COSTS OF CONTROL:
THE SOURCE OF ECONOMIC RENTS
FOR MCDONALD'S FRANCHISEES

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ABSTRACT

This paper uses financial data to establish that franchisees of one of the most coveted franchises, namely McDonald's, earn important amounts of economic rents. After considering various possible explanations for these rents, we conclude that they are left with franchisees as a mechanism for contractual self-enforcement which is complementary, as an incentive device, to the assignment of residual claimancy rights. In addition, we argue that McDonald's leaves a stream of ex-ante rents with its franchisees, rather than requiring them to post large bonds upfront, because those type of individuals who qualify as potential "owner-operators" face liquidity or wealth constraints.

Costs of Control: The Source of Economic Rents
for McDonald's Franchisees

1. Introduction

Franchising, and more precisely business format franchising, is an important and growing phenomenon in the U.S. economy.[1] The Department of Commerce estimates that the number of business format franchisors has increased from 909 in 1972 to 2,177 in 1986.[2] Total nominal sales through outlets of business format franchisors grew by 442% between 1972 and 1986, with the number of outlets growing by 65% in the same period, from 189,640 to 312,810.

Touted success stories of both franchisors and franchisees have certainly contributed to this growth. Franchises such as McDonald's, which Justis and Judd (1989) describe as blue chips franchises, are recognized as safe and lucrative investment opportunities. This might explain why one finds queues of potential franchisees in these franchises: according to the Wall Street Journal, "well over 2000 people apply to become McDonald's franchisees in the U.S. each year, but ... most years, only about 150 applicants gain admission to the Golden Arches " (Marsh (1989)). In other words, in any given year, the admission rate is only about 7.5%. Other sources, such as Noren (1990), estimate this rate to be even lower, at about 2 to 3%. Some

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[1] The U.S. Department of commerce (1988) classifies franchises according to the main component of the transaction: "Product and Tradename Franchising", also called "Traditional Franchising", is characterized by franchised dealers who "concentrate on one company's product line and to some extent identify their business with that company" (p. 1). This type of franchising is limited to car dealerships, soft-drink bottlers and gasoline service stations. In "Business Format Franchising" on the other hand, the relationship between franchisor and franchisee "includes not only the product, service, and trademark, but the entire business format itself — a marketing strategy and plan, operating manuals and standards, quality control, and continuing two way communication" (p. 3). Examples include restaurants, business and employment services, and real estate agencies. Together, these two forms of franchising accounted for about 34% of all retail sales in the U.S. in 1988. In this paper, the term franchising is used for Business Format Franchising only.

[2] *Franchising in the Economy*, the publication where one would find this type of information on franchising, was suspended by the Department of Commerce as part of its privatization program. As a result, 1986 is the last year for which this information is available from the Dept. Starting in 1988, the International Franchise Association Educational Foundation, in conjunction with Horwath International, have endeavoured to continue this publication. Their survey results for 1988 were based on 2239 respondents.

authors, notably Mathewson and Winter (1985), have interpreted the existence of these queues as evidence that there are downstream rents in franchising. Similarly, Lafontaine (1992a) argues that there might be rents left downstream since she finds no significant negative correlation between royalty rates and franchise fees in her sample of 548 franchisors. Banerji and Simon (1992) arrive at the same conclusion using a different data set.

Whether or not there are economic rents left downstream in franchising is an important issue: first, it is central to the franchising relationship as it determines the welfare of each of the two contracting parties. And we need to increase our understanding of the franchising relationship given that it has become such a significant and growing form of organization in our economy. Also, as noted by several authors, e.g. Rubin (1978), Mathewson and Winter (1985), Norton (1988), and Hadfield (1990), it is a form of organization that lies somewhere between markets and hierarchies. Hence a greater understanding of this particular organizational form might help us learn about organizations and markets overall. Second, much of the current literature on franchising, based on moral hazard and incentive considerations (Rubin (1978), Mathewson and Winter (1985), Brickley and Dark (1987), Norton (1988), Lafontaine (1992b), Lal (1990) and Bhattacharyya and Lafontaine (1992)) or on information asymmetries (Tirole (1988) and Gallini and Lutz (1992)) implies that there should not be rents left downstream.[3] Hence finding that there are rents left downstream would suggest that some aspects of the franchising relationship are not captured by existing theories.

While several authors have hinted at the possibility of downstream rents in franchising, the issue has not been examined closely to date. This paper uses financial data on individual McDonald's outlets to examine empirically whether the franchisees of this most coveted franchise actually do earn economic rents. We focus on McDonald's in part because it is the ultimate franchise, at least in most peoples' mind. Interestingly however, this does not mean that McDonald's is a typical franchisor. In fact in most respects, such as the amount of training required, the success rate, and the amount of control the franchisor exerts over his franchisees, McDonald's is

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[3] One exception to this is found in Mathewson and Winter (1985), where rents arise when franchisees face liquidity constraints. Gallini and Lutz (1991) offer another possible exception: in their signaling model, rents may be left downstream if the franchisor chooses not to use dual distribution but to signal his type entirely through his royalty rate.

quite atypical. However, in terms of the issues of interest in this paper, McDonald's sophistication in dealing with its more than 12000 outlets worldwide is a major asset: it leads us to believe that if any franchise chain was able technically to extract all downstream rents, McDonald's certainly would be. Thus the existence of significant amounts of downstream economic rents at McDonald's would suggest that McDonald's purposefully chooses to leave rents downstream. The interesting question then is why.

The paper is organized as follows. In the next section, we assess whether or not there are rents left downstream at McDonald's by calculating the net present value of typical franchises. In Section 3, we verify results obtained in Section 2 using a different method, namely through an examination of the prices at which existing franchises are transferred to new franchisees. Under both approaches, we find that the average McDonald's franchisee can expect to earn, after taxes, economic rents in an amount of about $300K to $500K in 1982 dollars over the 20 year period covered by his franchise contract. In Section 4, we argue that the best explanation for leaving these rents with franchisees is that they serve as an incentive mechanism or a coordination device à la Klein (1980), Telser (1980) and Klein and Saft (1985) which is complementary to the residual claimancy rights granted to franchisees. We also argue that McDonald's uses rents as opposed to upfront bonds as contractual self-enforcement devices because would-be owner-operators face wealth constraints. Such constraints cannot be circumvented easily in the face of the type of incentive problems found in franchising. In Section 5, we discuss other possible explanations for these rents, and present arguments as to why we do not find these as compelling. Section 6 contains a discussion of some further implications of our findings. Finally, Section 7 contains concluding remarks.

2. Analyzing the Returns from a McDonald's Franchise

This section uses data on the yearly returns of McDonald's restaurants to examine whether or not McDonald's franchisees can expect to earn economic rents. Table 1 shows in some detail how one can calculate franchisees' earnings and rents from data provided by McDonald's as part of their disclosure documents.[4] The information we

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[4] In 1979, the Federal Trade Commission enacted a rule requiring franchisors to divulge specific information about their franchise and its main officers to potential franchisees. One way to

use relates to the conditions of a McDonald's franchise in 1982. (See Appendix 1 for a similar analysis of the 1989 data. Note that because we did not have access to all of the necessary data in this case, we had to make a few additional assumptions. These are noted at the bottom of the tables in the appendix.) As stated in the disclosure documents, the cost data used in Table 1 are based on observed costs for the 1283 U.S. company-owned McDonald's restaurants open at least 13 months by the end of 1982. The three sales levels depicted in Table 1 are $900K, $1,100K and $1,300K respectively. According to the disclosure documents, of the more than 5400 McDonald's restaurants opened 13 months or more in the U.S. as of December 1982, 76% had sales over $900K, 49% had sales above $1,100K and 24% had sales greater than $1,300K. The average sales of domestic McDonald's restaurants that year were $1,123K.[5]

We presume throughout our discussion that the distribution of sales levels is the same for company-owned stores and for franchised stores. In other words, we do not assume that the company operates the more "profitable" or the larger, higher volume restaurants, and that it franchises the others. There is some evidence that franchising companies tend to do this in general,[6] but there is no evidence that McDonald's does it. In fact, in a data set describing the average sales levels of all the 178 McDonald's restaurants operating in three television markets (as defined and used by the A.C. Nielsen company in its rating of television stations) between 1983 and 1985, Plotkin (1991) found no significant difference between the sales levels of the two types of restaurants. The mean of average yearly sales for the 148 franchised restaurants was $1430.4K, while for the 30 company-owned restaurants, this mean was $1447.2K. (See

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satisfy this requirement, and simultaneously satisfy various state disclosure requirements, is to provide a Uniform Franchise Offering Circular, or UFOC to potential franchisees. See Justis and Judd (1989) for more on these disclosure requirements. Franchisors may choose to include franchisee earning profiles in these documents. Most (89% of them in the early 1980's according to Lewis (1991)) choose not to do so because of the level of accuracy required: if such claims are made, they must be relevant to the location of the prospective franchisee, all assumptions used must be disclosed, and the franchisor must retain and be ready to produce upon request to the prospective franchisee, the FTC and the state administrators all the data necessary to substantiate his claims. Fortunately, McDonald's is one of those firms that do provide this information, along with enough detailed explanations to allow us to perform the calculations shown in Table 1.

[5] The lowest sales level was $360K while the highest level of sales that year was $3,223K.

[6] See for example IFA Educational Foundation and Horwath Intl., (1990), p.1 and the aggregate data therein.

Plotkin (1991) for the individual monthly restaurant data.)

In deriving the estimates shown in Table 1, we make use of some additional information obtained from the company's disclosure documents:

(1) At McDonald's, it is the franchisor, and not the franchisee, who chooses the location of any given outlet. In fact, McDonald's often asks individuals interested in becoming franchisees to relocate. Franchisees do not buy either the land or the building in which their business is housed: McDonald's typically owns these, or it rents them from a third party. (According to Noren (1990), McDonald's owns 60% of its locations and is in the process of acquiring more.) It then implicitly rents these properties to its franchisees: the required royalty payments, which were 11.5% of sales in 1982, are inclusive of rent.

(2) The initial investment required from the franchisee includes the franchise fee of $12.5K, a security deposit of $15K (returned without interest to the franchisee at the end of the 20 year contract if performance was satisfactory), as well as some amount of initial inventory, which the company says varies between $10K and $18K, and some prepaid expenses and working capital worth $45K to $65K. The franchisee is also responsible for buying equipment: the company states that the cost of this equipment varies from $200K to $300K. Presumably, the variation in these fees is a function of the size of the restaurant. These figures imply that the total investment required for a smaller restaurant would be around $282K, while for a larger outlet, it would be about $410K. Finally, since the profit and loss statements provided by McDonald's all assume a total investment of $310K, suggesting that this would be a typical amount, we use this estimate in our calculations involving the median level of sales. We estimate that the equipment component of this last figure is about $220K.

We also make the following assumptions:

(1) Franchisees must regularly invest to update and maintain their equipment. According to company officials, on average over the duration of the contract, franchisees can expect this investment to be equivalent to a complete reequipment. Hence we take the present value of an investment of $220K 1982 dollars to be spent in 1992 as the cost of maintaining and updating

Table 1

Yearly Economic Rents for a McDonald's Franchise in 1982

	900,000	1,100,000	1300,000
Sales	900,000	1,100,000	1300,000
Cost of Sales			
Food Cost	292,636	356,116	419,596
Paper Cost	38,455	47,655	56,855
Total	331,091	403,771	476,451
Gross Profits	568,909	696,229	823,549
Controllable Expenses			
Crew Labor	158,174	182,134	206,094
Management Labor	60,488	66,668	72,848
Ads & Promotions	58,708	69,368	80,028
Utilities	35,833	38,633	41,433
Others	53,673	60,973	68,273
Total	366,876	417,776	468,676
Gross Profits Less Controllables	202,033	278,453	354,873
Other Expenses			
Royalty/Rent[1]	112,416	126,500	149,500
Others	38,155	39,075	39,995
Total	150,571	165,575	189,495
Yearly Income from Operations	51,462	112,878	165,378
Opportunity Costs			
Interest(5% per year)[2]	20,550	22,600	30,150
Franchisee Labor[3]	27,500	27,500	27,500
Total	48,050	50,100	57,650
Yearly Economic Rents	3,412	62,778	107,728

Source: McDonald's 1983 UFOC documents. Information shown here is based on data for approximately 1283 U.S. company-owned units open 13 months or more in 1982. That year, about 76% of the more than 5400 domestic McDonald's restaurants open for at least 13 months had sales above $900K, 49% were above $1,100K, and 24% were above $1300K. The average level of sales was $1123.

1 Royalties, including rents, are 11.5% of gross sales except for stores that do not achieve monthly sales of $83,741. They pay a minimum rent of $7118. monthly in addition to 3% of gross sales. For a restaurant with yearly sales of $900K, this amounts to $112,416, i.e. about 12.5% of sales.

2 Includes the foregone interest on the security deposit. Also, since the franchisee contributes 40% or more of the initial capital and borrows the rest, part of this cost is real. For exposition purposes, it is simpler to group interest payments and opportunity costs in the same category. For the median outlet, the initial investment is taken to be $452K ($310K initially, and a reequipment fee in 1992 of $220K of 1982 dollars, worth $142K in 1982 given a 5% discount rate). For the lower sales outlet, the total investment is taken to be $411 ($282+$129) while for the high sales outlet, it is taken to be $603 (=$410K + $193K).

3 The average compensation of McDonald's area supervisors is used as a measure of the franchisee's opportunity cost of labor.

the equipment in the median sales outlet. Assuming a real discount rate of 5%, this amounts to a present value of $142K in 1982 dollars. For the smaller outlet, we use the lower limit of $200K stated by the company, and for the larger outlet, we use the upper limit of $300K. Once discounted back to 1982, these are worth respectively $129K and $193K.

(2) In calculating the interest cost, we assume a real interest rate of 5%. This we believe is an appropriate rate, especially considering that the disclosure statement for 1982 stipulates that the borrowing rate for the investment in equipment would be 13%, despite inflation rates of 13.5% and 10.7% in the previous two years. This 13% rate used by McDonald's in its disclosure documents is comparable to the interest rate on Aaa corporate bonds as described in the Economic Report of the President. It is relatively low for a small business interest rate, reflecting the comparatively low risk associated with investing in a McDonald's franchise.[7] For comparison purposes, in subsequent analyses, we examine the effect of using a fairly high real interest rate of 7.5% (see Table 2).[8]

(3) We measure the opportunity cost of the franchisee's labor by looking at the remuneration of those who play a role equivalent to his in company-owned stores.[9] On average, McDonald's franchisees own and operate about three stores (the average number is 3.1 according to Bertagnoli (1989)). For company-owned stores, McDonald's hires area supervisors who, according to company officials, oversee the management of about 4 stores on average. Hence the role of the franchisee might be equated to that of an area supervisor, or somewhat less than that. In 1982, the average yearly compensation for the area manager, including bonuses, was $27,500. according to the same officials. We use this as our estimate of the franchisee's opportunity cost

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[7] One contributing factor to this low risk from the lender's perspective is McDonald's "rent relief" policy, where the company imposes a moratorium on rent and royalty payments for franchisees that do not do well through no fault of their own.

[8] Note that franchisees are required to provide 40% of the initial $310K investment themselves. It is probable that these savings earn less than even a 5% real rate in their best alternative uses.

[9] We are assuming that the "store management labor" cost noted in Table 1 is used to remunerate other store managers beside the franchisee. If these costs include a sufficient level of remuneration for the franchisee, i.e. one that reflects his market value, then the yearly rents would be $27.5K higher.

of labor.[10] Of course, this figure does not include any compensation for the greater amount of risk that the franchisee faces compared to the area supervisor. We come back to this issue later.

As can be seen from Table 1, McDonald's franchisees can in general expect to earn some amount of economic rents once they have become a part of the system. All franchisees whose restaurants achieve sales of about $900K or more yearly, representing more than 75% of all McDonald's restaurants, will earn enough each year to cover the opportunity cost of their labor and capital. Before taxes, the level of rents franchisees can expect to obtain, i.e. the level of rents associated with the average (=median) level of sales, is around $63K per year. Given the intricacies of the U.S. tax system, it is almost impossible to estimate after tax rents. One can only get some approximation based on very simple assumptions. For example, assuming a tax rate of about 30%, and assuming that the franchisee's labor revenues and his revenues from investing his capital in their best alternative uses would have been taxed at about the same level, the after tax amount of economic rents one could expect from the average McDonald's restaurant would be $44K each year.[11] Owning the average number of franchises, that is three of them, would allow a franchisee to earn at least 3 times this amount.[12]

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[10] Another measure of the franchisee's opportunity cost of labor could be obtained by examining the salaries these individuals were earning before they bought their franchise. While these data are not available for McDonald's franchisees, the Dunhill Personnel System, a chain with about 250 franchises in 1988, surveyed some 150 of its own franchise buyers on this issue. They found that the average salaries of their franchisees before they bought their franchise were about $20,000 to $30,000 dollars in the period from 1978 to 1980. In 1985, they were around $40,000. These data are generally consistent with our estimate of the McDonald's franchisee opportunity cost of labor.

[11] Of course this very naive way to address the taxation issue not only does not deal with the reality of different tax rates for businesses and individuals, but it also abstracts from the fact that some costs (accelerated depreciation, car expenses, etc.) reduce firms' tax liabilities compared to individuals. Note that in 1982, the actual average tax rate for a single individual earning around $40K of taxable income (salary plus investment income) was 29%. The rate for a firm showing a taxable income between $50K and $75K was 30%. See the 1983 U.S. Master Tax Guide.

[12] Multiplying the rents from one restaurant by three to get the rents from three outlets assumes that the cost of managing three of them will be three times the opportunity cost of the franchisee's labor. But the franchisee can probably pay store managers less than what we assigned to his labor (we compared the franchisee to an area supervisor, not a store manager), and save on managerial costs in other ways. As a result, the rents from owning three restaurants would be more than 3 times the rents one gets from owning one.

Table 2
Present Discounted Value Calculations
for a Single McDonald's Restaurant
Thousands of 1982 dollars

	Real Interest Rate 5%			Real Interest Rate 7.5%		
Yearly Sales	900	1100	1300	900	1100	1300
Yearly Rents	3.4	62.8	107.7	(6.9)	51.5	92.7
PDV of Rents	44.5	821.7	1409.3	(90.3)	673.9	1213.0
Ex-Ante Costs[1]						
Equipment[2]	329	362	493	329	362	493
Franchise Fee	12.5	12.5	12.5	12.5	12.5	12.5
Training[3]	30	30	30	30	30	30
Total	371.5	404.5	535.5	371.5	404.5	535.5
Ex-Ante Rents						
Before Taxes	(327.0)	417.2	873.8	(461.8)	269.4	677.5
After Taxes[4]	(327.0)	292.0	611.7	(461.8)	188.6	474.3

[1]: The security deposit is not included as an ex-ante cost since it is usually refunded.

[2]: All investment in equipment is assumed to be worthless at the end of the 20 year contract. The total investment in equipment for the median sized outlet is taken to be $220K (out of the total initial investment of $310K). The reinvestment 10 years later is assumed to be worth the same amount. Once discounted back 10 years, it is worth $142K, for a total investment in equipment of $362 over the duration of the contract. For the low sales outlet, the initial investment is taken to be $200K, while for the high sales outlet, it is assumed equal to $300K. Assuming an equivalent reinvestment 10 years later, worth respectively $129K and $193K in present value in 1982 dollars, the total cost of equipment for the low (high) sales outlet is $329K ($493K).

[3]: This estimate assumes a value of time for the franchisee of about $15, which is generally consistent with our estimate of his yearly earnings at $27.5K. Clearly, the results are not sensitive to reasonable changes in these amounts. Note that the franchisee does not pay tuition to attend Hamburger University.

[4]: Assuming a 30% tax rate to be applied to both the profits from operating a franchise as well as the revenues the franchisee would obtain from his labor and his capital under their best alternative uses. Clearly, this is a very "naive" way to deal with the taxation issue. It does not deal with the reality of different tax rates for businesses and individuals, nor with the fact that some costs (accelerated depreciation, car expenses, etc.) reduce firms' tax liabilities. Hence the results reported on this line should be interpreted as very coarse approximations.

While the analysis in Table 1 shows that franchisees can expect to earn economic rents once they have become a part of the McDonald's system, it says nothing about whether or not franchisees earn rents ex ante. In other words, one must ask whether franchisees are required to post bonds or to bear costs upfront such that they in fact pay for their expected stream of rents upfront. Table 2 addresses this issue. It shows the present value of the expected stream of rents along with the various ex-ante costs that franchisees must bear. In the first 3 columns of Table 2, we assume a 5% real interest rate, as we had in calculating the estimates in Table 1. As stated earlier, we believe that this rate is appropriate for our purposes so our discussion of results relies mostly on those shown in these 3 columns. However, for comparison purposes, the next 3 columns in the table show the estimates of rents one obtains under the assumption of a high real interest rate of 7.5%.

We make a few other assumptions in constructing Table 2: we assume (1) that real sales and costs will remain constant for the duration of the 20 year contract; (2) that the equipment the franchisee must buy is worth nothing at the end of the contract; and (3) that the franchisee's time is worth about $15./hour, which is consistent with our estimate of his yearly wages. Franchisees are required to spend about 2000 uncompensated hours in training to become McDonald's franchisees, most of which is spent working in different capacities in existing restaurants, while the rest is spent in classrooms (see Noren (1990)). The total cost of this training to the franchisee therefore amounts to about $30K. Note that this cost does not include any tuition payments since franchisees do not pay tuition to attend Hamburger University.

Table 2 shows that even on an ex-ante basis, McDonald's franchisees can expect to earn rents. On average, the rents per outlet before taxes will be more than $400K. Using our very naive assumptions relative to taxes, we find that franchisees can expect to earn on average almost $300K in rents after taxes. Of course, it is also clear from Table 2 that not all restaurants achieve sales levels allowing them to earn rents ex-ante.[13] But the point here is that in the majority of cases, franchise owners

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[13] As noted at the bottom of Table 1, restaurants achieving sales below a certain level are required to pay rent in an amount that represents a higher proportion of their sales than what is standard for McDonald's. While this probably reflects McDonald's perception of the real estate value, it also says that McDonald's in a sense expected the restaurant to perform better than it does. Otherwise it would not have chosen to establish a franchise there. Hence, the establishment of minimum rental fees by McDonald's in fact punishes those franchisees whose restaurants are not performing well relative to expectations. The profits (or lack of

will earn some amount of economic rents, and that on average, they earn significant amounts of rents. Note that this conclusion is not sensitive to reasonable changes in our assumptions.

Moreover, while we would argue that the amounts of rents found in Table 2 are non-negligible, we also believe that our calculations understate the actual amounts significantly. First, as stated above, we assume that sales and costs will remain constant over the next 20 years. But given McDonald's track record, and especially its track record up to 1982, it is unlikely that the franchisor or the franchisee were functioning under this assumption in 1982. Table 3 shows that between 1964 and 1988, the growth rate of nominal sales per restaurant has typically been greater than increases in the CPI. If, as the data in Table 1 suggest, costs increase less than proportionately with sales, and if sales are growing in real terms, our forecasts of profits from operations will be below their realized value.

Second, we assumed that the equipment is worth absolutely nothing at the end of the 20 years of operation. It is likely in fact that this capital will have some positive value at the end of the contract.

Third, we assumed that the investment in human capital is completely specific, i.e. that the training is worth nothing to the franchisee outside of the McDonald's system. In reality, it is likely to increase the v. ue of the franchisee's labor, such that it should not all be treated as a cost.

Fourth, the cost estimates used in Table 1 are based on data obtained from company-owned restaurants. There is some evidence in the literature (see Shelton (1967) and Krueger (1991)) that costs are higher in company-owned than in franchised outlets of the same chain.

Fifth, and most importantly, our estimates of the present value of the rents that franchisees can expect to earn do not include another potentially very important source of revenues accruing to the franchisee. Typically, McDonald's allows its franchisees to rewrite their franchise contract at the termination of the original agreement at the terms offered to new franchisees at that time. In other words, a franchisee rewriting his contract in 1982 would be asked to pay a franchise fee of $12.5K and royalties of 11.5% of sales. In exchange, he would be granted his franchise

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profits) we find there are therefore a matter of company policy to some extent. And indeed as noted above, the company has a "rent relief" policy for franchisees whose restaurants are going through some rough times through no fault of their own.

Table 3

Growth in Nominal Sales per Restaurant Compared to Inflation Rates: 1964/65 to 1987/88

Year	Number of Units	Sales* per Outlet	Growth Rate Year to Year % change	Changes in CPI** % change
1964	688	188372		
1965	760	224868	19.4	1.6
1966	862	253480	12.7	2.9
1967	967	275491	8.7	3.1
1968	1125	297778	8.1	4.2
1969	1345	335167	12.6	5.5
1970	1592	368719	10.0	5.7
1971	1944	403344	9.4	4.4
1972	2272	514877	27.7	3.2
1973	2784	563218	9.4	6.2
1974	3037	677642	20.3	11.0
1975	3756	696619	2.8	9.1
1976	4225	724970	4.1	5.8
1977	4736	789274	8.9	6.5
1978	5185	882353	11.8	7.6
1979	5747	936837	6.2	11.3
1980	6262	994251	6.1	13.5
1981	6739	1057872	6.4	10.3
1982	7259	1075768	1.7	6.2
1983	7778	1116804	4.5	3.2
1984	8304	1205034	8.3	4.3
1985	8901	1235917	3.5	3.6
1986	9410	1317747	2.7	1.9
1987	9911	1445909	6.7	3.6
1988	10513	1528013	3.7	4.1
Mean:			9.0	5.8

* Average sales per McDonald's restaurant, worldwide. Source: Bertagnoli (1989).
** Source: Economic Report of the President, 1991.

rights for a new 20 year period. As noted in Noren (1990), 92% of contracts up for renewal are rewritten at McDonald's. So while rewriting is not a franchisee right, it is a likely outcome in those cases where the franchisee has been operating his franchise according to specifications. As a result, the expected rents may well be available to the franchisee for more than 20 years. Assuming for example that the contract is renewed once, and that the franchisee must make the same total investment in equipment in the second 20 year period as he made in the first contract period, the discounted stream of rents for the median outlet would be $591K before taxes, and $414K after taxes (assuming a 5% discount rate). Equivalently, because franchise rights are usually renewed, the franchisee leaving the industry can sell his outlet at a higher price than what the remaining length of the contract would warrant (see Table 4).

All of the above arguments suggest that there are extra benefits from owning a franchise have not been included in the total rents calculated in Table 2, leading us to believe that our estimates are very conservative. Furthermore, though the analysis of the 1989 data reported in Appendix 1 reveals somewhat smaller amounts of rents, it nevertheless indicates that rents are not a transitory phenomenon at Mc-Donald's. Overall, we conclude that significant amounts of rents are left downstream at McDonald's.

There are several possible reasons why McDonald's might choose to leave rents with its franchisees, including franchisee risk aversion, informational asymmetries, and incentive problems. We discuss all of these in Section 4. For now however, as a way to verify the results above, we turn to a different method for assessing the existence and extent of downstream rents at McDonald's.

3.   Examining the Sale Prices of Existing McDonald's Restaurants

In this section, we use data on the prices at which existing McDonald's franchises are sold as another way to address the issue of whether or not McDonald's franchisees earn economic rents, and if so, how much. Table 4 provides data on the sale prices and other characteristics of eleven McDonald's franchises that were sold by franchisees to franchisees between 1975 and 1983. To facilitate comparisons, all dollar values were transformed to 1982 dollars. The restaurants covered in this table represent only a very small proportion of franchise sales from franchisees to franchisees: according to company officials, on average about 100 to 120 such sales occur each year.[14] Those included in Table 4 represent cases where the new franchisee was denied the right

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[14]   More precisely, company records indicate that in 1981, there were 99 such sales, in 1982, there were 83, and in 1983, there were 149.

to amortize, for tax purposes, the whole amount he invested in his unit, namely the total sale price.[15] Hence he decided to sue the IRS, giving us access, through court records, to these data.

Table 4: Exchange Prices for Existing McDonald' Restaurants

Site Number	Date Opened	Date Of Sale	Remaining Franchise Life (in months)	Trailing 12 months Sales (in $1982)	Sale Price (in $1982)	Value of Tangibles (in $1982)	Value of Franchise (in $1982)
1	17-Jun-74	22-Dec-80	162	1132614	466599	86666	379833
2	15-Jun-73	30-Sep-78	178	931724	503221	118405	384816
3	15-Sep-70	21-Jan-83	92	860485	346180	93781	252399
4	17-Jun-74	31-Jan-83	136	1207528	734743	53000	681743
5	15-Jun-73	23-Jan-83	125	868754	473605	76629	396976
6	01-Oct-69	31-Oct-78	131	884634	347814	0	347814
7	09-Dec-75	29-Dec-81	179	925944	387486	132701	254785
8	02-Feb-71	15-Apr-78	153	1370207	671086	78371	592715
9	28-Mar-61	01-Jul-79	21	1782306	611433	95835	515598
10	02-Oct-69	21-Nov-75	161	1577752	714514	140694	573820
11	09-Dec-74	21-Nov-75	230	1383627	1013162	228084	785078
Mean			142	1175052	569986	100379	469597

Source: Canterbury v. IRS.

Interestingly, the price paid for an existing McDonald's restaurant is likely to understate the buyer's valuation of the unit because of the contraints that McDonald's purposely imposes on the sales process. When a franchisee decides to sell his or her unit, McDonald's allows *one and only one* buyer from its list of pre-approved individuals to make an offer to the seller at any given time. This list of pre-approved buyers includes only those individuals who have successfully completed McDonald's training program (or who are already McDonald's franchisees and have been given permission to buy an additional unit).[16] If the two parties successfully negotiate an agreement, the sale takes place at the price they have agreed upon. Otherwise, this

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[15] In other words, the amount they paid over and above the value of the tangible assets plus the franchise fee of $12,500. was not allowed as part of their amortizable capital by the IRS, and the franchisees are contesting this.

[16] McDonald's determines which buyers are appropriate for existing outlets in part on the basis of location. The company tries to limit the intermingling of different franchisees' restaurants because it feels that this leads to too much intrachain competition.

potential buyer withdraws and McDonald's allows a new candidate to go through the same process. Hence McDonald's eliminates all direct competition among buyers, while allowing each individual bidder to adjust his bid during negotiations with the seller. As a result, the agreed upon price need not represent the full amount of the buyer's valuation.[17] This in turn implies that the buyer of an existing restaurant can still expect to derive some extra rents from his outlet. However, these will be lower than those that accrue to a first-time buyer.

The fact that the buyer of a new outlet can expect rather large amounts of economic rents, as described in Table 2, while the buyer of an existing restaurant gets much less rents, raises the issue as to why an "approved" buyer would ever choose to buy an existing outlet rather than wait for a new one. The answer hinges upon questions of availability, both in terms of location and time: it is not clear when or whether new outlets will be opened in the general area where the franchisee may want to be. This will be especially important for an established franchisee who may simply want to consolidate his holdings in a particular geographical area. For a new franchisee, buying an existing outlet affords him the opportunity to bid on other outlets later on, if he is successful with his first one. The earlier he can begin this process, the better off he is likely to be.

The last column in Table 4 gives the difference between the prices paid for the restaurants and the value of the tangible assets included in the transaction, as noted in company records. In all cases, franchise buyers were willing to pay an amount significantly above the value of the tangibles covered by the transaction. On average, they were willing to pay $470K above the value of the tangible assets for their franchise.

There are a number of factors that might explain the level of prices paid for existing franchises. First, the amount of price premia found here might be explained by a sample selection problem. As noted above, our sample includes only franchisees who have decided to sue the IRS after they were denied the right to amortize their total investment in the franchise. Clearly, franchisees who have paid fairly large price premia have greater incentives to sue the IRS than others. On the other hand, it is noteworthy that buyers still pay premia of about $300K for restaurants with sales below $900K, suggesting that even at the lower end of the distribution, the price premia are significant enough that franchisees would still want to contest the IRS decisions. In this case, there would not be any sample selection problem. In addition, only some franchisees were audited and then denied this right, and to our knowledge the decision to audit was random. But most importantly, McDonald's has decided

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[17] Note that the seller uses a stopping rule in this kind of situation.

to support the plaintifs financially in this particular set of cases because it feels that these cases are representative of a general problem faced by the company as a whole. And according to company officials, several of the cases that have not made it through the court system yet had much larger price premia. For all of these reasons, we believe that the franchise sales in our sample are generally representative of franchise sales at McDonald's, and we argue that sample selection cannot explain the price premia found in Table 4.

Second, these price premia could be explained by differences in requirements imposed by McDonald's on buyers of existing restaurants compared to buyers of new outlets. But in fact the requirements are the same for the buyers of both types of outlets, thereby refuting this explanation.

Finally, beside representing a stream of expected future rents, the difference between the price and the value of the tangible assets might reflect the value of the information available in an existing store, or some other type of intangible asset such as goodwill and going-concern value. In the remainder of this section, we make the point that the informational advantage, the goodwill and the going-concern value attached to an existing outlet are negligible. Hence, fundamentally, we argue that the difference between the price at which an existing franchise is sold, and the value of the tangibles involved in the transaction, reflects the buyer's expectation of future rents. In other words, we believe that the data found in the last column of Table 4 represent estimates of expected rents.

3.1. The Value of Information

Buyers of existing McDonald's restaurants may pay higher prices for them because of their informational advantage: the information that becomes available about the sales and profit potential of the unit after it has been operating for some time can be used to better forecast the future performance of the outlet. Since the buyer of a new, and hence riskier, outlet pays an amount equal to the value of the tangible assets for his franchise right, the buyer of an existing outlet may be willing to pay an amount above the value of tangible assets to account for this informational asset.

We do not believe however that the informational advantage of existing stores warrants the kind of premia found in Table 4. For one thing, McDonald's is well recognized in the industry for its accurate evaluation methods for potential locations. Empirically, this is supported by the low failures rates in the McDonald's system: from 1980 to 1982, only 47 of the 4478 franchised units were either cancelled or not renewed by McDonald's, for a yearly discontinuation rate of about 0.3%. Including franchisor buybacks among the failures increases this rate to only 1.8%. Given that

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buybacks are not all equivalent to failures, the failure rates are clearly quite small. In addition, the information on the outlet's performance is affected by the behavior and talent of the previous owner. The new owner cannot infer that he will be able to achieve equivalent results. Thus the informational advantage of existing McDonald's restaurants over new ones is quite small, and it is not worth the kind of premia found in Table 4. Finally, we find in Table 4 that buyers are willing to pay fairly large premia ($300K and more) for stores that have recorded sales placing them in the lower end of the distribution of sales levels (below $900K). It is difficult to believe that buyers would pay these amounts to learn this kind of information.

3.2. Goodwill

Goodwill is generally understood as the value of an established reputation, i.e. of a well-respected business name and of good customer relations. To include franchisee goodwill in the determination of the price of an operating outlet implies that consumers associate positive value to the existing franchise, as distinct from the value they associate with the franchisor and the franchise system. This value must also be distinct from the specific location of the franchise since McDonald's policy of controlling the real estate precludes any association with the location other than to the McDonald's system. McDonald's specifically prohibits its franchisees from identifying their franchise in any way to distinguish them from the system. As a result, most customers typically do not even know who the McDonald's they are dining at belongs to, whether it is a franchisee or the company itself. But even if they did, and even if they had positive feelings towards the person of the franchisee, this could not be included in the price of the outlet. To increase the price of the outlet, goodwill must be transferable: value that is due to positive feelings toward the person of the original franchisee is not. Hence we conclude that in the McDonald's system, there is no such thing as transferable franchisee goodwill.[18]

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[18] In a rare case where a McDonald's lost its arches, i.e. where a restaurant continued to be operated very similarly by the same individuals in the same place after terminating its relationship with the McDonald's system, its sales fell by 60% immediately. Sales continued to go down after the initial shock, and never again exceeded 35% of the level they achieved as part of the McDonald's system. The restaurant closed down some 12 to 18 months later. (See Atkins, (1990).) That the sales levels of a given restaurant would fall this much as a result of losing its connection to McDonald's supports our conclusion that there is very little franchisee goodwill at McDonald's. In fact, this case suggests that there is not much location-specific goodwill either. Note that very few observations of such occurence of "disconnection" exist at McDonald's given that the company owns the land and buildings in the majority of cases, and that covenants not to compete are included in its contract. Both of these policies prevent franchisees from continuing to operate in the same location after termination.

3.3. Going-Concern Value

Going-concern value is the added value associated with the fact that a business is already in operation. In that sense, it is sometimes defined to include goodwill. For our purposes however, we define going-concern value as resulting from the fact that a variety of start-up costs, such as assembling and training a new work force, developing supplier relationships and setting up equipment, have already been incurred. But since franchised outlets are not really new businesses, but rather clones of established businesses in new locations, we argue that the going-concern value attached to an existing outlet beyond that provided by the franchise system, is minimal. This is especially true in a finely tuned system such as McDonald's, where most, if not all of the types of costs mentioned above have already been incurred by the franchisor. In fact, expertise in these matters is a major component of what franchisors sell to their franchisees. As a result, we conclude that going-concern value cannot account for the difference we observe between the price paid for existing franchises and the value of the tangibles being exchanged.

3.4. Summary

In summary, we find that going-concern value, goodwill and the value of available information for existing restaurants cannot account for the level of price premia paid for the franchises. Thus we conclude that buyers are willing to pay these prices because they expect to earn economic rents. On average then, we find rents of $470K for this set of restaurants. And these rents must be interpreted as after tax rents since buyers should only be willing to pay upfront for the after tax benefit they obtain from owning a franchise.

The estimates obtained here are somewhat larger, but still consistent with those obtained in Section 2. The fact that the premia are positive in all eleven cases described in Table 4 is consistent with our previous results establishing that the majority of franchisees earn rents. Interestingly however, the cases described in this table include restaurants with trailing sales of $900K or less. This suggests that contrary to our earlier estimates, even those outlets may generate some amount of rents. This supports our contention that our estimates of rents in the previous section were quite conservative. Finally, we have already argued that the prices paid do not fully represent the buyer's valuation of the restaurant. The implication is that the estimates of rents described here are again conservative.

Overall, in this and the previous section, we have conservatively estimated the discounted expected value of economic rents per franchised McDonald's restaurant on

average to be around $300K to $500K after taxes, in 1982 dollars. These estimates are supported by arguments found in the trade literature: for example, Noren (1990) notes that "A McDonald's franchise is a very lucrative investment, and owning several has made many people millionaires" (p. 62).

4. Why Does McDonald's Choose to Leave Rents with its Franchisees?

Having established that McDonald's leaves rents downstream, the next question to address is why. Given McDonald's reputation, and its capacity to develop a very precise and well-managed system, we do not believe that these rents are "accidental". It is our contention that McDonald's actually chooses to leave these rents to its franchisees. In this section, we argue that McDonald's leaves these rents with its franchisees for incentive purposes in the face of franchisee liquidity constraints. In the next section, we review other possible explanations for franchising that could lead firms to leave rents downstream, and we provide reasons why we believe that these are unsatisfactory when it comes to explaining the rents found here.

There is now a fairly large body of literature that emphasizes the importance of incentives issues in franchising. Papers that have concentrated on explaining the use of royalty rates in franchising as a result of incentive problems have included Rubin (1978), Mathewson and Winter (1985), Lal (1990), and Bhattacharyya and Lafontaine (1992). Others, such as Klein (1980), Telser (1980), Klein and Saft (1985), Williamson (1985) and Klein and Murphy (1988), have focused on the need for bonding and the existence of quasi-rents to ensure contractual performance and self-enforcement.[19] Empirical work on franchising has generally been supportive of the idea that incentive issues are important both in terms of the extent to which firms rely on franchising as opposed to company-ownership (see for example Brickley and Dark (1987), Norton (1988), Brickley, Dark and Weisbach (1991a), Minkler (1991), Banerji and Simon (1992) and Lafontaine (1992)) and in terms of the extent to which they rely on royalty rates ((Lafontaine (1992)).

4.1. Sharing as an Incentive Mechanism

The stream of research that has emphasized the sharing aspect of franchise contracts has usually lead to the conclusion that there would not be any rents

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[19] Banerji and Simon (1992) find a positive relationship between the extent to which firms use franchising, that is the proportion of franchised stores in a chain, and the value of the franchise or tradename, measured by Tobin's Q. They interpret this result as providing empirical support for an explanation for franchising based on the need for self-enforcing contracts.

left downstream in franchising. In these models, the franchisor designs a franchise contract that specifies how the franchisee will be remunerated for his effort. The franchisor is assumed to choose this contract so as to maximize his own profits given that the franchisee will choose his action to maximize his, subject to the constraints imposed by the contract. The way to give incentives to franchisees in this context is to make them residual claimants, i.e. sell the franchise to them for a fixed fee.[20] This solution achieves the first-best level of output and profits for the principal if the franchisee is risk-neutral.

A trade-off arises in these models however between incentives and insurance provision if the franchisee is risk-averse. Assuming that the franchisor is risk-neutral, he would find it optimal to insure his franchisees by paying them fixed wages. A contract involving variable payments or royalties arises here as a compromise between the two goals of providing incentives and insurance to franchisees (e.g. see Mathewson and Winter (1985)). Alternatively, variable payments may result from the need to give incentives to both franchisor and franchisee (see Rubin (1978), Lal (1990) and Bhattacharyya and Lafontaine (1992)). In either case, the franchisor still successfully extracts all the profits from downstream firms, i.e. he does not leave any rents downstream.

One exception to this latter result is found in Mathewson and Winter (1985): in their model, franchisees earn rents if they face liquidity constraints. Assuming zero wealth for franchisees forces the franchisor to offer a contract where franchisees are guaranteed non-zero net revenues even in the worse possible state of demand. At the same time, franchisees' net revenues must be strictly greater in good states than in bad states so that they will have incentives to reveal the good state and put in the required amount of effort. This leads to positive profits in all but the worse possible state of nature.

4.2. Bonding as an Incentive Mechanism

Instead of using residual claimancy rights to give incentives to franchisees, franchisors could require them to post a forfeitable bond. In fact, it is the impossibility of requiring such bonds under franchisee liquidity constraints that leads Mathewson and Winter (1985) to their results concerning the use of royalty rates and the existence of rents. Assuming that the franchisor can monitor the behavior of franchisees randomly, and that he receives perfect information from monitoring (i.e. that when he monitors, he can perfectly assess the level of effort put forth by the franchisee),

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[20] This is a standard result in the principal-agent literature. See for example Rees (1985) and Tirole (1988).

then he can use a forcing contract to elicit the behavior he wants from the franchisee. This forcing contract will take the form of a fixed-wage contract combined with the payment of a large bond upfront (the less frequent the monitoring, the larger the bond) which the franchisee forfeits when he is caught cheating. Through this forcing contract the franchisor can implement the first-best outcome and no rents need be left downstream.

Bonding as an incentive mechanism for agents has been the main focus of Klein (1980), Telser (1980), Klein and Saft (1985), Williamson (1985) and Klein and Murphy (1988). These authors have noted that there are both horizontal and vertical externalities in franchising, i.e. that franchisees bear only part of the costs of reducing the quality of their offerings, with the other franchisees and the franchisor bearing the remainder of this cost. As a result, franchisees maximizing their own welfare have an incentive to free-ride and shirk on quality or effort. The central theme of this literature is that contracts can and should be made privately enforceable by making sure that the party (parties) subject to free riding will lose something valuable if the relationship is terminated. This argument is very similar to that found in the efficiency-wage literature in labor economics. (See for example Becker and Stigler (1974) and Shapiro and Stiglitz (1984). Akerlof and Yellen (1986) provide a collection of important contributions in this area.)

There are two ways in which franchisees can be given incentives to perform through a self-enforcing contract. The first, as noted above, is to require them to post a forfeitable bond that exceeds in value their expected gains from shirking. The second is to provide franchisees with a stream of rents that they lose if the franchise relationship is terminated. Both rents and bonds will be efficient as self-enforcing mechanisms only if the franchisor really possesses the right to terminate franchisees. The evidence is that franchisors can and do exercise this right, at least under current legislation (see for example Hadfield (1990) for a discussion of some termination cases and their treatment by the courts). There is also evidence that franchisors in general, and McDonald's in particular, value this right.[21]

Clearly, from the franchisor's perspective, it is preferable to get franchisees to post bonds than to use a stream of rents to guarantee that they have something to lose if the relationship collapses. Two arguments against the feasibility of large

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[21] Brickley, Dark and Weisbach (1991) find that state laws requiring good cause for the termination of franchised outlets reduce the extent of franchising, and have an adverse effect on the stock returns of franchised companies. Second, not surprisingly, we find that franchisors typically oppose the passage of laws imposing constraints on franchisors' termination rights, and the International Franchise Association lobbies heavily against them. Most recently, McDonald's filed a suit to have a new Iowa franchise law declared unconstitutional. This law, among other things, imposes conditions under which franchisors can terminate franchisees.

forfeitable bonds or large upfront payments are found in the literature. We discuss each of these in turn.

4.2.1. Limits to Bonding: Franchisor Hold-Up

The first argument against large upfront payments is that the franchisor might use the threat of termination to "hold up" the franchisee. The greater the amount paid upfront, the more likely franchisors would be to try to appropriate franchisees' money unfairly. Knowing this, franchisees would not agree to post large bonds.

We believe this argument against large bonds or large upfront payments is unlikely to have much weight here. Given the value of McDonald's reputation, the potential for franchisor "hold up" should be quite small. As noted by Klein and Saft (1985),

> The franchisor is not likely to terminate franchisees merely to confiscate their sunk investments opportunistically because franchisors must be concerned about their reputations when attempting to sell additional franchise locations. Even when the franchise chain is mature and additional franchise sales are unlikely, it may not be in the interest of the franchisor to unfairly terminate all franchisees. The present discounted value of the higher cost of running an entirely vertically integrated operation (compared to a franchise operation) may be greater than the franchisor's hold-up potential. (p. 356)

Since McDonald's is a mature system, yet one that continues to expand both within the U.S. and outside, franchisor hold-up would likely trigger reactions from franchisees that would be very costly to this company. If franchisees recognize that McDonald's has a lot to lose from misbehavior, they probably would not worry too much about the possibility of franchisor hold-up. In that sense, McDonald's could ask franchisees to post large bonds. And indeed buyers of existing restaurants agree to pay fairly high amounts upfront. Hence we conclude that franchisor hold-up cannot explain why McDonald's does not require large upfront fees.

4.2.2. Limits to Bonding: Franchisee Wealth Constraints

The other argument against requiring large forfeitable bonds or large upfront payments to ensure franchisee behavior is that many of the individuals qualified to be McDonald's franchisees face wealth constraints that make it difficult for them

to post large bonds. In selecting its franchisees, early in its history, McDonald's decided that for incentive purposes, it was important not to separate the control of the unit from its ownership.[22] The company established policies against passive investors and absentee-owners, and also against partnerships, real-estate developers and corporations. It also developed a pretty good idea of the "types" of individuals that were suited to becoming franchisees, and those that were not:

> "McDonald's also thinks twice about applications from doctors, lawyers, accountants or any other experts used to having customers come to them. The fear is that somebody like that might be reluctant to circulate during the lunch crunch with a pot of coffee and a ready smile. People most likely to get interviews are those with "ketchup in their veins"– a McDonald's expression for outgoing, high-energy types who'll devote their lives to the Golden Arches."
> (Marsh, (1989), p. B1)

All McDonald's franchisees are required to be owner operators, putting in 12 to 18 hour days, almost every day of the year.[23] In fact, McDonald's consistently refers to these individuals as owner-operators and not franchisees. When buying a new franchise, franchisees are required to provide 40% of the initial capital requirement themselves. This ensures that the franchisee-managers have a large personal stake in their franchise. Finally, they are not allowed to continue to hold another job when they begin operations, or to own any franchises from any other chain during their involvement with McDonald's.

In this context, faced with the requirement of posting a large bond upfront, the individual with limited wealth would be unable to become a McDonald's franchisee. Assuming he could borrow all of the upfront fee, the lender would then bear the risk of this individual's misbehavior. If he shirks and the relationship is terminated, with the individual's limited liability and wealth, the lender loses his investment. Knowing this, the lender would refuse to lend. Hence this individual could not become a franchisee.

Three of McDonald's management policies suggest that the company is mindful of franchisees' liquidity problems. The first was the creation of the BFL (for Business Facilities Lease), a special leasing arrangement that the company has developed to allow promising individuals with limited capital to buy a McDonald's franchise.[24] The existence and use of this program, in a context where a large number of indi-

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[22] See Love (1987) p. 78.

[23] According to Love (1986), McDonald's franchises must be open 363 days per year.

[24] This program allows individuals to lease not only the building from McDonald's, as other franchisees do, but also the equipment (under a regular franchise arrangement, franchisees

viduals apply each year to become franchisees and get turned down, suggests that the company has determined that liquidity constraints are an issue for at least some proportion of the population of people it wants to attract as franchisees. The second policy established by McDonald's relates to sales of existing restaurants: while in the case of new restaurants franchisees are required to provide 40% of their total investment from unencumbered cash, buyers of existing restaurants need only provide 25% (see Noren (1990)). Clearly this acknowledges the differences in the amounts that the two types of buyers are required to pay. But it also relaxes the cash constraint for buyers of existing restaurants, making it possible for more people to become franchisees. Third, and finally, McDonald's has a policy requiring that owner operators, be they buyers of new or existing outlets, must be able to "survive" on their cash flow. According to company officials, this policy bears directly on the price at which the company sells new restaurants. It also influences the price of existing restaurants in that McDonald's assists potential buyers in determining the price they can pay for a restaurant as a function of the revenue stream they can expect from it.

Still, since buyers of existing restaurants are willing and able to pay amounts up to $1M, liquidity constraints must not be as much of a problem for all potential franchisees. Hence McDonald's could bond at least some of its franchisees. In fact it does, indirectly: buyers of existing outlets must pay for much of their expected rents upfront. We would argue that from McDonald's perspective however, requiring all potential buyers to pay those kind of amounts upfront would reduce the number of qualified franchise applicants too much. On the other hand, McDonald's cannot control the prices at which existing restaurants are sold on the market: these prices will internalize most of the expected ex-post rents. Hence if the company wishes to allow less wealthy individuals to become McDonald's franchisees, it must do so through its pricing of new restaurants. And since large bonds are infeasible in these cases, for self-enforcement purposes McDonald's will have to leave a stream of rents with franchisees. This in turn explains why buyers of new restaurants earn very sizeable amounts of rents, while buyers of existing restaurant earn much less rents.

We conclude that the rents found in this paper represent a contractual self-enforcement mechanism that complements the use of residual claimancy rights as an incentive device in the face of franchisee wealth constraints. Note that the potential for contract renewal after each 20 year period guarantees that there is never a time in the relationship when the franchisee feels he no longer has anything to lose if he

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must buy their own equipment). The program includes an option to purchase the franchise at a price that is set according to a prespecified formula, based on trailing sales, sometime during the BFL contract, which is a 3 year contract. In 1982, 77 company-operated stores were "sold" to franchisees under a BFL arrangement, while 59 such stores were sold "normally" to franchisees.

shirks. Hence the contract continuously satisfies the conditions for self-enforcement.

5. Other Explanations for Downstream Rents

5.1. Non-Rent Explanations

There are two ways that one could interpret the results presented above to say that in fact franchisees do not earn rents. The first would be to argue that the level of returns found above simply represents a normal level of compensation for the franchisee given the very high effort he is asked to expand, or equivalently given the type of talent required to be a good franchisee. The second would be to interpret the amounts over and above the opportunity cost of the franchisee's labor as compensation for risk. In both cases, the arguments are tantamount to saying that our estimate of the franchisee's opportunity cost of labor is simply too low.

While it is possible that in fact our estimates are low, we would argue that reasonable changes in these would not affect our basic result concerning rents significantly. Much more importantly, arguments based on our incapacity to really capture the value of the franchisee's labor simply cannot account for the rents found in Section 3, where we examined the transfer prices of existing franchises. By definition, the prices described in Table 4 are amounts that potential buyers were willing to pay for the restaurants. Clearly, if they are risk averse, the prices they offer will reflect that fact. In other words, they will have already reduced their offers by an amount sufficient to compensate themselves for the risk involved. Similarly, if they need a higher level of compensation because of the greater amount of work they are required to put in (compared to the level of effort they would expand if they were area supervisors for example), the prices they would be willing to pay would reflect this as well. Consequently, risk aversion, the need for a higher level of compensation, and any other argument based on our incapacity to capture the value of the franchisee's labor simply cannot be the cause of the almost $500K of rents found in Table 4 in Section 3.[25]

5.2. Informational Asymmetries

5.2.1. On the Franchisee's Side: Screening

Another theoretical explanation for franchising that can lead to rents being left

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[25] Note also that a McDonald's franchise is a fairly safe investment as evidenced by the low failure rates noter earlier. And the franchisee's exposure to this risk is quite limited: even in cases of failures, franchisees only lose a fraction of their initial investment of $310K.

downstream relies on franchisee adverse selection. This model in fact has not been used to explain the occurrence of franchising, but rather that of sharecropping.[26] This explanation starts from the premise that potential franchisees have different ability levels known to themselves, but that the franchisor cannot observe. In that case, the franchisor will want to offer a menu of linear sharing contracts, i.e. a menu of royalty and fixed fee combinations, to potential franchisees, thereby allowing them to pick the contract best suited to their talent.[27] By so doing, potential franchisees reveal information about their abilities. Because the contracts being offered must satisfy conditions such that the franchisee of a given ability will not be tempted to pick a contract meant for a franchisee of another level of ability, these models generate economic rents for all franchisees except those with the lowest level of ability.

While there is clearly some truth in the notion that franchisors need to assess the ability level of potential franchisees, we find·it difficult to believe that they do so through the terms of the contracts they offer. First, we find that most franchisors, including McDonald's, do not offer a menu of linear contracts to franchisees, but instead offer a single franchise contract, typically on a take it or leave it basis. Hence franchisees do not sort themselves out on the basis of the contract terms, at least not within franchised chains. Second, franchise contracts last an average of about fifteen years. (See Lafontaine (1992a) for sectoral data on average contract length in franchising in 1985.) Using the terms of such contracts to get franchisees to reveal their types implies leaving rents with them for very long periods of time. Hence it seems a very costly way to obtain information. Franchisors could instead gather information on individuals' ability levels through observation over some period of time, or some other mechanism prior to contracting. In fact, this appears to be McDonald's policy: during the two years of training, McDonald's is able to evaluate each potential franchisee's performance at a number of different tasks, and in terms of a variety of criteria. Of the 300 or so hopefuls involved in the training program at any one time, about one third do not make it through.[28] Through these processes, McDonald's learns about individuals, and it is able to screen those who have potential as McDonald's franchisees from those who do not. In fact, it is able to gather enough information about applicants that, according to Burton Cohen, senior vice president of franchising at McDonald's, the percentage of franchisees "that drops out after the store opens is a "statistical zero." (Bertagnoli, p. 44) Finally, the screening equilibrium is not very appealing in a dynamic context such as that which

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[26] See Hallagan (1978) and Newbery and Stiglitz (1979).

[27] Menus of linear contracts are optimal in the context of franchisee adverse selection under some curvature assumptions. See McAfee and McMillan (1987) and Rogerson (1987).

[28] See Noren (1990).

characterizes the franchising relationship. If the contracts were used to get franchisees to reveal information about themselves, then at some point the franchisor would learn the type of the franchisee. From then on, the franchisor could offer a contract to his franchisee that no longer allocates rents to him. Hence franchisees would have an incentive not to reveal their information to start with, and no screening would in fact occur.[29]

We conclude from these arguments that while there is typically an informational asymmetry between franchisor and franchisee when it comes to the latter's ability level, the screening model is not a very satisfactory explanation for franchising and franchising contracts. Consequently, we do not believe it provides a suitable explanation for the existence of downstream rents at McDonald's.

5.2.2. On the Franchisor's Side: Signaling

Gallini and Lutz (1992) offer an explanation for the use of royalties in franchising, and for franchisors' tendency to operate some of their units while franchising the others, based on the franchisor's need to signal his type. The idea is that there are different levels of franchisor quality, and that only the franchisor knows his type. The "good" franchisor then tries to differentiate himself from a "bad" franchisor by offering a contract that makes his revenues highly dependent on how well individual outlets do. This can be achieved either through the specification of royalty payments, and/or, at the chain level, through the company ownership of a certain proportion of outlets. The franchisor chooses the extent to which he relies on each of these signals depending on their relative costs. The authors show that when the franchisor chooses to signal through royalties only, there will sometimes be rents left downstream. On the other hand, when both signals are used, franchisees will be kept at their reservation utility level.

There are several reasons to believe that this model cannot explain the amount of rents found here. First, it does not seem reasonable to believe that McDonald's needs to signal its type. This is a well-known firm, with an established reputation, not a startup firm such as the ones to which this model is most likely to apply. And as indicated by the number of applicants it receives each year, McDonald's does not have to convince potential franchisees that it is a "good" franchisor. Second, McDonald's operates about 25% of its restaurants directly, and it franchises the others. Hence it uses both royalties and company ownership, in which case the signaling model predicts that there will not be rents left downstream. Finally, Lafontaine (1990) provides an

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[29] See Freixas, Guesnerie and Tirole (1985) and Laffont and Tirole (1988) on this issue.

empirical assessment of the signaling explanation for franchising, and she finds that the data are not supportive of this explanation.

In general, while we agree that the franchisor is generally more informed than the franchisee relative to the quality of the franchise chain, we believe that this is more an issue of franchisor incentives (to develop the system and maintain its value over time) than a problem of exogenous quality differentials. This is consistent with arguments found in Lafontaine (1990) and Ippolito (1990), where the latter discusses product quality signaling.

6. Discussion

The arguments in the previous section suggest that overall, the available alternative explanations for the existence of downstream rents at McDonald's are not as compelling as the incentive-based rationale presented earlier. Hence we conclude that McDonald's owner-operators earn rents so that the franchise contract becomes self-enforcing. In the case of existing restaurants, the amount of rents that the franchisee can expect to earn will be much smaller. On the other hand because the price paid for the outlet represents much of the expected ex-post rents, the buyer of such an outlet is bonded. Thus his contract is also self-enforcing.

In this case, in terms of incentives, these self-enforcement mechanisms are complementary to the assignment of residual claimancy rights. Overall, this suggests that controlling and monitoring the behavior of the individuals who manage the restaurants is of the utmost importance to this firm. This is confirmed by the history of the compensation plans that the company uses for the managers of its company-owned (as opposed to franchised) stores, as described in Sasser and Pettway (1974) (see Appendix 2). It illustrates the type of activities that managers and franchisees are expected to be involved in, and hence provides information on how they could shirk or free-ride. It also shows the company's desire to provide incentives to its managers, and the difficulties involved in correctly assessing and rewarding all aspects of their role.

One central question we have not addressed in this paper is why the firm chooses to franchise, especially if it means leaving rents downstream, when it can, and does, operate restaurants itself. In fact, from 1967 to 1976, McDonald's pursued such a strategy, increasing the proportion of outlets it operated directly from 9 to 33% (see Love (1987)). That expansion far exceeded the initial purpose of the McOpCo (company-owned) system, which was to groom experienced managers capable of supervising the franchised system. Moreover, McDonald's found that company-owned stores did not do as well as franchised stores, especially in low volume locations. As

a result, a decision was made to limit the proportion of company-owned stores in the chain to the current 25%.

McDonald's results in this experiment are consistent with results found in the literature. Shelton (1967) compared the sales and profits levels of individual stores in a chain before and after they were taken over by the company. He found that sales of these stores while under direct company management were slightly below what they were under franchisee management. More importantly, he found that profits levels were importantly lower. Similarly, Krueger (1991) found that salaries tend to be greater, and earning profiles steeper, for employees of company-owned outlets than for those of franchised outlets. He interpreted these results to mean that employees of company-owned outlets must receive efficiency wages to compensate for the lack of direct supervision that results under this organizational form compared to franchising. Overall, these findings imply that expenditures are higher, and hence profits lower, when a store is operated directly by the company relative to when it is franchised.

Furthermore, because franchisees are self-motivated, the amount of company resources devoted to supervising them are much lower than those needed to monitor managers of company-owned stores. According to company officials, and as noted earlier, each area supervisor at McOpCo oversees the operations of an average of four company-owned stores, with a maximum of six. On the franchised side of the company, the equivalent "field consultants" are responsible for an average of 9 franchisees, who on average represent 21 restaurants. Since we assigned the total cost of each franchisee to the management of a single store in our calculations of rents, this difference in responsibilities represents a direct cost differential to the company between the two organizational forms. Given all this, it is very possible that despite the need to leave rents to its franchisees, McDonald's still finds that franchising is a more efficient organizational form for the majority of its outlets. This is consistent with the fact that overall, one does not find much evidence in the literature that franchisors are moving towards more company-ownership.[30]

7. Conclusion

This paper uses two different types of financial data to show that there are important amounts of downstream rents at McDonald's. Other evidence that there are downstream rents at McDonald's include the fact that qualified franchisees will wait up to two years to get their franchise. In addition, McDonald's does not even attempt to charge different fees to different franchisees, even though it knows that

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[30] See Dant, Kaufmann and Paswan (1992) for an overview of the literature on this topic.

some restaurants will be more profitable than others. By definition, this implies that the company will leave rents with some of its outlets (though not all, and not necessarily with the median or average outlet in this case). Furthermore, it is clear from our discussions with company officials that there are investors who would be willing to buy McDonald's franchises at higher prices if they were allowed to do so. Thus there are benefits from owning McDonald's franchises that are not included in their current price. Finally, McDonald's provides incentives to its franchisees through two other mechanisms, both of which depend on the existence of downstream rents to function. The first is renewal: only franchisees who have performed well will be granted a new franchise contract at the expiration of their current contract. The second is the granting of additional restaurants: franchisees are granted the right to buy additional McDonald's restaurants one at a time, and only if they have performed well in their current ones.[31] Both of these policies will be significant in terms of giving incentives to franchisees only if there are rents left downstream.

We believe that this result concerning the existence of downstream rents is not limited to McDonald's. This we would argue is supported by the existence of queues of potential franchisees in various chains, as noted by Mathewson and Winter (1985). (See Tannenbaum (1989) for evidence that not all franchised chain face queues of potential franchisees.) It is also supported by the lack of negative correlation between franchise fees and royalty rates reported for different samples of franchisors in Lafontaine (1992a) and in Banerji and Simon (1991). Finally, it is consistent with data reported in Shepard (1991). She notes that lessee-dealer licenses in gasoline retailing sell for amounts between $100K and $300K, and concludes from this that there are rents left downstream in this industry.

Having considered various possible explanations for these rents, we conclude that they are left downstream at McDonald's as a mechanism for contractual self-enforcement which is complementary, as an incentive device, to the assignment of residual claimancy rights. Note that this interpretation depends on the existence of a franchisor right to terminate the franchise. As noted earlier, there is evidence that franchisors possess this right, and that it is valuable to them. In addition, we argue that McDonald's leaves a stream of ex-ante rents with its franchisees, rather than requiring them to post a large bond upfront, because a number of the individuals who qualify as potential owner-operators have limited wealth.

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[31] Ray Kroc, who developed the company after buying the rights from the McDonald brothers, clearly recognized the incentive effect of attributing potential additional outlets on the basis of good behavior: "Kroc kept them (franchisees) doubly motivated with the promise of an additional restaurant, doled out one at a time to franchisees who followed his procedures to the letter." Bertagnoli (1989), p.60.

The fact that there are rents left downstream in some franchised chains has implications for future research on franchising and on contractual arrangements in general. First, it suggests that although the sharing contract literature has been useful in increasing our understanding of various aspects of the franchising relationship, it may not be capturing the whole story. In particular, it may not describe the franchisee's and franchisor's situations and expectations completely. New models that could simultaneously incorporate the sharing aspect and the possibility of downstream rents in franchising might provide further insights into the workings of this and other similar types of relationships.

Second, we have followed much of the literature on the subject of ongoing rents and bonding in assuming that these two self-enforcement mechanisms are perfect substitutes for each other. Interestingly, this is a context where one might be able to test this assumption, given the appropriate data. We have seen that buyers of existing franchises mostly pay for the stream of rents upfront, whereas buyers of new outlets earn rents ex ante. As the chain matures, more and more of its current franchisees will have become franchisees by buying an existing restaurant, i.e. more and more of the franchisees will have paid upfront bonds. If, for whatever reason, the payment of such bonds does not foster the same degree of loyalty from franchisees as do incoming rents, one should find that the amount of conflict within the chain increases over time, or put differently, as the number of second and third time buyers increases. Though that is beyond the scope of the present paper, we believe that this type of analysis could prove very interesting.

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Appendix 1
Table A1: Yearly Economic Rents for a McDonald's Franchise in 1989

	1,300,000	1,500,000	1,700,000
Sales			
Cost of Sales			
Food Cost	369,396	423,579	474,187
Paper Cost	54,406	62,397	70,464
Total	423,802	485,976	544,651
Gross Profits	876,198	1,014,024	1,155,349
Controllable Expenses			
Crew Labor	222,672	253,832	276,904
Management Labor	90,526	100,555	109,655
Ads & Promotions	80,809	90,663	100,1355
Utilities	43,193	46,582	49,496
Others	76,727	86,129	92,105
Total	513,927	577,761	628,295
Gross Profits Less Controllables	362,271	436,263	527,054
Other Expenses			
Royalty/Rent[1]	186,200	206,250	233,750
Others	58,152	60,760	62,152
Total	244,352	267,010	295,902
Yearly Income from Operations	117,919	169,253	231,152
Opportunity Costs			
Interest(5% per year)[2]	41,100	45,200	60,300
Franchisee Labor[3]	41,250	41,250	41,250
Total	82,350	86,450	101,550
Yearly Economic Rents	35,569	82,803	129,602

Source: McDonald's 1990 UFOC documents. Information shown here is based on data for approximately 1592 U.S. company-owned units open 13 months or more in 1989. That year, the company states that about 65% of the more than 7600 domestic McDonald's restaurants open for at least 13 months had sales above \$1,300K, 45% had sales above \$1,500K and 28% had sales above \$1700K. The average level of sales was \$1505.

1 Royalties, including rents, are 13.75% of gross sales except for stores that do not achieve monthly sales of \$114,390. They pay a minimum rent of \$11,725 monthly in addition to 3.5% of gross sales. For a restaurant with yearly sales of \$1,300K, this amounts to \$186,200, or 14.32% of sales.

2 Includes the foregone interest on the security deposit. Also, since the franchisee contributes 40% or more of the initial capital and borrows the rest, part of this cost is real. For exposition purposes, it is simpler to group interest payments and opportunity costs in the same category. The disclosure document calculations are based on an initial investment of \$610K, which we take to be the typical outlet investment. Since this is about twice the investment required in 1982, we assume that all invesment figures are doubled.

3 Since the 1989 management labor figures are about 1.5 times the 1982 figures, we apply this ratio to the 1982 franchisee opportunity cost of labor (\$27.5K) to get \$41,250.

Table A2
Present Discounted Value Calculations
for a Single McDonald's Restaurant
Thousands of 1989 dollars

	Real Interest Rate 5%			Real Interest Rate 7.5%		
Yearly Sales	1300	1500	1700	1300	1500	1700
Yearly Rents	35.6	82.8	129.6	15.0	60.2	99.4
PDV of Rents	465.8	1083.4	1695.8	196.3	787.7	1300.6
Ex-Ante Costs[1]						
Equipment[2]	658.0	724.0	986.0	658.0	724.0	986.0
Franchise Fee[3]	22.5	22.5	22.5	22.5	22.5	22.5
Training[4]	45.0	45.0	45.0	45.0	45.0	45.0
Total	725.5	791.5	1053.5	725.5	791.5	1053.5
Ex-Ante Rents						
Before Taxes	(259.7)	291.9	642.3	(529.2)	(3.8)	247.1
After Taxes[5]	(259.7)	204.3	449.6	(529.2)	(3.8)	173.0

[1]: The security deposit is not included as an ex-ante cost since it is usually refunded.

[2]: All investment in equipment is assumed to be worthless at the end of the 20 year contract. The disclosure document calculations are based on an initial investment of $610K, which we take to be the typical outlet investment. Since this is about twice the investment required in 1982, we assume that all invesment figures, including equipment investment figures, are doubled.

[3]: The franchise fee in 1989 was $22.5K.

[4]: Since the 1989 management labor figures are about 1.5 times the 1982 figures, we apply this ratio to the 1982 estimates of the cost of training. This leads to an estimate of hourly wages for the franchisee of $22.5. Clearly, the results are not sensitive to reasonable changes in these amounts. Note that the franchisee does not pay tuition to attend Hamburger University.

[5]: Assuming a 30% tax rate to be applied to both the profits from operating a franchise as well as the revenues the franchisee would obtain from his labor and his capital under their best alternative uses. Clearly, this is a very "naive" way to deal with the taxation issue. It does not deal with the reality of different tax rates for businesses and individuals, nor with the fact that some costs (accelerated depreciation, car expenses, etc.) reduce firms' tax liabilities. Hence the results reported on this line should be interpreted as very coarse approximations.

Appendix 2

History of McDonald's Compensation Plans for Company Store Managers
(as described in Sasser and Pettway, (1974))

1963:

McDonald's awarded bonuses as a function of sales volume. The company found that managers spent much energy trying to get transferred to better locations. Also this system was found to be unsatisfactory since it included no reward for costs cutting.

1964-1967:

No formal incentive system. Bonuses based on subjective evaluations. Managers complained their efforts were not being rewarded.

1967: First comprehensive plan.

A. Base Salary: Tied to the Quality, Service and Cleanliness (QSC) criterion.

B. Quarterly bonus: Awarded on the basis of the difference between sales and controllable costs. Controllable costs were listed.

Managers complained again that this plan mainly rewarded volume. Also the company found that the resulting bonuses varied significantly, from $700 to $8,000, with a median at $2,000.

1972:

A. Base Salary:

The company established three base salary ranges for different cost-of-living areas. The highest, with a maximum of $15,000, was for metropolitan areas, the lowest, with a minimum of $6,800, was for mainly rural areas. Within these ranges, an individual's compensation was based on performance.

B. Quarterly bonus:

Awarded on the basis of a number of criteria:

1. Meeting labor crew costs: 5% of his quarterly base salary.

2. Meeting the food and paper costs objective: 5% of his quarterly base salary.

3. An average grade of A on monthly management visitation reports, which rated each store's compliance with the QSC standard, earned the manager an extra 10% bonus. an average grade of B earned him 5%, while an average grade of C gave him nothing.

4. The manager received 2.5% of the increase in sales volume over the previous year's sales, though this amount was capped at 10% of his base salary. If sales were affected negatively by factors outside the manager's influence, he could still be awarded a 5% bonus, at the area supervisor's discretion.

Overall, the maximum bonus was 30% of the manager's base salary. The main complaints from managers about his plan was that it was too complicated and subjective, and again that volume was given too much weight.

1974:
A. Base Salary:

The range of base salaries depends on whether the manager operates in a high cost of living area, or a low cost of living area:

    High cost of living area: 12,000 to 17,500

    Low cost of living area: 11,000 to 16,000

Within these ranges, the area supervisor is given the jurisdiction to determine the exact amount based on performance.

B. Bonuses:

The manager's quarterly bonus depends on established performance relative to 6 goals:

Quality:	
Service:	35%
Cleanliness:	
Volume:	15%
People (training):	25%
Controllable costs:	15%

Every quarter, the area supervisor and the store manager establish goals for these, and agree on a weighting scheme. McDonald's suggested weights are as given above. The extra 10% was left to the discretion of the supervisor and manager to be added to any of the 6 goals, or on any other criteria they chose to use.

Evaluations by the area supervisor are performed monthly, with the quarterly bonus being based on average scores over the three months. On each factor, the manager is given a score of 0 for unsatisfactory, 1 for acceptable, and 2 for excellent performance. A manager with the maximum scores in all categories is awarded a quarterly bonus equal to 40% of his quarterly base salary. Lower scores would earn him a lower bonus rate.

Finally, each year, the area supervisor also reviews the store manager's performance overall and makes recommendations regarding yearly base salary increases.