

Institutions and Contracts : Franchising*

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Abstract

This paper investigates a new dataset of franchise networks in nine countries in order to assess whether and to what extent do institutions influence the practice of franchising. Our regressions relate the structure of franchise networks (the rate of franchised units as opposed to corporate units) to individual parameters supposed to reflect the extent of moral hazards on the franchisor's and franchisee's sides and, more specifically, to various institutional parameters of the franchisor's country, namely, the legal tradition, the level of procedural formalism, the constraints imposed by labour regulation and the effectiveness of trademark protection. While agency theory parameters seem to perform rather badly in this international setting, institutions such as trademark protection and labour regulation have more explanatory power : greater trademark protection encourages franchising and the impact of labour regulation is mostly positive, depending on the type of labour regulation that is being considered. The effect of legal tradition and formalism seems negligible once these parameters are taken in.

*We thank Ulrich Kessler for letting us use his dataset on franchising, Marie Obidzinski for her support in the collection of institutional data and Eric Brousseau for useful suggestions.

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1 Introduction

A franchise is a contract between two agents where one (the franchisor) sells the right to use a trademark, a finished product and, quite often, some know-how and business methods to another (the franchisee), in exchange for a combination of fees. This contractual form is distinct from a vertical integration or from an employment contract because the franchisee(s) is the only residual claimant and has a large independence from the franchisor (in terms of price fixing, for instance). Yet, franchising goes beyond straightforward sales contracts, because of their long term focus, of the know-how transfers that are implied and because of the many provisions (territorial exclusivity, tied sales, quality controls, etc.) that a franchise relationship can entail. Thus, the franchise contract is a hybrid organization form in the sense of Williamson [1991] and several theoretical and empirical papers have sought to analyse the tradeoff between franchising and company ownership, mostly on a within-country basis [Brickley and Dark, 1987, Lafontaine, 1992, Brickley, 1999; Lafontaine and Slade, 2001; Pénard and al., 2004]¹. By using a dataset of 546 networks distributed over nine countries, we can expand this literature into an international setting, trying to evaluate why some countries exhibit a higher rate of franchising.

In explaining these international differences in franchising, our focus will be on the institutional framework, an issue that has been largely overlooked so far. Indeed, the economic analysis of franchising has mainly focused on incentives and monitoring issues [Lafontaine and Slade, 2001; Pénard and al., 2004]. While the results that have been provided so far form an interesting and rather coherent set of results, there are still some puzzles to be solved. For instance, the few empirical works that have tried to explain the franchise mix were far from conclusive as only a small part of the observed variance in the franchise rate was explained by the

¹Some papers have also looked at the determinants of contractual provisions, especially royalty rates [Mathewson and Winter, 1985, Lafontaine 1992, Lafontaine and Shaw 1999, Scott 1995, Brickley, 2002].

regressions [Lafontaine 1992; Lafontaine and Shaw 2004; Scott 1995; Pénard and al., 2004]. Many empirical studies also mention the coexistence of franchised and company-owned units within chains, a phenomenon labelled as “dual distribution” (or “plural form” or “contract mix”), a strategy which is not directly rationalized by agency-based models².

Another puzzle is that the franchise rate differs so much between countries. For instance, our dataset indicates that the franchise rate is higher in Germany, where 78 % of the downstream units are franchised out than in the United States (whose franchise rate is of 60%). Few empirical papers have addressed these stylized facts, even though some hints have been given here and there. For instance, it is generally assumed that foreign networks should include more franchised units because controlling remote corporate units would prove too difficult. Note however that the issue here is that of distance, not of distinct international settings, and the same logic applies to the distribution of franchise units within the same national territory. A more convincing approach has been heralded by Brickley and al. [1991], who observe that the rate of franchising in the American States is highly variable and is lower in States with a legislation precluding the termination of franchise contracts. More generally, the role of institutions in coordinating the economic activity has received an increased attention ever since Coase [1960]’s seminal contribution. A large sample of papers has recently documented how differences in institutional

²Most of the agency-framework literature refers to dual distribution as a transitory strategy. For instance, firms can operate some units directly either to signal their quality to potential franchisees [Gallini and Lutz 1992; Lafontaine 1993] or to credibly commit to protecting the value of their brand name [Scott 1995]. Therefore, the extent of company ownership should decrease as the network ages because signals and credible commitments are less and less needed. Other explanations focus on the capital, information or managerial talent constraints faced by the franchisor, which lead him to franchise out some of his units. Once, these constraints are overcome, the rate of franchising should diminish [Oxenfeldt and Kelly 1969; Caves and Murphy 1976; Norton 1988; Minkler 1990]. Yet, the empirical studies contradict both of these approaches for the franchise rate turns out to be rather stable over time [Lafontaine and Shaw, 1999, on US and Canadian chains, Pénard and al., 2003 on French networks]. More recent explanations present dual franchising as an efficient and persistent organizational form and emphasize the complementarities between corporate and franchised units, including innovation incentives [Bradach, 1997; Lewin-Solomon, 1999], organizational learning [Sorenson and Sorenson, 2001], better management control [Lafontaine and Shaw, 2004], or brand name development [Bai and Tao, 2000].

frameworks help explain diverging patterns of economic activity. Unemployment and growth, for instance, seem to be significantly related to labour regulation and protection of property rights, respectively [Knack and Keefer, 1995; Henisz, 2001; Botero and al., 2002; Falvey and al., 2004]. Foreign direct investment, trade, licensing and joint venture practices, among others, have all been linked to national institutions governing, notably, corruption, political and economic freedom, and the protection of intellectual property rights [Smith, 1999, 2001; Yang and Maskus, 1999; Oxley, 1999; Wei, 2000; Disdier and Mayer, 2003]. In these and other papers, differences in national institutions affect the respective profits associated with each organizational structure, which lead each firms to adapt its organizational strategy to the set of institutions it is confronted to.

This paper prolonges this analytic framework by applying it to the case of the trade-off between franchising and corporate units. Our focus will be on general institutions, such as legal traditions, procedural formalism, labour regulations and trademark laws and enforcement, rather than on laws specific to the franchising practice. First, such laws remain largely underdeveloped in most developed countries and may vary from State to State in federations. Second, using “broad” institutional parameters should have greater implications for the general understanding of contracting behavior :beyond franchising, our results can have resonances for other types of contracting practices such as externalisations or licensing. Third, these broad institutional parameters have been shown to influence several (mostly) macroeconomic factors such as growth, unemployment, or the development of the financial markets. Looking at their influence on more microeconomic behavior such as franchising is rarer and it might be of interest to explain how and why do these institutions impact on the macroeconomic aspects of the economy.

In section 2, we briefly present the institutional framework that will be taken into account in our regressions of the franchise rate. Section 3 describes the sample and our dependent and independent variables. Section 4 proceeds to the empirical analysis and section 5 concludes.

2 Institutional framework and franchising practices

At the core of franchising practice lies a contract which is supposed to impose obligations on the franchisor and his franchisee(s). By this contract, the franchisee usually agrees to a payment scheme and to several provisions, including exclusive dealings, quality standards, conditions of contract termination and so on. Likewise, the franchise contract stipulates the duties of the franchisor, including know-how transfers, management assistance, territorial exclusivity, advertisement expenditures and so on. Inevitably, both parties may try to cheat on their partners, for instance by playing down the turnover made thanks to the franchised trademark, by refusing to disclose some strategic know-how and, more generally, by exploiting the unavoidable incompleteness of the contract. These incentives to cheat will be determined, in part, by the effectiveness of contract enforcement, which, in turn, derives from the efficiency of the judiciary [Anderlini and al., 2001]. Therefore, the institutional framework serves to reduce the uncertainty associated to individual transactions characterized by some degree of incompleteness [North, 1990]. The laws are meant to provide the parties with rules and safeguards that cannot be circumvented.

In such a context, the behavior of the economic agents should be significantly influenced by the laws themselves [Posner, 1998] as well as by the effectiveness of their enforcement [Shavell, 2004] and their complexity [Kaplow, 2000]. In particular, some aspects of the organizational choices of firms, such as franchising, can be explained by characteristics of the institutional framework [Hadfield, 1990]. More precisely, this paper relates franchising to three distinct institutions :the legal tradition and procedural formalism of the judiciary, the extent of labor regulation and the effectiveness of intellectual property rights (IPR). In this section, we briefly review how each of these could affect the incentives to franchise.

2.1 Franchising, legal traditions and the procedural formalism of law

In ensuring that fundamental rules as well as contract specific provisions are respected by the parties, an effective judiciary can exert an important influence on how parties trade-off different institutional designs such as franchising versus corporate units. Djankov and al. [2003] have outlined important differences among countries in the quality of their courts, which may help explain variance in the franchise rate across countries. Part of these differences can be explained by differences in revenues, education, or deficient incentives structures for the participants to dispute resolution (judges, lawyers and the litigants themselves), but much attention has focused on the legal tradition of countries and, more specifically, on the procedural formalism of law.

Though their distinctions often look overestimated, Common Law countries are usually separated from Civil Law ones. The Common Law tradition is characterized most clearly by the importance of decision making by juries, independent judges and the emphasis on judicial discretion rather than on written codes. Oppositely, Civil Law is characterized by less independent judiciaries, the relative unimportance of juries and a greater reliance on procedural codes. Within this latter group, a distinction is often made between the French civil law – which was transplanted to much of Western Europe (Belgium, Holland, Italy and Spain for instance), Northern and Central Africa and Latin America, some parts of Asia – and the German tradition, which became accepted in much of Western Germanic Europe, including Austria and Switzerland, as well as in Japan, Korea and Taiwan³. As demonstrated through several empirical studies, countries of different legal traditions use different institutional mechanisms to control the economic activity. For instance, civil law countries exert a stronger control of the labour market [Botero and al. 2002],

³The German tradition differs from the French one in that it makes a lesser use of codification. This is due to the more pragmatic conception of justice of the historical German tradition, represented by Von Savigny. It also derives from the late unification of Germany, which allowed a variety of influence on the judiciary, from the French Civil Law to Common Law.

provide less legal protection to shareholders [La Porta and al., 1997, 1998], have a tighter control of entry in economic activities [Djankov and al., 2002] and resort to more formalized procedures of dispute resolution [Djankov and al., 2003]. In turn, we might expect these institutional differences to alter the organizational behavior of firms and their network structure in particular.

The notion of procedural formalism is central to this pattern. Ideally, any dispute could be resolved by a third party relying on fairness grounds only. Lawyers, written submissions, procedural constraints on evidence, appeals, arguments, or even the law itself would be barely needed here and dispute resolution would be fast and costless. Yet, in reality, all jurisdictions sidestep from this model by heavily regulating their activity :mandatory (and often professional) judges and lawyers, codified collection and presentation of evidence, regimented dispute course, legally justified claims and decisions, and so on, testify of the degree of formalism present in the modern exercise of law, which may still differ from one country to another and, in particular, from one legal tradition to another. In particular, Djankov and al. [2003] find confirmation that civil law countries regulate dispute resolution more heavily than Common Law countries.

Whether and how formalism affects the organizational structure of firms is much less known, however. According to Djankov and al. [2003], higher procedural formalism results in longer dispute resolution, lower enforceability of contracts, and lower consistency of the system. Clearly, greater formalism at the country level should entail a lower propensity to contract out some operations because the regulation of in-house operations can be done through authority, thus by-passing costly and long disputes. Simultaneously, however, greater formalism is also meant to reduce the risk of subversion of the judiciary by the powerful (through corruption for instance). Greater formalism can also impede the economic actions that one party may take against another to tilt their respective bargaining positions. In that view, formalism provides a guarantee of equity to potential franchisees, which could en-

courage greater franchising. Because such concerns have been left unattended by the empirical literature so far, the regressions in section 4 will try to propose some preliminary results on this topic.

2.2 Franchising and labour regulations

Labour regulation has mainly been established to protect the interests of workers and to guarantee a minimum standard of living to the population. It takes on three distinct forms :employment law, industrial and collective relations laws, and social security law. An extensive literature has considered how labor regulation (including minimum wages, flexibility, working hours) affects the level of unemployment or of productivity gains [Nickell and Layard, 1999; Kugler and al., 2003] but fewer papers have examined how it modifies the organizational structure of firms and the franchising practice in particular.

Intuitively, greater labour regulation (in terms, for instance, of workers' health and safety, minimum wages, work hours, rights to unionize, layoff policies, and so on) should reduce the short-term profit of companies, which should lead them to try escape the burden of regulation, for instance by decreasing their labor to capital ratio. Other strategies can be used to escape the constraints of regulation. For instance, firms may avoid locating in states or countries where labour as other types of regulation (environmental for instances) are more constraining [see Holmes, 1998, or List and Co, 2000, among others]. Botero and al. [2003] also find that greater labour regulation is associated to a larger unofficial economy. The paper will seek to expand these results on the link between labour regulation and economic activity by considering how labour regulation might affect the organizational structure of firms and, in particular, whether it influences the practice of franchising.

The costs of regulation (per employee for instance or per unit of output) are said to be disproportionately smaller for larger firms, thanks to greater financial strength and to scale, scope and experience economies [Crain and Hopkins, 2001].

For instance, internal financing can help larger firms to invest in capital or in organizational changes to comply with the regulation in a more effective fashion. Provided such investment is largely a fixed cost, it should get more profitable as the size of the firm (number of employees or total output) increases. Smaller firms may also be exposed to greater competitive pressures so that any increase in costs could prove detrimental relative to the foreign competition. Finally, larger firms are more likely to use regulation as a stimulus to modernisation. Some recent evidence of these considerations has been provided in the case of intellectual property rights regulation :smaller firms often complain about the high costs of patents (in terms of deposits and enforcement) and are also more frequently constrained by the patents of other, often larger, competitors [Cohen and al., 2000; Lerner, 1995]. Indeed, their smaller size prevents them from investing in R&D to circumvent rival patents while their low size and lack of experience prevents them from benefiting from scale and experience economies in the patent deposit and enforcement process. Other evidence has been provided in the case of greater product safety [Viscusi and Moore, 1993]. Following such views, we might expect franchisors to be less prone to franchising in countries where the labour regulations are tight, provided that they are of a greater size than their franchisees. Basically, maintaining the sales departments in-house results in productive and administrative efficiencies that would make franchising particularly costly.

This argument can be criticized on at least two grounds. First, although the proportion of corporately owned units suggest that franchisors are of a greater size than their franchisees, this is not systematically the case. Second, the relationship between firm size and the costs of regulation seems to depend on the type of regulation that is considered. The few studies that have considered the case of labour regulation indicate that the costs of labour regulation *increases* with firm size or, at least, are rather low for small firms [Edwards and al., 2003]. For instance, small firms are often explicitly exempted from certain types of labour regulation, such as those related to collective matters (unionization or strikes for instance). Some is-

issues administratively dealt with through labour regulation in large firms can also be more adequately handled face-to-face in small businesses, as are maternity leaves or working hours. Thus, larger firms (and franchisors in particular) may seek to delegate the burden of labour regulation to their smaller franchisees who can be either exempted altogether, or in a position to deal with these issues in a more effective manner than a large corporation would do. Overall, therefore, the impact of labor regulation on franchising remains largely ambiguous.

2.3 Franchising and intellectual property rights (IPRs) protection

How intellectual property rights influence corporate strategies has mostly been studied in the case of patent protection. Several cross-industry or time-series samples have been used to investigate how differences in patent protection affects R&D investment [Sakkikabara and Branstetter, 2001; Arora and al., 2003]. On an international setting, concerns have focused on how national differences in patent protection, measured through surveys or through a qualitative index [Ginarte and Park, 1999; Ostergard, 2000], may explain international trade flows [Maskus et Penubarti, 1995; Smith, 1999] or foreign direct investment and location choices [Lee and Mansfield, 1996; Smarzynska, 2004].

In this framework, one intuition that may be linked to the setting of this paper is that greater patent protection should facilitate licensing practices and enable the patentee to capture a greater share of cooperative surplus. For instance, Ferrantino [1993] as well as Yang et Maskus [2001] find that the license fees perceived by American firms in different foreign countries are positively correlated with the level of patent protection offered in the partner country. Oxley [1998] also notices that alliances formed with foreign firms located in a country where patent protection is low often involve some form of quasi-integration (such as greater shareholding participation) :hence, stronger property rights can facilitate pure market-based mechanisms. Note though that the effect of patent protection is not systematically

significant :for instance, Bessy and al. (2001) do not observe any relationship between the structure of licensing contracts and the level of patent protection. Another concern hinges on whether greater patent protection also increases the number of licensing contract, beyond increasing the total license fees earned by a patent owner⁴.

To what extent does this intuition apply to the case of franchising practices ? First, greater trademark protection should indeed translate into a higher franchise rate. As the protection increases, competition from infringers decreases and the franchisee should be willing to pay higher sums to use this trademark. Better trademark enforcement also reduces the risk of opportunism :for instance, absent effective trademark protection, a franchisee can imitate inappropriable know-how and use it to produce a counterfeit product. On the other hand however, low protection and greater risk of infringement may also be conducive to franchising :indeed, a franchisor would rather franchise his trademark and be paid low franchise fees than be merely imitated with no compensation in return. By legally entering the network, the franchisee is spared the hassle of lengthy legal procedures and may gain access to specific know-how. This paper should provide some empirical guidance as to how these different trade-offs are resolved.

3 Data and variables

Subsection 1 briefly presents our dataset. Subsection 2 lists our independent variables related to moral hazards and other individual-level parameters. Subsection 3 considers the institutional variables that will be included in our regressions.

3.1 The dataset

Our empirical analysis is based on a database constructed from the Forby's Guide survey made in 2003. Initially, 946 franchise chains operating in 17, mostly de-

⁴Indeed, greater patent protection could enable a licensor to earn greater licensing revenues with a lower number of license contracts.

veloped, countries are covered but the number of firms used in our regressions will however be more limited. First, not all of these firms provided useable information on the (national) franchise rate of their network. Second, non-responses to some of the questions used as independent variables further reduce the size of the sample. For instance, for a large number of firms from the initial sample, we were unable to compute the total (including foreign units) number of units in their franchise chain. Neither have we found a reliable index rating the efficacy of trademark law and of the enforcement of intellectual property rights in the United States, so that regressions that include these parameters will be run on a more restricted sample. Third, in several cases, the number of observations per country was much too small to credibly capture any country effect, so that we chose to drop these observations altogether. All in all, the final sample consists in 546 franchise chains.

Our dependent variable will consist in the rate of franchising within the national network, as data on the franchise rate in other countries than that of the franchisor were too poor to be exploited. Hence, the franchisee's country is always the same as that of the franchisor. Table 1 presents the number of observations by country of origin⁵ and the mean franchise rate in that country. The average rate of franchising is of 72 % but displays important international differences: the highest rates of franchising can be found in Switzerland, Germany and Great Britain, while Canada, Belgium and the United States display the lowest rates of franchising. The franchise rate found for France is grossly equivalent to that found by the French Chambers of Commerce, i.e., 66%. On the other hand, our franchise rate for the United States is less than that found in other empirical studies such as Lafontaine [1992] or Lafontaine and Shaw [2004], who observe a franchise rate of 78 %. One explanation relates to the composition of the sample :depending on firm and industry characteristics, the propensity to franchise a unit can be highly variable. In

⁵Indeed, the franchise rate could be calculated only for the nation state, but not for the foreign countries in which the franchise chain was also operating :though it made a distinction between the national units and the foreign ones, the Forby's Guide survey did not compute the number of franchised and in-house units by foreign country.

the regressions, these elements will be controlled for by the inclusion of individual parameters, mostly related to moral hazard concerns, and industry dummies. Country-level parameters will consist in variables related to the legal frameworks.

3.2 Measuring moral hazard

The intuitions brought forward by the theory of contracts are relatively straightforward to interpret in empirical terms and much work has been made in that direction already [Pénard and al., 2004]. Basically, the structure of the franchise chain is supposed to be related first to agency problems, between the franchisor (the principal) and the behavior (level of effort) of his agents (the franchisees and/or his corporate units), then to the fulfilment of some commitments (training, assistance, quality control) by the franchisor.

Controlling the behavior of the corporate units and of the franchisees. When the downstream partner provides important inputs in the sales process, the upstream producer might prefer to delegate these operations to independent franchisees if he cannot adequately control sales units within the corporation. That way, downstream sellers should be provided with the adequate incentives to exert maximum efforts, especially if the contract involves only a fixed, upfront, franchisee fee. Conversely, however, there are some settings where even independent franchisees can be led to adopt an opportunistic behavior towards the franchisor. For instance, in a context of non-repeat purchases, they may choose to sell low-quality products, thereby free-riding and in fact ruining the franchisor's trademark. Therefore, very valuable trademarks may not be franchised out and corporate units might be preferred in contexts of non-repeat purchases. Bercovitz [1999], Brickley and al. [1991], Minkler [1990], Brickley and Dark [1987] and Norton [1988] have confirmed that the franchise rate increases with various proxys of geographical distance between the corporate center and the sales units (distance is used here to indicate higher costs of controlling corporate units). Minkler and Park [1994] also find that the proportion of franchised units is inversely proportional to the value of the trademarks owned by

the franchisor (measured through the ratio of stock market and book values of the firm). Finally, Brickley and Dark [1987] also note that the franchise rate is lower in industries characterized by non-repeat purchases, but later works have presented more ambiguous results [Brickley and al., 1991; Lafontaine, 1995]. More problematically, concerns related to the franchisee's moral hazards are unlikely to affect the franchise rate if they can be dealt with through provisions in the franchise contract, such as territorial exclusivity, exclusive dealings and so on, whose effectiveness are partly determined by the institutional framework.

To assess the extent of opportunistic behavior by downstream units, we will use data on the competences required from the franchisees. Basically, as these competences increase, the franchisee is expected to provide more valuable inputs and the upstream unit might prefer a franchise contract to obtain the right level of efforts from him. A behavior involving several competences could also be difficult to contract on or to control, so that delegation to an independent unit should provide better incentives. Three distinct variables will be used :

- *A dummy variable indicating whether any specific qualifications are required from the franchisee.* If no qualifications is required, it is highly probable that the input provided by the franchisee is of low relevance to the performance of the franchised units :internal control should be easier, low-powered incentives could be sufficient and franchising should be less frequent;
- *Whether the franchisee is required to have some salesman experience.* If so, we may expect his efforts to significantly influence the performance of the outlet;
- *Qualifications.* This variable is defined as the arithmetic sum of eleven dummy variables indicating the extent of the qualification or experience requirements demanded by the franchisor to the potential franchisee. Higher values for this indicator plausibly signal greater reliance on the franchisee's efforts, higher control costs, high obstacles to in-house contracting and a need for high-

powered incentives. Franchising should then be more likely.

Note that there are other explanations that are compatible with a positive relationship between the franchise rate and the competences required from the franchisees. For instance, it could be argued that highly qualified personnel are more difficult to find within the corporation [Scott, 1995, Sorenson and Sorenson, 2001]. A negative relationship could also be found if the requirements act as a selection or as a rationing device [Lafontaine, 1992]. From a resource-based view, it could also be inferred that personnel as well as productive tasks involving several competences should be kept in-house :greater control within the firm should prevent these competences/personnal from spilling over the rest of the industry. Even from a transaction cost approach, arguments could be found to justify a negative relationship between the level of competences required from the franchisee and the franchising rate. Indeed, as the number of competences involved in the franchisee's task increases, writing a franchise contract over them gets more and more costly, and an internal contract might be preferred. The case for this negative relationship is even stronger if the competences are regarded as specific :the franchisee is unlikely to develop them unless he has some commitment (or "hostages") from the franchisor in the form of a standard, long-term, labour contract for instance.

Controlling the behavior of the upstream unit. The upstream producer is also expected to perform some tasks that may not be adequately contracted such as controlling the behavior of the downstream sellers or transmitting intangible know-how. As the extent of these tasks increases, pure market-based relationships may lead to opportunistic behavior. For instance, the franchisor may refuse to transmit some useful know-how or may practice insufficient control of franchised units. Alternatively, the franchisee might use the know-how that is being transferred as a bargaining chip to renegotiate the contract. In such settings, corporate units should be more frequent because franchising yields important transaction costs. Along these lines, the following variables were extracted from the Forby's Guide survey :

- *The extent of training provided by the franchisor.* The Forby's Guide survey lists ten areas (including seminars, quality assessment, sales technics, etc.) where training may be provided by the franchisor. Our variable is the arithmetic sum of the resulting ten dummy variables, and a greater value should be associated to a lower franchising rate.
- *The extent of management assistance provided by the franchisor.* The Forby's Guide survey lists eighteen areas where some management assistance (including organisation, benchmarking, human resources management, etc.) could be provided by the franchisor. Our variable is the arithmetic sum of the resulting eighteen dummy variables, and a greater value should be associated to a lower franchising rate.
- *The number of units using the trademark.* Indeed, trademark value should increase as the number of people using it expands; we may also expect that as the network grows, the task of the franchisor in outing the less performing units is increasingly difficult and yet crucial as more customers will be served. The franchising rate is thus expected to decrease as the number of units within the network increases.
- *The number of years the franchisor was active in the industry without resorting to franchising (divided by the total number of years in business).* This variable is supposed to reflect the difficulty and cost of developing the franchise package. Clearly, as the costs and obstacles to franchising increase, the franchise rate should decrease. On the other hand, if building a franchise network has proved difficult, the commitment by the franchisor not to cheat on his franchisees is likely to be more credible.

Again however, it should be stressed that specific contract provisions as well as an adequate structuring of licensing fees could alleviate much of these moral hazards problems provided that contract enforcement is effective enough. For instance, higher variable fees should provide the franchisor with the incentives to control his

network and to transmit the required know-how. Provisions restricting contract termination by the franchisee or preventing him from being employed or franchised by competitors should also constrain his behavior.

Other variables. We introduce a few additional variables that are not directly related to the agency framework but that still have been used by several empirical papers in a complementary fashion :

- *Age of the network.* When a trademark has been successfully franchised for several years, the franchisor no longer needs to signal the value of his network to potential new franchisees, which should make franchising easier. On the other hand, an older network may no longer need some outside capital to expand, so that the proportion of franchised units should be lower. Finally, older trademarks may have more value and transferring them to a franchisee could prove very risky.
- *Financial support.* The extent of financial support may signal relatively low capital constraints on the franchisor's side. According to Caves and Murphy [1976], the resort to franchising should be less frequent then since the franchisor is able to invest in-house to expand the firm. Several empirical facts run counter to this argument, however :for instance, the franchise rate does not seem to decrease with the age of the network [Pénard and al., 2003; Lafontaine and Shaw, 1999; Bercovitz, 2000] and franchisors often provide some financial support to their franchisees. Financial support will be measured by the arithmetic sum of twelve dummy variables indicating whether the franchisor has provided any specific financial support (ranging from credit counselling to outward credit) to his franchisees⁶.
- *Tied sales.* In some franchise networks, the franchisees cannot substitute away from the franchisor's product. In this case, selling inputs to franchisees

⁶The total number of units as well as the age of the network can also interpreted as a proxy for the financial strength of the franchisor.

can be another form of royalty on output. While the extent of tied sales can vary between networks, the dataset proposes only a dummy variable to account for these contractual arrangements. This dummy variable may have a negative impact on the proportion of franchised units for tied sales make franchising more similar to company ownership, thus diminishing the advantages of franchising over company ownership.

- *Industry dummies.* Our regressions include a set of 24 industry dummies designed to capture sector specific effects (such as the frequency of transaction or the level of risk borne out by the franchisee), but at this level of aggregation, these variables merely serve as control parameters and no particular proposition can be related to them.

Some summary statistics for these independent variables are presented in table 2.

3.3 Measuring the institutional framework

The legal framework is apprehended through four types of indicators.

Legal traditions. We will make the usual distinction between Common Law (United States, United Kingdom, Canada) and Civil Law systems (France, Belgium, Spain, Germany, Austria, Switzerland). Another dummy variable is added to control for the influence of the German legal tradition which characterizes Germany, Austria and Switzerland in our sample⁷.

Procedural formalism. In itself, the legal tradition exerts a very uncertain and unknown influence on franchising. As the works of Djankov and al. [2003], Botero

⁷There does not seem to wide differences in the laws applied to franchising in common and civil law countries. Yet, some tiny differences can sometimes be meaningful. In Germany, for instance, the franchisee can break the contract and be reimbursed of his investments until one year after the conclusion of the contract, unless the franchisor has explicitly specified otherwise. Lack of information on that particular consideration has resulted in several legal conflicts.

and al. [2002] and others have shown, the legal traditions condition the type of institutions the country will be endowed with, which, in turn, will encourage or discourage franchising. The procedural formalism of law, which is said to be higher in Civil Law countries, can promote the internalization of the sales operation. To measure formalism, we use the data collected by Djankov and al. [2003]. These data are initially defined on the formalism associated with two specific disputes, i.e., eviction and check collection, but the authors suggest these conflicts are typical of how default on private contracts are solved by the courts in a given legal environment. Four indicators will then be separately used in our regressions⁸ :

- *Professionalism*. This index measures whether the resolution of the case relies on the work of professional judges and attorneys, as opposed to other types of adjudicators and lay people. The index takes into account the assignment of the case to a general jurisdiction court, whether legal representation is mandatory and whether the judges could be considered as professional. This variable goes from 0 to 1 as the professionalism of the judiciary increases.
- *Written procedures*. This index measures the written or oral nature of the actions involved in the procedure, from the filing of the complaint to the actual enforcement. It is calculated as the number of stages carried out mostly in written form over the total number of applicable stages, and runs from 0 to 1, where higher values mean higher prevalence of written elements.
- *Legal justification*. The index measures the level of legal justification required in the judiciary process. Hence, it assesses whether the complaint should include references to the applicable laws, legal reasoning or formalities that would normally require legal training, whether the judgement should mention the legal justification of the decision (articles of the law or case-law) and whether judgements should be based on law only (as opposed to equity concerns).

⁸See Djankov and al. [2003] for details.

- *Formalism.* This (broader) index is meant to capture the general level formalism in the judiciary, reflected on by the extent of professionalism, written procedures, legal justifications, statutory regulation of evidence, control of superior review, engagement formalities and independent procedural actions. The index ranges from 0 to 7, where higher values denote a greater extent of formalism.

Labour regulation. The third aspect of the legal framework that we seek to integrate in our empirical investigation is the stringency of labour laws. Again, how the regulation of employment conditions affects the practice of franchising is very ambiguous. On the one hand, larger firms can be better placed to cope with some aspects of labour regulation. But on the other hand, small firms are sometimes explicitly exempted from some of the provisions in labour regulation. Thus, we will use several indicators separately to account for this heterogeneity, all of which are taken from Botero and al. [2002] :

- *Obstacles to alternative employment contracts.* This index measures whether the law allows alternatives to standard employment contracts, such as part-time contracts, fixed-term contracts, and specific regimes for the employment of a family member. The index varies from 0 to 1, with 1 indicating greater obstacles to alternative employment contracts.
- *Regulation of employment conditions.* This index measures the extent of regulation in the conditions of employment, including work hours, leaves, mandatory minimum wages, and the regulation of employment conditions through the constitution. The index varies from 0 to 1, with 1 indicating greater regulation.
- *Grounds for dismissal.* This index measures whether specific reasons are necessary for an employer to dismiss an individual employee. Due consideration is paid to whether it is unfair to terminate a contract without a cause, to whether the law establishes a “list of fair grounds” for dismissal and to

whether redundancy is considered a “fair” ground for dismissal. The index varies from 0 to 1, with 1 indicating greater regulation.

- *Dismissal procedures.* This index measures the regulation that is applied upon dismissal procedures, such as notification of third party before dismissal, mandatory retraining or replacement before dismissals, the existence of priority rules applying to dismissals or reemployment. The index varies from 0 to 1, with 1 indicating greater regulation.
- *Regulation of contract termination.* This index measures the ease of terminating an employment contract. It takes into account the preceding two variables as well as the mandatory notices and severance payments, and the right to job security in the constitution.
- *Regulation of employment.* This index is an aggregation of the indicators on (i) obstacles to alternative employment contracts, (ii) regulation of employment conditions, (iii) regulation of contract termination. It varies between 0 and 3, with 3 indicating greater regulation.
- *Regulation of collective relations.* This index measures the regulation of collective industrial relations, taking into account collective bargaining (labour union power, right to unionize in the constitution, right to collective bargaining), worker participation in management (right to appoint members of the board of directors, mandatory workers council) and collective disputes (right to strike, restrictions to the right to strike, employer’s responses to strikes, etc).

IPR framework. Finally, the fourth aspect of the legal framework that is likely to affect contracting decisions is the efficacy of trademark laws. Two qualitative index are used here, both taken from Ostergard [2000]. The first one measures the strength of trademark law, relative to the standards set by the US Chamber of Commerce. This variable ranges from 0 to 8, with 8 indicating strong trademark

protection. The second indicator relates to the enforcement score of IPR protection, assessed through the *Country Reports on Economic and Trade Practices* of the US State Department. This index ranges from 0 (low enforcement) to 4 (high enforcement). Unfortunately, the most recent year for which IPR laws and enforcement are coded is 1994. Assuming that the IPR legislation has barely changed since then and 2003 (the year the Forby's Guide survey was conducted) might appear like a crude simplification, but trademark legislation had already undergone important changes in the six years to 1994, which should reduce the extent of changes brought in since then [Ostergard, 2000]⁹. As suggested earlier, the extent and direction of IPR legislation on franchise contracts remains very ambiguous and the regressions conducted here should help us clarify this topic.

The table 3 suggests that the pattern of influence of institutions over the franchise rate is likely to be quite complex. For instance, let us consider Germany, which presents a high franchise rate. This might be due to a high level of formalism, a highly regulated job market, and a very effective system of IPR enforcement. Yet, United Kingdom, which also presents a high franchise rate, has a low degree of formalism and scores low in most measures of labour regulation. Moreover, there are several instances where the subcomponents of our institutional index offer diverging patterns. For instance, Germany has a relatively high level of procedural formalism, but its judiciary seems relatively unprofessionalized. It also regulates tightly the resort to alternative employment contracts, yet scantily regulates the conditions of employment. Finally, its enforcement of IPRs seems very efficient, but its trademark legislation probably presents some voids since it does not get the maximal rating, as Switzerland does for instance. Overall, however, our variables for labour regulation are positively correlated one with the other, and the same pattern holds for the formalism-related variables. As far as IPR law is concerned, however,

⁹An important reform in Europe has been the introduction of a European trademark system. Instead of applying for national, standard trademarks in each member country, firms now have the possibility to make a single application at the European trademark office in Alicante. The trademark will be valid in the whole EU, but the enforcement process and the related legislation remain national, so that differences across European countries may still influence firms' behavior.

it seems that a greater efficacy of trademark law is met with less effective enforcement, which could be explained by the fact that tighter laws are more difficult to enforce. Also note that the national frameworks in this regard do not exhibit much variance :we are comparing nations with an effective IPR framework with some countries that present a slightly more performing IPR system. For instance, apart from Austria and Switzerland with a maximum trademark rate of 8, all other countries have a trademark rate of 7. Likewise, most of our observations refer to national systems of enforcement that are rated as rather effective :only Austria, Belgium and Spain have a rating of 3, while all others display a maximum rating of 4. Such convergence in the IPR frameworks is unsurprising :common economic conditions as well as several harmonization treaties have led IPR law and its implementation towards a common standard. Thus, our study will consider whether *marginal* changes in the IPR frameworks can significantly alter the contracting behavior of resident firms.

4 Empirical results

A maximum likelihood Tobit estimator is used in the regressions to control for the significant number of potential franchisors in our sample (as in all samples of franchising practices – see Lafontaine [1992] for another instance) that franchise all or none of their outlets, resulting in some sample censoring. In a first subsection, we consider the explanatory power of the usual moral hazard/contract theory parameters.

4.1 Testing contract theory

The table 4 presents the results that are obtained when the only parameters included in the regression are contractual or network characteristics. These variables turn out to have a very low explanatory power. For instance, variables that we think to be related to the importance of franchisee's efforts are not associated to significant

coefficients. Likewise, some but not all of the parameters supposed to reflect the importance of the franchisor's effort are not significant either, like the extent of training and management assistance. One plausible explanation is that these moral hazards are dealt with through contract provisions and the level of variable and fixed fees, as several empirical studies have shown [Lafontaine, 1992; Brickley, 2002; Pénard and al., 2004]. For instance, the provision of management assistance or of training can be contracted and even be charged on to the franchisee. Preclusion of future competition can also be contractually enforced. Another source of bias lies in the great ambiguity that surrounds these variables, since any effect, positive or negative, can be rationalized, as we explained in section 3.2. For instance, greater requirements can serve as a rationing device on top of signalling tasks that are difficult to control through a hierarchical structure.

Like several empirical tests, our model does not validate the financial constraints approach developed by Caves and Murphy [1976]. If anything, the financial support provided by the franchisor to his franchised units seems to exert a positive influence on the rate of franchising. Therefore, franchising is certainly not motivated by the lack of capital resources on the franchisor's side. This positive influence disappears, however, when country dummies or the legal systems are introduced into the regression. It might be that financially supportive franchisors are mostly present in countries prone to franchising for other reasons than financial market imperfections or that the country dummy variables better capture these imperfections than the «financial support» variable defined here.

Actually, there are only three firm parameters that seem particularly relevant to explain the rate of franchising :the total number of units in the network, the proportion of years spent out of franchising by the franchisor and the existence of tied sales in the franchise contract. Let us consider them in turn :

- The total number of units of the network exerts a positive influence on the franchise rate. This indicator has several meanings, however. A high number of units could indicate larger geographic dispersion and higher control

costs, thus leading to a higher franchising rate. It may also signal more valuable trademarks, which should be more easily franchised out because their value has been credibly established. Simultaneously, however, great trademarks can increase the franchisees' incentives to cheat and free-ride on the network's goodwill. According to our results, the first two effects tend to dominate over the last one¹⁰.

- The proportion of years spent out of franchising can also be loosely connected to concerns with moral hazard :given that building a franchise network has proved difficult, it is unlikely that the franchisor will ever let his trademark be ruined by loose franchisees or that he will try to cheat on them. Thus, franchising appears as a more credible option and can be more easily concluded. Simultaneously, however, delays in franchising point out to significant difficulties in applying the business concept to franchising, which may not fade out once franchising has begun. This more straightforward effect tends to dominate.
- Finally, tied sales exert a negative influence upon the rate of franchising. According to Lafontaine [1992], the existence of tied sales makes the franchise unit closer to a corporate owned unit, so that it is probably less advantageous to franchise in such conditions. Her variable was not significant, but it consisted in the sector level of inputs sales from franchisors to franchisees, so that it may not have adequately captured this phenomenon.

Thus, our model is globally insufficient to explain the differences in franchising across firms and across countries. As model (b) demonstrates, there are significant country-specific effects in our regressions. In particular, all other things equal, franchising appears to be more frequent in Germany and Switzerland and less widespread in Canada, relative to Austria which was chosen as a reference

¹⁰Note however that a similar variable used by Lafontaine [1992] had a negative influence on the franchise rate.

here. More generally, these coefficients are jointly significantly different from 0 (F-test=3.84) and jointly significant one from another (F-test=3.95). In regression (c), we try to capture some of these country specific effects through the use of two dummy variables reflecting the legal tradition of the network's country. It turns out that civil law countries do encourage franchising (relative to common law systems) but only when they stem from a German tradition¹¹. Finally, only three of our sectoral dummies have significant coefficients. Franchising seems less frequent in the hotel industry, but more widespread in the printing and real estate sectors.

4.2 Introducing institutional parameters

To better address the issue of national specificities in the practice of franchising, we introduce three categories of country-specific variables in the dataset. The first one is related to the extent of formalism in the judiciary, as defined and measured by Djankov and al. [2003] (table 5). The other two are related to the costs and advantages of franchising in a given institutional context. Namely, we explore how labour regulation and trademark law affect the rate of franchising in national networks (tables 6 and 7). In all these regressions, dummy variables related to the legal tradition are used to control for other country specific effects (due to the low number of countries in our dataset, country dummies could not be used because of collinearity with the institutional variables).

The formalism of the judiciary does not influence franchising at all (table 5). As described in the variables section, four distinct indicators are used, none of which turns out to be significant. Basically, the other results are barely altered. Similarly, none of the coefficients for the industrial dummies is really affected. Finally, crossing these various indicators of formalism with our sectoral dummies did not produce additional results. Rather, the three industry dummies that were significantly

¹¹One element that could help explain this prominence of franchising in Germany is that franchisees enjoy a favorable court bias there, since they can revoke their contract for a full year after its conclusion and be reimbursed of their specific costs unless the contract specifies otherwise [Couture, 1997]. Undeniably, this effect could be very fragile since greater protection of franchisees can also discourage the trademark owners to franchise their assets.

different from 0 (hotel, estate agencies, and printing firms) were no longer so when crossed with the various indicators of formalism used here. This lack of result can have several explanations. First, the measures used by Djankov and al. [2003] may be inappropriate in the case of franchising, and more specific indicators are needed to confirm these results. Second, any adverse effect of greater formalism either on the franchisor or on the franchisees may be circumvented by efficient negotiation, so that this aspect of law does not influence the organizational choices of the parties.

The inclusion of labor regulations in the regressions turns out to be more successful (table 6). As expected, the results differ significantly depending on the type of labor regulation which is being looked at. Nonetheless, a positive influence of labor regulation upon franchising is generally noted. Indeed, obstacles to alternative contract forms, more demanding grounds for dismissals, obstacles to contract termination, general labor regulation and industrial/collective relations laws all have a positive influence upon the rate of franchising. The effect is particularly significant for the regulation governing contract termination :as terminating labor contracts becomes more regulated, franchisors resort more to franchising, possibly with the hope that their (smaller) franchised units are either exempted from these regulations or that their business conditions (bankruptcy, for instance) will help them circumvent these laws. On the other hand, the regulation of employment itself (minimum wage, hours of work, paid holidays, maternity leaves, etc.) seems to discourage franchising, probably because larger firms have greater facilities to deal with these constraints. The regulation of dismissals (including mandatory notices and approvals by third parties, mandatory retraining and replacements before dismissals) does not seem to influence the franchise rate, possibly because their effect on the franchisor and the franchisees are more balanced than for the other indicators.

Table 7 considers the impact of trademark law and enforcement of IPRs. The indicator relative to the grounds needed for dismissals is also included in the regressions to control for some aspects of labor regulation. The indicator of trademark

efficacy has a positive coefficient, significant at the 10% threshold. Its inclusion still further enhances our previous results for the formalism indicator is now significant at the 10 % threshold, and negative as hypothesized in our discussion. The labor regulation indicator remains negative but its significance is increased. Remember however that countries with strong trademark laws are also less effective at enforcing these laws. Thus, the role of trademark laws in franchising might have been underestimated. Model (b) adds a parameter controlling for the enforcement efficacy of IPR laws :unsurprisingly, this inclusion enhances the explanatory power of the trademark indicator, which becomes significant at the 5% threshold. Further, better enforcement encourages franchising, as hypothesized in our discussion, although this effect is only significant at the 10% threshold. The inclusion of this variable also makes the indicator of formalism insignificant. Overall, the performance of the trademark and enforcement indicators is in accordance with our expectations, especially given the ambiguity of the theoretical relationship (see part 2.3) and the low variance of these parameters in our sample.

4.3 Robustness

Unsurprisingly, the R^2 obtained with the tobit procedures are very low ranging from 0.08 in the baseline regressions to 0.151 in the final regression. Nonetheless, the likelihood ratio tests seem very satisfying, the 1% threshold being systematically exceeded. To better capture the goodness of fit of our model as well as to strengthen our empirical evidence, we perform additional regressions using categorical variables and an ordered multinomial logit test. More precisely, our observations are classified into three categories depending on the extent of franchising :the first, second and third class assemble those franchisors with a franchise rate respectively inferior to 0.3, comprised between 0.3 and 0.8 and superior to 0.8. The results are presented in table 8. The loss in information content due to the aggregation of some of the dependent variable's values results in slightly altered results. In particular, the significance of the tied sales dummy and of the total number of units are less robust, though they reach the usual standards of significance in the final two regres-

sions (models e and f). Results on institutions are basically left unaltered, except for the enforcement indicator which is no longer significant, though it remains positive. Most importantly, more than 65 % of our observations are correctly predicted. Using an ordered multinomial logit over four categories (0, 0-0.8, 0.8-1, 1) leads to similar results but inevitably reduces the prediction power to 45%.

5 Conclusion

This empirical analysis of franchise rates across nine industrialized countries brings only limited support to the framework of the contract theory. Most of the variables related to this corpus (management assistance, training, franchisee's qualifications, all of which should be related to moral hazards concerns) turn out to be insignificant. Though this may partly reflect noises in some of our proxies, it also suggests that the explanatory power of the contract theory framework is significantly reduced when set in an international setting.

The inclusion of institutions in this framework has turned out to be of greater empirical relevance, as variances in institutional parameters help explain some of the difference in franchise rates across countries. Variables related to the laws themselves, as opposed to the legal traditions and characteristics of the judiciary, are especially influential. The effectiveness of intellectual property rights, notably trademarks, encourages a greater resort to franchising as the theory of property rights would suggest. Labor regulation has a more ambiguous impact, depending on the type of constraints imposed upon firms, but on average, it exerts a positive influence on franchising. The franchise contract thus appears as an organizational strategy at least partly aimed at alleviating the administrative and incentive costs generated by greater labor regulation. By extension, the paper confirms the significant influence exerted by legal rules over the organizational structure of firms.

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Table 1: Summary statistics

Country	Franchise rate (N)
Germany	0.78 (284)
Austria	0.65 (34)
Belgium	0.56 (9)
Canada	0.44 (9)
Spain	0.63 (6)
United States	0.60 (82)
France	0.65 (72)
Great-Britain	0.77 (41)
Switzerland	0.78 (9)
Total	0.72 (546)

Source: Forby's Guide Survey

Table 2: Summary statistics

Variable	N	Mean	Std. Dev.	Min.	Max.
No specific competence	546	0.23	0.42	0	1
Salesman required	546	0.71	0.49	0	1
Qualifications	546	5.30	2.25	0	11
Management assistance	546	11.02	3.52	0	18
Training	546	7.41	2.37	0	10
Total number of units	546	358.99	2208.23	1	29500
Proportion of years out of franchising	546	0.29	0.29	0	1
Financial support	554	5.52	3.11	0	12
Tied sales	546	0.44	0.49	0	1
Age of the network	546	12.88	10.68	0	90

Source: Forby's Guide Survey

Table 3: Summary statistics

Country	Franchise rate	Civil law	Common law	German system	Written process	Formalism	Professionalized jurisdiction	Legal justification	Obstacles to alternative contracts
Germany	0.78	1	0	1	0.87	3.76	0.33	1	0.72
Austria	0.65	1	0	1	0.85	3.62	0.66	1	0.22
Belgium	0.56	1	0	0	0.75	3.17	0.33	0.33	0.72
Canada	0.44	0	1	0	0.5	2.32	0.33	0	0.56
Spain	0.63	1	0	0	1	4.81	1	1	0.83
United States	0.60	0	1	0	0.75	2.96	0.33	0.33	0.56
France	0.65	1	0	0	0.75	3.6	0.33	1	0.74
Great-Britain	0.77	0	1	0	0.71	2.22	0.66	0.33	0.56
Switzerland	0.78	1	0	1	0.62	3.96	0.66	0.66	0.56

Country	Franchise rate	Employment conditions	Dismissal regulation	Collective dismissals regulation	Termination contracts	Employment laws	Collective Relations	Trademark efficacy	IPR enforcement
Germany	0.78	0.35	0.67	0.57	0.50	1.57	1.76	7	4
Austria	0.65	0.40	0	0.43	0.18	0.8	0.84	8	3
Belgium	0.56	0.82	0	0.14	0.22	1.77	1.03	7	3
Canada	0.44	0.49	0	0.29	0.17	1.22	0.32	7	4
Spain	0.63	0.85	0.67	0.71	0.50	2.18	2.12	7	3
United States	0.60	0.29	0	0.14	0.08	0.92	0.36	-	-
France	0.65	0.54	0.33	0.71	0.31	1.59	2.12	7	4
Great-Britain	0.77	0.26	0.33	0.14	0.20	1.02	0.25	7	4
Switzerland	0.78	0.46	0	0.14	0.26	1.28	0.77	8	4

Source: Forby's Guide Survey

Table 4: Determinants of the franchise rate – Baseline regressions

Model :	Network rate of franchising		
	(a)	(b)	(c)
intcpt	0.76*** (0.20)	0.54** (0.21)	0.51** (0.21)
Tied input sales (yes/no)	-0.07 (0.05)	-0.09* (0.05)	-0.08* (0.05)
Total number of units	0.03* (0.02)	0.05** (0.02)	0.04** (0.02)
Management assistance	0.03 (0.09)	0.03 (0.08)	0.01 (0.09)
Extent of training	-0.10 (0.07)	-0.06 (0.07)	-0.05 (0.07)
Network age	-0.06 (0.04)	-0.01 (0.04)	0.00 (0.04)
Years without franchises	-0.35*** (0.09)	-0.35*** (0.09)	-0.35*** (0.09)
Financial support	0.10** (0.04)	0.06 (0.05)	0.06 (0.05)
Qualifications	0.07 (0.06)	0.04 (0.06)	0.03 (0.06)
No specific requirement	-0.01 (0.06)	0.01 (0.06)	0.02 (0.06)
Salesman required	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)
D-Great Britain		0.07 (0.12)	
D-United States		-0.12 (0.12)	
D-France		0.02 (0.11)	
D-Spain		-0.11 (0.23)	
D-Belgium		-0.14 (0.19)	
D-Switzerland		0.34* (0.20)	
D-Canada		-0.38* (0.20)	
D-Germany		0.20** (0.09)	
Civil law			0.06 (0.08)
German tradition			0.20*** (0.07)
N	38		
LR Test	546 73.20***	546 103.66***	546 90.12***

Note: Standard errors in parenthesis. *** **, and * denote the 1%, 5%

Table 5: Determinants of the franchise rate – Procedural formalism

Model :	Network rate of franchising			
	(a)	(b)	(c)	(d)
intcpt	1.00* (0.54)	0.47 (0.46)	0.52** (0.24)	0.38 (0.23)
Civil law	0.16 (0.13)	0.06 (0.08)	0.06 (0.08)	-0.10 (0.15)
German tradition	0.21*** (0.07)	0.19** (0.08)	0.20*** (0.07)	0.18** (0.07)
Tied input sales (yes/no)	-0.08* (0.05)	-0.08* (0.05)	-0.08* (0.05)	-0.08* (0.05)
Total number of units	0.04** (0.02)	0.04** (0.02)	0.04** (0.02)	0.04** (0.02)
Management assistance	0.01 (0.08)	0.01 (0.09)	0.01 (0.09)	0.01 (0.08)
Extent of training	-0.04 (0.07)	-0.05 (0.07)	-0.05 (0.07)	-0.06 (0.07)
Network age	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)
Years without franchises	-0.35*** (0.09)	-0.35*** (0.09)	-0.35*** (0.09)	-0.34*** (0.09)
Financial support	0.06 (0.05)	0.06 (0.05)	0.06 (0.05)	0.06 (0.05)
Qualifications	0.04 (0.06)	0.03 (0.06)	0.03 (0.06)	0.03 (0.06)
No specific requirement	0.02 (0.06)	0.02 (0.06)	0.02 (0.06)	0.02 (0.06)
Salesman required	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	0.02 (0.06)
Formalism	-0.39 (0.41)			
Extent of written procedures		0.08 (0.78)		
Extent of profesionalism			-0.01 (0.26)	
Legal justifications				0.43 (0.34)
N	546	546	546	546
LR Test	91.05***	90.13***	90.13***	91.74***

Note: Standard errors in parenthesis. ***, ** and * denote the 1%, 5% and 10% levels of significance.

Table 6: Determinants of the franchise rate – Labor regulation

Model :	Network rate of franchising						
	(a)	(b)	(c)	(d)	(e)	(f)	(g)
intcpt	0.86 (0.54)	1.20** (0.55)	0.78 (0.55)	1.00* (0.54)	0.77 (0.55)	0.74 (0.56)	1.14** (0.55)
Civil law	0.11 (0.13)	0.42** (0.17)	0.07 (0.13)	0.10 (0.16)	0.03 (0.14)	0.04 (0.15)	-0.06 (0.18)
German tradition	0.24*** (0.07)	-0.01 (0.12)	0.15* (0.08)	0.22*** (0.08)	0.14* (0.08)	0.24*** (0.07)	0.26*** (0.08)
Formalism	-0.49 (0.41)	-0.30 (0.41)	-0.27 (0.41)	-0.42 (0.41)	-0.29 (0.41)	-0.41 (0.41)	-0.59 (0.42)
Tied input sales (yes/no)	-0.08* (0.05)	-0.08* (0.05)	-0.08* (0.05)	-0.08* (0.05)	-0.08* (0.05)	-0.08* (0.05)	-0.08* (0.05)
Total number of units	0.04** (0.02)	0.04** (0.02)	0.04** (0.02)	0.04** (0.02)	0.04** (0.02)	0.04** (0.02)	0.04** (0.02)
Management assistance	0.02 (0.08)	0.02 (0.08)	0.02 (0.08)	0.01 (0.08)	0.02 (0.08)	0.02 (0.08)	0.02 (0.08)
Extent of training	-0.05 (0.07)	-0.05 (0.07)	-0.05 (0.07)	-0.04 (0.07)	-0.05 (0.07)	-0.05 (0.07)	-0.04 (0.07)
Network age	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)	0.00 (0.04)
Years without franchises (%)	-0.35*** (0.09)	-0.35*** (0.09)	-0.34*** (0.09)	-0.35*** (0.09)	-0.34*** (0.09)	-0.35*** (0.09)	-0.35*** (0.09)
Financial support	0.05 (0.05)	0.06 (0.05)	0.05 (0.05)	0.05 (0.05)	0.05 (0.05)	0.05 (0.05)	0.05 (0.05)
Qualifications	0.04 (0.06)	0.04 (0.06)	0.04 (0.06)	0.04 (0.06)	0.04 (0.06)	0.04 (0.06)	0.04 (0.06)
No specific requirement	0.01 (0.06)	0.02 (0.06)	0.01 (0.06)	0.02 (0.06)	0.01 (0.06)	0.01 (0.06)	0.02 (0.06)
Salesman required	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)
Obstacles to alternative employment contracts	0.61** (0.28)						
Regulation of employment conditions		-1.39** (0.63)					
Grounds for dismissals			0.33** (0.14)				
Regulation of dismissals				0.18 (0.32)			
Regulation of contract termination					0.69** (0.33)		
Regulation of employment						0.42* (0.25)	
Regulation of collective relations							0.33* (0.19)
N	546	546	546	546	546	546	546
LR Test	95.82***	95.95***	96.27***	91.36***	95.26***	93.84***	93.99***

Note: Standard errors in parenthesis. ***, ** and * denote the 1%, 5% and 10% levels of significance.

Table 7: Determinants of franchise rate – IPR protection

Model :	Network rate of franchising	
	(a)	(b)
intcpt	-6.24*	-8.59**
	(3.74)	(3.96)
Civil law	0.50*	0.46
	(0.29)	(0.29)
German tradition	-0.06	-0.06
	(0.11)	(0.11)
Formalism	-1.42*	-1.19
	(0.80)	(0.81)
Grounds for dismissal	1.17***	0.97**
	(0.44)	(0.45)
Trademark law	3.79*	4.17**
	(1.95)	(1.96)
Enforcement of IPR law		0.82*
		(0.45)
Tied input sales (yes/no)	-0.09**	-0.08*
	(0.04)	(0.04)
Total number of units	0.05***	0.05***
	(0.02)	(0.02)
Management assistance	0.12	0.12
	(0.08)	(0.08)
Extent of training	-0.02	-0.02
	(0.06)	(0.06)
Network age	-0.02	-0.02
	(0.04)	(0.04)
Years without franchises	-0.35***	-0.37***
	(0.08)	(0.08)
Financial support	0.03	0.04
	(0.04)	(0.04)
Qualifications	0.06	0.07
	(0.06)	(0.06)
No specific requirement	0.03	0.04
	(0.05)	(0.05)
Salesman required	-0.03	-0.03
	(0.06)	(0.05)
N	464	464
LR Test	101.82***	105.16***

Note: Standard errors in parenthesis. ***, ** and * denote the 1%, 5% and 10% levels of significance.

Table 8: Determinants of the franchise rate – Ordered multinomial regressions

Model :	Network rate of franchising					
	(a)	(b)	(c)	(d)	(e)	(f)
Tied sales	-0.22	-0.27	-0.28	-0.30	-0.40*	-0.38*
(Yes/No)	(0.19)	(0.19)	(0.20)	(0.20)	(0.22)	(0.22)
Total number	0.08	0.11	0.12	0.11	0.23**	0.23**
of units	(0.07)	(0.07)	(0.07)	(0.07)	(0.10)	(0.10)
Management	-0.14	-0.19	-0.20	-0.14	0.21	0.24
assistance	(0.35)	(0.35)	(0.35)	(0.35)	(0.40)	(0.40)
Extent of	-0.21	-0.04	-0.02	-0.07	-0.05	-0.06
training	(0.29)	(0.30)	(0.30)	(0.30)	(0.32)	(0.32)
Network age	-0.22	-0.02	-0.01	0.02	-0.08	-0.09
	(0.15)	(0.16)	(0.16)	(0.17)	(0.18)	(0.18)
Years without	-1.27***	-1.28***	-1.29***	-1.23***	-1.53***	-1.59***
franchises	(0.34)	(0.35)	(0.35)	(0.35)	(0.38)	(0.38)
Financial	0.32*	0.17	0.15	0.08	0.14	0.15
support	(0.18)	(0.19)	(0.19)	(0.19)	(0.23)	(0.23)
Qualifications	0.24	0.10	0.11	0.15	0.31	0.32
	(0.26)	(0.26)	(0.26)	(0.26)	(0.30)	(0.30)
No specific	-0.13	-0.05	-0.06	-0.10	-0.05	-0.02
requirement	(0.23)	(0.23)	(0.23)	(0.23)	(0.26)	(0.26)
Salesman	-0.08	-0.05	-0.06	-0.08	-0.24	-0.26
required	(0.25)	(0.25)	(0.25)	(0.25)	(0.28)	(0.28)
Civil law		0.26	0.57	0.11	2.29	2.11
		(0.32)	(0.51)	(0.52)	(1.46)	(1.44)
German		0.72**	0.77***	0.40	-0.77	-0.71
tradition		(0.28)	(0.29)	(0.31)	(0.56)	(0.56)
Formalism			-1.31	-0.79	-6.75*	-5.80
			(1.64)	(1.68)	(4.08)	(4.04)
Dismissal				2.07***	7.26***	6.35***
regulation				(0.57)	(2.18)	(2.28)
Trademark law					23.47**	23.92**
					(9.63)	(9.66)
Enforcement						2.82
of IPR law						(2.14)
N	546	546	546	546	464	464
LR Chi ²	62.13***	75.66***	76.29***	89.42***	93.80***	95.53***

Note: Standard errors in parenthesis. ***, ** and * denote the 1%, 5% and 10% levels of significance.