

The current issue and full text archive of this journal is available on Emerald Insight at:  
<https://www.emerald.com/insight/0959-0552.htm>

IJRDM  
47,7

# Country dispersion in international franchising: system, proportion, and performance

752

Received 2 October 2018  
Revised 5 November 2018  
Accepted 28 November 2018

Alexander Rosado-Serrano  
*Department of Economic and Administrative Sciences,  
Inter-American University of Puerto Rico, Rio Piedras, Puerto Rico, USA and  
Graduate School of Business Administration,  
University of Puerto Rico, Rio Piedras, Puerto Rico, USA, and*  
Teresa Longobardi and Justin Paul  
*University of Puerto Rico, Rio Piedras, Puerto Rico, USA*

## Abstract

**Purpose** – The purpose of this paper is to examine whether operating countries influence restaurant franchising system performance and what would be an optimal international franchise proportion.

**Design/methodology/approach** – The authors observed ten publicly traded franchise firms that operated between 1995 and 2015. Data analysis is conducted through a generalized linear model (GLM) of panel data.

**Findings** – The model confirms a curvilinear U-shaped relationship between international franchise expansion and firm performance, similar to domestic franchising. The authors found that international franchisors have a higher optimal franchise proportion than domestic franchisors. The authors did not find that operating countries influence firm performance.

**Originality/value** – This study contributes to franchising literature by expanding limited empirical studies on international franchising. It provides practitioners with a new optimal franchise proportion at the international level.

**Keywords** Profitability, Franchising

**Paper type** Research paper

The publisher of the International Journal of Retail and Distribution Management is issuing an Expression of Concern for the following article Rosado-Serrano, A. (2019), "Country dispersion in international franchising: system, proportion, and performance", published in the International Journal of Retail & Distribution Management, Vol. 47 No. 7, pp. 752-771, to inform readers that credible concerns have been raised regarding the authorship of this paper. An investigation is ongoing and is currently unresolved. Further information will be provided by International Journal of Retail and Distribution Management as it becomes available.

Authors would like to acknowledge the comments received from Dr Rosarito Sanchez, which have helped the authors to improve the quality of the manuscript.

**Corrigendum:** It has come to the attention of the publisher that the article Rosado-Serrano, A. (2019), "Country dispersion in international franchising: system, proportion, and performance", published in the *International Journal of Retail & Distribution Management*, Vol. 47 No. 7, pp. 752-771, did not include Dr Teresa Longobardi and Dr Justin Paul as co-authors of the work. In addition, a number of edits have been made to the body of the paper to correct the description of table III, and to correct an error in table III. The current value provided for the variable DEBT on the first line under ROE is -0.54, whereas the correct value is -0.0012966.

The author recognises the contributions made by Dr Teresa Longobardi and Dr Justin Paul, and sincerely apologises for this mistake. The author guidelines of the *International Journal of Retail & Distribution Management* make it clear that anyone who has made a significant contribution to an article should be included as an author. Dr Teresa Longobardi and Dr Justin Paul have now been added as second and third co-author's to the article respectively, and the errors in the body of the article have now been corrected in the online version.



## 1. Introduction

According to Madanoglu *et al.* (2017), “Franchising is a unique collaborative model of entry with lower embedded risk (due to limited needed investment by the franchisor) and high level of contractual control (through a prescribed business format)” (p. 29). Many studies, institutions and resources have been allocated to research the economic impact of franchises in the USA (IFA, 2014a, b, c). Franchising strategy has been extensively used for international market entry (Czinkota and Ronkainen, 2010; Cavusgil *et al.*, 2008; Peng, 2009; Rosado-Serrano *et al.*, 2018; Rosado-Serrano and Paul, 2018). Journal articles, theses and books have explored international franchising through the lens of entrepreneurship (Combs *et al.*, 2011; Grewal *et al.*, 2011; Meek *et al.*, 2011), marketing (Aydin and Kacker, 1990; Eroglu, 1992; Huszagh *et al.*, 1992), international business (Contractor and Kundu, 1998; Erramilli *et al.*, 2002) and the service industry (Altinay, 2004; Alon *et al.*, 2012; Bradach, 1997; Brookes, 2014; Hsu and Jang, 2009; Sun and Lee, 2013; Song *et al.*, 2017). The study of international franchising is of utmost importance to service industries such as restaurants, hotels (Piot-Lepetit *et al.*, 2014) and retail (Bordonaba-Juste *et al.*, 2009; Doherty, 2007). Firms within the service industry are very interested in the strategic consequences of their financial performance and survival (Chang and Rosenzweig, 2001; Baena, 2009).

International franchisors require more resources to operate than domestic franchisors (Alon and McKee, 1999). In addition to the challenge of resource allocation, international franchisors are subject to complicated relationships with their foreign partners (Alon *et al.*, 2012). McDonald’s and Yum! Brands (two of the best-known international franchisors) operate their franchise systems in over 100 countries. Given that international franchisors face complex decisions over the appropriate allocation of their scarce resources and relationships with their agents, we will underpin our investigation on resource scarcity (Alon and McKee, 1999) and agency theories (Alon *et al.*, 2012). The resource scarcity theory implies that a company’s owned outlets will perform better when their financial constraints are reduced, and agency theories suggest that franchising should be a preferred form of the organization throughout the life of the retail chain because of various potential advantages (Baena and Cerviño, 2014). According to this theory, a firm adopts a franchising strategy when it lacks the financial, human or information resources that are necessary for its growth (Dant *et al.*, 1996; Kaufmann and Dant, 1996; Oxenfeldt and Kelly, 1969; Hsu and Jang, 2009; Roh, 2002). Franchising provides an opportunity for companies to acquire low-cost resources and increase their market share (Laurie, 1995) with less use of debt or equity financing (Roh, 2002).

Research scholars have used Tobin’s  $q$  (García-García *et al.*, 2017; Hsu and Jang, 2009; Koh *et al.*, 2009) to account for present and future growth potential and accounting measures and return on equity (ROE) (Hsu and Jang, 2009; Koh *et al.*, 2009) and return on assets (ROA) (Hsu and Jang, 2009) to account for profitability. García-García *et al.* (2017) explored the degree of foreign expansion of Spanish firms using only Tobin’s  $q$  as their dependent variable. Albeit this, there is limited knowledge of how foreign dispersion affects profitability and growth potential in restaurant franchise firms. Rosado-Serrano *et al.* (2018) indicate that there is limited knowledge about the role of dispersion and network complexity in international franchising performance, thus suggesting new research should explore dispersion and performance.

The purpose of this study is to examine whether the expansion of a restaurant franchise system into more countries is a better performance measure instead of other resources such as total assets. By following this approach, we aim to provide a new perspective that departs from the traditional analysis of performance analysis based on limited resources. Besides, we aim to determine an optimal international franchise proportion using the traditional resource-based perspective and our dispersed network perspective. We will use the following two questions to guide our investigation:

*RQ1.* How does franchise system expansion affect firm profitability and intangible value?

*RQ2.* How does country dispersion affect firm performance and profitability?

To provide an easy comprehension of this research, we have structured this chapter as follows. In Section 2, we summarize the latest empirical research in international franchise expansion and identify salient constructs, methods used, their outcome and limitations.

In Section 3, we describe the methodology used to expand our knowledge of the internationalization of restaurant franchises. We investigate publicly traded restaurant franchises between 1995 and 2015 using data provided by the Compustat database. By doing so, we fill the gap left by previous studies, which only explore the phenomena based on Bond's franchise guide 2001–2008 (Alon *et al.*, 2012; Ni and Alon, 2010; Hsu and Jang, 2009) or until 2010 (Sun and Lee, 2013).

In Section 4, we discuss our results to determine if operating countries is a better performance measure than utilizing a resource-based view (RBV) perspective to examine franchisors' system performance, and what would be an optimal international franchise proportion. In Section 5, we present our conclusion, and in the last section, we discuss the limitations of this project and directions for future research.

## 2. Literature review

### 2.1 Geographic dispersion

Before reviewing international franchising literature, we must explore geographic dispersion literature in trade studies and its possible application in international franchising. Geographic dispersion in trade has been used by different industries to identify their ideal physical location. Geographic identification system (GIS) software combines digital mapping with crucial location data that depicts trading area characteristics such as population, demographics, data and customer purchases. Researchers have used gravity models to describe how consumers flow between different shopping malls, patients between hospitals and many more examples (Berman and Evans, 2010). The concept of bilateral distance is the main characteristic of the gravity models, and measurement issues related to distance are critical to the validity of any empirical application (Bergeijk and Brakman, 2010). In natural sciences, distance is well defined, and its measurement is very exact. Conversely, the economic distance can have varying interpretations because it includes additional non-economic factors such as cultural differences, differences in religion and language (dis)similarities, among others. These different interpretations leave scholars unconvinced due to the ambivalent theoretical point of view; nevertheless, it is considered a useful empirical tool (Bergeijk and Brakman, 2010). Gravity models in the base form are used to determine the respective distance between two countries that could be a useful tool for preparing a case analysis for a firm.

After reviewing the gravity and spatial models, we found that they require detailed location information for all the franchised industry units including other relevant operating data. Franchise systems have grown to be complex systems of participants, and not all the operating information is available on public websites. Due to this limitation, we will focus on performing an analysis based on the publicly available information.

Other notions of distance that have been used on franchising are cultural and institutional distance (Rosado-Serrano *et al.*, 2018; Baena and Cerviño, 2014). Cultural distance has been used to explore prior knowledge in the partner selection process and the different country/market selection. Institutional distance considers regulatory, political and social environment and its influence on the decision and governance mode of entry on franchise network. Both notions of distance are useful when exploring international partner selection and performance, yet our analysis is focused toward the amount of operating countries and its effect on the system.

We have found several studies that attempt to explain optimal franchise system proportions (Hsu and Jang, 2009), franchise expansion (Alon *et al.*, 2012; Hoffman *et al.*, 2016; Ni and Alon, 2010; Perrigot *et al.*, 2013; Rondán-Cataluña *et al.*, 2012), speed of internationalization (García-García *et al.*, 2017), degree of franchising (DOF) (Koh *et al.*, 2009) and degree of internationalization (Sun and Lee, 2013), while other studies focused on intangible value (García-García *et al.*, 2017). In the Appendix section of this paper, we summarize studies and their findings of franchise internationalization and performance.

### *2.2 Theoretical foundations*

Rosado-Serrano *et al.* (2018) found that most of the studies on international franchising were underpinned on three theoretical perspectives: agency theory, transaction cost theory and RBV. Agency theory, which is sometimes called “principal-agent theory,” proposes that an agency relationship exists between the franchisor and the franchise (Alon *et al.*, 2012). Franchisors depend on franchisees to reduce organizational costs and to achieve these goals (Ni and Alon, 2010). Transaction cost theory (Williamson, 1975) considers firms as efficient agents, and for that effort, they transfer activities in which they are not efficient to third parties (Coase, 1937). The decision of whether to internalize or to outsource each process is based on costs (Baena and Cerviño, 2014; Hennart, 2000). Thus, this has been used for the decision of whether to expand through franchising or by using company-owned outlets. RBV suggests that firms engage in franchising to capitalize on rare and valuable resources, to locate scarce resources such as capital and labor, and to expand in a shorter timeframe (Alon and McKee, 1999). When firms engage with foreign franchises, they have access to local know-how, capital and other inimitable resources domestic franchisors do not have or that are too expensive to acquire. To underpin our analysis, we will use agency and RBV theories for our first hypothesis and transaction cost theory for our second hypothesis. We feel these three theoretical approaches can be fruitful for our analysis of an optimal international franchise proportion from the perspective of asset utilization and the decision to be geographically dispersed with more franchise outlets than company-owned outlets.

### *2.3 Performance analysis on international franchising*

The international franchise association (IFA) prepares detailed reports on franchises that operate in mainland USA based on USA congressional districts. These reports, although comprehensive, only provide information about US domestic franchising. Hoffman *et al.* (2016) used IFA Smartbrief announcements as a source of data for their analysis, focusing on how many units were planned to be opened in a particular country. Studies that focused on the restaurant industry have used SIC code 5812 (Hsu and Jang, 2009; Sun and Lee, 2013) to draw financial information from Compustat (Hsu and Jang, 2009; Sun and Lee, 2013; Koh *et al.*, 2009). We decided to use the Compustat database (which is published by Standard and Poor) because of its reliability and coverage of data from 65,000 firms, and because it goes back 40 or 50 years (Investopedia, 2018). Some of the studies have used Bond’s Franchise Guide 2001–2008 (Alon *et al.*, 2012; Ni and Alon, 2010; Hsu and Jang, 2009) to draw financial and system size information, while another group of studies has used companies’ 10-K reports to the Securities and Exchange Commission (SEC) (Hsu and Jang, 2009; Koh *et al.*, 2009; Sun and Lee, 2013).

Authors have used different measures to account for profitability, such as ROA (Hsu and Jang, 2009), ROE (Hsu and Jang, 2009; Koh *et al.*, 2009) and intangible value (García-García *et al.*, 2017; Hsu and Jang, 2009; Koh *et al.*, 2009; Sun and Lee, 2013). Another measure found in franchising studies that have been used as the control or independent variable is size. This has been interpreted either as total assets (García-García *et al.*, 2017; Hsu and Jang, 2009; Sun and Lee, 2013; Koh *et al.*, 2009; Song *et al.*, 2017) or as size of network (Perrigot *et al.*, 2013; Mariz-Pérez and García-Alvarez, 2009). Franchise proportion has been measured as franchise

outlets divided by total outlets (Alon *et al.*, 2012; Hsu and Jang, 2009; Ni and Alon, 2010). Dispersion of franchise systems has only been empirically explored from the US perspective by the number of states in which the firm operates (Alon *et al.*, 2012; Ni and Alon, 2010) and from the perspective of the minimum required population in Spain (Rondán-Cataluña *et al.*, 2012). Based on our review, there has not been another variation of its use. Another measure used to calculate franchise system expansion is operating countries. García-García *et al.* (2017) used countries entered divided by years elapsed since first entry to calculate the speed of internationalization. Perrigot *et al.* (2013) used a country variable as a dummy for a two-country comparison. We have found insufficient evidence of studies attempting to explore how operating countries affects the international franchise network.

We have found that prior studies conclude there exists a curvilinear, inverted U-shaped relationship between Tobin's  $q$  (García-García *et al.*, 2017; Koh *et al.*, 2009; Hsu and Jang, 2009; Rhou and Koh, 2014) and the degree of internationalization (Sun and Lee, 2013; Rhou and Koh, 2014), ROE (Koh *et al.*, 2009; Hsu and Jang, 2009) and ROA (Hsu and Jang, 2009). These findings are based on the reasoning that a combination of company-owned outlets and franchise outlets will reduce agency costs and accelerate growth by overcoming resource constraints. Under this assumption, if a firm has all its units franchised is not in a better financial position because it will lose the synergy provided by the right mix of company-owned/franchised outlets. Thus, suggesting that a non-linear relationship presumption exists between franchise proportion and the franchisors' profitability and intangible value. As a firm's proportion of franchised outlets increases, its profitability and intangible value should improve, but at a certain proportion, the profitability and intangible value might begin to decrease.

#### *2.4 Hypothesis development*

Mixed results on the analysis of the degree of internationalization had led researchers to consider that there is a possibility of a non-linear relationship between internationalization and firms' performance (Rhou and Koh, 2014). In the Appendix section, we present a summary of 12 empirical studies on international franchising expansion and dispersion. Prior results suggest there is an inverted U-shaped relationship. García-García *et al.* (2017) found such a relationship between the speed of internationalization and long-term performance. Koh *et al.* (2009) examined franchising as a diversification strategy and found there is a more quadratic/inverted U-shaped relationship between the DOF and its performance. Hsu and Jang (2009) found an inverted U-shaped relationship between large domestic US franchisors and firm profitability and intangible value. Despite this effort, scholars have not come to an agreement on an optimal international franchise proportion and firm performance and intangible value (García-García *et al.*, 2017; Hoffman *et al.*, 2016; Rhou and Koh, 2014; Sun and Lee, 2013; Perrigot *et al.*, 2013; Alon *et al.*, 2012; Baena, 2012; Rondán-Cataluña *et al.*, 2012; Ni and Alon, 2010; Mariz-Pérez and García-Álvarez, 2009; Koh *et al.*, 2009; Hsu and Jang, 2009). Among the unanswered questions regarding franchise proportion and firm performance, none of prior studies consider the effects of the US recession (financial bubble), which not only affected this country but also had effects on international markets. Because most of the restaurant firms listed on the stock market are US based, future studies should consider the effects of the mortgage crisis on international franchisors.

Based on previous findings and the theoretical underpinning of agency and resource-based theories, we hypothesize there is a curvilinear relationship between international franchise proportion and profitability and intangible value, suggesting the existence of an optimal franchise proportion level to achieve the highest profitability and intangible value of restaurant franchisor firms that operate internationally:

- H1.* There is a non-linear relationship between international franchise proportion, profitability and intangible value.

Baena (2012) explored the spread of franchising across emerging nations from the perspective of Spanish franchisors. Hoffman *et al.* (2016) explored the number of planned units in a particular country to predict a favorable business climate. Perrigot *et al.* (2013) used a country variable to distinguish a study between French and US franchise networks. Based on previous findings and the theoretical underpinning of agency and transaction cost theories we hypothesize that international franchise proportion, performance and intangible value can be better explained if we include operating countries instead of total assets:

- H2. There is a non-linear relationship between country, international franchise proportion, profitability and intangible value.

### 3. Methodology

Many studies exploring international franchising (Alon *et al.*, 2012; Boulay, 2010; Koh *et al.*, 2009; Hsu and Jang, 2009; Hoffman *et al.*, 2016; Ni and Alon, 2010; Perrigot *et al.*, 2013; Tikoo, 2005) used regression analysis. For our investigation, we opted to use a generalized linear model (GLM). GLM is a flexible generalization of ordinary linear regression that can handle variables that are not normally distributed (Chapman and McDonnell, 2015). This means it can fit models for many different distributions using a single and consistent framework that relates to the response variable via a link function (Dobson, 2008). The sample we obtained consisted of publicly held restaurant firms that have maintained similar ownership type for a constant period of 21 years between 1995 and 2015. For our selection criteria, we used a mixed-method approach for selecting the observed firms (Hsu and Jang, 2009; Koh *et al.*, 2009; Sun and Lee, 2013). We verified the completeness of information on the financial ratios from the Compustat database (WRDS, 2017), IFA member list companies, and the operating countries' information and the amount of franchise outlets and total outlets from each firm's 10-K reports to the SEC. For our financial data, we used the Center for Research in Security Prices' (CRSP) database, which is merged with the Compustat database (WRDS, 2017). Our initial draw from the CRSP/Compustat database on March 2017 came up with a list of 109 firms. For this research, we eliminated firms such as Burger King, because for a few years they were not publicly-held companies. After further review, we kept only those firms that had franchise outlets during the observed period. Because of these strict criteria, many firms were eliminated from our sample because they started franchising after 1997 or converted all of their units to company owned. The remaining firms were franchising domestically and/or internationally. We included firms in a period where they might be only domestic because at a later date they might be internationally, and we wanted to observe if there were any effects when they started operating in more than one country. Our final sample consists of ten firms that were trading publicly between 1995 and 2015 and whose financial information was complete in the CRSP/Compustat database (WRDS, 2017). Our sample comprises 210 observations: ten groups with 21 observations of domestic and international franchise firms. The dependent variables used are ROA and ROE. We calculate ROA by dividing net income by average total assets. We calculate ROE by dividing net income by average stockholders' equity. ROA and ROE are used to measure profitability. To measure intangible value, we used Tobin's q. This measure is used to signify the stock market's perception of the value of a firm's present and future income and growth potential (Montgomery and Wernerfelt, 1988).

The formula to be used for Tobin's q is:

$$\text{Tobin's } q = \frac{\text{MVE} + \text{PS} + \text{DEBT}}{\text{TA}},$$

where MVE=(share price) × (number of common stocks outstanding); PS=book value of the firm's preferred stock; debt=(short-term liability – short-term assets) + (book value of inventories) + (book value of long-term debt); and TA=book value of total assets. All the values for ROA, ROE and Tobin's q were drawn from the CRSP/Compustat database (WRDS, 2017).

**Table I.**  
Measurement of  
variables

Variables	Description
ROA	Net income/average total assets (%)
ROE	Net income/average stockholder's equity (%)
Tobin's q (Tob)	(MVE+PE+ DEBT)/TA (ratio)
Franchise Proportion (Fran_proportion)	Franchise outlets/total outlets (%)
Advertising ratio (ADV)	Advertising expenditure/ total assets (ratio)
DEBT	Total debt/total equity
Firm size (SIZE)	Total Assets (million USD)
After 2008	Dummy variable: after 2008=1 if YEAR>=2008 after 2008=0 if after 2008
Countries	Operating countries (constant)

For the independent variables, we used franchise proportion, countries, size, debt and “after 2008” (see Table I). Franchise proportion is computed as the ratio of franchise outlets to a total number of outlets. When a firm does not have franchise outlets, this ratio will be 0 (zero), and if they are fully franchised, the ratio is 1 (one). This ratio increases as the amount of franchise outlets increase. The decision on is franchised relies on managers, as agents of the firm and underpinned on agency theory. In our sample, all firms had franchise outlets in most of the observed years. There are some instances when the firm started and for a few years did not have any franchised outlets. For country dispersion, we used the firms' operating countries. The decision to expand to more countries relies on managers decision on the perceived benefits and costs as is suggested by transaction cost and agency theories. We drew this information from their annual reports because it is not reported in the CRSP/Compustat database (WRDS, 2017).

Other independent variables used for control are size, ADV, debt and “after 2008.” Size is measured as total assets. Ben-Zion and Shalit (1975) indicated that large firms tend to exploit economies of scale; this allows larger firms to perform more cost-effective than smaller firms that are consistent with the resource-based theory of firms performing better when they have access to more resources. Advertising expenditure (ADV) affects the profitability and intangible value. Greater use of this expense could influence them in a positive or negative manner. We operationalize this control variable as advertising expenditure over total assets. For financial leverage we will use  $a = \text{debt}$ . We define debt as total debt divided by total assets. Debt and size values were drawn from the CRSP/Compustat database (WRDS, 2017); we had to calculate advertising with values drawn from the CRSP/Compustat database because this data is not directly provided. Similarly, we added a variable called “after 2008” to account for the recession that occurred during 2007–2009 (Malshe and Agarwal, 2015). It assigns a value of 1 if year is 2008 and over; if it less than 2008, it gives a value of 0. Table I shows the measurement of our variables.

#### 4. Statistical analysis

Previous empirical studies about franchise systems have used different regression models. Sun and Lee (2013) used generalized least squares to explore franchise system performance. Koh *et al.* (2009) used pooled regression analysis to explore the DOF. Hsu and Jang (2009) used multivariate regression analysis to explore an optimal franchise proportion. For our analysis, we used a GLM and the statistical software Stata v14.2 (Statacorp LLC, 2015) to test *H1* and *H2*. GLM models are appropriate in the absence of a normal distribution, but one that is bi-modal or skewed, among other characteristics. By using GLM, there is no need to transform the response to create a normal distribution such as would be needed in ordinary least squares (OLS) regression and then convert them back. GLM is appropriate when we seek to explain a ratio variable, such as franchise proportion (franchise outlets/total outlets). Linear regression models would ignore the zero lower bound, and would not consider the firm's franchising proportion during the observed period. By using Stata v14.2 (Statacorp LLC, 2015), we fit our

GLM model's within-panel correlation (Statacorp LLC, 2018) and model the correlation that exists in our international franchisor firm panel.

In *H1*, we hypothesize that there is a curvilinear (non-linear) relationship between the ratio of franchise outlets/total outlets and profitability (ROA, ROE) and its tangible value (Tobin's q). To test *H1*, we used the following three models:

$$ROA_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 ADV_{it} + \beta_3 Fran_{proportion_{it}} + \beta_4 Fran_{proportion_{it}}^2 + \beta_5 DEBT_{it} + \beta_6 after\ 2008_{it} + \alpha n + u_{it},$$

$$ROE_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 ADV_{it} + \beta_3 Fran_{proportion_{it}} + \beta_4 Fran_{proportion_{it}}^2 + \beta_5 DEBT_{it} + \beta_6 after\ 2008_{it} + \alpha n + u_{it},$$

$$Tob_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 ADV_{it} + \beta_3 Fran_{proportion_{it}} + \beta_4 Fran_{proportion_{it}}^2 + \beta_5 ROA_{it} + \beta_6 DEBT_{it} + \beta_7 after\ 2008_{it} + \alpha n + u_{it}.$$

In our analysis, we aim to explore if there is a relationship between our independent and dependent variables within a particular firm. Each firm may have different characteristics, and we are interested in observing how ROA, ROE and Tobin's q are affected. We used the link(log) function to express the transformation to be applied to the dependent variable and VCE (cluster firm). We clustered by the firm as a control measure.

For *H2*, we introduced a country variable and eliminated size variable. We aim to explore if there is an effect on performance and profitability if these franchisors are more dispersed, by including their operating countries instead of the number of total assets each franchisor has. To test *H2*, we used the following three models:

$$ROA_{it} = \beta_0 + \beta_1 ADV_{it} + \beta_2 Fran_{proportion_{it}} + \beta_3 Fran_{proportion_{it}}^2 + \beta_4 Countries_{it} + \beta_5 DEBT_{it} + \beta_6 after\ 2008_{it} + \alpha n + u_{it},$$

$$ROE_{it} = \beta_0 + \beta_1 ADV_{it} + \beta_2 Fran_{proportion_{it}} + \beta_3 Fran_{proportion_{it}}^2 + \beta_4 Countries_{it} + \beta_5 DEBT_{it} + \beta_6 after\ 2008_{it} + \alpha n + u_{it},$$

$$Tob_{it} = \beta_0 + \beta_1 ADV_{it} + \beta_2 Fran_{proportion_{it}} + \beta_3 Fran_{proportion_{it}}^2 + \beta_4 Countries_{it} + \beta_5 ROA_{it} + \beta_6 DEBT_{it} + \beta_7 after\ 2008_{it} + \alpha n + u_{it}.$$

## 5. Results

### 5.1 Descriptive information

Table II shows the descriptive information about the variables used in this study. First, it is important to notice that several of our variables do not follow a normal distribution. Debt, Tobin's q, size, ADV and "Fran Outlets," which is used to create franchise proportion, are right skewed; ROA is left-skewed; ROE has a normal distribution; "Fran\_proportion2" is trimodal. Because of this variability, we used GLM for our statistical analysis to address the non-normality issue. We found that ROA had a 12 percent mean value in our sample and ROE was 33 percent. Our findings on these two variables coincide with a pattern shown by Hsu and Jang (2009) of franchise firms having more than double percentage ROE than ROA. It is important to disclose that our model might present some similarities to Hsu and Jang's (2009) investigation about an optimal franchise proportion, but our findings cannot be compared directly because they included in their study non-franchised firms, focused on domestic franchising, large franchisors and a timeline from 1996–2005. Our study utilizes different sample with small and large public franchisors. Our mean debt statistic of 3.57 is slightly

**Table II.**  
Descriptive statistics

	DEBT	ROE	ROA	Tob	SIZE	ADV
Mean	3.57	0.33	0.12	2.67	5,236	0.053
Minimum	-12.47	-0.72	-0.37	0.68	25	0.002
Maximum	80.73	2.35	0.24	7.31	37,938	0.136
SD	8.53	0.40	0.05	1.19	8,345	0.032
Median	1.13	0.20	0.11	2.18	1,439	0.049
	Fran outlets	Total outlets	Countries	Fran_ proportion		
Mean	6,469	9,954	37	0.587		
Minimum	25	173	1	0.014		
Maximum	32,969	42,692	125	0.98		
SD	9,039	12,578	42	0.30		
Median	1,651	2,572	12	0.73		

higher than that of Hsu and Jang (2009) who observed the period between 1996 and 2005. Because our study encompasses from 1995 to 2015, it could be inferred that firms in this industry maintained a stable debt proportion after the 2008 recession. Tobin's q for our sample is 2.67; this indicates that the firms' stocks are more expensive than the replacement costs of their assets, therefore firms in our sample are overvalued. This coincides with our mean value of 5,234 (million US\$) for size (total assets). It should be a concern for investors in the distribution of these assets (intangible, operating, receivables, etc.). Hsu and Jang (2009) found a mean value of 1,136 (million US\$) for size, which indicates that firms have increased their total assets. Our advertising expenditure (ADV) is 0.053, which is lower than the 0.07 calculated by Hsu and Jang (2009). Similarly, our mean values of 6,469 for franchise outlets (Fran Outlets), 9,954 of total outlets and 59 percent of franchise proportion are higher than in previous studies. It can be said that franchisors have expanded significantly in all aspects (network size and complexity) during the years following 2009. We found that firms in this sample operate in an average of 37 countries.

Although these findings indicate an increase and expansion in the franchise restaurant firm industry, we wanted to find out the median values of our sample because these show us where our data divide. Although there are no references to this descriptive from our literature review, we found it to be fascinating due to the skew that is shown in our data. Selected median values are 1.13 for debt (3.57 mean), 20 percent for ROE (33 percent mean), 1,439 for size (5,236 mean), 1,651 for franchise outlets (6949 mean), 2,576 for total outlets (9954 mean), 12 for countries (37 mean) and 73 percent franchise proportion (59 percent mean). These findings indicate a possible interval window of typical values between the upper bound of the median and the lower bound of the mean.

### 5.2 Statistical findings

Table III shows all three models selected. We found statistical significance at  $p$ -values of 0.1, 0.05 and 0.01. We found that size (with a test statistic of 3.64) has a positive relationship with ROA with a  $p$ -value  $<0.01$ , which can be explained as the systematic increase in total assets from firms engaging in international restaurant franchising. Similarly, we found a negative ( $-2.06$ ) significant relationship with debt. Franchise proportion has a positive relationship (2.90) with  $p < 0.01$ , and franchise proportion squared ( $-2.44$ ) has a negative relationship with  $p < 0.05$ , which indicates that there is an optimal U-shaped relationship due to the negative outcome of the squared term. We found that ADV had a significant positive relationship (2.25). For ROE, we found that ADV (2.19) had a positive relationship  $p < 0.05$ . We introduced a new variable, "after 2008," to account for the 2007–2009 recession period, and we found (3.05) that there is positive statistical significance at  $p < 0.01$  with ROE, from which we can infer that during and after 2008, stockholders received more return from operations. For Tobin's q we found favorable statistical significance of  $p < 0.1$  for "after 2008" (1.70), indicating a high

market value for these firms, which, compared with our calculated Tobin q mean of 2.67, continues to indicate an overvalued industry and that the period after 2008 was positive for these international franchisors. The three models indicate a positive sign at franchise proportion and negative sign at franchise proportion squared, which reinforces an optimal franchise proportion hypothesis or a U-shape inverted form. To calculate our optimal franchise proportion, we derived each model concerning franchise proportion and franchise proportion squared and used both coefficients to estimate the international franchise proportion. The calculated estimates for the ROA model were of 62 percent, ROE of 59 percent and Tobin's q of 40 percent. Our results present a higher franchise proportion than that calculated by Hsu and Jang (2009) for US domestic franchising in which ROA was 44 percent, ROE 46 percent, and Tobin's q was 37 percent, which explained by the growth and expansion of the restaurant franchise industry. Therefore, we retain our *H1* and conclude that there exists a non-linear relationship between international franchise proportion, profitability and intangible value. Our results indicate that all the three models can be used to estimate profitability, intangible value and optimal franchise proportion.

For the effects of the country variable on ROA, ROE, and Tobin's q, we review the results from Table IV. We found statistical significance of country with ROA (3.88) at  $p < 0.01$ , but no significance for "after 2008." Analysis for ROE and Tobin's q did present significance with "after 2008," but none with countries. It could be said that "after 2008" is sensitive to ROE and Tob q due to their exposure to financial markets and mainly the US Market that was significantly affected with the mortgage crisis of 2008. Significant enough was ADV (3.00) with ROE at  $p < 0.01$ . Consistent with findings in Table III, the three models indicate a negative sign of franchise proportion squared. There is a lack of significance, however, which indicates that there is no evidence of an inverted U-shaped relationship (and consequently no optimal

Variable	ROA	ROE	Tob
	Z-value/coefficient/ $p >  z $	Z-value/coefficient/ $p >  z $	Z-value/coefficient/ $p >  z $
DEBT	-2.06 (-0.0044618**) 0.039	-0.54 (-0.0012966) 0.589	-0.77 (-0.0009181) 0.444
SIZE	3.64 (0.0000149***) 0.00	0.91 (9.45e-06) 0.364	-2.33 (-0.0000107**) 0.020
ADV	2.25 (3.493378**) 0.024	2.19 (8.796967**) 0.028	-0.99 (-2.196599) 0.321
After 2008	0.96 (0.1145099) 0.338	3.05 (0.5499059***) 0.002	1.70 (0.1613764*) 0.089
Fran_proportion	2.90 (1.471198***) 0.004	1.08 (4.154195) 0.280	2.02 (0.8798908**) 0.044
Fran_proportion2	-2.44 (-1.177784**) 0.040	-1.06 (-3.549841) 0.287	-2.12 (-1.095143**) 0.024
ROA			7.11 (6.621178***) 0.000
_cons	-22.55 (-2.859041***) 0.00	-3.12 (-2.899637***) 0.002	0.63 (0.2040862) 0.527

Notes: \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

**Table III.**  
Effects of franchise proportion on ROA, ROE and Tobin's q

Variable	ROA	ROE	Tob
	Z-value/coefficient/ $p >  z $	Z-value/coefficient/ $p >  z $	Z-value/coefficient/ $p >  z $
DEBT	-2.52 (-0.0069729**) 0.012	3.90 (0.0285046***) 0.000	-0.69 (-0.000579) 0.488
ADV	1.28 (2.083631) 0.202	3.00 (6.81757***) 0.003	-0.60 (-1.294001) 0.546
After 2008	1.04 (0.117024) 0.297	-8.56 (-29.43901***) 0.000	1.89 (0.1627544*) 0.059
Fran_proportion	1.81 (0.9001994*) 0.071	0.65 (1.399352) 0.518	1.67 (0.9172747*) 0.095
Fran_proportion2	-1.38 (-0.7026437) 0.166	-0.33 (-0.9263982) 0.744	-1.72 (-1.088462*) 0.085
countries	3.88 (0.0036113***) 0.000	1.04 (0.0058014) 0.300	-0.80 (-0.0013291) 0.421
ROA			6.43 (6.48972***) 0.000
_cons	-19.99 (-2.700351***) 0.000	-6.92 (-2.611944***) 0.000	0.46 (0.1389002) 0.645

Notes: \* $p < 0.1$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

**Table IV.**  
Effects of Country on ROA, ROE and Tobin's q

franchise proportion). It appears that introducing the countries variable has misspecified the models. This is apparent when we look back to compare the results to those in the previous set of models; the signs of many of the coefficients are now incoherent. For instance, in the ROE model, after 2008 now has a large negative coefficient when it should be positive. Since the three models indicate a negative sign for the coefficient of franchise proportion squared, and attributing the lack of significance to misspecification, we can compute the optimal franchise proportion based on the coefficient estimates and get 64% for ROA, 76% for ROE and 42% Tobin's q. Comparing these results to the previous set of models, the most robust of the three is that for Tobin's q measure of intangible value indicating a significant optimal franchise proportion of about 60%. We can also synthesize our findings for an optimal franchise proportion of about 60% to achieve profitability as measured by ROA and ROE. In summary, our results indicate that operating countries does not contribute to the model in a significant way that helps determine an optimal franchise proportion and so we reject H2.

## 6. Discussion

In this paper, we first aimed to investigate the performance of restaurant franchise systems through the lens of operating countries and other resources such as total assets. Second, we aim to determine an optimal international restaurant franchise proportion. The findings presented in Section 5.2 provide answers to the two research questions we sought to address. Our first research question aimed to investigate how franchise system expansion affects firm profitability through an analysis of dependent variables ROA and ROE and intangible value through Tob' q. Findings revealed in Table III show that franchise system expansion reaches a peak point. We found that franchise proportion variable and its squared term indicate that expansion does influence firm profitability and intangible value, and at a certain level of expansion, performance and intangible value start to diminish. These findings indicate a U-Shaped relationship between performance, intangible value and system expansion. In addition, we found that total assets a franchise firm has does influence in the franchise system expansion; which is consistent with RBV theoretical perspective. Because the measure of total assets includes the variation of tangible and intangible assets, we propose that future studies should explore the effect of intangible assets in the system expansion.

Our second research question aimed to investigate how does country dispersion of the franchise network affects firm profitability and intangible value. Similarly, as *RQ1*, our dependent variables were ROA, ROE and Tob q. For this analysis, we did not consider the total assets the firm had, and we focused on how many operating countries the franchise system has expanded. Findings revealed in Table IV show that the number of operating countries is not a predictor of franchise system performance and intangible value. Like findings shown in Table III, the franchise system expansion is effective until a certain point, where it starts to erode following a U-Shaped pattern. Because the measure of operating countries does not consider the concentration of the franchise system in each country, we propose that future studies should explore how concentration in each country affects the system performance and intangible value.

## 7. Recommendations

Findings from our research questions led us to suggest the following propositions for future studies on international franchise system expansion and performance. First, many use total assets as dependent or independent variables without exploring intangible and tangible assets separately. We recommend that scholars consider investigating assets independently and consider that international franchisors might incur in translation errors in asset valuation and control for that issue. Second, we recommend that future studies investigate how a high concentration of a franchise system in one country might influence the system expansion and performance.

## 8. Conclusion

Our study focused on the factors that determine restaurant firms' propensity to internationalize through franchising and the relationship between the number of operating countries each franchisor expands. Concurrent with previous studies, our findings confirm that international franchising affects firm performance. Overall, our results showed that restaurant firms choosing to expand internationally through franchising might have advantages over firms that are pursuing growth through company-owned outlets. These results are similar to those of previous studies on franchise internationalization (García-García *et al.*, 2017; Sun and Lee, 2013; Rondán-Cataluña *et al.*, 2012) and franchise proportion (Hsu and Jang, 2009). We found that all three variables (ROA, ROE and Tobin's *q*) are useful for explaining international franchise profitability, franchise proportion and intangible value. Likewise, we found that country dispersion can be used to estimate firm performance, intangible value and international franchise proportion, which provides scholars with a new and fresh perspective for analysis that departs from the widely used resource-based theory. Similarly, we also coincided with previous studies, and conclude that there exists an optimal U-shaped franchise proportion, suggesting the importance of such analyses for managers to determine their optimal international franchise system proportion.

This study provides a richness of information about franchise firms that is important both for management and for scholars interested in franchising. Because our data cover the period from 1995 to 2015, we found patterns of rapid country expansion for several firms during the first decade of observation. Also in this sample, there were newborn firms that followed this rapid and exponential growth, which suggests that the growth of several of these firms maintained a plateau after a period of exponential expansion. From our descriptive information, we found that international franchisors maintained an average franchise proportion of 59 percent. We found that the optimal franchise proportion should be around 62 percent if we use ROA, 59 percent for ROE and 40 percent for Tobin's *q* when we use total assets as an independent variable. Moreover, we found when we use countries, as an independent variable the optimal franchise proportion should be around 64 percent if we use ROA, 76 percent for ROE and 42 percent for Tobin's *q*. These results suggest that international franchisors may have room to improve their performance by increasing their franchise proportion. We suggest that further studies should explore how a higher franchise proportion affects performance.

## 9. Limitations and directions for future research

There are limitations to the current research. First, we selected only restaurant public firms that had not changed from private equity to public during the 1995–2015 period and that were engaging in franchising and our sample was of ten firms. By such strict criteria, we might overlook that private owned firms might have better financial performance than their public counterparts, limit the generalizability of our findings and only be useful for other restaurant studies. Second, our sample included all the operating segments of the observed firms; there could be a difference in their valuation methods for current assets and liabilities. Firms that have assets and revenues in foreign currency might incur in translation errors and they might be overlooked when reinstating their financial statements. Third, our sample included variables that were not normal. This could have limited the explanatory power of our analysis. Fourth, our study only focused on the restaurant industry. By restricting our study to the restaurant industry, we excluded hospitality, educational and other service industries, which also have a high economic impact. We suggest future studies should compare our statistics with other industries to identify similarities or trends at a global perspective. Fifth, our model does not distinguish the amount of income derived from foreign operations, creating a void in the comparison between domestic and regional analysis. Sixth, our model does not address the effects of distance and concentration of geographic dispersion of each unit per host country. Finally, we did not consider franchise operating years or years' operating internationally. This could have shown any difference in performance as the firms enter foreign markets, in addition to exploring how mature the firm

might be in respects with others in the industry. Nevertheless, we believe that investigating the optimal franchise proportion continues to be a relevant research topic in restaurant franchising and other franchising industries, and should be considered in further studies. Future research should explore in greater depth how relational contracting affects international franchise system performance from the perspective of the franchisor and franchisee.

### 10. Managerial and academic implications

Our paper provides useful insights for managers when they are deciding on which markets they want to expand their franchise networks. When they base their rationale on asset utilization, an optimal franchise proportion should be around 62 to 64 percent based on ROA, but for ROE, an optimal proportion should be around 59 to 76 percent. We feel these findings will help practitioners consider there is room for expansion over their average 59 percent franchise proportion found from the sample mean. This would only be useful in firms where managers focus is based on return rather than unforeseen opportunities. In addition, other issues that might affect the managers decision process is a bias on the market selection process based on a relationship with franchisees (Bradach, 1997) or relationship satisfaction and performance (Ghantous and Das, 2018) that is not considered on our model. Furthermore, our paper provides new fresh insights for academics to consider. Because we did calculate an optimal international franchise proportion without considering total assets, our findings could help scholars explore franchise system performance without referring to the traditional resource-based perspective. In addition, there are unanswered questions regarding network concentration, institutional and cultural distance. We feel scholars should explore these questions in future research.

### References

- Alon, I. and McKee, D. (1999), "Towards a macro environmental model of international franchising", *Multinational Business Review*, Vol. 7 No. 1, pp. 76-82.
- Alon, I., Ni, L. and Wang, Y. (2012), "Examining the determinants of hotel chain expansion through international franchising", *International Journal of Hospitality Management*, Vol. 31 No. 2, pp. 379-386.
- Altinay, L. (2004), "Implementing international franchising: the role of intrapreneurship", *International Journal of Service Industry Management*, Vol. 15 No. 5, pp. 426-443.
- Aydin, N. and Kacker, M. (1990), "International outlook for US-based franchisors", *International Marketing Review*, Vol. 7 No. 2, pp. 43-53.
- Baena, V. (2009), "Modelling global franchising in emerging markets: an entry mode analysis", *Journal of East West Business*, Vol. 15 Nos 3-4, pp. 164-188.
- Baena, V. (2012), "Market conditions driving international franchising in emerging countries", *International Journal of Emerging Markets*, Vol. 7 No. 1, pp. 49-71.
- Baena, V. and Cerviño, J. (2014), "International franchising decision-making: a model for country choice", *Latin American Business Review*, Vol. 15 No. 1, pp. 13-43.
- Ben-Zion, U. and Shalit, S. (1975), "Size, leverage, and dividend record as determinants of equity risk", *The Journal of Finance*, Vol. 30 No. 4, pp. 1015-1026.
- Bergeijk, P.A. and Brakman, S. (2010), *The Gravity Model in International Trade*, Cambridge University Press, Cambridge.
- Berman, B. and Evans, J.R. (2010), *Retail Management A strategic Approach*, 11th ed., Prentice Hall, Upper Saddle River, NJ.
- Bordonaba-Juste, V., Lucia-Palacios, L. and Polo-Redondo, Y. (2009), "Franchise firm entry time influence on long-term survival", *International Journal of Retail & Distribution Management*, Vol. 37 No. 2, pp. 106-125.
- Boulay, J. (2010), "The role of contract, information systems and norms in the governance of franchise systems", *International Journal of Retail & Distribution Management*, Vol. 39 No. 9, pp. 662-676.

- Bradach, J.L. (1997), "Using the plural form in the management of restaurant chains", *Administrative Science Quarterly*, Vol. 1, pp. 276-303.
- Brookes, M. (2014), "The dynamics and evolution of knowledge transfer in international master franchise agreements", *International Journal of Hospitality Management*, Vol. 36, pp. 52-52.
- Cavusgil, S., Knight, G. and Riesenberger, J. (2008), *International Business: Strategy, Management, and the New Realities*, Pearson Prentice Hall, Upper Saddle River, NJ.
- Chang, S.J. and Rosenzweig, P. (2001), "The choice of entry mode in sequential foreign direct investment", *Strategic Management Journal*, Vol. 22 No. 8, pp. 747-776.
- Chapman, C. and McDonnell, E. (2015), *R for Marketing Research and Analytics*, Springer.
- Coase, R.H. (1937), "The nature of the firm", *Economica*, Vol. 4 No. 16, pp. 386-405.
- Combs, J.G., Ketchen, D.J. and Short, J.C. (2011), "Franchising research: major milestones, new directions, and its future within entrepreneurship", *Entrepreneurship: Theory and Practice*, Vol. 35 No. 3, pp. 413-425.
- Contractor, F.J. and Kundu, S.K. (1998), "Franchising versus company-run operations: modal choice in the multinational hotel sector", *Journal of International Marketing*, Vol. 6 No. 2, pp. 28-53.
- Czinkota, M. and Ronkainen, I. (2010), *International Marketing 10e*, South-Western Cengage Learning, Mason, IA.
- Dant, R.P., Paswan, A.K. and Kaufmann, P.J. (1996), "What we know about ownership redirection in franchising: a meta-analysis", *Journal of Retailing*, Vol. 72 No. 4, pp. 429-444.
- Dobson, A.J. (2008), *An Introduction to Generalized Linear Models*, 3rd ed., Chapman & Hall, Boca Raton, FL.
- Doherty, A.M. (2007), "Support mechanisms in international retail franchise networks", *International Journal of Retail & Distribution Management*, Vol. 35 No. 10, pp. 781-802.
- Eroglu, S. (1992), "The internationalization process of franchising systems: A conceptual model", *International Marketing Review*, Vol. 9 No. 5, pp. 19-30.
- Erramilli, K.M., Agarwal, S. and Dev, C.S. (2002), "Choice between non-equity entry modes: an organizational capability perspective", *Journal of International Business Studies*, Vol. 33 No. 2, pp. 223-242.
- García-García, R., García-Canal, E. and Guillén, M.F. (2017), "Rapid internationalization and long-term performance: the knowledge link", *Journal of World Business*, Vol. 52 No. 1, pp. 97-110.
- Ghantous, N. and Das, S.S. (2018), "International Franchising and performance: a resource-based perspective", *International Journal of Retail & Distribution Management*, Vol. 46 No. 8, pp. 744-763.
- Grewal, D., Iyer, G.R., Javalgi, R.R.G. and Radulovich, L. (2011), "Franchise partnership and international expansion: a conceptual framework and research propositions", *Entrepreneurship: Theory and Practice*, Vol. 35 No. 3, pp. 533-557.
- Hennart, J.-F. (2000), "Transaction cost theory and international business", *Journal of Retailing*, Vol. 86 No. 3, pp. 257-269.
- Hoffman, R.C., Munemo, J. and Watson, S. (2016), "International Franchise expansion: the role of institutions", *Journal of International Management*, Vol. 22 No. 2, pp. 101-114.
- Hsu, L.-T.J. and Jang, S.S. (2009), "Effects of restaurant franchising: does an optimal franchise proportion exist?", *International Journal of Hospitality Management*, Vol. 28 No. 2, pp. 204-211.
- Huszagh, S.M., Huszagh, F.W. and McIntyre, F.Z.S. (1992), "International Franchising in the context of competitive strategy and theory of the firm", *International Marketing Review*, Vol. 9 No. 5, pp. 5-18.
- IFA (2014a), *Economic Impact of Franchised Business*, Washington, DC, p. 3, International Franchise Association (IFA), Franchise.org, September, available at: [www.franchise.org/uploadedFiles/Prospective\\_Franchisee/News/EconomicImpact11.pdf](http://www.franchise.org/uploadedFiles/Prospective_Franchisee/News/EconomicImpact11.pdf)
- IFA (2014b), *Franchise Business Economic Outlook 2014*, Washington, DC, International Franchise Association, Franchise.Org, May 30, available at: [www.franchise.org/uploadedFiles/Franchise\\_Business\\_Outlook\\_September\\_2014.doc](http://www.franchise.org/uploadedFiles/Franchise_Business_Outlook_September_2014.doc)

- IFA (2014c), *March. Small Business Lending Matrix and Analysis: The Impact of the Credit Crisis on the Franchise Sector*, Washington, DC, p. 6, International Franchise Association, Franchise.org, available at: [http://emarket.franchise.org/SBLM\\_Vol6.pdf](http://emarket.franchise.org/SBLM_Vol6.pdf)
- Investopedia (2018), "Definition of "compustat", available at: [www.investopedia.com/terms/c/compustat.asp](http://www.investopedia.com/terms/c/compustat.asp) (accessed April 5, 2018).
- Kaufmann, P.J. and Dant, R.P. (1996), "Multi-unit franchising: growth and management issues", *Journal of Business Venturing*, Vol. 11 No. 5, pp. 343-358.
- Koh, Y., Lee, S. and Soyoungh, B. (2009), "Does franchising help restaurant firm value?", *International Journal of Hospitality Management*, Vol. 28 No. 2, pp. 289-296.
- Laurie, C. (1995), "Multiplying your success", *Franchising World*, Vol. 27, pp. 20-26.
- Madanoglu, M., Alon, I. and Shoham, A. (2017), "Push and pull factors in international franchising", *International Marketing Review*, Vol. 34 No. 1, pp. 29-45.
- Malshe, A. and Agarwal, M.K. (2015), "From finance to marketing: the impact of financial leverage on customer satisfaction", *Journal of Marketing*, Vol. 79 No. 5, pp. 21-38.
- Mariz-Pérez, R. and García-Álvarez, T. (2009), "The internationalization strategy of Spanish indigenous franchised chains: a resource-based view", *Journal of Small Business Management*, Vol. 47 No. 4, pp. 514-530.
- Meek, W.R., Davis-Sramek, B., Baucus, M.S. and Germain, R. (2011), "Commitment in Franchising: the role of collaborative communication and a Franchisee's propensity to leave", *Entrepreneurship: Theory and Practice*, Vol. 35 No. 3, pp. 559-581.
- Montgomery, C. and Wernerfelt, B. (1988), "Diversification, Ricardian rents, and Tobin's q", *RAND Journal of Economics*, Vol. 19, pp. 623-632.
- Ni, L. and Alon, I. (2010), "US-based fast-food restaurants: factors influencing the international expansion of franchise systems", *Journal of Marketing Channels*, Vol. 17 No. 4, pp. 339-359.
- Oxenfeldt, A.R. and Kelly, A.O. (1969), "Will successful franchise systems ultimately become wholly-owned chains?", *Journal of Retailing*, Vol. 44, pp. 69-83.
- Peng, M.W. (2009), *Global Business*, South-Western Cengage Learning, Mason, IA.
- Perrigot, R., López-Fernández, B. and Eroglu, S. (2013), "Intangible resources and plural form as drivers of franchise internationalization: examination within a two-country perspective", *Journal of Small Business Management*, Vol. 51 No. 4, pp. 557-577.
- Piot-Lepetit, I., Perrigot, R. and Cliquet, G. (2014), "Organizational form and efficiency of franchise chains", *International Journal of Retail & Distribution Management*, Vol. 42 No. 7, pp. 671-684.
- Rhou, Y. and Koh, Y. (2014), "International expansion of US full-service restaurants: positive and increasing effects on financial performance", *International Journal of Hospitality Management*, Vol. 39, pp. 41-49.
- Roh, Y. (2002), "Size, growth rate and risk sharing as the determinants of propensity to franchise in chain restaurants", *International Journal of Hospitality Management*, Vol. 21, pp. 43-56.
- Rondán-Cataluña, F.J., Navarro-García, A., Díez-De Castro, E.C. and Rodríguez-Rad, C.J. (2012), "Reasons for the expansion in franchising: is it all said?", *The Service Industries Journal*, Vol. 32 No. 6, pp. 861-882.
- Rosado-Serrano, A. and Paul, J. (2018), "A new conceptual model for international franchising", *International Journal of Hospitality Management*, Vol. 16, pp. 179-188, available at: <https://doi.org/10.1016/j.ijhm.2018.05.024>
- Rosado-Serrano, A., Paul, J. and Dikova, D. (2018), "International Franchising: a review and research Agenda", *Journal of Business Research*, Vol. 85, pp. 238-257.
- Song, S., Park, S. and Lee, S. (2017), "Impacts of geographic diversification on restaurants firms' risk: domestic vs. international diversification", *International Journal of Hospitality Management*, Vol. 61, pp. 107-118.

- Statacorp LLC (2015), "STATA(Version 14.2)(Software)", available at: [www.stata.com](http://www.stata.com) (accessed March 30, 2018).
- Statacorp LLC (2018), "Generalized estimating equations", available at: [www.stata.com/features/generalized-estimating-equations/](http://www.stata.com/features/generalized-estimating-equations/) (accessed March 30, 2018).
- Sun, K.A. and Lee, S. (2013), "Determinants of degree of internationalization for US restaurant firms", *International Journal of Hospitality Management*, Vol. 33, pp. 465-474.
- Tikoo, S. (2005), "Franchisor use of influence and conflict in a business format franchise system", *International Journal of Retail & Distribution Management*, Vol. 33 No. 5, pp. 329-342.
- WRDS (2017), "CRSP (Center for Research of Security Prices)", Wharton Research Data Services, available at: <https://wrds-web.wharton.upenn.edu/wrds/> (accessed March 22, 2017).
- Williamson, O.E. (1975), *Markets and Hierarchies: Analysis and Antitrust Implications*, Free Press, New York, NY.

### Further reading

- Baena, V. and Cerviño, J. (2011), "Identifying the factors driving market selection in Latin America. an insight from the Spanish franchise industry", *Procedia Social and Behavioral Sciences*, Vol. 24, pp. 340-350.
- Boulay, J., Caemmerer, H., Evanschitzky, H. and Duniach, K. (2016), "Growth, uniformity, local responsiveness, and system-wide adaptation in multiunit franchising", *Journal of Small Business Management*, Vol. 54 No. 4, pp. 1193-1205.
- Brickley, J.A., Dark, F.H. and Welsbach, M.S. (1991), "An agency perspective on franchising", *Financial Management*, Vol. 20, pp. 27-35.
- Burger King Worldwide, INC (2014), Burger King 10-K Report 2013 to the SEC, *Business Week*, February 21, p. 32, available at: <http://investing.businessweek.com/research/stocks/financials/drawFiling.asp?docKey=136-000119312514061827-6CQRNE39LP0866IV9TMCIJ9STA&docFormat=HTM&formType=10-K>
- Combs, J.G. and Ketchen, D. (1999), "Can capital scarcity help agency theory explain franchising? Revisiting the capital scarcity hypothesis", *Academy of Management Journal*, Vol. 42 No. 2, pp. 196-207.
- Hill, C.W. (2011), *International Business : Competing in the Global Marketplace 8E*, McGraw-Hill Irwin, New York, NY.
- Kogut, B. and Singh, H. (1998), "The effect of national culture on the choice of entry mode", *Journal of International Business Studies*, Vol. 19 No. 3, pp. 411-432.
- Lafontaine, F. and Kaufmann, P.J. (1994), "The evolution of ownership patterns in franchise system", *Journal of Retailing*, Vol. 70, pp. 97-113.
- Norton, S. (1988), "The empirical look at franchising as an organizational form", *Journal of Business*, Vol. 61, pp. 197-218.
- Roh, E.Y. and Choi, K. (2010), "Efficiency comparison of multiple brands within the same franchiseL data envelopment analysis approach", *International Journal of Hospitality Management*, Vol. 29, pp. 92-98.
- Sen, K.C. (1998), "The use of franchising as a growth strategy by US restaurant franchisors", *Journal of Consumer Marketing*, Vol. 15 No. 4, pp. 397-407.
- Yum! Brands, Inc. (2014), "Financial report for year 2013", Retrieved from Yum! Brands, October 5, available at: [www.yum.com/annualreport/](http://www.yum.com/annualreport/)

### Corresponding author

Alexander Rosado-Serrano can be contacted at: [alrosado@arecibo.inter.edu](mailto:alrosado@arecibo.inter.edu); [alexander.rosado@upr.edu](mailto:alexander.rosado@upr.edu)

Appendix

**Table A1.**  
Empirical studies in  
international  
franchising expansion  
and dispersion

Author	Method	Limitations	Data source	Firms and observations	Methodological Issues	Independent variables	Control variables	Dependent variables	Findings/optimal proportion
García-García, García-García, Canal and Guillen (2017)	Heckman two-step estimation method Mills ratio GLS regression on second stage Hausman test for random effects	Lack of access to primary data Data restrictions limited Only Spanish Firms	120 Spanish-listed firms 1986-2010 Spain Stock Exchange	Stage 1: 1434 observation and 117 firms Stage 2: 913 observation and 73 firms	Did not use accounting measures (ROA, ROIC, ROS) because it only captures short-term performance. Used only Tobin's q	Speed of Internationalization = countries entered/years elapsed since first entry	Continuous year SIZE Technological Knowledge Leverage Firm age Sales growth ratio Ownership structure CEO Tenure Board member's international education/experience Product Diversification Corporate Tax rates Good governance Financial crisis No. international units Lodging Retail Trend Real GDP per capita	Tobin's q	There is an inverted U-Shape relationship between the speed of internationalization and long-term performance Technological advantage steepens relationship; diversity of prior experience flattens it
Hoffman, Munemo and Watson (2016)	Panel regression and model	Results may be biased toward large public relations staff of IFA which publish good announcements from their members	US franchise firms International Franchise Association announcements 2006-2011 Coding with respect of the country, number of units opened, date of expansion, mode of entry and reasons cited for expansion Lodging 26%, Restaurants 39% and retail 18%	101 announcements	First test used stratified by year random samples Problem with controlling for franchise ratio	Voice and Accountability Political Stability and Absence of Violence Government Effectiveness Regulatory Quality Rule of Law Control of Corruption Communication infrastructure	Franchise expansion: (number of units planned for a particular country/urban population of country)	Franchise expansion: (number of units planned for a particular country/urban population of country)	Favorable political governance, country business climate are significant predictors of foreign firms expansion into that country

(continued)

Author	Method	Limitations	Data source	Firms and observations	Methodological Issues	Independent variables	Control variables	Dependent variables	Findings/optimal proportion
Hsu and Jang (2009)	Multivariate regression analysis	No variables about firm positioning and marketing Focused only on the restaurant industry Only a few restaurant chains listed on COMPUSTAT No dispersion and foreign expansion	SIC 5812 1996-2005 COMPUSTAT Bonds Franchise Guide 10K Filings at SEC	82 firms 592 observation	Eliminated firms with fewer than four outlets Tobin q approximated Used only ROA as a profitability value when regressing Tob q	Franchise Proportion	Firm Size Advertising Expense	ROA ROE Tobin Q	Franchise firms had significantly higher profitability than non-franchise firms The relationship between franchise proportion and firm profitability and intangible value were curvilinear (inverted U-shape) There is an optimal franchise proportion There is no sigmoid relationship as the hypothesis proposed. There is a more quadratic or inverted U-shape relationship
Koh, Lee and Boo (2009)	Polled regression analysis and autoregression analysis	Only public traded firms Sample period 2000s Only examines franchising as a diversification strategy	Yahoo finance COMPUSTAT Firm Annual 10K 2000-2006	25 Firms 163 observation	negative debt-to-equity observation with over 40 Debt Tobin q positively-skewed residual values larger than three or smaller than 3 were excluded Did not use ROA	DOF: Degree of Franchising	Firm Size (SIZE) Leverage Year Dummies	RAP: Restaurant accounting performance: used ROE and ROS RPY: Restaurant Firm Value: used Tobin q	
Sun and Lee (2013)	Generalized Least Squares	only public traded firms Revenue is aggregated (domestic and international) Cannot determine the type of entry mode (single, master Franchise)	Firm Annual 10K COMPUSTAT US Federal Reserve System US Bureau of Labor and Statistics SIC Code 5812 Period 1990-2010	22 firms 132 observation	Did not use Fixed effects For multicollinearity, it was used an estimated VIF value	Firm Performance: Tobin q = Market Value of Equity + Preferred Stock + DEBT/Total Assets Franchising Restaurant Type	Firm Size Leverage Market excess return Industry growth Exchange Rate	Degree of Internationalization (DOI) = No. of foreign properties/No. of total properties	A curvilinear, inverted U-Shape relationship between Tobin's q and the degree of internationalization (DOI) and a positive impact of franchising on the DOI

(continued)

Table AI.

Table AI.

Author	Method	Limitations	Data source	Firms and observations	Methodological Issues	Independent variables	Control variables	Dependent variables	Findings/optimal proportion
Ni and Alon (2010)	Semi-parametric logistic regression	Logistic regression restricts the contribution of each factor to the linear term The contribution may not be monotone	Bonds Franchise Guide 2001-2008	158 US firms 1058 observation	To overcome limitations of ordinary logistic regression, they use a semi-parametric model where contributions of certain $x_i$ are linear and other $x_j$ are a continuous functions	FR ratio LogAveTinv Exp. Framer: logUseale: Domestic Saturation Dispe: US States	Area Subf Addunit	Yes/no International Expansion (dichotomous)	Many variables are non-linear in their effects Effects of scale and investment are curvilinear and concave Parametric variables tend to be linear
Perrigot <i>et al.</i> (2013)	Logistic regression model	Two countries	Entrepreneur Magazine- Annual franchise-500 2009 Toute la Franchise	355 French and 498 USA = 853 franchise networks	US database information not segregated Impossible to regress predictors on No of international outlets Endogeneity due to secondary and cross-sectional data	SIZE = Worldwide network size AGE DUR SEC PCOW	CTY = Country = FFE ROY = percentage of total sales	Internationalization (INT) 1 = International 0 = Domestic	Intangible resources have a positive impact on network Company-owned outlets have a negative impact Drivers of internationalization are not found to be statistically different in USA and France
Mariz-Perez and García-Álvarez (2009)	Discriminant Analysis	Cannot include financial variables like sales, advertising costs, profits and see the effects on chain internationalization	2005 Annual Franchise Guidebooks in Spain	316 Spanish Franchise Chains	Only used two groups in respect to the sector (service or product chains) Use of aggregate data at chain level	Growth Years Franchising Size SECTOR Entry fees Number of years started Franchising DUR = contractual duration %FRAN	n/a	1 = International 0 = Domestic	Franchisor expertise has no significant effect expansion decision Firms that had franchise for longer periods would likely expand abroad

(continued)

Author	Method	Limitations	Data source	Firms and observations	Methodological Issues	Independent variables	Control variables	Dependent variables	Findings/optimal proportion
Baena (2012)	Ordinary least squares	Equal effort is assumed to sell franchises abroad Limited to Spanish franchisors	Spanish Franchise System (2010) IMF Global Entrepreneurship Monitor	63 Spanish Franchisors 2836 franchise outlets across emerging countries	Negative coefficient on Geographical distance No association found between FRANCHISOR, OUTLETS & POPENETR	Geographical distance Cultural distance Uncertainty avoidance Individualism Political Stability Corruption lawsuit days in resolve dispute Cost of court fees Risk Aversion FRratio= Disper = US states Fexp = Years Franchising USscale= US units FranPer = franchise units/ total units Multi =area development agreement exists	NER	Outlets in foreign countries FRANCHISOR POPENETR	Observed variables can constrain the spread of franchising across emerging nations
Alon, Ni and Wang (2012)	Bayesian logistic regression	Does not consider market-specific characteristics	Bonds Franchise Guide -Franchisor Questionnaire 2001-2008	117 observation 17 US Based Hotels	Instead of using a Monte Carlo Markov Chain (MCMC) they incorporated EM algorithm to attain numerically stable to estimate the coefficient and its standard error		n/a	International Expansion (IE) is binary	Decision to go international is negatively related to size, which contradicts that more resources help expansion
Rondán-Cataluña <i>et al.</i> (2012)	Latent class regression	The only one country data used	Multiple sources: magazine <i>En Franquicia</i> Several Spanish franchise organizations documents and databases	230 Spanish franchise chains	Assumed only a linear relationship	Franchise Units (UF)		Inv.Ini., Can.Em., Royalty CanHub., Cre.Vent. Ant.Em., Ini.Frq. Sector, Pob.Min., Intern. Uni.Ext., D.Cont.UP, Ventas.UP, Ventas.UF, Emp.UP, Emp.UF, EmpxUP, EmpxUF RE, AEF, Est.Dis., P.Orig	Companies should expand thru Franchising vs owned units strategy. There are several classes of franchisors and must be taken into consideration in empirical studies
Rhou and Koh (2014)	Breusch-Pagan Lagrange multiplier and Pooled OLS	The only US publicly traded restaurant companies. Single indicator to measure the degree of internationalization	S&P Capital IQ (1993-2010) Annual reports LexisNexis 1)	189 observations for analysis		Degree of internationalization Restaurant type	Brand recognition Degree of Franchising Total international units Size Leverage	Tobin's q=Firms performance	At 8.3 percent of degree of internationalization, US restaurants (full-service) start to receive financial returns. Shareholders must be patient at the beginning of the internationalization process

Table AI.