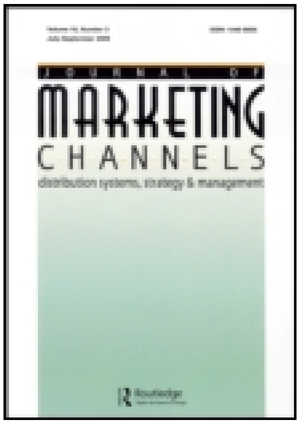

Journal of Marketing Channels
Publication details, including instructions for authors and subscription information:
http://www.tandfonline.com/loi/wjmc20

Allocation of Decision and Ownership Rights in Franchise Relationships

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Available online: 08 Sep 2008

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ABSTRACT. In this paper we examine the allocation of decision and ownership rights in franchise relationships. By applying the property rights approach decision rights must be allocated according to the distribution of intangible knowledge assets (know-how) between the franchisor and franchisee, and ownership rights must be assigned to those who have the residual rights of control (residual decision rights). Consequently an efficient channel structure requires co-location of knowledge and decision rights and complementarity between decision and ownership rights to maximize the value of the franchisor's and franchisee's knowledge assets. Our property rights analysis derives two hypotheses concerning the decision and ownership structure in franchise relationships which are tested in the Austrian franchise sector. This study presents the first empirical evidence that the property rights structure of franchising is characterized by co-location of knowledge assets and decision rights and complementarity between decision and ownership rights.

KEYWORDS. Property rights, franchising, incomplete contracts, decision rights, ownership structure

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Financial support was provided by the "Jubiläumsfonds" of the Austrian National Bank.

A first version of the paper was presented at the INFORMS-Conference, Seoul, South Korea, June 18-21, 2000 and the 15th Annual International Society of Franchising Conference, Las Vegas, NV, February 24-25, 2001.

INTRODUCTION

The paper examines the property rights structure of franchising by emphasising the role of the franchisor's and franchisee's intangible knowledge assets as determinant of decision and ownership rights in franchise relationships. Franchisor's intangible assets refer to the system-specific know-how and franchisee's intangible assets to the local market know-how that cannot be specified in contracts. According to the property rights approach (Barzel 1997, 2000; Hart, Moore 1990; Foss, Foss 1998) residual 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 (initial fees and royalties) but also complementary ownership surrogates to increase the incentive effect of residual income rights, such as exclusive dealing clauses, tying arrangements, resale price maintenance, territorial guarantees, lease control, approval clauses, buy back and alienation rights. Consequently, under a property rights perspective an efficient institutional structure of the franchising relationship requires both co-location of knowledge assets and decision rights and complementarity between decision and ownership rights. The more important the franchisor's brand name assets relative to the franchisee's local market assets for the generation of residual surplus, the more decision and complementary ownership rights should be given to the franchisor. Our property rights analysis derives two hypotheses concerning the decision and ownership structure in franchising networks which are tested in the Austrian franchise sector. This study presents the first empirical evidence that the property rights structure of franchising is characterized by co-location of knowledge assets and decision rights and complementarity between decision and ownership rights.

The paper is organized as follows: In the second section we review the relevant literature. In section three we develop the property rights approach of franchising. First we present an overview of the main propositions of the property rights approach, second we examine the relationship between knowledge assets and the allocation of decision rights between the franchisor and the franchisee, and third we try to answer the question how to structure the ownership rights in the franchise relationship. Finally, we derive two hypotheses from the property rights approach which are tested in the Austrian franchise sector.

LITERATURE REVIEW

Most of the theoretical frameworks to explain the institutional structure of franchising focus on two main research questions: The first question refers to the explanation of the degree of vertical integration, i.e. the distribution of franchisee-and company-owned outlets in the franchising channels. Starting from the ownership redirection approach in marketing (Oxenfeldt, Kelly 1968; Dant, Paswan, Kaufman 1996, Dant, Kaufman, Robicheaux 1998), the following theories were developed in the last two decades: Transaction costs theory (Minkler, Park 1994), agency theory (Brickley, Dark 1987; Lafontaine 1992), signalling theory (Gallini, Lutz 1992), search cost theory (Minkler 1992, 1990), incomplete contract theory of ownership structure (Maness 1996; Bai, Tao 1998) as well as strategic approaches (Bradach 1997; Cliquet 2001; Lopez, Gonzales-Busto 2001).

The second research direction focuses on the explanation of the institutional structure of franchise agreements. The fee structure (initial fees and royalties), especially, was comprehensively investigated (Dnes 1996; Lyons 1997). In the following we review the agency theory, screening theory, transaction cost theory and signalling theory of franchising and argue why a property rights approach, which is presented in the following pages, may be more adequate to explain the institutional structure of the franchise relationship. The agency cost explanation initiated by Rubin (1978) and extended by Mathewson/ Winter (1985), Lal (1991), Bhattacharyya/Lafontaine (1995), and tested by Brickley, Dark (1987), 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; Kaufmann, Dant 2001). In addition, it cannot explain the allocation of ownership rights as residual rights of control between the franchisor and the franchisee, due to the complete contracting assumption of agency theory. 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 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 the 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 behaviour, 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. 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 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).

To summarize, these theories offer explanations of certain aspects of the property rights structure of the franchise relationship. Their primary aim is to explain the fee structure 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 order to explain the institutional arrangements between the franchisor and franchisee (both as residual decision maker and residual claimant) the property rights approach may offer a more general theoretical framework.

PROPERTY RIGHTS IN FRANCHISE RELATIONSHIPS

The Property Rights Propositions

According to the property rights approach the structure of property rights depends on the intangibility (contractibility) of assets (Grossman, Hart 1986; Barzel 1997; Hart, Moore 1990). The person who has intangible assets that generate the residual income stream should have the decision rights to maximize the residual surplus (residual rights of control) (Hart, Moore 1996, 55). These rights refer to the "knowledge of place and time" (Hayek 1945, 524) or specific knowledge in the sense of Jensen and Meckling (1992) that cannot be specified in the contract due to too high transaction costs. In addition to these residual rights specific or nonresidual rights are explicitly stipulated in contracts (Demsetz 1998). They refer to the general knowledge (as tangible assets) of the parties which can be more easily specified in contracts. Consequently, given the distribution of knowledge assets the maximum resource value obtains if the residual decision rights are assigned to those who are best able to use these assets. The relationship between knowledge assets and the structure of decision rights can be summarized by the following proposition:

Proposition I: The more intangible knowledge assets a person has relative to the other person, the more residual decision rights should be assigned to that person.

This co-location of knowledge assets and decision rights is only sufficient for designing an efficient organization structure, if all agents follow the same goals. In this situation the efficient organisation exclusively depends on the allocation of decision rights. In reality, however, the agents do not follow the same goals. Therefore motivation problems arise resulting in agency costs due to hidden information, hidden action and hidden characteristics. In this situation the allocation of decision rights not only results in lower information costs due to co-location of knowledge and decision rights but also in additional agency costs due to goal incompatibility between the agents (Jensen, Meckling 1992). 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 usage. Consequently the 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:

Proposition II: The more residual decision rights a person has due to his intangible knowledge assets, the higher should be his portion of the residual income stream.

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 specific knowledge to maximize the ex post surplus of the asset use and the ownership rights should be given to the person who has the residual decision rights.

Structure of Decision Rights in Franchising Channels

By applying the property rights perspective to franchising networks decision rights should be allocated according to the distribution of 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 in franchising is the degree of intangibility of knowledge assets. The franchisor faces the problem of maximizing the returns to his system-specific assets (brand name capital) 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 system-specific know-how. If the outlet-specific knowledge assets (local know-how) generate a large portion of residual surplus, the corresponding residual decision rights must be transferred to the franchisee to maximize the ex post surplus. On the other hand, if the franchisor's system-specific investments are very important to generate a large fraction of the residual income, the franchisor's decision rights must be assigned according to his specific know-how position.

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; Michael 1996). In this case the bargaining power of the franchisee is relatively strong due to his noncontractible know-how. Both the franchisor and the franchisee have to undertake specific investments to generate a high ex post 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 dependence of decision rights on the 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 portion of the franchisor's (franchisee's) intangible knowledge assets relative to the franchisee (franchisor), the more residual decision rights must be transferred to the franchisor (franchisee).

Ownership Rights in Franchising Networks

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 consequently ownership rights (Barzel 1997). 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? Ownership rights as residual income rights only exist when the franchisor's and franchisee's actions are at least partly noncontractible (Hart 1995). Due to the division of residual income rights between the franchisor and the franchisee, ownership rights are diluted. Residual income rights and hence its incentives to maximize the value of asset use are attenuated by the payment of fixed and variable franchise fees and the transfer of alienation rights. This dilution of ownership rights may result in horizontal and vertical externalities and consequently in underinvestment problems. These underinvestment problems can be mitigated by incentive mechanisms to compensate the disincentive effect of diluted residual income rights. These incentive mechanisms are called ownership surrogates. 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 franchise contracts? The disincentive effect of the 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 outlet ownership rights (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, exclusive dealing clause, resale price maintenance, lease control, option rights at the end of contract period such as buy back arrangement, approval and termination rights.[1]

To summarize, ownership rights include both residual rights and ownership surrogates: The franchisor's incentive to invest in intangible knowledge assets is higher, the higher the fees 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 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 arrangements, exclusive customer clauses, alienation rights and the right to control network entry.

Complementarity Between Decision and Ownership Rights

According to the property rights approach the person(s) with specific knowledge assets to maximize the value of asset use should have residual decision and ownership rights (Barzel 2000). The co-location of knowledge assets and decision rights as well as the complementarity between decision and ownership rights are the key drivers of an efficient institutional structure (Milgrom, Roberts 1995; Brickley, Smith, Zimmerman 1995). This means that the franchisor and the franchisee's motivation to use the knowledge assets to maximize the residual income stream (i.e. to use them for residual decision making) is improved if they obtain a fraction of ex post surplus according to their investments in specific knowledge assets. Consequently, the structure of decision and ownership rights in franchise relations is ultimately dependent on the distribution of knowledge assets between the franchisor and franchisee. The property rights approach of franchising can be summarized by the following proposition:

> The higher the portion of franchisor's (franchisee's) intangible knowledge assets (know-how) are relative to the franchisee's (franchisor's) to generate the network's ex post surplus, the more residual decision rights should be given to the franchisor (franchisee), and the more residual decision rights the franchisor (franchisee) has, the higher should be his fraction of ownership rights (residual income rights and ownership surrogates).

The following testable hypotheses can be derived from this property rights approach:

H1: Decision rights depend on the distribution of knowledge assets between the franchisor and franchisee:

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

H2: Ownership rights depend on the allocation of decision rights in franchising networks:

H2a: The more centralized the residual decision power, the higher is the franchisor's portion of ownership rights. The franchisor's ownership position is strengthened by relatively high initial fees and royalties as residual income rights, and resale price maintenance, exclusive dealing clauses, tying arrangements, lease control, buy back and approval rights as ownership surrogates.

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

EMPIRICAL ANALYSIS

The empirical setting for testing these hypotheses 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%.

Measures

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 (noncontractible, tacit) system-specific assets of the franchisor and the intangible outlet-specific assets of the franchisee. As argued in organization theory, information and knowledge transfer methods vary with the degree of ambiguity (equivocality) of the decision situation (Daft, Lengel 1986). As shown by Simonin (1999), greater ambiguity is associated with knowledge assets that are more tacit. The higher the degree of tacity, 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, visits and personal training. By applying this approach the intangibility of franchisor's knowledge assets are operationalized by the number of training days per year and the number of franchisor's outlet visits. A similar measurement concept was used by 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. Knowledge assets of the franchisee refer to the franchisee's intangible local market know-how. The higher the degree of intangibility of franchisees' know-how, the larger is the local market knowledge advantage of the franchisee compared to the manager of a franchisor-owned outlet. Therefore, we use 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 seven-point scale to evaluate franchisee's local market knowledge advantage.

Decision Rights: Non-contractible decision rights include the following decisions in the franchise network: procurement decision, price and product decisions, advertising decision, human resource decisions (recruiting and training), investment and finance decisions and decisions concerning the application of accounting systems. The indicator of decision rights 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 royalty rate (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. 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, option right in the case of increasing the number of outlets and alienation rights. Hence the measure of ownership surrogates ranges between 0 and 5.

Results

Descriptive Statistics

Table 1a presents the franchisor's and franchisee's knowledge assets indicators. In addition, the different decision rights are listed in Table 1b. 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. The measures of ownership rights are presented in Table 1c and 1d: 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, exclusive territory clauses, resale price maintenance and alienation rights, and more than 50 % of contracts include lease control, buy back and approval rights (see Table 1d).

Test of Hypotheses

Hypotheses 1 and 2 were tested by applying nonparametric tests (Kruskal-Wallis and median test) to test for differences in the distribution of intangible knowledge assets (hypothesis 1) and in the allocation of decision rights (hypothesis 2).

TABLE 1a. Knowledge Assets Indicators

	N	Minimum	Maximum	Mean	Standard deviation
Annual training days (Franchisees)	74	0	30	7.65	6.47
Number of visits a year	79	1	60	10.08	12.38
Franchisee's local market knowledge advantage	60	1	7	4.61	1.56

TABLE 1b. Decision Rights in the Austrian Franchise Sector

	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 1c. Initial Fees and Royalties

	N	Minimum	Maximum	Mean	Standard deviation
Advertising fees (percentage of sales)	67	0	9.00	1.2806	1.7042
Initial fees (percentage of sales)	62	0	28.00	3.3216	4.6573
Initial fees	79	0	20,0000*	10,202	23,233
Royalties (percentage of sales)	73	0	20.00	4.2305	4.2682

*Amount in US$

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

The franchise systems were divided into two groups: More centralized systems are rated below 5 on the decision index and more decen-

TABLE 1d. Ownership Surrogates in the Austrian Franchise Systems

	N	Relative frequencies
Resale price maintenance (obligatory)	83	18
Franchisee's outlet option right (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

tralized systems score 5 or above. We conducted a Kruskal-Wallis test to ascertain whether the knowledge assets indicators are significantly different.

The data provide support for this hypothesis (see Table 2). Consistent with hypothesis 1, franchisee's local market knowledge advantage is higher under more decentralized systems compared to more centralized systems. On the other hand, the number of annual training days and the number of visits per year are significantly lower under more decentralized systems compared to more centralized systems.

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

The person who has a larger fraction of residual decision rights should have a larger portion of residual ownership rights. Ownership rights refer to residual income rights (initial fees and royalties) and ownership surrogates. The latter are measured by the index of ownership surrogates ranging between 0 and 5. First to test the hypothesis we differentiated between two groups of franchise systems: Systems with a relatively higher portion of ownership surrogates of the franchisor and

TABLE 2. Knowledge Assets and Decision Rights

		DECISION RIGHTS		SIGNIFICANCE LEVEL
		More Decentralized Systems	More Centralized Systems	
KNOWLEDGE ASSETS	Franchisee	Local market knowledge advantage is relatively high	Local market knowledge advantage is relatively low	p = 0.078
	Franchiser	Annual training days are relatively low	Annual training days are relatively high	p = 0.008
		Number of visits per year are relatively low	Number of visits per year are relatively high	p = 0.039

systems with a relatively higher portion of ownership surrogates of the franchisee. The portion of ownership rights is measured by the difference between the index of ownership surrogates of the franchisor and the franchisee. For instance, if this index is 5, all ownership surrogates are in favour of the franchisor. 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. We conducted a median test whether the decision measure is significantly different between the two groups of franchise systems. Second, if the result of this test is significant, the question to ask is what is the nature of the relationship between franchisor's and franchisees' ownership surrogates and residual income rights (initial fees and royalties). Complementarities between contractual provisions are tested by using correlation coefficients (Aurora, Gambordella 1990). If the correlation is positive between the franchisor's fraction of ownership surrogates and the initial fee and royalties and negative between the franchisee's fraction ownership surrogates and the fee and royalties, a complementary relationship exists between ownership surrogates and residual income rights indicating that ownership surrogates increase the incentive effect of residual income rights.

The data provide some support for this hypothesis (see Table 3). First, consistent with hypothesis 2, the decision index is significantly

TABLE 3. Decision and Ownership Rights

	OWNERSHIP RIGHTS		SIGNIFICANCE LEVEL
	Higher portion of ownership surrogates of the franchiser	Higher portion of ownership surrogates of the franchisee	
DECISION RIGHTS	Decision indicator is relatively low	Decision indicator is relatively high	p = 0.031

higher under systems with a higher portion of ownership surrogates of the franchisee compared to systems with a higher portion of ownership surrogates of the franchisor. This result suggests that complementarity exists between decision and ownership rights. This complementarity relationship is also revealed by the significant negative correlation between the index of decision rights and ownership surrogates ($r = -0{,}319$; $p = 0{,}01$).

On the other hand, the data do not indicate complementarity between residual income rights and ownership surrogates, showing very insignificant correlations between royalties and initial fee as residual income rights, on the one hand, and ownership surrogates of the franchisor and franchisee, on the other hand.

Discussion and Implications

The empirical results indicate that the property rights structure in franchise relationships depends on the distribution of knowledge assets between the franchisor and the franchisee. This study presents the first empirical evidence that the property rights structure of franchising is characterized by co-location of knowledge assets and decision rights and complementarity between decision and ownership rights. The data suggest that differences in the distribution of decision rights may be attributed to differences in intangible knowledge assets and differences in ownership rights result from the different distribution of residual decision rights. Although the data provide support for hypothesis 1 and 2, this study is not without limitations. The main problem concerns the relationship between ownership surrogates and residual income rights. Some studies indicate that some ownership surrogates and fees may be substitutes (Dnes 1993 and Wollenberg 1987). For instance, this may be the case for variable fees 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 during the contract period and his buy back rights at the end of the contract period. The franchisor might accept a relatively lower royalty rate if he can expropriate outlet specific rents at the end of contract period. Consequently, complementarities and substitutabilities may exist between the different provisions in franchise agreements. The study of interactions between the different contractual provisions requires more micro-data on contractual agreements (Masten, Saussier 2000). First research about interactions between provisions in different contractual relationships was done by Joskow (1987), Crocker, Masten (1991), Leblebici, Shalley (1996), Brickely (1999), Bercovitz (1999), Arrunada et al. (1999) and Kaplan, Strömberg (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.

NOTE

1. The incentive effects of these ownership surrogates are analysed in Windsperger (2002).

REFERENCES

Arora, A. A. Gambardella (1990), Complementarity and External Linkages: The Strategies of the Large Firms in Biotechnology, Journal of Industrial Economics, 38, 361-379.

Arrunade, B., L. Garicano, L. Vazquez (1999), Contractual Allocation of Decision Rights and Incentives: The Case of Automobile Distribution, Working Paper, October 1999.

Annand, K. S., H. Mendelsohn (1995), Information and Organization for Horizontal Multimarket Coordination, Working Paper, Stanford University, Graduate School of Business, October 1995.

Bai, C., Z. Tao (1998), Contract Mix and Ownership, Boston College, Working Paper.
Barzel, Y. (1997), Economic Analysis of Property Rights, New York.
Barzel, Y. (2000), Property Rights in the Firm, Working Paper, University of Washington, February 2000.
Bercovitz, J. E. L. (1999), An Analysis of the Contract Provisions in Business-Format Franchise Agreements, in J. Stanworth, D. Purdy (eds.), Proceedings of the 13th Conference of the Society of Franchising.
Bhattacharyya, S., F. Lafontaine (1995), Double-Sided Moral Hazard and the Nature of Share Contracts, RAND Journal of Economics, 26, 761-781.
Blair, M. M. (1995), Ownership and Control, Washington, D.C.
Bradach, J. L. (1997), Using the Plural Form in the Management of Restaurant Chains, Administrative Science Quarterly, 42, 276-303.
Brickley, J. A. (1999), Incentive Conflicts and Contractual Restraints: Evidence from Franchising, Journal of Law and Economics, 42, 745-774.
Brickley, J. A., F. H. Dark (1987), The Choice of Organizational Form: the Case of Franchising, Journal of Financial Economics, 18, 401-420.
Brickley, J. A. C. W. Smith, J. L. Zimmerman (1995), The Economics of Organizational Architecture, Journal of Applied Corporate Finance, 8, 19-31.
Christie, A. A., M. P. Joye, R. L. Watts (1995), Decentralization of the Firm: Theory and Evidence, Working Paper, Louisiana State University, December 1995.
Cliquet, G. (2001), Plural Forms in Store Networks: A Model for Store Network Evolution, International Review of Retail, Distribution and Consumer Research, 10, 369-387.
Crocker, K. J., Masten S. E. (1991), Pretia ex Machina?: Prices and Process in Long Term Contracts, Journal of Law and Economics, 34, 64-69.
Daft, R. L., R. H. Lengel (1986), Organizational Information Requirements, Media Richness and Structural Design, Management Science, 32, 554-571.
Dant, R. P., A. K. Paswan, P. J. Kaufman (1996), What we Know about Ownership Redirection in Franchising: A Meta-Analysis, Journal of Retailing, 72, 429-444.
Dant, R. P., P. J. Kaufman, R. A. Robicheaux (1998), Changes in the Mix of Company-Owned and Franchised Outlets: Ownership Redirection Revisited, Proceedings of the 12th International Society of Franchising Conference, Las Vegas, March.
Darr, E. D., L. Argote, D. Epple (1995), The Acquisition, Transfer, and Depreciation of Knowledge in Service Organizations: Productivity in Franchises, Management Science, 41, 1750-1762.
Demsetz, H. (1998), Book Review: Firms, Contracts and Financial Structure (by O. Hart), Journal of Political Economy, 106, 446-452.
Dnes, A. W. (1992), "Unfair" Contractual Practices and Hostages in Franchise Contracts, Journal of Institutional and Theoretical Economics, 148, 484-504.
Dnes, A. W. (1993), A Case Study Analysis of Franchise Contracts, Journal of Legal Studies, 22, 367-393.
Dnes, A. W. (1996), The Economic Analysis of Franchise Contracts, Journal of Institutional and Theoretical Economics, 152, 297-324.
Foss, K., N. Foss (1998), The Knowledge-Based Approach: An Organizational Economics Perspective, Working Paper, Copenhagen Business School, July 1998.

Gallini, N. N. Lutz (1992), Dual Distribution and Royality Fees in Franchising, Journal of Law, Economics & Organization, 8, 471-501.
Grossman, S J., O. D. Hart (1986), The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration, Journal of Political Economy, 94, 691-719.
Hart, O. (1995), Firms, Contracts and Financial Structure, Oxford.
Hart, O., J. Moore (1990), Property Rights and the Nature of the Firm, Journal of Political Economy, 98, 1119-1158.
Hayek, F. A. (1945), The Use of Knowledge in Society, American Economic Review, 35, 519-530.
Jensen, M. C., W. H. Meckling (1992), Specific and General Knowledge and Organizational Structure, in: L. Werin, H. Wijkander (eds.), Contract Economics, Oxford, 251-274.
Joskow, P. L. (1987), Contract Duration and Relationship-specific Investment: Empirical Evidence from Coal Markets, American Economic Review, 77, 168-185.
Kaplan, S. N., P. Strömberg (1999), Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts, Working Paper, University of Chicago, 1999.
Kaufmann, P. J., R. P. Dant (2001), The Pricing of Franchise Rights, Journal of Retailing, 77, 537-545.
Klein, B. (1980), Transaction Cost Determinants of 'Unfair' Contractual Arrangements, American Economic Review, 70, 356-362.
Lafontaine, F. (1992), Agency Theory and Franchising: Some Empirical Results, RAND Journal of Economics, 23, 263-283.
Lafontaine, F. (1993), Contractual Arrangements as Signalling Devices: Evidence from Franchising, Journal of Law, Economics & Organization, 9, 256-289.
Lafontaine, F., M. E. Slade (1998), Incentive Contracting and the Franchise Decision, NBER Working Paper, September 1998.
Lafontaine, F., K. L. Shaw (1998), The Dynamics of Franchise Contracting: Evidence from Panel Data, NBER Working Paper, September 1998.
Lal, R. (1990), Improving Channel Coordination through Franchising, Marketing Science, 9, 299-318.
Lopez, B., B. Gonzales-Busto (2001), The Dynamics of Contract-Mixing in Franchising, in Proceedings of the 15th International Society of Franchising Conference, Las Vegas.
Lyons, B. R. (1996), Empirical Relevance of Efficient Contract Theory: Inter-Firm Contracts, Oxford Review of Economic Policy, 12, 27-52.
Maness, R. (1996), Incomplete Contracts and the Choice Between Vertical Integration and Franchising, Journal of Economic Behaviour and Organization, 31, 101-115.
Masten, S. E., S. Saussier (2000), Econometrics of Contracts: An Assessment of Developments in the Empirical Literature on Contracting, Revue d'Economie Industrielle, 92, 215-236.
Mathewson, F., R. Winter (1985), The Economics of Franchise Contracts, Journal of Law and Economics, 28, 503-526.
Michael, S. C. (1996), To Franchise of not to Franchise: An Analysis of the Decision Rights and Organizational Forms Shares, Journal of Business Venturing, 11, 57-71.

Milgrom, P., J. Roberts (1995), Complementarities and Fit: Strategy, Structure and Organizational Change in Manufacturing, Journal of Accounting and Economics, 19, 179-208.

Minkler, A. P. (1990), An Empirical Analysis of a Firm's Decision to Franchise, Economics Letters, 34, 77-82.

Minkler, A. P. (1992), Why Firms Franchise: A Search Cost Theory, Journal of Theoretical and Institutional Economics, 148, 240-259.

Minkler, A., T. A. Park (1994), Asset Specificity and Vertical Integration in Franchising, Review of Industrial Organization, 9, 409-423.

Norton, S. W. (1988), An Empirical Look at Franchising as an Organizational Form, Journal of Business, 61, 197-217.

Oxenfeldt, A. R., A. O. Kelly (1968), Will Successful Franchise Systems Ultimately Become Wholly-Owned Chains?, Journal of Retailing, 44, 69-83.

Pejovich, S. (1990), The Economics of Property Rights, Dordrecht.

Putterman, L. (1988), The Firm as Association versus the Firm as Commodity, Economics and Philosophy, 4, 243-266.

Rubin, P. (1978), The Theory of the Firm and the Structure of the Franchise Contract, Journal of Law and Economics, 21, 223-233.

Simonin, B. L. (1999), Transfer of Marketing Know-how in International Strategic Alliances, Journal of International Business Studies, 30, 463-490.

Williamson, O. E. (1985), The Economic Institutions of Capitalism, Free Press, New York.

Windsperger, J. (2002), The Structure of Ownership Rights in Franchising Networks: An Incomplete Contracting View, European Journal of Law and Economics, 13, 129-142.

Wollenberg, K. K. (1987), An Economic Analysis of Tie-in Sales, Stanford Law Review, 39, 737-760.