provide results and a discussion of the limitations and implications of the study.

II. AGENCY THEORY, FRANCHISE CHOICE, AND THE EX ANTE SETTING

Agency Theory

A principal-agent relationship exists when one party (the principal) delegates authority to another (the agent), whose employment is expected to create value. How much value will result from this agreement, however, is unknown because of exogenous factors and uncertainty with regard to the agent's effort. Agents are assumed to be competent, however, the interests of the two parties may diverge and in many situations information regarding agent inputs may be difficult to assess and the mechanisms for detecting agency problems, monitoring agent inputs, and aligning the interests of both parties can be costly (Eisenhardt, 1989). Thus, the focus of the theory is not only in determining situations in which agency problems may arise, but which mechanisms are most efficient for governing the principal-agent relationship (Eisenhardt, 1989; Jensen & Meckling, 1976).

Both parties are assumed to be self-interested utility maximizers. Because of this, managers (i.e., agents) seek to maximize their utility at the expense of the firm by withholding effort (i.e., shirking) or attempting to increase their compensation through self-dealing. Barring perfect information regarding agent behavior, agents are inclined to conceal such information and owners will bear the cost. Therefore, principals attempt to mitigate at least a portion of these two dominant features of the agency problem: diverging interests and information asymmetry (Cohen, Holder-Webb, Sharp, & Pant, 2007). First, principals can structure contracts in a way that more closely aligns the interests of both parties through the use of outcome- or behavior-based compensation contracts (Eisenhardt, 1989). Second, principals can use monitoring

mechanisms (e.g., management information systems and auditors) to increase visibility of agent behavior (Fama & Jensen, 1983; Jensen & Meckling, 1976).

Dalton and colleagues (2007) masterfully synthesize extant literature on three mechanisms commonly researched in this vast literature: independence (monitoring), equity (ownership), and the market for external control¹. Independence refers to the independence of those in charge of monitoring managerial action (e.g., boards of directors), arguing that the structure and leadership of the governing body impacts the effectiveness of monitoring. For instance, if a board is composed of insiders (e.g., officers of the firm) or affiliates of the incumbent CEO, it is reasonable to assume a low degree of independence compared to those external to the firm and monitoring will be less rigorous (Daily, Johnson, & Dalton, 1999). To date, an extensive body of research suggests that there is little evidence supporting the relationship between board composition and financial performance (Bhagat & Black, 2002; Coles, McWilliams, & Sen, 2001; Dalton, Daily, Ellstrand, & Johnson, 1998; Kaufman & Englander, 2005) or is modest at best (Rhoades, Rechner, & Sundaramurthy, 2000; Wagner, Stimpert, & Fubara, 1998). What is clear in this corpus of literature is that the rationale behind this research considers board independence a monitoring mechanism that, when formed *ex ante*, serves to mitigate future agency concerns.

Another pillar of agency-based research argues that equity ownership influences firm performance (Fama & Jensen, 1983a, 1983b; Jensen & Meckling, 1976). According to Jensen & Meckling (1976), agent equity ownership is thought to facilitate the alignment of interests with those of the principals. For example, as the agent's ownership stake declines, it is argued that

¹ The mechanisms reviewed here are by no means exhaustive as agency researchers have examined many others (e.g., Agrawal & Knoeber 1996). However, research suggests that the three named are the most prominent in agency research.

their “fractional claim on outcome” is reduced, thus increasing the likelihood of appropriating larger levels of firm resources as perquisites (p. 313). Similarly, early research in this stream argued that agents with less equity may be more inclined to shirk (Demsetz & Lehn, 1985) or direct company funds into projects more aligned with personal interests than that of the owners (Shliefer & Vishny, 1997). Hall (2000: 122) suggests that equity options are the “best” mechanism for aligning manager interests with those of the stakeholders. In fact, empirical evidence supports the notion that equity ownership incentivizes managerial behavior more so than standard compensation alone (Core, Guay, & Verrecchia, 2003; Hall & Liebman, 1998; Jensen & Murphy, 1990; Murphy, 1985). Research also supports a positive relationship between equity-based compensation and firm performance (Core et al., 2003; Mehran, 1995) though the optimal balance between equity-ownership and agency mitigation remains in question. Moreover, as noted in the following by Core et al., (2003: 32), equity-based compensation is typically framed in the literature as an *ex ante* mechanism for aligning the interests of both parties:

“A fundamental reason for the use of equity incentives is the desire by firms to link changes in executive wealth directly to changes in stock price, thereby providing executives with incentives to maximize shareholder wealth...if shareholders (or the board of directors) could directly observe...the executive’s actions and know *beforehand* which actions would maximize shareholder wealth, no incentives (including equity incentives) would be necessary. However, because shareholders do not know and cannot specify every action an executive should take in every scenario (that is, the first-best contract cannot be implemented), the firm must instead delegate many of these choices to the executive, who presumably has superior information about many of these decisions. To motivate the executive to take actions that are in the best interests of the shareholders, compensation risk is imposed on the executive by linking the executive’s wealth to firm performance (that is, the second-best contract is used).”

The market for external control is thought to be a mechanism of last resort (Dalton, et al. 2007). Based on the efficient market hypothesis, it is assumed that the market will correct for excessive agency costs generated from the actions of self-interested managers which will result

in the undervaluing of firm assets by others in the equity market. Specifically, the firm's assets are devalued because future expectations are depressed due to managerial inefficiency, shirking, and misconduct (Hawley & Williams, 2000). As a result, attentive management teams identify the firm as undervalued, at which point they will attempt to take over, changing the management and strategy to enhance the value of the firm's assets (Bebchuk & Fried, 2009). The market for external control has been argued as an effective mechanism for outing entrenched managers (Jensen & Chew, 2000), thus mitigating shareholder risk from poor management practices and signaling to managers the need to place shareholder interests above their own (Jensen, 1984; Jensen & Ruback, 1983).

Common actions researched in the market for corporate control include hostile takeovers, mergers, leveraged buyouts, stockholder buyouts, and divestitures, though there are many other potential levers (Jensen, 1984). Describing this activity as a "blunt instrument", Hawley & Williams (2000) suggest that the market for corporate control is effective for resolving extreme performance failures. Dalton and colleagues (2007: 27) note that such a mechanism is "used to correct [performance failures] after they have already occurred, thereby rendering it effective *ex post* rather than *ex ante*", however, they concede that "an active market for corporate control and a viable threat of takeover may dampen some opportunistic behavior." In a similar fashion to the agency mitigating mechanisms discussed above, extant literature frames the market for corporate control as an *ex ante* mechanism for preventing managerial inefficiency (Fama & Jensen, 1983a; Jensen & Ruback, 1983; Manne, 1965). Therefore, explicitly highlighting the mechanisms used in the *ex post* setting, and within different contexts, is useful for extending our understanding of the appropriateness and utility of such tools.

Although much of the agency literature has been developed in the context of the corporation and CEOs, where boards of directors are designated as the primary monitoring body over managerial actions, equity ownership is hypothesized as stock and stock options, and leveraged buyouts and corporate raiding, stockholder buyouts, divestitures, spin-offs, and liquidations represent the market for corporate control, similar conceptualizations of these agency mechanisms have been useful for explaining phenomena in other contexts as well. In fact, agency theory has been noted as one of the most successful theories for predicting franchising as a strategy and subsequently, franchise choice (Perryman & Combs, 2012). Indeed, not only does agency theory provide theoretical rationale for explaining why firms choose to franchise in the first place, its premises also explain which outlets should be franchised or company-operated (i.e., franchise choice). Rubin (1978) was one of the first in this line of research to view franchising as a solution to agency concerns. Using the above framework as a guide, I review the franchising literature from an agency perspective.

Agency Theory and Franchising

Scholarly interest in the use of franchising as an organizational strategy dates back to the seminal work of Oxenfeldt and Kelly (1976). Many explanations for franchising have emerged since then, ranging from resource scarcity (Oxenfeldt & Kelly, 1976), signaling (Gallini & Lutz, 1991), transaction costs (Kim & Mahoney, 2005), to agency (Rubin, 1978). Though each has added to our understanding of franchising and related phenomena (e.g., franchise choice), agency theory has received arguably the most empirical support in the extant literature (Perryman & Combs, 2012). Accordingly, the agency literature on franchising has long recognized agency costs as a significant determinant in the use of franchising. Indeed, numerous studies have recognized geographical distance and outlet dispersion as salient factors regarding employee

monitoring and motivation (Brickley & Dark, 1987; Kalnins & Lafontaine, 2013). Research suggests that hiring, retaining, and monitoring employees was found to be one of the biggest concerns for restaurant managers (Enz, 2004) and increased travel costs has been shown to have a negative effect on plant investment and plant productivity at the firm level (Giroud, 2013).

Testing the notion between outlet and chain headquarters location, Brickley and Dark (1987) show that chains are more likely to franchise an establishment as it gets farther from headquarters. Similarly, Lafontaine (1992) finds that as chain outlets become more geographically dispersed, chains tend to prefer franchising over company-ownership. This view explains franchising as a mechanism for mitigating agency concerns or problems associated with motivating managers to perform as expected in geographically distant locations. Franchising is effective because it motivates the franchisee, as a semi-independent owner, to self-monitor and pay attention to the outlet's daily operations (Dahlsrom & Nygaard, 1994). In other words, franchising reduces the franchisor's need to closely monitor distant outlets because franchisees are motivated to be efficient as the residual claimants of the profits in their outlets (Norton, 1988). Therefore, the literature on franchising suggests that franchisors may reduce employee moral hazard by apportioning ownership rights to a local business person (Scott, 1995).

Although compensating employee managers with salaries and bonuses tied to outlet performance is a useful alternative for aligning the interests of both parties (Bradach, 1997), it may still be difficult for principals (e.g., franchisors) to know whether outlet performance is attributable to managerial effort or factors outside their control (Carney & Gedajlovic, 1991). Therefore, when franchisors cannot be certain that managers are following protocol and adhering to operational standards, increased monitoring and associated costs remain salient. As discussed

in the previous section, it is when monitoring becomes overly costly that the incentives tied to ownership of an outlet becomes attractive (Combs & Ketchen, 1999).

Supporting this agency perspective are numerous literature reviews (Combs, Ketchen, Shook, & Short, 2011; Combs, Michael, & Castrogiovanni, 2004; Dant, Paswan, & Kaufmann, 1996; Lafontaine & Slade, 1997) and a meta-analysis (Combs & Ketchen, 2003). Franchising has indeed been shown to be more prevalent when outlets are costlier to monitor. For example, when outlets are physically located farther from monitors (Brickley & Dark, 1987), are culturally distant (Fladmoe-Lindquist & Jacque, 1995), and when franchisee inputs (i.e., local knowledge and decision making) are more salient for operations and difficult to evaluate (Lafontaine, 1992; Minkler, 1992).

On the other hand, research suggests that while franchising may reduce monitoring costs, it creates unique agency concerns between franchisors and franchisees as both are incentivized to act opportunistically (Scott, 1995). This occurs because franchising involves a trade-off between the costs of monitoring outlet managers and free-riding (Caves & Murphy, 1976; Lafontaine, 1992; Rubin, 1978). In the context of franchising, Combs and colleagues (Combs et al., 2004; Perryman & Combs, 2012) describe these differences in agency costs as vertical and horizontal agency. Vertical agency refers to the classic problem of agents withholding effort when not closely observed (Alchian & Demsetz, 1972), and horizontal agency refers to agents taking actions to help themselves at the cost of the franchise system and other nearby agents (i.e., franchisees). This is important because when franchisor inputs are highly valued (e.g., brand value), franchisees have an incentive to free-ride by taking actions to increase local profits at the cost of the franchisor and other system members making company ownership preferred (Brickley & Dark, 1987; Combs & Ketchen, 1999; Lafontaine, 1992). However, given both costs, Michael

(2000b) found that for many franchisors the monitoring cost advantages of franchising still outweigh those associated with free-riding.

Franchising and the Ex Ante Setting

Although much has been learned through this vast amount of research, reviewing both the corporate agency literature and the franchising literature it is evident that research has focused on how principals anticipate and attempt to mitigate agency concerns (Dalton et al., 2007; Hawley & Williams, 2000). Franchising firms initially do so through the ownership allocation process at the time of outlet establishment (Scott, 1995). At this stage, parent firms have no doubt “taken into account all relevant factors and have chosen correctly and efficiently” based on obtainable information (Parmigiani & Holloway, 2011: 464). Hence, much of the extant research grounded in agency theory displays an interest in new outlet ownership decisions rather than post-establishment changes among incumbents (see Combs & Ketchen, 2003, Kalnins & Lafontaine, 2004; Perryman & Combs, 2012).

Additionally, theory and measurement tend toward more static and abstract, firm-level hypotheses and operationalization compared to dynamic outlet-level specifications, resulting in a less granular understanding of ownership choice phenomena. For example, many studies use cross-sectional data to estimate the proportion franchised, a firm-level variable, and a number of independent firm-level variables – for example: age, geographical dispersion, distance to HQ, franchisor inputs, growth rate, etc. – (e.g., Alon, 2001; Brickley & Dark, 1987; Combs & Ketchen, 1999; Scott, 1995; Shane, 1998). Michael (1996) used franchise organizational form share, an industry-level variable similar to product-market share, to capture the choice of franchising as predicted by the level of business risk (i.e., percent of failure over past three years). Combs and Ketchen (2003) provide an excellent meta-analytical review of this literature

which includes forty-four total studies measuring firms' use of franchising, twenty-nine of which use agency-related variables. Some notable exceptions use outlet-level data for explaining ownership allocation decisions, however, these were usually among new establishments (e.g., Kalnins & Lafontaine, 2004; Perryman & Combs, 2012) and do not explicitly account for changes in ownership.

Although research suggests that initial ownership decisions are both stable and difficult to change (Lafontaine & Shaw, 2005; Argyres & Liebeskind, 1999; Nickerson & Zenger, 2002; Puranam et al. 2006), issues may arise post-establishment that threaten the value of the chain for its numerous stakeholders. Because of this, research is needed to better understand the mechanisms used for managing agency problems in the *ex post* setting, after all other mitigating mechanisms have failed. Furthermore, an explanation regarding the differences between the *ex post* setting and the *ex ante* setting are warranted and how managing agency problems within the former is impacted by potential boundary conditions.

In the next section, using the fast-food franchise industry as a backdrop, I argue that franchisors use ownership conversion as one remedy for post-establishment agency problems (e.g., health code violations) at company-operated restaurants. In other words, when employee-managed restaurants become too costly to monitor and incentives become ineffective, franchisors will convert the restaurant to a franchise operation. On one hand, this action signals to observers that free-riding is not tolerated, especially by company-operated restaurants, however, converting problematic outlets, *ex post*, can send unwanted signals to potential franchisees and other salient observers.

III. OWNERSHIP CONVERSION AS A SOLUTION FOR EX POST AGENCY PROBLEMS

Agency Problems in Employee-Managed Outlets

Agency theory views the firm as a nexus of contracts which specify the rights of agents within the organization (Jensen & Meckling, 1976). These rights fall into three general groups: decision management, decision control, and residual claims (Fama & Jensen, 1983). Decision management involves the initiation and implementation of decisions with regard to resource utilization. Decision control includes the ratification and monitoring of these choices, while residual claims is the right to the net cash flows or profits from the execution of these decisions. Agency theory argues that uniting decision processes and residual claims reduces the concern for agency and thus supports organizational efficiency (Fama & Jensen, 1983). For employee-managed outlets of restaurant chains, decision control and residual claims are held by the owners of the chain, however, the implementation of strategic decisions and the use of outlet resources (e.g., the owner's production system) often fall to the local manager. It is in this capacity that agency theorists suggest that employee-managers are given the opportunity to leverage their advantage to extract rents from residual claimants in the form of reduced effort and concealment of information (Krueger, 1991; Lafontaine & Slade, 2002; Michael, 1998). Brickley and Dark (1987: 403) note that for various reasons, "not all individuals within the firm can be expected to have a strong interest in expending the effort to maintain the quality and reputation of the product."

A common role of an employee-manager is to oversee the daily operations at local outlets. For restaurants, this often includes the supervision of inputs, the processing and production of standardized meals, sales functions, attention to restaurant maintenance needs, and end-user engagement. Many of these functions involve extensive coordination and utilization of human resources and supervision of these activities can greatly influence compliance with operational standards and, in turn, output quality (Michael, 1998). However, even though managers are compensated for their efforts and may be given incentives tied to local performance, they are not as strongly incentivized as residual claimants (Kaufmann & Lafontaine, 1994), nor do they have ownership rights bonding their short-term actions to the long-term value of the operation (Lutz, 1995). Moreover, the work hours of employee-managers are regulated and they may be less motivated to provide extra effort in terms of customer service or to develop a communal rapport with customers compared to residual claimants (e.g., refilling coffee for patrons during morning rush; Love, 1986). Wolensky (1993) suggests that the endurance and improvement of operational standards requires commitment from both managers and their subordinates, therefore, without strong incentives tied to the net profits of the outlet employee-managers may shirk on their responsibilities or withhold useful information for improving the local operation (Minkler, 1990; Lafontaine & Bhattacharyya, 1995).

Throughout their tenure, managers of local restaurants will gain knowledge about the local environment, the community, and other implicit information. This specific knowledge can be useful for creating value for both customers (Hayek, 1945) and the chain. Transferring this information can be costly as it requires synthezation and communication to central-agents, some of which may even be harmful for managers as it could signal attributes of their management quality. Employee-managers may be less inclined to scan for growth opportunities,

act upon remediable deficiencies in the local labor market (e.g., after-school employment programs and workforce training), or respond appropriately to customer requests or complaints because doing so goes beyond typical contractual arrangements. Additionally, employees have less incentive to act upon local information (e.g., responding to customer desires) since they do not gain significantly from the residuals of the outlet nor do they benefit from the value created from the future sale of the outlet (Lutz, 1995). Therefore, the full value of local knowledge may be underutilized in focal outlets with employee-managers.

Agency Remediation

Although there are a number of potential remediation mechanisms available to restaurant chain owners for addressing agency problems in employee-managed outlets, this study focuses on the decision of owners to convert the incumbent outlet to a franchise for the following reasons: 1) franchisors are assumed to have taken into account all relevant variables at the time of establishment and chosen appropriately the most optimal choice for the outlet (Parmigiani & Holloway, 2011); and 2) franchisors are assumed to place competent agents into managerial positions, maintain efforts to monitor the outlet, incentivize agents (e.g., bonuses), take efforts to train managers, or replace inefficient managers in an attempt to reduce agency problems. Consequently, because persistent ex post agency problems at employee-managed restaurants may be indicative of more complex issues, I argue that ownership conversion is the ‘ultimate lever’ to remedy such problems.

Ownership Conversion

Franchise disclosure documents of restaurant chains often list non-renewal, termination, and ownership transfer (e.g., conversion) as alternative options for resolving non-compliance,

fraudulent, or otherwise injurious acts in franchised outlets. However, how similar issues are handled in company-operated outlets, and when these options are carried out, is not well documented. Though outlet closure is certainly a viable mechanism for eliminating the systematic effects of agency, permitting an outlet with on-going agency problems to continue operating will eventually lead to the same conclusion (i.e., closure; Bernstein & Sheen, 2016). Compared to this alternative, conversion offers a number of benefits to the system in addition to agency remediation. Conversion can signal the franchisor's expectations of incumbent and future system members' compliance to standards and the consequences of non-compliance, thus reducing uncertainty for investors (e.g., future franchisees or shareholders). Similarly, conversion may also convey to customers and other observers (e.g., regulators, special interest groups, etc.) the franchisor's commitment to product and service quality. Importantly, conversion enables the firm to retain system size, an outcome salient to shareholders and analysts, while displaying expected actions important to those that more frequently interact and collaborate with the firm (Mishina, Block, & Mannor, 2012; Parker, Krause, & Devers, 2018).

From a strategic resource perspective, franchisors may be motivated to convert outlets over closure because many outlet locations were selected at the time of establishment for competitive reasons. For example, placing outlets near sister units can result in positive externalities (McCann & Folta, 2011; Woo, Cannella, & Mesquita, 2017) and such prime real estate may be hard to replace². From a real options perspective, maintaining some connection to these outlet locations may better serve future organizational objectives compared to outright termination. Furthermore, research suggests that converting company-operated outlets to franchises can reduce the franchisor's capital expenditures associated with upkeep of the real

² Though this notion implicitly covers real estate owned by the franchisor, it can include existing lease contracts.

estate (Jackson & Jung, 2017). Franchisors may also benefit by converting problem outlets through the collecting of franchise fees and royalties in lieu of the burden of continued operation. In a situation where a company-owned outlet is damaging the system and its constituents, the franchisor may make better returns by transferring the outlet to a reputable franchisee while also capitalizing on an opportunity to reward franchisees for quality and performance (Gillis, McEwan, Crook, & Michael, 2011).

Health Code Violations as Agency Problems

Maintaining minimum standards is an important concept in business-format franchising (Caves & Murphy, 1976). Indeed, franchisors periodically assess whether individual outlets are in compliance with minimum standards via inspections from either private corporate agent, public reports generated by regulatory agencies, or both (Brickley & Dark, 1987; Pitegoff, 1989). The results of such inspections provide a basis for assessing managerial behaviors in outlets, such as underinvestment of inputs (i.e., shirking) and concealment of information. Research suggests that such behavior positively effects agency costs (e.g., monitoring costs) (Dahlstrom & Nygaard, 1999) and are salient threats to franchise systems (Combs et al. 2011; Lafontaine & Shaw, 2005). Others have shown that restaurants deviating from regulatory standards places the profitability, brand value, and reputation of the whole chain at risk (Scott, 1995; Worsfold, 2006). For example, Bernstein and Sheen (2016) find that restaurant locations with higher health violations were positively correlated with outlet closure. Persistent agency problems among restaurant outlets can negatively impact customer demand and retention, and for franchisors, agency can harm the attractiveness of the chain's brand as an investment option for would-be franchisees (Caves & Murphy, 1976).

I conceptualize health code violations at restaurant outlets as indicative of local managerial agency problems. Health code violations refer to the regular inspections of public food service establishments for the assurance of compliance with sanitation and safety laws. Health code inspection reports are a formal and systematic third-party evaluation conducted by experts, which provide trusted information about organizations and their offerings, inform stakeholder expectations, and facilitate market exchanges (Wry, Lounsbury, & Jennings, 2014; Wang, Wezel, & Forgues, 2016). Expert reports give observers an opportunity to scrutinize and interpret actions at each outlet and, therefore, base their evaluation of the outlet on these underlying characteristics (Basdeo *et al.*, 2006; Philippe & Durand, 2011). As a form of agency, violations can increase costs and have spillover effects which threaten the brand value and viability of affiliated outlets and ultimately the franchise system as a whole. This occurs because outlets with high violations can reduce consumer confidence (Klein, 1974) and negatively impact brand offerings (Choi & Kim, 1996; Worsfold, 2006), which can harm the chain's ability to draw consumers and charge premium prices for their products. Furthermore, outlets with a history of violations may be deemed by observers as more culpable for future adverse actions, which may consequently inflict more damage to the chain's brand (Zou, Zeng, Zeng, & Shi, 2014).

Health Code Violations and Ownership Conversion

In fast-food restaurants, managers and employees are responsible for maintaining product quality, the customer experience, and health and safety regulations. In situations where health code standards are being neglected in a company-outlet, one may likely question the outlet's product or service quality. Product and service quality are important for customers of fast-food chains as they reduce uncertainty by providing a sense of conformity to expectations regardless of the location (Caves & Murphy, 1976). Therefore, increased violations may be indicative of

slack managerial effort in upholding product and service standards, which can ultimately harm customer demand. Reports on health conditions can also provide the franchisor with useful third-party information about company-managed outlets in place of direct and costly monitoring. This source of information helps to increase the visibility of potential product and service problems at focal outlets.

Questionable behavior within an organization can damage the trust of stakeholders, especially if they are deemed to be more than isolated events (Lewicki, McAllister, & Bies, 1998). For franchisors, persistent violations at company outlets may jeopardize the trust franchisees have in the firm's ability to protect the value of their personal investments (Davies, Lassar, Manolis, Prince, & Winsor, 2011). Distrust can also lead observers to assume harmful motives from the organization (Deutsch, 1958; Lewicki, 2007; Lumineau, 2017). Excessive and continued violations at company-outlets may be indicative of a stable attribute of the firm and signal that the franchisor permits free-riding on the efforts of others in the system (Devers, Dewett, Mishina, & Belsito, 2009). Moreover, company-operated outlets may be perceived by observers as having greater control and consequently be judged more harshly (Dutton & Dukerich, 1991). Subsequently, excessive violations at company-operated outlets may be met with greater contempt, disgust, and scrutiny (Devers *et al.*, 2009; Goffman, 1963). Events that damage a firm's brand may be deemed more newsworthy and draw greater media attention (Berrone, Fosfuri, Gelabert, & Gomez-Mejia, 2013; Fombrun, Gardberg, & Sever, 2000). Moreover, this added attention may come from more prestigious media sources, which are thought to be more reliable sources of information and have a greater impact on the perceptions of observers (Rhee & Valdez, 2009). Consequently, another issue for company-operated outlets is that illegitimate behaviors at these locations opens the franchisor to greater litigation risk since

there is no legal separation between the outlet and the firm (see *Patterson v. Domino's Pizza*, 2014).

On the other hand, transferring company outlets to franchisees risks signaling poor performance and corporate management issues to key organizational observers (e.g., shareholders and analysts). However, franchisors may relinquish control at problem outlets to avoid perhaps even greater negative signals to other salient observers (e.g., franchisees and regulatory agents). Because persistent and excessive violations at a focal outlet can signal escalation of commitment or a tolerance for poor quality, franchisors will be motivated to respond by selling off company outlets to avoid being perceived by franchisees as corporate free-riders. Wang, Wezel, and Forgues (2016) suggest that firms are more likely to respond to severe threats compared to weaker ones because doing so is more justifiable. Doing so should convey to incumbent and prospective franchisees that the franchisor cares about maintaining a reputation for quality, preserving partner relations and mutual performance among system members. Perhaps most important among these is the relationship with franchisees since franchisor complacency could negatively impact trust between them and franchisees. For a relational form like franchising, trust is important for fostering openness, creating confidence, decreasing uncertainty, and encouraging knowledge sharing and joint problem-solving (Lumineu, 2017).

In summary, company outlets with excessive violations may indicate a deficiency in local resources (Oxenfeldt & Kelley, 1968), increase monitoring costs (Martin, 1988), and send a number of signals to key observers, which may motivate the conversion of such outlets to more capable managers. Additionally, excessive violations at corporately managed outlets may 'poison the well', so to speak, as complacency for illegitimate behavior may signal that such actions are acceptable for others. Instilling such a culture could further harm the firm's brand value and

reputation. Lastly, assuming it is more logical to capture royalties and fees from franchisees compared to closing an outlet altogether, I predict the following:

Hypothesis 1: Company-managed restaurants with persistent health violations have an increased likelihood of being converted to a franchise contract.

Moderating Factors

Although persistent agency problems can negatively impact franchise systems, franchisors may respond differently to agency problems under certain conditions in the *ex post* setting. This is because such actions signal change to the status quo, which may pique the interest of certain observers or create issues for salient strategic objectives. For franchise chains, the decision to act upon agency problems may, therefore, be contingent upon factors related to the chain itself, the markets being served, or characteristics of the outlet. For example, some restaurant chains are more visible in the media than others or charge higher fees for membership, while some markets are more attractive and strategically valuable than others, and lastly, outlet characteristics vary from one location to the next. Therefore, I suspect that these factors will impact how franchisors respond to persistent *ex post* agency problems among company-operated outlets.

Chain Characteristics

Media visibility Research suggests that observable actions convey information to key observers regarding organizational attributes (Miller & Triana, 2009; Spence, 1974). Such information can impact firms economically (e.g., customer demand) and socially (e.g., desirability as a strategic partner) (Bergh et al., 2014), and with increased media coverage, firm actions may be observed by larger audiences. Larger audiences increase the awareness of such

actions and may exacerbate these economic and social concerns. As Mishina, Dykes, Block, & Pollock (2010: 706) note, “a firm’s prominence reflects the degree to which external audiences are aware of its existence, as well as the extent to which they view it as relevant and salient.” In the franchising context, visibility may influence the desire to be associated with a chain’s brand (Kaufmann, 1999). For example, when making investment decisions among numerous chains, new franchisees may rely on all available information, as well as the opinion of others, to reduce uncertainty (Podolny, 1994).

Visibility is an important aspect of reputation (Lang & Lang, 1988), which facilitates the inflow of investment (Sirri & Tufano, 1998) and helps foster relationships with others (Chung, Singh, & Lee, 2000). This is because aligning with prominent firms improves market value for those associated with them (Stuart, Hoang, & Hybels, 1999). Media coverage affects a firm’s visibility and serves as a vehicle by which opinions of organizations are formed, bringing attention to the salience of certain issues (Deephouse, 2000). Along with outside observers, the chain itself may, at least partially, base their reputational identity on the amount of media attention they receive. Research has shown that people desire to work for, and with, highly reputable firms because they gain intrinsic value through the association, which helps reduce talent turnover (Dineen & Allen, 2016) and facilitates access to superior resources and more favorable transaction terms for the firm (D’Aveni, 1996).

Although high visibility confers many benefits, it also brings about a fair amount of problems. A potential side-effect of high visibility is increased scrutiny from constituents and increased media attention (George, Dahlander, Graffin, & Sim, 2016). For these firms, violations of expected norms can cause the number of evaluators to increase and encourage the search for other grievances to ‘pile-on’ to existing ones (Wiesenfeld, Wurthmann, & Hambrick, 2008). This

is important because franchise chains often rely on existing and prospect franchisees for system growth. Therefore, franchisors face a dilemma when it comes to converting poorly operated company outlets to this stakeholder group. Though problematic outlets may damage other system members (Caves & Murphy, 1976), franchisors risk damaging their reputation as a quality franchise partner and impair their ability to attract high-quality partners (Fombrun et al. 2000; Turban & Cable, 2003; Turban & Greening, 1997). Unloading poor quality outlets on good franchisees may be perceived as opportunistic behavior and risks damaging the trust among existing and prospect franchisees (Davies et al., 2011; Lumineau, 2017). Similarly, converting company outlets to franchisees may risk signaling poor performance and deeper organizational management issues to key observers (e.g., franchisees, shareholders, and analysts). For example, discarding problematic outlets onto franchisees may signal the firm's inability to manage the system and raise questions about the chain's investment value. Extreme actions regarding agency problems may also signal to consumers a product or service quality problem and citing such action as a remedy for uncontrollable agency will undoubtedly serve to undermine the chain's reputation.

In sum, though persistent violations at company-operated outlets warrant a response from the franchisor, in the ex post setting, this relationship may be reduced when a franchisor experiences more media visibility. This is because media visibility exposes the franchisor to broader audiences. In other words, converting troubled restaurants to franchisees may be perceived as opportunistic behavior, potentially damaging the trust that franchisees have in the franchisor as a partner, as well as signaling the franchisor's inability to manage the system and potential product quality issues. Since strategic actions can signal trouble, outlets with persistent agency problems may not be converted to franchises because doing so adversely separates the

chain from others in their industry (Bergh et al., 2014). For chains with greater visibility, this signal may be even stronger than their less visible counterparts. Because of these issues, I predict the following:

Hypothesis 2a: The franchisor's media visibility negatively moderates the relationship between company-outlet health violations and conversion to franchise, such that the relationship decreases as media visibility increases.

Royalty Rates The cost of membership into franchise systems varies. Initial and on-going fees have been shown to influence the perception of risk associated with a particular chain (Sen, 1993). Franchise fees are the one-time lump-sum fees that cover the initial contract period and, in some cases, subsequent renewals (Justis & Judd, 1998). Royalties, on the other hand, are perpetual fees, often based on some metric of performance (e.g., sales). One proposed purpose for royalties is to induce both parties to meet their contractual obligations, however, they also send important signals. For example, such costs have been shown to signal to franchisees the franchisor's criteria for partner selection, commitment to training and support, product promotion, the monitoring expectations of outlet operations standards (Sen, 1993) and potential returns on investment (Shane, 1998).

Since franchise fees are often one-time fees to cover the cost of initial training and promotion for newly franchised outlets, they may be less incentivizing for the franchisor to convert company-outlets to franchisees compared to on-going royalties. Intuitively, converting a problematic outlet to a franchise may solve agency problems while providing a stream of income for the franchisor. However, because outlets operated under the franchisor's direct control provide greater information about potential problems in a particular outlet, and charging higher royalties suggests their commitment to support the franchisee (Stern & El-Ansary, 1988), they

may be less inclined to convert such an outlet since doing so will undoubtedly require significant on-going support and monitoring. Moreover, armed with superior information about the outlet, franchisors may recognize that agency problems are more systemic to the location itself, therefore, converting an outlet to a franchisee would be pointless. Lastly, because of the higher royalty rates, converting problem outlets to franchisees may be perceived as opportunistic behavior and consequently hurt the franchisor's reputation as a franchise partner.

In sum, though persistent violations at company-operated outlets warrant a response from the franchisor, in the ex post setting, this relationship may be reduced when the franchisor charges higher royalties. Higher royalty rates signal potential profitability for would-be franchisees but also the expected commitment of the franchisor to put forth in training and other support activities for new franchisees. By converting an outlet to a franchise shifts the residual earnings to the franchisee, meaning the franchisor's interests are reduced. Furthermore, because an outlet with high violations will undoubtedly require extensive on-going support from the franchisor, which will incur greater costs, the franchisor may be more reluctant to release problematic company-outlets. Therefore, I predict that royalty rates moderate the relationship between company-outlet health violations and conversion to a franchisee, such that higher royalty rates will reduce the likelihood of conversion. Stated formally:

Hypothesis 2b: The franchisor's royalty rate negatively moderates the relationship between company-outlet health violations and conversion to franchise, such that the relationship decreases as royalty rate increases.

Market Characteristics

Market Size Market characteristics play a key role in predicting ownership allocation in the franchise choice literature (see Kalnins & Lafontaine, 2004; Perryman & Combs, 2012). Franchisors are assumed to prefer markets large enough to support multiple outlets under a single area manager (Carney & Gedajlovic, 1991). Indeed, research supports the preference of franchisors to locate company-operated outlets in more populous locations (e.g., Norton, 1988) because large market locations enable firms to be near large sets of potential customers (Brickley, Linck, & Smith, 2003) and can facilitate new product and service development (personal communication with representative of Rourke Capital, November 24, 2017). Perryman and Combs (2012:376) note that “less populous markets are less important to the franchisor, [and] are unlikely to be targeted...”

Since larger markets are more desirable from the franchisor’s perspective, they may be less likely to convert outlets in these locations in response to evidence of agency problems for several reasons. For instance, the number of buyers in a market is a well-known determinant of demand (McConnell, Brue, & Flynn, 2009) and, in some larger markets, sales volume may be less dependent on product quality (Arrow, 1963). In other words, larger markets may include customers who are less sensitive to product or service quality (Grunert, 2005). Large markets may also possess certain amenities (e.g., interstate-highways, specialty retail centers, theme parks, etc.) that attract more transient business than repeat customers (Brickley & Dark, 1987). Lastly, franchisors may be less concerned with agency problems in large markets because some outlets serve alternative functions, such as training facilities, information gathering systems, or simply to increase visibility in critical locations (Smith, 1982). Therefore, I predict:

Hypothesis 3a: The local market's population negatively moderates the relationship between company-outlet health violations and conversion to franchise, such that the relationship decreases as population increases.

Number of Company-outlets As franchise systems grow, newly established outlets may change the composition of local markets. For example, as the number company-owned outlets (i.e., sister-units) increases in the local market, it should reduce the likelihood of converting a company-owned outlet to a franchise because the close proximity can help reduce the costs of monitoring (Carney & Gedajlovic, 1991). In other words, in the ex post setting, franchisors may be reluctant to convert restaurants with high violations when the density of company-owned outlets increases within a focal market area because the other outlets can provide monitoring and information sharing with the company. The efforts of managers at other outlets in the area may also help reduce the attrition of customers to competitors as customers choose to visit a sister outlet instead of going to a competitor.

In addition, Michael (2002) showed that company-owned outlets were much better at coordinating price, quality, and advertising than their franchised counterparts. This is important because once a unit is franchised, it becomes its own entity and is protected by government regulations. Therefore, a franchised outlet cannot be forced to comply with corporate demands on price and advertising, whereas a company-owned outlet can. In this regard, because corporately owned and operated outlets are not constrained by antitrust issues, the coordination of price, quality, and advertising components may help the firm minimize the negative impact of agency problems at focal outlets. As the number of company-owned outlets in a focal market increases, monitoring costs are reduced and more information sharing channels are created. Because of this, firms will be less inclined to act upon persistent agency problems

Hypothesis 3b: The number of company-operated outlets in the local market negatively moderates the relationship between company-outlet health violations and conversion to franchise, such that the relationship decreases as the number of company-outlets increases.

Outlet Characteristics

Distance Monitoring costs have long been considered a determinant of franchise choice (Combs & Ketchen, 2003). Outlet dispersion and distance from monitoring personnel (e.g., headquarters or neighboring outlets) are considered costly because of the number of monitoring agents needed and their associated travel costs (Carney & Gedajlovic, 1991). Although these factors play a role in the initial franchise choice decision, they may also have a significant impact on decisions made ex post. For instance, though headquarter locations are assumed to remain stable over time, initial decisions to expand the geographic boundaries of company-owned outlets into more distant markets may, retrospectively, result in excessively costly monitoring. This occurs because decision making in local markets often requires knowledge of local settings, which increases the difficulty and cost of franchisors to assess outlet managers (Minkler, 1990).

As employee-managers of company-owned restaurants do not bear the full cost of shirking and the taking of perquisites, they will have greater incentive to engage in such behavior (Brickley & Dark, 1987). This behavior can detract from customer experience in local markets and spillover to other outlets in the chain. Furthermore, because information is difficult to synthesize and transfer, employee-managers may be less inclined to put forth the effort to convey useful local knowledge regarding opportunities for local outlet improvement and growth (Lutz, 1995).

To summarize, it is likely that greater distance between a focal outlet and its monitoring agents makes it more difficult and costly to monitor and, thus, will have an impact on the appraisal of a problem outlet and its conversion to a franchise. That is, monitoring distance may emphasize the franchisor's inability to effectively manage those outlets that are further from headquarters, as well as the need for more incentivized operators with a higher degree of local market knowledge. Therefore, in the ex post setting, company-outlets experiencing greater violations that are located farther from monitoring personnel should be more likely to be converted to a franchise. Stated formally:

Hypothesis 4: The company-outlet's distance from monitoring headquarters positively moderates the relationship between company-outlet health violations and conversion to franchise, such that the relationship increases as distance increases.

Figure 1 illustrates the research model and summarizes hypotheses (H1-H4).

IV. SAMPLE AND METHOD

Empirical Setting: The Fast-Food Industry

I chose the fast-food industry as a research context because of its robust association with the use of franchising. In fact, the fast-food segment is the most common franchising segment in the U.S., making up nearly 20% of total franchise establishments (Bailey, 2016). This setting is also important because it contributes greatly to the U.S. economy, as food and beverage related jobs totaled over 5.1 million across the U.S. in 2016 (Bls.gov, 2018a). Furthermore, in order to serve the general public, fast-food restaurants are required by the U.S. government to have annual health code inspections conducted by state regulatory officials. As such, annual health code inspections report non-compliance with established sanitation and food-safety laws, offering public observers an opportunity to evaluate safety standards at each restaurant. In the food-service industry, establishing and maintaining minimum health standards is important to firm survival (Bernstein & Sheen, 2016).

Data and Samples

The sample used to test the hypotheses consists of nine large fast-food restaurant chains operating both franchise and company outlets in the state of Florida between the years of 2003-2016. As the third largest food service employing state in the U.S. (behind California and Texas), Florida's food segment employs approximately 228,350 people (Bls.gov, 2018b). With a location quotient of 1.14, the ratio of the area concentration of occupational employment to the national average concentration, Florida has a higher share of food employment than the national

average, revealing the economic impact of the industry in the state, as well as the relevance and generalizability of the sample. Therefore, Florida's detailed database of fast-food restaurants provides an excellent sampling context for testing the hypotheses. Previous studies have used similar samples. For example, Kalnins and Lafontaine (2004) used a cross-sectional sample of individual restaurants among seven major national food chains across the state of Texas, while Perryman and Combs (2012) a cross-sectional sample of sixteen restaurant chains within the state of Florida.

The chains used in this study are considered to be the top competitors across the fast-food industry (QSR magazine, 2019), namely Arby's, Burger King, Domino's Pizza, Kentucky Fried Chicken, Pizza Hut, McDonald's, Papa John's Pizza, Taco Bell, and Wendy's. Furthermore, these chains are also top competitors in their specific product offerings (e.g., burgers and sandwiches, pizza, Mexican, and chicken) and represent a good mix of product substitutes available in most markets. A total of 1220 company-operated restaurants were sampled, equating to approximately 10.5% of the average number of fast-food restaurants in the state of Florida between 2009 and 2014 (Ers.usda.gov, 2019). Table 1 describes the distribution of company-operated outlets in the sample according to franchise chain.

Data were collected from multiple archival sources, including: The Department of Business and Professional Regulation (DBPR), annual reports, *The Wall Street Journal*, *Bond's Franchise Guide* and COMPUSTAT. For example, outlet-level data were collected from The Department of Business and Professional Regulation (DBPR), specifically, the State of Florida Division of Hotels and Restaurants, an agency charged with the licensing and regulation of businesses and professionals in the State of Florida. Florida's state government re-established the Office of Open Government by executive order 11-03, providing public access to

government meetings and records. Information is recorded for each restaurant and reported at the county level, including the count and severity of health code violations, outlet location, and licensee information. Data between the years of 2002 to 2012 categorized health code violations into two types: critical or non-critical. Critical violations are identified by an asterisk (*) next to the violation on the inspection report. In March, 2004, the division began the process of identifying ‘risk factors’ as critical violations, however, they note that previous reports (i.e., those in the current year and prior to 2004) have been adjusted to reflect the standards at that time. Risk factors are denoted by a cross (†) symbol and are defined by the FDA as behaviors and preparation practices in retail and food service establishments that contribute to foodborne illness.

On January 1, 2013, following recommendations by the FDA, the Florida Division of Hotels and Restaurants adopted provisions of the 2009 FDA Food Code. A key change to the Food Code was the adoption of a new three-tiered violation classification that replaced the ‘critical’ or ‘non-critical’ classification. The new system uses the terms ‘High Priority,’ ‘Intermediate’ and ‘Basic’ to better define violation information. The numbering system of violations remains relatively the same, however, each violation contains several detailed citations that may include any or all of the three-tiered priorities. Risk factors are still denoted by the cross (†) symbol, however, the asterisk (*) now denotes good retail practices considered to be a primary concern that must be corrected immediately.

Company-operated outlet patterns were identified for chains exhibiting both forms of governance (corporate and franchised outlets) using licensee mailing addresses (Kalnins & Lafontaine, 2004). For example, while Chipotle Mexican Grill is a prominent competitor in the quick service restaurant industry, currently it does not franchise its restaurants, whereas Subway

restaurants are nearly 100% franchised according to their 2017 franchise disclosure document. Because franchisors may establish new company-operated outlets over the sampling period, the panel of observations are not balanced. Regardless, the number of company-operated outlets observed over the sampling period is 8,296. Remaining data were collected from a variety of secondary sources, including annual reports, periodicals, trade-magazines, and COMPUSTAT.

Dependent Variable

Ownership conversion is operationalized as a change in the ownership status of a focal outlet. In particular, the conversion of outlet ownership from a company-operated outlet to franchisee-operated outlet. To capture this event, I coded for a change in the address of ownership on record. The Florida restaurant data present three different addresses: site location, licensee address, and mailing address. The site location typically remains constant since it represents the physical location of the focal restaurant, however, the licensee and mailing addresses are associated with the restaurant's current operator. For example, McDonald's requires franchisees to have a location for business operations that is separate from the restaurant's physical location (J. Sells, personal communication, November 14, 2017). Licensee address changes that no longer matched with mailing addresses of corporate headquarters or regional offices were coded as being converted to a franchise.

Independent Variables

Outlet health violation. Outlet-level agency problems were operationalized using the Florida state health-code violations found in food service public records for each outlet. Because inspection standards and the violation classification system changed during the sampling timeframe it was necessary to create a variable that captures the risk factors reported under both

classification systems. To do so, I matched the 58 violation names for both sets of data, which were virtually identical, with the only changes being that some items were no longer being used and the cross (†) and asterisk (*) notations being changed for four of the 58 violations. In order to capture risk factors and critical violations, I combined the violations denoted by the cross (†) and asterisk (*) in both sampling timeframes (2002-2012 and 2013-2016). Therefore, outlet violations are operationalized as the sum of all violations, from either sampling timeframe, denoted by a cross (†) or an asterisk (*) for a reported inspection year. Furthermore, because initial inspection findings may require follow-up inspections or can be prompted by consumer complaints, the data can include multiple inspections per outlet per year. In this case, only inspections classified as “Routine – Food” were used. However, when multiple inspections under this classification type are reported in the same year, the violation results are summed to capture the added risk assumed to be associated with the focal outlet. Lastly, I computed a two-year moving average of these violations to capture the persistence of agency problems.

Franchise visibility. For the moderating independent variables, I followed earlier research using the number of times the chain was mentioned in *The Wall Street Journal* over the period of study as *media visibility* (Deephouse, 2000; Dimov, Shepherd, & Sutcliffe, 2007; Phillippe & Durand, 2011). Since the sample is comprised of large, national restaurant chains, *The Wall Street Journal* (WSJ) was used in place of local newspapers because its news coverage tends to focus on the corporation (i.e., chain) as opposed to specific local outlets, as would be the case for Florida-based media outlets. Using the ProQuest database, I searched the WSJ for each franchise chain’s brand name (e.g., Burger King) between the years of 2003 and 2016. Excluding advertisements, there were 1162 total news-related mentions of the sampled chains across the sampling period.

Royalty rates. *Royalty rates* were taken from Bond's Franchise Guide and annual reports. Bond's Franchise Guide and annual reports are yearly publications that provide detailed information on each franchisor.

Market size. *Market size* was measured as the population of the county in which the focal outlet was physically located. The Bureau of Economic and Business Research, and in particular the Population Studies Program at the University of Florida, provides county-level population estimates and census data for the state of Florida.

Number of company-outlets. The *number of company-owned outlets* within a market was calculated by counting the number of same-brand company-operated outlets within a county for a given year.

Distance to the headquarter. *Distance* to the monitoring headquarters was created by taking the geographic distance between the focal outlet and the nearest monitoring headquarters. To get the geographic location (i.e., latitude and longitude) for each outlet, I first used the geocoding services provided by Texas A&M Geoservices, which takes physical address information and converts each observation into corresponding latitude and longitude. Monitoring headquarters addresses for each chain were then entered to get their corresponding latitude and longitude. Using the Stata command *geodist*, I calculated the distance between each outlet and its corresponding monitoring center³. The *geodist* command computes geodetic distances, or more plainly, the length of the shortest curve between two points along the surface of a mathematical model of the earth (Fmbc.edu, 2019).

Control Variables

³ All independent variables were centered in the analysis.

To control for alternative explanations, I include variables related to franchisor resources and performance, economic condition, and outlet characteristics. For example, the resource scarcity perspective suggests that as franchise systems grow, access to once constrained resources is improved leading to a decrease in the use of franchising (Oxenfeldt & Kelley, 1968). A similar argument is made for the age of the franchise system. Therefore, I control for system *age* by the number of years the firm has been franchising. Chain performance fluctuations may impact a number of decisions; therefore, I used the previous year's return on assets as a proxy for *performance*. Economic conditions may also influence a number of actions taken by franchisors. Within the sampling period, the U.S. experienced a number of economic events. To control for these effects, I created a dummy variable for each year. Similarly, though many of the chains in the sample are similar in their offerings and strategies, each franchise chain may have cultures, routines or other unique characteristics that are unobservable in the sample. To account for these effects, I include a dummy variable for each chain. Some franchise chains consist of multiple brands (e.g., YUM Brands! controls franchising rights for KFC, Pizza Hut, and Taco Bell). Because of their complexity, multi-branded franchisors may be less sensitive to the negative effects of agency problems at outlets compared to their single-branded counterparts, therefore, I control for *multi-brand* by using a dummy variable for multi-branded firms.

Research in franchising suggests that larger outlets require increased managerial skill, a provision better accommodated by the franchisor (Kehoe, 1996). Moreover, larger outlets are assumed to be associated with increased agent risk because of greater investment cost and managerial complexity (Brickley & Dark, 1987; Lafontaine & Slade, 2007). Because franchisors may be less likely to transfer large company-operated outlets to franchisees, I control for *outlet size* by using a dummy variable indicating whether the outlet offers seating or not. Lastly, many

of the outlets in the sample existed prior to the sampling period. The tenure of this group is partially known since the agency responsible for maintaining the database began doing so in 1997. Because the actual age of this cohort of outlets is unknown, I partially control for these effects by including a dummy variable indicating *incumbent* outlets prior to the sampling period.

Method

Logistic regression is used to analyze the data. Logit model is a type of generalized linear model used for modeling which of two alternatives occurs (Hoetker, 2004), which is appropriate here since the dependent variable is an indicator variable noting the occurrence of a particular event – conversion of ownership. For instance, Hypothesis 1 argues that focal company-outlet violations increase the probability that ownership conversion occurs. While a company may have some baseline propensity to convert the ownership of its outlets, we often cannot observe this propensity but only the actual choice to convert, giving a value of 1 when an outlet is converted and 0 when it is not. By comparison, ordinary least squares (OLS) estimates would be biased (Wooldridge, 2015), because OLS may result in predictions outside the 0 to 1 range. Logit model resolves this issue by fitting a nonlinear function to the data and limiting the boundaries of the dependent variable between 0 and 1 (Cameron & Trivedi, 2010).

When interpreting logistic regression coefficients, a positive coefficient suggests that the probability of converting an outlet increases with violations, though, interpreting the magnitude of the effect is less intuitive (Wooldridge, 2015). However, for a more intuitive interpretation, the estimate can be converted to an odds ratio. When reporting results, the odds ratio, their standard errors, and the value of the log likelihood function should be included. Such estimates indicate the sign of each predictor variable on the outcome probability, the statistical significance

of the estimate determines the predictability of the variable, and the pseudo- R^2 is comparable to the R^2 from linear probability models, though this statistic should be interpreted with caution.

To test the interactions, logit models can be more complicated to interpret. For instance, unlike OLS, in which the researcher interprets the coefficient of the interaction term, interpreting the marginal effect of an interaction between two variables in a logit model requires more input from the researcher. An example of this input would be to interpret the interaction at theoretically interesting points, like the mean, median, or relevant quartiles. Therefore, to analyze the interaction terms, I follow best practice recommendations prescribed by Hoetker (2007), which include specifying the model with the interaction terms, assessing the interactions at specific values, and providing figures of each.

Supplementary Analyses

I conducted several supplementary analyses as robustness checks of the main analysis. Though the initial model is an effort for parsimony, it is important to examine the potential effect of other explanations. Therefore, I include additional control variables that may affect chain decision making processes and assess the sensitivity of the main findings to alternative explanations. Next, I analyze agency problems in company-outlets using an alternative proxy for agency problems. This variable captures the number of annual inspections rather than the number of violations at the focal outlet. Lastly, I use alternative statistical analyses and exclude chains with relatively extreme outlet conversions. Further descriptions accompany the supplementary analyses below.

V. RESULTS

Descriptive Statistics

As noted in Table 1, there are 1,220 unique restaurant outlets represented across the sampling period. Figure 2 illustrates the number of company-owned outlets among the nine brands throughout the sample period. Figure 2 suggests that the nine firms sampled have differing tendencies toward the use of company-owned outlets across time. For example, McDonald's appears to increase the number of company-operated outlets between 2007 and 2009, while KFC and Pizza Hut reduce their number of company-operated outlets around this time.

Although Figure 2 provides a summary of the number of company-operated outlets during the sampling period, it does not clearly illustrate the number of outlets that were converted to franchises. Therefore, Figures 3 and 4 show the distribution of company-owned outlets that were converted per year and by each brand. In Figure 3, observe the difference between the seemingly stable rates of conversion between 2003 and 2008 compared to the drastic changes in the following years. One explanation for this change in outlet-level activity is the changing economic conditions in the U.S. during this time. Perhaps fast-food chains convert company-operated outlets during tough economic times in order to shed risk or to increase cash holdings. Interestingly, Figure 4 shows that fast-food chains also have heterogeneous preferences for converting company-outlets to franchises. For example, during the sampling period, Pizza Hut converted slightly more than 7 times the number of outlets than Domino's Pizza and over 5

times the number of Papa John's. One notable difference among these particular brands is that Pizza Hut is the only restaurant with a dining room, as Domino's Pizza and Papa John's are predominantly take-out service. Nevertheless, these graphs provide evidence that the restaurant chains sampled here have heterogeneous preferences for converting company-operated outlets and that these tendencies may be sensitive to conditions outside the firm as well.

Table 2 reports descriptive statistics and a correlation matrix on the variables included in the analysis. The table shows that the number of *Sister outlets* and *Population* are correlated rather highly at 0.60. Though the strength of this relationship makes sense given that franchisors may choose to put multiple company-owned outlets in areas with large populations, highly correlated variables can raise questions about multicollinearity. Therefore, variance inflation factors (VIF) were calculated for the model (Powell & Rhee, 2016). All of the VIF values were below the thresholds suggested in the literature (i.e., 10 and 4; O'Brien, 2007; Xu, Pan, & Beamish, 2004)⁴ and as later supplemental analyses show, there were no drastic shifts in the estimates with or without those variables in the models.

Table 3 presents the results of the logistic regression models used to test the hypotheses. Model 1 includes the control variables, which shows that chain age ($\beta = 0.151, p < .001$) and prior performance ($\beta = 1.808, p < .001$) have positive and significant effects on company-operated outlet conversion. Similarly, outlet size ($\beta = 0.327, p < .05$) and media visibility ($\beta = 0.073, p < .001$) are both positive and significant in relation to outlet conversion. Conversely, multi-branded chains ($\beta = -3.289, p < .001$) and the number of sister outlets ($\beta = -0.046, p < .001$) in the market are negatively and significantly related to outlet conversion. However, outlet incumbency, royalty rate, market size, and outlet distance to headquarters are not significant.

⁴ The VIF test used was the *collin* test in STATA 14.

Model 2 investigates the association of outlet food and health violations and the likelihood that an outlet will be converted to a franchise. This coefficient is positive and significant ($\beta = 0.042$, $p < 0.001$), supporting Hypothesis 1. In terms of odds, this result suggests that for an additional unit increase in average outlet violations, the odds that an outlet will be converted to a franchise increases by 1.043 times. This result is fairly robust as it holds through each of the model specifications.

Models 3 through 7 test the hypothesized interactions. Recall that Hypothesis 2 predicted that firm visibility, operationalized by the number of times a chain appeared in the Wall Street Journal in the previous year, would reduce the positive effect of outlet violations on the likelihood of outlet conversion. Interestingly, this coefficient is marginally significant but in the opposite direction predicted ($\beta = 0.001$, $p < 0.10$), therefore, Hypothesis 2 is not supported. However, this finding suggests that firms with greater visibility may be more likely to convert problem outlets than their less visible counterparts. Figure 5 illustrates this interaction effect by depicting how a one standard deviation increase in firm visibility (i.e., high visibility) increases the positive relationship between outlet violations and outlet conversion.

Model 4 tests Hypothesis 3, which posits that higher royalty rates reduce the positive relationship between outlet violations and outlet conversion. This hypothesis was supported ($\beta = -0.025$, $p < 0.05$), suggesting that chains with higher royalties are less likely to convert company outlets in response to increased agency problems. More specifically, with outlet violations at the sample mean, a one-unit increase in royalty rate changes the multiplicative factor of agency problems on the odds of outlet conversion by a factor of 0.975, or a 2.5% reduction in odds. Figure 6 illustrates this by depicting how a one standard deviation increase in royalty rate decreases the likelihood that an outlet will be converted. Hypothesis 4 (Model 5) posits that

market size, operationalized as county population, will reduce the positive relationship between outlet violations and outlet conversion. This hypothesis was not supported as the coefficient is in the opposite direction and is not statistically significant. Hypothesis 5 predicted that the number of sister-outlets in the local market would reduce the relationship between outlet violations and outlet conversion. Model 6 fails to find support for this argument, as the estimate is in the opposite direction predicted and is not significant.

Hypothesis 6 predicts that greater distance between an outlet and its chain headquarters will increase the positive relationship between outlet violations and conversion. Interestingly, and contrary to existing literature on *ex ante* franchise choice (e.g., Brickley & Dark, 1987), the data do not support this argument. Instead, this estimate is opposite of prediction and significant ($\beta = -0.011$, $p < 0.001$), suggesting that greater distance between an outlet and its monitoring headquarters decreases the relationship between outlet violations and conversion. More specifically, with outlet violations at the sample mean, a one-unit increase in distance (i.e., 100 miles) changes the multiplicative factor of agency problems on the odds of outlet conversion by a factor of 0.989, or a 1.1% reduction in odds. Figure 7 illustrates this interaction effect by depicting how a one standard deviation increase in distance decreases the likelihood that an outlet will be converted. Table 4 summarizes the results of hypotheses testing.

Supplementary Analysis

To check the sensitivity of the results, I first include three additional variables that may influence the choice of franchise chains to convert. Because the agency variable in this study is constructed by summing the number of violations for each annual inspection, I include *annual inspection count* as an additional control. Second, I also control for *notable events* at the chain level. For example, some of the sampled restaurant chains experienced corporate ownership changes, new partnerships, initial public offerings, or announced strategic intent to change their

existing franchise mix (i.e., the number of franchised outlets to total outlets). Because, for various reasons, these events can impact changes in chain structure, I account for this by including a dummy variable for such events. Lastly, I include an additional control variable to test the sensitivity of Hypothesis 2 – chain *media visibility* – to article sentiment. The initial analysis presented in Table 2 takes a general approach to media visibility (e.g., the number of times the chain is mentioned in the WSJ in the previous year). However, articles in the Wall Street Journal can be negative or positive in nature. To account for this potential issue, I include a variable for the percentage of positive articles for each chain per year. To do so, I took the number of positive articles for each chain in a given year and divided by the total number of articles per chain for that year⁵. Table 5 contains the results of the supplemental analysis, which remains largely unchanged from the main analysis. For example, the directionality of the relationships and odds estimates remain virtually the same.

Next, in place of the two-year moving average of outlet violations used in the main analysis, I reran each model using *annual inspection count* to show the robustness of the results to alternative proxies for agency problems (see Table 6). The main effect argument that outlet violations increase the likelihood of outlet conversion (i.e., Hypothesis 1), receives only marginal support, though the estimate is in the predicted direction ($\beta = 0.092$, $p < 0.10$). The remaining results are analogous to those in the main analysis, although Hypothesis 5 (Model 6) receives marginal support ($\beta = -0.008$, $p < 0.10$).

Lastly, because some franchise chains experienced greater changes in the number of company-owned restaurants during the sampling period, I reran the main analysis dropping these

⁵ Results are analogous when simply using the number of positive and negative articles in the model.

chains. Specifically, Table 7 shows the results of the logistic regression without Pizza Hut in the sample. Results are similar to those of the full sample with the exception of the interaction between media visibility and outlet violations, which is in the same direction but is no longer significant.

Additionally, many of the outlets in the sample existed prior to the sampling period. This limits the usefulness of the Cox regression model because the actual ages of these outlets are unknown and estimating the actual time to event would restrict the sample to those outlets with known ages, therefore, reducing the sample's statistical power. To circumvent this limitation, I ran the model in two different specifications. In the analysis, I used both the samples with known start dates and those unknown. For the unknown, I arbitrarily generated a random start date between 1980 and 1997. Table 8 shows the results of these models. Violations appear to increase the hazard of outlet conversion, providing additional support for Hypothesis 1. Support for Hypotheses 2 and 6 are again in the opposite directions predicted but significant, however, Hypothesis 3 is no longer supported.

Lastly, I explore alternative outcomes for the sampled outlets with additional post-hoc analyses. I originally suggested that persistent agency problems would ultimately lead to outlet closure but that conversion was a more desirable alternative because it enables the chain to continue to draw revenue from outlet operations, through franchise fees and royalties, while maintaining key metrics salient to stakeholders and observers (e.g., number of outlets, etc.). The sample data provide an opportunity to test this assumption by examining alternative tests among the outcomes of *continuance* – where the franchise chain allows the outlet to continue operating, *conversion* – where the outlet is converted to a franchise operation, and *closure* – where the outlet's operation is completely terminated. To test these different outcomes, I use multinomial

logistic regression to predict the increase or decrease in the probability of an outcome relative to a specified base outcome. For instance, for outlets with greater violations the relative probability that the outlet is converted rather than allowed to continue is 4.2% higher. Interestingly, the relative probability of an outlet being closed rather than allowed to continue is nearly 15% lower for outlets with greater violations. When compared to closure as the baseline, franchisors are approximately 22.2% more likely to convert an outlet and 17% more likely to allow it to continue operating (see Table 9). These findings offer some support for my initial assumption that franchise chains prefer conversion over closure, however, these results are interesting because they suggest franchise chains may also face a dilemma when it comes to problematic outlets. Indeed, though problematic outlets may cause concern for the chain's brand image and reputation, closing them completely may mean losing a market altogether. Instead, these results support the notion that franchisor's allow outlets to continue operations when suitable conversion opportunities aren't available.

VI. DISCUSSION

Following the insights of a number of scholars (e.g., Dalton et al., 2007; Fama & Jensen, 1983a, 1983b; Jensen & Meckling, 1976; Kim & Mahoney, 2005), I began by noting that agency theory has been predominantly viewed from an ex ante perspective. For example, agency theory has vast literature describing both situations in which agency problems are likely to occur and the mechanisms used to mitigate such problems (Eisenhardt, 1989). This study aims to complement this body of research by extending agency-based arguments into the ex post setting and delineating boundary conditions under which owners attempt to remedy agency problems. In doing so, and through the use of a fast-food franchise chains, this study also makes an analogous contribution to the franchising literature by extending the discussion on franchise choice into the ex post setting and the boundary conditions affecting these decisions. Lastly, compared to previous studies in the franchise choice literature, the large panel and outlet-level data used in this study provides a finer level of detail to the dynamic structural changes occurring in large franchise systems over time.

One important finding is that persistent agency problems increase the likelihood of a change in business-unit management. Specifically, using a sample of fast-food restaurants, I predicted that increased health code violations at focal restaurants would lead to the conversion of those outlets to more incentivized managers (i.e., franchisees). Supplemental analyses and additional post-hoc tests revealed that franchisors are more apt to convert problem outlets rather than allowing them to continue or outright close them. Thus, the empirical evidence found in this study supports the validity of agency-based arguments in the ex post setting and establishes an

opportunity to expand theory beyond traditional ex ante mitigation. This is important because the ex post setting presents nuanced challenges for the firm to navigate compared to the ex ante setting and though these challenges include economic consequences, they go beyond traditional transaction cost arguments by illuminating potential concerns for signaling and social identity.

When investigating the boundary conditions for conversion as a mechanism for agency remediation, I argued that a number of chain-, market-, and outlet-level characteristics may weaken or strengthen the likelihood of this action. For example, I posited that a chain's visibility would make it reluctant to unload poorly performing outlets because doing so may damage the relationship between potential franchisees and the franchisor. Contrary to this prediction, the results suggest that franchise visibility may actually increase the likelihood of converting problem outlets to more capable franchisees. One explanation for this result is that increased visibility drives demand for these outlets and that franchisees may, therefore, be less sensitive to outlet quality when the opportunity to be associated with the chain is available. Using a tournament theory perspective, Gillis et al. (2011) showed that franchisors often extend multiple outlets to franchisees that exceed operational expectations. Perhaps franchisors use the conversion of existing company-operated outlets as a similar tool and those that experience greater agency problems become prime candidates for such awards.

As predicted, royalty rates appear to reduce the relationship between violations and outlet conversion. In the ex ante setting, royalty rates are thought to signal the potential profitability of a chain's brand (Gallini & Lutz, 1992). Therefore, for franchisors, royalty rates not only serve to drive demand for their outlets but, in turn, offer an economic incentive to franchise those outlets over company-operation. However, royalty rates can also signal the level of support that franchisees can expect from franchisors. Therefore, in the ex post setting, franchisors may be

reluctant to convert problem outlets given their existing knowledge of the outlet's operation issues and the misalignment with the expectations of the franchisee for future support. Furthermore, because continued support of these outlets may become extensive and costly, franchisors should be less likely to convert in response to agency problems.

The distance between an outlet and monitoring headquarters was hypothesized to increase the relationship between outlet violations and the likelihood of conversion. However, greater distance appears to weaken the odds of these outlets being converted. One explanation for this outcome could be the franchisor's limitation in knowledge of local conditions and that maintaining ownership allows the organization to learn from continued operations. An alternative explanation is that these particular outlets serve the system in some other valued capacity such as training or market research facilities. Post-hoc analysis results find that outlets with higher violations located further from monitoring headquarters are at approximately 1.1% greater risk of continuance than of conversion (see Table 8; Violations x Distance), which may suggest the franchisor's reluctance to convert a problematic store that will be costly to monitor.

In sum, this study not only provides insight into agency theory's reach beyond the ex ante mitigation of agency problems, it also illuminates the salience in the level of characteristics that place boundaries on that reach. Accordingly, the results of this study suggest that firm-level characteristics and outlet-level characteristics are important factors for franchisors when deciding to remedy agency problems at company-operated outlets. On one hand, greater media visibility helps to bolster demand for these outlets making it easier for more visible firms to justify converting problem outlets. On the other hand, higher royalty rates and monitoring distance of the outlet reduce the likelihood of converting problem outlets perhaps because these factors serve to increase the costs of support and monitoring beyond that of maintaining company-ownership.

In which case, free-riding of company-outlets on others in the system appears to be a more rational choice than choosing to reduce the agency problems through outlet conversion. Interestingly, market-level factors, at least those tested in this study, do not appear to play a significant role in ex post changes to outlet ownership. Perhaps these factors carry more weight when establishing new outlets (Perryman & Combs, 2012) and less on future changes.

Limitations

No study is without limitations. For instance, the generalizability of the results is restricted to the fast-food industry in Florida. Although Florida is one of the largest states for food service franchising, the findings presented here may be quite different across other states and industries which use franchising as a strategy. Future research should examine other franchising industries and the role industry plays in the relationship between ex post agency problems and ownership changes. Agency problems at focal restaurants were operationalized by health code violations conducted by state food and health regulation agents. Unfortunately, data regarding other proxies for agency problems (e.g., OSHA violations, hospitalizations due to food-borne illness, etc.) were limited at the outlet-level. Furthermore, health inspections are conducted by individual agents and because information for each agent was inaccessible, I could not control for this important explanation. Nevertheless, future research should attempt to test other measures reflecting agency problems and their consequences. There are a number of other interesting moderators that could be tested. For example, how chains determine outlet ownership during challenging economic conditions presents an interesting research opportunity. Lastly, three-way interactions may be a worthwhile endeavor given the multiple levels of interest in franchise systems and the potential interactions across them.

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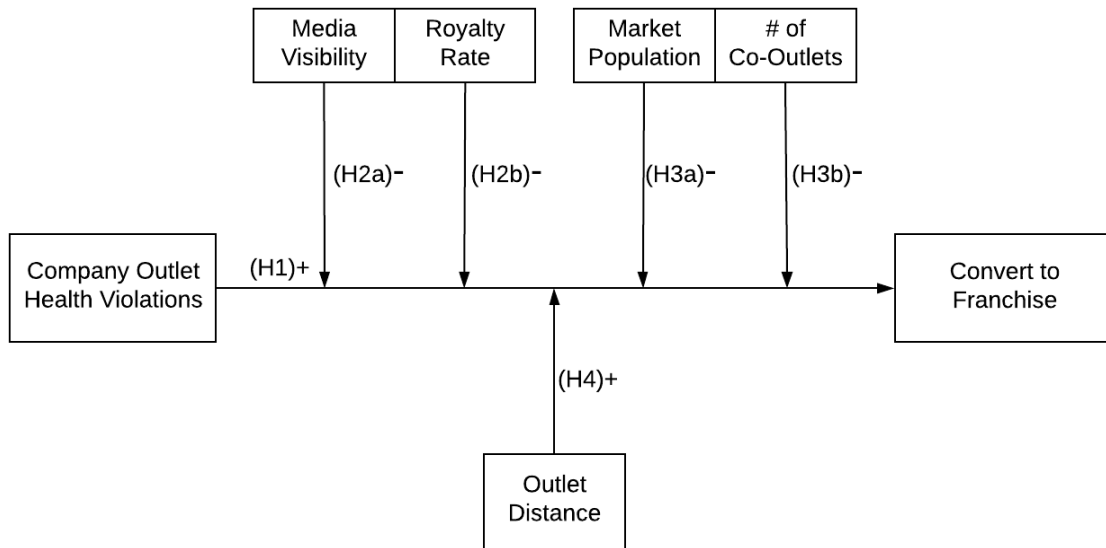
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LIST OF APPENDICES

APPENDIX A: HYPOTHESIZED MODEL

Figure 1
Summary of Hypotheses (H1-H4)



APPENDIX B: FIGURES DESCRIBING SAMPLE

Figure 2
Annual Change in Company-Owned Outlets by Brand

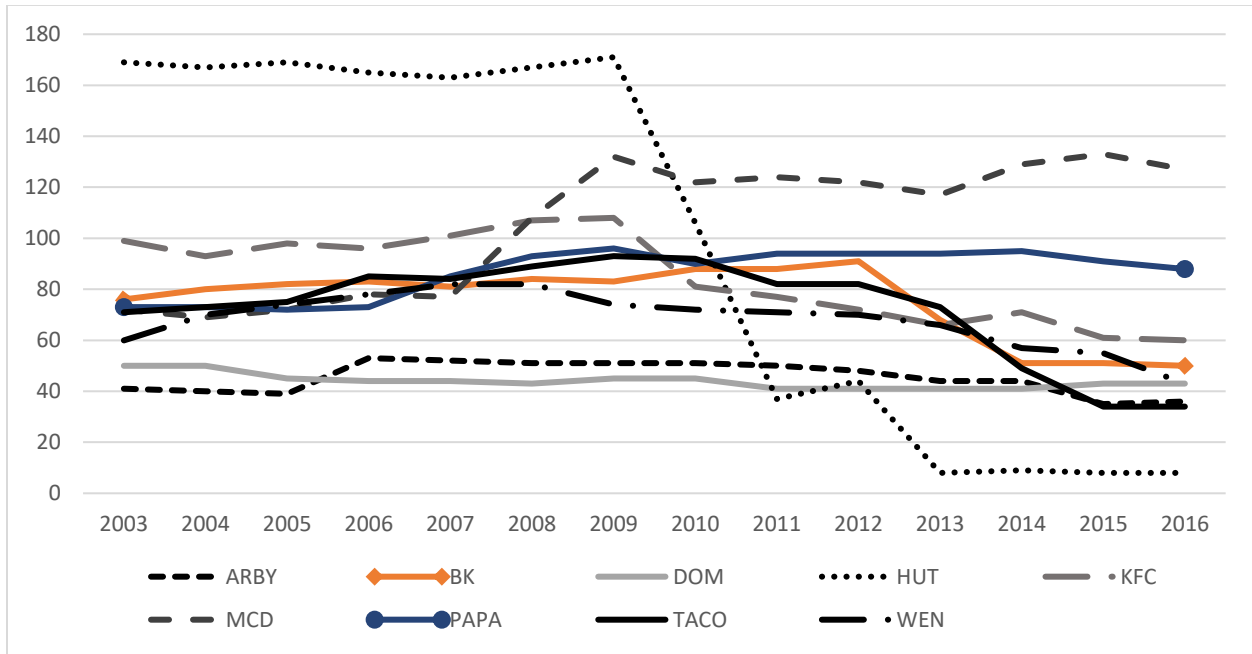


Figure 3
Company-outlets Converted to Franchise by Year

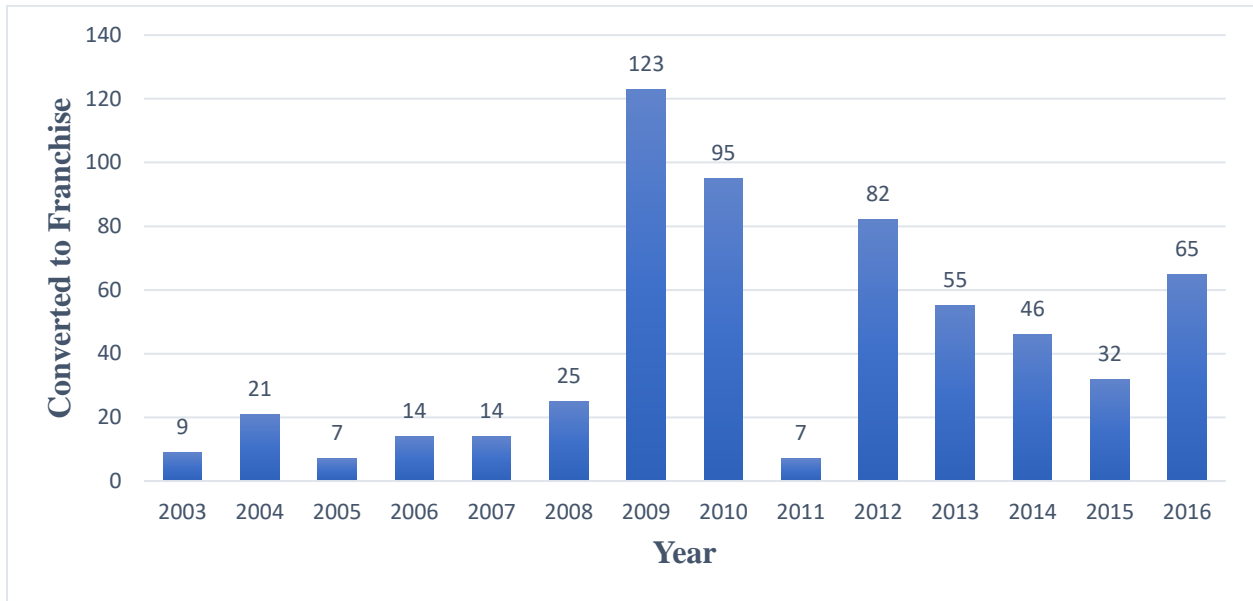
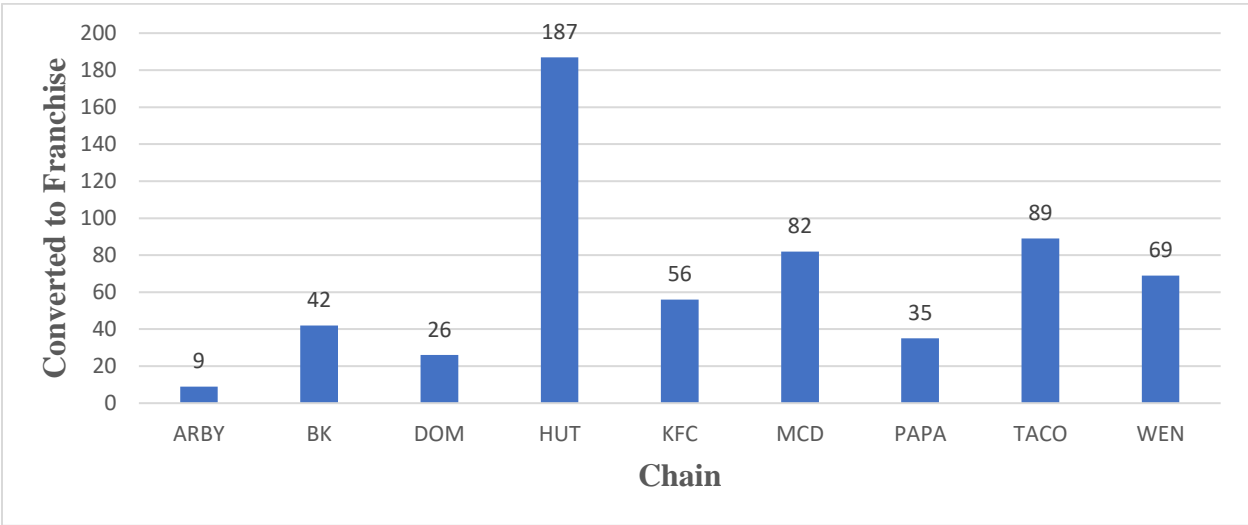


Figure 4
Company-outlets Converted to Franchise by Chain



APPENDIX C: INTERACTION GRAPHS

Figure 5
Moderation Effect of Franchise Visibility

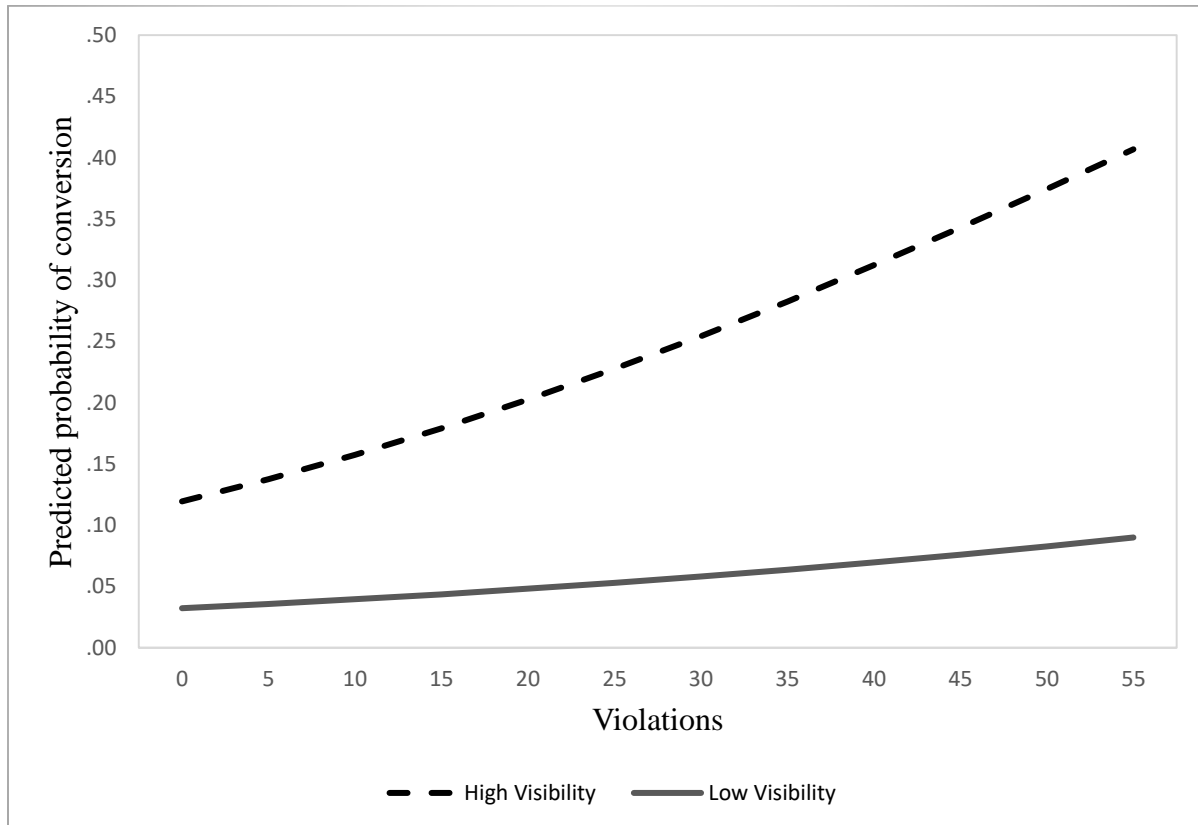


Figure 6
Moderation Effect of Royalty Rate

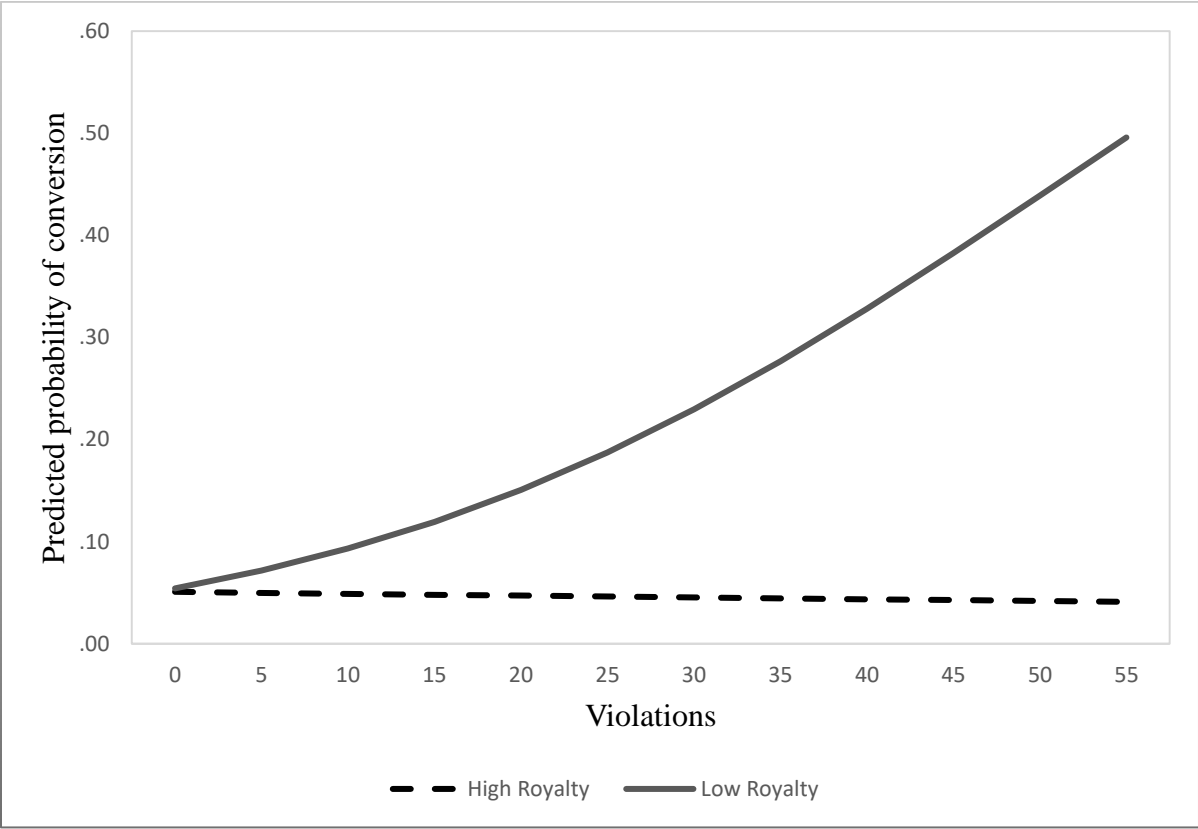
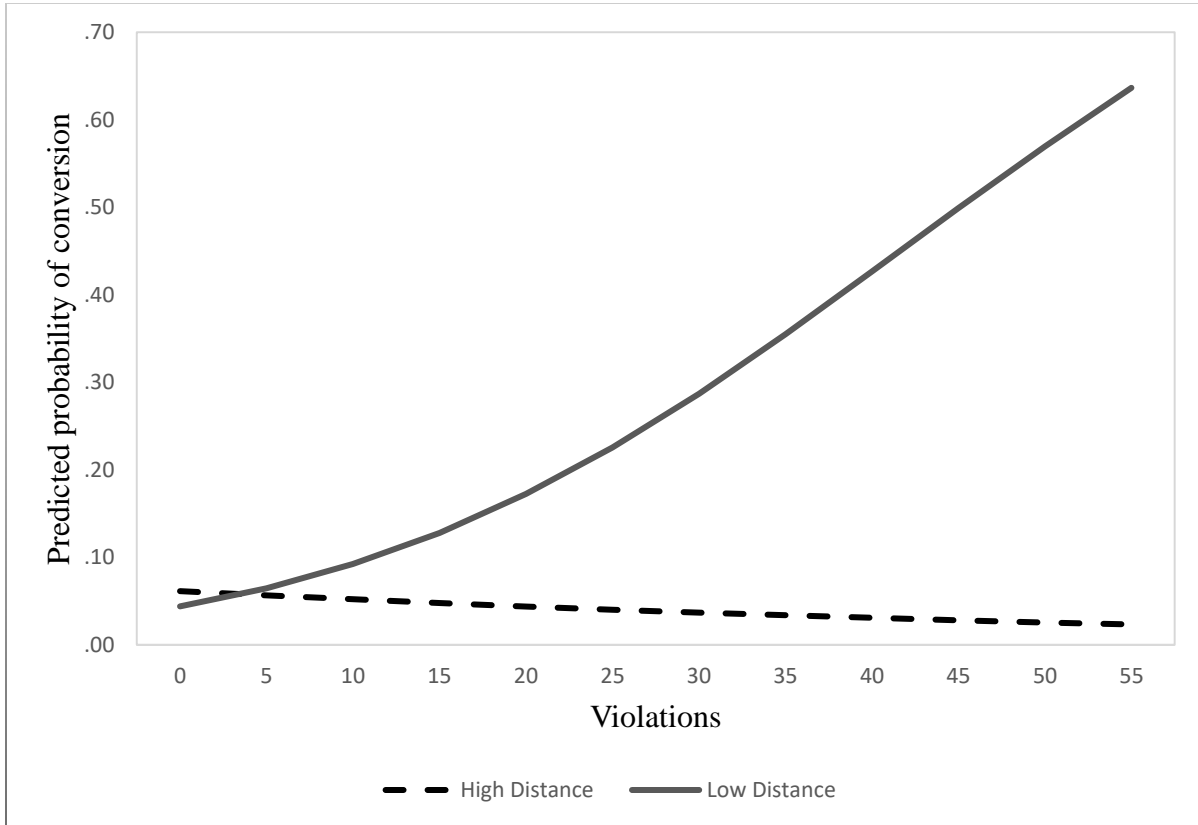


Figure 7
Moderation Effect of Outlet Distance to Monitoring Headquarters



APPENDIX D: SAMPLE DESCRIPTION TABLE

Table 1
Distribution of Sampled Company-Outlets by Franchise Chain

Franchise Chain	# Outlets	Percent of Sample
Arby's	70	5.74
Burger King	106	8.69
Domino's Pizza	76	6.23
Pizza Hut	232	19.02
Kentucky Fried Chicken	150	12.3
McDonald's	208	17.05
Papa John's	158	12.95
Taco Bell	126	10.33
Wendy's	94	7.7
Total	1220	100

APPENDIX E: SUMMARY STATISTICS

Table 2
Descriptive Statistics and Correlations of Variables in the Study

Variable	<i>M</i>	<i>SD</i>	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Convert to Franchise	0.06	0.24	0	1	-															
2 Firm Age	49.08	12.58	19	77	0.06	-														
3 Prior performance	0.24	0.13	0.01	0.65	0.06	0.13	-													
4 Multibrand	0.46	0.50	0	1	0.06	0.38	-0.01	-												
5 Outlet size	0.66	0.47	0	1	0.02	0.43	-0.39	0.14	-											
6 Incumbent	0.55	0.50	0	1	0.01	0.02	0.08	-0.05	-0.07	-										
7 Media visibility	9.50	13.36	0	61	-0.01	0.19	-0.13	-0.43	0.28	0.02	-									
8 Royalty rate	4.97	1.60	4	12.5	0.00	-0.08	0.14	-0.01	-0.13	-0.15	0.27	-								
9 Market size	13.73	0.91	9.58	14.79	-0.09	0.01	0.03	-0.05	0.04	-0.09	-0.15	-0.03	-							
10 Sister outlets	13.78	11.74	1	51	-0.07	0.14	-0.06	-0.05	0.07	-0.20	-0.07	-0.03	0.60	-						
11 Distance	9.27	5.40	0.002	23.07	0.05	-0.07	0.36	0.30	0.05	-0.01	-0.03	0.25	0.00	-0.28	-					
12 Violations	6.23	5.01	0	56	0.07	0.22	0.10	0.03	0.07	0.07	0.18	-0.06	-0.26	-0.14	-0.01	-				
13 Violations x Media visibility	11.97	91.57	-454.06	2095.24	0.03	0.04	0.05	-0.15	0.06	0.10	0.32	-0.13	-0.20	-0.09	0.03	0.27	-			
14 Violations x Royalty rate	-0.51	7.51	-46.74	167.01	-0.01	-0.11	-0.05	0.04	-0.05	-0.04	-0.20	-0.10	0.09	0.08	-0.05	-0.19	-0.01	-		
15 Violations x Market size	-1.21	6.45	-168.92	18.84	-0.03	-0.13	0.01	0.09	-0.11	-0.06	-0.19	0.06	0.19	-0.02	0.05	-0.34	-0.47	0.20	-	
16 Violations x Sisters	-8.38	52.79	-510.63	720.39	0.03	-0.13	0.11	0.14	-0.15	0.03	-0.13	0.08	-0.04	-0.30	0.22	-0.11	-0.26	0.13	0.58	-
17 Violations x Distance	-0.37	20.73	-127.13	176.97	-0.05	-0.03	-0.12	-0.20	-0.02	-0.05	0.04	-0.06	0.09	0.26	-0.37	-0.14	-0.02	0.28	0.09	-0.18

Note: N=8,296 Interactions terms computed using centered variables; all others are raw values.

APPENDIX F: RESULTS OF LOGISTIC ANALYSIS

Table 3
Logit Regression Predicting Outlet Conversion

	Controls	Main Effects	Interaction Term Models					Full Model
DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Independent Variables								
Constant	-6.834*** (1.826)	-6.368*** (1.838)	-6.478*** (1.846)	-6.564*** (1.859)	-6.366*** (1.839)	-6.323*** (1.845)	-6.196*** (1.851)	-6.301*** (1.879)
Firm age	0.151*** (0.033)	0.148*** (0.034)	0.151*** (0.034)	0.153*** (0.034)	0.148*** (0.034)	0.147*** (0.034)	0.145*** (0.033)	0.150*** (0.034)
Firm performance	1.808*** (0.293)	1.804*** (0.294)	1.790*** (0.293)	1.793*** (0.293)	1.805*** (0.295)	1.810*** (0.295)	1.899*** (0.301)	1.896*** (0.302)
Multi-brand	-3.289*** (0.444)	-3.281*** (0.448)	-3.263*** (0.447)	-3.292*** (0.449)	-3.283*** (0.448)	-3.280*** (0.448)	-3.232*** (0.452)	-3.223*** (0.452)
Outlet size	0.327* (0.164)	0.273+ (0.162)	0.285+ (0.163)	0.311+ (0.165)	0.271+ (0.162)	0.271+ (0.162)	0.292+ (0.162)	0.302+ (0.165)
Incumbent outlet	0.0777 (0.108)	0.0766 (0.108)	0.0646 (0.109)	0.0583 (0.108)	0.0779 (0.108)	0.0785 (0.108)	0.0832 (0.109)	0.0711 (0.110)
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included
Firm dummy	Included	Included	Included	Included	Included	Included	Included	Included
WSJ appearances	0.0726*** (0.009)	0.0760*** (0.009)	1.000 (0.000)	0.0778*** (0.009)	0.0758*** (0.009)	0.0758*** (0.009)	0.0769*** (0.009)	0.0734*** (0.010)
Royalty rate	-0.177 (0.190)	-0.166 (0.193)	-0.159 (0.192)	-0.183 (0.189)	-0.165 (0.193)	-0.166 (0.192)	-0.166 (0.193)	-0.151 (0.192)
Population	-0.0483 (0.084)	-0.0333 (0.084)	-0.0257 (0.085)	-0.0350 (0.085)	-0.0410 (0.087)	-0.0398 (0.086)	-0.0370 (0.085)	-0.0782 (0.086)

Table 3 (Continued)

DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Sister outlets	-0.0463*** (0.007)	-0.0475*** (0.007)	-0.0474*** (0.007)	-0.0458*** (0.007)	-0.0472*** (0.007)	-0.0470*** (0.007)	-0.0453*** (0.007)	-0.0426*** (0.007)
Distance to HQ (100 mi)	-0.0843 (0.075)	-0.0275 (0.076)	-0.0187 (0.075) (0.000)	-0.00765 (0.076)	-0.0276 (0.076)	-0.0299 (0.076)	-0.0300 (0.077)	-0.0125 (0.076) (0.001)
Violations x Royalty				-0.0252* (0.011)				-0.0059 (0.015)
Violations x Population					0.0023 (0.006)			0.0130 (0.009)
Violations x Sisters						0.0005 (0.001)		0.0004 (0.001)
Violations x Distance							-0.0111*** (0.003)	-0.0113*** (0.003)
log-likelihood	-1427.4	-1419.8	-1418.4	-1417.1	-1419.7	-1419.6	-1411.4	-1408.4
χ^2	535.2	524.7	523.5	522.8	524.6	526.3	520.4	523.0
N	8296	8296	8296	8296	8296	8296	8296	8296

Standard errors in parentheses

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

APPENDIX G: SUMMARY OF RESULTS

Table 4
Summary of Results

Variables	Key Finding
H1 - Violations (2 yr mov. avg.)	Persistent health code violations increase the probability of company-operated outlets being converted to a franchise.
H2 - Violations x Media visibility	Contrary to prediction, franchisor media visibility appears to strengthen the positive relationship between company-outlet violations and conversion to franchise, though this result is only marginally supported.
H3 - Violations x Royalty rate	Consistent with prediction, higher franchisor royalty rates reduce the positive relationship between company-outlet violations and conversion to franchise.
H4 - Violations x Market size	Not supported
H5 - Violations x Sister outlets	Not supported
H6 - Violations x Outlet distance	Contrary to prediction, the distance between company-operated outlet and monitoring headquarters reduces the positive relationship between company-outlet violations and conversion to franchise.

APPENDIX H: RESULTS OF SUPPLEMENTAL ANALYSES

Table 5
Logit Regression Predicting Outlet Conversion with Additional Controls

	Controls	Main Effects	Interaction Term Models				Full Model	
DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Independent Variables								
Constant	-8.904*** (1.860)	-8.269*** (1.866)	-8.316*** (1.868)	-8.498*** (1.887)	-8.270*** (1.866)	-8.221*** (1.872)	-8.182*** (1.874)	-8.211*** (1.900)
Positive media	-0.515** (0.190)	-0.514** (0.189)	-0.512** (0.189)	-0.516** (0.189)	-0.513** (0.189)	-0.517** (0.189)	-0.578** (0.186)	-0.568** (0.186)
Annual inspections	0.123* (0.052)	0.0407 (0.057)	0.0320 (0.058)	0.0410 (0.057)	0.0417 (0.057)	0.0425 (0.057)	0.0518 (0.057)	0.0486 (0.057)
Corporate event	1.487*** (0.415)	1.521*** (0.423)	1.503*** (0.418)	1.538*** (0.428)	1.520*** (0.423)	1.514*** (0.422)	1.583*** (0.438)	1.545*** (0.431)
Firm age	0.168*** (0.035)	0.164*** (0.035)	0.166*** (0.035)	0.169*** (0.036)	0.164*** (0.035)	0.163*** (0.035)	0.162*** (0.035)	0.166*** (0.036)
Firm performance	1.882*** (0.315)	1.885*** (0.315)	1.873*** (0.314)	1.874*** (0.312)	1.886*** (0.315)	1.893*** (0.316)	2.003*** (0.325)	2.001*** (0.325)
Multi-brand	-3.186*** (0.445)	-3.169*** (0.447)	-3.152*** (0.446)	-3.179*** (0.448)	-3.172*** (0.447)	-3.168*** (0.447)	-3.096*** (0.450)	-3.091*** (0.451)
Outlet size	0.310+ (0.164)	0.268+ (0.161)	0.279+ (0.162)	0.306+ (0.164)	0.266+ (0.161)	0.265+ (0.161)	0.287+ (0.161)	0.297+ (0.164)
Incumbent outlet	0.0853 (0.107)	0.0832 (0.108)	0.0717 (0.108)	0.0651 (0.108)	0.0843 (0.108)	0.0854 (0.108)	0.0918 (0.109)	0.0804 (0.109)
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included
Firm dummy	Included	Included	Included	Included	Included	Included	Included	Included

Table 5 (continued)

DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
WSJ appearances	0.0736*** (0.009)	0.0765*** (0.009)	1.000 (0.000)	0.0782*** (0.009)	0.0763*** (0.009)	0.0763*** (0.009)	0.0775*** (0.009)	0.0743*** (0.010)
Royalty rate	-0.152 (0.191)	-0.142 (0.193)	-0.136 (0.192)	-0.157 (0.190)	-0.142 (0.193)	-0.142 (0.193)	-0.139 (0.194)	-0.126 (0.193)
Population	-0.0375 (0.086)	-0.0327 (0.085)	-0.0259 (0.086)	-0.0339 (0.086)	-0.0391 (0.088)	-0.0399 (0.087)	-0.0351 (0.086)	-0.0757 (0.088)
Sister outlets	-0.0470*** (0.007)	-0.0483*** (0.007)	-0.0482*** (0.007)	-0.0466*** (0.007)	-0.0480*** (0.007)	-0.0477*** (0.007)	-0.0460*** (0.007)	-0.0433*** (0.007)
Distance to HQ (100 mi)	-0.0723 (0.075)	-0.0279 (0.076)	-0.0193 (0.076)	-0.00767 (0.077)	-0.0281 (0.076)	-0.0309 (0.076)	-0.0313 (0.077)	-0.0145 (0.077)
Violations (2 yr mov. avg)		0.0384*** (0.011)	0.0344** (0.012)	0.0312** (0.011)	0.0399** (0.013)	0.0391*** (0.012)	0.0335** (0.011)	0.0371** (0.013)
Violations x WSJ			0.0008+ (0.000)					0.001 (0.001)
Violations x Royalty				-0.0254* (0.011)				-0.0061 (0.015)
Violations x Population					0.00192 (0.006)			0.0124 (0.010)
Violations x Sisters						0.000580 (0.001)		0.0005 (0.001)
Violations x Distance							-0.0121*** (0.003)	-0.0122*** (0.003)
log-likelihood	-1420.1	-1414.8	-1413.5	-1412.0	-1414.7	-1414.6	-1405.0	-1402.3
χ^2	526.4	519.9	518.8	518.1	520.0	521.8	514.0	518.6
N	8296	8296	8296	8296	8296	8296	8296	8296

Standard errors in parentheses

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 6
Logit Regression Predicting Outlet Conversion with Number of Annual Inspections

	Controls	Main Effects	Interaction Term Models					Full Model
DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Independent Variables								
Constant	-5.639** (2.093)	-6.314** (2.126)	-6.069** (2.117)	-5.964** (2.131)	-6.329** (2.131)	-6.404** (2.134)	-6.233** (2.126)	-6.045** (2.136)
Firm age	0.150*** (0.032)	0.156*** (0.033)	0.152*** (0.033)	0.153*** (0.033)	0.156*** (0.033)	0.157*** (0.033)	0.153*** (0.033)	0.151*** (0.033)
Firm performance	1.780*** (0.251)	1.766*** (0.251)	1.768*** (0.249)	1.762*** (0.247)	1.765*** (0.250)	1.761*** (0.251)	1.800*** (0.252)	1.809*** (0.252)
Multi-brand	-2.761*** (0.400)	-2.769*** (0.401)	-2.761*** (0.401)	-2.863*** (0.410)	-2.774*** (0.401)	-2.770*** (0.401)	-2.793*** (0.407)	-2.797*** (0.412)
Outlet size	0.305* (0.145)	0.300* (0.146)	0.305* (0.145)	0.317* (0.146)	0.300* (0.146)	0.301* (0.146)	0.312* (0.146)	0.325* (0.146)
Incumbent outlet	0.127 (0.099)	0.130 (0.099)	0.124 (0.099)	0.126 (0.099)	0.129 (0.099)	0.129 (0.099)	0.139 (0.099)	0.134 (0.099)
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included
Firm dummy	Included	Included	Included	Included	Included	Included	Included	Included
WSJ appearances	0.0646*** (0.009)	0.0647*** (0.009)	0.0647*** (0.009)	0.0674*** (0.009)	0.0648*** (0.009)	0.0647*** (0.009)	0.0665*** (0.009)	0.0670*** (0.009)
Royalty rate	-0.268 (0.252)	-0.269 (0.253)	-0.277 (0.251)	-0.335 (0.255)	-0.268 (0.254)	-0.270 (0.254)	-0.267 (0.253)	-0.264 (0.252)
Population	0.0338 (0.081)	0.0415 (0.082)	0.0459 (0.082)	0.0447 (0.082)	0.0444 (0.082)	0.0501 (0.082)	0.0425 (0.082)	0.0380 (0.083)

Table 6 (continued)

DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Sister outlets	-0.0580*** (0.007)	-0.0579*** (0.007)	-0.0585*** (0.007)	-0.0576*** (0.007)	-0.0581*** (0.007)	-0.0594*** (0.007)	-0.0575*** (0.007)	-0.0581*** (0.007)
Distance to HQ (100 mi)	-0.0762 (0.072)	-0.0680 (0.072)	-0.0542 (0.071)	-0.0541 (0.071)	-0.0677 (0.072)	-0.0676 (0.072)	-0.0756 (0.072)	-0.0579 (0.072)
Violations (Annual Inspections)		0.0923+ (0.047)	0.0477 (0.049)	0.0502 (0.046)	0.0832+ (0.049)	0.0605 (0.051)	0.114* (0.047)	0.0593 (0.051)
Violations x WSJ			0.00736** (0.002)					0.00585* (0.003)
Violations x Royalty				-0.198*** (0.050)				-0.0851 (0.061)
Violations x Population					-0.0182 (0.037)			0.0928* (0.045)
Violations x Sisters						-0.00833+ (0.005)		-0.0119+ (0.006)
Violations x Distance							-0.0264** (0.008)	-0.0226* (0.009)
log-likelihood	-1682.1	-1680.4	-1676	-1673.6	-1680.3	-1679.3	-1676.5	-1669.6
χ^2	584.0	582.0	584.6	578.1	581.1	584.8	570.5	588.4
N	9551	9551	9551	9551	9551	9551	9551	9551

Standard errors in parentheses

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 7
Logit Regression Predicting Outlet Conversion without Pizza Hut

	Controls		Main Effects		Interaction Term Models			Full Model
DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Independent Variables								
Constant	-3.743* (1.865)	-3.200+ (1.882)	-3.376+ (1.892)	-3.761* (1.901)	-3.206+ (1.882)	-3.171+ (1.883)	-3.206+ (1.903)	-3.565+ (1.938)
Firm age	0.0794* (0.034)	0.0752* (0.034)	0.0787* (0.034)	0.0810* (0.034)	0.0752* (0.034)	0.0750* (0.034)	0.0755* (0.034)	0.0819* (0.034)
Firm performance	1.973*** (0.297)	1.960*** (0.296)	1.945*** (0.295)	1.933*** (0.292)	1.960*** (0.296)	1.962*** (0.296)	2.054*** (0.306)	1.998*** (0.308)
Multi-brand	-2.306*** (0.462)	-2.264*** (0.463)	-2.250*** (0.463)	-2.353*** (0.470)	-2.263*** (0.464)	-2.264*** (0.463)	-2.245*** (0.468)	-2.295*** (0.470)
Outlet size	0.504+ (0.273)	0.479+ (0.272)	0.475+ (0.272)	0.505+ (0.274)	0.480+ (0.272)	0.476+ (0.272)	0.512+ (0.272)	0.502+ (0.274)
Incumbent outlet	0.238+ (0.132)	0.227+ (0.133)	0.218 (0.134)	0.220+ (0.134)	0.227+ (0.133)	0.227+ (0.133)	0.241+ (0.135)	0.226+ (0.135)
Year dummy	Included	Included	Included	Included	Included	Included	Included	Included
Firm dummy	Included	Included	Included	Included	Included	Included	Included	Included

Table 7 (continued)

DV: Convert to franchise	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
WSJ appearances	0.0514*** (0.010)	0.0543*** (0.010)	1.000 (0.000)	0.0568*** (0.010)	0.0544*** (0.010)	0.0543*** (0.010)	0.0556*** (0.010)	0.0532*** (0.011)
Royalty rate	-0.210 (0.144)	-0.199 (0.146)	-0.190 (0.145)	-0.483** (0.153)	-0.199 (0.146)	-0.199 (0.146)	-0.198 (0.149)	-0.284* (0.116)
Population	-0.0658 (0.088)	-0.0502 (0.087)	-0.0422 (0.088)	-0.0537 (0.088)	-0.0466 (0.091)	-0.0561 (0.090)	-0.0546 (0.088)	-0.0859 (0.090)
Sister outlets	-0.0627*** (0.008)	-0.0628*** (0.008)	-0.0633*** (0.008)	-0.0628*** (0.008)	-0.0630*** (0.009)	-0.0618*** (0.009)	-0.0605*** (0.009)	-0.0594*** (0.009)
Distance to HQ (100 mi)	-0.0251 (0.081)	0.0384 (0.081)	0.0413 (0.081)	0.0487 (0.082)	0.0382 (0.081)	0.0387 (0.081)	0.0324 (0.082)	0.0461 (0.082)
Violations (2 yr. mov. avg)		0.0471*** (0.012)	0.0370** (0.014)	-0.0318 (0.024)	0.0461*** (0.014)	0.0501*** (0.013)	0.0412*** (0.012)	0.00371 (0.029)
Violations x WSJ			0.000860 (0.001)					0.000834 (0.001)
Violations x Royalty				-0.0953*** (0.025)				-0.0487 (0.036)
Violations x Population					-0.000970 (0.006)			0.0111 (0.009)
Violations x Sisters						0.000534 (0.001)		-0.000207 (0.002)
Violations x Distance							-0.0108*** (0.003)	-0.00791* (0.004)
log-likelihood	-1094.7	-1088.0	-1086.9	-1080.0	-1088.0	-1087.9	-1080.1	-1077.2
χ^2	403.1	400.4	399.3	398.7	402.3	404.2	391.6	409.8
N	7146	7146	7146	7146	7146	7146	7146	7146

Standard errors in parentheses

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001

Table 8
Results of Cox Proportional Hazard Model

DV: Convert to franchise	Model 1	Model 2
	All	Without pre 1997
Independent Variables	<i>Odds Ratio</i>	<i>Odds Ratio</i>
Firm age	1.108** (0.039)	1.160** (0.063)
Firm performance	4.253*** (1.232)	6.475*** (2.400)
Multi-brand	0.0615*** (0.027)	0.0802*** (0.042)
Outlet size	1.211 (0.162)	1.199 (0.208)
Incumbent outlet	4.742*** (0.843)	- -
Year dummy	Included	Included
Firm dummy	Included	Included
WSJ appearances	1.062*** (0.010)	1.058*** (0.012)
Royalty rate	0.850 (0.123)	0.694*** (0.046)
Population	0.873+ (0.063)	0.851* (0.062)
Sister outlets	0.974*** (0.006)	0.981* (0.008)
Distance to HQ (100 mi)	0.968 (0.063)	1.004 (0.069)

Table 8 (continued)

DV: Convert to franchise	Model 1 All	Model 2 Without pre 1997
Independent Variables		
Violations ^a	1.026** (0.009)	1.031** (0.011)
Violations x WSJ	1.001* (0.000)	1.001* (0.000)
Violations x Royalty	0.992 (0.012)	1.014 (0.013)
Violations x Population	1.014** (0.005)	1.014* (0.006)
Violations x Sisters	1.000 (0.001)	1.000 (0.001)
Violations x Distance	0.989*** (0.003)	0.983*** (0.003)
log-likelihood	-2121.2	-1342.7
χ^2	721.8	584.6
N	6210	4208

Standard errors in parentheses

+ p<0.10 * p<0.05, ** p<0.01, *** p<0.001

^a Similar results were found using inspection count for violations

Table 9
Multinomial Logistic Regression

Baseline:	Closure		Continuance	
Variables	<i>Continue</i>	<i>Convert</i>	<i>Close</i>	<i>Convert</i>
Firm age	0.953 (0.043)	1.110+ (0.060)	1.049 (0.048)	1.165*** (0.037)
Firm performance	0.962 (0.269)	6.429*** (2.375)	1.040 (0.291)	6.685*** (1.643)
Multi-brand	0.235*** (0.093)	0.00975*** (0.006)	4.247*** (1.674)	0.0414*** (0.019)
Outlet size	1.056*** (0.004)	1.055*** (0.005)	0.947*** (0.004)	0.999 (0.002)
Incumbent outlet	0.401*** (0.081)	0.434*** (0.099)	2.495*** (0.505)	1.083 (0.119)
WSJ appearances	1.010 (0.018)	1.087*** (0.022)	0.990 (0.018)	1.076*** (0.011)
Royalty rate	0.985 (0.074)	0.847 (0.142)	1.015 (0.077)	0.860 (0.129)
Population	0.838 (0.129)	0.775 (0.135)	1.194 (0.184)	0.926 (0.083)
Sister outlets	1.032* (0.016)	0.989 (0.017)	0.969* (0.015)	0.958*** (0.007)
Distance to HQ (100 mi)	1.363** (0.162)	1.348* (0.189)	0.734** (0.087)	0.989 (0.077)
Violations	1.173*** (0.037)	1.222*** (0.041)	0.853*** (0.027)	1.042*** (0.013)
Log likelihood	-2050.4			
χ^2	1538.4			
N	8296			

Relative Risk Ratios; Standard errors in parentheses.

+ p<0.10 * p<0.05, ** p<0.01, *** p<0.001

VITA

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EDUCATION

- Ph.D. University of Mississippi (2019)
Major: Business Administration – Management
- M.S. Murray State University (2011)
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Entrepreneurship; Franchising; Family Business; Organizational Structure

JOURNAL ARTICLES (Peer-reviewed)

Gupta, V. K., Niranjan, S., & **Markin, E.** (2019). Entrepreneurial orientation and firm performance: The mediating role of generative and acquisitive learning through customer relationships. *Review of Managerial Science*, (forthcoming).

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WORKING PAPERS

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Markin, E., Woo, H. Who gets it? An analysis of firm reputation and subsystem growth in multi-outlet organizations.

Markin, E. Governance heterogeneity in franchise firms: The influence of strategic leader characteristics

TEACHING EXPERIENCE

University of Mississippi (2016-Present)

- Principles of Management: MGMT 371 (4.65 out of 5 rating)
- Strategic Planning: MGMT 493 (4.40 out of 5 rating)

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- Macroeconomics: ECON 201
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AD HOC REVIEWER

International Small Business Journal

Journal of Business Venturing

Journal of Small Business and Entrepreneurship

New England Journal of Entrepreneurship

CONFERENCE REVIEWER

Academy of Management Annual Conference

Southern Management Association Annual Conference

Southwest Academy of Management Annual Conference

- Outstanding reviewer for entrepreneurship track 2017

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WORK EXPERIENCE

IT Manager, University of Tennessee at Martin, Martin, TN

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Small Business Development, REED Center - UT Martin, Martin, TN

- Consult and advise entrepreneurs of all stages.

Small business owner/manager
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PERSONAL

Enjoy spending time with my wife Mauri and our two children Roe and Liam. I also enjoy being a private pilot, golfing, and fishing.