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ABSTRACT

In our increasingly globalized economy, the growth and profit prospects of domestic firms, especially small firms, seem clearly impacted by competitive pressures from foreign firms. This article analyzes annual data for 1989-1998 for 140 3-digit SIC manufacturing industries and for 1998-2004 for 86 4-digit NAICS industries on establishment - plant-level - births by small firms in several size categories. The major finding is that international pressures, in the form of import share weighted exchange rate appreciation, seem to lead to reduced rates of smallest-firm entry in manufacturing, though the magnitudes of these effects are smaller than sometimes discussed (and there is the suggestion that dollar appreciation may actually benefit small firm entry through access to cheaper inputs where the final product import threat is weak).

Keywords: small firms; entry; foreign competition; exchange rates

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I. Introduction

In our increasingly globalized economy, the growth and profit prospects of domestic firms are clearly impacted by competitive pressures from foreign firms. Yet this dimension of market rivalry has been little studied to date. The empirical literature on determinants of entry has generally focused solely on domestic influences, and even here the evidence has been mixed. Geroski (1995) notes that little cross-sectional evidence has been found of the entry-inducing effect of industry profitability expected from theory. Some of this may be due to improperly dealing with simultaneous relationships (and the difficulty of doing this in a cross-section analysis); perhaps more importantly, as entry is presumably induced by *expectations of future profits* past profitability may play less of a role than previously thought.

Little research has considered differential determinants of small and large scale entry (though both theory and common sense suggests these may be differently motivated). Especially for smaller firms, the role of foreign competition may be an important driver in stimulating or retarding market entry. Acs and Audretsch (1989) explained differential entry rates by size but only in one cross section (representing the 1978-80 period), and do not consider an impact of

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foreign competition. Dunne et al. (1988) looked at panels of firms at 5-year intervals from 1963-1982, and at patterns of differing types of entry, but not differentials by size; moreover, the focus was on description, rather than on explaining entry. Neither study examines data since the early 1980s. The paper by Bresnahan and Reiss (1991) has stimulated much recent research on entry, but primarily explains *net entry* as depending on growth in market demand, and relies solely on cross-sectional analysis. A recent study by Choi and Phan (2006) examines time-varying macroeconomic determinants of new firm formation in the US but its focus is not on industry-specific motivations.

This study updates and expands on the earlier literature by analyzing both the time-varying and cross-sectional determinants of small-firm entry rates in US manufacturing over the 1989-2004 period, focusing on the role of foreign competition as measured by changes in sector-specific real exchange rates. As our interest is not in survival but rather in the decision to enter, we examine gross entry (births) in three size categories: (1) under 20 employees; (2) 20-99 employees; (3) 100-499 employees.

II. Some Previous Literature

One of the earliest empirical studies of determinants of entry, examining Canadian manufacturing, was that of Orr (1974). He uses data from the 1967 CALURA (Corporations and Labour Union Returns Act) report. The entry variable is based on annual changes in the number of corporations in each of 71 three-digit industries for 1963-1967. Using a log-linear estimation method he finds strong barriers to entry (gross entry in this specification) are capital requirements, advertising intensity, and high industry concentration, while research and

development intensity and risk are also barriers but less so. The profit and growth rate appear to be only mild incentives to enter, while the industry size had a consistently positive impact on entry.

Paul Gorecki (1975) uses data for the United Kingdom manufacturing sector (44 industries included) for the years 1958 through 1963 to determine and distinguish between new and diversifying firms determinants of entry, limited to enterprises with at least 100 employees. Growth was found to be strongly significant in promoting net entry. The typical barriers to entry were not found to be significant and, contrary to expectations, the advertising to sales ratio was found to be an incentive rather than a deterrent to entry. Their explanation for this counterintuitive result is that this may in fact be a proxy for expected profits since it signifies product differentiation.

Shapiro (1983) closely follows the models of Orr and Gorecki discussed above in his discussion of entry and exit within the context of the theory of the multinational corporation. In his model, Shapiro uses births and deaths of domestic and foreign manufacturing establishments in Canada from 1972-1976. He estimates the model using ordinary least squares with the most success in explaining domestic entry. Deterrents to domestic entry include concentration and cost disadvantages associated with smaller scale firms, but the same is not true for foreign entry. Advertising was found not to be a deterrent to entry by either type of firm. The research and development variable, consistent with mixed effects in previous literature, shows no significant impact on domestic entry and a positive impact on foreign entry.

Baldwin and Gorecki (1987) look into new plant creation versus diversified merger, differentiating between foreign and domestic firms. This study uses Canadian manufacturing data for 141 4-digit industries from the years between 1970 and 1979. They find that the number of existing firms and growth in the market strongly impact entry, though market growth is a stronger incentive for plant creation than for diversified entry (via merger). The article stresses the importance of accounting for the heterogeneity in entry types, as mergers and plant creation seems to be influenced by different variables.

Acs and Audretsch (1989) focus on the determinants of small-firm entry. They utilize a cross-section of 247 manufacturing industries between 1978 and 1980, using data released by the US Small Business Administration. The dependent variable of interest is the rate of small firm entry (defined as fewer than 500 employees) divided by the average total number of firms in the industry. They find that while past industry growth rates are a stimulant to both large and small firm entry, lagged profitability has little impact on entry by small firms. The need for high research and development intensity seems to deter small firm entry, which is not true for entry of firms in general, however there is some evidence that small entrants are often able to pursue innovative niche entry strategies.

Carree and Thurik (1994) use panel data of 36 Dutch retail shops from the 1977-1988 period to model changes in profit and the number of firms. As do Acs and Audretch (1989), they find that demand growth has a stronger effect then profitability on net entry. However both variables, as well as unemployment, have positive effects on entry. A more narrowly-focused study, by Toivanen and Waterson (2005), examines the United Kingdom fast food industry

between 1991 and 1995. Empirically they model entry of McDonald's and Burger King (as a specific example of chain stores). The entry decision is a function of market size (both in terms of physical size and population), the aggregate of business revenues for the district, a proxy for real estate costs, the unemployment rate, and distance from the respective head office. Entry also depends on the number of own and rival outlets. One of their most interesting findings is that rival presence has a positive effect on entry, which they explain as a learning effect (or a signal of anticipated future growth in the district).

A similar result is found in Feinberg (2007), where US patterns of rural banking entry are explained. In terms of explaining both numbers of banks across markets and gross and net entry within markets, market size and its growth seem to be major factors, consistent with recent literature. But, in addition, the presence in the market of leading bank holding companies is found to be important in stimulating entry of smaller rivals, consistent both with earlier work suggesting that merger and acquisition activity tends to stimulate *de novo* entry and with the view that large firm presence may be a signal to potential entrants of future growth prospects in the market.

Clearly there has been much study of the entry process, but just as clearly little or no attention has been given to the impact of international shocks on the decision by domestic firms to enter. In what follows, the role of foreign competition is dealt with and found to have a major influence on small firm entry.

III. Description of Data

Annual data from 1989-1998 for 140 3-digit SIC manufacturing industries and from 1998-2004 for 86 4-digit NAICS industries are available from the US Small Business Administration (SBA) on establishment – plant-level – births and deaths by firms in several employment size categories. [1] For small firms establishment births represent firm entry, however for large firms, the overwhelming majority of these births represent expansions by existing firms (though if this expansion involves diversification into a new industry, this *would* correspond to the usual notion of "entry").

Unfortunately, at the industry-level the data do not allow a distinction between new firm entry and new establishments by existing firms. However, in 2003, for all of manufacturing 95 percent of establishment births in firms of under 500 employees were new firm entry (and 98 percent for firms under 100 employees) while only 2 percent of establishment births in firms of over 500 employees represented new firm entry.[2] The study will explain rates of gross entry (births) in various small-firm size categories, using industry data and international and macroeconomic determinants as explanatory variables.

While the SBA generally defines small businesses in manufacturing to be those with under 500 employees, we will separate out smaller size categories (1-19 employees and 20-99

[1] This is referred to as the Statistics of US Businesses, and is built on the Census Bureau's annual County Business Patterns database. All business establishments with employees are included, and firm-wide employment and payroll data on the parent firm of each establishment are attached.

[2] The breakdown by size category is as follows: for the 1-19 employee size category, 99.6 percent of new establishments represented new firms; for the 20-99 employee size category, 83.4 percent represented new firms; for the 100-499 employee size category, 30.1 percent represented new firms; for the over 500 employee size category, just 2.0 percent of new establishments represented new firms.

employees) to see if foreign competition provides differing incentives for entry by firm size. Profit incentives for entry will be proxied by industry-specific responses to lagged economic growth and to lagged employment cost changes, as well as by the rate of industry expansion by large (over 500-employee) firms in the industry. Other variables considered will be capital intensity and indicators of industry-level R&D activity and product characteristics.

The variable to be explained is the number of new establishments entering an industry within a size category in the past year as a percentage of the prior year number of establishments in the industry. Explanatory variables include annual rates of change in a real exchange rate index defined at the broader 2-digit SIC level (both by itself and interacted with import penetration for that broader industry sector to capture the industry's vulnerability to international pressures), and real GDP (interacted with industry fixed effects to allow differing price responses by industry); the latter is included in lieu of industry level growth, which may be endogeneous to number of new entrants.

Aggregate labor compensation, interacted with industry fixed effects will be included to account for cost trends. Given measurement problems (both in general and at the level of aggregation used here) in using concentration ratios, these are excluded (and the implicit assumption is that the industry interaction terms with aggregate demand and cost will account for these factors). Capital intensity is included as a possible entry barrier, and the industry's level of R&D per dollar of sales is included to investigate whether higher-tech industries are characterized by greater entry. Consumer and durable goods dummy variables are included in part as proxies for product differentiation and demand elasticity.

Timing issues are of course important to consider. The entry data are for the year ending in March as are exchange rate changes, so the latter are lagged one year. Demand and cost proxies, real GDP and the Employment Cost Index are changes in annual averages – these are also lagged one year to allow for a modest degree of lagged response by new entrepreneurs.

Descriptive statistics and variable definitions are given in Table 1 for the SIC-based sample, and Table 2 for the NAICS-based sample. For the former, there are 9 years of data available for up to 140 industries (and up to 1260 pooled observations), though reduced a bit in the statistical analysis due to some missing data (and the need to include lagged values of large firm expansion rates). For the latter, there are 6 years of data for 86 industries (again reduced later due to the inclusion of lagged large firm expansion). Note that: (1) there is a substantial inflow of new firms throughout the range of firm sizes, particularly strong among the smallest firms where on average, establishment births per year represented about 14 percent of the initial period number of establishments in the 1990-98 period, about 12.5 percent in the 1999-2004 period; and (2) there is considerable variation across industries in import penetration, capital intensity and the importance of R&D, which should allow us to detect any impacts of these variables on small-firm entry should they exist.

Table 3 examines intertemporal and sectoral variation in gross and net entry (in terms of number of establishments), for 1990-1998. There is (somewhat surprisingly) relatively little variation over time in entry rates, with more variation across industry sectors. This is consistent with the evidence of Dunne et al (1988) and Feinberg and Shaanan (1997) suggesting that

industry-specific factors imply more entry, consistently over time, in some sectors than in others. There is also a clear pattern of greater rates of establishment entry in smaller firm size categories than in the total industry. Table 4 presents similar statistics for the NAICS-based sample, for 1999-2003. One difference we observe here is the dramatic decline in the smallest-firm entry rates in 2002 and 2003 (and for the other small-firm entry categories in 2003), recovering some in 2004; a plausible explanation is the greater uncertainty experienced in the US economy post-9/11.

A result not reported in Tables 3 and 4 is the much closer correlation between rates of entry within the 1-19 and 20-99 employee categories (across both industries and time) than between rates of entry in these smallest firm sizes and in the 100-499 category. This suggests that motivations for establishment entry may differ in the under-100 and over-100 categories (with the latter much more likely – see footnote 2 – to represent growth by an existing firm rather than new entry into an industry).

IV. Econometric Analysis

Given problems of comparability between SIC and NAICS codes, two separate pooled cross-section time series regression studies will be conducted, however with the same model specification. The estimation for SIC industries for 1990-1998 is based on approximately 1100 observations, while that for NAICS industries for 1999-2004 is based on over 400 observations. To deal with issues of heteroscedasticity across industries and autocorrelation, these estimates

are obtained via Feasible Generalized Least Squares (FGLS) correcting for those problems (using the *xtgls* command in STATA).[3]

The basic model is:

*$Entry_{it}$ (**separately by employment size category**) =*

f(lagged growth in real GDP (interacted with industry dummies), lagged growth in large firms within industry, capital intensity, R&D intensity, lagged aggregate employment cost changes (interacted with industry dummies), lagged exchange rate impact (both by itself and interacted with import share), consumer/durable goods dummies)

Table 5 presents results explaining entry within the three small-firm size categories in 140 SIC industries during the 1990s. Two results stand out and are remarkably consistent across all three size categories of small firm entry: (1) rates of establishment expansion by large firms *the previous year* have a strong positive impact on small firm entry – with a ten percentage point increase in large firm plants the previous year leading to a 1.0-1.8 percentage point increase in small firm entry (and the largest impact on rates of entry by the smallest size category) -- suggesting large firm expansion is viewed as a signal of future growth prospects in the industry (rather than as a threat to potential entrants); and (2) not surprisingly, exchange rate pressures reducing prices of competing imports (i.e., an appreciating dollar) are detrimental to small firm entry, though we do not see the magnitude of this effect larger with a larger broad-sector import

[3] Note that FGLS presumes random effects. Including fixed effects made identification of some of our industry-varying determinants difficult but had little impact on the key variables of interest. A likelihood-ratio test strongly rejected homoscedasticity.

share.[4] On this latter result, it is the case that the magnitude of the exchange rate effect is somewhat smaller than might be expected; a ten percent real appreciation of the dollar leads to just an 0.75 percentage point reduction in the smallest firm entry rate (compared to the mean annual entry rate of 13.6 percent over the sample period), though a more substantial impact on entry in the 20-99 and 100-499 employee categories of firm sizes, of 1.35 and 0.66 percentage point reductions, respectively (which, relative to mean entry rates of 4.8 and 4.5 percent respectively, have greater economic significance).

Other effects are more spotty – capital intensity does not seem to be a good proxy for barriers to entry (with the only statistically significant impact on entrants in the 0-19 employee category), perhaps suggesting the relative abundance of financing options in the decade of the 1990s for firms other than the very smallest. On the other hand, the industry technology environment does seem to play a role in the 20-99 and 100-499 size categories, discouraging entry (or expansion) there – perhaps with the needed research investment (perhaps human capital rather than simply dollars required) viewed as a barrier to entry. No clear patterns emerge for entry rates associated with consumer goods, while durable goods industries seem to have higher rates of entry (though not significant for the largest "small-firm" category).

Table 6 examines the same issues for the first part of the current decade, using the NAICS-based sample. More so than in the earlier period, the patterns in determinants of entry seem considerably different for the under-100 employee and over-100 employee establishments (remembering that the latter is more likely than not to represent firm expansion not new firm

[4] The lack of a role for the interaction with import share may suggest that, regardless of current import penetration, all of manufacturing is viewed as susceptible to further growth in imports with increased dollar appreciation.

entry). We continue to find a significant entry-deterring role of dollar appreciation, but only for the under-20 and 20-99 employee groupings, and here only where import penetration in the broader sector is substantial (over 20 percent). In fact, there is a surprisingly significantly *positive* impact on establishment entry (much of which may be expansion of existing firms) in the 100-499 employee size category. These findings may reflect a balancing of two offsetting effects of cheaper imports as the dollar appreciates: the ability to outsource components to cheaper imports, but a greater competitive threat to the firms' own production.

Similarly, the role of large firm (over-500 employee) expansion on smaller firm growth differs as well: it encourages establishment growth by 100-499 employee firms (which may see themselves in comparable circumstances as the larger firms and thus viewing their growth as a positive signal), while discouraging entry rates by categories of firms under 100 employees (who, especially in the less-optimistic growth period since 2001, may have felt crowded out). Consumer goods industries are less likely to have entry in the under-100 size categories, more likely in the 100-499 category. Durable goods industries are more likely to show entry only in the smallest size category. R&D intensity (discouraging entry in the smallest category, encouraging it in the largest) and capital intensity (showing the opposite pattern) also suggests that in the current decade determinants of largest and smallest firms in our sample have diverged.

Given the differing industry definitions in the two samples (and the more aggregate nature of the more recent analysis), it is difficult to know the extent to which the changed determinants are entirely resulting from the time periods or whether the degree of aggregation is

a factor. Analysis at the level of the establishment (using the underlying Census data) would be required to sort these issues out.

V. Conclusions

While results are not as consistent across time periods as one would hope, there are certain findings which seem reasonably robust. One is that international pressures, in the form of import-share weighted exchange rate appreciation, seem to lead to reduced rates of smallest-firm entry in manufacturing, though the magnitudes of these effects are smaller than sometimes discussed (and there is the suggestion – for the more recent period -- that dollar appreciation may actually benefit small firm entry, perhaps through cheaper inputs where the final product import threat is weak).

Another result of interest is that small firm entry rates seem to be influenced by recent expansions by larger firms in their industries – with positive impacts on all small firm categories in the 1990s and on the largest of these categories in the first part of the 2000s; the negative impact on the smallest size categories in the most recent period may be a reflection of the increased economic and political uncertainties in this time period. Other results seem to vary by both time period and size category – perhaps suggesting that the entry decision needs to be analyzed at a more disaggregate level to account for the complexities involved.

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Table 1. Descriptive Statistics for SIC-based study, 1990-1998

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Gross Entry (<20)	1259	13.60	12.31	0	200.00
Gross Entry (20,99)	1260	4.79	7.48	0	100.00
Gross Entry (100,499)	1244	4.54	4.55	0	54.55
Large Firm Expansion (t-1)	1251	3.36	3.62	0	60.00
Broad Sector Import Share	1251	16.98	14.93	1.16	56.97
M-Wt Real XR Change	1251	1.85	4.82	-9.76	18.40
R&D Intensity	1260	1.78	2.17	0.06	5.86
Capital Intensity	1260	0.17	0.17	0.01	1.37
Consumer Good	1260	0.37	0.48	0	1
Durable Good	1260	0.26	0.44	0	1

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Variable Definitions:

Gross Entry by size = establishment births in size category as percentage of previous year establishments by category (Source: SBA)

Large Firm Expansion = establishment births in firms over 500 employees as percentage of previous year establishments of that size (Source: SBA)

Broad Sector Import Share = value of imports as percentage of "apparent domestic consumption" (domestic shipments + imports – exports), for 1992 at 2-digit SIC level (Source: US Census Bureau)

M-Wt Real XR Change = annual percentage change in import-weighted real exchange rate index (varying by 2-digit SIC, 1st quarter to 1st quarter changes) (Source: NewYork Federal Reserve Board, Database on Industry-Specific Exchange Rates, http://www.ny.frb.org/research/economists/goldberg/papers.html)

R&D Intensity = total company funds for R&D as percentage of value of shipments, for 1992, at broader 2-digit SIC level (Source: National Science Foundation, Annual Survey of Manufactures)

Capital Intensity = total capital expenditures per dollar of labor costs at the 3 digit SIC level, for 1992 (Source: Annual Survey of Manufactures)

Consumer Good, Durable Good -- classifications based on Ornstein (1977), modified as necessary by judgment of this author.

Table 2. Descriptive Statistics for NAICS-based study, 1999-2004

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Gross Entry (<20)	516	12.47	11.20	4.27	154.55
Gross Entry (20,99)	516	4.39	4.90	0	65.38
Gross Entry (100,499)	516	4.44	3.15	0	30.00
Large Firm Expansion (t-1)	430	3.44	2.42	0	24.32
Broad Sector Import Share	516	18.21	14.28	3.47	67.48
M-Wt Real XR Change	516	3.19	5.46	-11.81	18.37
R&D Intensity	516	1.05	0.87	0.06	3.71
Capital Intensity	516	0.21	0.13	0.05	0.70
Consumer Good	516	0.36	0.48	0	1
Durable Good	516	0.33	0.47	0	1

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Variable Definitions:

Gross Entry by size = establishment births in size category as percentage of previous year establishments by category (Source: SBA)

Large Firm Expansion = establishment births in firms over 500 employees as percentage of previous year establishments of that size (Source: SBA)

Broad Sector Import Share = value of imports as percentage of "apparent domestic consumption" (domestic shipments + imports – exports), for 1998 at 3-digit NAICS level (Source: US Census Bureau)

M-Wt Real XR Change = annual percentage change in import-weighted real exchange rate index (varying by 3-digit NAICS, 1st quarter to 1st quarter changes) (Source: NewYork Federal Reserve Board, Database on Industry-Specific Exchange Rates, http://www.ny.frb.org/research/economists/goldberg/papers.html)

R&D Intensity = total company funds for R&D as percentage of value of shipments, for 1992, at broader 3-digit NAICS level (Source: National Science Foundation, Annual Survey of Manufactures)

Capital Intensity = total capital expenditures per dollar of labor costs at the 4-digit NAICS level, for 1998 (Source: Annual Survey of Manufactures)

Consumer Good, Durable Good -- classifications based on Ornstein (1977), modified as necessary by judgment of this author.

Table 3. Mean Values of Gross Entry Rates by Year and Industry Sector, SIC-basis

	1-19	20-99	100-499
1990	12.24	4.28	4.76
1991	13.42	4.58	4.46
1992	12.52	6.00	5.67
1993	12.52	4.26	3.81
1994	14.28	4.08	3.92
1995	12.80	3.51	3.86
1996	14.31	5.06	4.03
1997	14.31	6.76	6.40
1998	16.05	4.57	3.95
Food	12.05	4.31	4.54
Tobacco	29.74	16.12	3.95
Textile	14.87	5.37	4.31
Apparel	14.61	6.20	4.14
Lumber	13.43	3.92	5.32
Furniture	11.03	3.90	4.39
Paper	30.20	10.11	3.46
Printing	11.45	3.05	4.80
Chemicals	12.31	4.69	5.28
Petroleum Refining	13.38	5.64	4.78
Rubber and Plastics	10.93	4.45	5.54
Leather	11.01	3.76	4.38
Mineral Products	15.65	5.37	4.54
Primary Metals	11.71	4.17	5.58
Fabricated Metals	9.72	3.01	4.04
Machinery and Computers	11.31	3.00	3.83
Electronics and Electrical	13.19	4.06	4.82
Transportation Equipment	14.35	5.04	5.61
Measurement and Control Devices	10.06	3.18	3.79
Miscellaneous Manufacturing	12.53	3.40	3.51

Table 4. Mean Values of Entry Measures by Year and Industry Sector, NAICS-basis

	1-19	20-99	100-499
1999	14.02	3.97	5.04
2000	14.12	4.61	4.22
2001	14.18	4.98	4.02
2002	10.67	4.93	5.30
2003	10.55	3.96	3.76
2004	11.27	3.92	4.34
Food	11.70	4.82	4.75
Beverage and Tobacco	30.54	13.10	4.22
Textiles	11.89	4.93	4.01
Apparel	15.36	6.66	3.19
Leather	13.31	5.07	2.77
Wood products	10.56	3.11	4.46
Paper	26.83	6.01	5.33
Printing	6.63	2.24	3.19
Chemicals	12.03	4.27	5.07
Petroleum and Coal Products	9.84	3.74	4.44
Rubber and Plastics	7.95	2.82	3.81
Furniture	9.41	2.77	3.74
Mineral Products	10.51	4.03	5.59
Primary Metals	28.51	10.71	6.06
Fabricated Metals	7.42	2.17	3.02
Machinery	8.15	2.27	3.18
Computer and Electronics	13.03	4.79	5.07
Transportation Equipment	12.22	4.01	5.62
Electrical Equipment, Components	12.15	3.41	5.22
Miscellaneous Manufacturing	9.75	3.00	5.33

Table 5. Feasible Generalized Least Squares Results Explaining Small Firm Entry Rates by Firm Size, correcting for heteroscedasticity across industries and autocorrelation
– SIC-based study, 1990-1998 (139 industries x 8 years)
(standard errors in parentheses below estimated coefficients)

	1-19	**20-99**	**100-499**
Mshr*RXR chg	0.000 (0.002)	0.002 (0.001)	0.001 (0.001)
RXR chg	-0.075** (0.028)	-0.135** (0.022)	-0.066** (0.023)
Large Firm Expansion	0.18** (0.04)	0.11** (0.03)	0.11** (0.03)
R&D intensity	-0.13 (0.30)	-0.70** (0.19)	-0.74** (0.21)
Capital intensity	-19.37** (6.51)	4.31 (4.78)	-1.74 (3.85)
Consumer good	3.90** (1.06)	0.52 (0.89)	-0.73 (0.85)
Durable good	3.64* (1.52)	2.10* (0.96)	0.32 (1.07)
N	1112	1112	1104
AR(1) coefficient	-0.13	-0.17	-0.25
Wald Chi-squared	3943.7**	2022.8**	1437.1**

Not reported are a constant term and industry-varying impacts of annual changes in real GDP and the aggregate BLS employment cost index.
*Significant at 5%
**Significant at 1%

Table 6. Feasible Generalized Least Squares Results Explaining Small Firm Entry Rates by Firm Size, correcting for heteroscedasticity across industries and autocorrelation
– NAICS-based study, 2000-2004 (86 industries x 5 years)
(standard errors in parentheses below estimated coefficients)

	1-19	**20-99**	**100-499**
Mshr*RXR chg	-0.030**	-0.038**	-0.000
	(0.005)	(0.003)	(0.002)
RXR chg	0.666**	0.794**	0.137**
	(0.102)	(0.046)	(0.026)
Large Firm Expansion	-0.27**	-0.14**	0.06*
	(0.04)	(0.03)	(0.03)
R&D intensity	-1.14*	0.35	2.13**
	(0.57)	(0.37)	(0.29)
Capital intensity	23.97**	13.46**	-13.49**
	(3.88)	(1.91)	(1.45)
Consumer good	-4.96**	-4.80**	3.18**
	(1.22)	(0.64)	(0.53)
Durable good	6.66**	1.45	-0.36
	(1.24)	(0.78)	(0.65)
N	344	344	344
AR(1) coefficient	-0.83	-0.77	-0.85
Wald Chi-squared	36479.2**	21682.8**	33740.2**

Not reported are a constant term and industry-varying impacts of annual changes in real GDP and the aggregate BLS employment cost index.
*Significant at 5%
**Significant at 1%