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Beyond Entry: Examining McDonald's Expansion in International Markets

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Abstract

This paper examines the factors that affect not only entry but also subsequent growth of retail chains within international markets. Specifically, we focus on McDonald's expansion around the globe. Arguably, McDonald's has introduced the American concept of fast food and franchising to many foreign markets. In that sense, it is of particular interest to examine the international expansion path that this firm has chosen to pursue. The pattern of entry into foreign markets and growth that we observe dispells the notion that McDonald's expanded abroad because it had saturated its home market. Instead, consistent with traditional profit maximization arguments for a multi-market monopoly, we find evidence that McDonald's allocated resources to achieve balanced growth across many desirable markets, but particularly favoring those with higher GDP per capita.

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1. INTRODUCTION

An extensive body of literature on firm expansion beyond domestic borders has focused on entry, specifically the issues of timing and mode of entry, where the latter typically takes the form of exporting, licensing, joint venture or FDI (see e.g. Hymer 1976; Davidson 1983; Anderson & Gatignon 1986; Teece 1986; Dunning 1988; Gatignon & Anderson 1988; Kogut & Singh 1988; Barkema, Bell & Pennings 1996; Buckley & Casson 1998; Shaver 1998; Mitra & Golder 2002). While this literature has provided useful insights regarding where and how firms enter foreign markets, it treats entry as its own end rather than the beginning of a firm's foreign market involvement. This focus on entry may stem in part from the frequent use of manufacturers as the empirical context for analyzing expansion; a manufacturer can enter a foreign market at the outset with a plant large enough to service the needs of the market for some time to come. In this context, entry rightly may be seen as the end as well as the beginning of a firm's foreign market investment. But as the U.S. moves increasingly from largely a manufacturing-based economy towards a more service-based economy, understanding how service firms expand abroad becomes increasingly important. And the reality is that service firms typically enter foreign markets with one or a few locations and then expand their geographic coverage of the foreign market over time in their quest for customers. When and how these firms develop additional locations in foreign markets becomes potentially more important than choosing the timing and mode of entry for the initial location(s).

In this paper we employ the empirical context of fast-food franchising to gain a richer understanding of international expansion by service firms within as well as across foreign markets. We focus on the expansion of the firm—McDonald's—credited with introducing the concept of franchising itself to many markets where it operates. We use data on the number of

outlets that McDonald's operated in each country in each year over the past three decades to assess the importance of various factors in determining the pattern of foreign market expansion as well as entry. We examine how both firm characteristics and country characteristics previously identified as important to foreign market entry timing and mode relate to observed levels and increases in outlet counts by McDonald's in each country. For instance, we can test whether economic instability and cultural distance, both factors that have been found to reduce the likelihood of foreign market entry (see e.g. Kobrin 1976; Davidson 1980; Kogut & Singh 1988; Gomes-Cassares 1989; Henisz 2000), also hinder expansion within previously entered foreign markets. Likewise, we can assess the relative influence of a firm's within-market years of experience against its experience in related markets on its expansion process. Finally, we can explore how governance mode (subsidiary, joint venture, master franchising) adopted by the firm to oversee operations within each country influences the rate of subsequent store development within that market in addition to examining the governance choice itself.

The paper is organized as follows. In the next section we briefly summarize literature on market entry and identify hypotheses to be tested with our data. Section 3 describes the data and the international expansion of McDonald's over time. Section 4 presents our empirical specification and results. Section 5 concludes.

2. A BRIEF OVERVIEW OF LITERATURE AND CONCEPTUAL FRAMEWORK

While manufacturing firms can minimize the risk they expose themselves to in foreign markets by simply exporting and increasing their involvement only in those markets where they find success, a firm such as McDonald's must go abroad where its customers are if it is to sell its product abroad. The question then arises as to whether such a firm will exhaust all opportunities within an individual market before moving to another, as might occur if the cost or the risk of

going abroad is considered very high, or whether the firm will allocate its limited resources across markets so as to continuously exploit the highest expected return across boundaries, as a typical multi-market monopolist would. In the latter case, we will observe entry into new markets simultaneously with continued expansion in existing ones.

The literature on firm entry into markets in economics has focused explicitly on the importance of sunk costs in determining the number of firms that can operate and thus compete at a point in time in a market (Bresnahan and Reiss, 1987). This literature also has considered the effect of firm heterogeneity on the likelihood of entry (Berry (1992), Scott Morton (1999)). Specifically, the typical model assumes that heterogeneous firms decide simultaneously whether to enter and incur the sunk costs. Firms then compete in a single market, and the resulting combination of production levels and prices determine their net profits in this new market.

Our setting differs from that of prior entry studies in that rather than examining multiple firms deciding whether or not to enter one market, we consider a single firm deciding whether to enter several different markets. We follow this literature however in assuming that McDonald's faces sunk entry costs in each market. This cost might include the cost of devoting resources to learn about the rules that govern each new market, learn about the customers and advertise the brand and make itself and its product known in this new market. Because of the limited managerial resources available at a point in time, we assume that these costs, which for simplicity we assume to be the same across markets, are convex in the number of countries entered into in a given time period. This convex cost function imposes a limit on the number of markets that the firm will want to enter into all at once.

Moreover, as is typical in the literature on location choices, we assume that McDonald's also faces sunk costs of entry each time it opens a new outlet in any given market, and that this cost also is convex in the number of outlets opened in a given market in a given time period.

This assumption represents the strain on local resources when many outlets are opened at once and limits the chain's growth in any market in a given period.

Suppose that the demand for McDonald's product in any given market i at time t is given by

$$Q_{it} = f(X_{it}, p_{it}) + u_{it} \quad (1)$$

where the X_{it} are a series of market characteristics such as population and income, the u_{it} are random noise that makes it impossible to precisely predict demand, and p is the price charged for the product in market i at time t. Given price, and holding the size of each McDonald's constant, this demand implicitly defines the optimal number of outlets that McDonald's wants to have by time t in this market given its characteristics. We use N_{it}* to represent this optimal number of stores.

The expected profit from entering a specific new market if all N_{it}* outlets could be opened at once then would be

$$\Pi_{it} = N_{it}^* (\pi_i - F) - C(J)/J$$

where π_i is the present value of an outlet's variable profit over time, F is the sunk cost of establishing each outlet, and C(J)/J is the average cost of entering a market when J markets are expanded into in a given year. Of course, if all outlets are not opened at once, the expected profits will be lower as some outlets will only generate profits further in the future. Moreover, at any given time, returns need not be positive. In those cases, the firm will need to delay entry until market conditions improve sufficiently so that the profit potential outweighs entry costs. Thus entry into very low demand markets may be delayed significantly.

Assuming similar development times across markets, for any value of J, firm profits will be higher the larger the expected number of stores to be opened in a market. This simple framework provides our first testable implication. In any given period, McDonald's will first

enter those remaining markets with the highest expected demand, namely markets where income and population for example are high (assuming, of course, that fast-food is a normal good), and where customers are more likely to value its product. Of course, if we allow the sunk market entry costs to vary across markets, due for example to greater familiarity with some markets than others, then entry will occur first in high demand low sunk cost markets.

While the setting above provides a hypothesis about entry that is very consistent with existing empirical patterns in the literature, it does not help us understand the process of expansion after entry, which is a main focus of this paper.

An alternative way to think about this process is as a series of entry decisions within specific submarkets. This again would lead to a conclusion that McDonald's would open those outlets in the most profitable submarkets first. The convex cost function for unit location choices would constrain the number of outlets to open in each market in any given period. In many of the markets where McDonald's now operates, it brought not just one but two new concepts: its product – the hamburger, or fast-food itself – and franchising. As a pioneer, it faced significant uncertainty, not knowing how the population would react to its product offering so that demand cannot be predicted with as much precision (the variance of the u in (1) is larger) when the firm has no experience in the market (see e.g. Caplin and Leahy's (1998) model of search with information externalities). Thus there is option value in not developing a large number of outlets all at once but instead taking some time to learn about customers, tailoring products, and advertising to increase demand in each market. Both the convex cost and the need to retain option value lead to the notion that McDonald's will open the number of outlets it expects the market to bear only gradually. Figures 1 and 2, which illustrate the evolution of the number of McDonald's restaurants and the number of restaurants per million people in 25 major markets, confirm this tendency. They also show that McDonald's expands beyond its current set of

countries while it is still rapidly increasing its presence in existing ones. How fast it will choose to add outlets across different markets however is an open question. What we can infer from this framework, however, is that holding constant the sunk cost of entry at the outlet level, the number of outlets will grow more rapidly the larger the expected demand in the market. However, since McDonald's can obtain additional information about the markets when it operates within them, and find ways to better tailor its offerings to each such market, but the econometrician does not capture such information, our capacity to predict based on observable country characteristics where faster outlet growth is likely to occur may deteriorate as time in market increases.

Finally, note that our description has focused on entry, and thus relates new outlets and growth in outlets not to market growth, but rather to the characteristics of the markets in levels. In other words, we have a diffusion process where the number of outlets at any point in time remains so far from the equilibrium level that what we observe are the effect of the market characteristics on the growth of outlets rather than the effect of market growth on the same. This is standard in entry analyses, and in turn shapes our empirical model below.

3. THE DATA

The panel data set we use has been constructed from McDonald's Corporation annual reports which together contain information on the number of stores that the company operates in each country in each year since the company's foundation in 1955. In addition, we gathered information on the characteristics of each of the markets/countries' that it operates in by 1999. These data are yearly since 1967 when McDonald's opened its first outlet outside of the United States (in Canada). Our goal is to capture those market characteristics that influence expected demand for McDonald's in each market as well as the level of sunk costs potentially. Thus we

obtained data on GDP per capita, population, the proportion of the population living in urban centers, the surface area of the country, the distance of each capital from Chicago, where McDonald's headquarters is located, and so on. Table 1 shows the details of all these variables, their exact definitions and the sources we used. Table 2 gives descriptive statistics for all these variables across all the foreign markets over the period from 1967 to 1999 irrespective of whether McDonald's had in fact any outlets within a given market at the time. [1]

[1] Tables A1 and A2 in Appendix A shows the list of markets included in our sample, and those that we had to exclude for lack of data. We made every effort to find all the needed data for all "significant" markets. Though we are missing some data for some of the relevant markets, Table A2 shows that the countries or jurisdictions excluded from our sample are typically small, and many of them are islands.

Table 1: Variable Definitions and Sources

Variable Name	Description	Units	Measure	Source(s)
outlets	# outlets in country	Outlets	Total year-end number of outlets in country.	Annual Reports
mkt_pen	# outlets/100K people in country.	Outlets	Total year-end number of outlets in country divided by 100K of people living in country.	Annual Reports, USCB
yr_in_mkt	Year in market (entry year=1)	Years	First year equals 1, 2nd year equals 2, …	Annual Reports
pop	Total country population	Millions of people		USCB
pct_urbpop	Percent of total population that resides in urban settings	Percentage of total population	100(# People in urban settings divided by total population of the country)	WDI,PWT,WB
gdpcap	Real GDP per capita	$US 1995		WDI,PWT,WB
distance	Distance from firm headquarters	Kilometers	Great circle distance between Chicago and country capital	
ecorisk_gdpcap	Variability of detrended GDP/capita as a proportion of average GDP	None	Mean squared error from regression of real local currency GDP per capita on calendar year from t-6 to t-1 divided by average real local currency GDP per capita over same period	WDI,PWT,WB
stdev_USxchg	Variability of local currency and US$ exchange rate	none	Standard deviation of exchange rate between t-6 to t-1 divided by average exchange rate over same period.	WDI,PWT,IMF
trade_gdp	Openness of country to foreign trade	percent	100(Total (exports + imports) divided by GDP for a country)	WDI,PWT,WB
foreign_mkts	Total foreign markets in which McD operates at year end.	Number of markets		Annual Reports
exper_lang	Experience in Markets w/Same Language	Total stores	Total store count within other countries that speak the same language.	Annual Reports, WB
monopoly	No other American Burger Chain in country	{0,1}	Indicator variable	AR, SEC, Press

Table 2: Descriptive Statistics (1967-1999) Excluding US

Variable	Mean	Std. Dev	Min	Max
outlets_added	5.75	24.21	-93	522
percent_added	0.17	0.42	-2	2
outlets	40.7	164.9	0	3,258
yr_in_mkt	4.9	7.4	0	33
pop	49.50	150.11	0.32	1,252.77
pct_urbpop	61.81	20.54	8.08	100
gdpcap	8,642	9,778	0	45,952
surface_area	1,165,481	2,813,696	320	17,100,000
distance	5,122	2,237	434	9,880
trade_gdp	69.63	50.47	3.68	439.03
ecorisk_gdpcap	0.0284	0.0429	0.0010	0.8759
stdev_USxchg	51	83	0	547
monopoly	0.14	0.35	0	1
foreign_markets	43.66	32.05	2	111
exper_lang	1,205	3,161	0	16,421
Arabic Language	0.11	0.31	0	1
French Language	0.08	0.28	0	1
German Language	0.04	0.20	0	1
Other Language	0.38	0.49	0	1
Russian Language	0.04	0.19	0	1
Spanish Language	0.27	0.44	0	1
East Block	0.06	0.24	0	1
Africa & Mideast	0.14	0.35	0	1
Asia & Oceania	0.23	0.42	0	1
Europe	0.32	0.47	0	1
S. America	0.17	0.37	0	1

4. THE EMPIRICAL MODEL AND RESULTS

The theory above suggests that a firm like McDonald's estimates its optimal number of outlets in each market based on market characteristics.[2] In other words:

$$N_{jt}^* = f(X_{jt}) + \varepsilon_{jt} \quad (1)$$

where N_{jt}^* is the equilibrium number of outlets in jurisdiction j at time t given market characteristics X_{jt}, which include market population and per capita income, which we expect will have a positive effect on the equilibrium number of outlets, and country risk which we expect will have a negative effect on the same. Moreover, certain markets may involve lower entry costs due to lower distance, physical or cultural.

The phenomenon we are focusing on, that is a firm's expansion across markets, however, is a dynamic one. In fact, since the firm is expanding from no presence at all in the market, under the assumptions of convex sunk costs and option value discussed above, our yearly observations on number of outlets will not represent long term equilibrium configurations of outlets across markets for many years beyond entry. Instead, the firm is typically playing catch up, growing not in response to growth in the market, but in response to its desirability. Still, the number of outlets established in a market may affect the desirability of opening new ones. For those reasons, we estimate

$$Y_{jt} = BX_{jt} + \Gamma Z_{jt} + \varepsilon_{jt} \quad (2)$$

where Y_{jt} is the number of new outlets in market j at time t, X_{jt} are the market characteristics at time t, and Z_{jt} capture the characteristics of McDonald's in relation to market j at time t, in

[2] Indeed, in their study of international expansion, Gonzalez-Diaz and Lopez (2002) use franchisors' stated desired market size per outlet to determine the point of market saturation.

particular the number of outlets established by time t-1, and the number of years since it entered this market.[3]

We begin by exploring the market entry decision using a duration model. Our focal event is entry by McDonald's into a foreign market. In the analysis, a country j is considered to be at risk of entry if that country is an independent jurisdiction and in year t McDonald's has not as yet entered. We specify the probability of entry as

$$\text{Probability of Entry} = \exp(\alpha_0 + \mathbf{X}_{jt}\beta + \mathbf{Z}_{jt}\Gamma)$$

The α_0 reflects the baseline hazard of entry and the time-varying covariates X and Z then alter the relative likelihood of entry. Results from estimating this model are summarized in Table 3. They show that indeed high GDP per capita is an important factor attracting McDonald's to particular foreign markets. Population and size of country also mostly play a positive role, but their effect is not consistently estimated to be different from zero. Openness to trade, as captured by trade/GDP, is another positive factor in choosing markets, while distance and risk, as captured by exchange rate risk, decrease the probability of entry at any time t. Note that the effect of distance is reduced importantly, and becomes insignificant statistically, once we also control for the region of the world where a market is. Contrary to our expectations, our other risk measure, which was meant to convey the degree of year-to-year variation in GDP per capita around a trend, turns out to have a positive, though insignificant, effect on the probability of entry. As for firm characteristics, we find that McDonald's is more likely to enter new markets at time t if it has already done this often (large foreign markets), if it has more experience in countries within the same language group, and in eastern block countries. The latter is not surprising given that

[3] For simplicity we ignore functional form issues in equation (2) but address them in our empirical analyses below.

entry into these countries prior to their independence from the Soviet Union was effectively not possible. We should also note that we treat these countries as at risk of entry only once they achieve independence.

Table 3: Duration Analysis (Exponential)

	(1)	(2)	(3)	(4)
Log(population)	0.21	-0.11	0.30	0.01
	[0.17]	[0.19]	[0.17]	[0.18]
Percent Urban	0.01	0.02	0.003	0.01
	[0.01]	[0.01]	[0.01]	[0.02]
Log(gdpcap)	0.58**	0.77**	0.70**	0.96**
	[0.22]	[0.29]	[0.23]	[0.29]
Log(area)	0.25	0.52**	0.21	0.45**
	[0.15]	[0.15]	[0.14]	[0.15]
Log(distance)	-0.88*	-0.38	-0.98**	-0.31
	[0.35]	[0.70]	[0.34]	[0.68]
Trade/gdp	0.01**	0.01*	0.01**	0.01**
	[0.004]	[0.004]	[0.004]	[0.004]
ecorisk_gdpcap	1.37	0.87	1.30	0.77
	[1.57]	[1.71]	[1.50]	[1.61]
stdev_US exchange	-0.005*	-0.003	-0.003	-0.002
	[0.002]	[0.002]	[0.002]	[0.002]
Log(foreign markets in)	1.35**	1.71**	1.45	1.68*
	[0.28]	[0.31]	[0.84]	[0.85]
Log(experience_language)	0.21*	0.24*	0.03	0.05
	[0.09]	[0.10]	[0.10]	[0.11]
East_block	1.30*	1.38*	0.66	0.79
	[0.63]	[0.70]	[0.68]	[0.74]
Constant	-11.09**	-20.80**	-8.42	-19.18**
	[3.49]	[6.39]	[5.17]	[7.39]
Language Dummies	Yes	Yes	Yes	Yes
Region Dummies		Yes		Yes
5 year time dummies			Yes	Yes
Observations	1,245	1,245	1,245	1,245
# Countries	74	74	74	74
Log Likelihood	-35.75	-24.49	-24.37	-13.99

Standard errors in brackets; * significant at 5%; ** significant at 1%

Focusing on entry rather than the whole process of international expansion of this chain, however, ignores much relevant information. Assuming that entry and future expansion are part of the same process, we can specify the process of outlet addition at time t in market j as

$$Y_{jt} = \max (0, BX_{jt} + GZ_{jt}\, e_{jt}).$$

In this case, we can estimate the relevant coefficients using Tobit. Results from doing so are reported in Table 4.

Table 4: Tobit Results: Outlets Added

	Full Sample		First 15 Years in Market	
Lagged Number of Outlets	1.00**	0.96**	1.88**	1.74**
	[0.08]	[0.08]	[0.18]	[0.18]
Squared lagged # of Outlets	0.003**	0.003**	-0.017**	-0.015**
	[0.000]	[0.000]	[0.005]	[0.005]
Year in market	5.67**	5.21**	7.45**	7.08**
	[0.56]	[0.57]	[0.55]	[0.55]
Squared year in market	-0.35**	-0.33**	-1.01**	-0.96**
	[0.05]	[0.05]	[0.09]	[0.09]
Cubed year in market	0.006**	0.005**	0.038**	0.036**
	[0.001]	[0.001]	[0.004]	[0.004]
monopoly	3.75*	3.42*	-1.87**	-1.66*
	[1.50]	[1.53]	[0.71]	[0.71]
Log(population)	5.11**	5.61**	2.42**	2.54**
	[0.68]	[0.72]	[0.33]	[0.35]
Percent Urban	0.01	0.02	0.01	0.01
	[0.05]	[0.06]	[0.03]	[0.03]
Log(gdpcap)	5.33**	7.12**	2.20**	3.10**
	[1.01]	[1.17]	[0.49]	[0.57]
Log(area)	-1.43**	-1.41**	-0.03	-0.10
	[0.49]	[0.54]	[0.24]	[0.26]
Log(distance)	3.06*	7.19**	-0.24	-1.45
	[1.32]	[2.75]	[0.66]	[1.29]
Trade/gdp	-0.022	-0.029	0.007	0.002
	[0.016]	[0.017]	[0.008]	[0.008]
ecorisk_gdpcap	-4.18	-7.71	2.13	0.19
	[14.16]	[14.24]	[5.89]	[5.90]
stdev_US exchange	0.004	0.004	0.003	0.004
	[0.008]	[0.009]	[0.004]	[0.004]
Log(foreign markets in)	2.02	3.01	0.34	0.96
	[1.94]	[2.02]	[0.84]	[0.88]
Log(experience_language)	0.85*	0.87*	0.45*	0.34
	[0.39]	[0.41]	[0.18]	[0.19]
East_block	5.55	7.87*	0.73	2.39
	[3.26]	[3.46]	[1.36]	[1.47]
Africa & Mideast		-19.02**		-0.71
		[6.93]		[3.03]
Asia & Oceania		-10.77		2.00

		[5.67]		[2.55]
Europe		-12.79**		-1.77
		[4.27]		[1.96]
S. America		-8.78*		-0.40
		[4.15]		[1.87]
Language Dummies	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Constant	-105.93**	-148.69**	-40.31**	-36.90**
	[16.71]	[26.36]	[8.09]	[12.13]
Observations	2,205	2,205	1,930	1,930
Log Likelihood	-3,852	-3,844	-2,194	-2,188

Standard errors in brackets; * significant at 5%; ** significant at 1%

Note that our estimation now includes several more variables describing the operations of McDonald's in each market, notably the number of outlets already in the market, which we include in quadratic form, and the number of years since it started operations there, which we include in cubic form. We also include a dummy variable equal to one if there is not yet another U.S. burger chain in this market. This we expect will have a positive effect on the desirability of both entry and expansion in a market. The first two columns give results for the overall sample, while in the third and fourth column we focus on McDonald's first 15 years in each market under the assumption that this period better captures the diffusion process with continuous entry whereas later periods may be more of an equilibrium situation. For both samples, we present first results where we exclude, and then results where we include, regional dummies.

Our results confirm that GDP per capita and experience in markets with the same language are important drivers of growth just as they were in our entry model. However, now population has a large significant effect on outlets added, and distance has a positive effect pm outlets added rather than the negative effect we found for entry, and exchange risk does not affect growth negatively. In other words, many of the factors we found influenced the entry decision have different effects when we consider both entry and growth. Moreover, in this case,

we can see that previous experience in the market (both in terms of stores or years of operation there) increases generally the number of outlets added each year. The absence of other chains in the market increases the number of outlets added in our overall sample, but it decreases it when we focus on just the first 15 years in each market.

The results above suggest that there are differences in the processes that drive within market expansion and those that drive entry into a market. To investigate this further, we now turn to an analysis of outlets added per year conditional on entry. We therefore estimate equation (2) directly via OLS after eliminating all country-year observations where the number of outlets in country is zero.[4] The results are summarized in Table 5, first for the full sample and then again for the sample restricted to the first fifteen years in each market.

Table 5: OLS Results: Outlets Added Conditional on Entry

	Full Sample		First 15 Years in Market	
Lagged Number of Outlets	1.068**	1.087**	1.487**	1.412**
	[0.266]	[0.280]	[0.336]	[0.333]
Squared lagged # of Outlets	0.003**	0.002*	-0.008	-0.007
	[0.001]	[0.001]	[0.012]	[0.011]
Year in market	-0.336	-0.263	0.534	0.449
	[0.504]	[0.507]	[0.730]	[0.742]
Squared year in market	0.1	0.095	-0.014	-0.002
	[0.061]	[0.061]	[0.107]	[0.107]
Cubed year in market	-0.004*	-0.004*	-0.001	-0.001
	[0.002]	[0.002]	[0.004]	[0.004]
monopoly	-0.161	-0.486	-0.369	-0.277
	[0.997]	[1.072]	[0.711]	[0.718]
Log(population)	2.955**	3.074**	1.999**	2.059**
	[0.790]	[0.802]	[0.468]	[0.484]
Percent Urban	-0.052	-0.05	0.008	0.005
	[0.050]	[0.050]	[0.026]	[0.027]
Log(gdpcap)	1.767*	1.603*	0.794	1.201
	[0.683]	[0.770]	[0.570]	[0.749]
Log(area)	-1.72**	-1.58**	-0.388	-0.366

[4] We are exploring other options for this estimation, notably a count model, or using log (outlets added) as our dependent variable.

	[0.426]	[0.457]	[0.268]	[0.315]
Log(distance)	5.16**	7.716**	-0.297	-1.156
	[1.805]	[2.393]	[0.870]	[1.647]
Trade/gdp	-0.045**	-0.04**	-0.013	-0.013
	[0.013]	[0.014]	[0.011]	[0.011]
ecorisk_gdpcap	-4.284	-2.981	2.373	1.703
	[5.641]	[5.326]	[2.728]	[2.933]
stdev_US exchange	0.014	0.012	0	0.001
	[0.008]	[0.008]	[0.003]	[0.004]
Log(foreign markets in)	-3.114	-3.584	-0.752	-0.275
	[2.174]	[2.335]	[0.771]	[0.960]
Log(experience_language)	0.048	0.184	0.394	0.307
	[0.337]	[0.327]	[0.222]	[0.270]
East_block	1.306	0.987	0.71	1.703
	[2.610]	[2.948]	[1.871]	[2.025]
Africa & Mideast		-1.295		4.577
		[3.993]		[3.774]
Asia & Oceania		-5.905		1.382
		[3.786]		[2.833]
Europe		-2.909		-0.495
		[2.993]		[1.860]
S. America		-2.651		-0.171
		[2.929]		[2.282]
Language Dummies	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Constant	-25.47*	-44.232*	-2.647	-0.682
	[12.274]	[18.497]	[7.500]	[14.209]
Observations	1032	1032	757	757
Adjusted R-square	0.76	0.76	0.60	0.60
Log Likelihood	-4378	-4377	-2521	-2518

Robust standard errors in brackets; * significant at 5%; ** significant at 1%

Contrasting the sets of results obtained with Tobit to the conditional OLS results, we see first that the number of years in market no longer has the large and significant effect it did in the Tobit model. Many more of the variables that were important and significant in the Tobit model do not seem to matter as much in the growth process conditional on entry. This suggests that the assumption embedded in the tobit estimation that the same coefficients apply to the limit observations as well as non-limit observations in this context may not be appropriate. We are currently exploring alternative ways to estimate the conditional on entry model and the joint

model in nested form (e.g. Cragg, 1971), and the McDonald and Moffit (1980) decomposition of marginal effects to shed further light on these comparative results. However, at this stage, our estimations suggest that there is room for improving our understanding of firms' international expansion by looking at service firms who need to grow their physical presence in every foreign country in observable ways in order to access customers there. Moreover, we have found evidence of gradual expansion starting with more desirable high GDP per capita markets, and continued expansion across markets the firm has already entered.

5. CONCLUSION

In this paper, we examined the international expansion process followed by one of the most visible American firms to expand abroad, and also a firm that has pioneered American fast-food and franchising in several countries. We found that this firm's pattern of entry into foreign markets and growth easily rejects the notion that McDonald's expanded abroad because it had saturated its home market. Instead, consistent with traditional profit maximization arguments for a multiple market monopoly, we find evidence that it allocated resources to achieve to some notion of balanced growth across many highly desirable markets, starting with the most desirable ones first. Finally, we have found that while expansion conditional on entry, and entry itself share some common properties, e.g. they are both positively related to a market's GDP per capita, there are also several factors that affect entry and expansion differently. We conclude that it is worthwhile considering more generally how service chains expand abroad and go beyond just entry to gain further insights in the process and hurdles involved in foreign expansion.

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Figure 3: McDonald's System-wide Store Count (1955-2002)

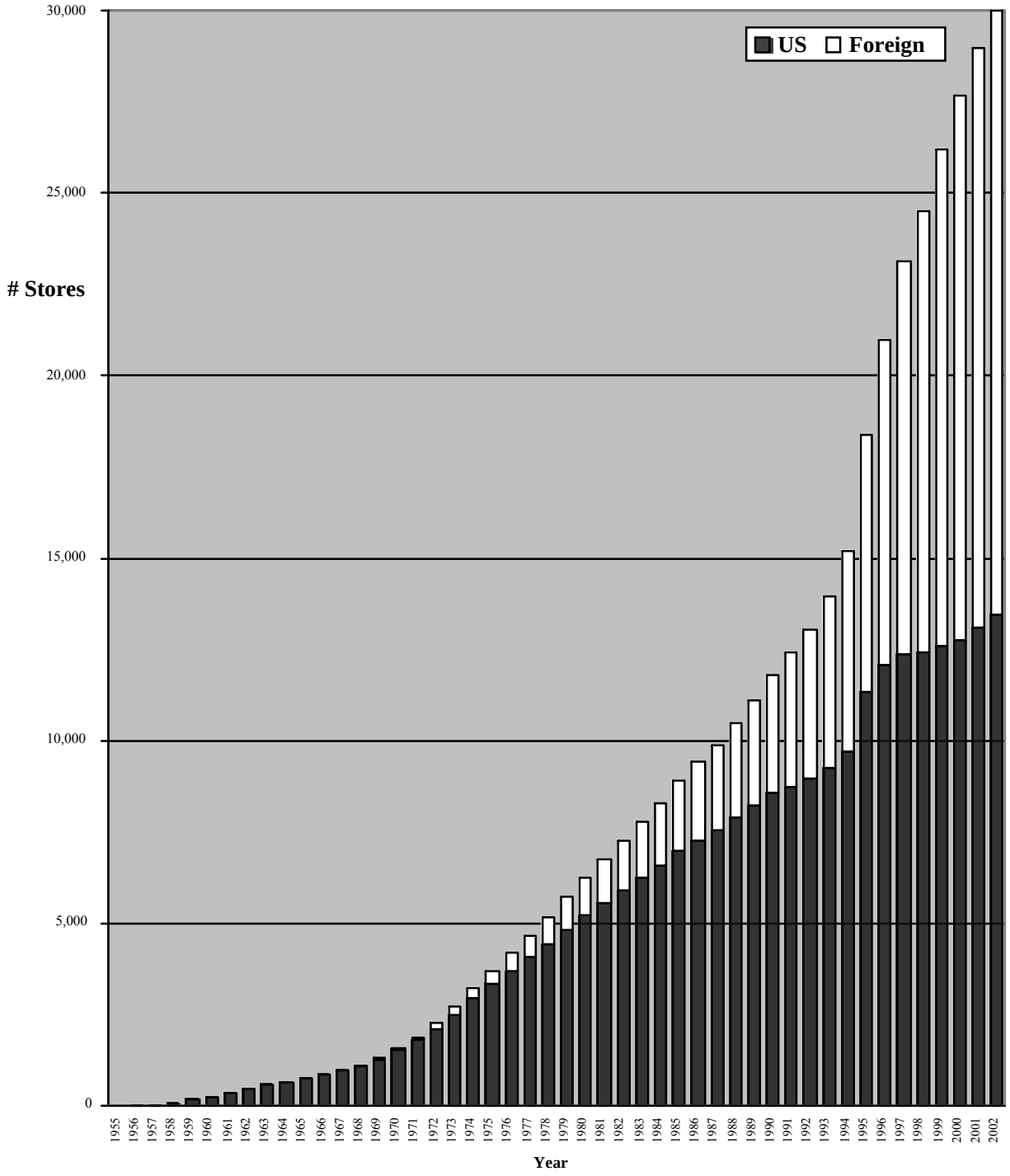
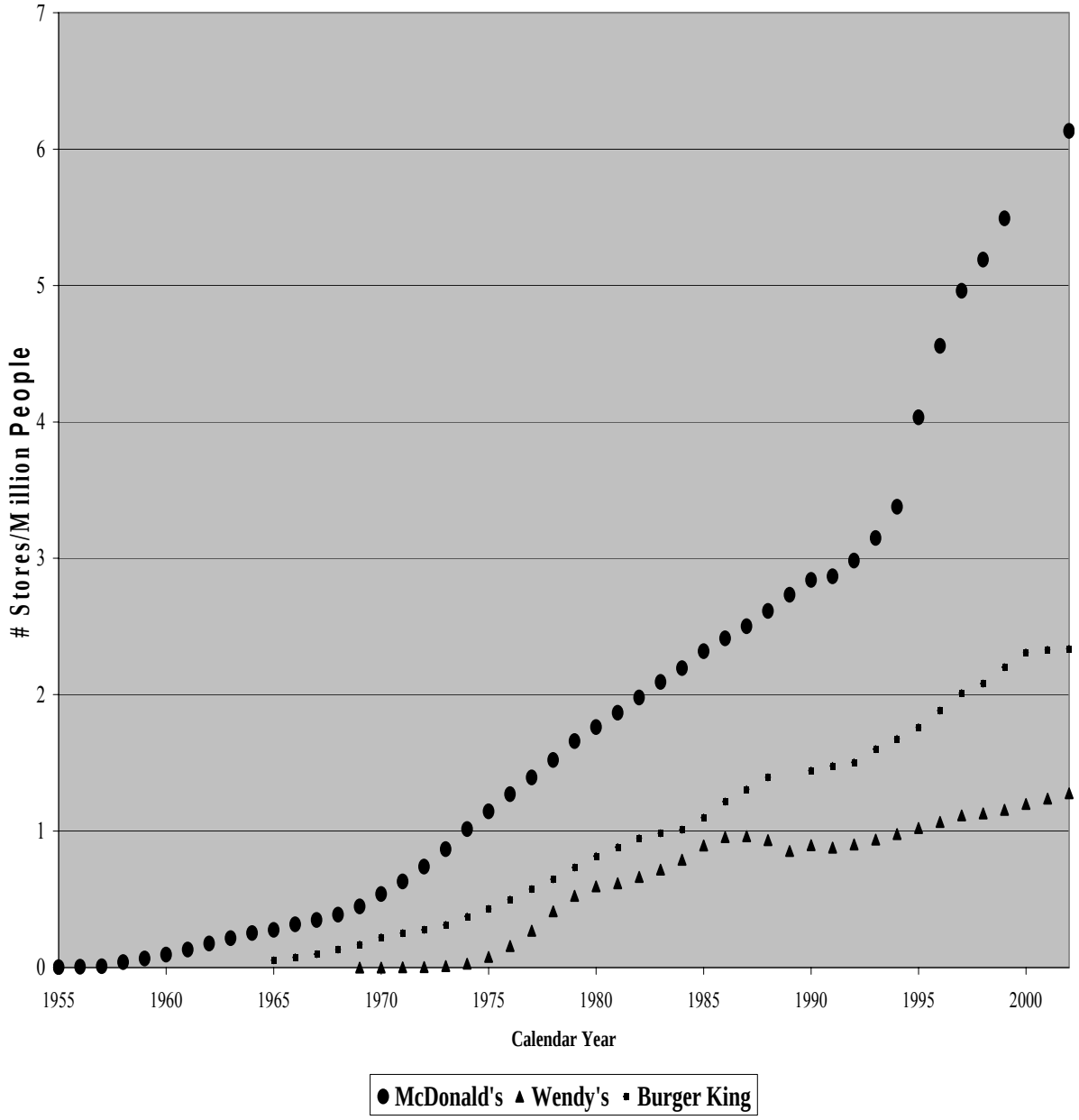


Figure 4: # Stores Per Million People System-wide Within Sampled Jurisdictions

(Comparison Across Chains)



Appendix

APPENDIX

Table A1: McDonald's International Presence: Jurisdictions in Final Sample

	Country	Country ID	# Stores	Population (Millions)	# Stores/ Million People	Area in Sq. Km (000s)	Entry Year
1	United States	USA	13,491	287.68	46.90	9,158.96	1955
2	Japan	JPN	3,891	127.07	30.62	364.50	1971
3	Canada	CAN	1,304	31.90	40.87	9,220.97	1967
4	United Kingdom	GBR	1,229	59.91	20.51	240.88	1974
5	Germany	DEU	1,211	82.35	14.71	356.68	1971
6	France	FRA	973	59.93	16.24	550.10	1972
7	Australia	AUS	726	19.55	37.14	7,682.30	1971
8	Brazil	BRA	584	179.91	3.25	8,456.51	1979
9	China	CHN	546	1,279.16	0.43	9,327.42	1990
10	South Korea	KOR	357	47.96	7.44	98.73	1988
11	Taiwan	TWN	350	22.45	15.59	36.00	1984
12	Spain	ESP	333	40.15	8.29	499.44	1981
13	Italy	ITA	329	57.93	5.68	294.11	1985
14	Mexico	MEX	261	103.40	2.52	1,908.69	1985
15	Sweden	SWE	245	8.88	27.60	411.62	1973
16	Philippines	PHL	236	83.00	2.84	298.17	1981
17	Netherlands	NLD	220	16.07	13.69	33.88	1971
18	Hong Kong	HKG	216	7.30	29.58	0.99	1975
19	Argentina	ARG	203	38.33	5.30	2,736.69	1986
20	Poland	POL	200	38.63	5.18	304.42	1992
21	Austria	AUT	157	8.17	19.22	82.73	1977
22	Malaysia	MYS	149	22.66	6.57	328.55	1982
23	New Zealand	NZL	148	3.91	37.87	267.99	1976
24	Switzerland	CHE	138	7.30	18.90	39.55	1976
25	Singapore	SGP	130	4.45	29.20	0.61	1979
26	Venezuela	VEN	129	24.29	5.31	882.05	1985
27	Puerto Rico	PRI	112	3.86	28.99	8.87	1967
28	Portugal	PRT	110	10.08	10.91	91.50	1991
29	Indonesia	IDN	105	231.33	0.45	1,811.57	1991
30	Thailand	THA	100	63.65	1.57	510.89	1985
31	Israel	ISR	99	6.03	16.42	20.62	1993
32	Russia	RUS	94	144.98	0.65	16,888.50	1990
33	Finland	FIN	90	5.18	17.36	304.59	1984
34	South Africa	ZAF	89	42.72	2.08	1,221.04	1996
35	Denmark	DNK	84	5.37	15.65	42.43	1981
36	Hungary	HUN	83	10.08	8.24	92.34	1988
37	Turkey	TUR	81	67.31	1.20	769.63	1986
38	Saudi Arabia	SAU	79	23.51	3.36	2,149.69	1993

39	Chile	CHL	70	15.50	4.52	748.80	1990
40	Czech Republic	CZE	68	10.26	6.63	77.28	1992

TableA1 : McDonald's International Presence: Jurisdictions in Final Sample (Cont'd)

	Country	Country ID	# Stores	Population (Millions)	# Stores/ Million People	Area in Sq. Km (000s)	Entry Year
41	Ireland	IRL	67	3.88	17.25	68.89	1977
42	Norway	NOR	62	4.53	13.70	306.83	1983
43	Belgium	BEL	56	10.28	5.45	32.82	1978
44	Greece	GRC	54	10.65	5.07	128.90	1991
45	Ukraine	UKR	51	48.40	1.05	579.35	1997
46	Romania	ROM	48	22.32	2.15	230.34	1995
47	India	IND	46	1,034.17	0.04	2,973.19	1996
48	Egypt	EGY	40	73.31	0.55	995.45	1994
49	Guatemala	GTM	38	13.54	2.81	108.43	1974
50	Kuwait	KWT	37	2.11	17.52	17.82	1994
51	Panama	PAN	32	2.92	10.96	74.43	1971
52	Colombia	COL	28	41.01	0.68	1,038.70	1995
53	United Arab Emirates	ARE	28	2.45	11.45	83.60	1994
54	Costa Rica	CRI	24	3.84	6.26	51.06	1970
55	Uruguay	URY	22	3.39	6.50	175.02	1991
56	Bulgaria	BGR	21	7.62	2.76	110.55	1994
57	Pakistan	PAK	20	147.66	0.14	770.88	1998
58	Morocco	MAR	17	31.17	0.55	446.30	1992
59	Peru	PER	17	27.95	0.61	1,280.00	1996
60	Slovenia	SVN	17	1.93	8.79	20.12	1993
61	Croatia	HRV	16	4.39	3.64	55.92	1996
62	Ecuador	ECU	10	13.45	0.74	276.84	1997
63	Jamaica	JAM	10	2.68	3.73	10.83	1995
64	Dominican Republic	DOM	9	8.60	1.05	48.38	1996
65	Lebanon	LBN	9	3.68	2.45	10.23	1998
66	Malta	MLT	8	0.40	20.13	0.32	1995
67	Estonia	EST	7	1.42	4.94	42.27	1995
68	Honduras	HND	7	6.51	1.07	111.89	1974
69	Jordan	JOR	6	5.31	1.13	88.93	1996
70	Lithuania	LTU	6	3.60	1.67	64.80	1996
71	Latvia	LVA	6	2.37	2.54	62.05	1994
72	Paraguay	PRY	6	5.88	1.02	397.30	1996
73	Belarus	BLR	6	10.34	0.58	207.48	1996
74	El Salvador	SLV	5	6.35	0.79	20.72	1973
75	Oman	OMN	5	2.71	1.84	212.46	1994
76	Nicaragua	NIC	4	5.02	0.80	121.40	1975
77	Macedonia	MKD	3	2.06	1.46	25.43	1997
80	Georgia	GEO	2	4.96	0.40	69.70	1999
81	Sri Lanka	LKA	2	19.58	0.10	64.63	1998
82	Bolivia	BOL	0	8.45	0.00	1,084.38	1998
83	Trinidad & Tobago	TTO	0	1.11	0.00	5.13	1994

Table A2: McDonald's International Presence: EXCLUDED From Sample

	Country	Country ID	# Stores	Population (Millions)	# Stores/ Million People	Area in Sq. Km (000s)	Entry Year
1	Cyprus	CYP	14	0.77	18.25	9.24	1997
2	Yugoslavia	YUG	13	10.66	1.22	255.40	1988
3	Macau	MAC	10	0.46	21.65	0.02	1987
4	Bahrain	BHR	9	0.66	13.71	0.69	1994
5	Guam	GUM	8	0.16	49.75	0.55	1971
6	Martinique	MTQ	7	0.42	16.58	1.10	1991
7	Qatar	QAT	7	0.79	8.82	11.00	1995
8	Guadeloupe	GLP	6	0.44	13.77	1.78	1992
9	Luxembourg	LUX	6	0.45	13.38	2.59	1985
10	Reunion	REU	6	0.74	8.06	2.52	1997
11	U.S. Virgin Islands	VIR	6	0.12	48.58	0.34	1970
12	Netherland Antilles	ANT	5	0.21	23.34	0.80	1974
13	Bahamas	BHS	4	0.30	13.55	10.01	1975
14	Andorra	AND	3	0.07	43.86	0.47	1984
15	Fiji	FJI	3	0.86	3.50	18.27	1996
16	Iceland	ISL	3	0.28	10.74	100.25	1993
17	Aruba	ABW	2	0.07	28.39	0.19	1985
18	French Polynesia	PYF	2	0.26	7.76	3.66	1996
19	New Caledonia	NCL	2	0.21	9.62	18.28	1994
20	N. Mariana Islands	MNP	2	0.08	25.87	0.48	1993
21	Brunei Darussalam	BRN	1	0.35	2.85	5.27	1992
22	Cuba	CUB	1	11.22	0.09	109.82	1986
23	Gibraltar	GIB	1	0.03	36.08	0.01	1999
24	Liechtenstein	LIE	1	0.03	30.45	0.16	1996
25	Monaco	MCO	1	0.03	31.26	0.00	1992
26	Samoa	WSM	1	0.18	5.60	2.83	1996
27	San Marino	SMR	1	0.03	36.06	0.06	1999
28	Suriname	SUR	1	0.43	2.31	156.00	1997
29	Barbados	BRB	0	0.28	0.00	0.43	1989
30	Bermuda	BMU	0	0.06	0.00	0.05	1985