Contractual Mix in Food Franchising[1]

Paulo F. Azevedo
Associate Professor, Dep. of Industrial Engineering
Federal University of São Carlos (UFSCar), SP, Brazil[2]
E-mail: dpfa@power.ufscar.br

Vivian L. S. Silva
PhD Candidate, Dept. of Industrial Engineering – UFSCar
E-mail: vivianlara@hotmail.com

André G. A. Silva
Undergraduate student, Dept. of Industrial Engineering – UFSCar
E-mail: ang_silva@yahoo.com

Abstract

This paper investigates how firms reconcile their gains from the expansion of franchising with the potential cost of brand name misuse by franchisees. We focus our analysis on the contractual mix (proportion of company-owned outlets) used by Brazilian food franchising. The main results are consistent with Lafontaine and Shaw (2001), who provide evidence that: a) company-owned and franchised outlets are complementary governance structures (a stable contractual mix); and b) the brand name value has a positive effect on the proportion of company-owned outlets. Our paper adds two new variables that represent hazards regarding brand name misuse by franchisees: a) the effect of franchisees' action on quality standards; and b) consumer sensitivity to variations in product attributes. Both variables represent the risk of not meeting consumer expectations about the product. Insofar as brand name value depends on its capacity to transmit information (Barzel, 1982), the experience of consuming a product with characteristics differing from those transmitted by the brand name voids the brand's capacity to info rm and, consequently, partially reduces its value. Brand name risks have a positive and significant effect on the proportion of company-owned units.

Key words: franchising, food sector, brand name, contractual mix

JEL Classification: D23, L14, L22

1. Introduction

A franchise is a contract whereby a franchisor assigns to franchisees the right to produce or sell branded products or services. In return, the franchisee pays fixed or variable fees, or contributes with

[1] We gratefully acknowledge FAPESP, CAPES, and CNRS for financial support, as well as ABF (Brazilian Franchising Association) for data availability. Our sincere acknowledge to ATOM Center (University of Paris 1 / Pantheon-Sorbonne) and Ronald Coase Institute for providing a fruitful environment for the development of this research. The usual caveat applies.

other assets. More abstractly, a governance structure regulates the transactions that allocate property rights of intangible assets, such as a brand name or a business format. Sharing a brand name or a concept usually allows for mutual gains, since they are non-depletable assets. That is, if used properly, the value of such goods does not diminish or disappear, and supports multiple users.

The expression *'if used properly'* plays a fundamental role in the design of franchise contracts and in numerous franchisor strategies, such as supply chain management, product development, and the contractual mix (proportion of company-owned outlets).[3] In this paper, we focus on an analysis of the contractual mix employed by food franchise chains as a control mechanism over the franchisees' operations. Based on a dataset published by the Brazilian Franchising Association (ABF), this paper analyses the main determinants of the contractual mix in food franchising, with emphasis on the brand name value and the risk of not coming up to consumers' expectations.

The study of the determinants of the contractual mix has attracted many researchers, leading to an intense empirical agenda primarily focused on the evolution of contractual mixes (Dant *et al.*, 1996). More recent studies using panel data have collected evidence of a stable proportion of company-owned outlets, after an initial reduction in the proportion after chains start franchising. In addition, different proxies to represent the brand name value have significant and positive effects on the proportion of company-owned outlets (Azevedo and Silva, 2001; Lafontaine and Shaw, 2001; Pénard *et al.*, 2002).

The relevance of brand name value as a key determinant of the contractual mix relates to the potential cost of brand name misuse by franchisees. As a consequence, not only is the absolute level of brand name value relevant if one is to access the potential costs of franchising. In addition, the

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[2] Address: Rod. Washington Luiz, km 235, ZIP 13.565-905, São Carlos, SP – Brazil

[3] The economics literature employs several terms to represent this strategy, such as 'contractual mix' (Bai and Tao, 2000a; Azevedo and Silva, 2001), 'plural form' (Bradach and Eccles, 1989; Bradach, 1997) and 'dual distribution' (Bai

risk of not meeting consumers' expectations, regardless of the brand name value, is most probably an important determinant for strategies such as the contractual mix, which are designed to mitigate the costs associated with brand name misuse by franchisees. In our analysis, the hazards of losing brand name value are associated with two variables: a) the effect of franchisees' action on quality standards and, b) consumer sensitivity to variations in product attributes.

This paper has five sections, including the introduction. In Section 2 we discuss theoretical arguments as to the determinants of brand name value, the potential hazards regarding brand name misuse by franchisees, especially in the food sector, and the role of the contractual mix as a strategy to deal with these hazards. Section 3 describes Brazilian food franchising arrangements, which are divided into different sub-sectors, in order to capture particularities that affect the risk of brand name loss. Section 4 contains an empirical analysis of Brazilian food franchising, which discusses the main determinants of contractual mix. Lastly, Section 5 presents a summary of the main empirical results, regarding their role in contractual mix as a strategy to attenuate the costs of brand name misuse in a franchise contract.

2. Brand name and contractual mix choice

A brand name has value because it transmits reliable and relevant information that would otherwise be costly to acquire (Barzel, 1982). Insofar as a brand name's value depends on its capacity to transmit information, the experience of consuming a product with characteristics differing from those transmitted by the brand name voids the latter's capacity to inform, and therefore partially reduces its value.

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and Tao, 2000). We prefer the term 'contractual mix' because it expresses the idea of a portfolio of governance structures, of which the composition of company-owned and franchised outlets is a particular case.

In order to preserve brand name value, a franchise chain must preserve uniformity across units (Caves and Murphy, 1976). This should be the goal not only for product offerings, but also for building design, ambiance, service, and price (Lafontaine and Raynaud, 2002). These features extend the role of franchisees in maintaining or enhance brand name value, sometimes leading to incentive problems and negative externalities in brand name use and in local marketing efforts. In other words, since local effort has strong externality on other units in the company, individual units tend to under-provide it (Bai and Tao, 2000; Lafontaine and Raynaud, 2002). Consequently, besides other aspects, Lafontaine and Raynaud (2002) consider that the quality level that maximizes the franchisees' profits is always lower than that desired by the franchisor.

These potential hazards regarding brand name misuse affects the design of franchise contracts in several ways. For example, Lafontaine and Raynaud (2002) explore complementarities of contract features, especially between residual claims and self-enforcement mechanisms to promote better alignment between incentives by franchisees and franchisors. In addition, firms usually maintain a proportion of company-owned outlets and franchised units in the same chain, and even in the same institutional and competitive environment.

According to the economic literature, a franchisor's decision to maintain some company-owned outlets could be justified by four sets of arguments related to the following goals: (a) capture human or capital resources when there are external constrains in the capital and labor markets (Dant *et al.*, 1996); (b) signal the quality of its services (Gallini and Lutz, 1992; Scott, 1995) (c) attenuate the contractual risk (Carlton, 1979); and (d) improve control (Bradach, 1997) and bargaining position over the activities of franchised units (Matheson and Winter, 1991; Michael, 2000; Bai and Tao, 2000).

The first two sets of arguments predict a transitory contractual mix in which a sole governance structure eventually prevails (hierarchy in the first and franchise in the second). The final two predict

a stable contractual mix, considering that company-owned outlets (vertical integration) – although alternatives to franchised units (hybrid form) – should enhance the efficiency of the latter (Azevedo and Silva, 2001).[4] In this paper we test contractual mix stability, which improves control and mitigates the risk of under-provision of quality standards. The greater the need for control, the higher should be the proportion of company-owned outlets. This result is confirmed by studies about American and Canadian franchises in which the need for protecting brand name represents one important determinant of the contractual mix (Lafontaine and Shaw, 2001).

Moreover, we expected that the need for greater control over transactions in order to attenuate the potential hazards of losing brand name value[5] depends on two variables: (1) the relevance of the franchisees' operations on quality standards, and (2) consumer's sensitivity to variations in these same standards ('standardization perceived by consumers'). [6] The former is related to the relationship between quality standards and franchisees' actions, which is particularly important in food processing. This leads to the need for stricter control over the franchised units, achieved, for example, by a higher proportion of company-owned outlets. The second variable relates to the concept of measurement costs of consumers, i. e. the ability to identify changes in product attributes (Barzel, 1982). The higher the consumers' sensitivity, the higher should be the negative effect on the brand name value as the result of variations in actual quality standards

[4] Bradach (1997: 277) considers that contractual mix "enables a set of processes that cause company and franchise arrangements to influence each other on important dimensions that shape performance. [Consequently,] chain organizations are more than the sum of their parts: by having both company and franchise arrangements together, a chain can leverage some of the strengths and overcome some of the weaknesses associated with each agreement". For more details see Azevedo and Silva (2001).

[5] Bai and Tao (2000) explore the complementarities between company-owned outlets and franchise units to the development and keeping of brand name value. They suggest that plural forms of ownership and contractual arrangements (respectively) are devices to induce the effort in maintaining brand name value and promoting sales. Bai and Tao (2000), however, did not explore how the hazards of losing brand name value should impact the choice of governance structures in franchising – the main goal of our analysis.

[6] For more details see Azevedo and Silva (2002).

We expect both variables to be relevant to explain the proportion of company-owned outlets. However, the joint effect of these two variables is likely to be more intense than their effects taken separately because the considerable variation in quality standards will probably not jeopardize the brand name if consumers are insensitive to this variation. As a consequence, both variables are necessary conditions for the risk of brand name loss, and should be tested jointly.

The food sector provides an interesting example of the problem of brand name related to contractual mix choice. Besides its importance in franchising (as discussed in the next section), the food sector often faces coordination problems and demands increasingly complex control structures (Hobbs and Young, 2000). These coordination problems are related to information problems resulting from the predominance of experience or even of credence goods (Nelson, 1970; Barzel, 1982), making brand name more important.

Additionally, the food sector presents high rates of specific assets and uncertainty, due both to its dependence on weather conditions and frequent government interventions regarding food safety and security. Specifically in food franchising, coordination problems occur in backward (supply chain) and forward (transaction between franchisor and franchisee) transactions. In the latter case, coordination problems demand mechanisms that allow tighter control over transactions with the franchisee, which can be achieved by a higher proportion of company-owned outlets.

Furthermore, food franchising can be divided into different sub-sectors, each one with distinct needs for control over transactions with franchisees. For example, quality standards for final products in restaurants are determined by the actions of the franchisees. However, as mentioned above, the regularity of these standards is essential for upholding the franchisor's brand name value. Since part of the franchisor's assets (its brand name) depends on actions by the

franchisees (such as food processing), one can expect higher costs of the moral hazard of providing quality standards and the consequent depreciation in the brand name value.

The next section presents indications of Brazilian food franchising performance, and the fourth section will discuss arguments regarding contractual mix in food franchise chains, based on an empirical test using a dataset published by the ABF.

3. The Importance of Brazilian Franchising and Food Chains

Although the beginning of Brazilian franchising goes back to the 1960s, when a language school started franchising in order to better explore the domestic market, the first significant growth occurred in about 1986, after changes were made in the national monetary system that made franchising more attractive. Subsequently, both the economic stability of the 1990s and the sanction of a specific law in December of 1994 to regulate franchise contracts encouraged a second boom for Brazilian franchising.[7] Brazil is now among the most important players in the area, in terms of number of franchised outlets, along with the U.S.A., Canada, France, and Asian countries, especially Japan and Korea.

In recent decades, and considering the 20 sectors of Brazilian franchising, the food sector (including the beverage area) stands out for its economic importance. The role of the food sector began in the 1970s, when the Brazilian market attracted a number of American chains, the first being McDonald's. In the 1990s, the food sector was responsible for 20% of the global revenue of Brazilian franchising. For the years ahead, ABF projections are still favorable, due to the high level of business formatting on this sector.

[7] Brazilian franchising institutional environment seems closer to the American, inasmuch as both 'Product and Trade Name' and 'Business Format' models are established by law.

We have divided the Brazilian food franchising sector into 17 sub-sectors: (1) beverage distributors, (2) convenience stores, (3) pastry shops, (4) bars, (5) ice cream stores, (6) cake and candy shops, (7) restaurants, (8) fast food chains, (9) pizzerias, (10) coffee shops, (11) barbecue services, (12) frozen foods, (13) diet foods, (14) natural foods, (15) bakeries, (16) snack bars, and (17) 'others', this latter comprising products and services that do not fit clearly in the other sub-sectors.

Each of these sub-sectors is subject to different risks of brand name loss, due either to actions by the franchisees or to consumer sensitivity, which varies across sectors. Table 1 shows the contribution (in percentage) to Brazilian food franchising in 1993, 1998, 1999, 2000, 2001 and 2002.

"Take in Table 1"

Although this table presents no inferences regarding contractual mix (the subject of the next section), it highlights some trends and the most important sub-sectors in Brazilian food franchising, such as fast foods, cake and candy shops, coffee shops, and convenience stores.

4. Contractual mix in food franchising

4.1 Data and procedures

The dataset contains information from Annual Guides published by the ABF, which provides standardized yearly information for each franchise chain listed. The dataset provides information about (a) the franchise chain as a whole, such as the number of company-owned and franchised outlets, experience before franchising, and years of franchising experience, (b) franchisor characteristics, such as business sector and type of company, (c) characteristics of franchised units, such as estimated revenue, required let surface area, investments in installations, etc., and (d)

contract features, such as franchise fees, royalties and other payments, support services offered, and contract duration.

Based on this primary dataset, we have constructed a set of variables to investigate the determinants of the contractual mix, with the purpose of examining the effects of brand name risk. The first step was to create variables which represent the importance of franchisees' actions for the quality standards of the final product or service, and consumer sensitivity to variations in quality standards.

As argued in Section 2, both variables capture the risk of brand name misuse by franchisees. We expect that when this risk is high, franchisors tend to rely more on company-owned outlets. The main difficulty is that, as we cannot directly observe these variables, they had to be constructed with the help of a Likert scale (Bryman, 1989: 37), which we applied to 19 experts in Brazilian franchising and food marketing. They were asked to classify each of the 17 sub-sectors of food franchising based on two questions, one regarding the relationship between franchisees' action and quality standards, and the other on consumer sensitivity to quality variations.

We then assigned the simple average result of each question to its respective sub-sector. Even though each of these variables may exercise a positive effect on the proportion of chain-owned stores, it is expected that their joint effect will be stronger yet because both are necessary conditions for loss of brand value. In order to detect this joint effect, we constructed a third variable – brand name risk – by multiplying the first two variables.

Although it seemed theoretically appealing, we decided not to include variables in the estimation that were part of current company strategies, such as contract length and services provided by franchisors. Such variables result from company decisions and, as a consequence, may be endogenous, causing serious problems for parameter estimation (Greene, 1997: 763). Since alternatives to correct for endogeneity generally make use of instrumental variables, not available in

our sample, we used a reduced form of estimation, including only exogenous or pre-determined variables.

To control the effects of brand name value – which the literature considers one of the key determinants of the contractual mix (Lafontaine and Shaw, 2001; Azevedo and Silva, 2001) – we used two proxies: (1) experience before franchising, and (2) present value of the amount paid by franchisees (total payments) for the right to use the brand name (fees and royalties). The first variable represents the learning process that constitutes a firm's capabilities and the reputation achieved through experience. Since we expect the marginal gain from experience to be decreasing, we applied a natural log transformation on this variable, as well on the others that also change over time. The second proxy represents the price paid for the brand name, which represents its market value.

Although these two variables are both imperfect proxies, they are similar to the majority employed by the international literature (Lafontaine and Shaw, 2001). This second proxy may be interpreted as an endogenous variable, inasmuch as the company applies pricing strategies that affect the amount of franchise fees and royalties. Nevertheless, we will assume it as a pre-determined variable in order to have a market value for the brand name.

Regarding the type of company, we created a dummy variable that assumes 1 for public company, and 0 for others. Public company firms generally have better access to credit, particularly on the stock market. As a consequence, they do not need to rely on franchising as an instrument to obtain capital. If the argument of capital constraint as a major motivation for franchising is correct, this variable has a positive effect on the proportion of company-owned outlets. This argument has implications on the trends in contractual mix because, as capital constraint relaxes, the franchisor may acquire franchised units, which the literature calls 'ownership redirection' (Dant *et al.*, 1996).

For the purpose of controlling the contractual mix evolution, we created a variable that measures the number of years that each chain has been in franchising. As Lafontaine and Shaw (2001: 9) have argued, it is natural to consider that, initially, "firms are almost always 100% company-owned". As a consequence, it is to be expected that the proportion of company-owned outlets decreases intensely during the first years in franchising (approximately in the first eight years in the American market). After this initial adjustment to franchising, the contractual mix tends toward a stable proportion of company-owned outlets. Therefore, we expect this variable to have a negative effect for the entire sample, which includes several franchise chains in operation only a few years.

To test whether the contractual mix stabilizes after the initial adjustment, the same model is estimated for a sub-sample of franchisors with over eight years of franchising experience. Following Lafontaine and Shaw (2001), in this case we expect a significant effect of franchising experience on the contractual mix.

Another important determinant of the contractual mix is chain size, measured by the total number of units (both company-owned and franchised). As we are not controlling for geographic dispersion, the larger the chain, the more difficult it is to monitor outlets. Since franchising provides high-powered incentives, we expect larger chains to rely more intensely on franchising. On the other hand, we expect the size of each unit to have a positive effect on the proportion of company-owned outlets. If a unit is larger, it is likely to incur in incentive problems inside each outlet, mitigating the gains of franchising. As a consequence, chains with larger units tend to rely on company-owned outlets. We used the required let surface area as a proxy for unit size, because there was too much missing data regarding numbers of employees.

Finally, franchisees' investments – measured by the amount paid to install the outlet – play a double role as a determinant for the contractual mix. On the one hand, a significant proportion of

franchisees' investments has no other use than in the franchising relationship, and is therefore specific.[8] As a specific investment, it plays the role of a 'hostage' (Williamson, 1983) in the transaction, credibly committing the franchisee in the contract (Klein and Leffler, 1981; Mathewson and Winter, 1985; Minkler and Park, 1994); Wimmer and Garen, 1997; Bai and Tao, 2000).[9] Therefore, a higher level of specific investment implies a lower level of company ownership.

On the other hand, if the level of specific investment increases, transaction hazards are more costly to the franchisee. As a consequence, the franchisee will engage in franchising only with a credible signal as to the type of franchisor (Gallini and Lutz, 1992). As company-owned outlets are a signaling mechanism, an increase in specific investments may positively affect company ownership. For the purpose of drawing some inferences on the interaction of both effects, we employed this variable in linear and quadratic forms.

Table 2 presents the descriptive statistics of all variables for the complete sample, according to food franchising dataset published by the ABF in 1998, 1999, 2000, 2001 and 2002.

"Take in Table 2"

The dependent variable is the expected number of company-owned outlets in a given franchise chain. Each unit is a binary occurrence (1 for company-owned and 0 for franchised) in grouped data, meaning that each case (a franchise chain) contains an integral number of company-owned outlets or

[8] Minkler and Park (1994) consider that "franchisor can require the franchisee to make specific investments (e.g., unique building, fixtures and equipments), investments the franchisee will lose if he behaves opportunistically and is caught".

[9] Due to the additional costs (some times prohibitive) of a direct monitoring over franchisee's action, franchisor can reduce franchisee cheating by including performance bonds (Mathewson and Winter, 1985; Wimmer and Garen, 1997; Klein and Leffler, 1981), which can play a role of franchisee's investment to buy the physical assets of his unit (Bai and Tao, 2000). "The bond is higher if the investment is specific to the company rather than general to the business, and hence the franchisee has a higher incentive to meet the franchisor interest" (Bai and Tao, 2000: 4), as instance not cheating in terms of brand name misuse.

franchised units (Maddala, 1983: 32). To evaluate the consistency of estimations, we opted for two models: Logit and Probit. Both models are suitable for qualitative grouped data estimation and have the advantage of restricting predictions to the interval between 0 and 1 (Amemiya, 1981).

4.2 Main results and discussion

We carried out two regressions in order to investigate the individual effect of the two variables that represent the risk of brand name loss, namely, franchisees' action and consumer sensitivity, and their joint effect, when we used the multiplication of both (brand name risk). The control variables are the same in both regressions.

Table 3 presents the results from the first estimation, where franchisee's action and consumer sensitivity are tested independently. The sign and significance of the coefficients are almost the same in the Logit and Probit models, both presenting reliable results of goodness of fit.

"Take in Table 3"

In short, most of the expected results were confirmed. Both proxies we used for brand name value had positive effects on the proportion of company-owned outlets, which is evidence that the combination of hybrid (franchising) and hierarchical (company-owned) governance structures is a mechanism for dealing with intangible assets. It is also worthy of note that the marginal effect of 'experience before franchising' is greater than the effect of 'total payments'.

Also, the 'total number of units' and 'years of franchising experience' had the expected negative effect. The first captures the monitoring difficulties of a large chain, which, for this reason,

tends to rely on franchising.[10] The second indicates that the older chains are likely to operate with a higher proportion of franchised units. This result is consistent with two different arguments: a) signaling, for which the need to use company-owned outlets as a signal device decreases with time, because reputation can play this role; and b) the initial adjustment of a new chain to its target level of contractual mix (Lafontaine and Shaw, 2001).

Contrary to expectations, the type of company (1 for public company and 0 for otherwise), had a negative effect on the proportion of company-owned outlets. It seems that the restriction of capital, at least any restriction that is lessened when the company has access to the stock market, is not a major motivation in a company's decision to open up to franchising. This result is consistent with the negative effect of the 'years of franchising experience', which is incompatible with the hypothesis of ownership redirection (Dant *et al.*, 1996). In addition, public companies may present higher monitoring costs, inducing franchising.

Also contrary to our expectations, the effect of required let surface area was significant and negative, meaning that large units tend to rely more on franchising. In order to explore this finding further, we also included in the regression the required let surface area in its quadratic form. The results show that for a small area the negative effect dominates, e.g., chains with units of $10m^2$ tend to have a higher proportion of company-owned outlets. On the other hand, for large areas, the positive effect dominates, meaning that if the unit is very large it will rely less on franchising. One possible explanation for this result is that internal monitoring costs inside each chain are relevant only when the unit is very large. Nevertheless, we have not yet found anything in the economic literature to explain the reason for the negative effect for small units.

[10] It is important to restate that we did not control for geographic dispersion. For this reason, the variable 'total of units' may be capturing this effect.

With respect to franchisee's investments, the different signs (positive for the linear form and negative for the quadratic form) indicate an interesting finding in regard to the contradictory effects mentioned in Section 4.1. For low investments, the 'signaling effect' dominates the 'hostage effect', indicating a positive effect on the proportion of company ownership. In contrast, when specific investment is very high, it has a negative effect on company ownership, inasmuch as higher specific investments credibly commit franchisees.

Finally, taken individually, the two variables that represent the risk to brand name value do not present highly significant effects on the contractual mix. The variable 'franchisees' actions' is not significant, indicating that this variable alone does not explain the need for greater control by the mechanism of a higher proportion of company-owned outlets. The second variable, 'consumer sensitivity', has a relevant marginal effect on the contractual mix, although not highly significant.

In order to capture the joint effect of both variables – since they are necessary conditions for observing brand name risk – we estimated an alternative regression, substituting 'franchisees' action' and 'consumer sensitivity' by their multiple 'brand name risk.' Table 4 presents the results of this second regression, bringing with it an additional finding.

All other coefficients are quite similar to the former regression, but now the brand name risk variable is highly significant and presents the expected sign. As a consequence, sub-sectors that franchisees are responsible for as important parts of the final product or service and that simultaneously have consumers who are highly sensitive to quality variation, are subject to a higher risk of brand name loss, inducing a higher proportion of company-owned outlets. This is an indication that not only the value of the brand name explains the choice of the contractual mix, but that the risk of losing this value – of not meeting consumers' expectations regarding the product – is also important.

"Take in Table 4"

In order to investigate further the contractual mix evolution through time, we replicated the same model for a sub-sample, restricted to franchisors with eight or more years of experience. Consistent with Lafontaine and Shaw (2001), Table 5 shows that the 'years of franchising experience' variable is not significant. This is an indication of a stable contractual mix when the chain reaches maturity. The others variables have the same signs and significance levels of the parameters.

"Take in Table 5"

All the variables used in this paper, their descriptions, expected effects and findings are summarized in Table 6. This table also gives possible explanations when predictions and findings do not match.

"Take in Table 6"

5. Conclusion

Brand name is an important determinant of the contractual mix in franchising. Consistent with the literature, we found that franchise chains with higher brand name value tend to rely more on company-owned outlets. This is an indication that the contractual mix is a strategy that responds to hazards regarding brand name misuse by franchisees. Although important, the value of a brand name, in absolute terms, captures only part of the potential costs associated with the trading of this intangible asset. The risk of not meeting consumer expectations and, as a consequence, of reducing

brand name value varies in accordance with the type of product and the quality strategy. For the same value of a brand name, different risks imply different potential costs for franchising a given product or service.

In order to analyze the effect of this risk on the contractual mix, our paper added two new variables that represent hazards regarding brand name misuse by franchisees: a) the effect of franchisees' action on quality standards; and b) consumer sensitivity to variations in product attributes. When regressed independently, only consumer sensitivity had a significant and positive effect on the proportion of company-owned outlets. Differently, estimation by simple multiplication of both variables led to a positive and highly significant effect. This possibly means that the relevance of franchisees' action and consumer sensitivity are necessary conditions for the risk of brand name loss.

Consistent with Lafontaine and Shaw (2001), we found indications that after an initial adjustment, the contractual mix remains stable through time. Although older firms tend to have a lower proportion of company-owned outlets, for the sub-sample of mature chains (eight years or more), the number of years in franchising is not significant in explaining the contractual mix. The stability of the contractual mix contradicts the arguments that company-owned outlets are a signaling device, at least after the initial years in franchising, and that franchised outlets are an instrument for overcoming capital constraints.

Moreover, the contractual mix is a function of franchisee investments. For lower investments there is a positive effect on the proportion of company-owned outlets, due to the greater need for a signal about franchisor's type. On the other hand, for higher investments, the 'hostage effect' dominates the signaling effect, because higher amounts credibly commit franchisees and, as a consequence, allow a smaller proportion of company-owned outlets.

The main results regarding the effect of brand name risk on the contractual mix rely on the measurement of this variable, for which we applied a Likert scale to franchise and food marketing experts. This kind of measurement depends on the reaction of respondents to a specific question and, as a consequence, is subject to measurement errors. Different measures of both variables (franchisees' action and consumer sensitivity) are desirable in order to obtain more reliable findings.

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7. Appendix

Table 1: Sub-sectors in Brazilian food franchising

Sub-sectors	1993 (%)	1998 (%)	1999 (%)	2000 (%)	2001 (%)	2002 (%)
Beverage distributors	0,65	0,56	1,03	0,44	0,43	-
Convenience stores	6,32	-	11,40	9,22	19,24	-
Pastry shops	3,43	3,93	3,40	5,13	1,22	1,59
Bars	0,11	1,77	1,91	1,52	1,28	1,48
Ice cream stores	9,80	5,59	5,10	5,64	2,71	3,34
Cake and candy shops	12,69	13,54	19,83	13,38	11,94	17,68
Restaurants	0,98	10,29	4,24	4,31	3,62	3,14
Fast food chains	36,11	48,87	36,79	44,8	35,20	40,76
Pizzerias	1,42	0,74	5,47	1,69	4,05	6,82
Coffee shops	18,30	6,97	1,35	5,49	15,77	17,65
Barbecue services	3,81	1,98	0,72	1,89	1,98	2,26
Frozen foods	1,25	0,39	0,72	0,39	0,18	0,20
Diet foods	0,98	-	0,23	0,17	-	-
Natural foods	0,27	-	0,23	-	-	-
Bakeries	-	2,55	3,23	2,13	0,24	0,74
Snacks bars	-	2,62	2,49	1,86	2,13	4,35
'Others'	3,87	0,21	1,84	1,94	-	-

Source: Brazilian Franchising Association (ABF).

Table 2: Descriptive statistics

Variable Name	N	Minimum	Maximum	Mean	Std. Deviation
Experience before franchising	514	0	96	9,08	13,67
Total payments	415	,00	245,00	29,4506	26,5871
Franchisees' action effect	520	,1	9,0	7,344	1,607
Consumer sensitivity	520	,9	9,2	7,353	1,630
Brand name risk	520	,09	82,80	56,5492	20,3061
Years of franchising experience	516	0	33	6,61	4,70
Total number of units	520	1,00	542,00	32,5308	58,1668
Company-owned outlets	517	0	273	7,62	23,14
Franchised units	520	1	269	24,89	43,70
Type of company	466	0	1	0,0579	,23
Required let surface area (m^2)	502	2	2000	114,74	181,69
Franchisees' investments (Rx10^4$)	503	100	1000	13,0976	47,9534
Valid N	357				

Source: Brazilian Franchising Association (ABF).

Table 3: Brand name risk: individual effect

Variable name	Logit		Probit	
	Coef.	t stat.	Coef.	t stat.
Experience before franchising	,36746	13,98790	,20110	14,05954
Total payments	,02650	17,28902	,01561	17,60013
Franchisees' action effect	-,09895	-,92133	-,05545	-,96221
Consumer sensitivity	,30872	2,96442	,16859	2,99238
Years of franchising experience	-,80739	-13,54248	-,46080	-13,77971
Total number of units	-,00928	-21,10445	-,00535	-21,41215
Type of company	-,87922	-8,11234	-,40616	-7,51142
Required let surface area	-,00750	-15,70178	-,00430	-15,94878
Franchisees' investments	,07660	9,45148	,04470	9,74336
Franchisees' investments (square)	-,00032	-3,35453	-,00019	-3,46200
Constant	-2,30439	-12,58186	-1,29625	-13,05919
Regression information	Pearson Goodness-of-Fit Chi Square = 1309,203 DF = 346 P = ,000		Pearson Goodness-of-Fit Chi Square = 1330,175 DF = 346 P = ,000	

Table 4: Brand name risk: joint effect

Variable name	Logit		Probit	
	Coef.	t stat.	Coef.	t stat.
Experience before franchising	,37483	14,24663	,20552	14,37267
Total payments	,02711	17,81220	,01599	18,16232
Brand name risk	,01549	10,60913	,00846	10,51491
Years of franchising experience	-,80881	-13,60667	-,46024	-13,80627
Total number of units	-,00940	-21,45152	-,00542	-21,77820
Type of company	-,89476	-8,27339	-,41248	-7,67325
Required let surface area	-,00760	-15,90204	-,00435	-16,17499
Franchisees' investments	,07538	9,64814	,04357	9,83423
Franchisees' investments (square)	-,00031	-3,45022	-,00018	-3,43442
Constant	-1,63877	-11,58001	-,94397	-11,91191
Regression information	Pearson Goodness-of-Fit Chi Square = 1337,947 DF = 347 P = ,000		Pearson Goodness-of-Fit Chi Square = 1369,599 DF = 347 P = ,000	

Table 5: Sample of mature chains

Variable name	Logit		Probit	
	Coef.	t stat.	Coef.	t stat.
Experience before franchising	,48952	9,80635	,25223	9,73612
Total payments	,02976	12,14916	,01736	12,51951
Brand name risk	,01697	7,15640	,00914	7,47818
Years of franchising experience	,10962	,49230	-,00015	-,00128
Total number of units	-,01216	-15,02346	-,00671	-15,55059
Type of company	-,33380	-1,92921	-,11130	-1,38866
Required let surface area	-,00791	-11,40028	-,00439	-11,31241
Franchisees' investments	,10878	9,50817	,05846	9,47502
Franchisees' investments (square)	-,00063	-4,57770	-,00033	-4,56087
Constant	-4,49819	-7,60014	-2,34561	-7,60857
Regression information	Pearson Goodness-of-Fit Chi Square = 527,794 DF = 107 P = ,000		Pearson Goodness-of-Fit Chi Square = 531,101 DF = 107 P = ,000	

Table 6: Descriptions of Variables, Predictions and Findings on the Contractual Mix (Proportion of Company -Owned Outlets) in the Empirical Analysis

Variable Name	Description	Prediction*	Finding*	Reconciliation
Franchisee's action effect	Relevance of franchisees' actions on quality standards	Where franchisees' actions are important, franchising will be associated with ? risks, justifying a ? contractual mix	Not significant	Only the joint effect with consumer sensitivity is significant
Consumer sensitivity	Consumer sensitivity to variations in quality standards (standardization perceived by consumers)	As consumer sensitivity? , the ? the effect of small variations in product attributes on chain reputation and brand name value. Consequently, a ? contractual mix among the food sub-sectors that are subjected to a greater consumer sensitivity	OK	The joint effect with franchisees' actions is more significant
Brand name risk	Multiplication of Franchisees' action effect and Consumer sensitivity	Both variables (Franchisees' action effect and Consumer sensitivity) are necessary conditions for brand name loss. As a consequence, the joint effect of both variables is positive	+	OK
Type of company	1 if franchisor is a public company and 0 otherwise	Positive effect: since firms with open capital would have better access to the stock market, they would not need to use franchising as an instrument to obtain capital	–	No evidence for the argument of credit constraints. In addition, public companies may present higher monitoring costs, inducing franchising
Experience before franchising	Proxy for brand name value (number of years): franchisor experience in business before selling the first franchised unit	Positive effect: represents the learning process that constitutes firm capabilities and the reputation achieved through experience	+	OK
Total payments	Proxy for brand name value: demand side by franchisor brand name, showing how much franchisee pays for the right of its use	+	+	OK
Years of franchising experience	Franchisor experience in franchising (number of years)	Initial adjustment followed by a stable contractual mix	Initial decline with evidence of a stable contractual mix after 8 years.	OK
Required let surface area	Proxy for unit size (m^2)	The bigger the units, the ? will the contractual mix be, since there is a negative relation between the gains of incentives and unit size	Significant and opposed	For large areas, the positive effect dominates, meaning that if the unit is very large it will rely less on franchising. Internal monitoring costs inside each chain are relevant only when the unit is very large .
Franchisees' investments	Amount of investments ($R\$x10^3$) that franchisee is committed to in installing the unit	Double role (signaling effect *versus* hostage effect)	Prevalence of hostage effect for higher levels of specific investments	OK

Total number of units	Proxy for the chain size: number of franchised units and company-owned outlets in operation	Negative effect. The larger the chain is, the ? the monitoring costs. As franchising provides ? incentives than company-outlets, larger chains rely more on franchising	–	OK

(*) The signs (+) and (-) represent a positive and negative effect on PCO respectively.