

COMPLEMENTARITIES IN FRANCHISING NETWORKS:

A PROPERTY RIGHTS APPROACH*

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ABSTRACT:

The aim of the paper is to explain the property rights structure in franchising networks. According to the property rights approach, decision rights have to be allocated according to the distribution of intangible knowledge assets between the franchisor and franchisee and ownership rights have to be assigned according to the residual rights of control (residual decision rights). Since residual income rights are diluted in franchising relationships, ownership rights include not only residual income rights (initial fees and royalties) but also complementary ownership surrogates to simulate the motivation effect of undiluted ownership rights. Therefore, under a property rights perspective, an efficient institutional structure of franchising implies complementarity between knowledge assets and decision rights and between residual decision and ownership rights. The more important the franchisor's (franchisee's) brand name assets (local market know-how) for the generation of residual surplus, the more decision and complementary ownership rights should be transferred to the franchisor (franchisee). Three hypotheses were derived from this property rights approach and tested in the Austrian franchise sector. The empirical results are supportive of the hypotheses. The data suggest that the allocation of residual decision rights varies with the distribution of knowledge assets between the franchisor and franchisee and the ownership rights are positively related with the residual decision rights.

Keywords:

Property Rights, Franchising Networks, Knowledge Assets, Decision Rights, Ownership Structure

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1. Introduction

Contractual relations between the franchisor and franchisees are organized as stable networks based on the combined use of the franchisor's system-specific know-how and the franchisee's local market know-how to maximize the residual income stream (Caves, Murphy 1976). Due to the noncontractability of knowledge assets, property rights as residual decision and ownership rights must be allocated between the franchisor and franchisee (Hart, Moore 1990; Foss, Foss 1998). The structure of property rights depends on the distribution of intangible knowledge assets that generate the residual income stream (Barzel 1989; 2000). Intangible knowledge assets are the knowledge and skills (know-how) that cannot be codified and easily transferred to other agents since they have an important tacit component (Polanyi 1962; Nelson, Winter 1982). In franchising networks they refer to the brand name capital of the franchisor and to the outlet-specific know-how of the franchisee. Our thesis of the paper is: The higher the franchisor's (franchisee's) portion of uncontractible know-how relative to the franchisee's (franchisor's), the more residual decision rights and complementary ownership rights should be assigned to the franchisor (franchisee). We argue that an efficient property rights structure implies complementarities between the following components of the organizational architecture: Knowledge assets and residual decision rights, residual decision and ownership rights, and residual income rights and ownership surrogates. Three hypotheses are tested in the Austrian franchise sector. The study presents the first empirical evidence that the elements of the property rights structure of franchising networks (consisting of knowledge assets, decision rights and ownership rights) are complements.

The paper is organized as follows: In the second and third section we review the relevant literature and present an overview of the main propositions of the property rights approach. In section four we apply the property rights approach to explain the organizational architecture of franchising networks. We examine the relationship between the characteristics of knowledge assets and the allocation of residual decision rights and the complementarity between residual decision and ownership rights in franchising networks. Finally, we derive three hypotheses from the property rights approach which are tested in the Austrian franchise sector. The empirical results are supportive of the hypotheses.

2. Literature Review

Most of the theoretical frameworks to explain the institutional structure of franchising focus on the initial fee and royalty rate (Dnes 1996; Lyons 1997). Other contractual provisions are not explicitly incorporated in the theoretical approaches. In the following we review the agency theory, search cost theory, screening theory, transaction cost theory and signalling theory of franchising and argue why a property rights approach may be more adequate to explain the institutional structure of franchising.

The agency cost explanation initiated by Rubin (1978) and extended by Mathewson/Winter (1985), Lal (1991), Bhattacharyya/Lafontaine (1995), and tested by Brickley, Dark (1988), Norton (1988) and Lafontaine (1992) tries to show that franchising characterized by revenue- or profit-sharing contracts has agency cost advantages compared to company-ownership. Franchisee's payments of initial fees and royalties (as percentage of sales) result in lower agency costs (monitoring cost, residual loss and risk premiums), especially under high uncertainty. Although this approach offers an explanation of the fee structure in franchise agreements empirical tests do not show a negative relationship between initial fee and royalties as suggested by the principal agent model (Lafontaine, Slade 1998;

Lafontaine, Shaw 1998). In addition, it cannot explain the allocation of ownership rights between the franchisor and the franchisee, due to the complete contracting assumption. As Oliver Hart (1995, 20) states, under this assumption „the principal-agent view is consistent with there being one huge firm in the world, consisting of a large number of divisions linked by optimal incentive contracts; but it is also consistent with there being many small, independent firms linked by optimal arm’s-length contracts.“A further explanation is the search cost framework developed by Minkler (1990, 1992). In this approach franchising exists because the franchisee has a local market knowledge advantage resulting in lower search costs compared to franchisor-owned outlets. Due to noncontractible outlet-specific assets the franchisor cannot easily imitate franchisee’s local market know-how. Consequently, as long as the franchisor does not know the local market, it is more likely that the market will be franchised. A further explanation of franchising is offered by the screening theory (Dnes 1992). According to this theory fixed fees and specific investments have a screening function by attracting competent franchisees. The higher the initial fees and specific investments, the more likely franchisees with high entrepreneurial capabilities are selected. An alternative explanation of initial fees is offered by the transaction cost model of Klein (1980) and Williamson (1985). They show that the initial fee serves as a hostage in the franchise relationship. The payment of the initial fee prevents the franchisee from ex post opportunistic behavior, i.e. from expropriating quasi rents generated by the franchisor’s system-specific assets. In addition to these approaches Galini and Lutz (1992) presented a signalling theory of franchising. In this model the franchisors have private information about the brand name value of their franchise system that they intend to communicate to potential franchisees. High (low) variable fees and/or a high (low) number of franchisor-owned outlets serve as device to signal high (low) quality investments of the franchisor in his brand name. Empirical results do not support this theory (Lafontaine 1993).

In sum, these approaches offer partial explanations of the institutional structure of franchising. Their primary aim is to explain the fee structure in franchise relationships without taking into account interactions between other contractual provisions, such as tying arrangement, resale price maintenance, exclusive dealing and exclusive territory clauses, lease, option and alienation rights. These contractual provisions have incentive effects that have to be examined simultaneously with the incentive effects of royalties and initial fees. For instance, the incentive effect of royalties cannot be determined without accounting for the interaction between royalties and tying arrangements because the price for tied products already includes royalties. In addition, most of the theories do not explain the franchisee as residual claimant whose existence is due to his noncontractible skills and capabilities as residual decision maker at the local market. To explain the institutional arrangements between the franchisor and franchisee as residual decision maker and residual claimant the property rights approach may offer a theoretical framework.

3. An Overview of the Property Rights Propositions

According to the property rights approach the property rights structure depends on the contractability of knowledge assets (Alchian/Demsetz 1972; Grossman/Hart 1986; Hart/Moore 1990). According to Boisot (1998, 3) „knowledge assets are stocks of knowledge from which services are expected to flow for a period of time that may be hard to specify in advance“. The person who has intangible knowledge assets that generates the residual income stream should have residual decision rights to maximize the residual surplus. These rights refer to use of tacit knowledge that cannot be specified in the contract due to too high transaction costs (Teece 1981; 2001). In addition to these residual rights specific or nonresidual rights are explicitly stipulated in contracts (Demsetz 1998). They refer to the use of explicit knowledge of the parties which can be more easily written down and

specified in contracts. Consequently, given the distribution of knowledge assets the total residual surplus can be maximized if the decision rights are assigned to those who are best able to use these assets.

The relationship between knowledge assets and decision rights is illustrated by the following example. *Case 1:* We assume that A has tangible (explicit) and B intangible (tacit) knowledge assets that are required for selling goods or services. The question to ask is who should have the residual decision rights to use these knowledge assets. Since A's explicit knowledge can be specified in contracts and B's tacit knowledge cannot be transferred by contract, B should get the residual rights of control to maximize the residual surplus. Hence B has the residual decision rights and A is the agent with explicitly stipulated, specific decision rights. *Case 2:* We assume that A and B have complementary intangible knowledge assets. For instance, A has system-specific know-how and B has local market know-how. In this case residual decision rights must be allocated according to the distribution of intangible knowledge assets for generating the ex post surplus. If A's and B's intangible knowledge assets are equally important, the residual decision rights must be distributed according to their know-how position.

The relationship between knowledge assets and the structure of decision rights can be summarized by the following proposition:

The allocation of decision rights depends on the characteristics of knowledge assets: The more important a person's intangible knowledge assets relative to the other person, the more residual decision rights should be assigned to that person.

This co-location of knowledge and decision rights is only sufficient for designing an efficient organization, if no agency problems arise. In this situation the efficient

organisation exclusively depends on the allocation of residual decision rights. In reality, however, motivation problems arise resulting in agency costs due to hidden information, hidden action and hidden characteristics. In this situation the allocation of decision rights results not only in lower information costs due to the co-location of knowledge assets and decision rights but also in additional agency costs due to goal incompatibility between the agents (Jensen, Meckling 1992). For instance, under internal organization this implies that the manager does not fully use his knowledge assets to generate residual income although he has the know-how (capabilities) to maximize the asset value.

To alleviate this incentive problems ownership rights should be assigned to the person that is potentially best equipped to increase the residual income. They include the right to appropriate the returns from assets (residual income right) and the right to transfer to another person (alienation right) (Pejovich 1990, 28). By combining asset ownership with the anticipation of ex post surplus strong incentives are generated to realize the highest value of asset use. Consequently an efficient property rights structure requires complementarity between decision and ownership rights (Putterman 1988). The relationship between decision and ownership rights can be summarized by the following proposition:

The assignment of ownership rights depends on the allocation of decision rights:

The more residual decision rights a person has, the higher should be his portion of the ownership rights.

In sum, we may conclude: The allocation of decision and ownership rights depends on the distribution of knowledge assets. Residual decision rights should be given to the person who has the intangible knowledge assets to maximize the ex post surplus of the asset use

and the ownership rights should be given to the person who have the residual decision rights.

4. Organizational Architecture of Franchising Networks

The organizational architecture of franchising networks consists of three components: The knowledge assets of the franchisor and franchisee, the structure of decision rights and the allocation of ownership rights.

4.1. Knowledge Assets and Decision Rights

In applying the property rights perspective in franchising decision rights should be allocated according to the persons's knowledge assets (know-how) because the „co-location of knowledge and power to make decisions is a key driver of effective organizations“ (Annand, Mendelsohn 1995, 28). The question to ask is which knowledge is generated and used in franchising networks and how are the decision rights allocated.

The knowledge characteristics relevant for the allocation of decision rights is the degree of intangibility of knowledge assets. The franchisor faces the problem of maximizing the returns to his assets (system-specific know-how) when they are dependent on investments in local intangible assets of the franchisee. The franchisee's intangible assets refer to the local know-how (as tacit knowledge) in marketing, human resource and procurement management and the franchisor's intangible assets refer to the brand name capital (Caves, Murphy 1976). If the local know-how generates a large portion of residual surplus, the corresponding residual decision rights must be transferred to the franchisee to maximize the expost surplus. On the other hand, if the franchisor's brand name investments are very important to generate a large fraction of the residual income, the franchisor's decision rights must be assigned according to the know-how distribution.

To solve the problem of structuring decision rights the question to ask is which decision tasks are allocated in franchising networks. Generally we can differentiate between strategic and operative decisions. Strategic decisions are primarily made by the franchisor and operative decisions are divided between the franchisor and the franchisee. Operative decisions include marketing decisions (price, product, promotion, service), human resource decisions and procurement decisions. According to Jensen and Meckling (1992) two ways for allocating decision rights exist: Either knowledge must be transferred to those with the right to make decisions or decision rights must be transferred to those who have the knowledge. This means that decision rights tend to be centralized in the franchising network when the cost of transferring knowledge to the franchisor is relatively low. This is the case when the franchisor has a strong know-how position due to his brand name and when he can easily acquire the local market knowledge of the franchisee due to its low degree of intangibility. On the other hand, the decision power has to be delegated to the franchisee when his local market know-how is very specific and consequently the knowledge transfer costs are very high (Christie et al. 1995). In this case the bargaining power of the franchisee is relatively strong due to his noncontractible know-how. Both the franchisor and the franchisee has to undertake specific investments to generate a high expost surplus. Consequently, if it is important to take advantage of franchisee's knowledge assets to generate a high residual income stream, he must be given decision power to utilize his knowledge.

In sum, the relationship between decision rights and knowledge assets can be stated by the following proposition:

Decision rights have to be allocated according to the distribution of knowledge assets between the franchisor and franchisee. The higher the franchisor's

(franchisee's) portion of intangible knowledge assets relative to the franchisee's (franchisor's), the more residual decision rights must be given to the franchisor (franchisee).

4.2. Ownership Rights in Franchising Network

As examined in section 3 property rights include two dimensions: Decision and ownership rights. The first includes the right to use the asset and the right to change its substance and the latter the right to appropriate the returns from assets (residual income right) and the right to transfer to another person (alienation right) (Pejovich 1990, 28). Organizational efficiency requires a combination of decision and ownership rights that those who are best able to influence the size of the residual income should have the residual decision and ownership rights (Barzel 1989). If the ownership right is assigned to an individual, the costs and rewards associated with its use do accrue to him or her personally. In this case asset ownership combined with the anticipation of ex post surplus ensures strong incentives to maximize asset value (Blair 1995, 235).

How are the ownership rights allocated between the franchisor and the franchisee? In franchising networks, residual income generated by the use of assets accrue partly to the franchisor and franchisee. This means that the ownership rights of the franchisor and franchisee are diluted. The dilution of ownership rights may result in horizontal and vertical externalities and consequently in underinvestment problems. These underinvestment problems can be mitigated by installing ownership surrogates which serve as incentive mechanisms to compensate the disincentive effect of diluted residual income rights. Therefore, ownership rights include not only residual income rights but also complementary ownership surrogates to simulate the incentive effect of undiluted residual income rights.

Which ownership surrogates are included in franchising contracts? The disincentive effect of franchisee's diluted residual income rights may be mitigated by the following ownership surrogates: Exclusive territory clause, exclusive customer clause, option rights in the case of increasing the number of outlets, and lease and alienation rights. On the other hand, the franchisor's attenuated ownership rights may be compensated by the following ownership surrogates that simulate the incentive effect of undiluted residual income rights: Tying arrangement, resale price maintenance, lease control, exclusive dealing clauses, option rights such as buy back arrangement and approval rights, and termination rights.

In the following we analyze the incentive effects of residual income rights and ownership surrogates in franchising networks (Windsperger 2001):

- Royalties and initial franchise fee: By linking the franchisor's residual income to the franchisor's noncontractible investments in brand name capital, he has an incentive to undertake the brand name investments at the beginning and during the contract period. The more important the franchisor's brand name capital for the success of the network, the higher is the residual surplus generated by the franchisor's know-how, and the higher should be the franchise fee as compensation for the high quasi rents stream (Klein 1980). In addition, the higher the franchisor's intangible investments in advertising, promotion and policing other franchisees are relative to the franchisees' investments during the contract period, the higher is the portion of the residual income stream created by him, and the higher should be the royalties (Lutz 1995). This implies a positive relationship between franchise fee and royalties because higher the brand name capital of the franchisor requires more intangible investments during the contract period to maintain a certain brand value.

- Exclusive dealing clause: Exclusive dealing arrangements are primarily used to prevent the franchisees from appropriating some of the value of the franchisor's intangible brand name investments and therefore increase the franchisor's incentive to undertake these investments (Marvel 1982).

-Tying arrangement: Under a high degree of asset intangibility quality control through quality specification results in high measurement and monitoring costs (Klein, Saft 1985). In this case the tying clause provides an incentive for the franchisor to undertake system-specific investments to ensure a minimum quality standard in all franchised outlets (Meese 1996).

- Resale price maintenance: Resale price maintenance eliminates the intrabrand freeriding by reducing the customers' incentive to buy from franchisees that do not provide the local marketing investments, such as promotion and after-sale services (Mathewson, Winter 1986). Consequently, by eliminating the horizontal externality problem it increases the franchisor's incentive to undertake brand name investments.

- Territorial guarantees: Exclusive territory or customer clauses protect the intangible investments of the franchisee by preventing the franchisor from locating another franchisee(s) next to him. In addition territorial restraints – especially combined with resale price maintenance – reduce intrabrand free riding and hence encourage the franchisee to undertake intangible investments (Mathewson, Winter 1998). Furthermore, the franchisor can transfer the rights to control network entry to the franchisees when investments in outlet-specific assets are very crucial for the success of the system (Mathewson, Winter 1994).

- Lease control: Under lease control the franchisee hands over the business premises upon leaving the network. Due to the quality control and hostage function it provides high incentives for the franchisor to undertake specific investments (Klein 1980; Dnes 1992b). On the other hand, if the franchisee is the owner of the property he will invest in specific

local assets because he expects that the future residual surplus in its lease will be at least partly generated for its own account (Adams, Jones 1997, 260).

- Approval and buy back rights: When a franchised business is sold the franchisor retains the right to approve the purchaser, frequently he has a right of first refusal to acquire the franchise. The approval right ensures that the franchisee cannot expropriate the quasi rents generated by the franchisor's intangible assets. In addition, the right of first refusals allows the franchisor total control over an outlet by matching any third-party offer for it (Dnes 1993, 380). Therefore these rights „assure that the franchisor can recapture a franchise at renewal time without any capitalized brand name value accruing to the franchisee“ (Caves, Murphy 1976, 580).

- Termination clause: When the franchisee does not fulfill the contract requirements, the franchisor has the right to terminate the franchise agreement. Thus this clause strengthens the franchisor's ownership right and hence his investment incentive but at the same time weakens the franchisee's residual claimancy position (Makar 1988).

- Alienation Rights: When the franchise business is sold, the franchisee retains the right to transfer outlet ownership. In addition, when the franchisee dies, the contract specifies the right to transfer outlet ownership to relatives of the franchisee. These rights provide an incentive for the franchisee to undertake outlet-specific investments by expecting to appropriate the rents generated by his investments during the contract period.

In sum, ownership rights include both residual income rights and ownership surrogates: The franchisor's incentive to invest in intangible knowledge assets (system-specific know-how) is higher, the higher the initial fees and royalties are and the more the diluted residual income rights are compensated by ownership surrogates, such as tying arrangements, resale price maintenance, exclusivity clauses, lease control, buy back, approval and termination rights. On the other hand, the franchisee's incentive to invest in

intangible knowledge assets (local market know-how) is higher the lower the initial fees and royalties are, and the more ownership surrogates are included in the franchise agreement, such as exclusive territory arrangement, exclusive customer clauses, alienation rights and the right to control network entry.

5. Organizational Architecture and Complementarities in Franchising Networks

According to the property rights approach the person(s) with the intangible knowledge assets should have the residual decision rights and the person (s) with the residual decision rights should have the ownership rights to maximize the value of asset use. This means that the franchisor and the franchisee's motivation to use the knowledge assets to generate the residual income stream is improved if the residual decision and ownership rights are allocated according to the distribution of intangible knowledge assets. Therefore, an efficient property rights structure implies covariation between knowledge assets and decision rights and between decision and ownership rights. Consequently, applying complementarity theory (Milgrom, Roberts 1990; Holmström, Milgrom 1994; Milgrom, Roberts 1995) to the structure of franchising networks, the organizational architecture is characterized by complementarities between knowledge assets and decision rights and between decision and ownership rights.

This is illustrated by the following example (see figure 1):

Case I: Know-how dominance of the franchisor. The franchisor has a large fraction of intangible knowledge assets (brand name capital) and the local market know-how of the franchisee is less specific. Due to the franchisor's dominant know-how position he should get a large fraction of residual decision rights and complementary ownership rights to increase his incentive to invest in intangible assets. Hence the decision making power is more centralized (see FIT I, figure 1).

Case II: Know-how parity between the franchisor and franchisee. In this case both the intangible knowledge assets of the franchisor and franchisee generate a high residual income stream. Hence the residual decision and ownership rights must be assigned according to the franchisor's and franchisee's know-how position. Hence the decision making power is more decentralized (see FIT II, figure 1).

Insert Figure 1: Complementarities in Franchising Networks

If these complementarity conditions are violated, the following inefficiencies may arise:

- (1) Misfit between knowledge assets and decision rights: In *case I* this means that the decision power is decentralized although the franchisor has a large portion of intangible knowledge assets in the network (see (3), figure 1). In *case II* a misfit between knowledge assets and decision rights means that the decision power is centralized although the franchisee has a high portion of intangible knowledge assets (see (4) in figure 1). Due to this incompatibility between knowledge assets and residual decision rights the residual surplus cannot be maximized.
- (2) Misfit between residual decision and ownership rights: Due to the franchisor's know-how dominance the franchising network is relatively centralized in *case I*. At the same time the franchisor's portion of ownership rights is too low to provide efficient incentives to invest in intangible knowledge assets (see (4'), figure 1). In *case II* the franchising network is decentralized under a strong know-how position of the franchisee. The franchisor may not fully use his know-how advantage to maximize the ex post surplus because he obtains only a small fraction of the residual income stream (see (3'), figure 1).

In sum, the property rights approach of franchising can be summarized by the following proposition (see figure 2): The higher the portion of the franchisor's (franchisee's) intangible knowledge assets are relative to the franchisee's (franchisor's) to generate the residual surplus, the more residual decision rights should be given to the franchisor (franchisee) and the more residual decision rights the franchisor (franchisee) has, the more ownership rights should be transferred to him. Consequently, an efficient organizational architecture of franchising network implies both complementarity between knowledge assets and decision rights and between residual decision and ownership rights. In addition, due to the dilution of residual income rights ownership surrogates serve as complements to simulate the incentive effect of undiluted residual income rights.

Insert figure 2: The Property Rights Approach of Franchising

The following testable hypotheses can be derived from this property rights approach of franchising (figure 3):

H1: Complementarity between knowledge assets and residual decision rights

H1a: The higher the intangible knowledge assets of the franchisor are relative to the franchisee, the higher is the franchisor's portion of residual decision rights and the more centralized is the franchising network.

H1b: The higher the intangible knowledge assets of the franchisee are relative to the franchisor, the higher is the franchisee's portion of residual decision rights and the more decentralized is the franchising network.

H2: Complementarity between residual decision and ownership rights

H2a: The higher the franchisor's portion of residual decision rights, the higher the franchisor's portion of ownership rights. The franchisor's ownership position is strengthened by relatively high initial fees and royalties, and the following

ownership surrogates: Resale price maintenance, exclusive dealing clauses, tying arrangements, lease control, buy back and approval rights.

H2b: The higher the franchisee's portion of residual decision rights, the more ownership rights are assigned to him. The franchisee's ownership position is improved by relatively low initial fees and royalties and the following ownership surrogates: Exclusive territory arrangements, exclusive customer clauses, lease and alienation rights and the right to control network entry as ownership surrogates.

H3: Complementarity between residual income rights and ownership surrogates

Residual income rights are positively correlated with ownership surrogates to simulate the incentive effect of undiluted residual income rights.

Insert figure 3: Organizational Architecture Framework

6. Empirical Analysis

The empirical setting for testing this hypothesis is the franchise sector in Austria. The data set was collected in 1997. After several preliminary steps in questionnaire development and refinement, including in-depth interviews with franchisors and representatives of the Austrian franchise association, the final version of the questionnaire was pretested with 10 franchisors. The revised questionnaire, which incorporated the alterations suggested by the pretest, was mailed to 216 franchisors in Austria. We received 83 completed responses with a response rate of 38,4%.

6.1. Measures of Variables

To test our hypotheses three groups of variables are important: Knowledge assets, decision rights and ownership rights.

Knowledge Assets: Knowledge assets refer to the intangible (non-contractible, tacit) system-specific assets of the franchisor and the intangible outlet-specific assets of the franchisee. As argued in organization theory, knowledge transfer methods vary with the degree of equivocality (ambiguity) of the decision situation (Daft, Macintosh 1981; Daft, Lengel 1986; Morabito, Sack, Bhate 1999, 200-220). As shown by Simonin (1999), greater ambiguity is associated with knowledge assets that are more tacit. The higher the degree of tacitness, the lower is the degree of codification of knowledge, and the more personal (face-to-face) knowledge transfer methods are used, such as telephone, meetings, coaching and personal training. A similar measurement concept was used by Dyer (1996), Inkpen, Dinur (1998) and Darr et. al (1995). The assumption behind these measures is that as intangibility of knowledge assets increases, so does the number of days of face-to-face interaction. By applying this concept to franchising the franchisor's knowledge assets are measured by the number of training days a year, the number of visits and the number of annual meeting days. The higher the degree of intangibility of knowledge assets, the higher the number of training days per year, the number of franchisor's visits and the number of annual meeting days. In addition, knowledge assets of the franchisee refer to the franchisee's intangible local market know-how. The higher the degree of intangibility of franchisees' knowhow, the larger is the market know-how advantage of the franchisee compared with the manager of a franchisor-owned outlet. Therefore, we used the local market knowledge advantage of the franchisee as 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 local market knowledge advantage.

Decision Rights: Non-contractable decision rights include the following decisions in the franchise network: procurement decision, price and product decisions, advertising decision, human resource decisions (recruitment and training), investment and finance decisions

and decisions concerning the application of accounting systems. The decision index addresses the extent to which residual decisions are made by the franchisor and the franchisee. Hence it is a measure of decentralization/centralization of decision making in the network. The franchisors were asked to rate the franchisee's influence on these decisions on a seven-point scale. By averaging the scale values we constructed a decision index varying between 1 and 7. The higher the index, the higher is the franchisee's influence on residual decision making. Consequently, the decision measure varies positively with the degree of decentralization and negatively with the degree of centralization of decision making.

Ownership Rights: Ownership rights refer to the allocation of residual income rights and ownership surrogates. The residual income rights are measured by the initial fees and royalties (as percentage of sales). Ownership surrogates refer to the following contractual arrangements: The first group are ownership surrogates that increase franchisor's investment incentive: Tying clause, exclusive dealing clause, resale price maintenance, lease control, approval and buy back rights at the end of the contract period. If all five clauses are specified in the contract, the index of franchisor's ownership surrogates is 5. The second group are ownership surrogates that strengthen franchisee's investment incentive: Exclusive territory arrangements, exclusive customer clause, right to control network entry, franchisee's lease rights and alienation rights. Hence the measure of ownership surrogates ranges between 0 and 5.

6.3. Results

6.3. 1. Descriptive Statistics

Table 1, 2 and 3 presents descriptive data for the sample. The structure of decision rights is presented in table 2. The results reveal that human resource decisions, investment and

finance decisions and advertising decisions are more decentralized and procurement, price, product and accounting decisions are more centralized. One may conclude that there is a tendency toward decentralization of decision making in the network. The measures of ownership rights (royalties, initial fees and ownership surrogates) are presented in table 1 and 3: The mean of royalties is 4,23 % and of initial fees is 3,32 % (based on sales). More than 60 % of the franchise contracts include exclusive dealing clauses, resale price maintenance and alienation rights, and more than 50 % of contracts include lease control, buy back and approval rights.

Insert table 1, 2, 3: Descriptive Statistics

6.3.2. Test of Hypotheses

As proposed by Holmström and Milgrom (1994) complementarities between the elements of organizational architecture are tested by using correlations among the organizational architecture variables (see also Aurora, Gambordella 1990; Hitt, Brynjolfsson 1997; Ichniowski et al. 1997). Therefore hypotheses 1, 2 and 3 were tested by applying correlation analysis to examine complementarities between knowledge assets, decision rights and ownership rights. The results of the correlation analysis are summarized in table 4.

Insert table 4: Correlation Analysis

Hypothesis 1: Decision rights vary with the distribution of knowledge assets.

According to the property rights theory the franchisor's knowledge assets indicators are negatively correlated and the franchisee's knowledge asset indicator is positively correlated with the decision index. The data provide support for this hypothesis (see table 4).

Consistent with hypothesis 1, the correlation coefficient between the decision index and local market knowledge advantage is positive and highly significant; additionally, the correlation coefficients between the decision index and the franchisor's knowhow indicators are negative and significant. Therefore, the franchisee's local market knowledge advantage is significantly higher (lower), and the number of annual training and meeting days and the number of visits per year are significantly lower (higher) under more decentralized (centralized) systems compared with more centralized systems.

Hypothesis 2: Ownership rights vary with the allocation of residual decision rights.

The person who has a larger fraction of residual decision rights should have a larger portion of ownership rights. Ownership rights refer to residual income rights (initial fees and royalties) and ownership surrogates. Residual income rights refer to the initial fees (as percentage of sales) and the royalty rate (as percentage of sales). In addition, ownership rights are measured by the index of ownership surrogates ranging from 0 to 5. The franchisor's and franchisee's portion of ownership rights is measured by the difference between the index of ownership surrogates of the franchisor and the franchisee. For instance, if all contractual provisions support the franchisor's ownership position, the difference is +5, and if all contractual provisions support the franchisee's residual claimancy position the difference is -5. Hence if this difference is positive, more ownership surrogates are in the hands of the franchisor, and if it is negative, more ownership surrogates are in the hands of the franchisee. According to hypothesis 2, the lower the decision index, the higher (lower) is the franchisor's (franchisee's) fraction of ownership rights. Hence there is a negative relationship between the decision index and the fees (initial fees and royalties) as well as between the decision index and the indicator of ownership surrogates.

The data provide support for this hypothesis. The hypothesis, that franchise systems with an higher portion of ownership rights of the franchisor are more centralized and franchise systems with a higher portion of ownership rights of the franchisee are more decentralized, is corroborated. The correlation coefficients between the fees and the decision index as well as between ownership surrogates and the decision index are negative and significant (see table 4). This result suggests that decision and ownership rights are complements.

Hypothese 3: Residual income rights vary with ownership surrogates

If the correlation between the fees (initial fees and royalties) and ownership surrogates is positive complementarity exists between ownership surrogates and residual income rights indicating that ownership surrogates increase the incentive effect of residual income rights. The data provide support for this hypothesis. The correlation coefficient is positive and slightly significant (see table 4).

6.3.3. Discussion

This study presents the first empirical evidence that the property rights structure of franchising networks is characterized by complementarities between knowledge assets and decision rights, between decision and ownership rights, as well as between ownership surrogates and residual income rights. The data suggest that differences in the allocation of residual decision rights may be attributed to differences in the distribution of knowledge assets and differences in ownership rights result from the differences in decision rights. Although the data provide support for the hypotheses, this study is not without limitations. One important problem concerns the relationship between ownership surrogates and residual income rights. Some studies indicate that ownership surrogates and fees may be substitutes (Dnes 1993; Wollenberg 1987). For instance, this may be the case for royalties and tying arrangements because the price for tied inputs already includes royalties. Hence

the incentive effect of royalties cannot be evaluated without accounting for this interaction effect. The same could be the case for royalties as franchisor's residual income right and his buy back right at the end of the contract period. The franchisor might accept relatively lower royalties if he can expropriate outlet-specific rents at the end of contract period. The study of interactions between the different contractual provisions requires more micro-data on contractual agreements (Masten 1998; Masten, Saussier 2000). First research results about interactions between provisions in different contractual relationships were published by Joskow (1987), Crocker, Masten (1991), Dnes (1992a), Leblebici, Shalley (1996), Brickley (1999), Bercovitz (1999) and Arrunada et al. (1999). Therefore the next step in our research is to examine the interactions between the different contractual provisions in the franchising network, especially the relationship between the different provisions of the franchisor's and franchisee's ownership surrogates and the relationship between ownership surrogates and residual income rights.

6. Concluding Remarks

The paper presents a property rights explanation of the institutional structure of franchising by showing that an efficient organizational architecture implies complementarities between knowledge assets and decision rights, between decision and ownership rights, and between residual income rights and ownership surrogates. Decision rights have to be allocated according to the distribution of knowledge assets between the franchisor and franchisee and ownership rights have to be assigned according to the allocation of residual decision rights. Since residual income rights are diluted in franchising networks ownership rights include not only residual income rights (fixed and variable fees) but also complementary ownership surrogates to simulate the incentive effect of undiluted ownership rights. Consequently, under a property rights perspective, complementarity between knowledge assets and decision rights solves the coordination problem and complementarity between

decision and ownership rights solves the motivation problem. The person with more important noncontractible knowledge assets should have a larger fraction of the residual decision rights and the person with a larger fraction of residual decision rights should have a larger portion of ownership rights. Consequently, the higher the portion of franchisor's (franchisee's) intangible knowledge assets relative to the franchisee (franchisor), the more residual decision and complementary ownership rights must be assigned to the franchisor (franchisee).

Using data collected in the franchise sector in Austria, we offered the first empirical evidence that complementarities exist between knowledge assets and decision rights and between decision and ownership rights in franchising networks. Although our empirical study is not without limitations we hope it provides theoretical and practical insights and stimulates further research in organizational economics to explain the micro-structure of franchising networks.

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	N	Minimum	Maximum	Mean	Standard deviation
Annual training days	73	0	60	15,137	12,8941
Franchisee's local market knowledge advantage	71	1	5	3,8732	1,2754
Annual meeting days	83	0	99	9,46	13,68
Number of visits a Year	79	1	60	10,08	12,38
Initial fees (percentage of sales)	62	,00	28,00	3,3216	4,6573
Initial fees (US\$)	79	0	200000	10202	23233
Royalties (based on sales)	73	,00	20,00	4,2305	4,2682

Table 1: Knowledge Assets Indicators and Fees

	N	Minimum	Maximum	Mean	Standard deviation
Procurement decision	81	1	7	3,94	2,30
Product decision	83	1	7	4,73	2,00
Accounting system decision	81	1	7	4,74	2,16
Resale price decision	83	1	7	4,88	2,14
Advertising decision	83	1	7	5,29	1,76
Employees' training decision	82	1	7	5,35	1,57
Investment decision	83	2	7	5,87	1,49
Financial decision	83	1	7	6,05	1,63
Recruiting decision	83	1	7	6,53	1,30

Table 2: Decision Rights in the Austrian Franchise Sector

	N	Relative Frequencies
Resale price maintenance (obligatory)	83	18
Franchisee's right to control network entry	39	21
Exclusive customer clause	82	39
Tie-in arrangement	78	49
Franchisor's lease control	77	52
Franchisee's lease right	77	53
Buck back and approval rights	80	56
Exclusive dealing clause	83	63
Resale price maintenance (facultative)	82	68
Alienation right	79	73
Exclusive territory clause	83	73

Table 3: Ownership Surrogates in the Austrian Franchise Systems

Hypotheses	Correlation Coefficients
<p>H1: Decision Index and Annual Training Days Annual Meeting Days Number of Visits a Year Local Market Knowledge Advantage</p> <p>H2: Decision Index and Initial Fees and Royalties Ownership Surrogates</p> <p>H3: Residual Income Rights and Ownership Surrogates</p>	<p>- 0, 343** - 0, 193⁺ - 0, 363** + 0, 251**</p> <p>- 0, 27* - 0, 249*</p> <p>+ 0, 262⁺</p>

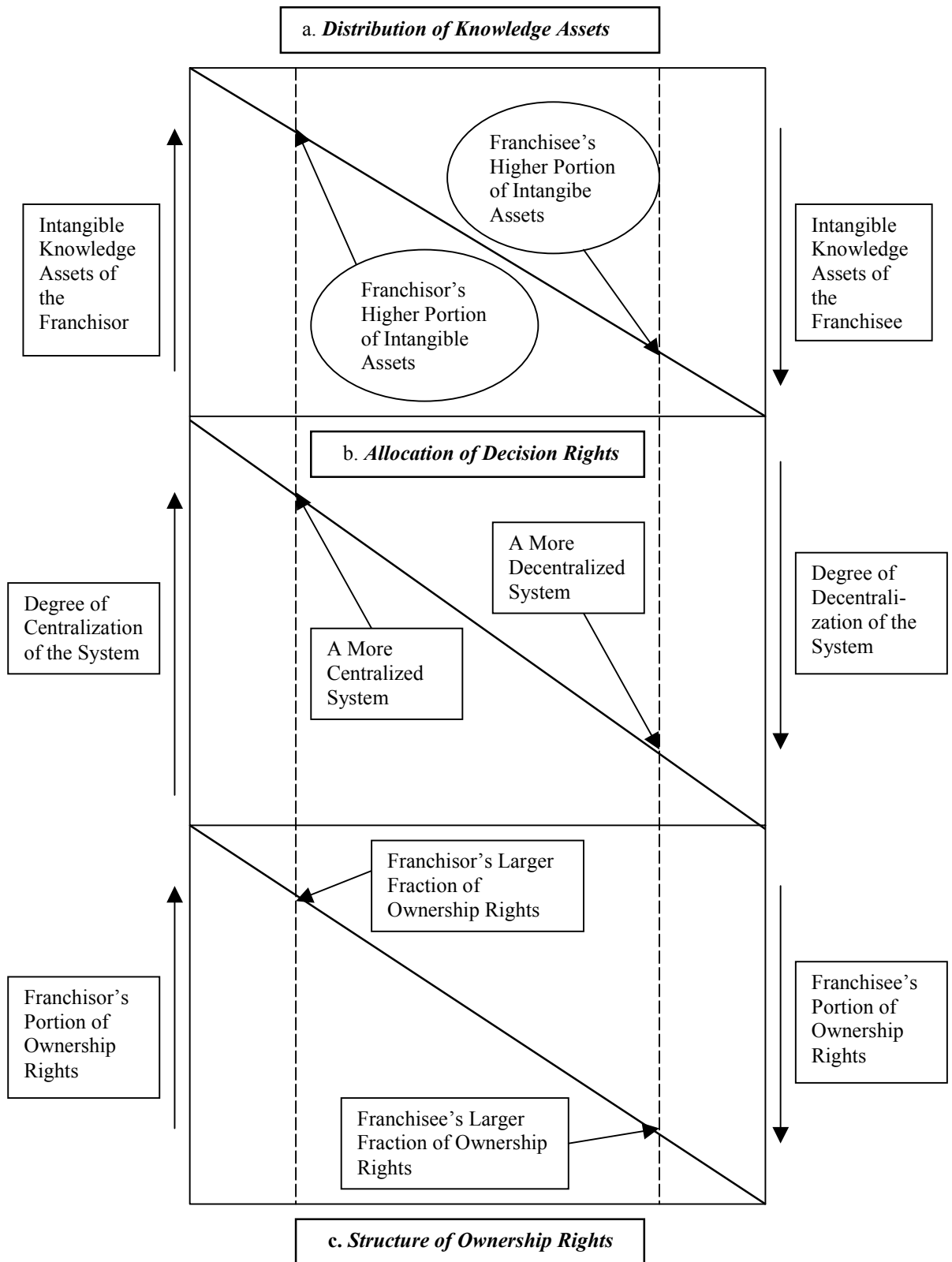
** P < 0,01; * P < 0,05; ⁺ P < 0,1

Table 4: Correlation Analysis

DECISION RIGHTS		
KNOWLEDGE ASSETS	More Decentralized Systems	More Centralized Systems
Franchisee's Know-how: High Franchisor's Know-how: High	(2) Complementarity	(4) Misfit
Franchisee's Know-how: Low Franchisor's Know-how: High	(3) Misfit	(1) Complementarity
FIT II		FIT I
DECISION RIGHTS		
OWNERSHIP RIGHTS (OR)	More Decentralized Systems	More Centralized Systems
Franchisee: Higher Portion of OR Franchisor: Lower Portion of OR	(2') Complementarity	(4') Misfit
Franchisee: Lower Portion of OR Franchisor: Higher Portion of OR	(3') Misfit	(1') Complementarity

Figure 1: Complementarities in Franchising Networks

Figure 2: The Property Rights Approach of Franchising



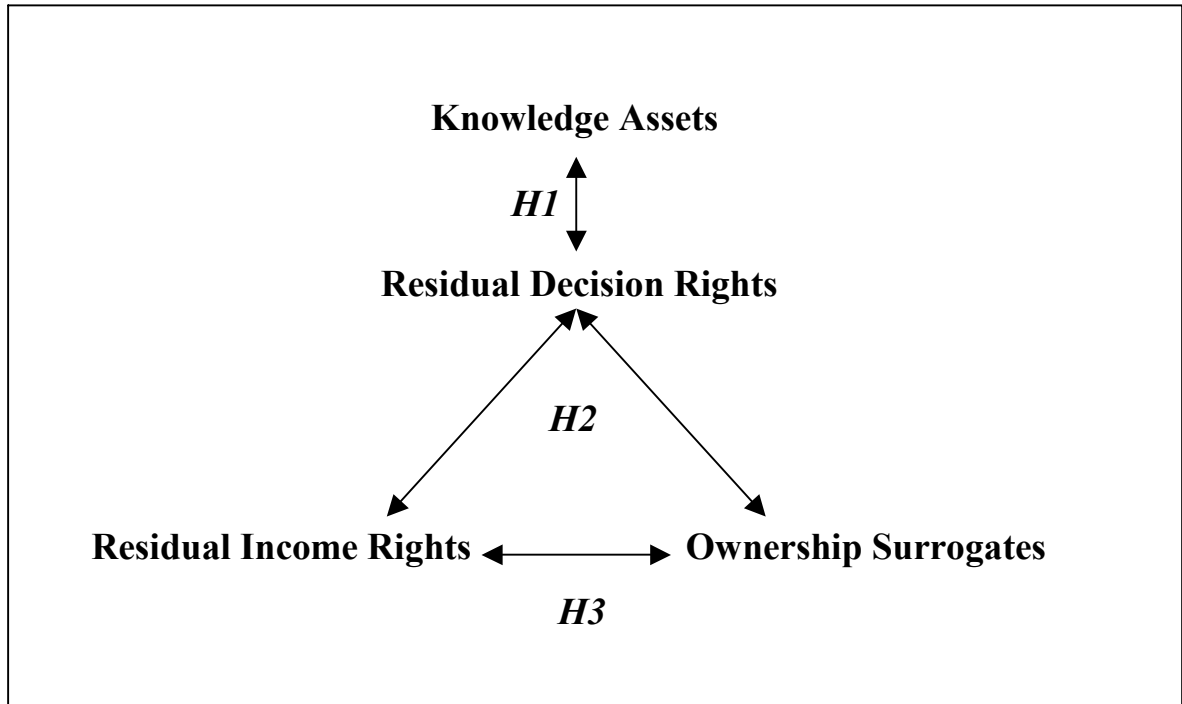


Figure 3: Organizational Architecture Framework