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Corporate Profitability and Competitive Circumstance

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INTRODUCTION

Economic theory takes a direct and simple view of profitability. Pursuit of gain is presumed to drive firms and industries forward with competition among firms eliminating profit excess more, or sometimes less, effectively in the long-run. A number of empirical issues have arisen concerning tendencies toward long-run equilibrium. Stigler (1963) investigated the speed with which profits generated by industry growth disappear (very quickly he found). Bain (1959), Mann (1966), and Hall and Weiss (1967), e.g., have examined how extensive concentration and barriers to entry need to be for above-normal profits to last (quite high it turns out). But the logic of the neoclassical position is clear: firms maximize profit advantage to the extent competitive circumstances allow.

Economic practice suggests that the profit story may not be that simple. Baumol (1959), Marris (1964), Martin (1983), e.g., find profit rates *not* to be as high for large firms or in concentrated industries as simple neoclassic logic dictates. The implication is that professional managements trade off profit for growth, what we term the *management* hypothesis. Caves and Pugel (1980), in turn, and others [Marcus (1967), Stekler (1963), Ballantine, Cleveland, and Koeller (1985)] find that profit rates for small firms are much higher than is to be expected following the simple imperatives of competitive logic. The implication here is that high profit, or prospects thereof, compensate the entrepreneurial managers of small firms for the dynamic and uncertain interactions taking place in their sectors, here termed the *entrepreneurial* hypothesis.

The research reported in this article picks up and extends these latter themes. Our object is to document the profit differences that exist across and within different industries, as related to competitive circumstance, with particular emphasis on differences in firm size.

ARGUMENT AND SUMMARY

In studying profitability in an industry-wide context, it is important to note the distinctive role profit plays in competition. For individual firms profit *or* loss determine their progress as organizations. This firm-specific function of profit relates only indirectly to the competitive performance of the industry. Industry-level totals, whether for sales, employment, or assets, adequately summarize the overall performance of the industry, i.e., how well firms together, and by inference singly, are doing. But because they are distorted by *losses* among a few firms, industry-wide profit rates do not reflect the dynamic function that profit is presumed to fill for firms in an industry. From the point of view of industrial organization, the critical question is:

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how high must profitability for firms without losses, or with income, be for profit to act as an effective competitive stimulant?

Documenting differences in profitability as related to competitive circumstances thus calls for a data source that is comprehensive in scope and that allows the profit record to be disaggregated to different classes of firms. On both scores the data available in the *Corporate Source Books of the Statistics of Income* (CSB-SOI), published by the Internal Revenue Service (IRS), do well. The *Source Books* report some 60 balance sheet and income statement items for a comprehensive sample of firms in 180 industries broken down into 13 size classes, and into 'all firms' and 'firms with income' categories. It is possible to construct indicators of competitive conditions and performance from this information, broken down by industry and size sector and including indicators of profitability for firms with income only.

The firms-with-income measure highlights the organizational dynamics at work, proxying as it does the financial stimulant operating for successful firms, whether large or small, as they deal with competitive circumstance. In our analysis we relate profitability for firms with income to various aspects of competition across and within industries. The analysis proceeds as follows:

1. *Across industries,* we investigate the relationship between profitability for firms with income and a) degree of industry concentration and/or dominance by large firms; b) degree of industry openness and/or presence of many small firms; and c) the extent of realized losses in an industry as measured by the percent of total sales accounted for by firms without income. Confirming the management hypothesis sketched above, our findings for the 180 SOI industries for 1976 are that profit-on-equity in concentrated (large-firm) industries is indeed lower than one would expect following conventional theory. Confirming the entrepreneurial hypothesis also outlined above, we find that in open (small-firm) industries profit-on-equity is higher than would be expected following conventional theory. In both cases, however, profit-on-sales follows a contrary pattern: relatively high in concentrated industries, relatively low in open industries. No conclusive relations between profitability and realized losses emerged.
2. *Within industry,* we investigate how profitability and realized losses vary for firms in eleven different asset size classes in each of the 180 SOI industries. Confirming our basic hypotheses, profit-on-equity turns out to be relatively low for large-firm asset-size classes in the several industries (the management hypothesis) and relatively high for the small-firm size classes (the entrepreneurial hypothesis). These findings are consistent with our findings for concentrated vs. open industries. Profit-on-sales, in contrast, are relatively high for large-firm sectors of industries and relatively low for small-firm sectors.

To explain the contrary findings concerning profit-on-equity and profit-on-sales calls for an extension of our logic to include financial circumstances facing large vs. small firms. These circumstances, we propose, can be proxied in intra-industry analysis by sales/asset ratios, debt/equity ratios, and realized losses within size sectors. Concerning these ratios, we hypothesize a) that large firms in search of scale economies apply more assets per dollar of sales than small firms, a circumstance that requires large firms to earn relatively high profit-on-sales to support assets; b) that large firms within an industry build equity at the expense of debt, a circumstance that tends to lower relative profit-on-equity; and c) that large-firm sectors have lower realized losses than small-firm sectors, a circumstance that lowers the risk premium included in profit-on-equity.

The within-industry financial patterns found for 1976 confirm these organizational hypotheses, particularly the one concerning sales/asset ratios. Industry circumstances, we conclude, keep profit-on-sales for large 'managed' firms relatively high to cover asset costs and provide a modest return on equity. Quite different circumstances permit small entrepreneurial firms to operate successfully with relatively low profit-on-sales so long as profit-on-equity holds up.

The within-industry patterns of profitability as related to competitive circumstances hold with interesting variations over the other years covered by our study (1977–80). We conclude that analysis of profit differences provides useful insights into the distinctive roles that firms of different size play in competition.

ACROSS-INDUSTRY ANALYSIS

The virtue of working with the *Corporate Source Books* as a data source is that profitability can be examined in all industrial sectors (not just Manufacturing as customary), and for all size firms. In line with the management orientation of our hypotheses, we used after-tax profit measures for firms with income for our comparisons throughout. What emerges is a picture of the competitive vigor with which each sector of the economy is conducting its business. Table I presents such an overview of the economy for 1976.

The first two columns in the table illustrate how different patterns of profitability look when the 'firm-with-income' profit measure is used. Manufacturing sectors dominate the profit scene when profit calculations are on an all-firm basis, but in terms of profit-on-equity for firms with income their position is modest at best. The second pair of columns show that significant as concentration and large-firm presence may be, their counterpart, the openness of industries to small entrepreneurial firms, remains an outstanding characteristic of American business. Realized loss experience—the down-side of enterprise—are reported in the fifth column; indications are that in some sectors a substantial proportion of sales are accounted for by firms that do not earn a profit, particularly in open industries. Growth in sales and in assets are reported in the last two columns. For 1976, a moderately inflationary year (5.2 percent rise in the implicit price deflator) sales grew vigorously, exceeding asset changes in most sectors, (the exception in vigor and sales growth being Construction).

To establish connections between profitability for firms with income and our measures of competitive circumstance on an across industry basis, we ran the simple regressions reported in Table II. Our object here was to verify with CSB-SOI data the propositions concerning profit-on-equity and profit-on-sales among large firms and small, and by inference among large-firm and small-firm industries, set forth in the introduction and argument. Regressions of each measure of profitability against measures of concentration, openness and realized losses were run for industries within 1-digit industry divisions, for all nonfinancial corporations and for all corporations.[1]

Concerning concentration and large firm presence our expanded hypotheses are:

1. For profit-on-sales, an extension of Bain's argument about scale economies, namely that managed firms grow large, and have obtained substantial shares of industry sales,

TABLE 1
Industry Profitability by Major Sector as Related to Competitive Circumstances—1976

	After Tax Profit-on-Equity		Concentration	Openness	Realized Loss	Growth	
	Firms With Income	All Firms	Average % Sales Top 4 Firms	Average % Sales Firms Below $5M Assets	% Sales Firms Without Income	% Change in Sales	% Change in Assets
Goods Sector							
Agriculture	18.0	4.6	6.5	71.3	26.9	15.3	12.3
Mining	14.3	9.2	27.9	10.4	8.5	27.9	18.9
Construction	20.7	7.7	4.4	68.8	24.1	4.8	5.3
Non-durable Manufacturing	16.2	14.3	20.3	12.5	6.7	12.4	9.7
Durable Manufacturing	13.1	11.2	23.7	15.8	11.9	13.0	9.1
Utilities	7.9	5.5	17.2	2.3	8.9	16.0	9.7
Subtotal	13.0	10.3	19.8	18.7	10.4	13.5	9.8
Service Sector							
Wholesale	20.3	16.2	10.8	46.2	15.2	14.9	17.4
Retail	14.3	9.6	7.5	56.6	15.9	14.8	11.2
Services	18.3	9.5	12.3	70.4	22.7	14.5	9.9
Subtotal	17.6	12.5	9.9	53.4	16.4	14.8	8.3
Nonfinancial	15.6	10.7	16.1	32.1	12.7	13.9	9.5
Financial	8.8	3.9	4.6	24.7	18.4	12.1	9.8
Corp. Economy	14.5	9.3	14.9	31.4	13.3	13.6	10.1

Source: *Corporate Source Book* for 1976.

Notes: Concentration reported for each industry division is the weighted average (using sales weights) of the "% Sales Top 4 Firms" amounts estimated for the SOI industries making up the division. Openness for each industry division is also a sales weighted average. Profit-on-equity is averaged using equity weights; exceptional profit for the crude oil industry is excluded as an outlier.

TABLE 2
Regressions of Profitability on Competitive Factors Across Industry for Firms with Income—1976

		Concentration vs.		Openness vs.		Realized Loss vs.	
	Number of Industries	Profit-on-Sales	Profit-on-Equity	Profit-on-Sales	Profit-on-Equity	Profit-on-Sales	Profit-on-Equity
Goods Sector							
Mining	8	0	0	0	0	0	0
Construction	6	+	0	0	0	0	+
Non-Durable Manufacturing	34	0	–	–	0	–	–
Durable Manufacturing	36	+	0	–	0	–	–
Utilities	13	+	+	0	0	–	0
Service Sector							
Wholesale	15	0	0	0	0	–	–
Retail	14	+	0	0	+	0	+
Services	12	0	–	0	+	0	0
Nonfinancial	138	+	–	–	+	0	0
Financial	23	0	0	0	+	0	–
Corp. Economy	161	0	–	–	+	0	0

Source: *Corporate Source Book* for 1976.

Notes: + indicates positive correlation, significant at the 10% level; – indicates negative correlation, significant at the 10% level; zeroes indicate insignificant correlation results.

by applying more assets to sales than small entrepreneurial firms. With more assets than small firms they can be expected to earn higher profit margins; and

2. For profit-on-equity, a reaffirmation of Baumol's logic modifying the idea of 'monopolistic' exploitation, namely that large 'managed' firms are anxious to expand equity and sales regardless of share. To this end large firms can be expected to reduce both prices and profit-on-equity more readily than small 'entrepreneurial' firms.

These expanded hypotheses predict that profit-on-sales will be high for concentrated (and large-firm) industries as compared to unconcentrated industries, but that profit-on-equity may well not be so high. Regression analysis shows that for nonfinancial industries this is the situation that prevailed in 1976. High profit-on-sales for an industry was associated with high concentration (a positive regression coefficient), *but* low profit-on-equity was also associated with high concentration (a negative regression coefficient). Within 1-digit industry divisions there is considerable variation in results, due in part to the small number of industries included (few degrees of freedom).

Our openness regressions get at the often forgotten other side of concentration and bigness—the role of small firms in competition. Following White (1982), we use as a measure of openness the percent of total sales in an industry for firms with under $5 million in assets. Concerning the profitability of small firms and small-firm industries, the implicit hypothesis of neoclassical theory is that competitive pressures will render both profit-on-sales and profit-on-equity low in comparison with large firms and large-firm industries. The negative regression coefficients obtained between profit-on-sales and openness substantiates the first of these predictions for nonfinancial industries. But the second prediction is *reversed* by the positive

regression slopes for profit-on-equity vs. openness: the more open an industry the higher its return on equity for firms with income.

Our own hypotheses [Ballantine, Cleveland, and Koeller (1986)] concerning the profitability of small firms are:

1. Because assets are used sparingly by small firms as compared to large, profit-on-sales are likely to be relatively low in small firms and small-firm industries, i.e., less margin is required to support assets in place; as a result, the profit-on-sales vs. openness regression coefficients across-industry will be negative;
2. Because competition among small firms is dynamic and financing is difficult for small firms to acquire, profit-on-equity must be kept relatively high to attract and provide the necessary funding; as a result profit-on-equity vs. openness regressions will be positive.

These hypotheses are consistent with our regression results.

Among the reasons financing is difficult for small firms to acquire is the expectation that losses will be high. An advantage of the *Corporate Source Books* as a data source is that loss is explicitly recognized in the way the data are presented, i.e., financial data for firms with income are separated from the financial data for all firms. The differences between the two are the financial data for firms without income or incurring losses. Sales for firms without income as a percent of sales for all firms provide a ready-made measure of uncertainty—*realized losses* in an industry or size sector. This industry-based measure of down-side performance differs from current firm-based 'risk' measures (e.g., variability of profit or sales) in that it reflects the current external economic conditions within which firms attempt to succeed. The question is: how does uncertainty, as revealed by realized losses in the sector or industry, relate to firm profitability?

Concerning firm performance as related to realized losses in the industry as a competitive circumstance, our hypotheses are:

1. Following Knight (1921), we associate profit with enterprise, and the level of profit in turn with the level of uncertainty. For Knight uncertainty highlights the role competitive judgements play in economic affairs, the heart of entrepreneurship. Entrepreneurial firms, we reason, those for whom uncertainty in the industry as measured by realized losses is high, will be the firms that earn high profit; and
2. Following equilibrium logic, we treat profit, in this case negative profit, as a change signal. When a high proportion of firms in an industry are losing money, i.e., when realized losses are high, demand for the industry's products is low, and profit earned by most firms in the industry will be low.

While our summary data show substantial realized losses in open and profitable industries, our across-industry regressions do not reveal a profit-uncertainty connection. It appears that among industries the two propositions may, in fact, cancel each other out. In some industries, where losses are high, profit is high because many firms are seizing entrepreneurial opportunities. In other industries, a high percentage of realized losses signal low demand for the industry's product and low profit for all firms in the industry.

The objective of our research at this point is exploratory and conceptual—to establish the importance of profitability as an analytical concept. As yet we have not examined the relationships between industry profitability and industry growth in sales and/or assets via regression analysis. Nor are we yet in a position to introduce 'control' variables into our admittedly incomplete across-industry regression equations.[2]

Obviously before completely documented assertions can be made about profitability and the several competitive factors at work across industry, all critical factors must be included in the analysis. But our initial results with the comprehensive set of industries included in the CSB-SOI file indicate that the profit story is far from simple. For one thing, we confirm the argument of many that profit advantage does *not* accrue to firms in concentrated industries. For another thing, we place deserved emphasis on the relatively *high* profits being earned by small firms.

These findings, both of which are at odds with the conventional wisdom, reflect the extended scope of our sample and our focus on firms-with-income profit measures. Concentrated industries look profitable when data are restricted to Manufacturing and when the measure of profitability is for all firms (including losers) in an industry. Seen within the context of all industries, and with profit measured for profitable firms only, however, concentrated (and large-firm) industries do much less well. Small-firm profitability is likely to be ignored when small-firm presence is ignored or suppressed, as in many current data bases (e.g. Compustat). Give small firms their proper place across and within industry, however, and the profit to be earned from small firms looks much more commanding.

INTRA-INDUSTRY ANALYSIS

Our inter-industry analysis of profitability as related to competitive circumstance lends strong support to the so-called management approach to industrial organization. Baumol, Chandler (1977), Marris, and Williamson (1975), for example, all argue that organizational concerns not embraced in simple competitive theory are crucial to determining the behavior of firms in markets, including the way firms approach profitability. Our findings concerning the unexpectedly modest profit-on-equity earned by firms in concentrated and/or large-firm industries, and the unexpectedly high profit-on-equity earned by firms in small-firm industries, point to the importance of considering a relatively broad set of organizational factors in examining competitive behavior.

The extensive financial data provided by the *Corporate Source Books,* for firms in different size classes in each major industry, facilitates analysis of some of these factors. Balance sheet and income statement data are presented for each size class. Thus not only can profitability be calculated for the group of firms comprising each size class, but also key financial ratios. From an organizational point of view two ratios are particularly important. *Sales/asset* ratios indicate the asset burden (or asset enrichment) that supposedly accompanies growth in firm size. *Debt/equity* ratios indicate the financial exigencies that supposedly constrain small firms in search of funds with which to grow.

In our intra-industry analysis of profit differences we incorporate these two ratios into our logical scheme. Table III shows how profitability relates to firm size within each SOI industry in 1976. The information included was derived by regressing after-tax measures of profitability (now including profit-on-assets), computed for firms with income for each of eleven asset size classes, against asset size. Table IV indicates the relationship between sales/asset ratios and firm size and debt/equity ratios and firm size on the same intra-industry basis as for profitability and for the same year. Table V records the relationships between realized losses and a) firm size, b) profit-on-sales and c) profit-on-equity within each industry.

The additional information provided by the key financial ratios extends and confirms the hypotheses concerning differences in profitability advanced in the previous sections. Large 'managed' firms and firms in large-firm industries have relatively high profit-on-sales because their technology is complex. This hypothesis leads to the expectation that sales/asset ratios for large firms will be relatively low. Large firms and large-firm industries have relatively low profit-on-equity (and profit-on-assets) because asset and sales growth transcend short-term

TABLE 3
Regressions of Profitability on Firm Size Within Industries for Firms with Income—1976

	Number of Industries	Profit-on-Sales		Profit-on-Assets		Profit-on-Equity	
		+	−	+	−	+	−
Goods Sector							
Agriculture	2	0	2	0	2	0	2
Mining	4	1	1	0	1	0	1
Construction	6	0	3	0	6	0	6
Non-Durable Manufacturing	33	10	8	1	22	0	20
Durable Manufacturing	34	8	7	0	26	0	24
Utilities	11	1	3	0	10	0	10
Subtotal	90	20	24	1	67	0	63
Service Sector							
Wholesale	15	5	4	0	9	1	7
Retail	14	1	7	0	12	0	13
Services	13	1	4	0	12	0	12
Subtotal	42	7	15	0	33	1	32
Nonfinancial	132	27	39	1	100	1	95
Financial	23	2	13	0	20	1	15
Corp. Economy	155	29	52	1	120	2	110

Source: *Corporate Source Book* for 1976.

Note: The table shows the number of industries in each industry division where the correlation between firm asset size and the dependent variable noted was positive (+) or negative (−), significant at the 15 percent level. Differences with industry totals reflect industries where regression results were not significant.

profit maximization as a management objective. To this hypothesis we now add that because financing is relatively easy for large firms to get, their debt/equity ratios can be expected to be relatively low.

Small entrepreneurial firms and firms in small-firm industries have low profit-on-sales because their technologies are relatively spare. This hypothesis leads to the expectation that their sales/asset ratios can be expected to be relatively high. Profit-on-equity (and profit-on-assets) for small firms is relatively high because competition is dynamic and uncertain making financing difficult to get. Because of this, we now add, debt/equity ratios of small firms are likely to be relatively high.

The results presented in Tables III and IV confirm these hypotheses. Table III shows that profit-on-sales is sometimes relatively high for large-firm size classes within industry; correlations between profit-on-sales and asset size are positive in 30 percent of the nonfinancial industries, negative in 20 percent, but have no significant relationship in half the industries. Profit-on-assets and profit-on-equity, in contrast, are almost always *negatively* correlated with asset size and they are *never* positively correlated. This is the case in roughly two-thirds of the nonfinancial industries. On an intra-industry basis the relatively high profit-on-sales performance of large-firm sectors is somewhat less striking than it was for large-firm industries (Table II). But the relatively low profit-on-equity (and here profit-on-asset) performance of large firms is even more striking.[3]

The financial ratios suggest some of the organizational characteristics that distinguish small firms from firms that have become large. Table IV shows that the most significant characteristic, by far, is asset applications to generate sales. Small firms and small-firm sectors

of industries are notably light on asset applications, resulting in high sales/asset ratios relative to large firms. Large firms, in contrast, pursue vigorous asset growth policies, presumably to lower costs, gaining sales in the process and low sales/asset ratios. Substantiating these points are the *negative* correlations between firm size and sales/asset ratios found in 130 of 155 CSB-SOI industries in 1976.[4]

As for debt/equity ratios, the relationship to asset size is not as pronounced as for sales/asset ratios. The regressions reported in Table IV show that debt burdens decline with size in a slight preponderance of industries, but in over half of the industries there is no discernible relationship.[5]

Taken together the findings reported in Tables III and IV indicate that where firms position themselves in their industry, i.e., whether they become large or stay small, has a close relationship to organizational capabilities as represented by: 1) their effective profit rates and requirements, 2) the extent and complexity of their asset bases, and 3) their financial structures. Because they can plan their futures, 'large' managed firms earn modest profit-on-assets and profit-on-equity, have well developed asset bases, and carry modest debt burdens. Because they are entrepreneurial, small firms earn well on both assets and equity, have spare asset bases, and carry fairly extensive debt.

Of major concern to firms in establishing market position are the losses encountered among competing firms. Our preliminary investigations into this circumstance is summarized in Table V. As the table shows, realized losses are substantial for small-firm sectors within industry. Asset size vs. loss correlations are negative in over half the CSB-SOI industries (the lower the average assets per firm in a sector, the greater the percent of total sales for firms

TABLE 4
Regressions of Organizational Factors on Firm Size Within Industries for Firms With Income—1976

	Number of Industries	Sales/Assets Ratio		Debt/Equity Ratio	
		+	−	+	−
Goods Sector					
Agriculture	2	1	1	1	0
Mining	4	0	2	0	1
Construction	6	0	6	4	0
Non-Durable Manufacturing	33	0	28	4	11
Durable Manufacturing	34	0	28	5	11
Utilities	11	0	11	4	2
Subtotal	90	1	76	18	25
Service Sector					
Wholesale	15	0	13	4	2
Retail	14	0	11	3	4
Services	13	0	13	2	1
Subtotal	42	0	37	9	7
Nonfinancial	132	1	113	27	32
Financial	23	0	17	11	2
Corp. Economy	155	1	130	38	34

Source: *Corporate Source Book* for 1976.

Note: Findings reported as in Table III.

TABLE 5
Regressions of Realized Loss on Firm Size and on Profitability Within Industries for Firms With Income—1976

	Number of Industries	Realized Loss vs. Asset Size		Realized Loss vs. Profit-on-Sales		Realized Loss vs. Profit-on-Equity	
		+	−	+	−	+	−
Goods Sector							
Agriculture	1	0	1	1	0	0	0
Mining	4	0	3	1	0	2	0
Construction	6	0	2	4	0	5	0
Non-Durable Manufacturing	26	0	9	5	2	11	1
Durable Manufacturing	26	0	18	8	8	10	7
Utilities	10	0	7	2	1	8	0
Subtotal	73	0	40	21	11	36	8
Service Sector							
Wholesale	12	1	7	2	1	7	1
Retail	11	1	7	5	0	10	1
Services	10	1	7	2	0	7	0
Subtotal	33	3	21	9	1	24	2
Nonfinancial	106	3	61	30	12	60	10
Financial	17	3	6	6	4	2	7
Corp. Economy	123	6	67	36	16	62	17

Source: *Corporate Source Book* for 1976.
Note: Findings reported as in Table III.

without income). Furthermore, there are some indications that realized losses are offset by profitability for firms with income: positive profit-on-equity to loss relationships emerge in about half the industries. But there remain a number of negative profit-loss correlations, suggesting that realized losses are sometimes a signal of industry decline. Sorting out the implications of uncertainty for profitability, and more generally for competitive performance, calls for extended intra-industry analysis, in particular for adding growth variables at the size class level to our regression equations.

So far our intra-industry research with the CSB-SOI files, like our inter-industry research, has not extended this far. Thus, our analysis here too is exploratory and conceptual, i.e., developed without attention to, or control for, all the critical factors that affect profitability. But we think our analytical approach is promising. Within-industry analysis confirms and extends our across-industry findings concerning the relatively high profitability of small firms and small-firm sectors, showing that organizational factors (particularly sales/asset ratios) give small firms their distinction.

CONCLUDING REMARKS

Differences in profitability speak to the organizational realities of firm-industry interactions in a way current approaches to industrial organization conspicuously do not. Large 'managed' firms have advantages over small firms, to be sure, but these advantages are not manifest in profit-on-equity or profit-on-assets. As far as this analysis has gone, large-firm advantage shows up in increasing assets per dollar of sales and in decreasing likelihood of loss.

Small firms have their advantages too: those with income are more profitable and leaner in asset holdings than large firms, but their entrepreneurial managements face considerably greater possibility of loss. The two types of firms, it appears, are playing *distinctive* roles in the development of their several industries.

From the *Corporate Source Books* emerges a vivid picture of the financial interactions involved in industry development. Our examination of the profit record for 1977 through 1980 indicates that the basic intra-industry patterns reported for 1976 hold with some interesting variation.[6]

- As the economy became more prosperous, the profit advantage to small firms became less pronounced; regression slopes for profit-on-assets and profit-on-equity to asset size were negative in somewhat less than half the industries by 1979 (compared to three quarters or more in 1976), but were still rarely positive.
- Sales/asset ratios remained substantially higher for small firms than for large firms in about 70 percent of the industries in 1979.
- Debt/equity ratios continued to show no consistent trend based on firm size within industries.
- As for realized losses, their preponderance among small firms fell from 57 percent of the industries in 1976 to less than 40 percent in 1979.

Considered in connection with financial circumstance, our analysis suggests, profitability gives focus to the organizational forces at work across and within industry. Current research in industrial organization with its emphasis on such factors as R&D activities and advertising expenditures does indeed capture some important aspects of organizational performance. But the rather 'stylized' views of profitability that continue to dominate the literature, whether on the 'revisionist' or the 'anti-trust' sides, often blind us to other crucial measures of organizational development and contribution (e.g., growth, asset intensity and workforce quality).

Rationalizing the profit performance of distinctively organized large and small competitors provides a starting point for extending our models in these directions. Profitability after all is central to business development. To the extent profit performance is at odds with theory, the implications are bound to be revealing. Small-firm vs. large-firm interactions are equally central to the competitive record. To the extent these interactions reflect genuine differences in performance and in contribution, the insights provided here too should be revealing.

END NOTES

1. Due to the high asset holdings of financial firms and their peculiar competitive circumstances, averages for nonfinancial corporations only are the best indicators of profitability levels in the economy, and also of the levels for sales/asset ratios and debt/equity ratios.
2. In fact, the structuring of the CSB-SOI data into industry divisions effectively limits multivariate regression analysis. When 180 SOI industries are grouped into nine 1-digit divisions, there are very often few degrees of freedom afforded by the data.
3. In earlier research on differences in profitability [Ballantine, Cleveland, and Koeller (1986)], we used profitability for all firms as the dependent variable. The same contrasting relationships between profit-on-sales and both profit-on-equity and profit-on-assets as related to firm size emerged as shown here. But profitability was not so pronounced in favor of small firms, i.e., the with-income profit measure used in the research reported in this paper makes a difference.
4. Subsequent research [Ballantine, Cleveland, and Koeller (1987)] has shown that these negative sales/asset ratio to asset size relationships reflect very low asset/employee ratios and moderately low sales/employee ratios for small firms within industries.

5. Our subsequent research has indicated, however, that small firms are located for the most part in industries where debt burdens are high.
6. Support tables for these statements are contained in our research for the U.S. Small Business Administration (SBA) [op.cit. (1987)] and are available from the authors, or SBA, on request.

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