

Organisational form and quality, service, and cleanliness inspection scores in restaurant franchise chains: Evidence from Spain

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This study investigates how the organisational form (company ownership vs. franchising) of individual restaurants of a large Spanish restaurant company influences their inspection scores in terms of quality, service, and cleanliness (QSC). The research uses a panel data set that includes bimonthly restaurant-level data on QSC inspection scores. The aggregate data initially reveal substantial differences between company-owned and franchised restaurants. Nevertheless, after controlling for other variables, we observe that such differences are in fact minor, or even nonexistent. In addition, when we endogenise the selection of the restaurants' organisational form, the differences become statistically insignificant.

1 | INTRODUCTION

The restaurant industry is very important to the Spanish economy. According to the National Purchase Diary (NPD) market research company (NPD Group, 2017), restaurant sales in 2016 were estimated to amount to 35,131 million euros. This industry overall accounts for 3.14% of Spain's GDP and provides jobs for more than 1.17 million people. The restaurant industry is highly visible, with 76,492 outlets throughout Spain at the end of 2016. This industry's huge contribution to the economy renders it expedient to investigate the elements that help keep it strong.

Over a quarter of all Spanish restaurant sales in 2016, around 10 billion euros, corresponded to restaurant chains (NPD Group, 2017).¹ With year-on-year growth of 7.8% in 2016, these restaurants' revenue not only quadrupled that of the restaurant industry as a whole (up 2.1% in 2016 over 2015) but it also underpins the industry-wide increase in turnover in that same year. Sales of other

establishments (i.e., those that do not belong to a restaurant chain) stagnated, with a 0.3% drop in income (NPD Group, 2017).

One of management researchers' goals is to draw conclusions about the superiority of one organisational choice over another to help managers improve firm performance. This matter is very important, as whatever influences performance also affects a firm's competitiveness and long-term survival (Forbes & Lederman, 2010; Novak & Stern, 2008). It is difficult, nonetheless, to draw such conclusions because firms deliberately choose their organisational form according to what they expect to produce the best outcome in a given situation. That is, given that firms self-select the organisational choices we observe, we are unable to compare organisational forms in an experimental setting in which such choices are randomly assigned. This means empirical estimates of how important organisational choices are to firm performance are often misleading due to the endogeneity problems that arise when evaluating the effects an organisational form has on outcomes (Masten, 1993; Shaver, 1998). In fact, the different outcomes across transactions

organised in a different way in situations in which companies may freely choose how they are managed poses an enigma: If one organisational

¹Franchise chains invoiced 5.45 billion euros in 2016 (Spanish Franchise Association, 2017).

form is preferable to another, why does a company not always use that same form? Some companies repeatedly choose different organisational forms clearly on the basis of “horses for courses.” These decisions will not negatively affect firm performance; otherwise, the company would manage its transactions in a different way.

This research uses a panel data set of a large Spanish restaurant company to analyse the influence each individual restaurant's organisation has on its performance. The company, whose identity we cannot disclose for reasons of confidentiality, manages various restaurant chains and has provided us with information on two of them.² Our data involve all the restaurants in these two chains the company operates in Spain. The data provided are complete, comprising bimonthly restaurant-level figures for three typical performance indicators in the restaurant industry, namely, inspections scores involving quality, service, and cleanliness (QSC). We also know whether each restaurant is company-owned or franchised, together with its age, size, and many other details. Furthermore, we have data on the local markets in which each restaurant operates, whereby we can control for many parameters that are likely to have an impact on each one's performance. These panel data also permit correcting for the usual self-selection bias in this kind of research; that is, the likelihood that unobserved restaurant features (e.g., unobserved market peculiarities) may influence both the choice of a certain organisational form and the restaurant's performance.

The research is structured as follows. In Section 2, we debate why one might expect outcome differentials between a given chain's company-owned and franchised outlets, as well as the key issue of selection that hinders any assessment of the performance effects of organisational choice. Section 3 presents the data and describes the initial evidence on performance differentials. Section 4 presents the empirical model used and the results. Section 5 concludes.

2 | FRANCHISING AND COMPANY OWNERSHIP

Little interest has been paid to the subject of whether company boundaries empirically matter for business behaviour and other outcomes. Specifically, restaurant franchise chains may decide to operate their outlets either through their own in-house staff, who are paid a salary, or through franchisees.

There is little research to date on the question of the relative performance of the former company-owned restaurants versus the latter franchised outlets. This issue is pertinent because the incentives of hired managers and franchisees differ, potentially prompting them to apply different levels of effort that could have a bearing on their outlet's performance (Bradach, 1998; Brickley & Dark, 1987; Lafontaine, 1992; Sveum & Sykuta, June 2018).

Theories inform diverse predictions depending on the kind of behaviour or outcome of interest. The standard principal-agent model proposes that company-owned units should perform worse than their

franchised counterparts because of agency problems (Rubin, 1978). Company managers are usually paid a salary, so it is rarely possible to draw up a contract that emulates the high-powered incentives stemming from unit ownership. Due to franchisees' greater incentives, average variable costs are expected to be higher and demand lower in company-owned restaurants than in franchised establishments.

Other academics, however, have hypothesised that company units should perform better than franchised outlets because franchisors choose to open their own stores in more profitable locations, leaving franchisees to open in less lucrative sites (Chaudhuri, Chakrabarty, & Spell, 2002). Franchising may also lead to free-riding on the brand value, which might lead to lower levels of quality and, therefore, higher demand in company-owned restaurants than in franchised ones.

Economic theory predicts different performance levels according to whether the behaviour of interest is impacted more by the problem of a subpar effort (with the solution being for a franchisee to own its unit) or by the fact that franchisees seeking to maximise their profits can do so through free-riding (Brickley & Dark, 1987; Lafontaine & Shaw, 2005).

Shelton (1967) was the first to address this issue in the restaurant industry by examining the earnings of 22 restaurants that moved from franchising to company ownership or vice versa. In 19 cases, the business was less profitable under company ownership. The average profit margin for franchisee ownership was 9.5%, whereas under company management, it was only 1.8%. Shelton also found that revenues did not differ according to organisational choice, but that costs in the franchised restaurants were lower and led to higher profits. The particular design of Shelton's research constitutes its main advantage, keeping market and restaurant characteristics unchanged when the organisation of the business altered. Its main shortcoming is that the restaurants in the chain he analysed were under company management solely during transition periods, as franchising was the preferred organisational form, and company ownership was only a temporary measure at any given restaurant. Under these conditions, it is not so remarkable that franchising was a higher performance organisational form. Likewise, Shelton used accounting data that are somewhat problematic considering that franchisees, as independent entrepreneurs, may make accounting decisions to suit their own interests.

Krueger (1991) found that employees in company-owned establishments belonging to franchised fast-food chains received slightly higher wages and had to deal with somewhat steeper earning profiles than their counterparts in franchised outlets. He contended that, compared with franchisees, the lesser incentives of managers in company-owned establishments rendered it expedient to provide employees with higher ones in the form of performance-based wages and steeper earning profiles.

Additionally, Bradach (1998, 109) has concluded that both franchised and company-owned restaurants record “similar levels of uniformity.” The two chains in his sample used independent evaluators for assessing quality, with the average result being 93.9 (out of 100 points) for company-owned restaurants and 94.6 for their franchised restaurants in one case, and 90.6 and 89.7, respectively, in the other one. Nevertheless, using data on public quality ratings, Michael

²We thank this company for providing these data for analysis. The overall number of chains it manages remains confidential.

(2000) has shown that quality is positively related to company ownership, indicating that free-riding is a major issue for restaurant chains. However, Kalnins and Mayer (2004) have found almost identical failure rates for franchised and company-owned restaurants within the chains studied. Beheler, Norton, and Sen (2008) have used the scores recorded by health departments to measure quality through inspections, with franchisee-owned outlets performing better than company-owned ones. They contend that franchisees work harder and record better outcomes than company units. Nonetheless, Jin and Leslie (2009) have observed that hygiene records (a measure of cleanliness and quality) are lower among franchised outlets than corporate ones in the same restaurant chains. Finally, Sveum and Sykuta (June 2018) have studied the U.S. restaurant industry, finding that franchisee ownership has a strong and robust effect on productivity at outlet level in full-service restaurants, but not so among limited-service restaurants.

However, although existing evidence has found a diverse relationship between the use of franchising and outlet performance in restaurant chains, this direct comparison is appropriate only if outlets' organisational choices are randomly selected, yet the selection of a particular organisational form is dependent upon various factors. That is, any unobserved factors affecting the organisational choice and performance of individual restaurants will involve a self-selection bias, and misleading normative implications may be drawn from these analyses (Masten, 1993). Any unobserved heterogeneity in performance models may bias the variables used to measure the impact of a restaurant's organisational choice, as franchisors select the form of their own maximising analyses (Brickley & Dark, 1987; Rubin, 1978; Vázquez, 2007). In other words, outlets in equilibrium will reflect the most efficient organisational choices.

Based on this reasoning, this research sets out to prove that an individual restaurant's organisational form does not influence its inspection scores in terms of QSC.

3 | DATA

We use a dataset provided by a large Spanish restaurant company that includes bimonthly restaurant-level data on QSC inspection scores covering the period from January 2015 to December 2016, with a total of 12 observations for most of the 198 restaurants in our sample. The minimum number of observations per restaurant is seven, and the average number of observations per outlet is 11.24, so our panel data are reasonably well balanced. All the establishments in our sample belong to two restaurant chains operated by the company in question.

For each restaurant, we know whether it is company-owned or operated by a franchisee. We also have information on the restaurants and the chains to which they belong.

The data set contains information about each restaurant's location, so we can measure how far it is from the franchisor's headquarters (distance). When a franchise chain enters markets that are geographically far removed from its headquarters, franchisee monitoring costs

increase because the number of personnel required, and their associated travel expenses grow (Carney & Gedajlovic, 1991). Moreover, distant outlets can also lead franchise systems into unknown markets where it is more difficult to evaluate the quality of local decision-making (Minkler, 1990).

We also have data on the type of service offered (service provided). One of the restaurant chains analysed caters for fast-food, and the other provides a full service. The former has a limited product range, and customers have to collect their own orders; by contrast, the latter provides table service and a larger selection of dishes. For a given size of restaurant, a full-service outlet is more labour-intensive than a self-service one (Sveum & Sykuta, June 2018). As capital is easier to control than labour, one can expect monitoring costs to be higher in full-service restaurants than in self-service ones.

Our data also contain the number of restaurants each chain is operating in each town at the end of bimester t (density). We assume that the risk of free-riding increases when the density of outlets is high in a local market (Carney & Gedajlovic, 1991), given that the investments franchisees make in the brand name yield more spillover benefits for other franchisees in the same market.

We use a dummy variable that takes the value 1 for restaurants in popular tourist areas (tourism) and zero otherwise. In Spain, these areas are delimited by regional governments because of their popularity. A popular tourist area may be a part of a town or all of it. We assume the risk of free-riding is higher in restaurants located in these tourist areas because the bulk of their custom does not involve repeat clients (Minkler, 1990; Kidwell, Kidwell, Nygaard, & Silkoset, 2007). In other words, the fact that a "one-shot" client will probably not return to the restaurant renders it understandable that the restaurant operator will not strive to lower costs, unconcerned about whether this behaviour might influence that client's future patronage. However, such action may negatively affect the restaurant chain elsewhere.

In addition, we use information on the restaurant's age (outlet age) at the end of bimester t and restaurant size (outlet size), estimated by the number of seats at the end of bimester t . Larger restaurants have greater agent risk, not because there is more risk in the market but simply because more capital is exposed to the same level of risk. Outlet size may therefore make it more difficult to attract franchisees. In addition, monitoring costs promote company ownership among chains with large restaurants, and the marginal cost of direct observation is lower among them than among small restaurants because greater economies of scale can be achieved in monitoring with large outlets (Lafontaine, 1992).

Considering that the aim here is to investigate whether different organisational forms prompt different outcomes, we apply a trio of performance variables widely used in the restaurant industry: QSC inspection scores.

Most restaurant chains use control systems to evaluate their performance. These controls are often called QSC inspections (Blair & Lafontaine, 2006; Bradach, 1998), and they have several goals. These inspections regularly assess the operational performance of the chain's

restaurants (Kroc & Anderson, 1987; Love, 1985). They are also designed to rate outlet managers for incentives such as promotion (DiPietro, Murphy, Rivera, & Muller, 2007), regular bonus plans (Raith, 2008), and disciplinary measures (Raith, 2008; Sorenson & Sorensen, 2001).

The restaurants analysed are inspected every 2 months to rate their operational status on a scale of 0–100%. The inspection questionnaire consists of 150 items divided fairly equally across QSC. In this study, scores of 90% or higher are viewed as “exceptional”; 80–89% percent is considered “acceptable”; 70–79% is considered “critical” (requiring both an explanation and a remedial plan); and 69% or less is flagged as a “failure” (calling for immediate and major corrective action). As regards the restaurant chains analysed here, managers must score 80% or more in QSC to qualify for performance bonuses.

The research into restaurant inspections has usually been restricted to data on food safety controls involving public health departments (Harris, Murphy, DiPietro, & Rivera, 2015). Generally speaking, restaurants are inspected two or three times a year. These controls are designed to minimise or eliminate food safety risks (Reske, Jenkins, Fernandez, VanAmber, & Hedberg, 2007). QSC controls, however, are conducted by franchisors from six times a year (every 2 months) to 52 (weekly) and are conceived as indicators of restaurant performance.

The “quality” section of a typical QSC control assesses, among other aspects, compliance with food health and safety standards, the observance of the restaurant chain's food preparation procedures and recipes, and the quality of raw and prepared products. The “service” side of a QSC control evaluates, among other operational aspects, the accuracy of the orders, the friendliness of staff, the speed of the service, and the proper maintenance of service-related

equipment. Finally, the “cleanliness” side of QSC assesses operational aspects related to the internal and external hygiene of the restaurant chain, such as storage, production and food service areas, dining room, service counters, customer toilets, walk-in coolers, freezers, dry storage, inside menu boards, recycling areas, enter/exit signage, parking facilities, windows, doors, and store front.

Given that QSC inspections are conducted internally, and their results are usually kept confidential, this type of information is rarely disclosed (DiPietro, Parsa, & Gregory, 2011).

Table 1 shows descriptive statistics for all the above variables. This table treats each restaurant as a single observation. The panel is well balanced, so the descriptive statistics are largely the same regardless of whether we use a restaurant or bimester as our observation unit.

Given our interest in the effect of organisational form on restaurant performance, Table 2 compares the characteristics of company-owned and franchised restaurants, showing that QSC scores are on average higher among franchised restaurants. These differences are statistically significant.

In addition, company-owned restaurants are on average much larger than franchised outlets. The data in Table 2 also show that franchised restaurants operate in local markets tend to be at a longer way away from headquarters, and where both (a) tourism intensity and (b) the density of outlets belonging to the same chain are, on average, lower.

The patterns for these aggregate data suggest that the two organisational forms record very different performances, but simple mean comparisons do not consider the impact of market or restaurant factors or unobserved heterogeneity at restaurant level. The following section uses regression analyses for a more systematic approach to

TABLE 1 Descriptive statistics, by restaurant

Variable	Description	Mean	Standard deviation	Maximum	Minimum
Quality scores	Operational aspects related to, among others, compliance with food health and safety standards, the follow-up of the restaurant chain's food preparation procedures and recipes, and the quality of raw and prepared products	88.06	9.81	96.00	66.00
Service scores	Operational aspects such as the accuracy of the orders, the friendliness of staff, the speed of service, and the proper maintenance of service-related equipment	82.79	11.35	94.00	68.00
Cleanliness scores	Operational aspects related to the restaurants' indoor and outdoor cleanliness, such as storage, production and food service areas, dining room, customer toilets, windows, doors and store front	85.19	7.37	98.00	74.00
Company ownership	Takes value 1 for company-owned restaurants and 0 otherwise	0.75	0.44	1	0
Distance	Geographical distance between each restaurant and firm headquarters (km)	226.14	172.34	624.6	0
Service provided	Takes value 1 for full-service restaurants and 0 for fast-food outlets	0.45	0.50	1	0
Density	Number of restaurants each chain has in a local market (town)	13.63	15.59	38	1
Tourism	Takes value 1 for restaurants located in popular tourist areas and 0 otherwise	0.34	0.47	1	0
Outlet size	Number of seats in each restaurant	114.17	39.91	175	85
Outlet age	Outlet's age in years	12.62	19.54	29	1
	Number of observations	2,226			
	Number of restaurants	198			

TABLE 2 Franchised and company-owned restaurants, means (standard deviations)

	Franchised: 50 out of 198 = 25%	Company-owned: 148 out of 198 = 75%	Difference in means
Quality scores	92.26 (11.64)	86.64 (7.96)	***
Service scores	86.04 (12.43)	81.69 (9.71)	***
Cleanliness scores	90.83 (10.58)	83.28 (6.89)	***
Distance	298.69 (173.09)	201.63 (168.52)	***
Service provided	0.42 (0.50)	0.46 (0.50)	
Density	8.19 (18.96)	15.47 (12.77)	***
Tourism	0.22 (0.42)	0.38 (0.49)	***
Outlet size	102.20 (40.37)	118.21 (35.92)	***
Outlet age	12.22 (16.74)	12.76 (18.60)	

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

discover whether organisational form really causes differences in restaurant performance.

4 | METHOD AND RESULTS

The aim of this research is to study the link between organisational choice and restaurant performance outcomes, measured according to the three different QSC scores. We assume restaurant and market characteristics to influence these performance outcomes not only directly but also indirectly via their effect on organisational choice. Following the methodology used by Kosová, Lafontaine, and Perrigot (2013) in the hotel industry, we therefore begin the analysis by formulating this equation:

$$Y_{it} = \alpha + \beta_1 F_{it} + \beta_2 X_{it} + \beta_3 Z_i + \varepsilon_{it} + \mu_i$$

where i and t index restaurant and bimesters (1 to 12), respectively. Y_{it} represents the (log) of each outcome variable, that is, QCS scores. F_{it} depicts each restaurant's organisational form, where each outlet in a particular bimester can either be company-owned ($F_{it} = 1$) or franchised ($F_{it} = 0$). X_{it} stands for time-varying restaurant and market characteristics, and Z_i for time-invariant ones.

We take $\varepsilon_{it} = \mu_i + \mu_{it}$ to be a composite error term, where μ_i stands for restaurant-level unobserved heterogeneity, which for the time being we assume is not correlated with observed characteristics, and μ_{it} stands for an idiosyncratic error term. We control for restaurant-level unobserved and uncorrelated heterogeneity (μ_i) in all the empirical specifications, either by correcting standard errors for restaurant-level clusters or by relying on standard random effects (RE) model specifications. The difference between an RE specification and clustering in ordinary least squares (OLS) estimations is that the RE model accepts an "equal correlation" structure between restaurant observations, whereas clustering provides for flexible correlations. If the

"equal correlation structure" supposition is inappropriate, more robust results are provided by OLS with clustered standard errors, whereas the RE model gives more efficient estimates. Tables 3, 4, and 5 report the results from both specifications.

Additionally, we correct the standard errors for potential heteroscedasticity in both cases using the White/Huber estimator of the variance-covariance matrix. All the continuous variables are in logarithmic form in our regressions, which means the coefficient estimates can be interpreted directly as elasticities. This also caters for nonlinear relationships across variables, diminishing the potential effect of outliers or skewed regressors and thereby providing more robust coefficient estimates.

The results for the three dependent variables (i.e., QSC scores), estimated by OLS, are presented in column 1 in Tables 3, 4, and 5.

One possible problem with the OLS estimation is that even though we explicitly control for the effect that several restaurant and market characteristics have on restaurant performance, as well as for restaurant unobserved heterogeneity in the error term, some of this heterogeneity (e.g., the quality of restaurant management) might correlate with the choice of organisational form or other regressors, which means our random effects and OLS results would be biased. To tackle the problem of possible correlated unobserved restaurant heterogeneity, as well as correcting standard errors for uncorrelated restaurant heterogeneity, we control for restaurant fixed effects following Mundlak (1978), who confirms that the results from standard fixed-effects models can be obtained through random effects estimations when firm-level means of time-varying regressors are used as additional controls. Accordingly, we use these means both in RE specifications and in our standard OLS estimations; OLS specifications with clustered standard errors cater for more robust correlation structures among restaurant-level observations. We use this procedure because our main variable of interest (the organisational choice of restaurants) and many other outlet characteristics change very little in our data over time.

Columns 2 and 3 in Tables 3, 4, and 5 present the results for each one of our three dependent variables, and they are consistent with the OLS results. In all cases, we find that company-owned restaurants record lower QSC scores than franchised ones.

The results in Tables 3, 4, and 5 highlight the fact that larger restaurants tend to record lower QSC scores, with the same occurring at restaurants in popular tourist areas.

The regressions presented in Tables 3, 4, and 5 control for several observed restaurant and market parameters, together with unobserved ones whenever possible. Nevertheless our procedure may not control for all the possible causes of correlation between the idiosyncratic shock (μ_{it}) and organisational form. For instance, restaurant-specific demand shocks and other variations in unobserved restaurant-level characteristics over time will probably affect both performance and organisational form. Therefore, Table 6 shows the results obtained when we endogenise the organisational form of restaurants and estimate the performance equations through the application of an instrumental variable (IV)

TABLE 3 Restaurant organisation (treated as exogenous) and quality scores

Variable	Dependent variable = log (Quality scores)	Dependent variable = log (Quality scores)	Dependent variable = log (Quality scores)
		Controlling for restaurant fixed effects	Controlling for restaurant fixed effects
	OLS (cluster)	OLS (cluster)	RE
Company ownership	-0.038*** (0.015)	-0.040*** (0.014)	-0.041*** (0.013)
Distance	0.009 (0.027)	0.014 (0.020)	0.006 (0.016)
Service provided	0.032 (0.036)	0.026 (0.030)	0.022 (0.029)
Density	-0.003 (0.005)	-0.002 (0.006)	-0.003 (0.005)
Tourism	-0.044*** (0.019)	-0.039*** (0.013)	-0.047*** (0.012)
Outlet size	-0.002*** (0.001)	-0.002*** (0.001)	-0.001*** (0.001)
Outlet age	0.002 (0.012)	0.004 (0.008)	0.005 (0.014)
Constant	0.298*** (0.175)	0.384*** (0.141)	0.412*** (0.163)
Observations	2,226	2,226	2,226
Number of restaurants	198	198	198
R ²	0.41	0.43	0.49

Abbreviations: OLS, ordinary least squares; RE, random effects.

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

TABLE 4 Restaurant organisation (treated as exogenous) and service scores

Variable	Dependent variable = log (Service scores)	Dependent variable = log (Service scores)	Dependent variable = log (Service scores)
		Controlling for restaurant fixed effects	Controlling for restaurant fixed effects
	OLS (cluster)	OLS (cluster)	RE
Company ownership	-0.035*** (0.012)	-0.037*** (0.011)	-0.032*** (0.014)
Distance	0.004 (0.008)	0.009 (0.010)	0.014 (0.019)
Service provided	0.015 (0.017)	0.021 (0.011)	0.014 (0.026)
Density	-0.002 (0.003)	-0.001 (0.002)	-0.003 (0.005)
Tourism	-0.039*** (0.019)	-0.035*** (0.014)	-0.042*** (0.011)
Outlet size	-0.001** (0.001)	-0.001*** (0.000)	-0.002*** (0.001)
Outlet age	-0.009 (0.010)	-0.004 (0.007)	-0.013 (0.017)
Constant	0.329*** (0.187)	0.513*** (0.224)	0.480*** (0.196)
Observations	2,226	2,226	2,226
Number of restaurants	198	198	198
R ²	0.46	0.47	0.54

Abbreviations: OLS, ordinary least squares; RE, random effects.

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

methodology. The aim is to resolve the endogenous dummy issue. Heckman (1978, 1990) and Wooldridge (2002) discuss how the performance equations can be estimated by standard two-stage

least squares (or IV method) through the application of a linear probability model for the first stage.

We use distance from the franchisor's headquarters in these regressions as the instrument for the organisational form of

TABLE 5 Restaurant organisation (treated as exogenous) and cleanliness scores

Variable	Dependent variable = log (Cleanliness scores)	Dependent variable = log (Cleanliness scores)	Dependent variable = log (Cleanliness scores)
		Controlling for restaurant fixed effects	Controlling for restaurant fixed effects
	OLS (cluster)	OLS (cluster)	RE
Company ownership	-0.053*** (0.019)	-0.057*** (0.015)	-0.060*** (0.017)
Distance	0.008 (0.015)	0.018 (0.018)	0.007 (0.009)
Service provided	0.018 (0.014)	0.009 (0.011)	0.012 (0.008)
Density	-0.004 (0.007)	-0.003 (0.008)	-0.003 (0.006)
Tourism	-0.057*** (0.021)	-0.062*** (0.017)	-0.051*** (0.016)
Outlet size	-0.003*** (0.001)	-0.004*** (0.002)	-0.003*** (0.002)
Outlet age	-0.018 (0.024)	-0.007 (0.018)	-0.011 (0.013)
Constant	0.364*** (0.209)	0.305*** (0.126)	0.277*** (0.140)
Observations	2,226	2,226	2,226
Number of restaurants	198	198	198
R ²	0.38	0.41	0.45

Abbreviations: OLS, ordinary least squares; RE, random effects.

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

TABLE 6 Restaurant organisation (treated as endogenous) and quality, service, and cleanliness scores

Variable	Dependent variable = log (Quality scores)	Dependent variable = log (Service scores)	Dependent variable = log (Cleanliness scores)
Company ownership	-0.078 (0.102)	0.033 (0.071)	-0.088 (0.092)
Service provided	0.027 (0.028)	0.019 (0.012)	0.009 (0.010)
Density	-0.002 (0.004)	-0.001 (0.003)	-0.003 (0.006)
Tourism	-0.038*** (0.011)	-0.037*** (0.013)	-0.059*** (0.016)
Outlet size	-0.002*** (0.001)	-0.001*** (0.000)	-0.004*** (0.002)
Outlet age	0.004 (0.006)	-0.004 (0.006)	-0.008 (0.020)
Constant	0.463*** (0.172)	0.397*** (0.253)	0.362*** (0.159)
Observations	2,226	2,226	2,226
Number of restaurants	198	198	198

Abbreviations: OLS, ordinary least squares; RE, random effects.

*Significance level at 10%.

**Significance level at 5%.

***Significance level at 1%.

restaurants. Theoretically, this variable should influence organisational form decisions, as it modifies monitoring costs. Specifically, agency theory predicts that those restaurants closest to the franchisor's headquarters should be company-owned. Statistically, these statements are corroborated in our data: Distance from the franchisor's headquarters has both a negative and a statistically significant impact on company ownership in the first-stage regression.³ Additionally, there is no

reason to believe that this distance directly influences restaurant performance. In theory, being close to or far from the franchisor's headquarters should not affect a restaurant's QSC scores. This was also corroborated empirically in our data, as this variable had no effect when we included it directly in the performance equations (see the results in Tables 3, 4, and 5).

We control for both correlated and uncorrelated unobserved restaurant heterogeneity by presenting the results from the IV estimations, where we also control for restaurant-specific effects (using the

³The first-stage regression results are available upon request.

methodology previously used) and for correlations between observations via restaurant-level clusters.

The results in Table 6 show that once we endogenise the organisational form decision, franchised restaurants no longer record better or worse performance outcomes than company-owned restaurants, as the negative correlations between company-ownership and the QSC scores observed in Table 2 disappear. In addition, the results in Table 6 show that although the effect of company-ownership is rendered insignificant in statistical terms, the estimated coefficients for other independent variables are analogous to those shown in Tables 3, 4, and 5.

The negative differences in QSC scores for company-owned restaurants in our descriptive statistics (Table 2) were smaller after we had addressed the omitted variable bias using controls for observed and unobserved restaurant and market characteristics (Tables 3, 4, and 5), being statistically insignificant when the organisational form decision is endogenised. In other words, the differences between company-owned and franchised restaurants shown in Tables 3, 4, and 5 are not due to the choice of form per se, but instead, they reflect the remaining endogeneity bias that is probably due to the correlation between unobserved time-varying market or restaurant variables and organisational form decisions.

Although we have observations for all 12 bimesters for most of the restaurants in our sample (the average number of observations per restaurant is 11.24), there are 19 restaurants with an incomplete time series. The number of observations in some of these cases is as low as seven. We have confirmed that the presence of restaurants with very short time series does not have a bearing on the results by replicating Tables 2, 3, 4, 5, and 6 for the subsample of 179 restaurants with data for full time series.⁴ The results show that our findings are not affected by the presence or absence of this small number of restaurants.

In sum, the results confirm that organisational form differences among the outlets in our two restaurant chains do not lead to differences in the three performance measures studied. This contradicts other findings in the hospitality literature, where authors have observed differences in performance between company-owned and franchised restaurants (Beheler et al., 2008; Jin & Leslie, 2009; Krueger, 1991; Michael, 2000; Shelton, 1967; Sveum & Sykuta, June 2018). These different results may be due to the fact that the performance variables used in some of these studies (Krueger, 1991; Shelton, 1967; Sveum & Sykuta, June 2018) are different to our study's performance variables. The differences regarding the studies that have used similar performance variables to ours (Beheler et al., 2008; Jin & Leslie, 2009; Michael, 2000) may be attributable to the different methodologies used to study the differences in performance between franchised and corporate outlets.

Nevertheless, Bradach (1998) has reported similar results to our own, whereby the organisational form of restaurants does not lead to significant differences in quality. Kalnins and Mayer (2004) have also found almost identical failure rates for company-owned and

franchised restaurants within the chains they studied. In the hotel industry, Kosová et al. (2013) have also reported findings analogous to our own.

Our findings, informed by observed and unobserved market and company characteristics, show that when franchisors are free to choose how to organise their businesses, they record similar performance results across all their outlets. This is probably to be expected when a franchisor finds, for instance, that a certain company-owned restaurant's performance is below par. It could turn this situation around by operating the restaurant as a franchised outlet. Franchisors in the restaurant industry can proceed to the early discharge of franchise contracts if a franchisee underperforms. The fact there have been very few modifications in the organisational form of restaurants during the 2 years covered here indicates that the franchisor is satisfied with its results.

5 | CONCLUSIONS AND LIMITATIONS

This article uses proprietary data from a multichain restaurant company to study the impact of organisational form, specifically company ownership and franchising, on outlet-level performance measured by restaurants' QSC scores.

We have observed significant differences in the performance variables in our descriptive summaries. Without controlling for restaurant and market characteristics, the mean comparisons of these performance variables between the two organisational forms suggest poorer outcomes among company-owned restaurants compared with franchised outlets.

After controlling for restaurant and market characteristics, but before we endogenise the organisational form choice, we again observe evidence of performance differences between company-owned and franchised restaurants. Nevertheless, all these differences became statistically insignificant when the choice of the outlets' organisational form is endogenised.

One way to interpret our findings is that the restaurant franchise company in question here has carefully decided which establishments to manage directly and which to franchise. We therefore assume that restaurant franchise companies select which outlets to run in a corporate manner and which ones to franchise, whereby according to establishment and market characteristics, it achieves better results.

How restaurant franchise companies organise their establishments (company ownership vs. franchising) and what effect this has on their performance are fundamental issues in the hospitality literature. Yet we know little about the effect that these organisational form choices can have on restaurant performance. This may seem surprising given the core interest in evaluating the use of various contractual options. In fact, what ultimately matter are changes in performance: Is there a difference in performance between restaurants that are vertically integrated and those that are franchised?

Unfortunately, there are relatively few studies on the effects that the organisational form of individual restaurants have on performance, and there is a reason for this: Organisational form's effects

⁴These results are available upon request.

are difficult to identify empirically because restaurant franchise companies do not make these decisions on a random basis. Indeed, these companies choose several options based on what they expect to provide the best outcome in a given situation. Unfortunately, this also raises issues of endogeneity when evaluating the effects of organisational form.

A shortcoming here is that our empirical setting is a limited number (two) of restaurant chains belonging to a Spanish franchise company. A further limitation is the small number of performance variables and time periods studied. Our results cannot therefore be extrapolated to other restaurant franchise chains, other industries in which franchising is used, other countries, or longer-term performance measures. Given these shortcomings, further research is needed to verify whether the results observed hold more generally for other performance variables and whether our findings apply to other restaurant franchise chains, other industries, and other countries.

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