Abstract

This study develops a property rights explanation of the multi-unit ownership strategy of the franchise firm. According to the property rights theory, the structure of ownership rights of franchise firms depends on the contractibility of system-specific and local market assets. We develop and test the following hypotheses: Multi-unit franchising is positively related to the franchisor’s intangible system-specific assets and negatively to the franchisee’s intangible local market assets. In addition, the positive impact of financial assets on the tendency toward multi-unit franchising increases with noncontractibility of local market assets. 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 ownership 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 structure of the franchise firm. Only noncontractible resources/assets determine the structure of ownership rights.

JEL Classification: L22, L26, M21

Keywords
Multi-unit franchising; property rights theory; local market knowledge assets; financial assets; system-specific assets; empirical analysis
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 strategy and sequential multi-unit 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 multi-unit ownership strategy in franchising by emphasizing the role of noncontractible (intangible) assets as determinant of ownership structure.

Although several theoretical and empirical studies dealing with MUF have been published in the recent years, no study tests 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; Kalnins and Lafontaine 2004; Kalnins and Mayer 2004; Bercovitz, 2004; Garg and Rasheed 2003; Garg et al. 2005; Jindal 2006; Weaven 2009; Gomez et al. 2010). Especially, multi-unit 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 (Bercovitz 2004; Kalnins and
Lafontaine 2004; Brickley 1999). Fladmoe-Lindquist and Jacque (1995) argue that multi-unit franchisees provide better quality of goods/services than single-unit franchisees because shirking on quality would affect the multi-unit franchisee’s business in the local network and ultimately his profitability. Second, Bercovitz (2003) applies transaction cost reasoning to explain MUF. She argues that MUF increases the franchisee’s quasi-rents based on higher outlet-specific investments and thereby increases the self-enforcing range of the franchise contract (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 (Brada 1995; Kaufmann and Kim 1995; Kaufmann and Dant 1996; Gomez et al. 2010). Kaufmann and Kim (1995) also argue that franchise systems with higher growth rate are in a better position to attract high-quality partners as multi-unit franchisees.

Starting from the existing literature that primarily focuses on agency cost and resource scarcity perspectives to explain the multi-unit ownership strategy, we extend the literature by developing a property rights explanation of the multi-unit ownership strategy. According to the property rights theory, the allocation of ownership rights between the franchisor and the single-unit (SU) and multi-unit (MU) franchisees depends on the contractibility of assets i.e., system-specific assets, local market assets and financial assets. First, we hypothesize that MUF is negatively related to the franchisee’s
intangible local market assets 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 increases with noncontractibility of local market assets.

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 ownership rights between the network partners. Hence designing MUF versus SUF contracts is a question of allocating residual income rights and ownership 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 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” (Hubbard 2008: 349). Therefore, in a strictly methodological sense, agency theory cannot explain the allocation of ownership rights as residual rights of control, due to the complete contracting assumption (Hart 1995, 2003). 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, the property rights theory of MUF explains the choice of ownership structure by differentiating between more and less contractible resources (Baker and Hubbard 2004; Windsperger and Dant 2006). Only noncontractible resources influence the ownership structure.
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 the Ownership Structure of Franchise Firms

According to the property rights theory, the asset characteristic relevant for the allocation of ownership rights is the degree of intangibility (noncontractibility) (Hart and Moore 1990; Brynjolfsson 1994). Intangible assets refer to knowledge and skills that cannot be codified and easily transferred to other partners since they have an important tacit component. 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 assets refer to intangible investments in system marketing and promotion.

How are the ownership rights allocated between the franchisor and the franchisee? According to the property rights theory, contractibility of assets determines the ownership structure of the firm (Hart 1995; Windsperger 2003). Contractibility of assets refers to the extent to which the franchisor’s system-specific assets and franchisee’s local market assets can be easily codified and transferred to the other partner. The impact of contractibility of assets on the choice of SU and MU ownership strategy in franchising
has not been examined in the literature. This study develops the following property rights hypotheses (see figure 1): (1) The lower the contractibility of local market assets, the more important are local responsiveness and outlet-specific knowledge of the local entrepreneur for the generation of residual income, and the lower is the tendency to use MUF compared to SUF. (2) The lower the contractibility of local market assets, the larger is the positive impact of financial resources on the tendency to use MUF because, due to the high information asymmetry between the franchisor and the external suppliers of capital, the franchisor is less able to acquire financial resources at the external capital market. (3) The lower the contractibility of the system-specific assets, the more knowledge transfer capabilities are required to efficiently exploit the system know-how of the local outlets, and the greater is the positive effect of system-specific assets on the tendency toward MUF. In the following section, the hypotheses are developed in detail.

“Insert Figure 1 Here”

2. 2. Hypotheses

Contractibility and Local Market Assets

Local market knowledge can be more efficiently acquired by SU franchisees compared to the employees of the mini-chains of MU franchisees because SU franchisees (as residual claimants) have higher entrepreneurial capabilities (Bradach 1995, 1997, 1998) and are more motivated to exploit the profit opportunities at the local market. Franchisee’s intangible assets refer to the franchisee’s local market know-how consisting of exploration assets and exploitation assets (Sorenson and Sorensen 2001). The former include local market knowledge and innovation capabilities, and the latter include quality
control, human resource management and administrative capabilities. The lower the contractibility of local market assets, the more important is the outlet-specific knowledge of the local entrepreneur for the creation of residual income, and the lower is the tendency toward MUF. We derive the following hypothesis:

**H1: Franchisees’ noncontractible local market assets are negatively related to the franchisor’s tendency to use multi-unit franchising.**

**Contractibility and Financial Resources**

Financial resource scarcity of the franchisor is a major reason to use franchising for financing the growth of the system. 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 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 assets that show a low degree of contractibility resulting in high financial transaction costs for the lender (Long and Malitz 1985). Therefore, noncontractibility of local market assets strengthens the impact of financial resources on the proportion of franchised outlets (Windsperger and Dant 2006). For instance, if the local market assets are noncontractible, a high information asymmetry exists between the external supplier of capital and the franchisor, which leads to
difficulties in acquiring financial resources from external lenders to finance the system growth.

Second, the question to ask is: Can MUF additionally mitigate the financial resource scarcity problem of the franchisor? MUF offers additional growth opportunities for the franchisor compared to SUF, because MU franchisees are less constrained in financing local investments compared to SU franchisees (Wilbur 2011). Since MU franchisees have easier access to financial resources from external lenders than SU franchisees, they help to alleviate the financial scarcity problem of the franchisor compared to the case of SUF, especially when the local market assets are noncontractible. Therefore, under MUF the franchisor has easier and less costly access to financial resources, because the external suppliers of capital may charge lower risk premiums than in the case of SUF. As a result we can derive the following hypothesis:

H2: The positive impact of financial assets on the franchisor’s tendency toward MUF increases with noncontractible local market assets.

Contractibility and System-specific Assets

The franchisor’s system-specific know-how and brand name assets as reputation capital are characterized by a low degree of contractibility due to high intangibility (Klein and Leffler 1981; Hall 1993). Contractibility refers to the extent to which franchisor’s system-specific assets can easily be codified and transferred to the franchisee. Compared to SUF systems, MUF increases the knowledge transfer capabilities of the system because the franchisor can assign some knowledge transfer tasks to the owners of the mini-chains (Bradach 1995). Therefore, the higher the degree of intangibility of the system-specific
assets, the more important are the MUF system’s greater monitoring and knowledge transfer capabilities for the generation of the residual surplus of the network, and the higher is the tendency toward MUF. We derive the following hypothesis:

\[ H3: \text{Franchisor's noncontractible system-specific assets are positively related to franchisor's use of multi-unit franchising.} \]

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 German franchise associations 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.

“Insert Table 1”

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).

“Insert Table 2”

3.2. Measurement

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

Dependent Variable

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

Independent Variables

Franchisee’s Intangible (Noncontractible) Local Market Assets (LMA): Intangible local market assets refer to the franchisee's local market know-how (LMA). 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 local market assets. Consistent
with previous studies (Windsperger 2004; Cliquet 2000), we use a three-item scale to measure the local know-how advantage of the franchisee (see Appendix).

**Franchisor’s Intangible System-specific Assets:** They refer to franchisor’s specific know-how and brand name capital. Based on indicators used in earlier studies (e.g., Fladmoe-Lindquist and Jaque 1995; Argote 2000; Darr et al. 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).

**Franchisor’s Financial Resources Advantages (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.
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 tendency to use MUF.

Initial Investments (INV): They refer to the total amount (in thousand €) required to start up a new franchised outlet. Initial investments (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 multi-unit 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. 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 1998), 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):** Due to the assignment of more operational decision rights to MU franchisees compared to SU franchisees, franchisor’s decision rights are more diluted under MUF than under SUF. This may result in additional agency problems. In order to mitigate these agency problems, the franchisor may increase control by using more formal meetings. We use the annual number of meetings between the franchisor and the franchisees (MEET) as a proxy for control (e.g., meetings of the different commissions).

**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., Wardsworth 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 local 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.

“Insert Table 3”

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

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

According to the property rights theory, we propose a negative effect of intangible local market assets (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 $a_1 + a_4LMA$. Financial assets (FIN) have a positive impact on the tendency toward MUF when the local market assets are more noncontractible. Table 4 presents results of the regression analysis.

“Insert Table 4”

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 ($LMA \geq 4$), FIN has a positive effect on MUF (see table 5). In addition, we proposed a positive effect of franchisor’s 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 decision rights through MUF is compensated by an increase in control. The results also show that initial investments, age and sector do not have a significant impact on the use of MUF.

“Insert Table 5”

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 franchisee’s local market assets and franchisor’s financial assets
significantly influence the franchisor’s tendency toward using MUF. The results of regression analysis support our hypothesis that intangible local market assets have a negative impact on the tendency toward MUF. The franchisors are less likely to use MUF if local responsiveness and outlet-specific knowledge of the local partners are very important for generation of the residual income of the network. Intangible local market assets also show a significant moderating effect on the influence of financial resources on MUF. The more intangible local market assets are used at the 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, MUF systems are less constrained in financing system growth than SUF systems. Additionally, 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 meetings and the tendency toward MUF. This may suggest that agency problems, due to the greater dilution of franchisor’s decision rights under MUF, can be mitigated by an increase in control.

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 MUF as 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 of ownership rights between the franchisor and the SU- and MU-franchisees. As stated by Hart (1995, 2003), agency theory cannot explain the allocation of ownership rights as 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 informational, financial and managerial resources are only relevant for the allocation of ownership rights if they are noncontractible (Windsperger and Dant 2006). Similarly, this criticism also applies to the transaction cost theory. Transaction-specific assets influence the structure of ownership rights of franchising networks only when these assets are noncontractible (Whinston 2003). However, the asset specificity theory (Williamson 1979; Klein et al. 1978) does not differentiate between contractible and noncontractible specific assets.

Our findings also have practical relevance for the franchisor: First, if the local market know-how of the network partners 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 local market assets are less contractible, which makes it more difficult for the franchisor to expand by acquiring financial resources from external capital market.

Finally, the study may have important limitations. First, we measure all of the constructs from the franchisor’s point of view. Particularly, we use franchisor’s perception to measure local market assets. 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. Hence future research has to collect more valid indicators (Combs and Ketchen 2003). Fourth, future research should also test alternative explanations of MUF, such as organizational capability theory, transaction cost theory and screening theory. In addition, an integration of different theoretical perspectives may help to explain this ownership strategy in franchising (Hussain and Windsperger 2010).
References


<table>
<thead>
<tr>
<th>Sector</th>
<th>Population</th>
<th>Sample (Respondents)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Systems</td>
<td>Percentage</td>
</tr>
<tr>
<td>Retail Business</td>
<td>163</td>
<td>33.61</td>
</tr>
<tr>
<td>Personal &amp; Business Services</td>
<td>149</td>
<td>30.72</td>
</tr>
<tr>
<td>Manufacturing &amp; Others</td>
<td>62</td>
<td>12.68</td>
</tr>
<tr>
<td>Hotel &amp; Restaurant</td>
<td>44</td>
<td>9.07</td>
</tr>
<tr>
<td>Building, Construction, &amp; Real Estate</td>
<td>41</td>
<td>8.45</td>
</tr>
<tr>
<td>Cleaning &amp; Maintenance</td>
<td>26</td>
<td>5.36</td>
</tr>
<tr>
<td>Total</td>
<td>485</td>
<td>100</td>
</tr>
</tbody>
</table>
Table 2: Estimate of Non-Response Bias

<table>
<thead>
<tr>
<th></th>
<th>Population</th>
<th>Respondents</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age of Franchise System (Years)</td>
<td>16.420 (20.796) N = 467</td>
<td>15.032 (20.016) N = 153</td>
<td>-0.722</td>
<td>0.470</td>
</tr>
<tr>
<td>Initial Franchise Fee (Thousand €)</td>
<td>10.536 (19.984) N = 387</td>
<td>11.548 (10.274) N = 126</td>
<td>0.545</td>
<td>0.586</td>
</tr>
<tr>
<td>Advertising Fee (% of Sales)</td>
<td>1.161 (1.617) N = 387</td>
<td>1.082 (1.858) N = 145</td>
<td>-0.482</td>
<td>0.630</td>
</tr>
<tr>
<td>Contract Length (Years)</td>
<td>7.550 (3.487) N = 420</td>
<td>7.810 (3.731) N = 149</td>
<td>0.774</td>
<td>0.439</td>
</tr>
<tr>
<td>Royalties (% of Sales)</td>
<td>4.141 (3.997) N = 360</td>
<td>4.078 (3.118) N = 140</td>
<td>-0.166</td>
<td>0.868</td>
</tr>
</tbody>
</table>

1 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).

2 Counts differ across different measures because of item non-responses.
Table 3: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1. PropMUF</td>
<td>1.441</td>
<td>1.357</td>
<td></td>
</tr>
<tr>
<td>2. LMA</td>
<td>3.187</td>
<td>0.880</td>
<td>-0.198</td>
</tr>
<tr>
<td>3. FIN</td>
<td>4.685</td>
<td>1.997</td>
<td>-0.276</td>
</tr>
<tr>
<td>4. ANTD</td>
<td>6.023</td>
<td>10.243</td>
<td>0.172</td>
</tr>
<tr>
<td>5. OUT</td>
<td>104.876</td>
<td>207.597</td>
<td>0.090</td>
</tr>
<tr>
<td>6. MEET</td>
<td>5.753</td>
<td>4.063</td>
<td>0.079</td>
</tr>
<tr>
<td>7. ADV</td>
<td>1.163</td>
<td>1.804</td>
<td>0.185</td>
</tr>
<tr>
<td>8. INV</td>
<td>144.136</td>
<td>300.966</td>
<td>0.072</td>
</tr>
<tr>
<td>9. AGE</td>
<td>16.804</td>
<td>20.134</td>
<td>0.028</td>
</tr>
</tbody>
</table>
Table 4: OLS Regression

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.459*** (0.123)</td>
<td>1.488*** (0.122)</td>
</tr>
<tr>
<td>LMA</td>
<td>-0.320** (0.131)</td>
<td>-0.355** (0.139)</td>
</tr>
<tr>
<td>FIN</td>
<td>-0.390*** (0.123)</td>
<td>-0.405*** (0.125)</td>
</tr>
<tr>
<td>ANTD</td>
<td>-0.028 (0.130)</td>
<td>-0.174 (0.147)</td>
</tr>
<tr>
<td>ADV</td>
<td>0.125 (0.128)</td>
<td>0.142 (0.131)</td>
</tr>
<tr>
<td>LMA*FIN</td>
<td>0.498*** (0.116)</td>
<td>0.587*** (0.123)</td>
</tr>
<tr>
<td>MEET</td>
<td>----</td>
<td>0.259* (0.135)</td>
</tr>
<tr>
<td>OUT</td>
<td>----</td>
<td>-0.025 (0.132)</td>
</tr>
<tr>
<td>SECT</td>
<td>----</td>
<td>-0.038 (0.283)</td>
</tr>
<tr>
<td>INV</td>
<td>----</td>
<td>0.178 (0.134)</td>
</tr>
<tr>
<td>AGE</td>
<td>----</td>
<td>-0.006 (0.127)</td>
</tr>
</tbody>
</table>

**Model Summary**

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>90</td>
<td>90</td>
</tr>
<tr>
<td>Model F</td>
<td>7.632***</td>
<td>4.412***</td>
</tr>
<tr>
<td>R2</td>
<td>0.310</td>
<td>0.355</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.269</td>
<td>0.275</td>
</tr>
</tbody>
</table>

*** p < 0.01; ** p < 0.05; * p < 0.1; Values in parentheses represent Standard Errors
Table 5: Interaction analysis

<table>
<thead>
<tr>
<th>LMA</th>
<th>$\alpha_1 + \alpha_4 \times \text{LMA}$</th>
<th>95% Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-1.11</td>
<td>-1.24328</td>
</tr>
<tr>
<td>1</td>
<td>-0.823</td>
<td>-0.95628</td>
</tr>
<tr>
<td>2</td>
<td>-0.536</td>
<td>-0.66928</td>
</tr>
<tr>
<td>3</td>
<td>-0.249</td>
<td>-0.38228</td>
</tr>
<tr>
<td>4</td>
<td>0.038</td>
<td>-0.09528</td>
</tr>
<tr>
<td>5</td>
<td>0.325</td>
<td>0.19172</td>
</tr>
</tbody>
</table>
Figure 1: Theoretical Model

Franchisee’s Local Market Assets

Franchisor’s Financial Assets

Franchisor’s System specific Assets

Control Variables
Formal Meetings
Initial Investments
System Size
Sector
Age

Franchisor’s Tendency toward MUF

-H1

+H2

+H3
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 Local Market Assets:

  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 Advantages (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 initial investments 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.