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RESEARCH NOTE

FINDING THE RIGHT MIX: FRANCHISING, ORGANIZATIONAL LEARNING, AND CHAIN PERFORMANCE

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Franchising provides an increasingly important vehicle for entrepreneurial wealth creation and accounts for a large and growing share of business in the retail and service sectors. Chains—which operate in dispersed markets—most frequently use this form of governance. These firms must balance the centralization and standardization required for efficiency with the adaptation needed for success in varied local markets. By adopting an organizational learning perspective, we argue that the mix of company-owned and franchised units affects this balance, thereby influencing chain performance. In particular, the different incentives facing company managers and the entrepreneurs that manage franchises encourage distinct patterns of organizational learning. Franchised establishments provide better opportunities for the firm to learn through experimentation; however, companies find it easier to diffuse this information and enforce standards through their company-owned units. Analyses of franchised restaurant chains in the United States provide empirical evidence of this trade-off.

Franchising occupies a prominent position in contemporary American business and increasingly provides a common vehicle for entrepreneurial wealth creation. Although franchising receives less attention than high-tech entrepreneurship, 40 percent of all U.S. retail sales passed through franchising organizations in 1996 (Bradach, 1998). Franchising appears particularly common among chains—including restaurants, hotels, and small business services—in the form of 'business-format' franchising. Under this model, entrepreneurs license the chain's business concept: the right to use its brand name and access to its marketing strategies, organizational routines and operating manuals (Caves and Murphy, 1976).[1] In return, the franchisee pays the franchiser both an initial fee and ongoing royalties, but retains rights to the establishment's earnings (Hunt, 1972; Rubin, 1978).

Like other entrepreneurs, franchisees perceive opportunities for wealth creation and risk their own capital pursuing them. Unlike many other

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[1] In contrast, franchisees simply distribute a branded product produced by the franchiser, without any operational assistance, in traditional (product name) franchising.

entrepreneurs, however, franchisees choose to purchase substantial strategic and operational support for pursuing these opportunities from the franchiser—arguably making franchising a less risky path to wealth creation. Nevertheless, this support comes at a price; it ties the fate of the franchisee's entrepreneurial investments to the policies and procedures of the franchiser and to the characteristics of the chain as a whole.

Given this interdependence, both entrepreneurs interested in purchasing licenses and potential franchisers need to understand its performance implications. Most work on franchising and performance focuses on incentive alignment and monitoring costs. Monitoring the actions of distant establishment managers can prove costly and difficult for the corporate office (Rubin, 1978; Norton, 1988), leading firms to limit monitoring intensity. Without close supervision, however, establishment managers may allocate effort to activities that do not benefit their unit's performance, or shirk (Jensen and Meckling, 1976). Franchising can solve this problem; the entrepreneurs that manage franchised establishments operate with clear incentives to maximize the performance of these units as they receive any profits and stand to lose their investment should the unit perform poorly (Alchian and Demsetz, 1972; Brickley and Dark, 1987). Therefore, franchising firms should perform better than those that retain ownership and hire managers, when conditions create a risk of shirking (Fama and Jensen, 1983). Empirical studies support this proposition (Lafontaine, 1992; Shane, 1996; Shane and Foo, 1999).

Though it highlights important issues, this establishment-level focus remains relatively silent regarding the optimal *portfolio* of governance structures (i.e., hierarchy vs. franchising) for the chain. Extending the agency perspective to the chain level implies that one governance type should dominate: firms primarily using that form should perform best (Lafontaine, 1992; Shane, 1996).[2] However, chains usually mix governance types, in what Bradach (1998) calls a 'plural form.' Consider the restaurant industry. Only 11 percent of restaurant chains in 1998 pursued a pure governance strategy and those that mixed forms showed substantial heterogeneity—indeed, the proportion franchised for chains employing a mixed form nearly follows a uniform distribution. These mixed forms might represent transitory states (Oxenfeldt and Kelley, 1969), but more likely, a new unit's optimal form depends on chain composition. Since each establishment operates within a community of related units, its performance may depend on the activities of other establishments belonging to the same chain. Understanding the effect of the portfolio of governance structures on performance requires an explicit consideration of these interactions.

Organizational learning provides such explicit consideration of the interactions among constituent units. Learning refers to the modification of routines in response to feedback from past experiences and the environment (Cyert and March, 1963). According to this perspective, chains benefit by sharing routines and knowledge across their constituent units, thereby spreading the costs of knowledge generation (Argote, Beckman, and Epple, 1990). Although this research considers seriously the interactions among chain members, it fails to consider how governance structures might influence the learning process.

By infusing organizational learning with a focus on incentives, we can gain an enriched understanding of how governance affects performance. Incentives do not simply affect the effort managers expend; rather, they qualitatively change the activities these actors pursue. Managers must choose between two types of learning: exploitation and exploration. Exploitation—the incremental improvement of existing routines—helps the chain realize efficiencies through the implementation of standardized practices. Exploration—the development of new routines—allows the chain to adapt to varied markets. We contend that governance structures shift the balance between exploitation and exploration. Specifically, incentives lead managers of company-owned units to exploit existing routines at the expense of exploration that might better adapt the establishment to local conditions. Meanwhile, entrepreneurs managing franchised units explore at the expense of exploitation. Chains need both to operate successfully.

The paper proceeds as follows. First, the theory section delineates the relationship between each ownership structure and organizational learning.

[2] Shane (1998a) offers a notable exception, suggesting that a mix might allow firms to balance shirking concerns with the problems associated with free riding.

We then discuss the implications of the mix of governance structures for chain performance. The next section describes the data—a longitudinal sample of restaurant chains in the United States—used to investigate these ideas. The methods section presents a model capable of evaluating both the mean and variance implications of a strategic choice. After presenting our results, we discuss the implications for researchers and practitioners.

GOVERNANCE AND ORGANIZATIONAL LEARNING

Following March (1991) and others, we classify learning into two ideal types: exploitation and exploration. Exploitation involves the incremental improvement of existing routines to enhance operational efficiency. Firms learn from experience with their current resources and technologies and use that knowledge to improve upon them. Exploratory learning, in contrast, seeks to discover potentially useful untapped resources and technologies. Neither offers an ideal alternative. An organization engaged purely in exploration develops insufficient experience with any one technology to operate efficiently or exhibit any distinctive capability. Meanwhile, an organization devoted to exploitation can fail to see changes in the world around it, and hence find itself executing sub-optimal routines. The balance of these processes can crucially affect firm performance.

Governance structures importantly influence the balance between exploration and exploitation. Specifically, we propose that the managers of company-owned units exploit existing routines, while entrepreneurs running franchises pursue more exploratory learning. Two factors suggest that managers of company-owned units attend to the refinement of existing routines rather than to exploring new resources and novel routines. First, monitoring creates incentives for managers to focus on incremental operational improvements as opposed to developing new procedures. Second, the rewards offered to managers of corporate units rarely encourage innovation. Let us consider each in detail.

Monitoring deters managers from innovating. Hierarchies use supervision, as an alternative to incentives, to prevent self-interested behavior by unit managers. Owners can then sanction managers—at the extreme through firing—when they fail to act in their interests. Observation typically takes one of two forms: owners either observe managers' actions directly (behavioral control) or base their evaluations on observable outcomes, such as unit sales (e.g., Anderson and Oliver, 1987). Both encourage exploitation. Under behavioral control, monitors generally interpret deviations from accepted practice as outside the firm's interests. Thus, managers can best avoid unfavorable evaluations by following established routines. Although owners who base their evaluations on outcomes leave more room for experimentation, firms typically develop benchmarks based on the past performance of established procedures. Since failing to meet these standards results in sanctions, risk-averse managers in company-owned units should generally choose to continue accepted practices; exploration generates more variable returns and hence a greater probability of not meeting superiors' expectations.

Bradach's (1998: 83–91) study of restaurant chains suggests that they rely extensively on behavioral controls to monitor company managers. Chains regularly conducted 'QSC' (quality, service, and cleanliness) field audits of company-owned units, involving highly detailed inspections of products, service times, bathroom cleanliness, and employee behavior. They hired mystery shoppers, whose unannounced visits similarly checked the unit's performance from a customer's perspective. Finally, chains used extensive management information systems to track labor-to-revenue ratios, waste-to-revenue ratios, food and labor costs, inventory levels, and so on—allowing chains to evaluate performance and identify underperforming units. In this monitoring, chains stressed maintaining established practices over financial performance.

Chains also monitor franchisee behavior, but less stringently and less systematically. When chains used field audits in franchised units, they placed less emphasis on evaluation than on working with the franchisee to understand the local market conditions and issues the franchisee faced (Bradach, 1998: 197–199). Since chains rarely require franchisees to integrate their information systems with headquarters, they cannot do the same detailed, quantitative monitoring as with company-owned units (Bradach, 1998: 99).

In addition to being deterred from exploration by monitoring, managers of company-owned

establishments receive, at most, weak incentives for exploration. In the chains Bradach (1998) studied, manager compensation consisted largely of a fixed salary with a small bonus, only a portion of which depended on individual unit profitability. Instead, companies tied rewards to maintaining specific cost/revenue ratios (food, labor, waste, etc.), minimizing food and labor variances, and customer service. Chain operators explicitly voiced their reluctance to emphasize financial performance too heavily: 'As one executive put it: "We would have chaos if people were given too much of an incentive to maximize financial results. They would screw up the business concept in their attempt to get the bonus"' (Bradach, 1998: 37). Bonuses based on restaurant-level sales encourage managers to maximize their store's profitability, even at the expense of the chain as a whole (Brickley and Dark, 1987). Thus, corporate managers' incentives emphasize the maintenance of established standards and discourage innovation.

While the managers of company units receive incentives to refine existing routines, the entrepreneurs running franchises tend to search more broadly for at least two reasons. First, entrepreneurs that purchase franchises may tolerate risk better than the managers of company-owned units. Exploration requires a willingness to accept the uncertain returns to innovation. Since both theoretical accounts (Knight, 1921; Khilstrom and Laffont, 1979) and empirical investigations (e.g., Brockhaus, 1980) suggest that risk-averse individuals rarely pursue entrepreneurial paths, such as franchising, the entrepreneurs managing franchises may more willingly accept the higher risk associated with exploratory search.

Second, entrepreneurs managing franchised units might invest more readily in innovations that generate returns in the distant future. The returns to exploration both vary more and lie more distant in time than the returns to exploitation (March, 1991). Since innovation's rewards take longer to realize, the propensity to explore depends on a decision-maker's time horizon. Entrepreneurs typically operate under longer time horizons than the managers of company owned stores. While entrepreneurs' interests align with the long-term performance of their unit, the managers of company-owned units may focus on short-term performance to enhance their promotion chances, or worry that their employment would not survive the short-term performance decline needed to realize a long-term gain

Despite these incentives for exploration, no strong factors require that entrepreneurs engage less in the refinement of existing routines than the managers of company-owned units. Entrepreneurs' steep incentives to maximize performance also encourage them to devote energy to exploitation. Nevertheless, increased exploration likely comes at the expense of exploitation. Since entrepreneurs face a budget constraint in the resources available for learning, devoting effort to exploration necessarily reduces the time and energy available for exploitation.

GOVERNANCE AND KNOWLEDGE TRANSFER

Properly designing governance structures requires more than a simple evaluation of the marginal returns to exploration and exploitation. At the chain level, much of the benefit to learning stems from transferring the knowledge generated at one unit to the chain's other establishments. Moreover, chains need standardized operations because the efficiencies that accrue from centralization and standardization generate their competitive advantage over stand-alone rivals (Norton, 1988). The development and maintenance of these standards requires both knowledge transfers across a chain's constituent units and a willingness among unit managers to contribute to system-wide improvements.

Franchising impedes this standardization. In particular, the variability in operations generated by exploration limits the transferability of routines across units. As noted above, entrepreneurs running franchised units operate with strong incentives to develop procedures that fit local demands. Local adaptation carries an inherent risk that units generate idiosyncratic knowledge of little value to those operating in different environments. If the chain cannot usefully apply knowledge gained at one place to its other constituent units, it cannot spread learning costs across its multiple units. Even when the learning generated by franchisees can benefit the chain's other units, the transfer of knowledge across units can prove difficult. An organization's ability to acquire new knowledge depends on the similarity of this infor-

mation to the organization's existing knowledge base—an idea known as 'absorptive capacity' (Cohen and Levinthal, 1990). Extending this concept to intraorganizational learning suggests that units in a chain can most successfully transfer knowledge when they operate from the same knowledge base (for a similar argument in the context of strategic alliances, see Lane and Lubatkin, 1998; Hitt *et al*., 2000). When the entrepreneurs managing franchised units adapt to local conditions, they decrease the similarity of operating routines across the chain's units.

Free-riding behavior among franchisees can also hamper the standardization of routines. Although franchising effectively minimizes shirking, it creates incentives for free riding (Shane, 1998a). The entrepreneurs running franchises have little incentive to contribute to chain-wide public goods (e.g., a consistent brand image). Faced with the choice between investing in chain-wide standards and investing in local improvements, entrepreneurs will likely invest locally. Therefore, entrepreneurs running franchised units more frequently develop routines that do not apply to other units. Even when they do refine existing routines in a manner that could benefit others, they might fail to pass this information on—an activity that undoubtedly entails expense—to minimize costs. Thus, the benefits of learning more likely accrue to the chain if they occur among company-owned units than if they originate among franchisees.

Company-owned units facilitate knowledge transfer. They provide a setting for showing the value of innovations to skeptical franchisees. Bradach (1998) reports that chains typically test and evaluate new ideas in company-owned units, in part because the integrated management information systems allow headquarters to gauge precisely the success of new products or procedures. Performing tests in company-owned units also gives the chain greater control over the test conditions (Bradach, 1998: 144). These tests can then help the company persuade entrepreneurs in charge of franchised units to adopt the innovations. Chain management has a stronger incentive to diffuse the knowledge generated at franchised establishments than the entrepreneurs running those units do themselves. The company reaps the benefits of innovations in both company-owned establishments and franchised units (through royalties), giving them strong incentives to educate and inform their constituent units about useful new practices.

IMPLICATIONS FOR CHAIN PERFORMANCE

Our basic argument maintains that company-owned units tend to engage in exploitation while franchised units more frequently explore. Aggregation suggests organizational learning will take the form of refining existing routines in chains dominated by company-owned units. Conversely, in chains that mostly franchise, exploration will dominate. As the balance of company-owned and franchised units changes, so does the balance between exploitation and exploration. What does this balance imply for chain performance?

Chains engage in spatially decentralized production, distribution and marketing. This geographic dispersion exposes the chain to varied local market conditions that require local adaptation to maximize performance, because uniform operating procedures cannot optimize performance across these diverse locations (Minkler, 1992; Kaufman and Eroglu, 1999). Simultaneously, chains' competitive advantages over independently owned stores depend crucially on the benefits of the stronger brand names and more efficient operational procedures generated through applying common procedures across the firm (Norton, 1988; Jain, 1989). When chains face homogeneous markets, they can simply implement common procedures across all units. System-wide standards frequently conflict with local market conditions, however, when chains face heterogeneous markets.

Corporate ownership functions best in homogeneous environments. Exploitation represents the dominant learning strategy for an organization facing homogeneous local markets. As experience with established routines increases, individuals perform those routines more efficiently, raising the mean level of performance. Not only do corporate units excel at generating incremental improvements, but also they facilitate the transfer of this knowledge across units. Franchisees, in contrast, add little to chain performance in homogeneous environments. Both coordinating action to achieve scale economies and transferring knowledge to benefit from learning proves difficult with these independent actors.

Hypothesis 1: In relatively homogeneous markets, increases in the number of corporate units contribute more to mean performance levels than increases in the number of franchised units.

As market heterogeneity rises, firms must increasingly adapt to local conditions to maximize performance. Since formulating and implementing market-specific procedures at a central office makes little sense, chains in diverse markets rely on decentralized decision-makers—who have the most relevant knowledge of local tastes and market conditions—to make local adaptations (Minkler, 1992). Franchised units offer the proper incentives for adaptation to these local conditions, suggesting that the mean performance benefits of adding franchised units should increase with environmental heterogeneity. Corporate unit managers, on the other hand, receive weaker incentives to engage in exploratory learning. Since uniform policies will fail to fit all conditions—eroding the performance of firms that fail to engage in sufficient exploration—the mean performance benefits of adding corporate units decrease as environmental heterogeneity increases.

Hypothesis 2: As environmental heterogeneity increases, the mean performance benefits from corporate units declines more rapidly than those from franchised units.

Learning also affects the variation of firm performance in time and space (March, 1991; Greve, 1999; Sørensen, 2001). Successful exploitation, in particular, decreases the variability of firm performance as behavior becomes routine and fewer unexpected situations develop (Levinthal and March, 1993). Chains employing corporate ownership should benefit from the stability generated by exploitation. Meanwhile, the exploration engaged in by franchisees offers highly uncertain returns. Therefore, the variation in chain performance should depend on the degree to which they use corporate ownership vs. franchising.

Hypothesis 3: In relatively homogeneous markets, increases in the number of corporate units contribute more to the reliability of performance than increases in the number of franchised units.

The reduction in variance due to exploitation assumes that chains encounter homogeneous environmental conditions. As markets become more varied, the applicability of a uniform set of routines becomes increasingly uncertain. Though risky, the uncertainty of exploration does not necessarily increase with environmental heterogeneity. Thus, the benefits of corporate ownership to stability should erode more rapidly than those that might accrue from franchised units.

Hypothesis 4: As environmental heterogeneity increases, the stability benefits from corporate units decline more rapidly than those associated with franchised units.

METHODS

Sample

We analyze a longitudinal dataset of restaurant chains in the United States. Data from Technomic (1999), a research firm specializing in the restaurant industry, provided the sampling frame and allowed us to decompose sales into corporate sales and franchisee sales. We supplemented these data with corporate-level information from the franchisers' annual reports and other public sources, such as press releases and corporate Internet sites. Our analyses cover 152 chains, observed for 972 chain-years. Most chains (126) provide 7 years of information, but some chains enter or exit the sample between 1992 and 1998 and contribute fewer chain-years of data.[3] Table 1 presents descriptive statistics for the variables used in the models.

Revenue

Sales in constant 1992 dollars[4] provide the dependent variable for the growth models. Although one could also investigate other performance measures (e.g., profits), no source compiles systematic cost data for the franchisees. Moreover, sales growth provides a particularly good measure here because franchising agreements typically maxim-

[3] Limiting the analysis to those chains present in all years does not change the results qualitatively.
[4] We adjusted the data to real dollars using the Consumer Price Index (CPI).

Table 1. Descriptive statistics

Variable	Mean	S.D.	1	2	3	4	5	6
Total chain revenue (log)	12.270	1.382	1.00					
2 Midscale restaurant	0.204	0.403	0.03	1.00				
3 Quick Service restaurant	0.563	0.496	0.17*	–0.57*	1.00			
4 Chain age	26.028	16.630	0.36*	0.05	0.19*	1.00		
5 States (log)	2.864	0.965	0.59*	–0.08*	0.11*	0.10*	1.00	
6 Company units (log)	4.072	1.838	0.61*	–0.02	0.07*	0.17*	0.29*	1.00
7 Franchised units (log)	4.467	2.224	0.65*	–0.06	0.46*	0.36*	0.49*	0.13*

Two-sided t-test: $^{*}p < 0.05$

ize franchisers' earnings when their franchisees maximize sales.

Number of units

The number of units simply counts the number of establishments of a particular type operating in a given year. Thus, the number of corporate units tallies the restaurants owned and operated by the franchiser and the number of franchise units counts the restaurants run by independent owner-operators. We log both variables to account for decreasing returns to scale.

States

The number of states in which a chain operates provides our measure of geographic dispersion (environmental heterogeneity). We log this count because the degree of heterogeneity likely exhibits decreasing marginal effects: expanding from one state to two increases heterogeneity more than expanding from 29 states to 30.

Age

Previous studies observe that growth rates often vary with organizational age. As they mature, firms may lose flexibility or fall out of touch with the market. For example, Barron, West, and Hannan (1994) find that younger organizations grow more rapidly than older ones even after controlling for firm size. On the other hand, Shane (1998b) notices that older franchisers fail less frequently. To allow flexibility in the relationship between age and performance, we include both a measure of the number of years that the franchiser has been operating and its square.

Restaurant type

We grouped restaurant chains into three categories based on the type of service provided. Quick Service corresponds to fast food restaurants, such as McDonald's (mean size = 1188 units; mean age = 27 years). To succeed, these restaurants must efficiently serve a large number of customers because they compete on convenience and price. Their menus offer limited choices and customers typically do not receive table service. The Midscale restaurant segment offers table service and a larger selection of menu items—usually middle-of-the road family fare priced higher than Quick Service offerings. Examples include Perkins and Denny's (mean size = 299; mean age = 30). Casual Dining restaurants also serve customers at the table but differentiate themselves from Midscale restaurants with more distinctive menus; contemporary examples include T.G.I. Friday's and Applebee's (mean size = 114; mean age = 17). These establishments typically enjoy larger average sales per customer, but see fewer customers in a day. Since these market segments may differ in the degree to which they offer opportunities for expansion, we control for market segment effects.

Estimation

Organization and strategy researchers often model firm growth rates to test whether organizational

and environmental characteristics predict success (e.g., Barron *et al.*, 1994). Typically, these studies assume that organizations follow 'Gibrat's law'—growing randomly at a rate proportional to their size (Ijiri and Simon, 1977)—which yields a function suitable for OLS estimation:

$$\ln(S_{i,t+1}) = \alpha \ln(S_{it}) + X_{it}B + \varepsilon_{i,t+1}$$

As our hypotheses illustrate, variance can provide additional evidence regarding the nature of organizational learning. Thus, we explicitly model the risk associated with different strategic choices—in this case ownership structures. Though not commonly used (for exceptions, see Sørensen, 2001; Fleming, 2001; Fleming and Sorenson, 2001), the econometrics literature has developed procedures for simultaneously estimating the effects of covariates on the mean and the variance. The model we use parameterizes the error term, ε, as a function of a vector of independent variables, Z, and a random term, u:

$$\varepsilon_{i,t+1} = e^{Z_{it}\Gamma} u_{i,t+1}$$

where Γ represents a vector of parameter estimates for the effects of Z on the variance. Factors that reduce risk generate negative coefficient estimates, while those that increase risk elicit positive effects on the variance. The covariates in Z may, but need not, include the same factors used to estimate the mean growth rate. This specification, known as the multiplicative heteroscedasticity or variance decomposition model, allows simultaneous estimation of the mean and variance using maximum likelihood methods (Weesie, 1998).

Since we use time series data, and our model includes the lagged dependent variable on the right hand side, autocorrelation could affect our estimation if unobserved, firm-specific effects persist over the observation period (Greene, 1997). As the multiplicative heteroscedasticity model does not offer a straightforward means of adjusting for this autocorrelation, we first investigated the need for such correction. After estimating a standard OLS version of our model and computing the residuals for each observation, we estimated the correlation between residuals at time t and $t - 1$ for each firm. The small size of this correlation suggested that autocorrelation does not substantially affect our models.

RESULTS

Table 2 presents the results of our analysis. Models 1 and 2 estimate traditional growth rate models. These models do not show substantial differences between corporate-owned units and franchised units in their effects on performance; however, they do not account adequately for the relative risk associated with these governance structures. The third model explicitly estimates the variance to account for this risk. Parameterizing the variance dramatically improves the models[5] ($\chi^2 = 442.9$, d.f. = 9). The control variables reveal two interesting patterns. First, firms grow more consistently as they age, but that consistency comes at the expense of mean growth—a result that fits with Sørensen and Stuart's (2000) contention that firms become more adept at enacting increasingly out-of-date routines as they age. Second, chains operating in more states enjoy both more rapid and more stable growth. Nevertheless, selection bias may generate this effect as expansion likely indicates success to some degree.

Hypothesis 1 maintains that corporate units should contribute more heavily than franchised units to mean growth in homogeneous environments. An initial comparison of the coefficients for these terms suggests support for this hypothesis. Increases in the number of corporate units significantly accelerate chain growth, but changes in the number of franchised units do not significantly affect growth, in homogeneous environments. However, a statistical comparison of the coefficients for corporate and franchised units reveals that the two types only differ at a marginal significance level in their effects on mean growth ($\chi^2 = 3.23$, d.f. = 1, $p < 0.08$). Thus, the data offer only modest support for Hypothesis 1.

The data support Hypothesis 2 more strongly. Whereas the interaction between the number of corporate units and geographic dispersion indicates that these units contribute less to firm growth rates as they spread spatially, the positive coefficient for the interaction between franchised units and states implies the reverse: franchised units increase mean growth more as the chain expands geographically. A chi-square test con-

[5] R^2, which only considers the model's success in predicting the mean, cannot capture improvements associated with explicitly estimating the variance. We use Haberman's (1977) chi-square to test model fit.

Table 2. Multiplicative heteroscredasiticity models of growth in total chain revenues

Variable	(1)	(2)	(3)
Effects on mean			
Lagged sales	0.919***	0.915***	0.954***
	(0.010)	(0.010)	(0.007)
Midscale restaurants	–0.064***	–0.063***	–0.028**
	(0.021)	(0.021)	(0.012)
Quick service	–0.024	–0.026	–0.017
	(0.021)	(0.021)	(0.014)
Age	–0.008***	–0.007***	–0.006***
	(0.001)	(0.001)	(0.001)
Age^2 / 1000	0.077***	0.075***	0.061***
	(0.018)	(0.019)	(0.014)
Ln (states)	0.025***	0.007	0.040**
	(0.009)	(0.019)	(0.018)
Ln (# of corporate units)	0.020***	0.022	0.032**
	(0.005)	(0.014)	(0.014)
Ln (# of corporate units) × ln (states)		–0.000	–0.007**
		(0.004)	(0.036)
Ln (# of franchised units)	0.023***	0.006	0.001
	(0.006)	(0.011)	(0.009)
Ln (# of franchised units) × ln (states)		0.006*	0.004*
		(0.003)	(0.003)
Constant	0.979***	1.068***	0.533***
	(0.084)	(0.106)	(0.086)
Effects on log variance			
Midscale restaurants			0.449***
			(0.161)
Quick service			1.314***
			(0.152)
Age			–0.125***
			(0.010)
Age^2 / 1000			1.202***
			(0.135)
Ln (states)			–0.388***
			(0.146)
Ln (# of corporate units)			–0.332***
			(0.101)
Ln (# of corporate units) × ln (states)			0.064**
			(0.030)
Ln (# of franchised units)			–0.078
			(0.087)
Ln (# of franchised units) × ln (states)			–0.022
			(0.025)
Constant			–0.266
			(0.458)
Chi-square (d.f.) improvement over Model 2			442.9 (9)***

Two-sided *t*-tests: $^{*}p < 0.10$ $^{**}p < 0.05$ $^{***}p < 0.01$

firms the statistical significance of this difference ($\chi^2 = 5.35$, d.f. = 1), providing confirmation for the idea that franchised units adapt better to varied markets.

Hypothesis 3 posits that corporate units further benefit the chain by stabilizing growth more than franchised units. We find support for this hypothesis ($\chi^2 = 3.89$, d.f. = 1). The addition of corporate units significantly stabilizes the chain's growth path, while additional franchised units

offer no such reduction in risk. Nevertheless, as argued in Hypothesis 4, the reduction in risk associated with corporate units dissipates as chains face increasingly varied environments. A chi-square test reveals that corporate units exhibit significantly greater susceptibility to dispersion than franchised units in their effects on variance in revenue growth ($\chi^2 = 4.50$, d.f. = 1).

DISCUSSION

The results provide strong support for our proposition that the choice of governance structures influences the process of organizational learning. Our findings imply that the ideal governance structure for a unit does not, as agency perspectives suggest, reduce to balancing the relative risks of free riding vs. moral hazard. Rather, the choice of governance structure affects the *types* of effort exerted by managers or franchisees. Within hierarchies, high levels of monitoring and weak profit incentives channel managers' efforts toward the refinement of existing routines. Franchisees, by contrast, more frequently adapt to environmental opportunities because they operate under stronger incentives to maximize local, long-term performance.

Consider an alternative explanation of our results that focuses solely on the steepness of incentives faced by corporate and franchised unit managers. The agency literature argues that firms franchise to avoid shirking by managers that elude effective supervision. Since the difficulty of monitoring increases with geographic distance, one might expect shirking most frequently among the managers of remote units. To prevent this shirking, firms should franchise their most far-flung units (Lafontaine and Slade, 1997). This logic generates the same expectations for mean performance: franchising should increasingly benefit mean performance as geographical dispersion increases. However, a simple incentives account cannot explain the effects of governance structures on the variation in growth paths. Differences in the level of effort expended should not necessarily change the variability of firm performance. Changes in the propensity to engage in exploratory learning as opposed to exploitation, however, offer a clear explanation of this effect.

Our results support Bradach's (1998) claim that company-owned and franchised units complement each other. This synergy stems from the different types of organizational learning that each type contributes to the chain. Chains benefit from balancing the exploitation provided by company-owned units with the exploration emanating from franchised units. Nevertheless, our paper extends Bradach's research in at least two ways. First, we provide large-scale empirical evidence of the trade-off between exploration and exploitation in a large sample of firms, complementing Bradach's qualitative analysis of four chains. Second, and more importantly, our analyses suggest that the optimal mix of corporate and franchised units depends on the geographic dispersion of the chain.

Figure 1 depicts the risk-adjusted performance expectations associated with various ownership mixes. The lines plot the ratio of the percentage change in growth rates to the percentage change in variance at different degrees of geographic dispersion. One can clearly see that the ideal mix of corporate vs. franchised units shifts with the heterogeneity of the environments encountered. Under the relatively homogeneous environments found within a single state, chains perform best when they franchise roughly 20 percent of their establishments. As they expand geographically and face ever more diverse markets, the ideal portfolio of governance structures shifts. Chains operating in all 50 states function best when they franchise around 70 percent of their units. Assuming that chains expand spatially as they age, our results conflict with the theoretical literature suggesting that franchising proves most useful early in a chain's life (Oxenfeldt and Kelley, 1969). These accounts fail to consider chains' learning needs.

Although we investigate the degree to which chains balance exploration and exploitation by

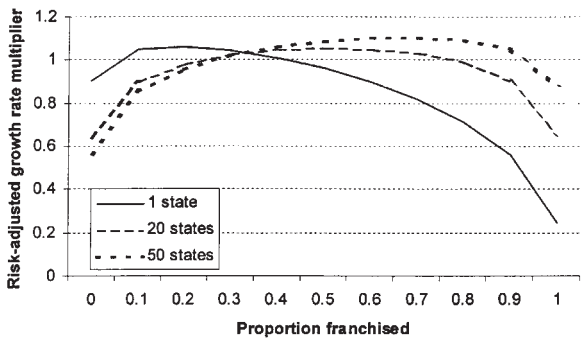

Figure 1. Expected performance (risk-adjusted) by mix and dispersion

mixing ownership structures, firms might also manage this balance by offering managers contractual agreements that lie somewhere between corporate-ownership and franchising. For example, Outback Steakhouse requires the managers of their corporate-owned units to purchase 10 percent of the equity in the establishments they operate. This part-owner/part-employee form might provide a means of motivating each individual store to engage in a mix of exploration and exploitation. Nevertheless, future research will need to assess this possibility empirically.

Our data do not come without limitations. The Technomic data likely exclude some of the smallest chains. Our sample includes only a handful of chains with fewer than 10 units. Therefore, one should exercise caution in extrapolating our results to very small chains. Also, examining revenue growth rates may bias the results in favor of franchising. To the extent that franchising mitigates capital constraints, these firms may grow faster. On the other hand, if franchisees optimize profits instead of revenues—the basis for royalties—the models may make franchising appear deceptively ineffective. If bias exists, its direction remains unclear. The alternatives—accounting measures—offer their own problems. For example, chain return on sales does not include the franchisees' profit, thereby confounding performance with the division of profits between franchisees and the chain. Still, future research might usefully examine alternative performance measures.

CONCLUSION

Our paper begins by noting that franchising—as a mechanism for helping entrepreneurs pursue the opportunities they perceive—plays an increasingly important role in the creation of entrepreneurial wealth in the U.S. economy. Maximizing the wealth created through franchising depends on successfully managing the interdependent relationship between the franchiser and the franchisees. Finding the right mix of governance structures in a chain importantly affects the success of both the franchiser and its franchisees.

Theoretically, our paper articulates a more nuanced understanding of the relationship between governance structures and firm performance by emphasizing how basic organizational design elements such as incentives and monitoring shape patterns of organizational learning. The simple agency perspectives often used to explain franchising obscure the qualitative implications of different incentive and monitoring systems for managerial behavior. Meanwhile, the organizational learning literature on exploration and exploitation delineates a trade-off between two types of learning without considering what might lead actors to engage in one at the expense of the other. Combining these perspectives generates novel predictions concerning both the mean and the variance of organizational performance. Namely, incentives lead the managers of corporate units to exploit existing routines, a path of particular value in relatively homogeneous environments. Franchisees, by contrast, engage in more exploratory behavior, which offers the greatest returns in comparatively heterogeneous environments. Under all conditions, chains that combine these two governance structures perform best, though the optimal mix of units depends on the extent of environmental heterogeneity faced by the chain.

This research also points toward potentially interesting new research topics. A learning perspective provides a useful frame for understanding both the mean and the variance of firm performance. Though our paper explicates the link between one organizational characteristic, governance, and learning, a host of features likely influences the balance between exploration and exploitation. Future research might examine how other organizational practices and procedures affect learning processes and thereby firm performance. We also hope our results encourage future researchers to pay closer attention to variation in performance. Though the finance literature has emphasized the importance of considering risk in the construction of investment portfolios, empirical research on firms generally ignores risk.

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