

# CONTRACT DURATION: EVIDENCE FROM FRANCHISING\*

JAMES A. BRICKLEY, SANJOG MISRA, and R. LAWRENCE VAN HORN  
*University of Rochester*

## ABSTRACT

Economists generally view standard franchise contracts as efficient, while franchisee advocates view them as exploitive. Consistent with the economic view, we find that contract duration is positively and significantly related to the franchisee's physical and human capital investments (which are often firm specific). In contrast to assertions by franchisee advocates, we find that these relations exist in subsamples containing only the most established franchisors (as measured by size and experience) and that larger, more experienced franchisors tend to offer longer-term contracts than do newer franchisors. Our evidence also suggests that there is learning across firms about optimal contract terms.

## I. INTRODUCTION

THE belief that franchisees are naïve and unsophisticated compared to franchisors has had an important effect on court and regulatory actions on franchising.<sup>1</sup> To quote one appellate court that reversed a damage award imposed on a franchisee, "The agreements themselves tend to reflect this gross bargaining power disparity. Usually they are form contracts the franchisor has prepared and offered to franchisees on a take-it-or-leave-it basis. . . . Indeed such contracts are sometimes so one-sided, with all the obligations on the franchisee and none on the franchisor, as not to make them legally enforceable" (*Postal Instant Press v. Sealy*, 52 Cal. 2d 365, 373 [Cal. Ct. App. 1996]).<sup>2</sup> This view has also been used to justify "protective" legislation for franchisees. For example, the Wisconsin Fair Dealership Law (sec. 135.025) states that one of its primary purposes is to "protect dealers against unfair treatment of grantors, who inherently have superior economic power and superior bargaining power in the negotiation of dealerships."

\* William E. Simon Graduate School of Business Administration, University of Rochester. The authors thank Keith Crocker, Scott Masten, Francine LaFontaine, Jerry Zimmerman, and Mark Zupan and seminar and conference participants at the University of Arizona, the University of Michigan, and the International Society of Franchising 2003.

<sup>1</sup> This viewpoint is widespread in the legal and popular literature on franchising. For two examples, see Brown (1996) and Lagarias (2002).

<sup>2</sup> See Lagarias (2002) for other examples of court decisions influenced by this view.

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Standard economic theory offers a different perspective. It casts the marginal franchisee as a rational individual who adjusts his reservation price for a franchise on the basis of the terms in the contract. Potential price adjustments provide incentives for franchisors to select efficient contract terms even if the franchisor has substantial bargaining power. In contrast to the “naïve-franchisee view,” the “economic view” implies that franchise contracts will balance the concerns of both parties.<sup>3</sup> Less sophisticated franchisees benefit from standardized contracts, since the agreement reflects the interests of the marginal franchisee, who is assumed to be relatively well informed.

Few provisions in franchise agreements are more important than the duration of the contract (Tractenberg, Calihan, and Luciano 2004). Franchisees make substantial franchise-specific investments. Franchisees typically want long-term contracts with liberal renewal rights to protect their investment from holdup and to provide them an opportunity to earn positive returns.<sup>4</sup> Long-term contracts, however, impose costs on franchisors since they limit a franchisor’s ability to make changes in the franchise system (renegotiation of existing contracts is relatively costly) and to terminate nonproductive franchisees without costly litigation. While most franchisors want to maintain long-term relations with productive franchisees, they still want the flexibility to change the terms of the contract over time. According to the economic view, franchisors have incentives to balance these competing interests in choosing the duration of the contract (even though the terms are not generally negotiated with individual franchisees). The standard prediction is that the duration of the contract will increase with the franchisee’s specific investment.

The naïve-franchisee view, by contrast, implies that the contracts of larger, better-known companies will not reflect the concerns of the franchisee (the contracts are one-sided). Franchisors with sufficient power will choose the term that benefits them, independent of the effect on franchisees.<sup>5</sup> In contrast

<sup>3</sup> The Coase theorem implies that parties will bargain to an efficient agreement if transaction costs are sufficiently low. Absent income effects, the agreed-upon actions will be the same independent of the distribution of bargaining power. Bargaining power determines the division of the surplus.

<sup>4</sup> Franchise advocates argue that 5-year, and possibly even 10-year, contracts are generally insufficient for the franchisee to recoup his investment. Tractenberg, Calihan, and Luciano (2004, p. 198) argue that franchisees want the “longest possible term with unconditional rights of renewal.” Foster (1994), Brown (1996), and Caffey, Hershman, and Rudnick (1997) also discuss the importance of long-term contracts for franchisees. For an analysis of relationship-specific investment and hold-up problems, see Williamson (1979, 1983, 1985) and Klein, Crawford, and Alchian (1978).

<sup>5</sup> While many economists bristle at this hypothesis, it is quite widespread in the legal and popular literature on franchising. Queen, Lindsey, and Bader (1999, p. 25) argue that “[a] court that perceives franchise relationships to be fair and mutually beneficial to both franchisors and franchisees, and to be important to small business and the economy generally, will be influenced by various practices differently than a court that views franchise relationships as one-sided contracts of adhesion that serve primarily to disadvantage franchisees. As a result the importance of persuading the court to view the franchise relationship in a manner consistent with your client’s position in the case should not be underestimated.” Brown (1996) and Lagarias (2002) provide additional examples.

to the economic view, powerful franchisors might offer relatively short-term contracts to exploit naïve franchisees, especially when they are required to make large specific investments.

This paper presents new evidence on contract duration based on a large sample of franchise companies from a broad range of business sectors. Consistent with the economic view, we find that contract duration is positively and significantly related to the franchisee's physical and human capital investments (which are often firm specific). In contrast to the naïve view, we find that these relations also exist in subsamples containing only the most established franchisors (as measured by size and experience).

Also, in apparent contrast to the naïve view, we find that larger, more experienced franchisors offer longer-term contracts than do newer franchisors. An economic explanation for this finding is as follows. Large, established franchisors face less uncertainty about optimal contract design than do smaller, less established companies. Past theoretical analysis suggests that the optimal contract duration decreases with uncertainty about optimal contract terms (for theoretical models of contract duration, see Gray 1978; Canzonerri 1980; Fehtke and Policano 1982; Dye 1985a, 1985b; Harris and Hölmstrom 1987).<sup>6</sup> While Azoulay and Shane (2001) find that franchisors learn from their own experience, our results suggest that there is learning across firms about optimal contract terms. Start-up franchisors in sectors with well-established contracting practices tend to adopt longer-term contracts initially than do start-up franchisors in less established industries.

While our study focuses on franchise contracts, it has potentially broader implications. Many contracts, including most commercial, union, and real estate agreements, contain explicitly specified expiration dates. This observation has motivated both theoretical and empirical interest on contract duration. Most of the past empirical research on contract duration has focused on labor contracts (Christofides and Wilton 1983; Christofides 1985; Kanago 1988; Vroman 1989; Murphy 1992; Wallace and Blanco 1991; Rich and Tracy 1999; and Wallace 2001).<sup>7</sup> Our study is the first to provide evidence on the duration of retail distribution contracts. Also, in contrast to much of the past literature, we provide both cross-sectional and time-series evidence on the determinants of contract duration.

The remainder of this paper is organized as follows. Section II presents the alternative hypotheses predicted by the economic and naïve-franchisee

<sup>6</sup> While most models predict that optimal contract length will decrease with uncertainty, Harris and Hölmstrom (1987) demonstrate that the relation is not always monotonic. While new information is more likely to arise in uncertain environments, the value of information also decays rather rapidly. The second effect can work against longer contracts in noisy environments. Also see Danziger (1998).

<sup>7</sup> The most notable studies of commercial contracts are Crocker and Masten (1988) and Joskow (1987), who focus on the energy industry.

views. Section III describes the sample, while Section IV presents the empirical results. The study concludes with a short summary.

## II. HYPOTHESES

### A. *Economic View*

#### 1. Specific Investment

Franchisees make investments for equipment, employee training, marketing, site and/or building development, the franchise fee, and so on. They also invest in human capital, often by attending off-site training provided by the franchisor (for example, at the company's headquarters). Much of this investment is franchise specific.

To earn a competitive rate of return on the franchise-specific investment, the franchisee's unit must generate quasi rents (revenues in excess of variable costs). The existence of quasi rents exposes the franchisee to postinvestment holdup since he has incentives to operate as long as revenue covers variable costs. There are a number of ways in which an opportunistic franchisor might expropriate the franchisee's quasi rents. Direct methods include raising the royalty rate, prices of goods or services sold to the franchisee, lease payments (if any of the assets are leased from the franchisor), or sales quotas that the franchisee must meet to keep the franchise (franchisors typically receive a royalty based on sales, not profits). Less direct methods include requiring the franchisee to make additional advertising expenditures or renovations that, while nonproductive for the franchisee, help to increase the returns to the franchisor. Another method is to encroach on the franchisee's sales through the placement of new units.

The typical franchise contract helps to protect the franchisee from franchisor opportunism by specifying the royalty, advertising, and lease rates, as well as any sales quotas, renovation requirements, and territorial protections. In general, a franchisor has limited flexibility to change these provisions over the term of the contract without the franchisee's consent. In addition, franchisors often have to show good cause to terminate a franchisee during the term of the contract.<sup>8</sup> In addition to protecting the franchisee from holdup, a long-term contract simply gives the franchisee more time to recoup his specific investment.

Most franchise contracts grant the franchisee the right to renew the contract

<sup>8</sup> Eighteen states have passed laws that place termination restrictions on business-format franchises. The typical provision is to limit termination to good cause during the contract period. Some states also give franchisees certain renewal rights. Some franchisors include good-cause termination provisions in their contracts, even if they are not operating in states with termination laws. See Brickley, Dark, and Weisbach (1991) and Rudnick and Weaver (1996, p. 57).

(sometimes after paying another franchise fee) provided that he has complied with the initial contract.<sup>9</sup> However, upon renewal, the old contract is replaced with the contract that the franchisor is using for new franchisees. The franchisee may also be required to make expenditures to upgrade the facility. The typical renewal provision gives the franchisor the flexibility to alter the contract in response to environmental changes but offers the franchisee some protection by limiting the changes to provisions that are used in other contracts.

Economic theory suggests a trade-off between long- and short-term franchise contracts. Longer-term contracts help to protect the franchisee against franchisor opportunism and give him more time to recoup his investment. However, assuming that it is sufficiently expensive to renegotiate prior to the expiration date, longer-term contracts reduce the flexibility of the franchisor to respond to environmental changes. For example, long-term contracts might restrict the franchisor from making changes in the optimal amount of advertising, renovation expenses, supply arrangements, and territorial restrictions. Franchise attorneys and authors of franchise guides recognize this trade-off. To quote one franchise guide: "The shorter the term, the more flexibility that the franchisor has to make changes in the organization. On the other hand, as a prospective franchisee making a substantial investment in the franchise, you deserve the opportunity to reap just rewards. It may take a business as long as three years to begin turning a profit. If the franchise term is only five years, you hardly have enough time to realize a decent return" (Foster 1994, p. 190).<sup>10</sup>

For each firm in our sample, we have data on the average total dollar investment required for the franchisee to start the franchise and the required number of weeks the franchisee spends in off-site training. While we would like to divide the dollar expenditure into specific and nonspecific investment, our data do not allow us to do so. Nevertheless, much of the typical investment made by a franchisee is relationship specific. Higher total investment is likely to be positively correlated with the level of relationship-specific investment.<sup>11</sup> The franchisee incurs travel and opportunity costs when attending off-site training. Much of the typical training content is franchise specific. In addition,

<sup>9</sup> FRANDATA Corporation (2000) indicates that about 91 percent of franchise contracts contain renewal provisions. We observe a similar frequency in our sample. See Foster (1994), Rudnick and Weaver (1996), and Caffey, Hershman, and Rudnick (1997) for a discussion of the typical renewal clauses in franchise agreements.

<sup>10</sup> For similar discussions by franchise attorneys, see Rudnick and Weaver (1996) and Caffey, Hershman, and Rudnick (1997).

<sup>11</sup> Bankers have told us that the equipment and assets purchased to start a franchise are generally poor collateral in franchise lending because of limited resale value. To quote Bond et al. (1996, p. 30) advice to prospective franchisees, "Be conservative in assessing what your real exposure is. If you are leasing highly specialized equipment or if you are leasing a single-purpose building, it is naïve to think that you will recoup your investment if you have to sell or sublease those assets in a buyer's market."

the franchisee is often restricted from using the more general components of this training through noncompete clauses that come into effect subsequent to the termination of the franchise contract.

Franchisors bear reputation and other costs when they expropriate quasi rents from franchisees. These costs imply that franchisors are unlikely to act opportunistically when quasi rents are sufficiently low. As specific investment increases, the franchisor's incentives to act opportunistically increase. Also, it can take more time to earn a fair rate of return (relative to the case in which more of the investment is not specific). Franchisees are correspondingly likely to demand longer-term contracts to entice the necessary investment.<sup>12</sup> This analysis suggests the following testable hypothesis:

**ECONOMIC VIEW HYPOTHESIS 1.** The duration of franchise contracts will increase with the franchisee's physical and human capital investment requirements.

While this hypothesis predicts an increase in contract duration, it is reasonable to expect that the importance of this effect will not be uniform across firms. For example, some businesses, such as hotels and motels, require large up-front investments that are not obviously firm specific (as suggested by the frequent ownership and name changes of hotels). Increases in the initial investment in these firms would presumably have a smaller impact on the duration of the contracts than for firms in which the investment is more firm specific. In our empirical analysis, we address this possibility by estimating separate models for firms within business sectors (where the type of investment is more likely to be common across firms). We also estimate random-coefficient models that allow the effect to vary across observations in the sample.

## 2. Experience and Size

Some of the firms in our sample are relatively new to franchising, while others have extensive experience. Younger firms will generally be less certain about the optimal provisions in their franchise contracts than more experienced firms. Theory suggests that this increased uncertainty about optimal contract terms will be accompanied by shorter-term contracts (see note 8).

<sup>12</sup> Consider the following hypothetical example. The franchisee makes a \$200,000 investment in a specific asset with a 5-year life. The investment yields profit of \$52,760 annually over the 5 years. The franchisee earns a competitive, 10 percent rate of return on the investment if he receives the full profits from the unit over the 5 years. If the franchisor acts opportunistically and expropriates part of the annual flows, the franchisee does not earn a competitive rate of return. Suppose the franchisor incurs \$100,000 in costs if he acts opportunistically, for example, from reduced reputation in the marketplace. In this example, a 2-year duration would prevent expropriation (since the present value of remaining flows from the investment after 2 years is \$91,566, which is less than \$100,000). Now consider a \$500,000 investment with annual flows of \$131,899 over the 5 years. Here a 5-year contract is necessary to prevent franchisor holdup.

H&R Block provides an example of the evolution of a franchise contract.<sup>13</sup> H&R Block was formed in 1955 by Henry and Richard Bloch (spelling is correct) in New York City. In 1956, the brothers tried to sell their business so that they could move back to Kansas City. They were unable to obtain their asking price, so they franchised the operation to two certified public accountants. Franchises for other territories followed in 1957. The Bloch brothers had no prior experience in franchising and presumably had reasonable uncertainty about how to structure the franchise contract. The 1959 agreements stated: “The term of this Agreement shall be for a period of four (4) years from the date hereof, with further provision that it shall be automatically renewed for successive periods of one (1) year each unless cancelled by serving written notice so to cancel the other party no less than 120 days prior to the anniversary date.” In 1964, H&R Block adopted a new agreement that increased both the duration of the agreement and the property rights of franchisees: “The term of this Agreement shall run for a period of five (5) years from the date hereof, with further provisions that it shall be automatically renewed for successive periods of five (5) years each, unless terminated by serving written notice of termination to cancel the other party not less than 120 days prior to an anniversary date, provided however, that *Block shall be entitled to cancel only for reasonable cause*” (emphasis added).

In 1973, H&R Block once again changed the contract to strengthen the protection of its franchisees. The new agreement continued to offer 5-year renewable terms. However, H&R Block not only limited its termination to “reasonable cause” but also granted time to franchisees “to cure” problems to avoid termination. A plausible interpretation of the evolution of the contract at H&R Block is that the company initially wanted to maintain significant flexibility to alter the relationship. However, with continued experience in franchising this option became less valuable thus lengthening the optimal duration of the contract.

Another variable that affects the franchisor’s experience is the size of the franchise system. Holding the age of the company constant, franchisors are likely to acquire more information about optimal contract terms in larger systems, since they can observe more units. If so, the economic view suggests that larger franchisors will tend to offer longer-term contracts.

Thus, the economic view suggests a second testable hypothesis:

**ECONOMIC VIEW HYPOTHESIS 2.** The duration of franchise contracts will increase with the franchisor’s experience as measured by the number of years franchising and the number of units in the system.

While hypothesis 2 predicts that contract duration will increase with ex-

<sup>13</sup> For the history of H&R Block, see *The American Dream That Began on Main Street Now Lives on Main Streets Everywhere* (<http://www.hrblock.com/presscenter/about/history.jsp>). Information on the evolution of the contracts is from court documents filed in a lawsuit in 2001 (*Angel v. H&R Block*, No. 99CV206379 (Jackson County, Mo. Cir. Ct.)).

perience in franchising, it is again reasonable to expect that the importance of this effect will not be uniform across firms. While some firms face substantial uncertainty about optimal contract provisions when they begin franchising, others do not. For instance, if the contracting practices are relatively standard and well established, new entrants can free ride on the experience of existing firms in the industry to design their contracts.<sup>14</sup> In this case, the duration of the contract might change little as the firm gains experience. This discussion suggests a third hypothesis.

**ECONOMIC VIEW HYPOTHESIS 3.** The duration of franchise contracts for start-up franchisors will be longer in sectors with well-established contracting practices.

### *B. Naïve-Franchise View*

In contrast to the economic view, franchisee activists often claim that franchise contracts are determined by franchisor power, not economic efficiency. Their argument proceeds as follows: Franchisors are more powerful and sophisticated than franchisees. Franchisors offer one-sided agreements to prospective franchisees on a take-it-or-leave-it basis. The franchisees sign these unfair contracts because they are afraid they will lose the franchise opportunity if they try to negotiate. They also lack the knowledge to understand the implications of the contract and are too naïve to seek good legal counsel.

Franchise advocates acknowledge that not every franchisor has strong bargaining power. Their primary concern lies with well-established franchise companies. In contrast to the standard economic model, it is implicitly argued that there is a large number of prospective franchisees who do not adjust their demands for well-established franchises on the basis of the provisions in the contract. These franchisees are willing to pay essentially the same price independent of the terms in the contract. Correspondingly, well-established franchisors offer one-sided contracts.<sup>15</sup> Under this view, large, experienced franchisors are likely to avoid longer-term contracts since they can give away fewer property rights with a shorter-term contract and obtain

<sup>14</sup> It is relatively easy for new companies to obtain information on other firms' contracts. Some states require all franchise companies that operate in the state (independent of their headquarters state) to file information on their contracts with a state agency. This information is public. Companies can also acquire information from franchise guides and franchise attorneys.

<sup>15</sup> Lagarias (2002, p. 136), while acknowledging that start-up franchisors are potentially more likely to offer "fair" contracts than established franchisors, questions whether "even less well-established franchisors really offer franchisees much of a choice in franchise agreements."



the same price.<sup>16</sup> This argument implies that, in contrast to hypothesis 1, prominent franchisors (for example, as measured by units and experience) will not adjust the length of the contract on the basis of the level of specific investment by the franchisee. Also in contrast to hypothesis 2, franchisors that are more established will offer shorter-, not longer-term, contracts.

### III. SAMPLE

Our sample is drawn from annual computerized versions of *Bond's Franchise Guide* (Bond 1995–2001). We were unable to obtain data for 2000, which leaves us with 6 years of data. There are a total of 1,977 different franchisors in the database.<sup>17</sup> Since 89 of these firms do not report contract duration, our final sample contains 1,888 firms.

Franchise companies do not change the terms of their contracts frequently, and their characteristics (such as the number of units and size of required investment) tend to evolve relatively slowly.<sup>18</sup> Therefore, it is not appropriate to treat multiple observations for a given firm in our sample as independent. Our cross-sectional analysis and descriptive statistics are based on the most recent observation for each of the 1,888 firms.<sup>19</sup> We base our time-series analysis on 4,233 first differences, where a firm is in the database for 2 consecutive years.

Our unit of observation is the franchise chain. We do not have contract information for each individual franchisee within the chain. Fortunately, as we have discussed, franchisors generally offer a standardized contract to all prospective franchisees at a point in time. For variables, such as total franchisee investment, that can vary across outlets within a chain, some fran-

<sup>16</sup> Brown (1996) argues that an opportunistic franchisor might offer a long-term contract with minimum royalty and advertising payments that are required over the life of the contract even if the unit is not in operation. With this contract, the franchisee can have incentives to stay in business even if he is losing money. The ability of a franchisor to extract rents from a franchisee by such a contract, however, is limited by two factors. First, the typical franchisee has limited resources to bond the payments. It will often not be in the interests of the franchisor to pursue a claim in the case of default. Second, courts are unlikely to enforce this type of contract (for example, see *Brennan v. Carvel Corp.*, 929 F.2d 801 [1st Cir. 1991]). Holding other factors constant, it is likely that most franchisors will prefer not to issue long-term contracts. Like employment contracts, a long-term franchise contract is potentially more binding to the central company than to the franchisee.

<sup>17</sup> Not all firms are present in each year. For example, a firm is not included in a given year if it decided not to continue being listed in *Bond's Franchise Guide* (Bond 1995–2001) or if it did not submit the required information in time to be included in the issue.

<sup>18</sup> A variety of economic and legal justifications exist to help explain why franchisors offer the same contract across franchisees. For example, see Lafontaine and Shaw (1999), Bhattacharyya and Lafontaine (1995), Brickley (1999), and Milgrom (1988).

<sup>19</sup> Just over 50 percent of the most recent observations are from 2001. The others are spread relatively evenly over the sample period. In our sensitivity checks (discussed below), we repeat our entire analysis using the first rather than the most recent observation for each firm. We also estimate our base model separately for each year in the sample period (using all available observations for the year).

chisors report a range of values. In these cases, we average the high and low values to obtain an “average” for the franchise.

Table 1 presents descriptive statistics. The median franchisor has 36 units (8 percent are company owned) and has been franchising for 10 years. The median contract duration is 10 years, with a renewal right for another 10 years. While we focus our analysis on the contract duration, similar results are found when we sum the initial duration and renewal period. The median franchisee is required to make an up-front investment of \$112,500, must have \$50,900 in initial equity, and must pay \$20,000 as an up-front fee to the franchisor. The median ongoing fees include a 5 percent royalty and 1.5 percent advertising fee based on total sales. The median company requires 2 weeks of off-site training, has 60 percent of its units outside its primary state of operation, and operates in a total of seven states.

Figure 1 presents a frequency distribution for contract duration. The distribution shows that 93 percent of the sample firms choose contract durations of 5, 10, 15, or 20 years.<sup>20</sup> Slightly more than 50 percent of the contracts have 10-year durations. It is apparent that firms do not treat contract duration as a continuous variable. Possibly owing to business convention, firms focus on 5-year multiples.

The economic view (hypotheses 1 and 2) predicts that contract duration will be positively related to average total investment, weeks of off-site training, number of years the company has franchised, and total number of units. Figure 2 presents a graphic overview of how average contract duration changes from the bottom to top quartile for each of these variables. This descriptive evidence is highly consistent with the economic view predictions. The mean duration for the firms in the top quartile of each independent variable is substantially higher than for the bottom quartile (about 1–3 years higher depending on the variable). Statistical tests allow rejection of the null hypotheses of equal contract length across quartiles at the .01 level for all the proxy variables using both parametric (*T*-test) and nonparametric (Wilcoxon signed rank) tests. In our empirical analysis, we estimate multivariate models to assess the marginal importance of each of the four variables.

Table 2 partitions the sample into six general industries: food service, auto products and services, other services, cleaning and maintenance (including maid service), retail, and business services. The table reveals that the mean contract duration and the means of the explanatory variables vary signifi-

<sup>20</sup> A total of six firms have contract lengths greater than 25 years, and 60 firms have contract lengths of less than 5 years. The firms with contract lengths of more than 25 years have, on average, been franchising for 18 years (sample median is 10 years) and have similar off-site training and total required investment to the population as a whole. Three of the six firms are from the sign-making or printing industry. The median franchise with a contract length of less than 5 years has fewer units, has been franchising less time, requires less off-site training, and has a significantly lower level of up-front investment than the sample median. Twenty-five percent of these firms are in either the maintenance and commercial cleaning industry or the entertainment industry.

TABLE 1  
DESCRIPTIVE STATISTICS

Description	<i>N</i>	Mean	Median	SD	5th Percentile	95th Percentile
Total number of owned and franchised units	1,884	216.33	36.00	1017.81	2.00	650.00
Percentage of company-owned units	1,881	22.28	8.33	29.16	.00	98.61
Number of years since firm first franchised	1,878	12.74	10.00	10.86	2.00	34.00
Length of initial contract (years)	1,888	10.49	10.00	5.13	5.00	20.00
Length of contract renewal period if specified (years)	1,777	8.68	10.00	4.70	5.00	20.00
Average total investment to purchase (\$)	1,690	146,248	112,500	134,740	15,100	412,500
Average cash or equity investment to purchase (\$)	1,698	78,615	50,900	89,249	8,050	250,000
Average franchise fee (\$)	1,823	22,677	20,000	22,634	5,000	44,000
Franchise royalty fee (% of sales)	1,701	5.51	5.00	4.14	.00	10.00
Advertising franchise fee (% of sales)	1,613	1.69	1.50	1.69	.00	5.00
Number of weeks of required off-site training	1,888	2.64	2.00	3.53	.00	8.00
Percentage of units outside the primary state of operation	1,679	52.10	60.00	34.00	.00	92.81
Total number of states and provinces in which firm operates	1,740	13.83	7.00	15.33	1.00	48.00

NOTE.—The sample consists of 1,888 firms from Bond (1995–2001).

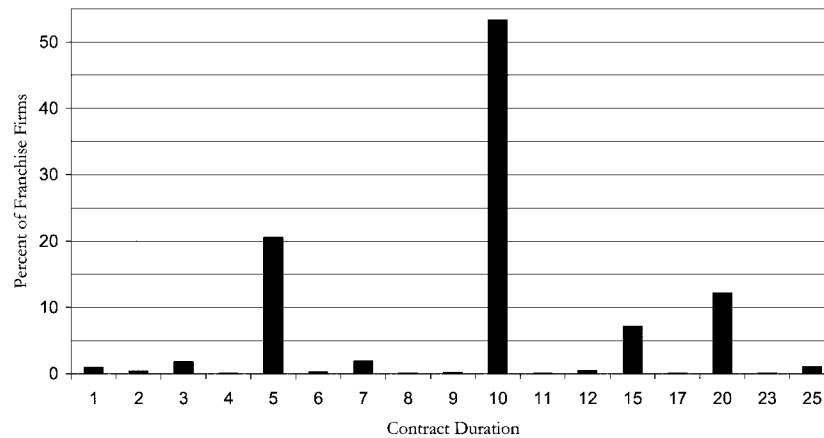


FIGURE 1.—Distribution of contract length for our sample of franchisors from Bond (1995–2001). The graph is restricted to the 1,861 firms that state a single contract length less than 30 years.

cantly across business sectors. Firms from the food service industry, which have relatively high levels of investment, training, experience in franchising, and number of units, have the highest mean contract duration; firms from the business sector, which have relatively low levels for each of the variables, have the lowest mean contract duration. These data suggest there may be important industry effects that should be controlled for in the analysis. In our multivariate analysis, we estimate models with business-sector fixed effects using the 54 sectors defined in Bond (1995–2001). We also estimate our basic model separately for each of the six major-sector categories listed in Table 2. Finally, we estimate a random-coefficients model that allows the coefficients to vary across observations.

We begin our empirical analysis by presenting cross-sectional results since our sample is best suited for this type of analysis (our panel is “broader” than “deeper”). Subsequently, we provide additional descriptive and statistical evidence based on our more limited time series.

#### IV. EMPIRICAL ANALYSIS

##### B. Cross-Sectional Analysis

###### 1. Base Results: Investment, Size, and Experience

Table 3 presents the estimates of two ordinary least squares (OLS) regressions. We present OLS regressions because the results are straightforward to interpret and are highly consistent with the results obtained from other

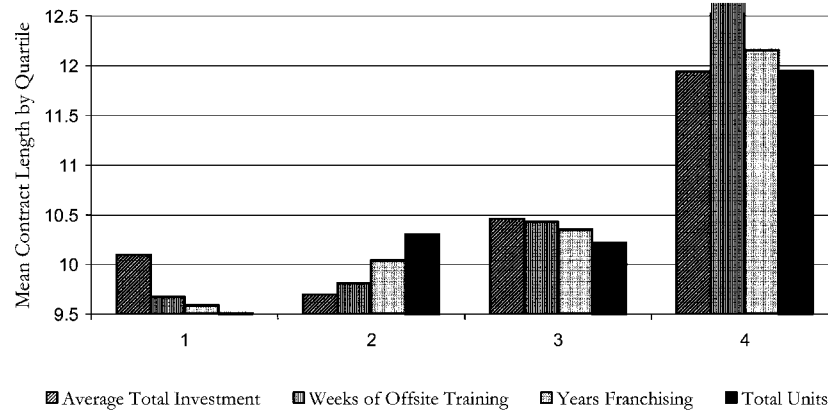


FIGURE 2.—Mean contract length by quartile for each of the main explanatory variables. The data include 1,888 firms from Bond (1995–2001).

modeling and estimation techniques. Subsequently, we summarize sensitivity checks that document the robustness of our basic results.

Contract duration is the dependent variable in both models. The explanatory variables of interest in both models are total investment (natural logarithm), number of weeks of off-site training, number of years franchising (natural logarithm), and number of total units (natural logarithm).<sup>21</sup> Model 2 differs from model 1 because of the inclusion of year and business-sector fixed effects (based on the 54 business sectors). Asymptotic *t*-statistics are displayed (heteroskedasticity-consistent standard errors) (White 1980).

Consistent with the economic view (hypotheses 1 and 2), all the estimated coefficients are positive and in general highly significant. The first model explains about 10 percent of the variation in contract duration, while adding year and business-sector effects increases the explanatory power to about 19 percent.<sup>22</sup> Total investment and training are highly significant in both mod-

<sup>21</sup> We have also estimated models controlling for whether the company is headquartered in a state that restricts the termination of franchisees. The evidence from these models suggests that contract duration tends to be longer in states with renewal restrictions. We do not report these models here since the state laws are not central to our paper and the coefficients on the other variables are not significantly affected whether we include the state control or not. One possible reason for why state laws that restrict terminations at renewal might increase the optimal length of franchise contracts is as follows: These legal restrictions increase the relative bargaining power of franchisees since the franchisor cannot as easily terminate the relationship at the end of the initial contract period. More equal bargaining power, in turn, potentially increases recontracting costs at the expiration date since fewer unilateral actions can be taken. Assuming that the laws have this effect, the value of a short-term contract decreases (see note 8).

<sup>22</sup> The inclusion of the year and business-sector fixed effects significantly improves model 2's explanatory power. Collectively, the year fixed effects and business-sector fixed effects are significant in an *F*-test at the .01 level.

TABLE 2  
CONTRACT AND FRANCHISOR ATTRIBUTES BY BUSINESS SECTOR

	<i>N</i>	Duration	Investment (\$1,000s)	Weeks Off-Site Training	Years Franchising	Total Units	Dispersion <sup>a</sup>
Food service	574	12.41	227.54	3.95	14.91	276.10	.44
Auto products and services	139	11.78	160.36	2.43	14.70	197.60	.50
Other services	478	9.51	113.35	2.18	11.49	209.14	.60
Cleaning and maintenance	274	9.51	74.30	2.08	12.95	232.54	.56
Retail	297	9.16	152.66	1.82	10.47	146.25	.52
Business services	126	9.33	68.91	1.75	10.26	121.42	.59
<i>F</i> -test ( <i>p</i> -value)		<.0001	<.0001	<.0001	<.0001	.12	<.0001
Wilcoxon rank-sum test ( <i>p</i> -value)		<.0001	<.0001	<.0001	<.0001	.0017	<.0001

NOTE.—Mean values are presented. The last two rows present parametric and nonparametric (Wilcoxon rank-sum) tests of the null hypothesis that the distributions of each study variable by business sector are the same. The sample consists of 1,888 firms from Bond (1995–2001).

<sup>a</sup>Percentage of units outside the main state of operation.

TABLE 3  
ORDINARY LEAST SQUARES REGRESSIONS EXPLAINING CONTRACT DURATION

Variable	Model 1	Model 2
Intercept	3.075** (5.540)	5.924** (7.730)
Log of average total investment (\$1,000s) to purchase	1.172** (10.370)	.917** (7.040)
Number of weeks off-site training required	.113* (3.260)	.078* (2.260)
Log of number of years since firm first franchised	.497** (3.100)	.378* (2.330)
Log of total number of owned and franchised units	.098 (1.160)	.159 <sup>+</sup> (1.840)
Year fixed effects	No	Yes
Business sector fixed effects (54 categories)	No	Yes
Adjusted $R^2$	.102	.190

NOTE.—Asymptotic  $t$ -statistics based on heteroskedastically consistent standard errors are in parentheses. The sample consists of 1,888 firms from Bond (1995–2001).  $N = 1,669$  observations.

<sup>+</sup> Significant at the .10 level.

\* Significant at the .05 level.

\*\* Significant at the .01 level.

els. The number of years franchising is also a positive and significant factor. The variable for total number of units variable is marginally significant in model 2.

To assess the economic importance of the explanatory variables, we use model 1 to calculate the change in the predicted contract duration as each variable moves from its 25th to 75th percentile.<sup>23</sup> The predicted mean contract duration with all of the independent variables set to their mean values is 10 years. If all the independent variables are set to their 25th percentile values, the predicted contract duration drops to 8.4 years—a 16.5 percent reduction from the mean. Alternatively, increasing each independent variable to its 75th percentile value results in a predicted contract length of 11.9 years—an 18.5 percent increase from its mean. Thus, a joint move from the 25th to 75th percentile for all the variables increases predicted contract duration by roughly 3.5 years. This magnitude is consistent with our previous descriptive analysis pictured in Figure 2. Individually, the variables have the following marginal effects (holding other variables constant) with a 25th to 75th percentile move: total investment, 1.7 years; weeks of off-site training, .4 years; years franchised, .5 years; and total units, .6 years.

Franchisee advocates acknowledge that start-up franchisors might offer fair contracts to attract investors. Their primary concern lies with well-established franchisors. We therefore reestimate our models using a subsam-

<sup>23</sup> While model 2 has greater explanatory power, we use model 1 for discussing the economic significance of contract duration since it incorporates the average year-sector effects in the intercept.

ple of 191 firms that were in top quartiles of both franchising experience and total number of units. If the franchisee advocates' conjecture holds, then we should expect to see a negative (or zero) effect of total investment on duration. To the contrary, we find that the effects of total investment and experience continue to be positive and significant. This suggests that, broadly speaking, established franchisors use similar factors in selecting contract terms.

## 2. Sensitivity Checks: Investment, Size, and Experience

One of our major concerns relates to the potential endogeneity of the up-front investment (the other variables are more obviously predetermined). A Hausman (1978) specification test suggests that contract duration and investment are simultaneously determined (that is, investment is endogenous). On the basis of this test, we estimate the model (including year and industry fixed effects) using two-stage least squares. In the first stage, we regress the average investment against the 54 business-sector dummy variables and the square footage of the required building. We assume that the square footage is set by the basic business format of the franchise and is therefore predetermined with respect to contract choice (for example, the size of a Burger King restaurant is the same regardless of whether it is owned by the franchisee or leased from Burger King). In the second stage, we estimate the basic model after replacing actual investment with the predicted value from the first stage. The results of this estimation are almost identical to the OLS results in Table 3. The coefficients for the explanatory variables are slightly larger and more significant. As another check, we estimate the regressions in which we exclude the up-front fee from total investment (the franchise fee is arguably the most endogenous component of the investment). Our results are essentially identical to those using total investment.

We conducted a variety of other sensitivity checks. For example, we estimated our basic model using subsamples that exclude outliers in contract duration (over 25 years) and include only American firms (since Canadian firms are subject to different regulations). We also estimated model 1 from Table 3 separately for each year of data as well as using the first rather than the most recent observation. The results are similar to those for the full sample reported in Table 3. We finally estimated other nonlinear specifications. Given that most firms choose contracts that are either 5, 10, 15, or 20 years in duration, we estimated an ordered probit model. The basic results are highly robust to alternative specifications.

## 3. Interfirm Learning

Our findings are consistent with hypothesis 2 that contract duration will increase with experience in franchising. Hypothesis 3 predicts that this effect will not be uniform across industries. Start-up franchisors that enter sectors



TABLE 4  
 CONTRACT DURATION AND LEARNING: ORDINARY LEAST SQUARES REGRESSIONS

Variable	Model 1	Model 2
Intercept	4.111** (3.670)	3.358** (3.570)
Log of average total investment (\$1,000s) to purchase	.830** (4.130)	1.091** (5.640)
Number of weeks off-site training required	.091 (1.220)	.107 (1.560)
Log of number of years since firm first franchised	-.157 (-.370)	.369 (.880)
Log of total number of owned and franchised units	.021 (.140)	.003 (.020)
Average years of franchising experience in business sector	.124 <sup>+</sup> (1.780)	
Total number of franchisors in business sector		.008** (2.330)
Adjusted $R^2$	.051	.112

NOTE.—Estimates are for firms that have fewer than 5 years of franchising experience ( $N = 488$ ). Model 1 contains the average franchising experience within each of the 54 business sectors as a covariate, while model 2 contains number of franchisors in the business sector. Asymptotic  $t$ -statistics based on heteroskedastically consistent standard errors are in parentheses. The sample is from Bond (1995–2001).

<sup>+</sup> Significant at the .10 level.

\*\* Significant at the .01 level.

with well-established contracting practices can free ride on the learning of existing franchisees and choose longer-term contracts at the outset.

Our sample consists of firms from 54 business sectors. We use two proxies for the collective experience in a sector. The first is the number of firms in the sector; the second is the average years of franchising experience across all firms in the sector.<sup>24</sup> We define a start-up franchisor as one that has 5 or fewer years of experience in franchising. Table 4 presents estimates of models in which we add the proxy variables for industry learning to our base model for start-up franchisors. We find that both proxies have positive and significant coefficients. This implies that start-up franchisors operating in industries that have a relatively larger number of franchisors or more years of average experience tend to offer contracts with longer durations, which suggests that start-up firms learn from the collective experience of the industry.

This finding provides additional support for the economic view of franchise contracts since following the industry trend would be suboptimal if established franchisors were offering one-sided contracts. If this were so, start-up franchisors might benefit from offering the efficient contract and using that as a source of competitive advantage. The finding also suggests that our previously documented relation between contract length is driven by learning

<sup>24</sup> Similar results are found when we use the cumulative years of experience in the sector (sum of years franchising across all firms in the sector).

rather than a potential survivorship bias (that is, the possibility that firms that offer longer-term contracts are most likely to survive in the marketplace).

#### 4. Market Concentration

Franchisee activists generally focus on the difference between start-up franchisors and well-established franchisors. Well-established franchisors are viewed as more powerful and, thus, more likely to take advantage of franchisees. To provide evidence on this hypothesis, we have focused on measures of size and experience in testing the hypotheses implied by the naïve-franchisee view.

Economics, however, suggests that market power is not determined solely by the firm's own characteristics—the overall market structure is important. Just because a firm is large or experienced does not imply that it has market power if it faces sufficient competition from other firms. Common measures of potential market power used in economic analysis include concentration ratios and the Herfindahl-Hirschman index (HHI). Our data limit our ability to construct a precise market definition for firms in our sample. Also, we do not have sales data for calculating market shares. To provide preliminary evidence on this issue, we define the business sector as the relevant market and calculate market shares on the basis of the number of units.<sup>25</sup>

Table 5 presents our base model for the full sample in which we add the HHI as an additional variable. We find that the coefficient on the HHI is negative and significant. In other words, controlling for other factors, firms in more concentrated industries offer shorter-term contracts.

While this evidence is consistent with the naïve-franchisee view, another interpretation is possible. Economics predicts that firms with greater bargaining power will obtain a larger share of the surplus in contracting relations. One method to obtain a larger share is to charge a higher price. An alternative (especially if the initial wealth is limited) is to offer a shorter-term contract. For example, suppose that a specific investment generates quasi rents sufficient to yield a competitive return by the end of 5 years. Additional returns from the investment represent surplus. Longer-term contracts give more of this surplus to the franchisee, while shorter-term contracts give more to the franchisor. Under this possibility, franchisees are not held up by powerful franchisors, who offer shorter-term contracts (while the franchisees obtain a smaller share of the surplus, they still obtain a competitive return on their investment).

To differentiate between these two alternative explanations, we examine whether there is a relation between contract length and franchisee investment

<sup>25</sup> While our definition of the market is crude (for example, it does not consider the geographic scope of the model), it is not meaningless. For example, tax-preparing franchises do not obviously compete directly with ice cream franchises because of differences in their prospective franchisee customer base.

TABLE 5  
 CONTRACT DURATION AND MARKET CONCENTRATION:  
 ORDINARY LEAST SQUARES REGRESSION

Variable	Model 1
Intercept	3.586** (6.230)
Log of average total investment (\$1,000s) to purchase	1.144** (10.130)
Number of weeks off-site training required	.114** (3.260)
Log of number of years since firm first franchised	.498** (3.120)
Log of total number of owned and franchised units	.111 (1.320)
Herfindahl-Hirschman concentration index (1,000s)	-.299** (3.260)
Observations	1,669
Adjusted $R^2$	.105

NOTE.—Market concentration is defined as the sum of the squared market shares within each of the 54 business sectors. Asymptotic  $t$ -statistics based on heteroskedastically consistent standard errors are in parentheses. The sample consists of 1,888 firms from Bond (1995–2001).

\*\* Significant at the .01 level.

in the most concentrated markets. Specifically, we estimate our base models for the subsample of firms from business sectors with HHI values greater than 1,800.<sup>26</sup> Our results are consistent with our findings for the full sample. There is a significant and positive relation between franchisee investment and contract duration. This evidence suggests that the joint interests of the contracting parties are considered even when there is limited competition among franchisors. This evidence is not consistent with the argument that powerful franchisors offer one-sided contracts because franchisees are too naïve to adjust their demands on the basis of the terms in the contract.

### B. Time-Series Analysis

The cross-sectional results suggest that firms increase the length of their contracts as they gain experience in franchising. It is possible, however, that our results are driven by differences in firms rather than by changes over time within firms. For example, firms that started franchising years ago may be associated with omitted factors that favor longer-term contracts.<sup>27</sup> Our data set, which consists of a relatively unbalanced panel over 6 years, is not

<sup>26</sup> This value (1,800) is based on a threshold used by the Federal Trade Commission and the Department of Justice. For more details, see U.S. Department of Justice and Federal Trade Commission (1992).

<sup>27</sup> Our analysis of the contract duration of start-up franchisors refutes this possibility to some extent.

TABLE 6  
 TIME-SERIES CHANGES IN CONTRACT DURATION  
 (Duration  $t + 1$  - Duration  $t$ )

	Number	%	Value
Positive changes	125	2.96	
Zero change	3,979	94.58	
Negative change	104	2.46	
Average change in contract duration (years)			.05
<i>p</i> -Value (null hypothesis: average change = 0)			.06
Average of nonzero changes (years)			.9
Median nonzero change (years)			2

NOTE.—Values are percentages of the 4,233 franchise-year observations displaying either an increase, no change, or decrease in contract duration from the previous year. The sample is from Bond (1995–2001). To calculate a change, the franchisor must be present in the data for 2 consecutive years. Median nonzero positive change is 5 years, to a median contract length of 10 years. Median nonzero negative change is 5 years, to a median contract length of 5 years.

ideally suited for providing powerful time-series tests, given the limited number of observations. Nevertheless, we can provide some evidence.

A firm has to be in the sample for 2 consecutive years to compute a first difference in contract duration (change between year  $t$  and year  $t + 1$ ). Table 6 presents distributional information on the 4,233 first differences in our sample. Not surprisingly, franchisors tend to offer the same contract duration from one year to the next—in about 95 percent of the cases, the contract duration remains unchanged. Decreases in the term occur almost as frequently as increases. On average, there is a small (but marginally significant) increase in contract length. For those firms that increase their contract length, the median change is 5 years, to a contract length of 10 years. For those that reduce their contract length, the median change is again 5 years, to a contract length of 5 years.

We estimate ordered probit models to provide evidence for whether the likelihood of a positive change in contract duration increases with the experience of the franchisor. Table 7 presents the estimates of three models.<sup>28</sup> The number of years franchising is the sole independent variable in the first model. Consistent with the hypothesis that the likelihood of a positive change is larger for more experienced firms, the coefficient on years franchising is positive and significant. The second model adds lagged contract duration (time  $t$ ) as a control variable. The motivation for adding this variable is that a firm is presumably less likely to increase its contract duration if its contract duration is already long. The coefficient on lagged duration is negative and

<sup>28</sup> While not reported in the paper, the results are also robust to the inclusion of the level and first differences of the other explanatory variables from the cross-sectional analysis. We utilize a probit analysis to reduce the influence of outliers (in duration changes). Nevertheless, we obtain similar results when we use the actual change in the contract term as the dependent variable.

TABLE 7  
ORDERED PROBIT REGRESSION OF CHANGE IN CONTRACT DURATION

Variable	Model 1	Model 2	Model 3
Intercept 1	-1.973** (35.143)	-1.550** (21.531)	-1.218** (7.849)
Intercept 2	3.857** (68.596)	3.988** (63.622)	4.100** (59.929)
Years franchising	.006* (2.236)	.011** (4.071)	.011** (3.881)
Duration $t - 1$		-.052** (8.823)	-.065** (9.557)
Year fixed effects	No	No	Yes
Business-sector fixed effects	No	No	Yes
Log likelihood	-1,044.54	-1,004.62	-972.31

NOTE.—The dependent variable is a categorical variable that indicates either a decrease, no change, or increase (-1, 0, or +1, respectively) in the contract duration from the previous year. The intercepts correspond to points on the standard normal.  $N = 4,208$ . Asymptotic  $t$ -statistics are in parentheses.

\*Significant at the .05 level.

\*\*Significant at the .01 level.

highly significant. Adding lagged duration to the model increases both the size and significance level of years franchising. The final model, which includes year and business-sector fixed effects, produces similar results.

To gauge the economic importance of years franchising in predicting contract changes, we compare the predicted probabilities of a negative and positive change for firms at the 25th and 75th percentiles in years of experience. We use model 2 for this analysis because of the importance of lagged duration (which we hold constant at 10 years). Moving from the 25th to the 75th percentile of years franchising reduces the probability of a negative change by 29 percent (from 2.45 percent to 1.74 percent) and increases the probability of a positive change by 39 percent (from 2.2 percent to 3.06 percent). While the probability of a change in contract duration in a given year is relatively small for all firms, there is a tendency for firms to increase their contract durations after they gain sufficient experience in franchising. This finding is generally consistent with our cross-sectional evidence.

## V. CONCLUSION

The belief that franchisees are naïve and unsophisticated compared to franchisors has had an important effect on court and regulatory actions on franchising. Standard economic theory offers a different perspective. According to this view, potential price adjustments provide incentives for franchisors to select efficient contract terms even if the franchisor has substantial bargaining power.

This study provides evidence on which of these competing views best explains the duration of franchise contracts. Consistent with the economic

view, we find that contract duration is positively and significantly related to the franchisee's physical and human capital investments (which are often firm specific). In contrast to the naïve-franchisee view, we find that these relations exist in subsamples containing only the most established franchisors (as measured by size and experience) and that larger, more experienced franchisors tend to offer longer-term contracts than do newer franchisors. This second result potentially reflects decreased uncertainty about optimal contract terms derived from experience. Our evidence also suggests that there is learning across firms about optimal contract terms.

#### REFERENCES

- Azoulay, Pierre, and Scott Shane. 2001. "Entrepreneurs, Contracts, and the Failure of Young Firms." *Management Science* 47:337–58.
- Bhattacharyya, Sugato, and Francine Lafontaine. 1995. "Double-Sided Moral Hazard and the Nature of Share Contracts." *Rand Journal of Economics* 26:761–81.
- Bond, Robert E., et al., eds. 1995–2001. *Bond's Franchise Guide*. Annual. Oakland, Cal.: Source Book Publications.
- Brickley, James A. 1999. "Incentive Conflicts and Contractual Restraints: Evidence from Franchising." *Journal of Law and Economics* 37:745–74.
- Brickley, James A., Frederick H. Dark, and Michael S. Weisbach. 1991. "The Economic Effects of Franchise Termination Laws." *Journal of Law and Economics* 34:101–32.
- Brown, Harold. 1996. Vol. 2 of *Franchising, Realities and Remedies*, rev. ed. New York: Law Journal Seminar Press.
- Caffey, Andrew, Stuart Hershman, and Lewis Rudnick. 1997. "Structuring the Franchise Relationship." Pp. 41–74 in *Fundamentals of Franchising*, edited by Ruper Barkoff and Andrew Selden. Chicago: American Bar Association.
- Canzonerri, Matthew B. 1980. "Labor Contracts and Monetary Policy." *Journal of Monetary Economics* 6:241–55.
- Christofides, Louis N. 1985. "The Impact of Controls on Wage Contract Duration." *Economic Journal* 95:161–68.
- Christofides, Louis N., and David A. Wilton. 1983. "The Determinants of Contract Length: An Empirical Analysis Based on Canadian Micro Data." *Journal of Monetary Economics* 12:309–19.
- Crocker, Keith, and Scott Masten. 1988. "Mitigating Contractual Hazards: Unilateral Options and Contract Length." *Rand Journal of Economics* 19: 327–43.
- Danziger, Leif. 1998. "Real Shocks, Efficient Risk Sharing and the Duration of Labor Contracts." *Quarterly Journal of Economics* 103:435–40.
- Dye, Ronald. 1985a. "Costly Contract Contingencies." *International Economic Review* 26:233–50.

- . 1985b. "Optimal Length of Labor Contracts." *International Economic Review* 26:251–70.
- Fethke, Gary, and A. Policano. 1982. "Determinants and Implications of Staged Wage Contracts." Working Paper No. 82032. University of Iowa, College of Business Administration, Iowa City.
- Foster, Dennis. 1994. *The Complete Franchise Book*. Rocklin, Cal.: Prima Publishing.
- FRANDATA Corporation. 2000. *A Statistical Abstract of the 1998 Uniform Franchise Circular Data*. Vol. 3 of *The Profile of Franchising*. Washington, D.C.: IFA Educational Foundation.
- Gray, JoAnna. 1978. "On Indexation and Contract Length." *Journal of Political Economy* 86:1–18.
- Harris, Milton, and Bengt Hölmstrom. 1987. "On the Duration of Agreements." *International Economic Review* 28:389–406.
- Hausman, Jerry A. 1978. "Specification Tests in Econometrics." *Econometrica* 46:1251–71.
- Joskow, Paul. 1987. "Contract Duration and Relationships-Specific Investments: Empirical Evidence from Coal Markets." *American Economic Review* 77:168–85.
- Kanago, Bryce. 1988. "Wage Contract Duration and Monetary Policy." PhD. dissertation. University of Iowa, Department of Economics.
- Klein, Benjamin, Robert Crawford, and Armen Alchian. 1978. "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process." *Journal of Law and Economics* 21:297–326.
- Lafontaine, Francine, and Kathryn Shaw. 1999. "The Dynamics of Franchise Contracting: Evidence from Panel Data." *Journal of Political Economy* 107:1041–81.
- Lagarias, Peter C. 2002. "Uniformity in California Franchise Agreements." *Franchise Law Journal* 21:136–51.
- Milgrom, Paul. 1988. "Employment Contracts, Influence Activities and Efficient Organization Design." *Journal of Political Economy* 96:42–60.
- Murphy, Kevin J. 1992. "Determinants of Contract Duration in Collective Bargaining Agreements." *Industrial and Labor Relations Review* 45:352–65.
- Queen, Thomas, M. Lindsey, and T. Bader. 1999. "The Effects of Recent Antitrust Developments on Franchise Relationships." Paper presented at the International Franchise Association 32nd annual legal symposium, Minneapolis, May 23–25.
- Rich, Robert, and Joe Tracy. 1999. "Uncertainty and Labor Contract Durations." Working paper. Federal Reserve Bank of New York, New York.
- Rudnick, Lewis, and D. Weaver. 1996. "Can a Franchise Be Both Fair and Effective?" Pp. 3–77 in *Building Franchise Relationships*, edited by Ann Hurwitz and Rochelle Spandorf. Chicago: American Bar Association.
- Tractenberg, Craig R., Robert B. Calihan, and Ann-Marie Luciano. 2004.

- “Legal Considerations in Franchise Renewals.” *Franchise Law Journal* 23:198–210.
- U.S. Department of Justice and Federal Trade Commission. 1992. *Horizontal Merger Guidelines*. [http://www.usdoj.gov/atr/public/guidelines/horiz\\_book/hmg1.html](http://www.usdoj.gov/atr/public/guidelines/horiz_book/hmg1.html).
- Vroman, Susan. 1989. “Inflation Uncertainty and Contract Duration.” *Review of Economics and Statistics* 71:677–81.
- Wallace, Frederick. 2001. “The Effects of Stock Size and Type on Labor-Contract Duration.” *Journal of Labor Economics* 19:658–81.
- Wallace, Frederick, and Herminio Blanco. 1991. “The Effects of Real and Nominal Shocks on Union-Firm Contract Duration.” *Journal of Monetary Economics* 27:361–88.
- White, Halbert. 1980. “A Heteroscedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroscedasticity.” *Econometrica* 4: 817–38.
- Williamson, Oliver. 1979. “Transaction-Cost Economics: The Governance of Contractual Relations.” *Journal of Law and Economics* 22:233–61.
- . 1983. “Credible Commitments: Using Hostages to Support Exchange.” *American Economic Review* 73:519–40.
- . 1985. *Economic Institutions of Capitalism*. New York: Free Press.