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Multi-unit franchising strategies: a real options logic

Francesco Baldi[1]

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Abstract Theories of the firm so far applied to explain franchising struggle to enlighten its operational extensions, such as multi-unit franchise strategies. The corporate decision to grow via multiple franchising has not been yet analyzed with a view to accounting for how the flexibility to franchise or not (vis-à-vis the rigidity of investing into new own outlets), as uncertain market circumstances warrant, can drive performance. In this study, we seek to fill the gap by proposing a theoretical framework and empirically investigating about the real options that underlie multi-unit franchise strategies. Three are the key contributions to the franchising literature. First, an options-based classification of multi-unit franchise strategies is advanced in an effort to better explicate franchising and its performance consequences. Second, evidence drawn from the U.S. franchising industry is provided so as to both support classical findings on franchising and highlight the key source of extra value brought in by optionality associated with multi-unit arrangements and their impact on network performance. Third, "*theoretical diversity*" on franchising (Combs et al. In: J Manage 30:907–931, 2004) is enlarged by responding to the recent call for researchers to deliver complementary insights into what makes franchising work applying for the first time the real options theory to franchising. Implications of our findings for researchers, managers and policy-makers are discussed.

Keywords Multi-unit franchising · Real options · Performance

JEL Classification M21 · L14 · G31

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✉ Francesco Baldi
fbaldi@luiss.it

[1] Department of Economics and Finance, LUISS Guido Carli University, Viale Romania, 32, 00197 Rome, Italy

1 Introduction

Franchising is an organizational form based on a contractual arrangement between two legally independent firms in which one party (*franchisor*) grants the other (*franchisee*) the right to sell a product or service developed and owned by the former using her business format (e.g., brand name, process) in a given location for a specified period of time in return for a lump sum payment and an annual, sales-based royalty fee (Rubin 1978; Hoffman and Preble 1993; Shane 1996a; Blair and Lafontaine 2011).

Franchising is a proven business strategy worldwide. It has a multiplier effect in terms of enterprise creation, job generation and contribution to GDP growth. Indeed, about 30,000 franchise systems operate globally generating at least 2 million firms (World Franchise Council 2013) and accounting for almost 10–25 % of the GDP of most OECD countries. The U.S. franchising industry,[1] where a new franchise business opens approximately every 5–8 min of each business day, grows twice as fast as the rest of the economy since 2010 (3 % or $ 472 billion of GDP as of 2013, with a 4.5 % growth expected in 2014).[2] Besides fuelling entrepreneurial opportunities under favorable circumstances, it has also shown resilience throughout the recent recessions (e.g., the downturn of 2008–2009) maintaining job growth and minimizing losses.[3]

Research work on franchising, spanning various fields (including economics, strategy and marketing) and aspects (e.g., bargaining power, governance) (see for all Yin and Zajac 2004), can be classified into three main streams: (a) resource scarcity (RS); (b) administrative efficiency (AE); (c) risk management (RM). According to their combined interpretation of this phenomenon, the franchisor leverages capital of others, more motivated outlet owners and a portfolio of owned vs. franchised units properly allocated depending on the riskiness of locality.[4]

[1] In 2014, the U.S. franchising market consists of 3500 franchisors and 780,000 establishments (*source*: International Franchising Association–IFA).

[2] *Source*: Franchise Business Economic Outlook 2014 (IHS Global Insight).

[3] In the 2007–2014 period the capability of creating jobs by franchise businesses prevailed over that of other businesses by 0.5 % (on average). In 2015, 247,000 new jobs are expected still outpacing other businesses' growth by 0.5 %. (International Franchising Association–IFA 2015).

[4] The resource scarcity perspective suggests that firms use franchise arrangements to extend scarce corporate resources leveraging capital investments of external entities (franchisees) (Caves and Murphy 1976). Rooted in agency theory, the administrative efficiency perspective argues that a franchisee is more motivated and thus likely to perform better than a manager of a company-owned outlet because its compensation (rather than a fixed salary) is the residual claim on the outlet's profits (net of royalties payable to the franchisor), which strongly depends on the amount and quality of its effort (Brickley and Dark 1987). Hence, in the absence of franchising, firms (principals) incur additional (agency) costs to monitor the behavior of corporate outlet managers (agents) (Mathewson and Winter 1985; Brickley and Weisbach 1991; Carney and Gedajlovic 1991; Castrogiovanni et al. 1995). The risk management view contends that firms seek to reduce their risk by using corporate ownership in reliable locations and managing franchised operations in more hazardous ones due to geographic distance or cultural differences. Franchising thus enables to test the waters of a particular locality without incurring significant upfront costs (Fladmoe-Linquist 1996). From the standpoint of franchisees, the benefits of joining an established franchised chain may instead be grouped into two categories: cost-reducing and demand-enhancing (Blair and Lafontaine 2011).

Growth and expansion go to the very essence of franchising.[5] Extant research has shown that firms that have created an easily replicable business model typically face two strategic alternatives to rapidly expand their operations and leverage their brand so as to reach new geographical or product markets with the aim of improving or preserving performance and competitive advantage. The first is the opening of new company-owned stores through which managers pre-commit to network expansion today passively exposing their firm to the future outcomes of such decision. The second entails pursuing a multiple (or *multi-unit*) franchise strategy, wherein the franchisor gives franchisees the right to own several outlets.[6]

Four main theories have been so far applied to help explain franchising: agency theory (AT), transaction cost economics (TCE), property rights (PR), resource-based view (RBV). Franchising typically occurs when: (1) it involves a trade-off between the costs of monitoring outlet managers and the cost of free riding (AT—Rubin 1978; Lafontaine 1992a); (2) parties make investments in specific assets that bond them together and align their interests in anticipation of future profit streams (TCE—Klein 1995); (3) franchisors are exposed to incomplete contracts due to the presence of non-contractible assets offered by franchisees (PR—Windsperger and Dant 2006); (4) centralized and local activities that can be loosely coordinated are combined to enhance value creation (RBV—Combs et al. 2004). Some take a franchisor's perspective (AT, PR), others a franchisee's (TCE, RBV). What such theories struggle to enlighten are operational extensions of franchising (e.g., multi-unit, *plural form*[7]) and their connectedness to the growth opportunities pursued by the parent company via establishment of a franchise system. Recent attempts exploit agency theory (Perryman and Combs 2012). In this domain, however, the corporate decision to grow via multiple franchising has not been analyzed with a view to accounting for how the flexibility to franchise or not (vis-à-vis the rigidity of investing into new own outlets), as uncertain market circumstances warrant, can drive performance. Indeed, to the best of our knowledge, no prior research has applied the real options logic to franchising.[8] In this study, we seek to fill the gap by proposing a theoretical framework and empirically investigating about the real options that underlie multi-unit franchise strategies.

Our study makes three key contributions to the franchising literature. First, we combine the real options perspective with an organizational mechanism predominantly used by firms such as franchising advancing an options-based classification

[5] Franchisors tend to grow by expanding the size of their systems in geographically distant locations to minimize agency and governance costs (Norton 1988) and by establishing geographically-focused franchise systems, saturating a given area, and then moving to a new location (Martin 1988).

[6] Kalnins and Lafontaine (1996) and Kaufmann and Dant (1996) were the first scholars to study multi-unit franchising.

[7] Franchising of *plural form* occurs when franchised units coexist with those directly owned by the parent company.

[8] It has been only very recently that scholarly research (Gorovaia and Windsperger 2013; Windsperger 2012) has sought to weakly tie real options to multi-unit arrangements used as incentive provisions in franchise contracts to mitigate franchisee's disincentive to invest in outlet-specific intangibles (e.g., local market knowledge), thus offsetting franchisor's opposite motivation to make investments in its own intangible resources (e.g., brand), in the presence of call options granting the franchisor the right to acquire franchise units at the end of the contract period.

of multi-unit franchise strategies in an effort to better explicate franchising and its performance consequences. In this regard, we offer an integrative tool helping managers to identify and evaluate franchise investment opportunities that need to be made under uncertainty based on growth acceleration potential, network control features and type/degree of embedded managerial flexibility. Second, our analysis provides evidence drawn from the U.S. franchising industry that, besides supporting classical findings on franchising, highlights the key source of extra value brought in by optionality associated with multi-unit arrangements and their impact on network performance, which has not received attention in prior empirical research. Finally, we respond to the recent call for researchers to deliver complementary insights into what makes franchising work using alternative theories other than economic-based (e.g., agency theory), strategy-based (e.g., resource-based view) and social-psychological (e.g., relational marketing) approaches (Nijmeijer et al. 2014). To this end, the application of real options theory borrowed from finance in the context of franchising contributes to that "*greater theoretical diversity*" pointed out by Combs et al. (2004).

This article proceeds as follows. Section 2 provides an overview of multiple franchising techniques. Section 3 develops the real options framework. Section 4 formulates the hypotheses grounded in the classical as well as the real options theory (ROT) of franchising. Section 5 contains the empirical analysis. Section 6 discusses the results and related implications for researchers, managers and policy-makers leading to conclusions drawn in Sect. 7.

2 Multi-unit franchising strategies: an overview and a growth/control-based classification

Franchisors pursuing a multi-unit (or multiple) franchising strategy may resort to five types of contractual arrangements (that may coexist): (1) direct franchising; (2) area development agreement (3) subfranchising; (4) area representation agreement; (5) franchise brokerage.

Under direct franchising, whereby franchisors bear the entire burden of granting franchises (and related support) directly to franchisees, franchisees may acquire additional units within areas contiguous to their original territories by exercising the *right of first refusal* granted by the franchisor. Based on a prior and periodic assessment of the franchisee, the granting of such a right may serve as an incentive mechanism to reward high-performing parties in exchange of a lower franchise fee per unit, thus allowing for sequential acquisition of franchised units. For example, McDonald's makes use of this contractual mechanism to control franchisees' behavior and motivate them to perform (Kaufmann and Lafontaine 1994).

An alternative way for a franchisor to promote multiple-unit owners within its chain is the provision in the contract of the *area development agreement* according to which the franchisee is granted the right to open a pre-specified number of outlets in an exclusive territory over a prescribed time period. The area developer (e.g., an experienced entrepreneur in the franchisor's industry) owns and operates directly any new unit established under the agreement, being required to pay an upfront

(fixed) development fee for the exclusive right to develop the territory as well as a franchisee fee and a royalty, both reduced, for each unit as it becomes operational (Blair and Lafontaine 2011). Area developers may enter such type of agreement at the beginning of the franchising relationship or subsequently, often as a way to diversify their own businesses into or within franchising.

Three are the main advantages of the area development agreement for franchisors. First, it permits a moderate acceleration of the franchise network growth, thus enabling the franchisor to maintain control over the pace of development due to the fact that the soliciting and selling of franchises is conducted by the franchisor directly with potential area developers. Second, it favors an enhanced coordination of the franchise system's local development via increasingly engaging sophisticated and inventive multi-unit investors (rather than single-unit owners) that may contribute to the innovativeness of the network with novel ideas and demand for a lower franchisor's support as their experience increases. Third, it improves the franchisor's cash flow due to the extra charge of the development fee and the increase in royalty-based revenues arising from accelerated growth.

Area development agreements expire on the date the area developer successfully completes the development schedule, are readily incorporated into the disclosure document used in connection with the individual franchise agreement and are more successfully used as a means of expansion in a domestic setting.

A further mode used by a franchisor to foster the growth of the franchise network is *subfranchising*, whereby the franchisor grants to an entity (the subfranchisor)[9] the right to find the franchisees to develop a territory and to contract with them (Lowell 1991; Kaufmann and Kim 1995; Bond 2002).[10] A subfranchisor functions as a franchisor in a specified territory on an exclusive basis by engaging in both pre- and post-sale activities (e.g., provision of training to subfranchisees, calculation of royalties). The subfranchisor has the right to offer and sell franchises, to sublicense the use of the franchisor's trademark, to collect franchise fees, and to provide certain services to (sub)franchisees. While subfranchising permits the franchisor to pass on to the subfranchisor the responsibility for scouting around new quality franchisees and locations within a certain territory, the franchisor may contractually retain the right of final approval for franchisee and location selection, and optimally exercise it when circumstances warrant (e.g., in the early stages of the relationship when the rate of failure is high). A subfranchisor pays to the franchisor an initial fee (*subfranchise fee*) for the (subfranchise) right to sell franchises in an exclusive territory and, in return, retains a portion of the initial unit fees and ongoing royalties paid by (sub)franchisees to the franchisor.[11]

Subfranchising has two main advantages (and associated other-side-of-the-coin drawbacks). First, subfranchising enables the franchisor to accelerate the franchise

[9] The subfranchisor may be an existing franchisee or an entity unrelated to the franchise system.

[10] It differs from the area development agreement in that while under the latter arrangement the grantee establishes and operates the franchised units, under subfranchising the grantee is given the right to grant to others the right to establish and operate franchised units in a certain territory.

[11] Besides being a function of the size of the exclusive territory or the history of success of the franchise system, the subfranchise fee is linked to the subfranchisor's performance (e.g., number of units opened).

network's growth (at the expense of the franchisor's control over the network). Second, the franchisor's administrative burden (and related costs) is drastically reduced because of her reliance on a third party (subfranchisor)'s resources to expand the system and provide most services to franchisees (in exchange for reduced upfront fees and royalties shared with the subfranchisor). Such advantages of domestic subfranchising get amplified in an international setting, which promotes its use as a means of foreign expansion.[12]

Other (less employed) methods of multiple franchising include area representation and franchise brokerage that are both variations on subfranchising. Under the first agreement, the franchisor grants to the area representative the right to solicit for prospective franchisees and to provide certain services (typically related to the establishment and the operation of franchised units) to existing (as well as new) franchisees in exchange for sharing fixed fees and royalties paid by the newcomers. The main advantage of such arrangement is that the franchisor retains control over the franchise system by contracting directly with franchisees. Network is thus expanded via utilizing resources of third parties with no need for additional regulatory burden. Given the beneficial disclosure procedure and the fact that a longer distance may lessen control of the franchisor over foreign franchisees, the area representation arrangement is widespread domestically.

The franchise broker is instead granted only the right to solicit for prospective franchisees. Franchise brokerage may advantageously permit the franchisor to increase franchise units, especially on international scale through an effective sales program tailored to meet the host country conditions at a reduced cost, because most brokers employ experienced salespersons with strong entrenchment into the local territories. The risk for the franchisor is the loss of control over the sales process delegated to the workforce of the franchise broker. Moreover, network growth in the long run may be slackened for two reasons. First, the broker, who receives a commission on completed sale with no real incentive to find industrious franchisees, may only accomplish her short-run (franchise sales) rather than long-run (franchisee performance) goals. Second, the commission[13] paid to the broker may reduce significantly the franchisor's capability of enhancing its managerial and service-based skills, which in turn drive long-term growth.

The above discussion of the key features of multi-unit franchising strategies can be summarized into a classification matrix, where multiple franchise decisions may fall in different quadrants based on the (long-term) growth acceleration potential (horizontal line) and the degree of control over franchise system granted to

[12] Subfranchising offers a flexible platform that permits to enter a new, unexplored market into a foreign country and achieve a fast market share growth by leveraging the subfranchisor's knowledge of local economic conditions, presence and reputation. The risk of an uncertain foreign market entry is mitigated via sharing resources with local subfranchisors and their privileged position allows them to provide prompt adaptation of the franchise system to the local marketplace in the host country. Moreover, the granting of subfranchise rights for an entire country in exchange for a higher fee compared to that of the domestic arrangement, coupled with accelerated development of individual subfranchised units (which translates into an increased royalty stream), is financially beneficial to the franchisor. Hence, the benefits of subfranchising outweigh the disadvantages arising, predominantly in the domestic setting, from loss of control and income as well as increased regulatory burden.

[13] Calculated as a percentage of the upfront fee.

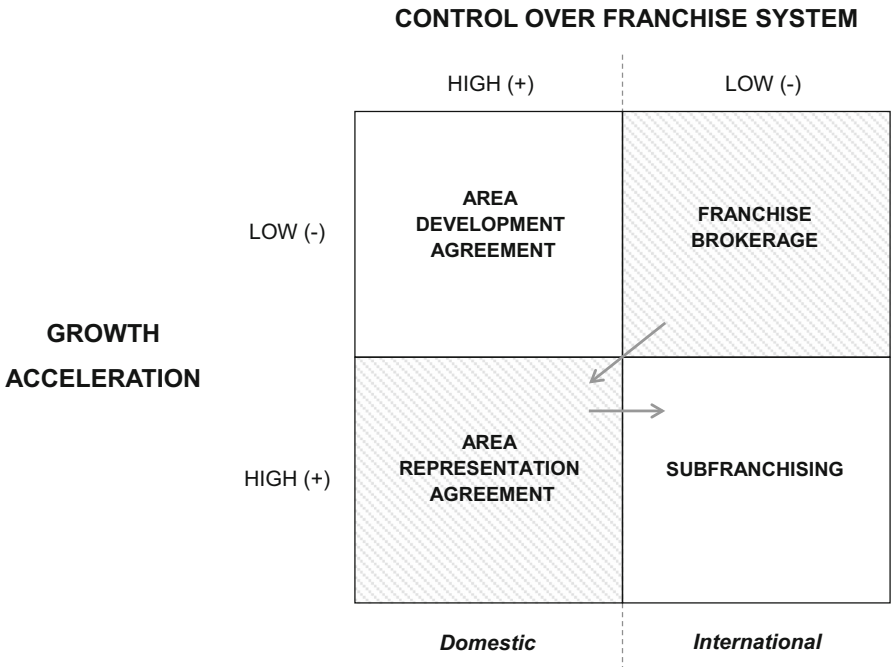

Fig. 1 Multi-unit franchising strategy classification matrix

franchisors (vertical line) (Fig. 1). Depending on the type of contractual arrangement implemented to expand the network, the franchisor may accelerate or reduce growth (especially in the long run) at the expense or not of the degree of supervision over the entire system. The various combination of dimensions such as growth and network control may also explain the predominant use of area development and representation-based strategies domestically and of franchise brokerage and subfranchising-based strategies internationally. Interestingly, most strategic modes of multiple expansion (franchise brokerage, area representation, subfranchising), where the presence of a third party is leveraged to solicit for new franchisees, create an increasing (both physical and administrative) distance between franchisor and franchisees based on power delegation (see the sequence of arrows in Fig. 1).

3 A real options logic in multiple franchising

What emerges from the growth/control matrix presented above is that franchisors may flexibly choose among different types of contractual arrangements to pursue a value-creating, multi-unit franchising strategy that better adapts to uncertain economic and market conditions at both local and international level. In so doing, franchisors taking a strategic move towards the expansion of their network by opting for one franchise mode or another establish a relationship with prospective

franchisees and, possibly, third parties (subfranchisor, area representative, franchise broker). Such interaction may benefit from the individual (franchisor) or collective (franchisor/franchisee/third party) managerial flexibility to react to market uncertainty by adjusting or changing committed plans as circumstances warrant. Flexibility is valuable and its extra value is measurable by using a real options analysis.

Our contention is that each multi-unit franchising mode embeds different real options. A real options perspective may thus help uncover the franchisor's implicit strategy associated with the decision to franchise and better exploit embedded operating flexibility. An options-based classification of the most frequently employed multi-unit franchising strategies (and associated contractual arrangements) is proposed as a practical way for recognizing and understanding how much part of a single or multiple unit franchise investment derives from managerial flexibility executable by the franchisor in its relationship with franchisees and other intermediary entities (Fig. 2).

When evaluating a franchise investment opportunity, the franchisor must refer to: (a) the exclusiveness of option ownership (*proprietary* versus *shared*), that is the firm's ability to fully appropriate the value of the real option embedded in the franchise decision; (b) the degree of interrelationship among strategic franchise decisions, that is whether the franchise opportunity is independent and valuable by itself or may become a prerequisite for subsequent franchise opportunities (*simple* versus *compound*); (c) the timing of the strategic franchise decision, that is whether franchise investments obey an immediate accept/reject criterion or can be deferred (*expiring* versus *deferrable*) (Trigeorgis 1996).

In direct franchising, whereby the franchisee retains an exclusive right as to whether and when to invest in the purchase of additional outlets in its own assigned territory, the right of first refusal may be seen as a *proprietary option*. Other external parties would be unable to replicate such a right (embedded in the franchise agreement), which confers exclusiveness of option ownership to actual franchisees. The same logic applies to area development agreements, where the area developer's exclusive rights to the territory are *proprietary options* expiring on the date the development schedule is successfully completed.

In subfranchising the franchisor shares the responsibility to identify and recruit new (sub)franchisees with the subfranchisor. Furthermore, the franchisor shares the use of its trademark with the selected (sub)franchisees via sublicensing. Any other strategic support decision on how to foster and gain from the network's growth [e.g., the development of advertising or field training for ultimate use by (sub)franchisees] is apportioned between franchisor and subfranchisor. As franchisor and subfranchisor share the right to pursue a network growth strategy by exercising embedded optionality and each of them may be able to appropriate part (or all) of the value of subfranchised operations, then subfranchising can be seen as a *shared option*. One can look at subfranchising as a set of jointly held investment opportunities of both franchisor and subfranchisor along with (sub)franchisees, which are exercisable by any one of their collective owners.

As to the level of interrelationship among strategic franchise decisions, direct franchising and area development agreement embed options of *simple* type, whose

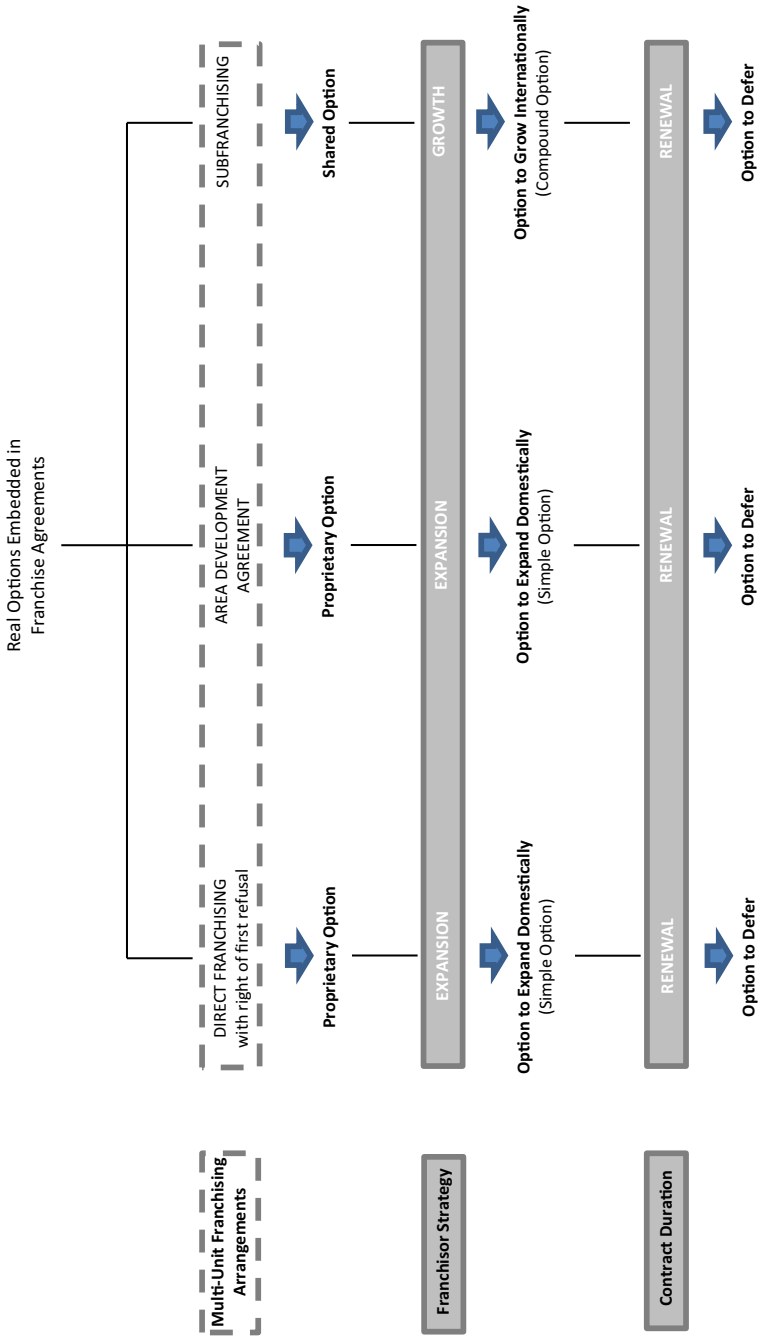

Fig. 2 Real option-based classification of the non-monetary terms of a franchise agreement

optimal exercise allows the franchisor to incrementally *expand* the chain on a domestic scale through investing in the stand-alone opening of new units with no connection to future opportunities. It follows that, using options lens, such multi-unit franchise arrangements can be treated as *expansion options*.

The subfranchising situation is more complicated. The franchisor may enjoy a gain or suffer a loss in the value of its franchise strategy as a result of its interaction with the subfranchisor. An overvaluation of the subfranchisor's skills and local market knowledge leading to a poor performance in terms of opened units and/or an unfair allocation of upfront and royalty payments may be turned into a loss-making franchise strategy. Conversely, the selection of a competent subfranchisor may resolve the uncertainty about the new (geographical or niche) market's reception of the franchisor's product or service giving rise to an option to enter a new market, whose optimal exercise would allow it to pursue a profit-making franchise strategy.[14]

More interestingly, subfranchising enables the franchisor to foster its network growth by leveraging the market knowledge and the marketing efforts of the parties involved within a cooperative stance. The choice of subfranchising becomes a precondition for subsequent growth opportunities that the franchisor may exploit in the new market segment or geographic territory via granting to the subfranchisor the right to grant new franchises to an increasing number of (sub)franchisees. These (sub)franchisees are in turn in charge of pursuing growth opportunities in their local competitive arenas ultimately impacting the performance of the franchise system. In this sense, subfranchising is a real option of *shared* type, leading—upon exercise by the franchisor—to further discretionary investment opportunities pursued by (sub)franchisees at local level. Subfranchising should be then viewed as a *compound option*, that is an option to share the rights associated with the establishment and management of franchised operations (e.g., use of trademark, advertising, training) in a new market, whose payoff is another option, which corresponds to the *growth option* exercisable by the franchisor via (sub)franchisees.[15]

In general, the collaboration mode between franchisor and subfranchisor ends up generating an overall gain (or loss) for the entire network thus increasing (or decreasing) the total market pie for all [including (sub)franchisees] depending upon, among others, the interaction of different factors at the various stages of the

[14] The *learning option* offered to the franchisor may be remarkably valuable and then fairly compensated for to the subfranchisor by allowing it to retain a higher portion of the upfront and royalty payments made by the (sub)franchisees. Similarly, the amount of investments in marketing and training support to (sub)franchisees made locally by the subfranchisor may reduce the need for advertising expenditures by the franchisor with a positive net synergistic effect.

[15] More in general, the franchisor resorting to subfranchising manages a portfolio of *growth options* (subfranchises) enabling profit and network control maximization by replacing failing subfranchisors with best performers and enlarging or reducing the number of subfranchisors to better influence the conduct of several (less powerful) ones vs. that of a few (more powerful) ones. The franchisor may flexibly *stage* the granting of subfranchise rights to a new subfranchisor by starting with a small territory and incrementally adjusting the related size as the counterparty is proven to be competent and committed. Oppositely, if pre-determined performance thresholds are not achieved by the subfranchisor, the franchisor may diminish the size of the exclusive territory.

subfranchising arrangement such as: (1) the relative bargaining power of the parties in the negotiation process; (2) the presence of adverse selection in the franchisor's selection of subfranchisors; (3) the undertaking of a moral hazard behavior by subfranchisors in their provision of support services to (sub)franchisees.

Moreover, franchise contracts commonly include a *renewal* clause, which indicates under which conditions (typically predetermined requirements that the franchisee must have met) the agreement (of any type) can be renewed, for how many years such a renewal applies or, whether, alternatively, the contract must be terminated. It follows that franchise arrangements are quite long-term with a high tendency to continue beyond the original term. By means of this clause, for example in the presence of subfranchising, the franchisor maintains a flexible choice as to how long growth opportunities can be pursued by (sub)franchisees at local level. This entails analyzing the relative benefits and costs of keeping the relationship with the subfranchisor [and related (sub)franchisees] open and thus deferring its termination to more or less distant future depending upon its intrinsic growth potential. Low-growth subfranchised operations will be rapidly terminated, while high-growth subfranchised operations will be kept alive via exercise of the *option to defer* the end of the franchise relationship (embedded in the *renewal* clause), whose positive amount is deferrability value further accruing to the owner of the franchise network.

Finally, the real options logic may help better understand the role of the *passive ownership* clause in franchise contracts.[16] If a franchisee owning a franchised outlet hires an external manager to operate such unit (but remains still liable toward the franchisor), passive ownership is applied.

Real options and agency theories may complement each other by elucidating together some key issues in strategy. This is the case of passive ownership in franchise strategies. Passive ownership seems to negate the agency-based explanation of franchising (e.g., Castrogiovanni et al. 1995). The agency problem affecting corporate ownership of outlets, and overcome by the recourse to franchised units, comes back in the relationship between the passive owner and the outlet manager (Shane 1998). Nonetheless, similarly to subfranchising where growth opportunities are jointly held by multiple collective owners (franchisor, subfranchisor, subfranchisees), passive ownership permits a franchisee/investor to engage in a "shared administration" of the outlet via delegation of the management of one or more units to a third party familiar with the territory. Based on real options theory, the cost of monitoring the behavior of external unit managers—which, using agency lens, would be an extra charge that frustrates the relationship—may thus be viewed as the price payable for exercising an *option to share* tasks and growth opportunities in a promising territory. In so doing, the franchisor accelerates the development of its local, franchised operations by promoting specialization of franchisees with capital availability and outlet managers with market expertise.

[16] Passive ownership is an example of passive business activity, in which the business owner (or investor) has the potential to profit without materially or physically participating in its day-to-day operations (*source*: Internal Revenue Service).

4 Theoretical background and hypotheses

The main results on the nature of franchising and its outcomes at network level arising from the interplay of different (but intertwined) disciplines (economics, strategy, marketing) (RS, AE, RM) and associated, distinct theories of the firm (AT, TCE, PR, RBV) are used to develop the first set of our hypotheses (H1–H7). The testing of such set of hypotheses seeks to support prior studies with new empirical evidence from the global franchise market so as to construct a comprehensive framework of testable predictions on the performance consequences of the franchising business model (business format, brand strength, franchisee requirements, franchisor support). A further set of hypotheses (H8–H9) is formulated to shed new light on managerial flexibility embedded in franchise agreements using the lens of real options theory (ROT). Hence, our model strongly draws upon the classical and more recent developments in the theory of franchising, but it also advances the extant understanding of such phenomenon by investigating the real options features of the multi-unit franchise strategy

The ownership structure chosen by the franchisor for its distribution network is considered as a key factor influencing the outcomes of franchising (Nijmeijer et al. 2014). Several studies have been conducted to verify whether the co-existence of company-owned and franchised outlets (*plural form*) outperforms the presence of only franchised operations (*pure franchise*). A network of plural form is shown to be more managerially effective because innovation, uniformity and economic efficiency are better nurtured (Bradach 1997; Cliquet 2000; Cliquet and Croizean 2002; Dant and Kaufmann 2003), while the risk of the outlet portfolio is minimized (Fladmoe-Linquist 1996). Innovation is facilitated by franchisees incentivized to act as independent entrepreneurs and disseminated by company-owned units, which also contribute to increasing uniformity being used as both pilot and training sites for old and new franchisees, respectively. Furthermore, plural forms maximize efficiency (Perrigot et al. 2009), franchisor survival (Bordonaba-Juste et al. 2009) and the financial performance of the network (Hsu and Jang 2009; Koh et al. 2009).[17] However, franchisors operating a dual distribution network (owned + franchised) are not immune to risks of conflicts between managers of owned units and franchisees or demotivation across franchised operations due to franchisor interest misalignment in managing such different types of outlets (Cliquet 2000).

Researchers have tried to estimate the optimal proportion between franchised and company-owned units.[18] The optimal size of franchisees within a network is proven to depend upon environment, strategy, business format and age-related factors. Geographical dispersion of units, early market entry (first-mover advantage) with use of franchising and level of business maturity positively affect financial performance of franchisors increasing their franchise proportion (Hsu and Jang 2009; Sorenson and Sorenson 2001; Vazquez 2007; Bordonaba-Juste et al. 2009).

[17] There are exceptions represented by franchisors operating small-scale chains (Srinivasan 2006).

[18] For example, in the Spanish (69 %) and U.S. restaurant industry (37–46 %) (Bordonaba-Juste et al. 2009; Hsu and Jang 2009).

To enhance performance and survival, franchisors should diminish franchised operations in the presence of a business format characterized by tacit knowledge (Barthelemy 2008) and boost them to exploit relevant local knowledge (Vazquez 2007) or when business approaches maturity (Kosova and Lafontaine 2010). Revenue generation (and related performance) are improved in concentrated markets if company-owned units outweigh franchised ones (Vroom and Gimeno 2007). Finally, use of complex (vs. simple) strategies by franchised (vs. company-owned) operations amplifies financial performance (Yin and Zajac 2004).

Given the predominance of beneficial effects arising from the entrepreneurial use of a dual network due to the role assigned to franchised units as innovation facilitators and, above all, as risk minimizers (RM-based theory of franchising) (Fladmoe-Linquist 1996), we posit:

> ***H1***. *The number of franchised outlets in the distribution network will be positively associated with the franchisor's economic performance due to risk minimization.*

In the face of a rapid growth in international franchising in the 1990s, early research seeks to explain the overseas expansion of franchisors based on external forces, such as the response to: inquiries of potential franchisees (Walker and Etzel 1973; Walker 1989), domestic market saturation or foreign markets with great potential (Aydin and Kacker 1990). To complement this external perspective, Shane (1996b) contends that international franchising expansion is motivated by the possession of a superior capability to reduce franchisee opportunism, which is more likely to occur in international transactions than domestic ones due to greater uncertainty and difficulty in monitoring franchisees in a culturally different and distant, foreign business environment. More specifically, franchisors develop two key capabilities: the ability to provide franchisees with an incentive not to act opportunistically through the use of an ex-ante bonding mechanism inherent in the franchise pricing structure[19] and the ability to monitor more closely the actions of franchisees.

McIntyre and Huszagh (1995) first provide a test of the firm internationalization (FI) model developed by Cavusgil and Nevin (1980) in a franchise setting. By identifying two types of franchisors engaged in international development—that is, those actively involved that systematically explore opportunities for expanding their international franchising activity versus those committed on a long-term basis to franchising in international markets—they find out that higher commitment in international operations yields greater sales volumes. Furthermore, they show that the size of the domestic franchise system has little impact on the degree of its prospective international involvement. Hence, in the light of the results of the extension of research on internationalization of business operations to franchise networks, we posit:

[19] As the franchisor has the right to revoke the franchise agreement without return of the franchise fee if the franchisee does not adhere to her contractual obligations, companies that intend to expand overseas are likely to have higher franchise fee to royalty ratios relative to those concentrating on domestic operations.

***H2**. The higher the degree of internationalization of the franchise network, the higher the franchisor's economic performance.*

Contract design, which crucially affects the outcomes of franchising (Nijmeijer et al. 2014), performs the main task of defining monetary contract terms (e.g., franchise, royalty and advertisement fees). Contrary to the tenets of economic theory according to which a profit-maximizing franchisor should customize the terms of the franchise contract for each specific franchisee in a chain, Lafontaine (1992b) finds that contract uniformity tends to prevail (also in a cross-border context),[20] with franchisors applying the same monetary terms to all new franchisees for two key reasons such as fairness and easiness of contract administration/enforcement.[21]

Among monetary terms, franchise fee is a lump sum payment made by a franchisee to the franchisor at the beginning of the contract period to compensate the latter for the cost incurred to set the former up in business[22] and is highly variable across franchisees (Bhattacharyya and Lafontaine 1995).[23] Some franchisors adopt a "low-cost" strategy by keeping a relatively low upfront fee to attract franchisees (Blair and Lafontaine 2011). Franchisors also require franchisees to make ongoing payments in the form of sales royalties by often introducing some contractual non-linearity, such as a minimum royalty payment when franchised outlet sales are too low or a declining (or increasing) royalty rate as outlet sales reach certain target levels (Lafontaine 1992b; Bhattacharyya and Lafontaine 1995).[24] In addition to charging an initial franchise fee and running royalties, several franchisors also stipulate in their contracts that the franchisee must make contributions to support (national, regional or local) advertising. Advertising fees are most often specified as a constant proportion of the franchisees' sales revenues, and in some cases, as a fixed periodic amount or as a function of the number of the outlet transactions (Blair and Lafontaine 2011). Both upfront/start-up (e.g., initial investment, franchisee fee) and running payments (e.g., royalties, advertising fees) are due to the franchisor by the franchisee to remunerate the former for the provision of its own intangible resources (e.g., brand) to the latter in exchange for financial, tangible (e.g., outlets with related real estates) and intangible (e.g., human assets) capital investments. The contractual set-up of monetary terms thus facilitates

[20] See Lafontaine and Oxley (2004).

[21] Monetary terms are thus insensitive to variations in individual, outlet, or market conditions (while non-monetary ones are more subject to negotiations). Interestingly, contract standardization is not due to heterogeneity of disclosure requirements across U.S. States and abroad.

[22] Typically, franchisors utilize franchisee fees as a means of financing the expansion of their service (or support) capabilities in favor of growing networks.

[23] Franchisee fee variation is explained by the use of different types of fees for different types of transactions. Fees are set differently depending on: (1) the kind of franchised units (e.g., fast-food vs. food-court operation); (2) who pays (e.g., existing franchisees that bring additional units within their portfolios vs. existing businesses joining the franchisor's chain via *conversion* franchise; (3) the way are calculated (e.g., formulaic).

[24] The average royalty rate ranges from 3 to 6 % with one-quarter of franchisors charging the modal rate of 5 % (Blair and Lafontaine 2011).

the reciprocal leveraging of scarce resources (RS-based rationale for the diffusion of franchising) (Caves and Murphy 1976).

Although most strategy and economics scholars find no (or even negative) impact of the magnitude of franchise fees on franchisor survival (Lafontaine and Shaw 1998), financial performance (Gillis and Combs 2009) or growth (Castrogiovanni and Justis 2002) and of royalties on franchisor shareholder return (Spinelli et al. 2003), some studies provide opposite evidence. For example, interestingly, survival of franchisors is positively affected by higher levels of upfront/start-up cash investments (Shane 1998). Variable payments (e.g., royalties) may positively affect franchisor growth (Kaufmann and Dant 1996). Franchise networks gradually lowering royalty rates and starting-up with low franchise fees that are raised over time tend to experience a size increase (Shane et al. 2006). Moreover, the level of advertising fees is positively associated with franchisor survival and the level of royalties (along with that of advertising fees) with franchisor growth in mature firms (Kosova and Lafontaine 2010). In line with the latter studies informed by the resource scarcity (RS) view of franchising and the need for designing monetary contract terms to enforce mutual engagement of parties, we expect the following:

H3. *The amount of total payments due by any franchisee to the franchisor according to the contractual terms will be positively associated with the franchisor's economic performance.*

Concerning *H3*, it must also be highlighted that an important control variable used in prior studies testing the RS perspective of franchising is the age of the franchise chain. What emerges is that overall the passage of time tends to have a neutral or negative effect on franchisor's financial performance (Sorenson and Sorenson 2001; Koh et al. 2009) and growth (Castrogiovanni and Justis 2002; Imna and Debowski 2006). This is due to the fact that, as franchise systems get more mature, assets of any type (tangible, financial, etc.) are less scarce because of their gradual accumulation over time, with franchisors having less need of leveraging external resources of marginal franchisees to grow and make profits.

Duration of the franchise agreement and related termination clauses are further elements defined by the franchisor when contract design is performed.[25] Although contract length appears to be unimportant to achieving favorable outcomes for the network (Nijmeijer et al. 2014), the long duration of franchise relationships commonly observed in practice is explained by the franchisor's need for its franchisees to invest both capital and effort in their outlet (Blair and Lafontaine 2011). Such investments are only worth making if the franchisee can expect to earn some reasonable return on these investments over a sufficiently long period of time. Because the long-term engagement of well-performing franchisees may in turn boost franchisor value creation, we hypothesize:

H4. *The duration of the franchising contract will be positively associated with the franchisor's economic performance.*

[25] Franchise contract duration varies mostly in 5-year increments (Brickley et al. 2003). Larger franchisors tend to offer 20-year contracts, while franchisors with fewer outlets rely more on shorter-term agreements (e.g., 5, 10, 15 years) (Blair and Lafontaine 2011).

With regard to *H3* and *H4*, it should also be noted that franchising contracts characterized by both higher royalties and higher duration increase motivation and commercialization efforts of franchisees as outlet managers reducing agency conflicts within the network and thus lowering franchisor's monitoring costs. Indeed, the franchisor's demand for premium royalties encourages franchisees to sell more so as to maximize residual rent appropriation at outlet level; this disciplining mechanism is reinforced by the security of a long-term business relationship. Franchisors implementing longer contracts forego some degree of flexibility in reacting to unexpected changes in market conditions via a dynamic modification of their franchisee pools in exchange for a more motivated, agency problem-free network. In this context, the set-up of higher advertising fees, despite their negative impact on unit profit size, may amplify the beneficial effects of franchisees' marketing actions through financing the franchisor's additional promotion support. Sales-based monetary incentives moderated by a long-length agreement are contractual features acknowledging the AE/AT-rooted explanation of franchising (Rubin 1978; Brickley and Dark 1987; Lafontaine 1992a).

Prior studies investigating the effects of brand recognition on franchising outcomes suggest that a franchisor's strongly recognizable brand name is positively related to its profits, sales, growth and survival (Shane and Spell 1998; Imna and Debowski 2006; Gillis and Combs 2009). More in general, a RBV-based theory of franchising (see, for example, Combs et al. 2004) advocates that such a business strategy is successfully pursued as it allows both franchisor and franchisee to contribute mostly intangible assets (e.g. brand, reputation, human capital, organizational infrastructure) that are inaccessible and relevant to the respective party, whose redeployment may foster network value creation through generating growth opportunities (to the franchisor) and demand-enhancing or cost-cutting effects (to the franchisee). Among those resources that are shared by parties in a franchise chain is the franchisor's strong brand. We therefore posit:

H5. *Brand recognition and high market power will be positively associated with the franchisor's economic performance.*

To further enhance a franchise system's outcomes franchisors should be capable of properly selecting prospective franchisees. Jambulingam and Nevin (1999) argue that a direct relationship exists between effective franchisee selection and cooperation within a franchise network, suggesting that criteria other than financial are used in the screening process. Clarkin and Swavely (2006)' study reveals that becoming a franchisee involves more than being financially or professionally qualified and that franchisors assign the highest level of importance to a franchisee's personal characteristics, with education and specific industry experience receiving the lowest ranking in the selection process due to the fact that structured technical training and ongoing assistance are offered to new franchisees as a part of the agreement. Knott (2003) shows that franchisees' prior (business or industry) experience may even adversely affect franchise financial performance and should be replaced by current managerial capabilities and attitudes towards business. RBV also applies to scout for franchisees embedding valuable human capital that may be crucial for propelling network growth and performance. Therefore, we ask:

H6. *The higher the ranking of franchisee's characteristics (such as financial resources, prior business and industry experience) required by the franchisor, the higher the latter's economic performance.*

Research looking at the extent, type and quality of franchisor support to the network is mostly concentrated on studying its effects at franchisee (rather than franchisor) level. It shows an overall positive effect of franchisor support on franchisee satisfaction, financial performance and survival (Knight 1984), with franchisee assessment of such support worsening over time (Grunhagen and Dorsch 2003) and a high variance among franchisees in quality and importance scores assigned to support, thus leading to different satisfaction levels (Huang and Phau 2009). In general, there is consensus on the fact that, using RBV lens, the provision of an organizational infrastructure via offering a large number of support services is beneficial for the franchisee but not for the franchisor. Offering support has indeed negative consequences on survival rates of U.S.-based franchisors (Shane 1998, 2001; Shane and Spell 1998), with the only positive effect of training, communication services and assistance to franchisees in seeking suitable locations (Shane 2001). Provision of such support services as newsletters or field visits to franchisees is associated with failures of franchisors in the German market (Grunhagen et al. 2008). Financial assistance appears to be the only type of support favorably impacting network growth (Shane et al. 2006). Based on the above, we expect the following:

H7. *The provision of support offered by the franchisor to franchisees will be negatively associated with the franchisor's economic performance with the only exception of financial assistance.*

Several studies have proved that multi-unit franchising is beneficial to both franchisors and franchisees. Franchisees owning multiple outlets experience higher survival rates (Bates 1998) and lower production costs due to easier knowledge transfer (Darr et al. 1995). Large and mature franchisors pursuing a multi-unit franchising strategy have better survival chances (Shane 1998, 2001) favorably impacting network growth (Bradach 1995; Kaufmann and Dant 1996; Kaufmann and Kim 1995). In particular, Bradach (1995) suggests that multi-unit franchisors can allocate fewer resources to the search of franchisees for new units and motivate fewer franchisees to implement changes at network level thus enhancing growth and efficiency respectively. Kaufmann and Kim (1995) provide empirical evidence that the use of area development and subfranchising clauses is positively associated with the growth (in terms of units) of franchise chains. Additionally, when a multi-unit franchising strategy is pursued, passive ownership and multi-unit ownership are interconnected (Nijmeijer et al. 2014) as the former contributes to efficiency enhancement. A few studies investigate the effects of the use of the passive ownership clause in franchise agreements. While passive ownership is disadvantageous for survival of franchisees (Michael and Combs 2008), findings about franchisor's growth and survival are mixed. Interestingly, the diffusion of passive ownership among franchisees may help a franchised network to grow (Clarkin and

Rosa 2005) and augment failures and market exits within chains where local knowledge plays a vital role (Vazquez 2009).

Consistently with the above findings and the general principle underlying real options theory according to which several corporate projects—such as joint ventures (Kogut 1991), R&D activities (McGrath and Nerkar 2004) or the development of firm-level capabilities (Kogut and Kulatilaka 2001)—cannot be completed successfully without the participation of other key stakeholders (e.g., suppliers, employees), we posit:

H8. *The degree of optionality embedded in contractual arrangements for the pursuit of a multi-unit franchising strategy—such as right of first refusal in direct franchising, area development agreement, subfranchising and passive ownership—allowing for greater flexibility to the franchisor will be positively associated with the latter's economic performance.*

Franchise contracts, which—as already noted—are quite long-term, usually stipulate an option to renew their duration beyond the original expiration. In most cases, franchise agreements are indeed renewed and not terminated. Typically, termination is used by franchisors as a threat to prevent franchisees from engaging in behaviors that the formers do not approve of. When this occurs, franchisors may choose not to renew to protect their brand and business format. In this respect, Williams (1996) finds that the types of outlets most subject to termination are those that are underperforming, suggesting that franchisors resort to termination to enforce performance standards or eliminate poor locations and not to opportunistically appropriate the benefits of the most profitable units by operating them directly or selling them to new franchisees under a contract involving higher payments. Such a tactic would not pay off as good-performing franchisees will be willing to invest more in their outlets, the longer the renewal period set in the agreement and the higher the probability of its renewal (Blair and Lafontaine 2011). Based on the above, we hypothesize:

H9. *The longer the duration of the renewal clause by which the franchisor has the flexibility to defer the contract termination based on the fact that predetermined requirements are fully satisfied by the franchisee, the higher the former's economic performance.*

Our model, as described above, can be summarized in a comprehensive diagram (Fig. 3). In this chart, the white boxes epitomize the extant research approaches or theories of the firm explaining the phenomenon of franchising and the impact of its use on franchisors' economic performance. Solid lines account for direct effects, which, if moderated, are represented by dotted lines. To validate the contribution of each of the above theories to the advancement of comprehension of franchising, the set of hypotheses H1–H7 is empirically tested.

The aforementioned classical franchising theory-building block of postulates is complemented by the set of hypotheses H8–H9 (grey box), which corresponds to the ROT building block. The latter is aimed at exploring and conceivably taking advantage of real options logic to better explicate the corporate decision to grow and make profits via the pursuit of multi-unit franchise strategies. All types of real

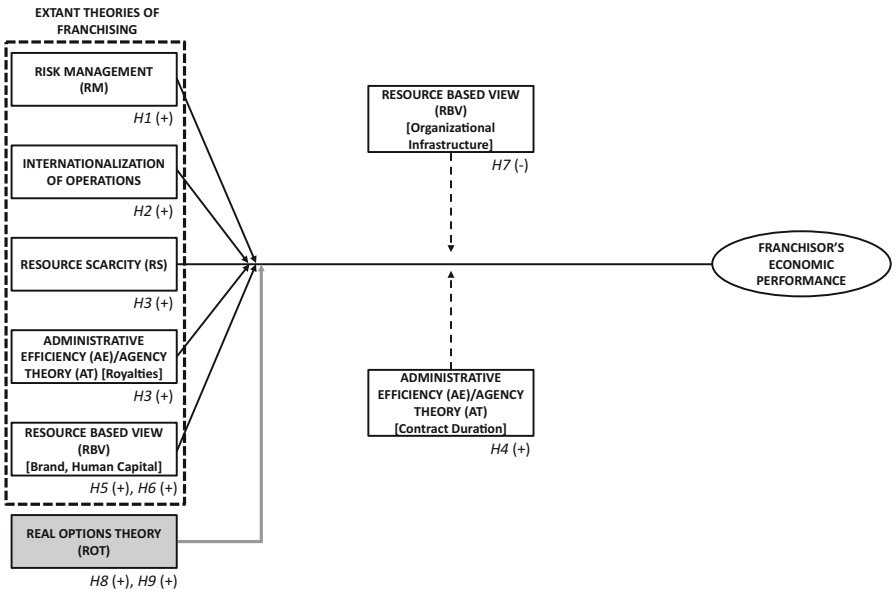

Fig. 3 The multi-unit franchising strategy and its effect on franchisor's economic performance: hypotheses' system

options embedded in a franchise agreement and displayed in our option-based classification of multiple franchising of Fig. 2 are given full consideration in the second set of hypotheses. It should be clear that our model aims to find simple correlations between the key aspects of multiple franchising and the franchise network performance. The predicted sign of each correlation is indicated for all hypotheses included in the model.

Prior to testing the above system of hypotheses, our data sourcing and sampling strategies are described next.

5 Empirical analysis

To validate the real options framework presented in Sect. 3 and aimed at better explaining the use of multi-unit arrangements in franchise strategies, an empirical analysis of relevant assorted, cross-section evidence is conducted.

A sample of 100 global franchisors operating in various business sectors (see "Appendix") was randomly selected from *Worldfranchising.com*©[26] a website operated by *World Franchising Network* which is a prominent provider of reliable, up-to-date and easy-to-use information on franchising and widely cited as a source of data in previous academic work (Dant and Kaufmann 2003; Hoffman and Preble

[26] Worldfranchising.com© is administered by Robert E. Bond, a leading U.S. authority on franchising and founder of Source Book Publications (which publishes Bond's Franchise Guide, considered as the "industry bible").

2003; Gillis and Combs 2009; Blair and Lafontaine 2011). The geographic distribution of the franchisors included in our sample is the following: USA (92 %), Canada (3 %), UK (2 %), Italy (1 %), Japan (1 %), Australia (1 %).

For each of the 100 U.S. franchisors the most recent Franchise Disclosure Document (FDD)[27] was collected (for consistency's purpose the document considered for all firms was the one released in 2012). FDDs were provided by *FRANdata*, which is regarded as one of the most reliable industry's sources of objective information and analysis outputs on franchising, with clients such as the *International Franchising Association* (IFA), extensively used by other strategy scholars (e.g., Michael 2000).

Most observations included in the final dataset used in our empirical analysis were obtained from *Worldfranchising.com*© and the FDDs associated with each franchisor. Data on brand recognition and global ranking of franchisors were respectively drawn from *BrandFinance*®[28] and *Franchise Direct*®.[29] It should be noted that the choice of a cross-section dataset is warranted by the fact that all key clauses included in franchise agreements are relatively stable over time. Indeed, once a FDD is designed by a franchisor, future changes to terms and conditions are scattered and infrequent unless the base business model is disrupted.

To design the analysis the franchisor's economic performance, measured by its ROA, has been chosen as dependent variable and independent variables have been grouped into five classes concerning business format of franchised operations, franchisor brand strength, franchisee requirements, franchisor support, real options embedded in the franchisor contract. The first four classes of variables may be labeled as *business model*-related. The fifth class includes variables aimed at reflecting *real options*-based managerial flexibility embedded in the franchise contract. Two additional variables accounting for key features of the franchisor' industry relevant to a real options analysis, such as the sector volatility and the level of the franchisor's market power, are considered.

As already indicated, it should be highlighted that a portion (top part) of our independent variables play the further role of serving as a proxy for the main research streams and theories of the firm that have been so far applied to explain franchising strategies. Hence, such a set of variables allows us to empirically test the model outlined in Fig. 3 with regard to the standard and most popular theories of franchising. Our model is then enhanced with new variables (bottom part) accounting for real options theory with the aim of better understanding the phenomenon at hand. Definition and source of all variables, with associated franchising theories proxied for by each (or a group) of them, are summarized in

[27] The FDD is a document (with a cover page and 23 items) that franchisors have to disclose to a prospective franchisee in compliance with the Franchise Rule, enacted in 1979 by the Federal Trade Commission (FTC) to regulate franchises through mandating disclosure but not registration and successively amended in 2007 (with effect on July 1, 2008).

[28] BrandFinance® is the world's leading brand valuation consultant. Its work is frequently peer-reviewed by the big four audit firms and accepted by various regulatory bodies (e.g., UK Takeover Panel).

[29] Franchise Direct® is one of the world's leading portals for franchise and business opportunities.

Table 1 Variables' definition

Variable	Definition	Source	Franchising Theory
ROA	Ratio of EBIT (2012) to average total assets (2011–2012) (franchisor' economic performance)	FDD	
Franchised units	Logarithm of the ratio of number of franchised outlets to total number of outlets (franchisor' size)	*Worldfranchising.com*©	Risk Management (RM)
Domestic units	Ratio of domestic outlets to total number of outlets	*Worldfranchising.com*©	Firm Internationalization
Overseas plans	Dummy: 1 if the franchisor plans to open units in foreign countries (outside U.S.) and 0 otherwise	*Worldfranchising.com*©	
Franchisor age	Number of years since the franchisor's establishment (counted until 2012)	FDD	Resource Scarcity (RS)
Initial investment	Logarithm of the investment dollar amount (required to open a franchised outlet)	FDD	
Franchise fee	Logarithm of the franchise fee amount payable upfront to start operation of an outlet	FDD	
Royalty rate	% On sales payable to the franchisor on an ongoing basis	FDD	Administrative Efficiency (AE)/ Agency Theory (AT)
Advertising fee	% On sales invoiced by the franchisee as a fee payable to the franchisor in exchange of the advertising services provided	FDD	
Contract length	Logarithm of the duration of the franchise agreement (in years)	FDD	
Top franchisor	Dummy: 1 if the franchisor is ranked among the "Top 100 Global Franchises 2012" and 0 otherwise	*Franchise Direct*®	Resource-Based View (RBV) (Brand)
Brand strength	Dummy: 1 if the franchisor's brand is ranked among the "Top 500 Global Brands" in 2012 and 0 otherwise	*BrandFinance*®	
Multi-branded group	Dummy: 1 if 2 or more franchisors are operated by the same holding company and 0 otherwise	FDD	

Table 1 continued

Variable	Definition	Source	Franchising Theory
Franchisee requirements	Mean of the following scores:	*Worldfranchising.com*©	Resource-Based View (RBV) (Human Capital)
	Financial net worth		
	Score (1–5) reflecting the (increasing) amount of financial wealth requested by the franchisor to a franchisee to open an outlet		
	Business experience	*Worldfranchising.com*©	
	Score (1–5) reflecting the (increasing) level of general business experience requested by the franchisor to a franchisee to open an outlet		
	Specific industry experience	*Worldfranchising.com*©	
	Score (1–5) reflecting the (increasing) level of experience in a specific industry requested by the franchisor to a franchisee to open an outlet		
	Education	*Worldfranchising.com*©	
	Score (1–5) reflecting the (increasing) quality of formal education requested by the franchisor to a franchisee to open an outlet		
Financial assistance	Dummy: 1 if financial assistance is provided to the franchisee and 0 otherwise	FDD	Resource-Based View (RBV) (Organizational Infrastructure)
Local advertising	Dummy: 1 if support for execution of local advertising campaigns is provided to the franchisee and 0 otherwise	FDD	
Training	Product of the following variables:	FDD	
	Field training		
	Dummy: 1 if field training is provided to the franchisee and 0 otherwise		
	Training days	FDD	
	Logarithm of the number of training days arranged for the franchisee		

Table 1 continued

Variable	Definition	Source	Franchising Theory
Proprietary option (right first refusal)	Dummy: 1 if, under direct franchising, a franchisee is given the right of first refusal to acquire a marginal outlet in the same territory and 0 otherwise	FDD	Real Options Theory (ROT)
Expansion option (area development agreement)	Dummy: 1 if the franchising contract allows for area development by franchisees and 0 otherwise	*Worldfranchising.com*©	
Growth option (subfranchising)	Dummy: 1 if subfranchising applies and 0 otherwise	*Worldfranchising.com*©	
Shared option (passive ownership)	Dummy: 1 if passive ownership is allowed for franchisees and 0 otherwise	*Worldfranchising.com*©	
Deferral option (renewal)	Logarithm of the number of years for which the franchise contract can be renewed as long as predetermined requirements are met by the franchisee	*Worldfranchising.com*©	
Expansion factor	Ratio of the number of outlets that the franchisor plans to open in the next 12 months to total number of network units	*Worldfranchising.com*©	
Industry volatility	Average standard deviation of the franchisor's ROA (2005–2012) for each micro-industry sector classified based on 25 two-digit SIC codes	*Osiris* (Bureau Van D ijk), *Bloomberg*®	
Franchisor market power	Ratio of the franchisor's sales to those recorded in the relative micro-industry [Herfindahl-Hirshman Index (HHI)]	U.S. Census Bureau, *Osiris* (Bureau Van Dijk), *Bloomberg*®	

Table 1 and related descriptive statistics in Table 2. Correlations among explanatory variables are reported in Table 3.[30]

To run our empirical analysis we employ a multiple regression model estimated with the ordinary least squares (OLS) method. More specifically, three distinct incremental models (Model 1, 2 and 3), with an increasing explanatory power, are estimated. Models 1 and 2 provide new empirical evidence to support prior research concerning the effects of the franchising business model (format, brand strength, franchisee requirements, franchisor support) on franchisor performance. Model 3 sheds new light on the value-creating consequences associated with the managerial flexibility exploitable by franchisors through the appropriate design of franchise contracts. To do so, Model 3 applies real options logic. By complementing the

[30] The Vector Inflation Factor (VIF) has been calculated for all regressors. The average VIF (1.63), being lower than 5, demonstrates that multicollinearity does not affect our analysis.

Table 2 Descriptive statistics

Variables	Mean	Std. dev.	Min	Max
ROA	0.59	1.72	−1.85	9.65
Franchised units	0.87	0.23	0.01	1
Domestic units	1.78	9.74	0.06	98.2
Overseas plans	0.7	0.46	0	1
Franchisor age	38.36	32.29	4	268
Initial investment	76.848	76.554	9.92	76.556.687
Franchise fee	39.014	51.128	0	500.000
Royalty rate	0.06	0.04	0	0.4
Advertising fee	0.03	0.02	0	0.1
Contract length	13.97	6.93	4	35
Top franchisor	0.55	0.5	0	1
Brand strength	0.03	0.17	0	1
Multi-branded group	0.08	0.27	0	1
Franchisee requirements	3.30	0.97	0	4.75
Financial assistance	0.63	0.48	0	1
Local advertising	0.55	0.5	0	1
Training	2.49	1.21	0	4.61
Proprietary option (right first refusal)	0.93	0.89	0	9
Expansion option (area development agreement)	0.33	0.47	0	1
Growth option (subfranchising)	0.23	0.95	0	9
Shared option (passive ownership)	0.68	0.97	0	9
Deferral option (renewal)	10.53	6.97	1	35
Expansion factor	0.40	1.76	0	15
Industry volatility	11.73	3.81	2.98	29.10
Franchisor market power	0.05	0.10	0.00	0.69

performance incentives for the use of franchising provided by the research mainstreams, real options theory, added with Model 3, obtains an R-squared of 54.1 %. The results of our analysis (with p-values shown next to estimates of coefficients) are presented in Table 4.

Notwithstanding its comprehensiveness and the resulting interesting findings, Model 3 falls short of clearly detecting, among business model and real options characteristics of a franchise network and its underlying contractual arrangement, the most important drivers of a franchisor's economic performance. To make Model 3 more parsimonious, three further alternative specifications (3A, 3B, 3C) are thus developed by testing only a core set of the suggested variables, each per franchising theory. None of these further models includes the age of the franchise chain because, as discussed below, its contribution to franchisor performance is irrelevant.

More specifically, Model 3A includes business format variables such as the size of franchised operations (to total), plans of opening outlets overseas, the amount of the franchise fee, the contract duration; the strength of franchisor brand; the

Table 3 Correlation matrix

	1	2	3	4	5	6	7	8	9	10	11	12
1 Franchised units	1.0000											
2 Domestic units	−0.3002	1.0000										
3 Overseas plans	0.2095	−0.1622	1.0000									
4 Franchisor age	−0.1713	0.0315	0.1819	1.0000								
5 Initial investment	−0.2395	0.1030	0.0281	0.1785	1.0000							
6 Franchise fee	−0.0464	0.0053	0.1668	0.0653	0.1528	1.0000						
7 Royalty rate	0.0463	−0.0311	−0.0574	0.0642	−0.0846	0.1664	1.0000					
8 Advertising fee	−0.1774	0.0403	0.0332	0.1165	0.2953	0.1321	−0.0279	1.0000				
9 Contract length	−0.0606	0.0968	0.0171	0.1648	0.4282	0.1538	−0.1578	0.2724	1.0000			
10 Top franchisor	0.2483	−0.1145	0.2412	−0.0099	−0.0531	0.0321	0.0311	−0.0266	0.0742	1.0000		
11 Brand strength	0.0488	−0.0238	0.1151	0.1312	0.0297	0.1058	0.5720	0.0351	0.0867	0.1591	1.0000	
12 Multi−branded group	−0.0605	−0.0305	0.1930	0.2732	0.2948	0.0988	−0.0451	0.0674	0.1515	0.1185	−0.0519	1.0000
13 Franchisee requirements	−0.2021	−0.0867	0.2075	0.2528	0.4587	−0.0304	−0.0753	0.2873	0.0840	−0.0371	0.0813	0.2896
14 Financial assistance	0.1087	−0.1320	0.0859	0.1530	−0.1184	0.1562	0.0818	−0.0101	−0.0909	0.2644	0.1348	0.1496
15 Local advertising	0.0101	0.0903	0.0219	−0.1494	−0.1074	0.1014	0.1721	0.2899	−0.1003	−0.0505	0.1591	−0.1778
16 Training	−0.1828	−0.0584	−0.0168	−0.0320	0.2971	−0.0418	0.0907	0.1239	0.3415	0.0679	0.1233	−0.0480
17 Proprietary option	−0.0312	0.0083	−0.1010	−0.1256	−0.1008	−0.0114	0.1121	−0.0420	−0.1923	0.1327	0.0139	0.0233
18 Expansion option	−0.1696	−0.0703	−0.1439	−0.1131	0.0978	−0.0731	−0.1468	0.1407	0.0882	−0.1347	−0.1234	−0.2070
19 Growth option	0.2052	−0.0431	0.0755	−0.1283	−0.1904	−0.0770	0.0015	−0.1929	0.0269	−0.0406	−0.0710	−0.1190
20 Shared option	−0.0177	0.0868	0.0754	0.0581	−0.0108	−0.1064	−0.0844	0.0149	0.0027	0.1042	−0.2110	0.0210
21 Deferral option	0.0103	0.0261	−0.0093	−0.0358	−0.2220	0.0028	0.0415	0.0422	0.2600	0.0039	0.1432	−0.2851
22 Expansion factor	−0.3183	−0.0007	−0.1070	−0.0595	−0.0313	0.0280	−0.0263	−0.0241	0.0363	−0.1470	−0.0384	−0.0660
23 Industry volatility	0.0306	0.0140	−0.1202	−0.0265	−0.1480	−0.2266	0.0783	−0.1357	−0.0131	−0.0909	−0.0028	−0.0179
24 Franchisor market power	0.0647	−0.048	0.1176	0.2303	−0.0159	0.0360	−0.0345	0.1878	0.0694	−0.0261	−0.0028	0.2591

Table 3 continued

	13	14	15	16	17	18	19	20	21	22	23
1 Franchised units											
2 Domestic units											
3 Overseas plans											
4 Franchisor age											
5 Initial investment											
6 Franchise fee											
7 Royalty rate											
8 Advertising fee											
9 Contract length											
10 Top franchisor											
11 Brand strength											
12 Multi−branded group											
13 Franchisee requirements	1.0000										
14 Financial assistance	−0.0477	1.0000									
15 Local advertising	−0.0371	−0.1936	1.0000								
16 Training	0.1622	−0.1946	0.0282	1.0000							
17 Proprietary option	−0.2653	0.0563	0.1100	−0.0437	1.0000						
18 Expansion option	0.1478	−0.2550	0.1218	0.2642	0.1995	1.0000					
19 Growth option	−0.1953	−0.0489	0.0753	0.0357	−0.0007	0.0846	1.0000				
20 Shared option	−0.0316	−0.1335	−0.1001	−0.0415	−0.0888	−0.0203	0.1606	1.0000			
21 Deferral option	−0.0539	−0.1961	0.2218	0.2609	0.0479	0.2208	0.0844	−0.1072	1.0000		
22 Expansion factor	0.0194	−0.1819	0.1031	0.0701	0.0030	0.1808	0.0016	0.0935	0.0536	1.0000	
23 Industry volatility	−0.1101	−0.0924	−0.1199	−0.2106	0.0754	−0.0555	−0.2125	−0.0966	−0.1502	−0.0414	1.0000
24 Franchisor market power	−0.0054	−0.0629	0.0378	−0.0991	−0.0489	0.0112	−0.1794	−0.0645	0.1604	−0.0579	−0.0024

Table 4 Regression analysis

	R-squared	0.3671		0.3988		0.5415	
	# Observations	100		100		100	
	Dependent Variable	**ROA**					
		Model 1		**Model 2**		**Model 3**	
	Independent Variables	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Business Model — Business Format	**Franchised Units**	1.8993	0.131	0.6361	0.346	0.7944	0.204
	Domestic Units	0.0182 *	0.095	0.0113 *	0.073	0.0055 *	0.087
	Overseas Plans			0.5146 *	0.055	0.4818 **	0.028
	Franchisor Age	-0.0045	0.305	-0.0074	0.123	-0.0044	0.336
	Initial Investment	0.2007	0.112	0.1799	0.141	0.2278 **	0.033
	Franchise Fee	0.0953	0.344	0.0550	0.384	0.0646	0.149
	Royalty Rate	12.5825 *	0.070	13.0490 **	0.039	10.5681 *	0.100
	Advertising Fee			0.5477	0.943	-2.1691	0.775
	Contract Length	0.0306	0.915	0.1833	0.407	0.0154	0.941
Brand Strength	**Top Franchisor**	0.1596	0.579	0.2000	0.507	0.2722	0.396
	Brand Strength	2.8958	0.194	2.5126	0.208	2.916	0.134
	Multi-Branded Group	1.3447 **	0.046	0.8336	0.264	1.1629	0.109
Franchisee Requirements	**Franchisee Requirements**			0.1024	0.600	0.2321	0.321
Franchisor Support	**Financial Assistance**			0.3111	0.208	0.0824	0.759
	Local Advertising			-0.2722	0.257	-0.2296	0.435
	Training			-0.0412	0.753	-0.0496	0.712
Real Options-Based Flexibility	**Proprietary Option (Right 1st Refusal)**					0.0989	0.415
	Expansion Option (Area Development)					2.1877 *	0.097
	Growth Option (Subfranchising)					5.3761	0.467
	Shared Option (Passive Ownership)					0.5086 **	0.041
	Deferral Option (Renewal)					0.0774	0.697
	Expansion Factor					0.2762	0.310
	Industry Volatility					0.0405	0.324
	Franchisor Market Power					-2.4553 **	0.043
	Growth Option x Franchised Units					-6.0339	0.416
	Industry Volatility x Expansion Option					-0.1456	0.166

Statistical significance: * $p \leq 0.10$ (10 %); ** $p \leq 0.05$ (5 %); *** $p \leq 0.01$ (1 %)

aggregate score of requirements for select franchisees; the provision of local advertising as a means of franchisor support to the network; the entire set of real options-based variables. Model 3B differs from the previous one because it does not contain the proportion of franchised units and the variable accounting for the use (or not) of the subfranchising strategy to enable the inclusion of the related interaction term (with drop of the second interaction involving industry volatility and use of area development). Model 3C is the most parsimonious one (with only 11 regressors) insofar it differs from the previous one by maintaining only those real options-based variables that are statistically significant (right of first refusal, passive ownership), as well as one control variable (degree of industry concentration), and eliminating interactions. Model 3C obtains an R-squared of 38 %. The results of such supplemental empirical analysis are presented in Table 5.

6 Discussion

The coefficient for *franchised units* is positive across all models and is close to significance in Model 1, providing modest support for *H1*, which accounts for the RM-based explanation of franchising. In line with previous work, we find that a dual distribution network strategy is likely to improve the franchisor's performance as the number of *franchised units* increases relative to owned ones due to risk minimization. The franchisor takes a portfolio approach to managing its operations by allocating franchised units to riskier locations and proprietary ones to safer areas/regions. Hedging the riskiness of locality enhances the probability of success of newly-added outlets, thus boosting value creation through an increase in the return from assets in place.

Support for *H2* (and associated theory on the international development of a franchise network—FI) is found involving a positive and highly significant ($p < 0.05$) coefficient for the variable *overseas plans* in Model 3 (as well as Model 2, albeit with lower significance). It implies that a franchisor planning to open stores internationally may experience a higher financial performance. However, consistently with McIntyre and Huszagh (1995)'s findings, this result is not in conflict with the fact that an increase in the *domestic units* (positive and significant coefficient across all models) may also cause financial return to rise because the domestic extent of the franchise network is irrelevant to the franchisor's willingness to internationalize it.

The group of variables associated with monetary payments (*initial investment*, *franchise fee*, *royalty rate*) due to the franchisor have all positive coefficients showing consistency with the findings of prior literature. More specifically, the variable *initial investment*, which underlies the flow of fees accruing to the franchisor for the leasing services provided to the franchisee to allow for disbursement of the dollar amount required to start operating a new franchised outlet, has a highly significant coefficient in Model 3 (and close to significance in Model 1), providing good support for *H3*. The greater the amount of the initial investment and associated potential financial fees paid by the franchisee to the franchisor, the higher the latter's performance. This finding confirms the relevance

Table 5 Restricted alternative specifications of model 3

R-squared	0.4804		0.4295		0.3803	
#Observations	100		100		100	
Dependent variable	ROA					
	Model 3A		Model 3B		Model 3C	
Independent Variables	Coefficienct	P > |t|	Coefficient	P > |t|	Coefficient	P > |t|
Franchised units	1.6367	0.131			0.8277	0.207
Overseas plans	0.5163**	0.020	0.7176**	0.011	0.4013**	0.039
Franchise fee	0.1054	0.299	0.0654	0.282	0.1085*	0.067
Royalty rate	12.7639**	0.048	12.9516**	0.043	11.5285*	0.076
Contract length	0.5479*	0.064	0.4885*	0.101	0.3977*	0.086
Brand strength	2.696	0.210	2.8009	0.164	2.7480	0.188
Franchisee requirements	0.3095*	0.063	0.2383	0.104	0.4074**	0.052
Local advertising	−0.2819	0.191	−0.2916	0.170	−0.2923	0.291
Proprietary option (right first refusal)	0.2924**	0.025	0.1638	0.109	0.2187**	0.026
Expansion option (area development)	2.0470	0.117	0.2503	0.409		
Growth option (subfranchising)	2.2595	0.751				
Shared option (passive ownership)	0.4962**	0.027	0.4527**	0.035	0.5540**	0.042
Deferral option (renewal)	−0.2404	0.249	−0.2498	0.230		
Expansion factor	0.2383	0.368	0.1862	0.498		
Industry volatility	0.0153	0.643	−0.0117	0.651		
Franchisor market power	−1.7867**	0.039	−1.3596*	0.091	−1.4346*	0.076
Growth option × franchised units	−3.0004	0.673	−0.5503*	0.086		
Industry volatility × expansion option	−0.1563	0.137				

Statistical significance: * $p \leq 0.10$ (10 %); ** $p \leq 0.05$ (5 %); *** $p \leq 0.01$ (1 %)

of the resource scarcity (RS) rationale in leading companies to leverage others' capital to foster their own growth.

Interestingly, the use of *franchisor age* as a control variable to legitimize the RS perspective of franchising shows, based on the negative sign of its coefficient, that the obtainment of a marginal franchisee for an aged franchisor may have an unfavorable effect on profitability (measured by ROA) because any incremental income is allocated to an already large corporate asset base with lower benefits arising from leveraging others' investments. This would then discourage the expansion of a franchise network as the latter gets more mature. However, in line with prior research, the insignificance of such variable further confirms the validity of RS for explaining the spread of franchising even at later stages of a company's life-cycle.

The coefficient of the variable *royalty rate* is positive and significant across all models with high significance ($p < 0.05$) in Model 2, unquestionably supporting *H3*. Not surprisingly, the level of the *royalty rate* imposed by the franchisor is likely to positively impact its performance, more than any other contractual term.[31] Consistently with previous findings, our empirical analysis also shows that a long duration of the franchise contract, which inevitably attracts more franchisees and engages them in harder work at managing their outlets to extract the highest possible rents well above the hurdle rate of their investments, may play a moderating role in influencing the extent to which premium royalties favorably impact the franchisor's economic performance (the coefficient of the variable *contract length* is positive but insignificant across all models). The sales-boosting role of the *advertising fee* (captured by the positive sign of the related coefficient in Model 2) is also not statistically relevant. *H4* is thus very modestly supported. This combined finding corroborates the interest-aligning role attributed to the franchising business model with beneficial effects for both franchisors (lower outlet monitoring costs, higher network performance) and franchisees (lower capital outlays, higher unit profit) (administrative efficiency—AE/agency theory—AT).

As confirmed by the positive coefficients of the group of variables associated with brand recognition (*top franchisor*, *brand strength*, *multi-branded group*), which show a good statistical significance ($p < 0.05$) in Model 1 (*multi-branded group*) (very close to significance also in Model 3), a franchisor operating a top branded franchise system and using a (multi-brand) portfolio approach is likely to experience a higher performance than a single, unbranded peer. Hence, our findings, in line with what suggested by previous literature, provide some degree of support for *H5* and a RBV-based explanation of franchisor strategies.

The effect of *franchisee requirements* on franchisor performance is negligible and statistically insignificant proving that RBV does not always hold to explicate the recourse to franchising. Thus, *H6* is not supported. More specifically, the breakdown of the *franchisee requirements*' aggregate score used in our model and the execution of an auxiliary regression analysis accounting for single components (financial net worth, business experience, specific industry experience, education)

[31] The average magnitude of the coefficient associated with royalty rates is 12 across all models.

conform to what prior studies have found out, that is unmeasured factors, such as personal characteristics and general business attitude of franchisees, are given more importance than financial capability and industry experience in the selection process performed by franchisors.

Consistently with prior studies highlighting the detrimental effect of provision of franchisor support to franchisees on the former's economic performance, we find that the increasing availability of *training*[32] raises the system's operating costs attenuating the network's profit-making mechanism. The same logic applies to *local advertising*. Indeed, both findings related to *training* and *local advertising* show negative but insignificant coefficients in both Model 2 and Model 3. Opposite effect on performance is deployed by *financial assistance* (positive but insignificant coefficient) because of the related fees accruing to the franchisor by franchisees. *H7* is thus modestly supported. The RBV rationale behind the role of franchisor in promoting the creation of an organizational infrastructure across franchisees is also mildly supported, but with clear negative consequences on network performance.

Beyond the business model of franchising explained by extant theories of the firm, there exist unexplored issues concerning the managerial flexibility offered by such type of contractual framework to franchisors, which can be investigated by utilizing real options theory. Next is the description of these results obtained in Model 3.

The findings related to the variables *proprietary option*, *expansion option* and *growth option* support our core argument that the franchisor pursuing a multi-unit franchise expansion strategy domestically and internationally does so by optimally exercising a portfolio of real options, whose inherent managerial flexibility has extra value impacting on performance. Domestic expansion via sequential acquisition of incremental franchised units is carried out by the exercise of options (of proprietary and simple nature) to expand an exclusive territory that are embedded in the right of first refusal attached to direct franchising and in the area development agreement. Interestingly, the coefficients of both variables (*proprietary option*, *expansion option*) are positive but only that of the expansion option is statistically significant ($p < 0.10$), implying a sharper effect (in terms of both magnitude and statistical power) of the area development arrangement on franchisor's performance. Also rather intriguing is the magnitude (5.4) of the (positive but not significant) coefficient of the variable associated with subfranchising, which captures the *real* effect of the *growth option* embedded in such contractual form on franchisor performance. The pursuit of a staged multi-unit franchise strategy, where the exercise of an earlier option to enter a new product or geographical market with little involvement of the original franchisor (but greater effort of the subfranchisor) gives rise to the follow-on option to expand the network internationally at distance by leveraging the platform of local (sub)franchisees, strongly accelerates the creation of growth opportunities with related performance enhancement. This seems

[32] The variable *training* is operationalized as the product between a dummy accounting for the provision of field training by the franchisor to franchisees and the length of the program (logarithm of the number of training days).

to occur at a pace (5.4) that is six times that of the opening of *franchised units* (instead of those company-owned) (0.8) and as more than twice as the use of area development (2.2).

Based on the positive sign and rather strong statistical significance ($p < 0.05$) of the coefficient of the variable *shared option*, our study also demonstrates that passive ownership can advance the development of franchised operations by encouraging specialization (financial vs. retail/market expertise) and risk-sharing between franchisees and delegated outlet managers. Indeed, a franchisor allowing for delegation within its network increases the degree of participation with positive spillover effects on its performance.[33] Overall, *H8* is strongly supported.

As evident in Model 3, if the contract renewal clause is viewed as a *deferral option* exercisable by the franchisor upon fulfillment of predetermined requirements by the franchisee (and the duration of the agreement is not rigidly defined ex ante), the degree of flexibility for the franchisor gets increased. Franchisor flexibility consists of both securing longer contracts to franchisees to stimulate their efforts and dismissing bad-performing franchisees behaving in ways that are detrimental to the chain to safeguard its reputation. Hence, the greater the number of years by which the franchising contract is renewable, the higher the franchisor performance. In line with real options logic, our findings show that—supplementary to what emerges from *H4*—having flexibility (instead of rigidity) for postponing the length of the contractual relationship between franchisor and franchisee, if circumstances warrant (that is, when the positive contribution of the network can be certified based on appropriate KPIs), may have a moderate favorable impact on the core firm performance. Modest support is thus found for *H9*.

6.1 Robustness checks

To check the robustness of our results concerning the real option-like features of multi-unit franchising we run controls including expansion announcements made by franchisors on new outlet openings in the next 12 months (*expansion factor*), the level of volatility characterizing each franchisor's sector (*industry volatility*) and the *franchisor market power*. The positive sign of the first two control variables is in line with the expectation that more outlets and volatility allow the franchisor to leverage the flexibility embedded in the franchise contract raising up the value that can be squeezed out of multiple franchise clauses. Based on the negative (and highly significant at 5 % level) coefficient of the variable measuring franchisor industry concentration, those franchisors possessing a high market share of concentrated industries experience an increasingly lower performance as they strengthen the

[33] This is the only case, among those presented above and reinterpreted using real options lens, in which flexibility is dispersed across franchised operations.

pursuit of a multi-unit franchise strategy. Further controls are run by testing interactions.[34]

6.1.1 Restricted models

Of all restricted, alternative specifications of Model 3 outlined in Table 5, we concentrate on Model 3C. It confirms support for *H2* through a positive and highly significant ($p < 0.05$) coefficient for the variable *overseas plans* and *H3* due to a positive and significant ($p < 0.10$) coefficient for the variable *royalty rate* (even more significant, at 5 % level, in Models 3A and 3B). The validity of the RS theory of franchising is reinforced by the positive and statistically significant ($p < 0.10$) coefficient of the variable *franchise fee*, which implies the favorable impact of a rise in the level of such fixed form of payment due by franchisees to franchisor on the latter's economic performance. Model 3C is also characterized by the positive sign and statistical significance ($p < 0.10$) of the coefficient associated with *contract length*, thereby advocating the implementation of a long-term duration of franchise arrangements which in turn stimulate the continuous and fruitful engagement of franchisees. The longevity of contracts, further stretched with the aid of postponement options embedded in renewal clauses, besides supporting *H4*, reinforces the favorable impact of the use of premium royalties on franchise network performance wiping out agency distortions in franchisor-franchisee relationships (joint effect of *H3* and *H4*).

Improving on Model 3, *H6* is here significantly supported ($p < 0.05$) suggesting that *franchisee requirements* set contractually by a franchisor to build up its own network have a positive influence on performance. This validates the RBV perspective on franchising with regard to the importance of human capital (especially personal traits and business attitude) embodied in those franchisees selected to expand the chain and profit from market opportunities.

Contrary to what emerges from Model 3, the optionality embedded in multi-unit franchising strategies such as direct franchising through the exercise (if optimal) of the right of first refusal (*proprietary option*) to incrementally expand units in an exclusive territory is deemed to create value at network level (with a rather strong statistical significance, $p < 0.05$). Separation between capital investment and retail management via passive ownership is also confirmed as a corollary of a successful multiple franchising strategy. Nonetheless, as previously shown, multi-unit

[34] The first interaction is that between the number of *franchised units* and the *growth option* that can be exercised via use of subfranchising. The relationship with performance is negative (with highest magnitude) due to the fact that the higher the number of franchised outlets the franchisor operates, the lower the control it can exercise over its network and the profit it can obtain as opposed to the situation in which all fees are fully paid by franchisees to the franchisor (with no need to compensate the subfranchisor for its service). Subfranchising should thus be employed when the network is small (but with a growth potential). The second interaction is that between the level of *industry volatility* and the *expansion option* embedded in area development. The relationship with performance is negative showing that the flexibility for moderate/incremental network expansion granted by such a clause is not compatible with highly volatile industries.

franchise options should be exercised in less concentrated industries to avoid excessive market power accumulation.

6.1.2 Addressing the endogeneity bias

To address the endogeneity potentially determining a simultaneous causality bias in our model, we conduct an instrumental variables (IV) estimation. Potentially endogenous variables are the number of *franchised units* (proportionally to total) (*H1*), the level of the *royalty rate* (*H3*), the pursuit of new unit openings internationally (captured by *overseas plans*) (*H2*), the amount of the *franchise fee* (*H3*) and that of the *advertising fee* (*H3*), as all factors may be influenced by the economic success of the franchisor. Indeed, the franchisor may (1) face an increasing demand for opening new franchised outlets from would-be franchisees, (2) be prone to imposing higher royalty terms, franchise or advertising fees on them or (3) plan to expand internationally in the wake of a successful consumers' reception of products (or services) offered via franchised operations and related booming sales (which can in turn allow for an increase in value extraction at franchisee level). To account for such a bias, the best available—though weak—instruments we can employ are corporate reputation (*brand strength*, *top franchisor*, *multi-branded group*), which historically and thus gradually accrues to franchisor for various reasons (e.g., emotional perceptions) other than pure economic success, and its age (*franchisor age*). The idea here is to demonstrate that the causal arrow runs from franchise fixed and ongoing payment terms and outlet opening planning to network economic success, rather than vice versa. A strong corporate brand and reputation, accompanied by market knowledge (both gained over the years with increasing maturity), fosters the opening of new franchised outlets and the upgrading of running/fixed payment terms (royalties, franchise and advertising fees), which in turn drive economic performance.

The IV estimation is conducted so that the above four instruments are firstly adopted to instrument the proportion of *franchised units* and *royalty rate* terms, and secondly *overseas plans* and *franchise/adverting fees* so as to get overidentified coefficients in each of the two distinct 2-stage least squares (2SLS) regressions. More specifically, for our exogenous variables (excluded from Model 3) to be valid instruments, they must be sufficiently correlated with the included independent variables but uncorrelated with the error terms. Because the model is overidentified, we can test whether the latter uncorrelation exists or not performing the test of overidentifying restrictions [Sargan (1958)'s or Basmann (1960)'s test]. For both IV regressions such a test shows that no correlation exists between select instruments and structural error terms.[35]

Based on the 2-SLS IV estimation findings, we also perform the Durbin-Wu-Hausman (1974)'s test of endogeneity, which is typically aimed at determining

[35] The Sargan (1958)'s test gives a p-value of 0.23 and 0.86, respectively.

whether endogenous regressors in a given model are in fact exogenous. Such test suggests that the there is no threat of endogeneity in our main Model 3 (and its restricted variation, 3C) as all key suspect regressors of business format are exogenous.[36]

Interestingly, the second-stage regression further improves previous findings (Model 3, Model 3C), whereby the coefficient associated with the *royalty rate* gains in magnitude (31.01) and statistical significance ($p < 0.01$) and the coefficient related to *franchised units* displays a greater magnitude (4.27) approaching statistical significance. On the front of unit expansion plans, both coefficients of *overseas plans* and *domestic units* are still statistically significant ($p < 0.10$). Coefficients of residual regressors are stable in terms of magnitude and sign (and, partially, statistical significance).

More importantly, the FDD—which represents one of the main sources for our dataset—contains characteristics of the franchise business model that are only subject to changes in the long run. This implies that FDDs released in 2012 (the key year of our empirical analysis) naturally carry terms and conditions that are set and offered by the franchisor to potential franchisees well in advance in the negotiation process at least over a 5-year period. In essence, although FDDs are typically re-issued every year, they may only have gone through minor refinements. This feature of franchise contract design reduces the risk of potential endogeneity biases in respect to franchisors' current performance.

The overall sketch of global-scale franchisors resulting from our empirical analysis can be summarized as follows. The franchisor improves its economic performance by leveraging its branded operations via establishment of domestic and, more importantly, foreign outlets in exchange for negotiating high (leasing-related) financial tariffs, franchise fees and royalties with new franchisees, mostly selected on the basis of their personality and general business orientation. The business relationship with franchisees often requires small property investments for outlet origination (on franchisee side) and is entrenched via the long-term duration of contracts. The use of multi-unit franchise arrangements for domestic and international expansion (e.g., direct franchising, area development), enriched by risk-sharing mechanisms (e.g., passive ownership) fostering specialization at franchisee level, in highly volatile and lowly concentrated industries magnifies network value creation via flexibility enhancement.

7 Conclusions

Based on a combined use of data sources on the U.S. franchising industry (e.g., *FRANdata*, *Worldfranchising.com*©, *Franchise Direct*®), our study is the first to reveal that multi-unit franchise strategies possess interesting real options features.

[36] When performing the Durbin-Wu-Hausman (1974)'s test for both 2-SLS IV estimations, the null hypothesis that variables are exogenous is not rejected under both circumstances (p-values are 0.23 and 0.13, respectively).

This article has implications for researchers, managers and policy-makers. On the research side, we take a first step towards the application and empirical validation of real options theory to franchising. Our findings suggest that a more accurate portrayal of franchising is obtained by accounting for managerial flexibility incorporated in frequently used clauses such as area development and passive ownership. Contract design can thus facilitate franchisor's strategic capital budgeting decision-making as management may initially undertake (domestic or international) market expansion investments and then revise (e.g., defer) them later to seize value-creating, growth opportunities as they arise once market uncertainty resolves itself and better information is available. A limitation of our analysis, which also represents a promising avenue for future research, lies in the fact that our focus is on the types of real options exercisable by the franchisor neglecting the franchisee's (if existing). If the latter exist, other scholars are urged to investigate further the availability of strategic options across a franchise network taking the perspective of franchisees.

On the managerial side, the main practical implication of this study is that negotiations between franchisor and franchisee on contractual terms under uncertainty may be conducted more effectively if all opportunities/options embodied in a franchising agreement are identified and appraised in light of real options theory. The recognition of the option characteristics of the franchise contract may also allow both parties for its better customization aimed at a more appropriate power rebalancing between them as well as individual value appropriation.

Finally, given the fact that *main street* businesses operating via franchising are a steady and proven pillar of GDP growth and job creation for most developed countries, our innovative real options approach to acknowledging the growth and value-enabling characteristics of the franchise business may persuade policy-makers to put more effort into new initiatives to improve its impact on the *real* economy. Policy-makers should take actions to: (a) preserve the franchise business model by assuring the independence of local franchise small business owners; (b) promote a balanced regulatory environment for franchise networks (e.g., avoidance of rules that reduce flexibility for small business owners/employers and training and advancement opportunities for workers; rule simplification to attenuate overly burdensome compliance duties for franchisors); (c) foster franchise growth through a revision of tax codes (e.g., reduction of complexity and tax rates) and an enhancement of credit access (e.g., through government loan programs) for franchise owners.

Hopefully, this study will spur further understanding of how multi-unit franchising works and influences corporate performance opening a new path for doing research on such a widespread form of organizational design through the lens of real options theory.

Appendix

Sample of 100 Global Franchisors

FDD	#	Franchisor	Industry	Macro-industry	Country
2012	1	Papa Murphy's	Fast-food restaurants	Food-related	USA
2012	2	Jack in the Box Inc.	Fast-food restaurants	Food-related	USA
2012	3	Carl's Jr.	Fast-food restaurants	Food-related	USA
2012	4	Arby's	Fast-food restaurants	Food-related	USA
2012	5	Buffalo Wild Wings Grill and Bar	Fast-food restaurants	Food-related	USA
2012	6	Burger King Corporation	Fast-food restaurants	Food-related	USA
2012	7	Church's Chicken	Fast-food restaurants	Food-related	USA
2012	8	Domino's Pizza	Fast-food restaurants	Food-related	USA
2012	9	Jimmy John's Gourmet Sandwiches	Fast-food restaurants	Food-related	USA
2012	10	KFC	Fast-food restaurants	Food-related	USA
2012	11	Long John Silver's	Fast-food restaurants	Food-related	USA
2012	12	McDonald's	Fast-food restaurants	Food-related	USA
2012	13	Papa John's International	Fast-food restaurants	Food-related	USA
2012	14	Pizza Inn	Fast-food restaurants	Food-related	USA
2012	15	Subway Restaurants	Fast-food restaurants	Food-related	USA
2012	16	Taco Bell	Fast-food restaurants	Food-related	USA
2012	17	Papa Gino's Pizzeria	Restaurants (Sit-Down)	Food-related	USA
2012	18	Denny's	Restaurants (Sit-Down)	Food-related	USA
2012	19	Bennigan's Grill and Tavern	Restaurants (Sit-Down)	Food-related	USA
2012	20	Big Boy Restaurant and Bakery	Restaurants (Sit-Down)	Food-related	USA
2012	21	Teriyaki experience	Restaurants (Sit-Down)	Food-related	Canada
2012	22	Coffee Beanery	Retail food	Food-related	USA

FDD	#	Franchisor	Industry	Macro-industry	Country
2012	23	7-Eleven, Inc.	Retail food	Food-related	USA
2012	24	Circle K	Retail food	Food-related	USA
2012	25	General Nutrition Centers	Retail food	Food-related	USA
2012	26	Gloria Jean's Gourmet Coffees	Retail food	Food-related	USA
2012	27	Baskin-Robbins	Frozen desserts	Food-related	USA
2012	28	Ben and Jerry's	Frozen desserts	Food-related	USA
2012	29	Cold Stone Creamery	Frozen desserts	Food-related	USA
2012	30	Dairy Queen	Frozen desserts	Food-related	USA
2012	31	YogenFruz Canada Limited	Frozen desserts	Food-related	Canada
2012	32	Cinnabon	Baked goods	Food-related	USA
2012	33	Dunkin' Donuts	Baked goods	Food-related	USA
2012	34	Panera Bread Company	Baked goods	Food-related	USA
2012	35	Sotheby's International Realty	Real estate	Home, clothing, health, education and leisure	UK/USA
2012	36	Coldwell Banker Real Estate	Real estate	Home, clothing, health, education and leisure	USA
2012	37	Century 21 Real Estate	Real estate	Home, clothing, health, education and leisure	USA
2012	38	RE/MAX International	Real estate	Home, clothing, health, education and leisure	USA
2012	39	Re-Bath Corporation	Building and construction	Home, clothing, health, education and leisure	USA
2012	40	American Leak Detection	Building and construction	Home, clothing, health, education and leisure	USA
2012	41	Pirtek USA	Building and construction	Home, clothing, health, education and leisure	Australia
2012	42	RadioShack	Retail stores	Home, clothing, health, education and leisure	USA
2012	43	Snap-on Tools	Retail stores	Home, clothing, health, education and leisure	USA
2012	44	Ace Hardware	Retail stores	Home, clothing, health, education and leisure	USA
2012	45	Health Mart	Retail stores	Home, clothing, health, education and leisure	USA
2012	46	Matco Tools	Retail stores	Home, clothing, health, education and leisure	USA
2012	47	Aaron's sales and Lease Ownership	Home-related	Home, clothing, health, education and leisure	USA
2012	48	Shoebox New York	Clothing and accessories	Home, clothing, health, education and leisure	USA

FDD	#	Franchisor	Industry	Macro-industry	Country
2012	49	EmbroidMe	Clothing and accessories	Home, clothing, health, education and leisure	USA
2012	50	Furla	Clothing and accessories	Home, clothing, health, education and leisure	ITA
2012	51	Plato's Closet	Clothing and accessories	Home, clothing, health, education and leisure	USA
2012	52	Amramp	Health and fitness	Home, clothing, health, education and leisure	USA
2012	53	Caring Senior Service	Health and fitness	Home, clothing, health, education and leisure	USA
2012	54	Home Helpers/Direct Link	Health and fitness	Home, clothing, health, education and leisure	USA
2012	55	Anytime Fitness	Health and fitness	Home, clothing, health, education and leisure	USA
2012	56	Home Instead Senior Care	Health and fitness	Home, clothing, health, education and leisure	USA
2012	57	Pearle Vision	Health and fitness	Home, clothing, health, education and leisure	USA
2012	58	Mathnasium Learning Centers	Education-related	Home, clothing, health, education and leisure	USA
2012	59	Kumon North America	Education-related	Home, clothing, health, education and leisure	Japan
2012	60	Sylvan Learning Centers	Education-related	Home, clothing, health, education and leisure	USA
2012	61	Gymboree Play and Music	Child-development related	Home, clothing, health, education and leisure	USA
2012	62	Hilton	Lodging	Home, clothing, health, education and leisure	USA
2012	63	Choice Hotels International	Lodging	Home, clothing, health, education and leisure	USA
2012	64	InterContinental Hotels Group (IHG)	Lodging	Home, clothing, health, education and leisure	UK
2012	65	Motel 6	Lodging	Home, clothing, health, education and leisure	USA
2012	66	Hilton Garden Inn	Lodging	Home, clothing, health, education and leisure	USA
2012	67	Homewood Suites by Hilton	Lodging	Home, clothing, health, education and leisure	USA
2012	68	Radisson Hotels and Resorts	Lodging	Home, clothing, health, education and leisure	USA
2012	69	Ramada Franchise Systems	Lodging	Home, clothing, health, education and leisure	USA
2012	70	CruiseOne	Travel	Home, clothing, health, education and leisure	USA
2012	71	Plan Ahead Events	Other professional services	Professional services	USA

FDD	#	Franchisor	Industry	Macro-industry	Country
2012	72	Martinizing Dry Cleaning	Other professional services	Professional services	USA
2012	73	Maid Brigade	Other professional services	Professional services	USA
2012	74	Maids, The (the Maids)	Other professional services	Professional services	USA
2012	75	UPS Store, The	Other professional services	Professional services	USA
2012	76	Allegra Print & Imaging	Printing	Professional services	USA
2012	77	Kwik Kopy Business Centers	Printing	Professional services	USA
2012	78	Minuteman Press International	Printing	Professional services	USA
2012	79	Proforma	Printing	Professional services	USA
2012	80	Sir Speedy	Printing	Professional services	USA
2012	81	Coffee News	Printing	Professional services	USA
2012	82	Spherion	Personal services	Professional services	USA
2012	83	Express Employment Professionals	Personal services	Professional services	USA
2012	84	ServiceMaster Clean	Maintenance services	Professional services	USA
2012	85	Maids, The	Maintenance services	Professional services	USA
2012	86	Weed man	Maintenance services	Professional services	Canada
2012	87	Vanguard Cleaning Systems	Maintenance services	Professional services	USA
2012	88	Jani-King International	Maintenance services	Professional services	USA
2012	89	Chem-Dry Carpet and Upholsery Cleaning	Maintenance services	Professional services	USA
2012	90	Stratus Building Solutions	Maintenance services	Professional services	USA
2012	91	Liberty Tax Service	Business-related	Professional services	USA
2012	92	Pronto Insurance	Business-related	Professional services	USA
2012	93	Jan-Pro Cleaning Systems	Business-related	Professional services	USA
2012	94	Padgett Business Services	Business-related	Professional services	USA
2012	95	AAMCO	Automotive	Professional services	USA
2012	96	Meineke Car Care Centers	Automotive	Professional services	USA
2012	97	Midas	Automotive	Professional services	USA

FDD	#	Franchisor	Industry	Macro-industry	Country
2012	98	Express Oil Change	Automotive	Professional services	USA
2012	99	Dollar Rent A Car	Automotive	Professional services	USA
2012	100	Thrifty Car Rental	Automotive	Professional services	USA

Source: Worldfranchising.com©

References

Aydin, N., & Kacker, M. (1990). International outlook of U.S.-based franchisers. *International Marketing Review, 7*(2), 43–53.

Barthelemy, J. (2008). Opportunism, knowledge, and the performance of franchise chains. *Strategic Management Journal, 29*, 1451–1463.

Bates, T. (1998). Survival patterns among newcomers to franchising. *Journal of Business Venturing, 13*, 113–130.

Bhattacharyya, S., & Lafontaine, F. (1995). Double-sided moral hazard and the nature of share contracts. *RAND Journal of Economics, 26*, 761–781.

Blair, R. D., & Lafontaine, F. (2011). *The economics of franchising*. Cambridge: Cambridge University Press.

Bond, R. (2002). *Bond's franchise guide*. Oakland: Source Book Publications.

Bordonaba-Juste, M. V., Lucia-Palacios, L., & Polo-Redondo, Y. (2009). Franchise firm entry time influence on long-term survival. *International Journal of Retail and Distribution Management, 37*, 106–125.

Bradach, J. L. (1995). Chains within chains: The role of multi-unit franchisees. *Journal of Marketing Channels, 4*, 65–81.

Bradach, J. L. (1997). Using the plural form in the management of restaurant chains. *Administrative Science Quarterly, 42*, 276–303.

Brickley, J. A., & Dark, F. H. (1987). The choice of organizational form: The case of franchising. *Journal of Financial Economics, 18*(2), 401–420.

Brickley, J. A., Misra, S., & Van Horn, R. L. (2003). *Contract duration: Evidence from franchise contracts*. Rochester: Mimeo, Simon School of Business, University of Rochester.

Brickley, J. A., & Weisbach, M. S. (1991). An agency perspective on franchising. *Financial Management, 20*(1), 27–35.

Carney, M., & Gedajlovic, E. (1991). Vertical integration in franchise systems: Agency theory and resource explanations. *Strategic Management Journal, 12*(8), 607–629.

Castrogiovanni, G. J., Bennett, N., & Combs, J. G. (1995). Franchisor types: Reexamination and clarification. *Journal of Small Business Management, 33*(1), 45–55.

Castrogiovanni, G. J., & Justis, R. T. (2002). Strategic and contextual influences on firm growth: An empirical study of franchisors. *Journal of Small Business Management, 40*, 98–108.

Caves, R., & Murphy, W. (1976). Franchising: Firms, markets, and intangible assets. *Southern Economic Journal, 42*, 572–586.

Cavusgil, S. T., & Nevin, J. R. (1980). A conceptualization of the initial involvement in international marketing. In C. W. Lamb & P. M. Dunne (Eds.), *Theoretical developments in marketing*. Chicago: American Marketing Association.

Clarkin, J. E., & Rosa, P. J. (2005). Entrepreneurial teams within franchise firms. *International Small Business Journal, 23*, 303–334.

Clarkin, J. E., & Swavely, S. M. (2006). The importance of personal characteristics in franchisee selection. *Journal of Retailing and Consumer Services, 13*, 133–142.

Cliquet, G. (2000). Plural forms in store networks: A model for store network evolution. *International Review of Retail, Distribution and Consumer Research, 10*, 369–387.

Cliquet, G., & Croizean, J. P. (2002). Towards plural forms, franchising/company-owned systems in the French cosmetics retail industry. *International Journal of Retail and Distribution Management, 30*, 238–250.

Combs, J. G., Michael, S. C., & Castrogiovanni, G. J. (2004). Franchising: A review and avenues to greater theoretical diversity. *Journal of Management, 30*, 907–931.

Dant, R. P., & Kaufmann, P. J. (2003). Structural and strategic dynamics in franchising. *Journal of Retailing, 79*, 63–75.
Darr, E. D., Argote, L., & Epple, D. (1995). The acquisition, transfer, and depreciation of knowledge in service organizations: Productivity in franchises. *Management Science, 41*, 1750–1762.
Fladmoe-Linquist, K. (1996). International franchising: Capabilities and development. *Journal of Business Venturing, 11*, 419–438.
Franchise Business Economic Outlook (2014). *IHS global insight* (for the IFA Educ. Foundation).
Gillis, W. E., & Combs, J. G. (2009). Franchisor strategy and firm performance: Making the most of strategic resource investments. *Business Horizons, 52*, 553–561.
Gorovaia, N., & Windsperger, J. (2013). Real options, intangible resources and performance of franchise networks. *Managerial and Decision Economics, 34*, 183–194.
Grunhagen, M., Dipietro, R. B., Stassen, R. E., & Frazer, L. (2008). The effective delivery of franchisor services: A comparison of US and German support practices for franchisees. *Journal of Marketing Channels, 15*, 315–335.
Grunhagen, M., & Dorsch, M. J. (2003). Does the franchisor provide value to franchisees? Past, current, and future value assessments of two franchisee types. *Journal of Small Business Management, 41*, 366–384.
Hoffman, R., & Preble, J. (1993). Franchising into the twenty-first century. *Business Horizons, 36*(6), 35–43.
Hoffman, R., & Preble, J. (2003). Convert to compete: Competitive advantage through conversion franchising. *Journal of Small Business Management, 41*(2), 187–204.
Hsu, L., & Jang, S. (2009). Effects of restaurant franchising: Does an optimal franchise proportion exist? *International Journal of Hospitality Management, 28*, 204–211.
Huang, Y., & Phau, I. (2009). Mapping the profiles of franchisees. *Direct Marketing, 2*, 221–238.
Imna, C., & Debowski, S. (2006). Analysis of franchise performance through use of a typology: An Australian investigation. *Singapore Management Review, 28*, 1–30.
International Franchising Association-IFA (2015). *Franchise Public Policy Reform*, January.
Jambulingam, T., & Nevin, J. R. (1999). Influence of franchisee selection criteria on outcomes desidered by the franchisor. *Journal of Business Venturing, 14*, 363–395.
Kalnins, A., & Lafontaine, F. (1996). The characteristics of multi-unit ownership in franchising: Evidence and implications for theory. *Manuscript*, University of Southern California.
Kaufmann, P. J., & Dant, R. P. (1996). Multi-unit franchising: Growth and management issues. *Journal of Business Venturing, 11*, 343–358.
Kaufmann, P. J., & Kim, S. H. (1995). Master franchising and system growth rates. *Journal of Marketing Channels, 4*, 49–64.
Kaufmann, P. J., & Lafontaine, F. (1994). Costs of control: The source of economic rents for McDonald's franchisees. *Journal of Law and Economics, 37*, 417–454.
Klein, B. (1995). The economics of franchise contracts. *Journal of Corporate Finance, 2*, 9–37.
Knight, R. M. (1984). The independence of the franchisee entrepreneur. *Journal of Small Business Management, 22*, 53–61.
Knott, A. M. (2003). The organizational routines factor market paradox. *Strategic Management Journal, 24*, 8–15.
Kogut, B. (1991). Joint ventures and the option to expand and acquire. *Management Science, 37*, 19–33.
Kogut, B., & Kulatilaka, N. (2001). Capabilities as real options. *Organization Science, 12*, 744–758.
Koh, Y., Lee, S., & Boo, S. (2009). Does franchising help restaurant firm value? *International Journal of Hospitality Management, 28*, 289–296.
Kosova, R., & Lafontaine, F. (2010). Survival and growth in retail and service industries: Evidence from franchised chains. *Journal of Industrial Economics, 58*, 542–578.
Lafontaine, F. (1992a). Agency theory and franchising: Some empirical results. *RAND Journal of Economics, 23*, 263–283.
Lafontaine, F. (1992b). How and why do franchisors do what they do: A survey report". In P. J. Kaufmann (Ed.), *6th annual proceedings of the society of franchising*.
Lafontaine, F., & Oxley, F. (2004). International franchising practices in Mexico: Do franchisors customize their contracts? *Journal of Economics and Management Strategy, 13*, 95–124.
Lafontaine, F., & Shaw, K. L. (1998). Franchising growth and franchisor entry and exit in the U.S. market: Myth and reality. *Journal of Business Venturing, 13*, 95–112.
Lowell, H. B. (1991). *Multiple-unit franchising: The key to rapid system growth.* Washington, D.C.: Brownstein Zeidman and Schomer.

Martin, R. (1988). Franchising and risk management. *American Economic Review, 78*, 954–968.
Mathewson, G. F., & Winter, R. A. (1985). The economics of franchise contracts. *Journal of Law and Economics, 28*(3), 503–526.
McGrath, R. G., & Nerkar, A. (2004). Real options reasoning and a new look at the R&D investment strategies of pharmaceutical firms. *Strategic Management Journal, 25*(1), 1–21.
McIntyre, F. S., & Huszagh, S. M. (1995). Internationalization of franchise systems. *Journal of International Marketing, 3*(4), 39–56.
Michael, S. C. (2000). Investments to create bargaining power: The case of franchising. *Strategic Management Journal, 21*, 497–514.
Michael, S. C., & Combs, J. G. (2008). Entrepreneurial failure: The case of franchisees. *Journal of Small Business Management, 46*, 73–90.
Nijmeijer, K. J., Fabbricotti, I. N., & Huijsman, R. (2014). Making franchising work: A framework based on systematic review. *International Journal of Management Reviews, 16*, 62–83.
Norton, S. (1988). An empirical look at franchising as an organizational form. *Journal of Business, 61*, 197–217.
Perrigot, R., Cliquet, G., & PiotLepetit, I. (2009). Plural form chain and efficiency: Insights from the French hotel chains and the DEA methodology. *European Management Journal, 27*, 268–280.
Perryman, A. A., & Combs, J. G. (2012). Who should own it? An agency-based explanation for multi-outlet ownership and co-location in plural form franchising. *Strategic Management Journal, 33*, 368–386.
Rubin, P. (1978). The theory of the firm and the structure of the franchise contract. *Journal of Law and Economics, 21*, 222–233.
Shane, S. (1996a). Hybrid organizational arrangements and their implications for firm growth and survival: A study of new franchisors. *Academy of Management Journal, 39*, 216–234.
Shane, S. (1996b). Why franchise companies expand overseas. *Journal of Business Venturing, 11*, 73–88.
Shane, S. (1998). Making new franchise systems work. *Strategic Management Journal, 19*, 697–707.
Shane, S. (2001). Organizational incentives and organizational mortality. *Organization Science, 12*, 136–160.
Shane, S., Shankar, V., & Aravindakshan, A. (2006). The effects of new franchisor partnering strategies on franchise system size. *Management Science, 52*, 773–787.
Shane, S., & Spell, C. (1998). Factors for new franchise success. *Sloan Management Review, 39*, 43–50.
Sorenson, O., & Sorenson, J. B. (2001). Finding the right mix: Franchising, organizational learning, and chain performance. *Strategic Management Journal, 22*, 713–724.
Spinelli, S., Birley, S., & Leleux, B. (2003). An analysis of shareholder return in public franchisor companies. *Journal of Private Equity, 6*, 56–67.
Srinivasan, R. (2006). Dual distribution and intangible firm value: Franchising in restaurant chains. *Journal of Marketing, 70*, 120–135.
Trigeorgis, L. (1996). *Real options: Managerial flexibility and strategy in resource allocation*. Cambridge: MIT Press.
Vazquez, L. (2007). Proportion of franchised outlets and franchise system performance. *Service Industries Journal, 27*, 907–921.
Vazquez, L. (2009). How passive ownership restrictions affect the rate of franchisee failure. *Services Industries Journal, 29*, 847–859.
Vroom, G., & Gimeno, J. (2007). Ownership form, managerial incentives, and the intensity of rivalry. *Academy of Management Journal, 50*, 901–922.
Walker, B. (1989). *A comparison of international vs. domestic expansion by U.S. franchise systems*. Washington DC: International Franchise Association.
Walker, B., & Etzel, M. (1973). The internationalization of U.S. franchise systems: Progress and procedure. *Journal of Marketing, 37*, 38–46.
Williams, D. (1996). *Incomplete contracting and ex-post opportunism: Evidence from franchise contract termination*. Mimeo, UCLA, Department of Economics.
Windsperger, J. (2012). Governance of franchising networks. In A. Grandori (Ed.), *Handbook of economic organization: Integrating economic and organization theory*. Cheltenham: Edward Elgar Publishing.
Windsperger, J., & Dant, R. P. (2006). Contractibility and ownership redirection in franchising: A property rights view. *Journal of Retailing, 82*, 259–272.
Yin, X., & Zajac, E. J. (2004). The strategy/governance structure fit relationship: Theory and evidence in franchising arrangements. *Strategic Management Journal, 25*, 365–383.