

A property rights view of multi-unit franchising

Dildar Hussain & Josef Windsperger

European Journal of Law and Economics

ISSN 0929-1261
Volume 35
Number 2

Eur J Law Econ (2013) 35:169-185
DOI 10.1007/s10657-012-9366-8

Volume 35, Number 2

April 2013

ISSN 0929-1261

European
Journal of
**LAW AND
ECONOMICS**

EDITOR
JÜRGEN G. BACKHAUS

 Springer

Available
online
www.springerlink.com

 Springer

Your article is protected by copyright and all rights are held exclusively by Springer Science +Business Media New York. This e-offprint is for personal use only and shall not be self-archived in electronic repositories. If you wish to self-archive your work, please use the accepted author's version for posting to your own website or your institution's repository. You may further deposit the accepted author's version on a funder's repository at a funder's request, provided it is not made publicly available until 12 months after publication.

A property rights view of multi-unit franchising

Dildar Hussain · Josef Windsperger

Published online: 21 November 2012
© Springer Science+Business Media New York 2012

Abstract This study develops a property rights explanation of the multi-unit (MU) ownership strategy of the franchise firm. According to the property rights theory, the allocation of residual rights of control (decision and ownership rights) in franchise firms depends on the contractibility of system-specific and local market assets (LMA). We develop and test the following hypotheses: Multi-unit franchising (MUF) is positively related to the franchisor's intangible system-specific assets and negatively to the franchisee's intangible LMA. In addition, we argue that impact of financial assets on the tendency toward MUF depends on the contractibility of LMA. Empirical results from the German franchise sector provide partial support of the hypotheses. Compared to the agency theory, which focuses on (complete) incentive contracts that specify residual income rights between the franchisor and franchisee, property rights theory focuses on incomplete contracts that allocate residual control rights between the franchisor and network partners. Furthermore, compared to the resource scarcity theory, property rights theory explains the impact of contractibility of resources/assets on the ownership strategy of the franchise firm.

Keywords Multi-unit franchising · Property rights theory · Local market knowledge assets · Financial assets · System-specific assets · Empirical analysis

JEL Classification L22 · L26 · M21

D. Hussain (✉)
ESC Rennes School of Business, 2 rue Robert d'Arbrissel, 35000 Rennes, France
e-mail: dildar.hussain@esc-rennes.fr

J. Windsperger
Center for Business Studies, University of Vienna, Bruenner Strasse 72, 1210 Vienna, Austria
e-mail: josef.windsperger@univie.ac.at

1 Introduction

The expansion of franchising networks by opening up franchised outlets can be based on two ownership strategies: single-unit franchising (SUF) and multi-unit franchising (MUF). Under SUF, a franchisee operates only one outlet while in the case of MUF arrangement a franchisee operates two or more outlets at multiple geographical locations in the same franchise system. The phenomenon of MUF can be further divided into two types, i.e. area development multi-unit (MU) strategy and sequential MU strategy (Kaufmann and Dant 1996). In the first case, the franchisee has the right to open a certain number of outlets in a particular geographical area during a specified time period, and in the second case the existing franchisee is granted the right to sequentially open up additional outlets (Grünhagen and Mittelstaedt 2005). This paper presents a property rights explanation of the franchisor's choice of the MU ownership strategy by emphasizing the role of noncontractible (intangible) assets as determinant of the ownership strategy.

Although several theoretical and empirical studies dealing with MUF have been published in recent years, no study has tested a property rights approach to explain MUF. MUF has been examined from agency cost, transaction cost and resource scarcity perspectives. First, MUF can address a number of agency problems in a more effective way compared to SUF (Brickley 1999; Garg and Rasheed 2003; Bercovitz 2004; Kalnins and Lafontaine 2004; Kalnins and Mayer 2004; Garg et al. 2005; Weaven 2009; Gomez et al. 2010; Gillis et al. 2011; Jindal 2011). Especially, MU franchisees are better motivated to reduce monitoring costs. Geographical contiguity of franchised units positively influences the use of MUF (Gomez et al. 2010). The franchisors prefer MUF compared to SUF to reduce the risk of free-riding at the local outlets (Brickley 1999; Bercovitz 2004; Kalnins and Lafontaine 2004). Fladmoe-Lindquist and Jacque (1995) argue that MU franchisees provide better quality of goods/services than single-unit (SU) franchisees because shirking on quality would affect the MU franchisee's business in the local network and ultimately his/her profitability. Recently, Jindal (2011) argues that franchisors use MUF to shift the burden of monitoring to the MU franchisees, as they are better motivated to reduce monitoring costs than company-employed monitors under SUF systems. Gillis et al. (2011) show that franchisors use MUF as a reward in a tournament to reduce agency problems. Second, Bercovitz (2003) applies transaction cost reasoning to explain MUF. She argues that MUF increases the self-enforcing range of franchise contracts (Klein 1995). If the self-enforcing range is higher under MUF compared to SUF, the opportunism risk is lower, and the franchisor less frequently uses disciplinary measures (litigation and termination) for contract enforcement. Consequently, MUF reduces the opportunism risk, due to the stronger incentive effect compared to SUF. Third, under the resource scarcity view, MUF systems have resource advantages over SUF systems (Kaufmann and Dant 1996). Empirical studies show that MUF and system growth are positively related (Bradach 1995; Kaufmann and Kim 1995; Kaufmann and Dant 1996; Gomez et al. 2010).

Starting from the existing literature that primarily focuses on agency cost and resource scarcity perspectives to explain the MU ownership strategy, we extend the

literature by developing a property rights explanation of the franchisor's MU ownership strategy. According to the property rights theory, franchisor's allocation of residual rights of control between SU and MU franchisees depends on the contractibility of assets, i.e. system-specific assets, local market assets (LMA) and financial assets. First, we hypothesize that MUF is negatively related to the franchisee's intangible LMA and positively to the franchisor's intangible system-specific assets. Second, we argue that the impact of financial assets on the franchisor's tendency toward MUF depends on the contractibility of LMA.

What is the contribution of our property rights view of MUF to the existing literature? When setting up a franchising network the franchisor has to assign residual income and control rights between the network partners. Hence designing MUF versus SUF contracts is a question of allocating residual income and residual control rights between the network partners. Compared to the agency theory that explains the allocation of residual income rights by incentive contracts between the franchisor and SU- and MU-franchisees, property rights theory explains the allocation of ownership and decision rights between the franchisor and franchisees. Agency theory does not distinguish between performance incentives and ownership incentives because it implicitly assumes that "a contract that provides full incentives to an individual is fundamentally the same as selling the firm to this individual" (Hart 1995, 2003; Hubbard 2008, p. 349). Compared to the resource scarcity theory that focuses on information, managerial and financial resources as determinants of the ownership structure without differentiating between contractible and noncontractible resources (Dant et al. 2011), the property rights theory of MUF explains the ownership strategy by differentiating between more and less contractible resources (Windsperger and Dant 2006; Baker and Dant 2008).

The article is organized as follows: Section two develops the theory and the hypotheses. Section three explains the methodology and presents the empirical results. Finally, section four discusses the results and draws some conclusions.

2 Theory development and hypotheses

2.1 Contractibility of assets and franchisor's ownership strategy

According to the property rights theory, the asset characteristic relevant for the allocation of residual control rights is the degree of intangibility (noncontractibility) (Hart and Moore 1990; Brynjolfsson 1994). What are the intangible assets in franchising? The franchisee's intangible assets refer to the local market know-how in local advertising and customer service, quality control, human resource management and product innovation. The franchisor's intangible assets refer to the system-specific know-how and brand name capital (Klein and Leffler 1981; Hall 1993). The system-specific know-how includes knowledge and skills in site selection, store layout, product development, buying and merchandising. The brand name capital refers to intangible investments in system marketing and promotion.

How are the residual rights of control (i.e. ownership and decision rights) allocated between the franchisor and the franchisee? According to the property

rights theory, contractibility of the franchisor's and franchisees' assets determines the allocation of the ownership and decision rights in the franchising network (Hart 1995; Windsperger 2003; Mumdzhev and Windsperger 2011). Contractibility refers to the extent to which the franchisor's system-specific assets and franchisee's LMA can be easily codified and transferred to the other partner. The impact of contractibility of assets on the franchisor's choice between SU and MU ownership strategy has not been examined in the literature. This study develops and tests the following property rights hypotheses (see Fig. 1). (1) The lower the contractibility of LMA, the more important are the entrepreneurial orientation and local responsiveness for the generation of residual income of the network, the more incentives must be transferred to the local unit operator and the higher is the franchisor's tendency to use SUF compared to MUF. (2) The lower the contractibility of LMA, the larger is the impact of franchisees' financial resources on the franchisor's propensity to use MUF. (3) The lower the contractibility of the system-specific assets, the more important is the franchisor's control over the use of system-specific know-how at the local outlets for the generation of the residual income, and the higher is the tendency toward MUF. In the following section, the hypotheses are developed in detail.

2.2 Hypotheses

2.2.1 Contractibility and local market assets

Noncontractibility results from intangibility of assets. Franchisees' intangible assets refer to the franchisee's local market know-how consisting of exploration assets and

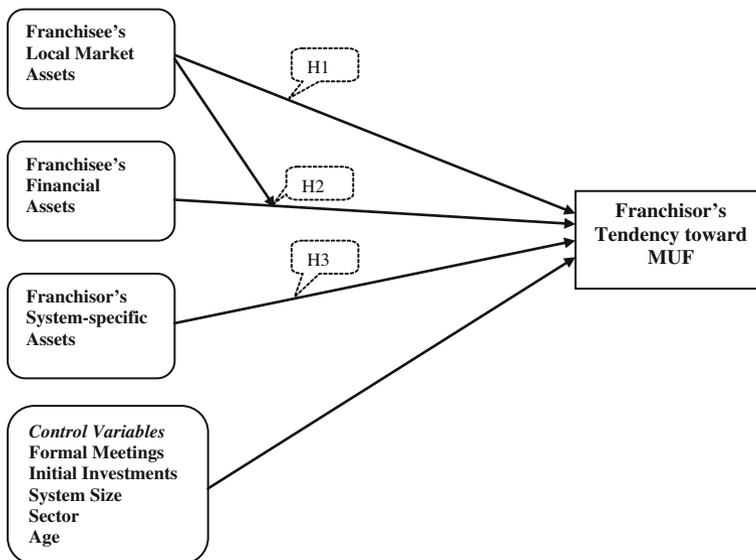


Fig. 1 Theoretical model

exploitation assets (Sorenson and Sørensen 2001). The former include local market knowledge and innovation capabilities, and the latter include quality control, human resource management and administrative capabilities. Intangible outlet-specific know-how can be more efficiently acquired and deployed by SU franchisees compared to the outlet managers of the MU franchisee's mini-chain (Hussain and Windsperger 2010). This is due to the fact that SU franchisees (as residual claimants) have a stronger entrepreneurial orientation than the outlet managers of the mini-chains (Bradach 1995, 1997, 1998), because their residual income exclusively depends on the success of the SU outlet. In addition, SU franchisees are more motivated to exploit the profit opportunities of the local units than the outlet managers of the MU-franchisees, because MU-franchisees transfer some of the operational decision rights to the outlet manager of the mini-chain that may result in additional agency problems. In sum, we can conclude: The higher the intangibility of LMA, the more important is the entrepreneurial orientation of the local entrepreneur (as local unit operator) for the creation of residual income, and the less diluted should be the residual control rights of the local unit operators, and hence the lower is the tendency toward MUF. We derive the following hypothesis:

H1 Franchisees' noncontractible LMA are negatively related to the franchisor's tendency to use MUF.

2.2.2 Contractibility and financial resources

Financial resource scarcity of the franchisor is a major reason to use franchising for financing the growth of the system (Gonzalez-Diaz and Solis-Rodriguez 2012). First, the question to ask is under which conditions the franchisor may realize an advantage by using the franchisee's financial resources. The reason lies in the low contractibility of assets, especially in the early phase of the organizational life cycle. The franchisor may be quite constrained by the information asymmetry between the external lender (e.g., bank) and him-/herself concerning the profitability of investment projects (Norton 1995; Combs and Ketchen 1999). This information asymmetry can be reduced by setting-up a franchising network. The franchisee may be more able to evaluate the investment risk because he/she is not only the supplier of financial assets but also of the local market know-how that shows a high degree of intangibility resulting in high financial transaction costs for the lender (Long and Malitz 1985; Norton 1995). Hence the importance of franchisees' financial assets for financing the franchisor's system growth increases with the noncontractibility of LMA. For instance, if the LMA are highly intangible, a high degree information asymmetry exists between the external supplier of capital and the franchisor, which leads to difficulties of the franchisor to acquire financial resources from external lenders in order to finance the system growth. Conversely, if the LMA are less intangible and hence more contractible, the information asymmetry between the lender and the franchisor is relatively low, which enable the franchisor to get less costly access to financial resources from external suppliers. Therefore, under this property rights perspective, the contractibility of LMA influences the contractibility of financial assets (Windsperger and Dant 2006).

Second, the question to ask is: Can MUF additionally mitigate the financial resource scarcity problem of the franchisor compared to SUF? MUF offers additional growth opportunities for the franchisor compared to SUF (Kaufmann and Dant 1996), because MU franchisees are less constrained in financing local investments compared to SU franchisees (Wilbur 2011). This may be due to the fact that MU franchisees have a better financial standing at the beginning of the contract relationship or they have already successfully managed franchised outlets in the past that improves their financial standing. In this case, they have easier and less costly access to financial resources from external lenders than SU franchisees, especially in situations of highly intangible LMA. Consequently, MUF helps the franchisor to alleviate the financial scarcity problem compared to the case of SUF, because the external suppliers of capital may charge the MU franchisees lower risk premiums than the SU franchisees. As a result we can derive the following hypothesis:

H2 The impact of financial assets on the franchisor's tendency toward MUF increases with noncontractibility of LMA.

2.2.3 Contractibility and system-specific assets

System-specific know-how includes franchisor business know-how, skills and experience in site selection, unit layout, product development, marketing, advertising, IT, purchasing, and merchandizing (Sorenson and Sørensen 2001). These intangible assets have an important tacit component that cannot be easily transferred to the local outlets. Therefore, when system-specific assets are highly intangible and hence noncontractible, the franchisor needs more control over their use at the local markets. MUF provides the franchisor a higher level of control due to the more standardized operational routines and procedures (Yin and Shanley 2010) and the reduction of the number of contractual relations between the franchisor and franchisees compared to a SUF system. Consequently, the higher the degree of intangibility of system-specific assets, the more important is the franchisor's control over the use of system-specific know-how for the generation of the residual income and the higher the tendency is toward MUF. We derive the following hypothesis:

H3 Franchisor's noncontractible system-specific assets are positively related to franchisor's use of MUF.

3 Empirical analysis

3.1 Data collection

Empirical data to test the hypotheses were collected from the German franchise sector. The directory of the German Franchise Association (GFA) lists all franchise systems operating in Germany that are registered members of the GFA. The data were collected via a self-administered questionnaire which was developed in several steps. After several preliminary refinements, we conducted in-depth interviews with franchise professionals from the Austrian and the GFAs as well as franchise

consultants and a pre-test with 10 franchisors in Vienna. The final questionnaire was mailed to 485 franchise systems in Germany. The response rate was 32 %, providing us a sample of 153 franchise systems. Table 1 presents the sector-wise distribution of the sample.

Due to missing values, only 90 responses could be used for the regression analysis. Non-response bias was estimated by comparing early versus late respondents (Armstrong and Overton 1977), where late respondents serve as proxies for non-respondents. Additionally, we were able to retrieve data on five variables (i.e. age, initial franchise fee, advertising fee, contract length and royalties) for the entire population. We used this data to check whether the sample is representative. No significant differences emerged between the two groups of respondents (see Table 2).

3.2 Measurement

The measures of the relevant variables are summarized in the “Appendix”.

3.2.1 Dependent variable

The dependent variable, *proportion of multi-unit outlets* (PropMUF), is measured as a ratio of the franchised outlet to the number of franchisees. A similar ratio has been used in previous studies as an indicator for MUF (Bercovitz 2003; Gomez et al. 2010). However, some studies use dichotomous measures for the use of MUF (Robicheaux et al. 1994; Bradach 1995; Grünhagen and Mittelstaedt 2005).

3.2.2 Independent variables

Intangible local market assets (LMA): They refer to the franchisee’s local market know-how. The higher the degree of intangibility of franchisee’s local market know-how, the larger is the local market knowledge advantage of the franchisee. Therefore, we use the local market knowledge advantage of the franchisee as an indicator of the degree of intangibility of franchisee’s outlet-specific assets. In the questionnaire the franchisors were asked to rate on a five-point scale to evaluate franchisee’s intangible LMA. Consistent with previous studies (Cliquet 2000;

Table 1 Sector-wise distribution of the sample and the population

Sector	Population		Sample (respondents)	
	No. of systems	%	No. of systems	%
Retail business	163	33.61	46	30.07
Personal and business services	149	30.72	50	32.68
Manufacturing and others	62	12.68	18	11.76
Hotel and restaurant	44	9.07	22	14.38
Building, construction, and real estate	41	8.45	8	5.23
Cleaning and maintenance	26	5.36	9	5.88
Total	485	100	153	100

Table 2 Estimate of non-response bias

	Means (SD), and counts ^a		<i>t</i> value	<i>p</i> value
	Population	Respondents		
Age of franchise system (years)	16.420 (20.796) <i>N</i> = 467	15.032 (20.016) <i>N</i> = 153	−0.722	0.470
Initial franchise fee (1,000 €)	10.536 (19.984) <i>N</i> = 387	11.548 (10.274) <i>N</i> = 126	0.545	0.586
Advertising fee (% of sales)	1.161 (1.617) <i>N</i> = 387	1.082 (1.858) <i>N</i> = 145	−0.482	0.630
Contract length (years)	7.550 (3.487) <i>N</i> = 420	7.810 (3.731) <i>N</i> = 149	0.774	0.439
Royalties (% of sales)	4.141 (3.997) <i>N</i> = 360	4.078 (3.118) <i>N</i> = 140	−0.166	0.868

The measures of, initial franchise fee, advertising fee, and royalties were first tested by a MANOVA to ensure independence of these variables. Manova was non-significant (Wilks' $\lambda = 1.000$, $p = 0.984$)

Counts differ across different measures because of item non-responses

Windsperger 2004), we use a three-item scale to measure the local know-how advantage of the franchisee (see “Appendix”).

Intangible system-specific assets: They refer to the franchisor's specific know-how and brand name capital. Based on indicators used in earlier studies (e.g., Darr et al. 1995; Fladmoe-Lindquist and Jacque 1995), we use annual training days (ANTD) as a proxy for the franchisor's intangible system-specific assets. The number of training days is an indicator of the importance of the franchisor's intangible system-specific know-how to generate the residual income of the network. The assumption behind this measure is that as intangibility of system-specific assets increases, so does the number of days of face-to-face interaction. As argued by Simonin (1999), the higher the degree of intangibility, the more personal (face-to-face) knowledge transfer methods are used, such as meetings, coaching and training. The indicator for brand name assets is the advertising fee (ADV) that represents the intangible investments in the brand name capital (e.g., Lafontaine and Shaw 1995; Windsperger 2004).

Financial resources advantage (FIN): Consistent with previous studies (e.g., Dant and Kaufmann 2003), the financial resources advantage of the franchisor is measured by using a single-item five-point Likert-type scale; the franchisors were asked to rate their financial advantage through franchising. The measurement is based on the argument that the franchisors who do not possess enough financial resources to finance the system growth generally perceive a higher financial advantage through franchising.

3.2.3 Control variables

We control for transaction cost (INV), agency cost (OUT, MEET) and resource scarcity variables (AGE) as well as the influence of sector (SEC) on the franchisor's tendency to use MUF.

Initial investments (INV): They refer to the total amount (in thousand €) required to start up a new franchised outlet. INV (including initial fees) are an indicator for franchisees' transaction-specific investments. According to the transaction cost theory, transaction-specific investments function as a bonding device (Williamson 1983; Klein 1996). They reduce the opportunism risk for the franchisor by increasing the self-enforcing range of franchise contracts (Klein 1996). If the franchisee is a MU owner he has to undertake higher specific investments to open up the local network compared to SUF. On the other hand, the additional investment costs are decreasing with the number of units in the mini-chain resulting in a higher quasi-rent stream. Consequently, the higher the bonding effect of the franchisee's specific investments under MUF compared to SUF, the higher is the tendency toward MUF.

System size (OUT): According to the agency theory (e.g., Eisenhardt 1989; Lafontaine and Slade 2001, 2007), asymmetric information and opportunism result in high agency costs. The franchisor has two possibilities to reduce the agency costs: On the one hand, to reduce the residual loss by increasing the monitoring activities and, on the other hand, to increase the incentive by allocating a higher fraction of residual income rights to the franchisee. The higher the monitoring costs of the franchisor due to behavioural uncertainty, the more residual income rights should be transferred to the franchisee. The size of franchise system (measured by the total of franchised and company-owned outlets) is a proxy for monitoring costs (Shane 1998). The larger the franchise system, the higher the monitoring costs, and the more residual income rights are transferred by using MUF.

Formal meetings (MEET): According to Fama and Jensen (1983), the decision structure of a firm consists of decision management and control rights. Whenever the decision management rights are divided between network partners, due to their specific knowledge, control rights are installed to counter agency problems associated with the dilution of decision rights. In franchising, the dilution of the franchisor's decision management rights, due to the assignment of operational decision rights to the MU franchisees, can be compensated by an increase of franchisor's control by setting up formal coordination devices (e.g., meetings of commissions). The purpose of these meetings is to coordinate the operational and strategic decisions in the network. We use the annual number of meetings (MEET) between the franchisor and the franchisees as a proxy for control.

Age (AGE): Due to the reputation effect of an established brand name, older franchise systems are more likely to attract MU franchisees than franchise systems in the early stages of the life cycle. Hence, experience helps to alleviate the franchisor's resource scarcity problem by increasing the likelihood of attracting competent franchisees. The existing research shows that the age of a system may have a positive impact on the use of MUF (e.g., Weaven 2009). AGE is measured by the number of years since the franchise system was established.

Sector (SECT): We differentiate between product and services franchising. Previous studies (e.g., Wadsworth and Morgan 2003) suggest that MUF varies with the industry and the business sector. Since services franchising firms are characterized by more intangible assets compared to product franchising firms, they require more knowledge transfer and monitoring capabilities. Hence, services firms may have a higher tendency toward MUF.

3.3 Regression analysis

Descriptive statistics are reported in Table 3.

We use OLS regression analysis to test our proposed model (see Fig. 1). The dependent variable “proportion of MUF” (PropMUF) is modeled as number of units per franchisee. Franchisee’s intangible LMA, franchisor’s financial assets (FIN, LMA \times FIN), and franchisor’s intangible system-specific assets (ANTD, ADV) are used as predictor variables. Control variables refer to formal meeting days (MEET), INV, number of outlets (OUT), sector (SECT) and age of the system (AGE). We estimate the following regression equation:

$$\text{PropMUF} = \alpha_0 + \alpha_1\text{FIN} + \alpha_2\text{LMA} + \alpha_3\text{ANTD} + \alpha_4\text{LMA} \times \text{FIN} + \alpha_5\text{ADV} \\ + \alpha_6\text{MEET} + \alpha_7\text{INV} + \alpha_8\text{OUT} + \alpha_9\text{SECT} + \alpha_{10}\text{AGE} + \varepsilon$$

According to the property rights theory, we propose a negative effect of intangible LMA and a positive effect of intangible system-specific and brand name assets (ANTD, ADV) on MUF. The impact of financial assets on the ownership strategy is evaluated by $\alpha_1 + \alpha_4\text{LMA}$. Financial assets (FIN) have a positive impact on the tendency toward MUF when the LMA are more noncontractible. Hence LMA functions as moderator (Brambor et al. 2006). Table 4 presents results of the regression analysis.

H1 is supported by the data. LMA are negatively related to the franchisor’s use of MUF. H2 is also supported. As shown in Table 4, LMA is a significant moderator of the impact of financial assets (FIN) on MUF. The slope analysis of the interaction term also supports the hypothesis. With an increasing level of intangible local market knowledge ($\text{LMA} \geq 4$), FIN has a positive effect on MUF (see Table 5). In addition, we proposed a positive effect of franchisor’s intangible system-specific assets (ANTD and ADV) on the use of MUF but the data do not support our hypothesis H3. Furthermore, the regression results show that MUF is positively related with the franchisor’s formal meetings days (MEET) indicating that the dilution of the franchisor’s operational decision rights through MUF is compensated by an increase in the use of formal coordination devices. The results also show that INV, age and sector do not have a significant impact on the franchisor’s use of MUF.

4 Discussion and conclusion

This study develops a property rights explanation of MUF and presents empirical results about the franchisor’s use of MUF in the German franchise sector. First, the empirical findings suggest that franchisees’ intangible LMA significantly influence

Table 3 Descriptive statistics

Variables	Mean	SD	Correlations																
			1	2	3	4	5	6	7	8	9								
1. PropMUF	1.441	1.357	1																
2. LMA	3.187	0.880	-0.198	1															
3. FIN	4.685	1.997	-0.276	-0.047	1														
4. ANTD	6.023	10.243	0.172	-0.221	-0.113	1													
5. OUT	104.876	207.597	0.090	-0.085	-0.096	0.089	1												
6. MEET	5.753	4.063	0.079	-0.082	0.069	0.251	0.169	1											
7. ADV	1.163	1.804	0.185	-0.027	0.119	0.247	0.226	-0.018	1										
8. INV	144.136	300.966	0.072	0.153	-0.149	0.297	0.167	0.125	0.073	1									
9. AGE	16.804	20.134	0.028	-0.078	-0.124	0.004	0.264	-0.75	0.061	0.063	1								

Table 4 OLS regression

	Model 1	Model 2
Variable constant	1.459*** (0.123)	1.488*** (0.122)
LMA	-0.320** (0.131)	-0.355** (0.139)
FIN	-0.390*** (0.123)	-0.405*** (0.125)
ANTD	-0.028 (0.130)	-0.174 (0.147)
ADV	0.125 (0.128)	0.142 (0.131)
LMA × FIN	0.498*** (0.116)	0.587*** (0.123)
MEET	-	0.259* (0.135)
OUT	-	-0.025 (0.132)
SECT	-	-0.038 (0.283)
INV	-	0.178 (0.134)
AGE	-	-0.006 (0.127)
Model summary		
<i>N</i>	90	90
Model <i>F</i>	7.632***	4.412***
<i>R</i> ²	0.310	0.355
Adjusted <i>R</i> ²	0.269	0.275

*** *p* < 0.01; ** *p* < 0.05;
* *p* < 0.1; values in parentheses represent standard errors

Table 5 Interaction analysis

LMA	$\alpha_1 + \alpha_4 \times \text{LMA}$	95 % Confidence interval	
0	-1.11	-1.24328	-0.97672
1	-0.823	-0.95628	-0.68972
2	-0.536	-0.66928	-0.40272
3	-0.249	-0.38228	-0.11572
4	0.038	-0.09528	0.17128
5	0.325	0.19172	0.45828

the franchisor's tendency toward using MUF. The results of regression analysis support our hypothesis that intangible LMA have a negative impact on the tendency toward MUF. The franchisors are less likely to use MUF if entrepreneurial orientation and local responsiveness of the local unit operators are very important

for generation of the residual income of the network. Second, intangible LMA also show a significant moderating effect on the influence of financial resources on MUF. The more intangible LMA are used at the local outlets, the greater is the positive impact of financial resources on the tendency toward MUF. Due to the easier and less costly access to the external capital market of MU franchisees compared to the SU franchisees, MUF systems are less constrained in financing system growth than SU systems. Third, a positive influence of intangible system-specific assets on the use of MUF was proposed. However, the data do not support this hypothesis. Furthermore, the data provide some support of the positive relationship between the franchisor's use of formal meetings and the tendency toward MUF. This may suggest that agency problems, due to the greater dilution of franchisor's operational decision rights under MUF, can be mitigated by an increase in formal control devices.

How does our study extend the existing literature? This research contributes to the franchising and organizational economics literature by providing a property rights explanation of the franchisor's MU-ownership strategy. The empirical study from the German franchise sector provides some support that contractibility of assets determines franchisor's choice between SUF and MUF. Our study extends the literature on MUF beyond existing explanations that are mainly based on agency cost and resource scarcity perspectives. Compared to the agency theory that provides an explanation of the allocation of residual income rights under different (complete) incentive contracts, property rights theory explains the allocation residual rights of control between the franchisor and the SU- and MU-franchisees. As stated by Hart (1995, 2003), agency theory cannot explain the allocation of residual rights of control, due to the complete contracting assumption (Baker and Hubbard 2004; Hubbard 2008). Furthermore, compared to the resource scarcity view (e.g., Dant et al. 1996; Baker and Dant 2008), which does not differentiate between more and less contractible resources, property rights theory argues that franchisees' informational, financial and managerial resources are only relevant for the franchisor's choice of ownership strategy if they are noncontractible (Windsperger and Dant 2006). Similarly, this criticism also applies to the transaction cost theory. Transaction-specific assets only influence the franchisor's ownership strategy when these assets are characterized by a high degree of noncontractibility (Whinston 2003). However, the asset specificity theory (Klein et al. 1978; Williamson 1979) does not differentiate between more and less contractible specific assets.

Our findings also have practical relevance for the franchisor: First, if the market know-how of the local unit operators is of key importance, due to its high degree of intangibility, the franchisor should consider using a higher proportion of SUF to efficiently exploit the local profit opportunities. Second, the franchisor should choose more MU franchisees to mitigate her/his financial scarcity problems. This is especially critical when the LMA are highly intangible, which makes it more difficult for the franchisor to expand by acquiring financial resources from external capital market.

Finally, the study has important limitations. First, we measure all constructs from the franchisor's point of view. Particularly, we use franchisor's perception to

measure LMA. This issue may be addressed in future research by collecting data from the franchisees as well. Second, although Bergkvist and Rossiter (2007) and Drolet and Morrison (2001) argue that the use of single-item scales can be justified by various reasons (e.g., simplicity, convenience and time savings for both the respondent and researcher), additional indicators should be included in the empirical analysis to test the impact of financial resources on MUF. Third, the non-significant impact of system size and age on MUF may be due to the problem that system size and age are only proxies for the agency cost and resource scarcity variables. Future research has to collect more valid indicators (Combs and Ketchen 2003). Fourth, future research should also test alternative explanations of MUF, such as resource-based and organizational capability theory, transaction cost theory and bargaining power theory (Porter 1980; Combs et al. 2004; Combs et al. 2011). In addition, an integration of different theoretical perspectives may help to explain the MU ownership strategy in franchising (Hussain and Windsperger 2010).

Appendix: Measures of variables

Multi-unit franchising (PropMUF) Number of franchised outlets/number of franchisees.

Annual training days (ANTD) Number of franchisee's training days a year.

Advertising fee (ADV) Advertising fee as percentage of the sales.

Franchisee's intangible LMA Three items; Cronbach $\alpha = 0.624$): franchisee's know-how advantage evaluated by the franchisor (no advantage 1–5 very large advantage) regarding.

1. Innovation
2. Local market knowledge
3. Quality control

Financial resources advantage (FIN) Franchisor's financial resources advantage through franchising (no advantage 1–5 very large advantage).

Formal meetings (MEET) Number of formal meeting days a year.

Outlets (OUT) Total number of outlets in the franchise system (franchised + company owned).

Initial investments (INV) Sum of INV and initial fees.

Sector (SECT): 1 = services firms; 0 = product franchising firms.

Age (AGE) The number of year since opening up the first outlet in Germany.

References

- Armstrong, J., & Overton, T. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research*, 14, 396–402.
- Baker, B., & Dant, R. (2008). Stable plural forms in franchise systems: An examination of the evolution of ownership redirection research. In G. Hendriske, M. Tuunanen, J. Windsperger, & G. Cliquet (Eds.), *Strategy and governance of networks* (pp. 87–112). Heidelberg: Springer.

- Baker, G., & Hubbard, T. (2004). Contractibility and asset ownership: On board computers and governance in the US trucking. *Quarterly Journal of Economics*, 119(4), 1443–1479.
- Bercovitz, J. (2003). The option to expand: The use of multi-unit opportunities to support self-enforcing agreements in franchise relationships. In *Proceedings of the 1st international conference on economics and management of networks*, Vienna.
- Bercovitz, J. (2004). The organizational choice decision in business-format franchising: An empirical test. In J. Windsperger, G. Cliquet, G. Hendriske, & M. Tuunanen (Eds.), *Economics and management of networks* (pp. 38–68). New York, USA: Springer.
- Bergkvist, L., & Rossiter, J. (2007). The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of Marketing Research*, 44(May), 175–184.
- Bradach, J. (1995). Chains within chains: The role of multi-unit franchisees. *Journal of Marketing Channels*, 4(1/2), 65–81.
- Bradach, J. (1997). Using plural form in the management of restaurant chains. *Administrative Science Quarterly*, 42(2), 276–303.
- Bradach, J. (1998). *Franchise organizations*. Boston: Harvard Business School Press.
- Brambor, T., Clark, W., & Golder, M. (2006). Understanding interaction models: Improving empirical analyses. *Political Analysis*, 14(1), 63–82.
- Brickley, J. (1999). Incentive conflicts and contractual restraints: Evidence from franchising. *Journal of Law and Economics*, 42(2), 745–774.
- Brynjolfsson, E. (1994). An incomplete contracts theory of information technology and organization. *Management Science*, 64(2), 1645–1663.
- Cliquet, G. (2000). Plural forms in store networks: A model for store network evolution. *The International Review of Retail, Distribution and Consumer Research*, 10(4), 369–387.
- Combs, J., & Ketchen, D. (1999). Can capital scarcity help agency theory explain franchising? Revisiting the capital scarcity hypothesis. *Academy of Management Journal*, 42(2), 196–207.
- Combs, J., & Ketchen, D. (2003). Why do firms use franchising as an entrepreneurial strategy? A meta-analysis. *Journal of Management*, 29(3), 443–465.
- Combs, J., Ketchen, D., Shook, C., & Short, J. (2011). Antecedents and consequences of franchising: Past accomplishments and future challenges. *Journal of Management*, 37(1), 99–126.
- Combs, J., Michael, S., & Castrogiovanni, G. (2004). Franchising: A review and avenues to greater theoretical diversity. *Journal of Management*, 30(6), 907–931.
- Dant, R., Grünhagen, M., & Windsperger, J. (2011). Franchising research frontiers for the twenty-first century. *Journal of Retailing*, 87(3), 253–268.
- Dant, R., & Kaufmann, P. (2003). Structural and strategic dynamics in franchising. *Journal of Retailing*, 79(2), 63–75.
- Dant, R., Paswan, A., & Kaufmann, P. (1996). What we know about ownership redirection in franchising: A meta-analysis. *Journal of Retailing*, 72(4), 429–444.
- Darr, E., Argote, L., & Eppler, D. (1995). The acquisition, transfer, and depreciation of knowledge in service organizations: Productivity in franchises. *Management Science*, 41(11), 1750–1762.
- Drolet, A., & Morrison, D. (2001). Do we really need multiple-item measures in service research? *Journal of Service Research*, 3(3), 196–204.
- Eisenhardt, K. (1989). Agency theory: An assessment and review. *The Academy of Management Review*, 14(1), 57–74.
- Fama, E., & Jensen, M. (1983). Separation of ownership and control. *Journal of Law and Economics*, 26, 301–325.
- Fladmoe-Lindquist, K., & Jacque, L. (1995). Control modes in international service operations: The propensity to franchise. *Management Science*, 41(7), 1238–1249.
- Garg, V., & Rasheed, A. (2003). International multi-unit franchising: An agency theoretic explanation. *International Business Review*, 12(3), 329–348.
- Garg, V., Rasheed, A., & Priem, R. (2005). Explaining franchisors' choices of organization forms within franchise systems. *Strategic Organization*, 3(2), 185–217.
- Gillis, W., McEwan, E., Crook, T., & Michael, S. (2011). Using tournaments to reduce agency problems: The case of franchising. *Entrepreneurship Theory and Practice*, 35(3), 427–447.
- Gomez, R., Gonzalez, I., & Vazquez, L. (2010). Multi-unit versus single-unit franchising: Assessing why franchisors use different ownership strategies. *The Service Industries Journal*, 30(3), 463–476.
- Gonzalez-Diaz, M., & Solis-Rodriguez, V. (2012). Why do entrepreneurs use franchising as a financial tool? An agency explanation. *Journal of Business Venturing*, 27(3), 325–341.

- Grünhagen, M., & Mittelstaedt, R. (2005). Entrepreneurs or investors: Do multi-unit franchisees have different philosophical orientations? *Journal of Small Business Management*, 43(3), 207–225.
- Hall, R. (1993). A framework linking intangible resources and capabilities to sustainable competitive advantage. *Strategic Management Journal*, 14(8), 607–618.
- Hart, O. (1995). *Firms, contracts, and financial structure*. New York: Oxford University Press.
- Hart, O. (2003). Incomplete contracts and public ownership: Remarks, and an application to public-private partnerships. *The Economic Journal*, 113(486), C69–C76.
- Hart, O., & Moore, J. (1990). Property rights and the nature of the firm. *Journal of Political Economy*, 98(6), 1119–1158.
- Hubbard, T. (2008). Viewpoint: Empirical research on firms' boundaries. *Canadian Journal of Economics*, 41(2), 341–359.
- Hussain, D., & Windsperger, J. (2010). Multi-unit ownership strategy in franchising: Development of an integrative model. *Journal of Marketing Channels*, 17(1), 3–31.
- Jindal, R. (2011). Reducing the size of internal hierarchy: The case of multi-unit franchising. *Journal of Retailing*, 87(4), 549–562.
- Kalnins, A., & Lafontaine, F. (2004). Multi-unit ownership in franchising: Evidence from the fast-food industry in Texas. *RAND Journal of Economics*, 35(4), 747–761.
- Kalnins, A., & Mayer, K. (2004). Franchising, ownership, and experience: A study of pizza restaurant survival. *Management Science*, 50(12), 1716–1728.
- Kaufmann, P., & Dant, R. (1996). Multi-unit franchising: Growth and management issues. *Journal of Business Venturing*, 11(5), 343–358.
- Kaufmann, P., & Kim, S. (1995). Master franchising and system growth rates. *Journal of Marketing Channels*, 4(1), 49–64.
- Klein, B. (1995). The economics of franchise contracts. *Journal of Corporate Finance*, 2(1–2), 9–37.
- Klein, B. (1996). Why hold-ups occur: The self-enforcing range of contractual relationships. *Economic Inquiry*, 34(3), 444–463.
- Klein, B., Crawford, R., & Alchian, A. (1978). Vertical integration, appropriable rents, and the competitive contracting process. *The Journal of Law and Economics*, 21(2), 297–326.
- Klein, B., & Leffler, K. (1981). The role of market forces in assuring contractual performance. *The Journal of Political Economy*, 89(4), 615–641.
- Lafontaine, F., & Shaw, K. (1995). Firm-specific effects in franchise contracting: Sources and implications. In *Proceedings of the 9th annual International Society of Franchising conference*, San Juan.
- Lafontaine, F., & Slade, M. (2001). Incentive contracting and the franchise decision. In K. Chatterjee & W. Samuelson (Eds.), *Game theory and business applications* (pp. 133–188). Dordrecht: Kluwer Academic Press.
- Lafontaine, F., & Slade, M. (2007). Vertical integration and firm boundaries: The evidence. *Journal of Economic Literature*, 45(3), 629–685.
- Long, M., & Malitz, I. (1985). The investment-financing nexus: Some empirical evidence. *Midland Corporate Finance Journal*, 3(3), 53–59.
- Mumdžiev, N., & Windsperger, J. (2011). The structure of decision rights in franchising networks: A property rights perspective. *Entrepreneurship Theory and Practice*, 35(3), 449–465.
- Norton, S. (1995). Is franchising a capital structure issue? *Journal of Corporate Finance*, 2(1–2), 75–101.
- Porter, M. (1980). *Competitive strategy: Techniques for analyzing industries and competitors*. New York: Free Press.
- Robicheaux, R., Dant, R., & Kaufmann, P. (1994). Multiple unit franchising in the fast-food industry in the United States: Incidence and operating characteristics. In *Proceedings of the 8th annual International Society of Franchising conference*, Las Vegas.
- Shane, S. (1998). Explaining the distribution of franchised and company-owned outlets in franchise systems. *Journal of Management*, 24(6), 717.
- Simonin, B. (1999). Transfer of marketing know-how in international strategic alliances: An empirical investigation of the role and antecedents of knowledge ambiguity. *Journal of International Business Studies*, 30(3), 463–490.
- Sorenson, O., & Sørensen, J. (2001). Finding the right mix: Franchising, organizational learning, and chain performance. *Strategic Management Journal*, 22(6–7), 713–724.
- Wadsworth, F., & Morgan, K. (2003). Multi-unit franchisee ownership study. In *Proceedings of the 17th annual International Society of Franchising conference*, San Antonio.

- Weaven, S. (2009). An empirical examination of the reasons governing multiple unit franchise adoption in Australia. *Asian Journal of Marketing*, 3(2), 52–64.
- Whinston, M. (2003). On the transaction cost determinants of vertical integration. *Journal of Law Economics and Organization*, 19(1), 1–23.
- Wilbur, P. (2011). Ranking the most multi-friendly brands. *Multi-unit Franchisee*, III, 46.
- Williamson, O. (1979). Transaction-cost economics: The governance of contractual relations. *The Journal of Law and Economics*, 22(2), 233–262.
- Williamson, O. (1983). Credible commitments: Using hostages to support exchange. *The American Economic Review*, 73(4), 519–540.
- Windsperger, J. (2003). Complementarities and substitutabilities in franchise contracting: Some results from the German franchise sector. *Journal of Management and Governance*, 7(3), 291–313.
- Windsperger, J. (2004). Centralization of franchising networks: Evidence from the Austrian franchise sector. *Journal of Business Research*, 57(12), 1361–1369.
- Windsperger, J., & Dant, R. (2006). Contractibility and ownership redirection in franchising: A property rights view. *Journal of Retailing*, 82(3), 259–272.
- Yin, X., & Shanley, M. (2010). Governance structure and organisational learning in franchising. *International Journal of Strategic Change Management*, 2(4), 298–311.