EFFECTS OF BRAND-RELATED AND MARKET SIGNALS ON FRANCHISEES' ENTREPRENEURIAL DECISIONS: A MULTI-COUNTRY PANEL DATA ANALYSIS
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**EFFECTS OF BRAND-RELATED AND MARKET SIGNALS ON FRANCHISEES'
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ANALYSIS**

Abstract. This paper analyses the influence of market and brand-related signals on franchisees' decisions when choosing a franchise brand with which to open an outlet for the first time. Panel data methodology was used to analyse a sample of 1277 chains operating in Spain, Mexico and Peru between 2004 and 2013. The results show that market signals prevail over brand-related signals. Within brand-related signals, franchisees first seek information relating to the brand's sector and then seek information relating to the brand's value. Franchisors should match the content of the signals they send to the market to the true characteristics of the franchise. Franchisors should also endeavour to ensure the country where they operate has general and franchise-specific legislation that fosters business activity by both franchisor and franchisee. The use of institutional quality as a signal in a multi-country study represents a significant contribution to the literature on franchising.

Keywords: Franchisee, entrepreneurship, signalling theory, brand quality, institutional quality, multi-country.

JEL Classification: M13.

1. Introduction

The franchise, interpreted as a form of entrepreneurship, drives economic growth (Michael 2014). Franchisors engage in entrepreneurship by developing and testing their business ideas, whilst franchisees engage in entrepreneurship (Gillis and Castrogiovanni 2012) by developing and employing the necessary tools for the business to succeed in specific markets. Whereas franchisors have been depicted as entrepreneurs in recent studies, scholars have raised doubts over the entrepreneurial nature of franchisees (Ketchen et al. 2011). The entrepreneurship literature nonetheless highlights the variety in franchisees' entrepreneurial profiles, several of which may coexist within the same chain (Grünhagen and Mittelstaedt 2005; Tuunanen and Hyrsky 2001). Accordingly, the franchise is a business model with a high probability of survival, generating economic growth by creating jobs, boosting innovation, and stimulating economic and social development (Kantis et al. 2002).

Franchise brands are chosen by individuals with entrepreneurial spirit, but this choice is riddled with market-related dilemmas that are accentuated by pre-contractual information asymmetry. In this paper, we therefore address the following question: Which brand quality and market signals provide information to potential franchisees to allow them to choose a franchise brand with which to start a business in a context of uncertainty and information asymmetry?

Specifically, this research analyses how, when choosing a franchise brand with which to start a business for the first time, the franchisee considers signals of brand quality (as an indication of the success of a proven business) and the market (as an indication of institutional quality and economic growth). The hypotheses were tested using data gathered from a database of 1277 retailing, service and hospitality franchise chains operating between 2004 and 2013 in Spain, Peru and Mexico. The franchise chains in the sample are small businesses and do not belong to investment groups. The countries were chosen because they have different levels

of development. Consequently, different motivations driving individuals to become franchisees meant that the sample encompassed different types of entrepreneurial activity (see Minniti et al. 2005 for further details). Our signalling model was dynamic (Gallini and Lutz 1992), so panel data methodology offered a suitable method for analysing franchisees' decisions regarding opening outlets over the period during which information on franchise chain quality was being revealed to potential franchisees via information signalling.

The results of the estimation of the model through the Generalised Method of Moments (GMM), which controls for unobservable heterogeneity and endogeneity, reveal that investment and royalty fees are brand quality signals used by Spanish, Mexican and Peruvian franchisees when choosing a chain with which to open an outlet for the first time. In addition, these franchisees also sought market signals such as institutional quality when deciding whether to open a franchise with a particular chain.

This research is unique and valuable for two primary reasons. First, in addition to employing signalling theory, which is still scarcely employed in franchisee decision models, we used market signals such as institutional quality and economic growth, together with quality signals, thereby confirming that institutional quality plays an important role in potential franchisees' decisions. Second, the decision model based on brand-related and market signals was simultaneously applied to three countries with different levels of economic development. This represents a significant contribution because scholars have historically paid little attention to multi-country studies (Acs and Virgill 2010; Álvarez and Urbano 2011; Lafontaine and Oxley 2004; Welsh et al. 2006).

We divide our analysis and discussion of franchisees' choice of franchise chain into five sections. Section One provides background on franchising as a form of entrepreneurship and signalling theory, establishing the theoretical framework that justifies the hypotheses tested in this study. Section Two describes the sample and the variables used to specify and estimate the model. Section Three defines the model. Section Four presents the results of the model estimation. Finally, Section Five discusses conclusions, implications, limitations and future lines of research.

2. Theoretical framework and hypotheses: Franchising and signalling theory

All franchisees seeking a franchise brand with which to start a business need information to make such a decision. The theory of signals relates to this decision-making process, especially the phase of information gathering and evaluation of alternatives (Gallini and Lutz 1992). Signalling theory posits that firms send observable signals to the market so that the market can evaluate this information about an unobservable phenomenon (Kirmani and Rao 2000), thereby facilitating the agent's decision-making process (Michael 2009). In the context of franchising, the potential franchisee encounters difficulties in gathering information about the quality of the brand and the profitability and viability of a prospective business (Polo-Redondo et al. 2011). Information asymmetries between the franchisor and the potential franchisee thus emerge (Gerhardt et al. 2013), limiting the potential franchisee's ability to make a rational choice of franchise brand (Wright and Winzar 2014). Information signals offer a means of reducing these information asymmetries, promoting rational decision making and avoiding future moral hazards.

A potential franchisee who wishes to start a business seeks a franchise system that offers an established business with minimal development and commercialisation costs and minimal operational risk (Liang et al. 2013). Accordingly, he or she chooses the brand that offers the

highest level of quality across all brands under consideration because opening a franchised outlet requires a sunk investment. The franchisee thus guarantees that the returns will be those promised by the franchisor when the contract was signed, even if the subsequent franchisor-franchisee relationship is asymmetric (Gallini and Lutz 1992).

Franchise quality is defined by the success of the proven business concept (Fernández and Melián 2005) and by brand recognition (Weaven and Frazer 2006). To gather information on the success of a proven business concept, the potential franchisee seeks signals such as royalty fees (Guilloux et al. 2004; Pénard et al. 2003). To gather information on brand recognition, the potential franchisee seeks signals such as the initial investment (Guilloux et al. 2004; Kaufman and Eroglu 1998). The size of franchise chain also acts as a signal (Dant and Grünhagen 2014) that the future franchisee seeks to gather information on both business success and brand recognition. Based on numerous studies that have analysed the brand selection criteria used by franchisees (Croonen and Brand 2015; Zachary et al. 2011), we adopted the following signals that provide private information on franchise quality: initial investment, royalty fees and size of franchise chain. We also used institutional quality and economic growth in the countries under study as market signals that provide public information. The inclusion of these factors is supported by Petrankis (2012) because the institutional environment of entrepreneurship can be used to study the forces that influence business activity at the national level. All of these factors can be considered signals because they meet the aforementioned criteria of a signal (Cornelly et al. 2011).

2.1. Signals of the franchise brand quality: initial investment, size of franchise chain and royalty fees

As long as it provides information about the true value of the brand, initial investment is a signal of the franchise brand's quality (Alon 2001; Kaufman and Eroglu 1998; Kacker et al. 2016; Yant el al. 2015). Furthermore, for the initial investment to be understood as an effective signal, the potential franchisee should seek the same information that the franchisor wishes to communicate. Based on signalling theory, Kaufman and Eroglu (1998) argue that when potential franchisees decide to become part of a chain, they must make an initial investment in the franchised outlet before they are able to operate the outlet, transmitting the brand image required by the franchisor and protecting the franchise's brand recognition. The initial investment is a specific investment with a high cost because the franchisee cannot recover the investment if the outlet fails. Potential franchisees are therefore willing to make a large initial investment as long as this amount signals the market value of the franchisor's brand. Conversely, Yant et al. (2015) state the franchisee will be unwilling to make a large investment in a brand with low value. In other words, according to Alon (2001), the potential franchisee chooses a brand with which to open a franchised outlet when he or she perceives that the initial investment reflects the efforts undertaken by the franchisor to raise the value of the brand. Kacker et al. (2016) affirm that the initial investment contributes to the quality and degree of development of a franchise brand. They also argue that the initial investment mitigates adverse selection and opportunistic behaviours by potential franchisees who view the brand as an opportunistic investment rather than as a chance to collaborate with the franchisor. Hence,

H1: *A potential franchisee's choice of franchise chain with which to start a business is positively related to the initial investment required.*

The size of franchise chain signals its quality to potential franchisees (Cyrenne 2014) because it provides information on the business history of the chain in terms of its record of openings

and closures of franchise outlets. Furthermore, the geographic spread of these outlets improves brand recognition, helping the brand establish itself in the market (Dant and Grünhagen 2014). As a result, this brand recognition positively affects the brand value, which is associated with franchise quality. Larger brands inform the franchisee about their growth because they have a higher brand value, providing the franchisee with a guarantee and a sense of assurance in the choice of brand. Hence,

H2: *A potential franchisee's choice of franchise chain with which to start a business is positively related to the size of the franchise chain.*

Signalling theory suggests that royalty fees offer a signal that reflects the value of the successfully proven business concept (Pénard et al. 2003) because they provide information regarding the number of services provided by the chain and the value of these services. Shane et al. (2006) found that brands that provided few services of little value demanded low royalty fees. Agrawal and Lal (1995) and Gallini and Lutz (1992) studied why franchisors demanded high royalty fees, finding that one reason was to signal the superiority of the business. Royalty fees thus depend on the value of the services provided, meaning that royalty fees offer a credible signal of the quality of a chain, helping attract potential franchisees (Shane et al. 2006). Tsang and Finnegan (2013), however, found that the pricing policy employed by the franchise ownership is an effective signal when information asymmetries are greatest. Thus, lower up-front fees, royalties and investment requirements mean that the potential franchisee is more likely to choose the franchise. Contrary to their hypothesis, Kacker et al. (2016) also found that high royalties negatively affect the size of the chain. Hence,

H3: *A potential franchisee's choice of franchise chain with which to start a business is positively related to the royalty fees demanded of the potential franchisee by the franchisor.*

2.2. Market signals: regulatory quality and gross domestic product

Through the structure of incentives and opportunities, the institutional framework determines the actions of different agents within society (North 2005), including economic agents such as entrepreneurs and firms. The creation and development of new businesses is affected by the rules of the game (North 1994) such as property rights, business laws, the adoption of new processes and procedures, ideas, cultural beliefs, attitudes towards entrepreneurs, and so forth. In other words, formal and informal institutions affect the creation and development of new businesses. Thus, a clear definition of the rules of the game reduces uncertainty and institutional transaction costs, making exchanges more profitable and increasing the potential number of such exchanges (Hall and Sobel 2008; Hoffman et al. 2016). Efficiently incentivising entrepreneurs and increasing certainty in the environment boost the institutional quality and production potential of an economy (Boettke and Coyne 2003).

The literature shows an increasing degree of consensus on the way that institutional quality determines entrepreneurial activity (Baumol 1990; Hall and Sobel 2008; Johnson et al. 1997; Lafontaine et al. 2016), thereby exerting a strong influence on economic development (Rodrik et al. 2005; Wennekers et al. 2005). Baumol (1990) and Johnson et al. (1997) showed how the presence of weak institutions leads employers to undertake fewer projects or focus on unproductive activities. Hall and Sobel (2008) report that differences in institutional quality help explain differences in entrepreneurial activity. In other words, institutional quality promotes the entrepreneurial process, which creates income and wealth. Nevertheless, the effect of institutional quality, represented by formal and informal institutions, on entrepreneurship varies across countries as a function of their culture and stage of development (Álvarez and Urbano 2011).

The institutional environment has cognitive, normative and regulatory dimensions (Scott 1995). The institutional environment provides stability and meaning to social behaviour, facilitating or hindering, through incentives, the exploitation of opportunities and entrepreneurship (Busenitz et al. 2000). The right institutional framework is needed to ensure productive entrepreneurial activity (Acs et al. 2008). Such institutional frameworks 'provide security of property rights, enforce contracts, stimulate entrepreneurship, foster integration in the world economy, maintain macroeconomic stability, manage risk-taking by financial intermediaries, supply social insurance and safety nets, and enhance voice and accountability' (Rodrik 2008: 100).

In the specific case of franchising, institutional quality also affects the decisions of potential franchisees (Fakos and Merino 2017; Lafontaine et al. 2016; Wiese 2017). Fakos and Merino (2017) affirm that in Mexico, a lower institutional quality means a lower number of franchised outlets, thereby reducing the likelihood that the brand develops its presence in that country. In a study of countries at different stages of development, Lafontaine et al. (2016) observed a higher perceived risk of the guarantee of investment in countries with a low institutional quality. Finally, Weise (2017) found that institutional quality is positively related to the number of franchised outlets of fast food franchises in Central America. Hence,

H4: *A potential franchisee's choice of franchise brand with which to open a franchised outlet for the first time is positively related to the institutional environment, specifically the regulatory dimension.*

In developed economies, entrepreneurial activity is expected to relate positively to economic development (Acs et al. 2008). Potential franchisees decide to open franchised outlets when they observe a high rate of economic growth in the country where they plan to invest because they infer a reduction in market uncertainty and consequently a drop in transaction costs (Hoffman et al. 2016). Numerous studies have examined the spread of franchising, but Michael (2014) provides empirical evidence of the role of the franchise in the national macro economy, finding that growth in service franchising has a significant economic effect on the growth of the service sector. If national economic growth in terms of gross domestic product (GDP) is high, potential franchisees perceive low uncertainty and feel confident to invest in a franchise system. Hence,

H5: *A potential franchisee's choice of franchise brand with which to open a franchised outlet for the first time is positively related to economic growth, specifically GDP growth.*

3 Method and variable operationalisation

The data to test the hypotheses were gathered from several sources: Tormo & Associates Consulting and Spanish Association of Franchisors, Mexican Association of Franchises, and Peruvian Chamber of Franchises and Front Consulting. Table 1 contains details of the sample for the period 2004 to 2013. We first used simple random sampling from the 2004 population of franchises in each country. Next, we maintained the sample of brands from 2004 in subsequent years and included others so that the sample was representative of the population for each year of the study period. We chose the period 2004 to 2013 to analyse the possible influence of a period of economic growth (2004–2008) and a period of economic downturn (2009–2013).

[Insert Table1]

The dependent variable *choice of chain by a franchisee* [TEADO] *starting a business for the*

first time within the franchise system reflects the franchisee's decision to start a business through franchising after seeking information signals across all chains operating in each of the three countries under study (Alon 2001; Combs and Castrogiovanni 1994; Ehrmann and Spranger 2005). This variable was measured as the percentage of new franchised outlets opened for the first time, excluding franchisees with more than one outlet. Such franchisees were considered investors. We constructed the dependent variable as follows:

$$teado2_{it} = \frac{\dfrac{teado1_{it} \times 100}{efnews_{it}}}{100}$$

$$teado1_{it} = \begin{cases} 0, & \text{if } teado_{it} <= 0 \\ teado_{it}, & \text{if } teado_{it} > 0 \end{cases}$$

The variable *efnews_{it}* referred to the number of new franchised outlets opened each year. The variable e*fnews_{it}* was calculated as follows:

$$efnews_{it} = ef_{it} - ef_{it-1}$$

Ef_{it} was the total number of franchised outlets that each franchise chain had at time *t*.

$$efnews_{it} \begin{cases} > 0 \text{ if franchised outlets were opened;} \\ < 0 \text{ if franchised outlets were closed;} \\ = 0 \text{ if franchised outlets were neither opened nor closed.} \end{cases}$$

The variable *efnews* referred to outlets opened for the first time by franchisees who started a business and the outlets of franchisees who had more than one outlet and operated as investors. Because our aim was to study entrepreneurs rather than investors, we constructed an intermediate variable, *teado_{ij}*, to yield the number of new franchised outlets opened by individuals franchising for the first time:

$$teado_{ij} = efnews_{ij} \text{ x } TEA_t$$

If $teado_{ij} <= 0$, this implied there was no entrepreneurial activity. TEA_t was the percentage of annual entrepreneurial activity in each country at time *t* between 2004 and 2013.

The *independent variables* (i.e. initial investment, size, royalty fees, regulatory quality and GDP) and *control variables* (i.e. sector, country and time) were constructed as follows:

[Insert Table 2]

We included three control variables in the model that could affect the dependent variable and that accounted for some of the exogenous risk in the franchise (Dawar and Parker 1994).

Spain, Mexico and Peru were analysed in this study because they have different levels of development. According to the FTSE Annual Country Classification Review (2015), Spain is a developed country, Mexico is an advanced emerging country and Peru is a secondary emerging country. Consequently, these countries differ not only economically, but also culturally in terms of individualism in developed countries and collectivism in emerging countries (Hofstede 1991). Baena (2012) argues that the fact that franchisees have to adopt the franchisor's rules and decisions helps explain why franchising is more prevalent in countries with low individualism. The second control variable related to the franchise's sector. All advanced economies are dominated by the service sector. In fact, the shift from a developing to a developed economy is usually accompanied by considerable growth in the service sector (Organisation for Economic Cooperation and Development 2000). Franchising in the service sector has also developed greatly. Differences between retail and service

franchises (Perrigot 2006), stemming from their product- vs. service-based nature, justifies the use of sector as a control variable. Finally, we controlled for time. Gallini and Lutz (1992) report that quality changes over time, arguing that time is required to reach a certain degree of quality, especially in the case of credibility

We calculated the descriptive statistics to analyse the nature of the variables included in the model. As illustrated by the data in Table 3, some of the variables showed biases, so we performed the necessary logarithmic transformations to eliminate these biases.

[Insert Table 3]

In addition to the univariate analysis, we performed bivariate analysis to analyse the multiple correlation amongst the independent variables and check for multicollinearity. It is impossible to check for multicollinearity by examining only the matrix of correlations (Hair 2004), so we calculated the tolerance and variance inflation factor (VIF), as per Windsperger and Dant (2006).

[Insert Table 4]

The data in Table 4 confirm that the VIF was less than 10. In no case did the values for tolerance imply that the collinearity explained more than 10% of the variance of any independent variable. We therefore found no evidence of the existence of possible multicollinearity. For each of the control variables, we constructed the accumulated dummies to avoid collinearity.

4   Empirical model: specification and estimation

Consistent with our research aims, our hypotheses and the previously described variables, we specified the following linear regression model that we estimated to analyse the relationship between the franchisee's choice of chain and the signals from the franchisor and from the market:

$$TEADO_{it} = \alpha_n + \alpha_1 [TEADO_{-1}] + \alpha_2 [INVINI_{it}] + \alpha_3 [ET_{it}] + \alpha_4 [RYT_{it}] + \alpha_5 [RQ_{jt}] + \alpha_6 [GDP_{jt}] + \eta_i + d_t + s_i + c_{i} + v_{it}, \quad (1)$$

Here, i refers to the franchise chain, j the country and t the year; η_i captures the unobservable heterogeneity or individual effect; d_t measures the time effect through the corresponding time dummy variables, controlling for the effects of the macroeconomic variables on the choice of franchise chain; s_i measures the sector effect through the corresponding dummy variables; and v_{it} captures the random effect.

The linear model in equation (1) is a dynamic linear model because we included the one-period lagged dependent variable (TEADO_1) as an explanatory variable. We included this variable as an explanatory variable because the choice by a potential franchisee in one year may be affected by the choice in the previous year.

We estimated the model using panel data methodology. Specifically, we used GMM. This method resolves two underlying econometric problems with decision models such as the present model: unobservable heterogeneity and endogeneity. These aspects have often been overlooked in research on franchise decisions yet require rigorous analysis to provide a sound understanding of such decisions. The difference GMM estimator (Arellano and Bond 1991) uses all instrumental variables, so the estimation is more efficient. By using instrumental variables (i.e. lags of the explanatory variables), the difference GMM estimator resolves the problem of endogeneity of the explanatory variables.

We performed four separate estimates of the model in equation (1). Estimate I considered

only the individual effect η_i and the random effect v_{it}. Estimate II considered the individual effect η_i, the random effect v_{it} and the sector effect s_i. Estimate III considered the individual effect η_i, the random effect v_{it}, the sector effect s_i and the country effect through the country dummy variables c_i. Lastly, estimate IV considered all the aforementioned effects, whilst also considering the time effect through the time dummy variables d_t.

We performed each estimate first with all the lagged variables, as per Arellano and Bond (1991) and then by combining each of the lagged explanatory variables with the control variables. The best results were yielded using the last three lags of the explanatory variables and the last two lags of the control variables (Table 5).

For each estimate, we checked the possibility that the proposed model was poorly specified. First, we used the Hansen J statistic, which checks the validity of the instruments by indicating the absence of correlation between the instruments and the error term ($p = 1$). Second, we used the m_2 statistic, developed by Arellano and Bond (1991), using first differences to check the absence of second-order serial correlation between the residuals. First-order serial correlation (see m_1) is due to the transformation using first differences of the model y. Hence, first-order serial correlation does not represent a problem of model specification. Third, we performed the Wald test to check the joint significance of the coefficients Z_1, sector dummy variables Z_2, country dummy variables Z_3 and time dummy variables Z_4. Finally, we tested the robustness of our results with the first-stage estimator (Sargan test). We observed that the estimate for the standard error was consistent in the presence of heteroscedasticity in the panel. Furthermore, the standard errors for small samples are biased downwards. We therefore applied Windmeijer's (2005) procedure to correct the bias of the second-stage errors. We thus obtained robust results.

5   Discussion of results

Table 5 presents the results of each of the four GMM estimates of the model shown in equation (1). Comparing estimates I and II reveals that including the sector control variable improved the validity of the instruments (see Hansen J statistic). Model II had no problems of second-order serial correlation. When we added the country effect to the GMM estimate (estimate III), the results were the same as for model II. After including the time effect in estimate IV, however, the validity of the instruments improved, without second-order serial correlation problems. Hence, sector was found to influence the choice of franchise chain by franchisees seeking to start a business for the first time. This finding is supported by the Spanish, Mexican and Peruvian franchise associations in that it confirms that the sector is a credible signal to help potential franchisees choose a brand with which to start a business. Therefore, when the time control variable is absent, the sector acts as a significant signal for potential franchisees.

[Insert Table 5]

As well as highlighting the importance of the sector, the results confirm the positive relationship between initial investment and the choice of franchise chain by potential franchisees seeking to start a business for the first time (H1) and the direct relationship between royalty fees and choice of franchise (H3). These findings are consistent with those reported by Guilloux et al. (2004) for France.

Estimate II corroborates hypotheses H4 and H5, which concerns market signals (regulatory quality and GDP). The existence of franchising legislation and economic growth in each

country positively affected franchisees' choice of chain with which to start a business for the first time. These findings are capable of explaining that when potential franchisees choose a franchise brand, the origin of the franchise is less important than legislation and economic growth (see estimate III).

The results of estimate IV confirm that the time variables captured macroeconomic effects. Including the time variables in the model cancelled out the influence of GDP on the potential franchisee's choice of franchise brand with which to open a franchised outlet for the first time. We decided to keep the time variables because, without wishing to underestimate the importance of GDP, doing so improved the model fit and showed which years exerted the greatest influence on franchisees' decisions. We found that franchisees' choice of franchise brand with which to start a business was affected by three years of economic downturn (2008, 2009 and 2013) and one year of economic growth (2006).

The results confirm that, like franchisors themselves, potential franchisees prefer regulatory quality to economic growth. These franchisees view franchising as an opportunity to become entrepreneurs. Undoubtedly, business-friendly legislation helps make franchising more attractive to franchisors in emerging markets (Yeung et al. 2016). Economic growth nonetheless creates a growing consumer market and enhances the availability of capital so that franchisees can invest in a franchised outlet. This is understandable because, despite its links with entrepreneurial activity and economic growth (Hall and Sobel 2008), a country's economic freedom depends on an institutional framework that ensures entrepreneurial activity and, more specifically, on the franchising legislation.

For all four estimates, regulatory quality was found to relate negatively to the potential franchisee's choice of franchise brand with which to open a franchised outlet for the first time. This relationship can be explained as follows: Mexico and Peru have large unofficial economies, and the potential franchisee considers bribes and other inefficient market conditions as transaction costs. Therefore, high regulatory quality means an initial decrease in the number of franchised outlets but better quality and sustainability of new franchised outlets. In Spain, the unofficial economy is smaller than it is in Mexico and Peru, but Spain is a developed country that is characterised by a high level of individualism. Therefore, potential franchisees in Spain find it more difficult to accept the rules of the game in a collaborative relationship such as franchising. This situation also means an initial decrease in the number of franchised outlets, as in Mexico and Peru, but better quality and sustainability of new franchised outlets.

Accordingly, the results for all estimates of the model lead to the rejection of hypothesis H2. Institutional quality dissuades franchisees to open a franchised outlet for the first time, which in turn affects the size of the chain (Wiese 2017). By opening a small number of franchised outlets in Peru and Mexico (the average number of outlets per brand was 10), the franchise brands were not easily recognised by potential franchisees. This lack of recognition is because the brands lack the necessary geographical visibility to achieve a high level of brand recognition that lends value to the brand. For Spain, this finding may owe to the variability in the openings and closures of outlets caused by a lack of stability over the study period, which spanned periods of economic growth and downturn. The economic crisis that afflicted the Spanish economy for several years of the study period resulted in a massive drop in consumption and heightened competition between brands, forcing franchises to close numerous franchised outlets. Accordingly, potential franchisees who wished to open an outlet of a franchise chain as a form of entrepreneurship ignored the total number of outlets of the chain as an information signal when deciding between two or more chains.

Finally, we also observed in estimate IV that although investment continued to positively affect the choice of franchise chain (H1), royalty fees no longer affected this choice (H3). The franchisee's decision in the previous period negatively affected the subsequent decision to franchise an outlet.

6 Conclusions, implications, limitations and future lines of research

Businesses started by franchisees contribute to a country's economic growth and the value of the franchisor's brand. It is therefore important for potential franchisees to choose the right brand with which to start a business. Our study helps potential franchisees do so by showing that Spanish, Mexican and Peruvian franchisees primarily sought information on the sector where the franchise brand operated. Once the sector had been chosen, the franchisees searched for information regarding the brand value, using initial investment as a guide. Yeung et al. (2016) likewise found that the reputation and image of the brand is a signal that potential franchisees use to evaluate a range of alternative brands with which to open an outlet. Royalty fees also acted as a signal for Spanish, Mexican and Peruvian franchisees between 2004 and 2013, but to a lesser degree than initial investment did. These franchisees also considered market signals such as institutional quality and the economy of the country where they wished to open an outlet, corroborating Madanoglu et al.'s (2017) findings. The theory of institutions is thus confirmed as a framework that explains franchisees' decisions, especially when studied simultaneously in countries with different degrees of economic development (Doherty et al. 2014).

A key managerial implication is that franchisors should match the content of the signals they send to the market to the reality of the franchise characteristics being signalled, whilst also matching the content of the signals to what potential franchisees perceive. The brand would thus increase its chances of being chosen and strengthen future investment driven by franchisee satisfaction. Another managerial implication is that franchisors should endeavour to ensure the country where they operate has general and franchise-specific legislation that fosters entrepreneurial activity by both franchisor and franchisee.

Finally, this study has certain limitations. The first limitation refers to the assumption of random sampling in the cross-sectional dimension. Currently, this problem is not important in corporate finance, where all firms with available information are sampled. A limitation of the sample itself relates to the lack of balance in the size of the Peruvian sub-sample with respect to the Mexican and Spanish sub-samples, which may have biased the findings of the study. This limitation is difficult to overcome because franchising in Peru is a recent phenomenon, and the Peruvian sub-sample corresponds to practically the entire population of Peruvian franchises. The solution would have been to balance the size of the sub-samples by reducing the sizes of the sub-samples for Spain and Mexico. Finally, the measures employed for each of the signals under study may have biased some of the results. To resolve this limitation, future research should consider other measures for the variables, particularly variables that were non-significant in the model. The aim of this approach would be to confirm whether this non-significance owes to the way the variable was measured or the fact that the variable simply does not act as a signal.

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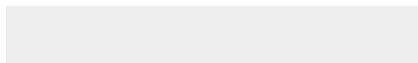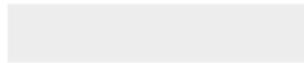
Table 1. Sample size

	Retailing	Services	Hospitality	Total
Spain	228	86	213	527
Peru	9	38	80	127
Mexico	82	325	216	623
Total	319	449	509	1277

Table 2. List of independent and control variables and description

Variable	Measure	Authors
Initial investment (INVINI)	Thousands of Euros, subtracting the initial fee (or franchise fee) required by some brands	Shane et al. 2006
Size (ET)	Total number of outlets of the chain	Thompson, 1994
Royalty fees [RYT]	% of sales that franchisees pay the franchisor annually over the period under study.	Bruton et al. 2010; Kaufman and Dant 2001
Regulatory quality (RQ)	One of the six governance dimensions constructed by the Worldwide Governance Indicators project to assess governance or institutional quality	Álvarez and Urbano 2011
Economic growth (GDP)	Interannual national GDP variation from 2004 to 2013	Welsh and Alon 2002
SECTOR	A dummy variable for each sector under study (services, retailing and hospitality). Each dummy variable took the value 1 if the franchise was from the sector corresponding to that variable, and 0 otherwise.	Shane et al. 2006 Bordonaba et al. 2011; Michael 2009; Perrigot 2006.
COUNTRY	Each dummy variable took the value 1 if the franchise was from the country corresponding to that variable, and 0 otherwise	Shane et al. 2006
YEAR	10 dummy variables, one for each year from 2004 to 2013, taking 2004 as the base year. The dummy variable took the value 1 for the period considered, and 0 otherwise.	Shane et al. 2006

Table 3. Descriptive statistics for the sample

Variable	Mean	SD	Minimum	Maximum
TEADO2	0.087	0.206	0	0.941
ET	64.863	187.218	1	915
RYLT	0.029	0.051	0	0.200
INVINI	125765.6	632500.7	908	800000
GDP	0.021	0.035	-0.060	0.098
RQ	0.680	0.409	0.160	1.330

Table 4. Tolerance and variance inflation factor (VIF)

VARIABLE	VIF	TOLERANCE (1/VIF)
LnET	1.080	0.929
RYLT	1.020	0.978
LnINVINI	1.100	0.910
PIB	1.110	0.898
RQ	1.220	0.821
Mean VIF	1.110	

Table 5. Model estimation

Variable	Estimate I	Estimate II	Estimate III	Estimate IV
TEADO_1	-0.132	-0223	-0223	-0.658***
	(0.296)	(0.217)	(0.217)	(0.001)
LnET	0.004	0.001	0.001	0.00005
	(0.945)	(0.185)	(0.185)	(0.903)
LnINVINI	0.077	5.341*	5.341*	4.330*
	(0.224)	(0.090)	(0.090)	(0.097)
RYLT	0.385	0.419*	0.419*	0.463
	(0.261)	(0.089)	(0.089)	(0.187)
PIB	-0.242***	0.419*	0.419*	-0.007
	(0.005)	(0.089)	(0.089)	(0.979)
RQ	-0.006	-0.290***	-0.290***	-0.277***
	(0.907)	(0.001)	(0.001)	(0.003)
SECTOR	----------	-0.023***	-0.023***	Eliminated 1 of 3
		(0.001)	(0.001)	
COUNTRY	---------	---------	Eliminated 1 of 3	Eliminated 1 of 3
YEAR 2006	----------	--------	----------	-0.063***
				(0.001)
YEAR 2008	----------	---------	-----------	-0.033
				(0.013)
YEAR 2009	---------	---------	-----------	-0.040
				(0.032)
YEAR 2013	--------	---------	---------	-0.032***
				(0.001)
Z_1	0.0087	0.0001	0.0001	0.0846
Z_2	-------	0.0000	0.0000	---------
Z_3	--------	-------	-------	------
Z_4	-------	--------	-------	0.000
m_1	3.88	1.67	1.67	0.51
	(0.002)	(0.094)	(0.094)	(0.098)
m_2	0.99	0.62	0.62	2.71
	(0.332)	(0.536)	(0.536)	(0.607)
Hansen J (p values)	0.118	0.128	0.128	0.220
Observations	4131	4131	4131	4131
Number of chains	915	915	915	915

Note: ***, ** and * indicate significance at 1%, 5% and 10%, respectively