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Corporate-Level Strategy, Business-Level Strategy, and Firm Performance

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Corporate-level strategy and business-level strategy are operationalized in terms of inter*industry and* intra*industry variation, respectively. Variables representing both levels of strategy are used in a regression model to explain variation in firm profit performance. Both kinds of variable are found to be significant in explaining variation in firm profitability.*

Theoretical literature in the business policy area has increasingly emphasized distinctions between two levels of organizational strategy: (1) corporate-level strategy, concerned with questions about what businesses to compete in, and (2) business-level strategy, concerned with questions of how to compete within a particular business. Differing conceptual schemes and associated analytic techniques have been proposed to aid top managers in making decisions about the two different kinds of strategy. Hofer and Schendel (1978) provide a recent literature review and a rationale for separating and sequencing these two kinds of strategic decisions.

Although business policy theory has been evolving in this direction, at least since Ansoff (1965), empirical research to test propositions derived from this theory has been limited. It is the purpose of this paper to present the results of such an empirical test. More specifically, the research presented here provides evidence about the relative importance of corporate-level strategy and business-level strategy in determining firm profit performance.

Conceptually, corporate-level strategy and business-level strategy are seen as corresponding, respectively, to *inter*industry and *intra*industry variations in business firms' strategies. The research design used single-industry firms as the unit of analysis. In this respect, the research is similar to the Profit Impact of Marketing Strategy (PIMS) project at Harvard

University, except that single-industry corporations rather than single-industry subunits of multi-industry firms are the primary unit of analysis. This design has the advantage that *inter*industry and *intra*industry strategic variation can be clearly distinguished and operationalized.

CONCEPTS OF STRATEGY AND UNITS OF ANALYSIS

Organizational strategy is one of the broadest and most complex concepts used in studying organizations. Because the concept of strategy has been evolving rapidly in the business policy literature, it should be made clear at the outset what concepts of strategy have been used and what units of analysis have been studied. Figure 1 sets forth a framework that helps to specify the concern of this paper. Figure 1 cross-classifies three hierarchical levels of strategy with four hierarchical units of analysis. On the left in Figure 1, the concepts of strategy are arranged in hierarchical order from top to bottom, ranging from the most general concept, corporate-level strategy, to the least general concept, functional strategy. Across the top of Figure 1, the units of analysis are arranged in reverse hierarchical order, ranging from the smallest unit, management decision makers, to the largest unit, the indirectly linked environment. The concepts of direct and indirect linkages in an organization's environment as used in Figure 1 are analogous to the concepts of direct and indirect requirements in a Leontief-type input-output model. Leontief (1953), Chenery and Clark (1959), and Miernyk (1965) provide thorough discussions of the theory and applications of this model.

The research discussed below deals with only two concepts of strategy in Figure 1, corporate-level strategy and business-level strategy. The focus of the research is primarily on the organization as a whole, the second unit of

FIGURE 1
Three Concepts of Strategy and Four Units of Analysis

	Four Units of Analysis			
	Organizational Units		Environmental Units	
Three Concepts of Strategy	1. Management Decision Makers	2. The Organization as a Whole	3. The Directly Linked Environment	4. The Indirectly Linked Environment
1. Corporate-Level Strategy				
2. Business-Level Strategy				
3. Functional-Level Strategy				

analysis in Figure 1, and the organization's directly linked environment, the third unit of analysis in Figure 1.

Although space limitations prevent much discussion of the distinctions made in Figure 1, it is important to elaborate briefly on the differences between the characteristics of strategic decisions or decision makers on one hand and the characteristics of an organization's strategy on the other hand. It is believed that organizations originate and change on the basis of creative, strategic decisions by individuals or groups occupying key organizational roles. Weick (1969), Child (1972), and Miles, Snow, Meyer, and Coleman (1978) develop this view more thoroughly. Strategic decision making is seen as a crucial part of the process by which organizations adapt to their environments.

It also is believed that those decisions that actually succeed in creating or changing organizations do so via complex iterative processes, which policy theorists subsume under the concept of strategy *implementation*. Andrews (1971) provides a broad theoretical overview of the strategy implementation process. Empirical work documenting the complex nature of strategic decision and implementation processes includes Cyert and March (1963), Bower (1970), Carter (1971), Pfeffer and Salancik (1974), and Mintzberg, Raisinghani, and Theoret (1976).

For purposes of the present study, a key assumption has been made about the relationship between organizational strategy and organizational performance. It was assumed that the effects of strategy on performance at a particular point in time, or during a particular period of time, are best studied in terms of the organization's *implemented strategy* at or during the relevant time. This means that the concept of strategy here is based on organizational characteristics that embody earlier strategic decision and implementation processes. Actual outcomes of decision and implementation activities are, of course, determined both by complex, iterative processes among decision makers within the organization and by interaction between the organization and its environment.

Concern will be only with the concepts of strategy enclosed within the dotted line of Figure 1—corporate-level strategy and business-level strategy. Corporate level strategy is conceived in terms of variation in the portfolio of industries in which a firm does business. Business-level strategy is conceived in terms of variation in the firm's strategic characteristics relative to the population of firms within the industries in which it does business. The verbal definitions employed closely follow Hofer and Schendel's (1978) concepts of corporate-level and business-level strategy. The operational measures of these concepts are discussed in more detail later in this paper.

Corporate-level strategy is defined in terms of variation in the deployment of a firm's resources among the portfolios of industries within which all business firms compete. Hofer and Schendel propound this view: "corporate-level strategy is concerned primarily with answering the question of what set of businesses should we be in. Consequently, scope and

resource deployments among businesses are the primary components of corporate strategy" (1978, p. 27). Thus, a firm's corporate-level strategy can be operationalized in terms of the distribution of firm assets, sales, employment, capital-budget, or other indexes of firm resources among the range of existing industries.

Most firms have simple corporate-level strategies, in these terms. They compete in only one industry among the hundreds that are possible. Other firms, however, such as the *Fortune* 500 largest United States industrial firms, typically participate in several industries, and their top managers must contend with the varied and conflicting demands of their industrially specialized subunits.

Because research interest in this paper is primarily in the question of how important variation in corporate-level strategy is relative to business-level strategy in explaining firm performance, the complex differences among industries will be represented quite abstractly. Differences in the average profitability among industries will be used to represent the overall differential in profit making opportunity among industries.

It is true that decisions about corporate-level strategy in multi-industry firms are based on a wide variety of information other than industry profitability and that these decisions affect many variables other than the distribution of firm assets among industries. Springer and Hofer (1980), for example, document the rich variety of decisions that have attended the evolution of General Electric's strategic planning process, which now includes distinct responsibilities and procedures at the corporate level and at the business level. Berry (1975) has identified General Electric as the second most diversified firm as of 1965 among the *Fortune* 500 largest industrials.

Lieberson and O'Connor (1972) have used variation in the average profitability of a subject firm's primary industry to assess the impact of differences in the firm's competitive environment upon firm performance—an approach similar to that of the present study. Other researchers have measured variation in a firm's corporate-level strategy in different ways. For example, Gort (1962) used the number of industries in a firm's portfolio to measure the diversity of a firm's corporate-level strategy, and Rumelt (1974) used a measure of the technical relatedness of the industries in which multi-industry firms competed. In another vein, Pitts (1977) has shown that marked structural differences exist at the corporate level between firms that have diversified via internal growth and those that have diversified by acquisition.

Business-level strategy is defined in terms of variation in firm characteristics relevant to competitive success or failure within a given industry. In this paper, a firm's competitively relevant, business-level characteristics are conceived exclusively in relative terms. That is, a firm would have a separate business-level strategy for each industry in which it competed, and the relevant characteristics of the firm's business-level strategy would

be measured relative to the range and norms on each characteristic in each of its industries.

Hofer and Schendel again provide a succinct definitional statement:

> At the business level, strategy focuses on how to compete in a particular industry or product-market segment. Thus, distinctive competences and competitive advantage are usually the most important components of strategy at this level (1978, pp. 27, 28).

In the selection of variables to represent business-level strategy, focus was on variables that have been shown empirically to effect firm competitive performance. In this respect, less emphasis was put on a firm's mix of market segments and product line items within a particular industry than that used by Hofer and Schendel (1978). Instead, emphasis has been on variables that demonstrably tend to confer competitive advantage or disadvantage.

As with corporate-level strategy, business-level strategy can be operationalized in terms of a rich variety of measures. In two of the widest ranging studies, Schoeffler, Buzzell, and Heany (1974) and Schendel and Patton (1978), firm size relative to competitors and firm resource allocations to capital investment, advertising, and research relative to competitors were studied as strategic determinants of firm profitability. Taking a more financially oriented view, Hall and Weiss (1967) and Fisher and Hall (1969) found two risk factors, unpredictability of firm profitability and debt leverage, respectively, to explain considerable variance in firm profitability.

RELEVANT THEORY AND RESEARCH

The main research question addressed in this paper is degree to which variation in a firm's corporate-level strategy and in its business-level strategy explains variation in its profit performance. Although this may seem to be a simple question, rarely has theory and research combined both the *inter*industry and *intra*industry perspectives in terms of definitions of corporate-level strategy and business-level strategy used here.

A great deal of theory and supporting research on the economics of industrial organization leaves little doubt that interindustry differences in structure and profitability are persistent over time and are similar among industrialized nations. This also means, of course, that there are differences in the average profitability of the firms competing in different industries. Scherer (1970), Weiss (1974), and Caves (1977) review this literature. The industrial organization field has focused largely on industrial aggregates of firms, however, rather than on the firms themselves. The industrial organization framework thus says little about either the range of variation in firm performance across or within industries or about other relatively large differences among firms in general or among firms competing within a single industry. Although business policy and other areas of business administration have focused on business firms as the unit of analysis, until recently they have produced little systematic or comprehensive research on variation in the environments in which individual firms compete.

The literature reviewed below is organized in three sections. First, a brief review of pivotal works contributing to the evolution of separate, hierarchical concepts of strategy will be presented. These works provide more background on the concepts of corporate-level strategy and business-level strategy set forth above. The remaining two sections cover the empirical research from which the hypotheses of the present research derive. These sections discuss evidence on relationships between firm profit performance and both corporate-level strategy and business-level strategy, respectively.

Corporate-level and Business-level Concepts of Strategy

Ansoff was among the first to conceptualize different levels of organizational decision making. Ansoff saw three levels of decisions facing the organization's decision makers: *strategic decisions*—"the selection of product mix and markets...an impedence match between the firm and the environment," *administrative decisions*—"structuring a firm's resources to maximize performance potential," and *operating decisions*—"maximize the efficiency of the firm's resource conversion process" (1965, pp. 5, 6). Ansoff's first two types of strategy roughly approximate the concepts of corporate-level and business-level strategy, respectively, that are used in the present research.

Authors in the Harvard Business School tradition (Levitt, 1960; Andrews, 1971; Uyterhoeven, Ackerman, & Rosenblum, 1977; Christensen, Andrews, & Bower, 1978) have recognized two similar levels of strategy. Andrews, for example, defined corporate strategy as "the pattern of major objectives, purposes, or goals and essential policies and plans for achieving those goals stated in such a way as to define what business the company is in or is to be in and the kind of company it is or is to be" (1971, p. 25). The decision on what business the company is in or is to be in clearly approximates the concept of corporate-level strategy used here. The decision on what kind of company it is or is to be is too vague to be easily interpreted, but it could be seen as incorporating the concept of business-level strategy.

Vancil and Lorange (1975) define three levels of strategy that parallel those of the present study. They view strategic planning in diversified companies as moving through three cycles: setting corporate objectives at the top, setting consonant business objectives and goals in the divisions, and establishing the required action programs at the functional level.

Miles et al. (1978) identify three broad types of problems facing organizations: the entrepreneurial problem, the engineering problem, and the administrative problem. Solving the entrepreneurial problem in their model is equivalent to decisions on corporate-level strategy in presently used terms, and the latter two types of problems fit loosely with the concept of business-level strategy.

Hofer and Schendel (1978) prescribe different analytic strategic tasks at the corporate level and the business level. They see the principal task of analysis at the corporate level as evaluating the relative attractiveness of business(es) in the firm's portfolio and the principal tasks of analysis at the business-level as assessing the stage of the product life cycle and the firm's competitive position—within each relevant business. Hofer and Schendel's (1978) definitions are the most specific, and theirs are followed closely in this paper.

Corporate-level Strategy and Firm Performance

Empirical research on relationships between corporate-level strategy and firm performance is discussed in two parts below. The first part concerns effects of the quantity and type of diversity in a firm's business portfolio on its profit performance. The second part concerns effects of variation in industry on firm profit performance.

Although some theoretical reasons can be advanced that the quantity of industrial diversification per se may affect business firms' profitability, empirical research thus far indicates that little relationship exists between diversity and profitability. Rhoades (1973) suggested that diversified firms might create barriers to entry to various industries in two ways: first, by using profits from one industry to subsidize predatory pricing in another industry and, second, by obscuring attractive returns in one or more of their industries through consolidated financial reporting. Rhoades' (1973) initial research, based on 1963 data for a sample of 244 manufacturing industries—four digit Standard Industrial Classifications (SIC)—showed some modest support for this view. However, Rhoades (1974) subsequently developed three additional measures of industry diversity using improved detail in data for 1967 published by the U.S. Census Bureau. The data allowed measurement of firm diversification in terms of both (a) the number of industries in which firms competed and (b) the proportion of firms' sales outside their primary industry. In the second study, he found a modest negative relationship between diversity and profitability. Rhoades (1974) attributed the contradictory results of the two studies more to differences in their levels of industrial aggregation than to their differences in diversification measurement.

Several studies using large U.S. manufacturing firms as the unit of analysis have found no relationship between diversity and profitability. Gort's (1962) work is one of the most comprehensive studies available on this subject. In a sample of 100 of the 200 largest manufacturing firms in the United States in 1954, including data for the years 1947 through 1954, he found virtually no correlation between return on net worth and two measures of firm diversification.

Gort (1962) did find a minimally significant positive correlation between firm growth in assets between 1939 and 1954 and diversification in the latter year. Berry (1975) supported this result in a sample including nearly all of the 500 largest U.S. manufacturing firms and including data for

1960 and 1965. Berry found low positive associations between growth in corporate assets in this 5-year period and several measures of growth in corporate diversification. However, the regressions as a whole explained little variance in corporate growth. Using a sample of approximately 300 of the largest U.S. manufacturing firms, Rumelt (1977) regressed Berry's measures of firm diversity in 1960 and in 1965 against firm profitability in these years and found no significant relationship.

A second kind of evidence about corporate-level strategy is especially relevant to the present research design. This is evidence as to the effect of variation in the average profitability of industries on the profitability of firms competing within them. On the average, of course, the weighted average for all firms in an industry gives the industry's profitability, and much of this variation in industry profitability can be explained by variation in industrial market structure. However, individual firms within a given industry clearly vary markedly in their profitability, and thus variation in profitability among firms can be explained only partially by variations in the industry or industries in which they compete. The main research interest here concerns both how much of an individual firm's profitability can be explained by its industry compared to other industries *and* how much can be explained by the firm's strategy compared to other firms' strategies within its particular industry.

Rumelt (1977) found specialized firms to be the most profitable, relatively speaking, when his sample firms' performance was controlled for the profitability of their differing industries. Firms with technically related portfolios dropped to average relative to their industries, and firms with unrelated portfolios remained the least profitable in both relative and absolute terms. The latter results add insight on Rumelt's earlier results as well as provide evidence of the positive effects of industry profitability on firm profitability.

Lieberson and O'Connor (1972) studied a sample of listed firms over the period 1946 to 1965. They found that variation in firms' primary industry explained 20 to 30 percent of the variation in their profitability and growth. Lieberson and O'Connor's additional finding that variation in the firms themselves accounted for much of the remaining variation in firm performance is also important. Because of Lieberson and O'Connor's (1972) unorthodox method of partitioning variance, the validity of their findings is difficult to assess.

Beard and Dess (1979) obtained results similar to those of Lieberson and O'Connor. Both industry return on assets and industry return on equity proved to be significant predictors of the corresponding measures of firm profitability. In addition, intraindustry variables were found to be significant.

Business-level Strategy and Firm Performance

The review of research on relationships between business-level strategy and firm performance is selective. Business-level strategic variables for

literature review and for further research have been chosen on the basis of four criteria. The first and most important criterion was that the business-level strategy variables have an empirical tradition showing a relationship with firm performance. This is consistent with the definition of business-level strategy above, which stresses differences conferring competitive advantage or disadvantage among the competitors within a given industry. A second criterion stemmed from practical resource constraints on the research. This was that data on the variables must be available in secondary sources for both firms and industries and that comparable measurement of profit performance and other variables be available for both units of analysis. A third criterion was that the variables be amenable to management control. A final criterion was that the variables must be characteristics of the organization as a whole that can be observed objectively across organizations in a given industry. This restriction eliminated perceptual or judgmental variables such as the uncertainty felt by management decision makers.

In applying these four criteria, three business-level strategy variables have been identified as most significant: relative size, debt leverage, and capital intensiveness.

Firm size in either absolute or relative terms is one of the most validated correlates of firm profit performance. For this reason it was chosen as the first business-level strategy variable. Research generally has shown a positive association between either absolute or relative firm size and firm profitability. This relationship is consistent with a large body of theory and research that demonstrates a wide variety of economies of scale. Scherer (1970) provides an extensive review of the literature in the industrial economics tradition, as of the date of publication. More recently, the Boston Consulting Group (1972) has documented the ubiquity of log-linear declines in unit costs and prices as cumulative output experience increases.

Relative firm size within a specific industry is the main concern of this paper and will be used as a measure of firm business-level strategy. Studies using market share as an independent variable in explaining firm profit performance include Shepherd (1972), Gale (1972, 1974), Schoeffler et al. (1974), Buzzell, Gale, and Sultan (1975), Winn (1975), and Bass, Cattin, and Whittink (1978). All of these studies included other independent variables as controls in addition to the market share variable, and all found a significant positive correlation between firm market share and firm profitability.

Shepherd (1972) was one of the first researchers to specify firm market share as an independent structural variable in attempting to explain firm profitability. In a study of over 200 firms among the *Fortune* 500 largest U.S. industrial firms during the period 1960 through 1969, Shepherd found firm market share to explain as much or more variance in these firms' profitability than the more traditional market structure variables. The latter included leading-firm group share of the market, firm asset size,

firm advertising to sales ratio, firm growth rate, and industry barriers to entry.

Gale (1972) published a theoretically more complex study than Shepherd's (1972) of the relationships among firm profitability, firm market share, and several interaction and control variables. Gale's data base was a sample of over 100 firms from the *Standard and Poors Compustat, Annual Industrial Tapes* (1979) for the five years 1963 through 1967. Gale (1972) also found that firm market share exhibited a positive association with firm profitability, but that this association was quite variable due to interaction between market share and other independent variables, among which industry concentration was the strongest.

Gale's (1972) study is especially relevant to the research reported in this paper because his theoretical discussion and research on variability in market share's effects on profitability are important in explaining the present findings about this relationship. His theoretical treatment and results on the relationship between firm debt leverage and firm profitability are also germane to the present discussion of firm debt-leverage as a business-level strategy variable.

Winn (1975) conducted a study of firm profitability similar in design to the two just discussed except that firm size was measured absolutely rather than relatively. Winn's sample included nearly 800 firms in 79 industries from the *Standard and Poors Compustat, Annual Industrial Tapes* (1979) for the years 1960 and 1968. Winn's findings of a strong positive association between firm size and profitability supports the findings on market share cited above.

The studies of Gale (1974), Schoeffler et al. (1974), and Buzzell et al. (1975) are based on data gathered as part of the Harvard Business School's Profit Impact of Marketing Strategies (PIMS) project. The PIMS project data base as of 1972 included data from 57 large North American companies, about 620 of their single-industry subunits. As Buzzell et al. (1975) indicate, an advantage of this data base for studying market share is that businesses or markets are defined more narrowly than the U.S. SIC system usually allows.

The well known result of the PIMS research on market share and firm profitability is a strong positive association among the sample of single-industry subunits. However, the relative importance of market share compared to other independent variables has not been precisely quantified in published form. Schoeffler et al. (1974) report that a regression model developed from the PIMS data base explained 80 percent of the variance in return on investment among the 620 single-industry subunits. Gale (1974) includes regression results, but the coefficients are not standardized. It appears from the latter results that market share and capital intensiveness account for most of the variance in profitability and are about equal in importance among over 35 independent variables reported in Gale (1974).

The PIMS project approach of isolating business units of analysis competing within only one product-market strongly influenced the present

study's design. However, the present design has relied on the SIC system in the United States Office of Management and Budget (1972) to define industries or markets. The research of Shepherd (1972), Gale (1972), and Winn (1975) reviewed above shows that this method is serviceable.

A final study using firm performance as a dependent variable and firm relative size as an independent variable, Bass et al. (1978), suggests another important qualification of the general market share-profit association. Overall, Bass et al. (1978) confirmed this association among a sample of 63 manufacturers of food, tobacco, and cosmetics. However, when the sample was grouped in 10 more internally homogeneous industry classifications, the market share variable was statistically significant and positive in only about half of the groups.

The second business-level strategy variable, capital intensiveness, also is well validated as a correlate of firm profitability. In this case, the relationship is generally negative. The theoretical context and explanation of this phenomenon are not always consistent, however. Winn (1975) presented and tested the hypothesis that the relationship between firm capital intensiveness and firm profitability is positive, not negative. His reasoning included two major points. First, capital intensiveness implies a relatively large minimum efficient scale, a barrier to entry Second, consistent with the first, firm size and capital intensiveness are associated positively, and the latter relationship has a strong theoretical and empirical relationship with firm profitability, as discussed above.

However, Winn (1975) found a *negative* regression coefficient for firm capital intensiveness, as measured by the assets to sales ratio, in relation to profitability. Not only was this result statistically significant, but it explained 20 to 30 percent of the variance in firm profits. As mentioned above, this is precisely the result Schoeffler et al. (1974) and Gale (1974) obtained in their analyses of the PIMS data base. Further supporting evidence is provided by Rumelt (1974), who found predominantly vertically integrated firms to be among the most capital intensive and the least profitable.

Winn (1975) explained his finding of a negative association between firm capital intensiveness and firm profitability in terms of higher fixed operating costs that the former variable implies. He reasoned that relatively capital intensive firms were more subject to operating losses in times of cyclical downturn. Schoeffler et al. (1974) reasoned, in addition, that capital intensive firms tend to compete in markets with relatively standardized products where price cutting to obtain volume is frequent.

Hatten and Schendel (1977) provide further evidence of a negative association between firm capital intensiveness and profitability. In a sample of 13 major brewers, covering 20 years of data for most of them, they found a negative association which remained consistent and significant among a number of subgroups within their sample.

The final business-level strategy variable is debt leverage. Empirically, this variable has had a fairly consistent negative association with firm

profitability, as was the case with capital intensiveness. However, in the case of firm debt leverage, the theoretical context is much more complex. The main complexity is that more than one source of risk can be identified empirically and that these separate risk elements appear to interact.

Gale (1972) and Baker (1973) distinguish between business risk and financial risk. Business risk tends to be a function of variability resulting from rather stable aspects of industry structure and technology. It thus is best studied in terms of interindustry variation. Interindustry variation of this kind is viewed in this paper as relevant primarily to corporate-level strategy. Financial risk, as measured by financial leverage, is then correspondingly best studied in terms of intraindustry variation. Thus, financial leverage and attendant risk should be measured relative to the norms and range within a particular industry. This is the approach taken in the present study.

Most studies of risk have focused on either business risk or financial risk. Only one study, to the authors' knowledge, has included both and considered them separately. Studies focusing on the variability and unpredictability of profits generally have found a positive relationship between this kind of business risk and rates of return. These include Conrad and Plotkin (1968) and Fisher and Hall (1969). Winn (1975) pursued a similar design in studying business risk. Rate of return among the almost 800 firms he studied was negatively related to the standard deviation and positively related to the skewness of this sample, just the opposite of what he had hypothesized. The coefficient of determination was small in this case, in contrast to earlier studies.

Studies focusing on financial risk as measured by the debt to equity ratio have found a negative association between this kind of risk and firm profitability. Arditti (1967), Hall and Weiss (1967), and Gale (1972) fall into this category. Baker (1973) obtained similar results using a single equation, ordinary least squares model. However, when Baker used a two equation, two stage least squares model, the relationship between debt leverage and rate of return became positive, as classical theory suggests it should. One could feel more confident in Baker's resolution of apparently contradictory findings if it had been replicated.

HYPOTHESES AND METHOD

The research aims to provide a balanced test of the power of variation in firm corporate-level strategy and in firm business-level strategy in explaining variation in firm profitability. The correlational research design used involves testing the statistical significance and explanatory power of a linear regression model.

As mentioned in the introduction, the research is limited to single-industry firms. Thus, first the model will be specified as it was actually tested, i.e., the single-industry version of the model shown in equation (1). A brief discussion will show how the model can be generalized to include

multi-industry firms. Such generalization is much easier in theory than in practice. Variation in corporate-level strategy has been measured in terms of the average profitability of the industry in which a firm does business. Variation in business-level strategy has been measured in terms of the firm's relative position within its particular industry on the three business-level strategic variables discussed above: sales size, capital intensiveness, and debt leverage.

The Model

The hypotheses tested are specified in terms of an additive linear regression model:

$$Y_i = b_0 + b_1 X_{1i} - b_2 X_{2i} - b_3 X_{3i} + b_4 X_{4i} + U \qquad (1)$$

where:

Y_i = the before tax return on total investment or on equity of the ith firm,
X_{1i} = the before task return on total investment or on equity of the industry in which the ith firm competes,
X_{2i} = the debt to equity ratio computed as the ith firm's ratio relative to the average ratio of the industry in which the ith firm competes,
X_{3i} = the assets to sales ratio computed as the ith firm's ratio relative to the average ratio of the industry in which the ith firm competes,
X_{4i} = the sales size of the ith firm relative to the average firm's sales size in the industry in which the ith firm competes,
U = an error term accounting for unspecified variables,
i = 1 through n, and
n = the number of firms in the sample or population.

The signs of the coefficients in equation (1) indicate the direction of the relationships hypothesized to exist between the independent variables and the dependent variables.

To generalize the above regression model to include multi-industry firms one would need to substitute weighted averages on the independent variables for the single-industry variables shown in equation (1). The weights required to compute weighted averages on the independent variables could be specified as the proportions, P_j, of a given multi-industry firm's assets or other resources assignable to the various industries in which it does business. Algebraically the weights can be expressed as:

$$P_j = A_j / A \qquad (2)$$

where:

P_j = the proportion of firm resources assignable to the jth industry,
A_j = the absolute value of firm resources assignable to the jth industry,

A = total firm resources = $\Sigma_j A_j$,
j = 1 through m, and
m = the number of industries in which investment is possible.

Given the weights, P_j, any business-level strategy variable can then be expressed as follows:

$$X_k = \Sigma_j P_j X_{kj}, \text{ or} \quad (3)$$

$$X_k = P_1 X_{k1} + P_2 X_{k2} + \ldots + P_m X_{km} \quad (4)$$

where:
X_k = the kth business-level strategy variable,
k = i through q,
q = the number of business-level strategy variables,
P_j = the proportions used as industry weights as defined in equation (2) above,
j = 1 through m, and
m = the number of industries in which investment is possible.

The relatively large increase in resources required for actual implementation of the more general model in equations (3) and (4) compared to the single-industry model in equation (1) was judged not to be worthwhile.

In practice, accurate estimates of the proportion of firm assets allocated among the industries in which diversified firms did business were found to be difficult to obtain by survey procedures. This source of measurement error was judged to be major on the basis of a pilot survey. Therefore, the research was limited to a sample of listed firms that competed in only a single industry. The single-industry firms studied here are similar in many respects to the single-industry subunits of larger firms included in the Harvard Business School's PIMS project, as reported in Schoeffler et al. (1974), Gale (1974) and Buzzell et al. (1975).

The Sample

The population sampled in the present study was the single-industry manufacturing firms included in Standard and Poors (1979). All firms included in the final sample were required to have been in one and the same industry for the years 1969 through 1974. A firm was considered to be a single-industry firm if, and only if, during the 1969-1974 period, a substantial majority, and in most cases all, of its sales could be clearly classified within one three digit SIC as defined by the U.S. Office of Management and Budget (1972).

The process of identifying the single-industry corporations as specified above was painstaking. Standard and Poors (1979) gives only the primary enterprise industrial classification of each firm in the Compustat file. Thus

each firm drawn at random from this file was checked manually in Standard and Poors (1969 through 1974) which gives each four digit SIC in which a corporation does business. Only about one in six of the Compustat firms were found to be bona fide single-industry firms in terms of the four digit SIC codes. A final sample of 40 single-industry Compustat firms was studied.

Data, Measurement, and Analysis

Firm-level data required to compute the appropriate coefficients in equation (1) above were obtained from Standard and Poors (1979). Industry-level data required to compute the appropriate coefficients in equation (1) were obtained from U.S. Internal Revenue Service (1974 through 1979) and Troy (1973 through 1978). These sources of firm-level and industry-level data, respectively, provide a consistent set of accounting classifications across the reporting units and across the six years studied.

The years 1969 through 1974 were chosen for analysis because this was the most recent six year period for which the Internal Revenue Service data were published and because this period included an equal number of recession years and relatively full employment years. In 1971, 1972, and 1974, U.S. unemployment was between 5.5 and 6.0 percent. In 1969, 1970, and 1973 unemployment was between 3.5 and 5.0 percent.

Operational measurement of the variables specified in equation (1) above is straightforward. Two measures of the dependent variable, firm profitability, were analyzed in parallel fashion. The first, firm return on equity (ROE), was measured as the ratio of profits before income taxes and extraordinary items to equity. The second, firm return on total investment (ROI), was measured as the ratio of profits before income taxes and extraordinary items plus interest to year-end total investment.

Concerning measurement of the independent variables, the appropriate *industry* profitability measure (X_1, the corporate-level strategy variable), either return on equity (ROE) or return on total investment (ROI), was computed from data in the U.S. Internal Revenue Service (1974 through 1979) exactly as the corresponding firm profitability measure was computed. The remaining three independent variables, all business-level strategy variables, were measured in the same way regardless of which firm profitability measure was used as the dependent variable. All three were measured as firm-characteristics *relative* to industry norms. The relative debt leverage measure (X_2) used was the ratio of firm total debt to equity divided by the corresponding average ratio for all firms (corporate tax returns) in the appropriate industry. Similarly, the relative capital intensiveness measure (X_3) was the firm total assets to total sales ratio divided by the average ratio for all firms in the appropriate industry, and the relative sales size measure (X_4) was firm sales divided by the average sales of all firms in the appropriate industry.

The statistical analysis and hypothesis testing were done using a stepwise linear regression procedure. Independent variables were entered at each step in the order of their squared partial correlation with the dependent variable when all other independent variables were controlled. The minimum level of acceptable statistical significance for the regression equations tested was $p < .05$. The model was tested for each of the six years included in the study as well as for the six year average, with respect to both of the dependent variables, return on equity and return on investment.

Reliability and Validity Issues

The pooling of firms in a sample, where these firms are in some important respects heterogeneous, has been accorded increasing critical attention recently. Hatten and Schendel (1977) and Bass et al. (1978) are the most germane to our study. The basic point of both studies is that, if regression coefficients of subgroups of firms within a population or sample differ significantly from those of the population or sample as a whole, the reliability of the latter coefficients is subject to question.

These studies make a useful methodological point and also serve to remind one of the complexities in the areas of organization-environment relationships and business policy. Nonetheless, it is believed that this methodological point leaves the reliability of representative samples such as the present one at a viable level. The above two critical studies additionally raise the important judgmental issue of what populations are most relevant in studying firm performance. This question clearly has many acceptable answers depending on the purposes and interests of the researchers.

Two important trade-offs are seen between the external validity of a sample of firms and the kind of internal homogeneity that Hatten and Schendel (1977) and Bass et al. (1978) have persuasively raised as a reliability criterion. First, as such homogeneity is sought, the size of the population of firms that the sample represents, and thus the generality of the results, diminishes. Second, the parsimony of the empirically supportable theory resulting is diminished, a cost of contingency or situational theories in general. Both articles discuss other, more statistically technical advantages and disadvantages of pursuing internal homogeneity in samples of firms. The present authors have opted to weigh the above kinds of external validity more heavily than the added reliability that internal homogeneity admittedly provides.

The present research design is believed to have a number of strengths. The sample is drawn from a large population of listed manufacturing firms. The single-industry firms are relatively homogeneous with respect to industrial diversity. Schoeffler et al.'s (1974) experience with single-industry subunits of large firms suggests that larger, diversified firms can usefully be represented as aggregates of units similar to the present ones. Thus the generality of current results is relatively wide.

In using only single-industry firms, in using industry profitability to control for interindustry variation, and in measuring firm variables exclusively in relation to industry norms, it is believed that the present research has done much to distinguish clearly between *inter*industry and *intra*-industry (i.e., firm) sources of variation, a significant confounding problem in most earlier studies of firm performance. The sample of 40 single-industry firms represents 38 separate industries as well. Because of this interindustry heterogeneity, the sample provides an adequate range for variation at this level of analysis.

Six years of data that are about equally split in terms of high and low points on the business cycle have been used, and reasonably consistent results for each year separately and in the aggregate have been developed. The results also are developed for two different performance measures. The replicability of the design leaves its reliability and validity open to relatively easy future testing.

RESULTS

Results of the stepwise regression analysis are summarized in Tables 1 and 2. The former gives results when firm return on equity (ROE) is the dependent variable, and the latter gives parallel results when firm return on total investment (ROI) is the dependent variable.

The results shown in Tables 1 and 2 indicate that both corporate-level strategy and business-level strategy, as defined and measured here, are important in explaining variations in firm profitability. With respect to the measure of corporate-level strategy (X_1, industry profitability) the sign is positive in all equations in Tables 1 and 2. In a large majority of equations, X_1 is either first or second in explanatory power as indicated by either the standardized regression coefficients or the stepwise change in multiple R^2.

With respect to the three measures of business-level strategy (relative size, debt leverage, and capital intensiveness), one encounters both confirmation of some relationships symbolized in equation (1) and some unexpected results. The explanatory power of firm relative debt to equity, X_2, is surprising. X_2 has a negative sign in virtually all equations, as hypothesized in equation (1). It is also first or second in explanatory power in the large majority of equations. The sign of firm relative capital intensiveness, X_3, is negative as hypothesized in equation (1). Overall, X_3 rivals X_2 in explanatory power, but it is not as consistently high in this respect. The almost universally low explanatory power of firm relative sales size is a major surprise. Because the regression coefficients for X_4 are so close to zero, their sign is of no interest.

Turning now to the overall magnitude and statistical significance of the regression results, one can see in Table 1, where return on equity (ROE) is the dependent variable, that the multiple Rs and associated R^2s exceed the $p < .05$ criteria on one or more steps in four of the seven equations. Results for two other equations, including the equation for the six year averages,

TABLE 1
Stepwise Regression Analysis of Firm Return on Equity (ROE), 1969-1974

Regression Equation Coefficients and Variable	X_i	*Regression Equation Coefficients in Final Step*			*Stepwise Multiple Correlation Coefficients and Statistical Significance*			
		Unstandardized Regression Coefficients	*Standard Errors*	*Standardized Regression Coefficients*	*Stepwise Multiple R*	*Significance of Multiple R*	*Stepwise Multiple R^2*	*Change in Multiple R^2*
1969								
b_0, Constant	—	.212	.112	—	—	—	—	—
b_1, Industry Return on Equity	X_1	1.391	.537	.405	.414	.008	.172	.172
b_3, Firm Relative Capital Intensiveness	X_3	-.153	.077	-.297	.514	.003	.264	.093
b_2, Firm Relative Debt to Equity	X_2	-.033	.051	-.103	.522	.009	.273	.009
b_4, Firm Relative Sales Size	X_4	.000	.000	.042	.524	.021	.274	.002
1970								
b_0, Constant	—	.189	.888	—	—	—	—	—
b_1, Industry Return on Equity	X_1	1.550	.428	.527	.451	.004	.203	.203
b_3, Firm Relative Capital Intensiveness	X_3	-.139	.076	-.261	.526	.003	.277	.073
b_2, Firm Relative Debt to Equity	X_2	-.061	.044	-.202	.559	.003	.313	.036
b_4, Firm Relative Sales Size	X_4	-.000	.000	.073	.564	.008	.318	.005
1971								
b_0, Constant	—	.272	.202	—	—	—	—	—
b_2, Firm Relative Debt to Equity	X_2	-.130	.100	-.212	.190	.239	.036	.036
b_1, Industry Return on Equity	X_1	.825	.853	.158	.260	.275	.067	.031
b_4, Firm Relative Sales Size	X_4	.001	.001	.128	.283	.386	.080	.012
b_3, Firm Relative Capital Intensiveness	X_3	.112	.158	-.115	.304	.478	.093	.013
1972								
b_0, Constant	—	.251	.103	—	—	—	—	—
b_1, Industry Return on Equity	X_1	.838	.519	.254	.292	.068	.085	.085
b_3, Firm Relative Capital Intensiveness	X_3	-.092	.060	-.239	.378	.057	.143	.058
b_2, Firm Relative Debt to Equity	X_2	-.062	.052	-.185	.418	.072	.175	.031
b_4, Firm Relative Sales Size	X_4	-.000	.000	.077	.424	.129	.180	.006

TABLE 1 (cont.)

Regression Equation Coefficients and Variable	X_i	*Regression Equation Coefficients in Final Step*			*Stepwise Multiple Correlation Coefficients and Statistical Significance*			
		Unstandardized Regression Coefficients	*Standard Errors*	*Standardized Regression Coefficients*	*Stepwise Multiple R*	*Significance of Multiple R*	*Stepwise Multiple R^2*	*Change in Multiple R^2*
1973								
b_0, Constant	—	.145	.086	—	—	—	—	—
b_1, Industry Return on Equity	X_1	1.148	.460	.396	.356	.024	.126	.126
b_4, Firm Relative Sales Size	X_4	-.069	.060	-.184	.406	.036	.165	.039
b_2, Firm Relative Debt to Equity	X_2	.037	.052	-.116	.421	.068	.177	.012
b_3, Firm Relative Capital Intensiveness	X_3	.000	.000	.057	.425	.128	.180	.003
1974								
b_0, Constant	—	.162	.149	—	—	—	—	—
b_2, Firm Relative Debt to Equity	X_2	-.308	.080	-.530	.490	.001	.240	.240
b_1, Industry Return on Equity	X_1	1.260	.638	.275	.565	.001	.320	.079
b_4, Firm Relative Sales Size	X_4	.001	.006	.171	.590	.001	.348	.029
b_3, Firm Relative Capital Intensiveness	X_3	-.007	.068	-.015	.590	.004	.348	.000
6-Year Average, 1969-1974								
b_0, Constant	—	.096	.046	—	—	—	—	—
b_2, Firm Relative Debt to Equity	X_2	-.072	.033	-.344	.291	.068	.085	.085
b_1, Industry Return on Equity	X_1	.408	.301	.212	.367	.069	.135	.050
b_3, Firm Relative Capital Intensiveness	X_3	.000	.000	.141	.393	.106	.154	.019

TABLE 2
Stepwise Regression Analysis of Firm Return on Total Investment (ROI), 1969-1974

Regression Equation Coefficients and Variable	X_i	Regression Equation Coefficients in Final Step: Unstandardized Regression Coefficients	Standard Errors	Standardized Regression Coefficients	Stepwise Multiple Correlation Coefficients and Statistical Significance: Stepwise Multiple R	Significance of Multiple R	Stepwise Multiple R^2	Change in Multiple R^2
1969								
b_0, Constant	—	.234	.068	—	—	—	—	—
b_3, Firm relative capital intensiveness	X_3	-.114	.046	-.360	.422	.007	.178	.178
b_2, Firm relative debt to equity	X_2	-.064	.031	-.320	.466	.011	.217	.039
b_1, Industry return on investment	X_1	.980	.054	.289	.534	.007	.285	.068
b_4, Firm relative sales size	X_4	.000	.000	.025	.535	.017	.286	.001
1970								
b_0, Constant	—	.163	.059	—	—	—	—	—
b_1, Industry return on equity	X_1	1.504	.494	.449	.322	.043	.104	.104
b_2, Firm relative debt to equity	X_2	-.064	.028	-.343	.482	.008	.232	.129
b_3, Firm relative capital intensiveness	X_3	-.100	.048	-.298	.561	.003	.315	.083
b_4, Firm relative sales size	X_4	.000	.000	.052	.563	.008	.317	.003
1971								
b_0, Constant	—	.250	.114	—	—	—	—	—
b_2, Firm relative debt to equity	X_2	-.097	.053	-.293	.273	.088	.075	.075
b_3, Firm relative capital intensiveness	X_3	-.099	.084	-.188	.329	.170	.108	.034
b_1, Industry return on equity	X_1	.671	.820	.130	.353	.183	.125	.017
b_4, Firm relative sales size	X_4	.000	.000	.097	.366	.270	.134	.009
1972								
b_0, Constant	—	.250	.067	—	—	—	—	—
b_2, Firm relative debt to equity	X_2	-.081	.033	-.356	.363	.021	.132	.132
b_3, Firm relative capital intensiveness	X_3	-.079	.039	-.302	.478	.008	.228	.096
b_1, Industry return on equity	X_1	.527	.571	.137	.497	.016	.247	.018
b_4, Firm relative sales size	X_4	.000	.000	.023	.497	.037	.247	.001

TABLE 2 (cont.)

Regression Equation Coefficients and Variable	X_i	Regression Equation Coefficients in Final Step: Unstandardized Regression Coefficients	Standard Errors	Standardized Regression Coefficients	Stepwise Multiple Correlation Coefficients and Statistical Significance: Stepwise Multiple R	Significance of Multiple R	Stepwise Multiple R^2	Change in Multiple R^2
1973								
b_0, Constant	—	.103	.072	—	—	—	—	—
b_1, Industry return on equity	X_1	1.252	.625	.320	.249	.122	.062	.062
b_2, Firm relative debt to equity	X_2	-.063	.040	-.257	.366	.070	.134	.072
b_3, Firm relative capital intensiveness	X_3	-.027	.045	-.093	.377	.133	.142	.008
1974								
b_0, Constant	—	.174	.084	—	—	—	—	—
b_2, Firm relative debt to equity	X_2	-.121	.040	-.455	.423	.006	.180	.179
b_1, Industry return on equity	X_1	.577	.634	.139	.449	.016	.202	.022
b_3, Firm relative capital intensiveness	X_3	-.022	.034	-.099	.459	.035	.211	.009
b_4, Firm relative sales size	X_4	.000	.000	.081	.466	.066	.217	.006
6-Year Average, 1969-1974								
b_0, Constant	—	.195	.068	—	—	—	—	—
b_2, Firm relative debt to equity	X_2	-.100	.037	-.420	.398	.011	.158	.158
b_1, Industry return on equity	X_1	.673	.583	.177	.434	.021	.189	.030
b_3, Firm relative capital intensiveness	X_3	-.044	.043	-.156	.458	.035	.210	.021
b_4, Firm relative sales size	X_4	.000	.000	.054	.461	.072	.213	.003

approach this level of significance, and the one remaining equation is clearly not significant.

The magnitude and significance of the results shown in Table 2, where return on total investment (ROI) is the dependent variable, are moderately stronger than those for ROE. In Table 2, the multiple *R*s and associated R^2s exceed the $p < .05$ criteria on one or more steps in five of the seven equations, including the equation for the six year averages. Of the remaining two equations, both approach significance on one step, but the latter two also lag the other five equations in the magnitude and significance of their multiple *R*s. The appropriate industry profitability variable (X_1) is stronger in explaining variance in ROE than it is in explaining variance in ROI.

The instability from year to year in the top three independent variables' relative explanatory power is noteworthy. This is, in part, a result of the statistical criterion used to sequence variables for stepwise entry into the regression equations. A pattern with respect to the general business cycle is also apparent, however. In years in which U.S. unemployment, a major coincident business cycle indicator, was below 5 percent (1969, 1970, and 1973), the appropriate industry profitability measure has the greatest explanatory power. In years in which U.S. unemployment exceeded 5 percent (1971, 1972, and 1974), relative firm debt to equity and relative firm capital intensiveness have the greatest explanatory power.

DISCUSSION AND CONCLUSIONS

On the question of the importance of corporate-level strategy and business-level strategy in explaining firm profitability, the results indicate that both are important. In 10 of the 14 regression equations described in Tables 1 and 2, the appropriate industry return variable and either firm relative leverage or firm relative capital intensiveness (and most often both of the latter two) contribute appreciably to statistically significant multiple correlation coefficients.

As to which variable, corporate-level or business-level, is the more important in explaining firm profitability, one must exercise caution. If one looks at the two six year average equations, the standardized regression coefficients in both equations show consistent rankings of the independent variables. Firm relative debt to equity is the most important, and this variable combined with firm relative capital intensiveness exceeds the appropriate industry profitability index in explanatory power.

In Table 2, where firm ROI is the dependent variable, the single-year equations show that the two major business-level variables combined generally explain more variance in performance than does the industry return variable. However, this is not so clearly the case in Table 1, where firm ROE is the dependent variable. In three of the six years shown in Table 1, the industry ROE variable exceeds the two major business-level strategy variables in explanatory power. All three such years are relatively low

unemployment years, suggesting that the general business cycle affects the relative importance of the independent variables.

The universal absence of any relationship between X_4, firm relative sales size, and either measure of profitability is an unanticipated result. However, this result fits well with Gale's (1972) discussion of the relationship between firm relative size and firm profitability, and it is consistent with his finding of a strong, positive interaction between firm market share and industry concentration. When concentration was high in Gale's study, market share was strongly correlated with profit. When concentration was low, market share was not strongly correlated with profit. These results are consistent with the theoretical view that collective monopoly power among major competitors is a major source of the profits associated with market share.

The present study's sample is certain to have smaller firms on the average than those based upon the *Fortune* 500 largest industrial firms such as Shepherd's (1972) study. Size data on the PIMS project participants suggest that their single-business subunits are also likely to be among the top oligopolists in the industries in which they compete. Although the present sample is drawn from the Compustat Annual Industrial Tapes, like Gale's (1972) and Winn's (1975) samples, the exclusion of multi-industry firms in the current study no doubt would result in the sample's containing smaller firms than theirs, on the average.

The great majority of the sample of single-industry firms were profitable during the six years studied. It thus appears that these firms generally had reasonably successful strategies. It appears likely, however, that they would compete on a more selective basis than do leading oligopolists. They thus would seem likely to specialize in serving particular market segments, producing only selected products, or serving restricted geographic areas. Hamermesh, Anderson, and Harris (1978) suggest that firms with small market shares must follow these kinds of specialization in order to succeed. If one could define the relevant competitive environments for these firms more precisely than the industry data allow, their relative size then would be likely to appear more important to their success.

On the question of how much of the variance in firm profit performance can be explained by the independent variables taken together, the results are encouraging but not entirely persuasive. In the 8 equations, out of the total of 14, in which statistical significance is high, more than a quarter of the variance in the dependent variable is explained. The next three most significant equations, which exceed or approximate the $p < .05$ significance level, explain between 15 and 20 percent of the variance in the dependent variable. Because of the aggregated nature of the three digit SICs used to provide industry data, one would expect higher coefficients of determination if more precise industry classifications could be employed.

The multiple coefficients of determination in Tables 1 and 2 are generally stronger in years of relatively low unemployment (1969, 1970, and

1973), although 1974, a high unemployment year, shows stronger results than 1973. The effects of the general business cycle on the regression results can be rationalized as follows. In years of rising employment and GNP, firms in any given industry are relatively equal in their ability to command increases in financial, human, and material resources needed to expand output. Under these conditions, the distribution of firm profitability around the industry mean is narrowed, and the mean provides a better approximation of each firm's profitability. In years of increasing unemployment and falling GNP, firms with relatively high fixed costs associated with higher debt and capital intensiveness suffer disproportionate drops in profitability compared to competitors with lower fixed costs. Under these conditions, the distribution of firm profit around the industry mean is wider, and the mean provides a less satisfactory approximation of each firm's profitability.

At any rate, it appears that business cycle effects are not transmitted proportionately among firms in a given industry. It also seems likely that controllable strategic variables, such as capital structure and capital intensiveness, account for wide variance in the business cycle's effects on the individual firms in a particular industry.

The present study's results support several tentative conclusions. First, variation in a firm's corporate-level strategy and in its business-level strategy both help to explain variation in firm profitability. Second, the relative importance of variation in corporate-level compared to business-level strategy in explaining firm profitability remains somewhat ambiguous on the basis of present results. On the face of it, the relative debt leverage and relative capital intensiveness dimensions of business-level strategy appear stronger than industry return. However, the latter is measured more crudely than the former two variables. Thus, a more discriminating measurement of industry-level variation might possibly tip the balance of explanatory power in favor of corporate-level strategy.

Third, relative firm size within a given industry does not hold up here as a powerful predictor of firm profitability. Differing populations of firms studied seem likely to account for the difference between the research results and the results of several studies discussed above. In competition among the few, the relative size proposition looks valid. In competition among the many, it does not.

Fourth, the average level of the multiple correlation coefficients and the statistical significance of the regression equations suggest that under study are variables important to understanding and predicting firm profitability. Nevertheless, these results suggest that room remains both for better measurement of our variables and for specification of additional explanatory variables.

Finally, the variability of the results over time argues for more attention in future research to sources of temporal variation. The effect of some strategic variables on a firm's profitability appears to vary with business

cycle conditions or with other longitudinal changes in the business environment. Firm differences in business-level strategy such as firm capital structure and capital intensiveness appear to account for widely varying effects of environmental change on individual competitors within a given industry.

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