

## **MARKET SHARE, SCALE, AND MARKET VALUE: AN EMPIRICAL STUDY OF SMALL CLOSELY-HELD MANUFACTURING FIRMS**

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*This study examines the impact on the market value of 225 closely-held, micro-market share manufacturing firms of the interaction of the firm variables market share and scale and the industry conditions of concentration and growth. The results suggest that the market value of small firms with micro-market shares benefits from the presence of large firms in concentrated industries. The study also found support for the hypothesis that the impact of concentration and scale economies on small-firm performance varies according to industry growth.*

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The economic position of a small closely-held firm competing against larger, more dominant rivals can be an uncertain one at best. On the one hand, both economic theory (i.e. Schumpeter, 1944) and a growing body of empirical work suggest that smaller firms, and firms with smaller market shares, earn significantly lower profits than their larger counterparts (Shepherd, 1972; Gale, 1972; Buzzell, 1975; Ravenscraft, 1983; Clarke, Davies, and Waterson, 1984; Mueller, 1986; Berger, 1995; Toksoy and Hasan, 2004). In contrast, within the competitive strategy literature, theoretical arguments (i.e. Porter, 1980; Porter, 1985) and empirical research suggest that, indeed, small firms can successfully focus on niche markets, and thus earn higher profits (e.g., Cool and Schendel, 1987; Chen, 2003). For very small, entrepreneurial enterprises an understanding of when niche-based focus strategies can be successful or not is critical to their survival and growth.

The majority of previous research that examine these issues may not, however, relate directly to small, closely-held firms -- either these studies have relied upon publicly-traded firms for market data, or they have employed non-market measures of performance, using variables such as such profitability or cash flow (e.g., Rumelt, 1974;

Galbraith and Stiles, 1983; Schmalensee, 1989; Melnick, Zwanziger, Bamezai, and Pattison, 1992; Markides, 1995; McGahan and Porter, 1997; Pautler, 2003; Robinson, 1998; McGahan, 1999). In spite of its critical importance to smaller enterprises, at the present time there appears to be little empirical research that investigates the relationship between firm characteristics, industry characteristics, and performance using market-value data for very small, closely held firms. The purpose of this paper is therefore to examine the impact of the firm characteristics of scale and market share on the market value of closely-held firms across manufacturing industries that differ in size, concentration, and growth rate.

### ***1. The Impact of Scale and Market Share: Theoretical Considerations***

It is widely believed that small competitors can compete successfully with a focused strategy of offering a limited number of products to less contestable, or niche markets. The viability of such strategies appears to be well established in the empirical strategy “typology” literature (e.g., Galbraith & Schendel, 1983; Cool & Schendel, 1987; Chen, 2003). The long-term success of these niche or focused strategies, however, will depend on certain structural characteristics. Bradburd and Ross (1989), for example, refer to the “Porter hypothesis” where a small competitor can obtain a superior level of performance with a niche strategy but only so long as either real or perceived mobility barriers exist. But the consistent maintenance of high mobility barriers is always difficult, and under some industry conditions an unlikely prospect (Gerlach, 2004). Porter asks, “Under what industry circumstances can a firm select a specialist strategy without being vulnerable to economies of scale...under what circumstances is overall share in the industry unimportant?” (Porter, 1980, p. 146) How industry structure impacts the ability to obtain superior performance with a focused strategy is clearly an appropriate and yet unanswered question. With respect to this issue, this paper examines the market value of small closely-held firms as industry circumstances vary along two dimensions, concentration and growth rate.

Virtually all structure-performance research has found that higher industry concentration and higher growth rate in industry sales are positively related to higher average performance of the industry. In addition, it has been shown that, in general, smaller competitors can exist in a concentrated industry on the edge of an oligopolistic market (Melitz, 2003). But the question persists as to what firm performance is possible

under these differing levels of industry concentration and growth, and whether there are certain economic behaviors by smaller competitors that can lead to differing levels of performance (e.g., Chen, 2003, Sapienza, 2002).

It has been argued, for example, that when demand growth is strong, smaller firms will be able to produce at their capacity and sell their products at the higher price preferred by the dominant firms (see Scherer & Ross, 1990). In this situation we would expect a positive relationship between industry concentration and firm performance, even for those firms with small market shares and operating on a small scale. However, if demand growth is low, these smaller producers will likely bid for additional business to fill capacity at a much lower, more marginal price – a strategy which might result in a negative relationship between concentration and firm performance for the smaller producer. The ultimate effect of this lack of pricing power by smaller firms is probably affected by a number of things (i.e., how long the low demand growth is anticipated to last, the variation of efficiencies and scale between small and large producers, etc.), but we argue that in general a concentrated industry is less benign to small firms when growth is slow.

*Proposition 1: A small firm can, in general, benefit from the market power of a concentrated industry, but when growth is slower, a small firm will benefit less from concentration, even to the point of being threatened.*

Likewise, a concentrated industry provides the opportunity for high performance to all of its member firms if high industry growth permits all firms to fully utilize their capacity and to meet their desired rate of growth. The niche markets of small firms will be easy to defend, and the small firm will benefit from a larger market share to maximize its power in the niche market and from a larger scale of operations to minimize its costs. But if the industry growth rate is not high enough to satisfy the capacity and growth objectives of the large dominant firms, the large firms may look to expand their sales into more segments of the overall market. The barriers protecting the niche markets of the small firms will then be harder to maintain, in which case a firm may benefit from the smaller scale and smaller market share associated with being in a niche too small to interest the large firms, a case of “the importance of being unimportant” (Bradburd, 1982).

*Proposition 2: A small firm will benefit from a larger market share and larger scale if the industry growth rate is high, but if the growth rate is low a small firm will benefit from a smaller market share and a smaller scale.*

A small firm can also benefit from being more innovative and differentiated to meet the unique needs of the small niche, which might be reflected in a smaller scale of operations and a higher value placed on intangible assets of the small firm.

*Proposition 3: A small firm in a concentrated industry will benefit from operating in a niche that places a higher value on intangible assets and finds larger scale operations less important.*

## **II. Market-based Value Analysis**

Measurement of performance by means of accounting measures has well documented limitations (Hirschey & Wichern, 1984; Smirlock *et al*, 1984; Beneish, 1999), including inconsistent variation in accounting practices across firms and, of particular interest here, an inability to account for intangible assets since accounting statements typically exclude firm-specific intangible assets. These “left-out-assets” include the goodwill and other advantages acquired from both R&D and advertising expenses (e.g., Weiss, 1969; Cohen and Klepper, 1996) as well as other human, intellectual and social capital assets (e.g., Coleman, 1988; Burt, 1997; Sequeria and Rasheed, 2003). There are theoretical and empirical arguments to suggest that these expenditures offer their primary benefit in the future and as such should be considered as a “capital good that depreciates over time and needs maintenance and repair” (Telser, 1961: 197). Accounting-based performance data provide “at best noisy measures of real, economic performance” (Schmalensee, 1989: 240).

To avoid the shortcomings of accounting measures, and to provide a better measure of real economic performance, researchers can employ market-based measures of return, that is, measures that capture the market value of the firm. (Smirlock, Gilligan, and Marshall, 1984; Hirschey, 1985; Galbraith and Merrill, 2001; Huth and MacDonald, 1989; Bradburd and Ross, 1989; Berger, 1995). While these market-value based studies of firm performance avoid the shortcomings of accounting-based studies, in the

investigation of small business, all of them suffer from the problem of firm size since they typically use data from publicly traded firms and are therefore naturally biased toward relatively large firms with relatively large market shares. To date, we know of no market-value based empirical study that examines the impact of industry structure on the performance of privately held firms, with small or even micro-market shares.

#### **A. Data**

Firm-specific data was obtained from PrattStat™, a proprietary data base of sales transactions of closely-held firms; each transaction is the negotiated sale of a firm by a private seller to a private buyer. The data base contains several types of information related to each transaction, including the price for which the firm sold, the NAIC industry codes and a product description, the number of employees, and a set of income statement and balance sheet items. There are currently over 10,000 transactions in the data base, comprising a rather even array of service based operations, professional offices, retailers, and manufacturers. Approximately 50% of the data base consists of firms with less than one million dollars of market capitalization.

For this study we excluded all but manufacturing enterprises, and used data that had transaction dates between the years 1999 to 2004 to match our industry structure data. Manufacturing firms were used in our analysis since the served markets for manufacturing firms tends to be more national in nature, versus small retail and service firms, where the served market may be very local, and therefore much more difficult to calculate an accurate market share.

In order to examine only industry effects, diversified firms were also excluded. Approximately 225 sales transactions of single product-line manufacturing firms remained in our sample. Industry specific data was obtained by NAIC from the 2002 Census of Manufactures.

The firms included in PrattStat™ comprise a rather thorough set of sales transactions. But it is not complete, and it cannot be argued that the set is representative of the universe of small, closely-held firms. The selection of firms in the sample set is not random but instead represents the self-selection of having been sold, and subsequently entered into the database by participating business brokers and other transaction managers. Although the number of firms in the data base is large, it still represents a small percentage of the

large universe of closely-held firms; however, there is no indication that the data is not representative of the larger population of small, closely-held manufacturing firms.

Although the nature of the sample should be kept in mind, we nevertheless believe that our results are revealing and worth considering for two reasons. First, this data base, and similar data bases such as BizComp,<sup>TM</sup> are the only sources of market performance and valuation data for small private firms. Second, the knowledge about small private firms gained from these data bases is used extensively to make decisions in the legal and financial services industries.

## **B. Variables**

### *Market-based Performance Measures*

Of the several different measures of firm-specific market performance available, we use two.

Revenue Multiple (MV/S). A common measure of market performance used in the valuation literature is the “revenue multiple” index of firm value. This is constructed as the market value of the firm,  $MV_f$  (stock prices for publicly traded firms or the deal equity prices for the privately held firms as in this study), normalized by the revenues of the firm,  $S_f$ . An advantage of the revenue multiple measure of market performance over an earnings multiple is that it is not contingent upon the various expense classes (including depreciation) that can be handled differently under different accounting assumptions and that can be easily manipulated by an owner-operator. A characteristic of the market value multiple is that it includes all intangible assets.

Excess Value (EV/S). A second measure of market-based performance, first suggested by Thomadakis (1977), emphasizes the value of the intangible assets by focusing on the multiple of the market value of the firm in excess of the book value of the firm’s assets. Under this construct, the firm’s market value,  $MV_f$ , is considered to be the sum of the market value of tangible assets,  $MV_{ta}$ , and the market value of intangible assets,  $MV_{ia}$ , that is  $MV_f = MV_{ta} + MV_{ia}$ . While  $MV_f$  is observable in the market place, the two components, tangible assets,  $MV_{ta}$ , and intangible assets,  $MV_{ia}$ , are not directly observable. The book value of tangible assets,  $BV_{ta}$ , is easily accessed from balance sheet information, however, and while there are potential differences between book value and market value, most notably the difference between tax depreciation and economic depreciation, this element simply adds additional noise into the measure, that is  $MV_{ta} =$

$BV_{ta} + \epsilon$ . Normalizing by firm revenues,  $S$ , results in the excess value measurement of  $EV/S = (MV_f - BV_{ta})/S_f$  or  $(MV_{ia} + \epsilon)/S$ . The excess value measure of Thomadakis (1977) represents the value of the firm as a revenue multiple of the excess of the market value of the firm above the book value of the assets, i.e., the revenue multiple of the market value of the firm's intangible assets.

### *Industry Variables*

The 225 manufacturing firms in the sample are dispersed among 22 NAIC manufacturing industries with an average of 10.2 firms per industry (Table 1). For each industry, we obtained three variables from the Census of Manufactures for the census year 2002: size, SIZE, growth rate, GROWTH, and concentration, CONC. The size of each market, SIZE, (e.g, Smirlock et al, 1984) is represented by Value of Shipments of each industry. The industries range in sales from a high of \$93.34 billion to a low of \$2.86 billion, with an average of \$33.92 billion (Table 1). Industry growth rate, GROWTH, is measured by the 5-year average growth rate of Value of Shipments over the period between the two census years 1997 and 2002. Growth ranges from a high of 21.7% to a low of -3.2%, with an average of 4.6% (Table 1). Seller concentration, CONC, is measured by the 8-firm concentration ratio taken from the Census of Manufactures and matched to the firm-level data by NAIC code. Concentration ranges from a high of 64.0 to a low of 5.4, with an average of 38.7 (Table 1). We also employed the Herfindahl index of industry concentration in preliminary analysis but obtained identical results.

The 22 industries are identified, and the values and summary statistics of the three industry variables are given in Table 1.

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*Insert Table 1 Here*  
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### *Firm Variables*

Two firm variables are used: one to measure the firm's market share and the other to measure the firm's scale of operations and any resulting economies of scale. The market share variable, MKTSHR, was constructed as the firm sales divided by the value of industry shipments taken from the Census of Manufactures and matched by NAIC code. The majority of the market shares in our study was less than 1/10 of 1% and can be

considered micro-market shares. However, the data set had significant variation, with some fairly large firms and market shares calculated over 1.0% and the highest at 4.7%; the average market share was is 0.4%. The measure of scale economies, SCALE, is provided by the natural log of fixed assets. While not as effective as a directly observed measure of scale effects over time (Berger, 1995), the log of fixed assets can be used as a measure of scale in structure-performance studies (e.g., Kurtz and Rhoades, 1991).

### ***III. Results and Discussion***

Table 2 reports the findings for the fully specified model for the two measures of market performance, both in semi-logarithmic form. Both of the estimated models are significant. In addition, hierarchical regression analyses indicated very robust models, with both statistical significance and coefficient signs consistent between the lower level models and the fully specified models. All the estimated models appeared fairly consistent, with the fully specified models displaying  $R^2$  ranging from 0.088 and 0.203. This is similar to previous empirical studies employing data from publicly traded firms and consistent with evidence that industry structure accounts for between ten and twenty percent of firm-specific performance (Jack, 2001; McGahan and Porter, 1997; McGahan, 1999; Pautler, 2003).

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*Insert Table 2 Here*  
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Consistent with expectations, concentration (CONC) has a positive effect on firm-level market performance. Since our sample consists of micro-market share firms, this cannot be seen as a test of relative market power but rather is a statement suggesting that the benefits accruing to an industry from whatever form of market power existing among leading firms appears to also benefit marginal competitors in the industry. This is also observed with the importance and positive impact of GROWTH; growing industries are attractive for all member firms, including the very small firms. This appears to be the case for all sizes of markets, since the SIZE variable is insignificant in all estimated forms of the model. SIZE is therefore excluded from all further consideration.

The results in Table 2 are consistent with *Proposition 1*. The market values of the very small firms in the sample increase with an increase in industry concentration; the market power benefits of concentration must also accrue to the smaller firms. But the

market values of the very small firms are also positively related to the industry growth rate; at lower rates of growth the small firms benefit less. The industry conditions, concentration and growth, reveal different impacts on the two firm variables, market share and scale.

MKTSHR is statistically significant but is negatively related to firm value in both equations. This is at odds with prior empirical studies of much larger firms and calls for an explanation. Why do our sample firms benefit from smaller market shares? Two explanations might be offered. First, small firms might tend to gain additional sales and market share by lessening the focus of their strategy in detriment to performance, and, second, as small firms become larger with larger markets shares, they may attract the retaliatory actions of their much larger, leading market share rivals – that is, the argument of “the importance of being unimportant” (Bradburd, 1982).

. SCALE is positively related to firm performance as expected but only in the MV/S equation, where firm performance is measured as a revenue multiple of total market value. SCALE is not statistically significant in the EV/S equation, where firm performance is measured as the revenue multiple of the market value of intangible assets.

The interpretation of MKTSHR and SCALE is not completely clear from the equations in Table 2, and their consistency with Propositions 2 and 3 is uncertain. To examine the different impacts of concentration and growth, additional equations look at each of them in turn. First, the sample was divided into three equal sub-groups based on industry growth: low, medium, and high growth. Regression models were then estimated for the low and high growth sub-samples, as shown in Table 3. Since industry growth was used as an experimental variable in this analysis, it was not included in the regressions in Table 3. Second, the full sample was again divided into three equal sub-groups based on industry concentration: low, medium, and high. Regression models were then estimated for the low and high concentration sub-samples, as shown in Table 4. Since industry concentration was used as an experimental variable in this analysis, it was not included in the regressions in Table 4.

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*Insert Table 3 and 4 Here*  
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Industry concentration can be seen in Table 3 to be consistently important to the performance of small firms. It is positive and significant when growth is low as well as

when growth is high, and it is a particularly strong driver of small firm performance in high growth environments. As plotted in Figure 1, for small firms in high growth industries, concentration has a positive and significant relationship to market performance. Consistent with *Proposition 1*, the benefits of industry concentration accrue to the smaller firms in the industry as well as the larger firms. However, in low growth industries the impact of concentration drops in both magnitude and statistical significance. This is so consistently true that, in the absence of concentration, industry growth rate is less important. As seen in Table 4, the impact of industry growth on firm performance is insignificant, except in a lower concentration environment when firm performance is measured by total market value multiple, MV/S. The relative effects of concentration and growth are shown in Figure 1.

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*Insert Figure 1 Here*  
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The effects of the two firm variables, MKTSHR and SCALE, can be examined in Tables 3 and 4. In Table 3 the two performance variables, the total value multiple, MV/S, and the excess value (i.e., intangible assets) multiple, EV/S, are examined in low growth environments and in high growth environments, and in Table 4 the two performance variables are examined in low concentration industries and high concentration industries. In Table 3 and Table 4 the MKTSHR variable can be seen to be insignificant and have no impact on performance across both growth environments and both degrees of industry concentration, with a single exception. The sole exception is a low growth environment (Table 3), in which a very small market share is significantly related to higher total value, MV/S. This is in agreement with *Proposition 2*; in an environment of low growth it benefits a firm to have a small market share to not attract the interest of larger competitors seeking incremental sales in a low growth market.

Scale can be seen in Tables 3 and 4 to have a more consistently important impact on performance than market share. The SCALE variable is significant and consistent across most of the equations. In both high and low growth environments in Table 3, SCALE is significantly related to performance, with the exception of EV/S under conditions of high growth, but the pattern of relationship only partially supports *Proposition 2*. Larger scale is positively related to performance under high growth only for MV/S. But it is of much greater importance under low growth for both measures of performance, as plotted in

Figure 2. When the concern is with industry growth rate, if it is “important to be unimportant,” the proper measure of unimportance is market share, not scale.

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*Insert Figures 2 and 3 Here*  
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When, however, the concern is with concentration, scale has the opposite relationship with firm value; Table 4 shows the SCALE variable to be consistently negatively related to value, as plotted in Figure 3, with the impact particularly strong in highly concentrated industries. Consistent with *Proposition 3*, a firm with a smaller asset base performs better, particularly in highly concentrated industries. Table 4 and Figure 3 make it clear that this effect has a particular impact on the excess value of the firm, EV/S, the market value of the firm reflected in intangible assets.

#### ***IV. Conclusion***

This study examines the effect on the market value of small, closely-held firms of market share and scale under the industry conditions of concentration and growth. Using sales prices for closely-held firms the study finds support for the argument that small, and even micro-market share manufacturing firms, are affected by industry concentration and that the benefits to leading firms appear to also accrue to marginal players. The study also finds support for the argument that the impact of concentration on the value of smaller firms varies according to industry growth. When demand is strong, smaller firms will be able to produce at their capacity and sell their products at the price preferred by the dominant competitors, whereas in lower demand situations smaller producers will be forced to aggressively bid for additional business to fill capacity at a much lower, more marginal price.

In line with received competitive strategy and entrepreneurial thought, support is also provided for the notion of successful small-firm focus strategies. The negative relationship of firm market share to firm value appears somewhat counter-intuitive and at odds with prior empirical studies. However, when combined with the positive market share relationship of prior studies, which used larger market share firms in their studies of publicly traded firms, our finding suggests a U-shape to the market share-performance relationship and provides additional support for Porter’s (1980) “niche” hypothesis and Bradburd’s (1982) “importance of being unimportant” hypothesis.

Very small, micro-market share firms can have strong market-based performance, but this performance may decrease as they grow larger. Two explanations are offered. First, successful micro-share firms might be lessening the focus of their strategy in order to gain additional sales and market share, and, second, as micro-share firms become larger, they may attract the retaliatory actions of their much larger, leading market share rivals.

The relationship of scale to firm market value is also consistent with successful small-firm focus strategies under different conditions of growth and concentration. Figure 2 reveals that scale is positively related to firm market value, primarily to total firm market value,  $MV/S$ , and particularly in low growth environments; the effect of scale is on a higher level of efficiency and lower costs. As concerns concentration, Figure 3 reveals a negative relationship of scale with firm market value, particularly in conditions of high concentration and for the excess market value of the firm,  $EV/S$ . This is another indication of “the importance of being important” and of the ability of very small firms in the presence of large competitors to compete successfully on the basis of innovativeness and service, as reflected by the negative relationship between scale and the  $EV/S$  measure of the value of the small firm’s intangible assets.

### **References**

- Beneish, M. 1999. The Detection of Earnings Manipulation. *Financial Analysts Journal* (September/October): 24-36.
- Berger, A. 1995. The Profit-Structure Relationship in Banking—Tests of market-Power and Efficient-Structure Hypotheses. *Journal of Money, Credit and Banking* 27(2): 404-431.
- Blundell, R., Griffith, R., Reenen, D. 1999. Market Share, Market Value and Innovation in a Panel of British Manufacturing Firms. *Review of Economic Studies* 66: 529-554.
- Bradburd, R. 1982. Price-cost Margins in Producer Goods Industries and “the Importance of Being Unimportant”. *Review of Economics and Statistics* 64(3): 405-412.
- Bradburd, R., Ross, D. 1989. Can Small Firms Find and Defend Strategic Niches? A Test of the Porter Hypothesis. *Review of Economics and Statistics* 71(2): 258-262.
- Burt, R. 1997. The Contingent Value of Social Capital. *Administrative Science Quarterly* 42: 339-365.
- Buzzell, R. 1975. Market Share – A Key to Profitability. *Harvard Business Review*
- Chen, Z. 2003. Dominant Retailers and the Countervailing-power Hypothesis. *RAND Journal of Economics* 34 (4): 612-625.
- Cohen, W., Klepper, S. 1996. The Reprise of Size and R&D. *The Economic Journal* 106(437): 925-951.

- Clarke, D., Davies, S. Market Structure and Price-Cost Margins. *Economica* 49(3): 277-287.
- Coleman, J. 1988. Social Capital in the Creation of Human Capital. *American Journal of Sociology* 94: S95-S120.
- Cool, K., Schendel, D. 1987. Performance Differences among Strategic Group Members. *Strategic Management Journal* 9(3): 207-223.
- Galbraith, C., Schendel, D. 1983. An Empirical Analysis of Strategy Types. *Strategic Management Journal* 4(2): 153-173.
- Galbraith, C., Merrill, G. 2001. IPO Performance in Business to Business “B2B” E-Commerce Firms: Effects of Strategy and Industry. *Managerial Finance* 27(7): 1-15.
- Galbraith, C., Stiles, C. 1983. ‘Firm Profitability and Relative Firm Power’, *Strategic Management Journal* 4(3), 237-250.
- Gale, B. 1972. Market Share and Rate of Return. *Review of Economics and Statistics* 54(4): 412-423.
- Gerlach, H. 2004. “Announcement, entry, and poreemption when consumers have switching costs. *RAND Journal of Economics*, 35(1), 184-202.
- Hirschey, M. 1985. Market Structure and Market Value. *Journal of Business*. 58(1): 89-98.
- Hirschey, M, Wichern, D. 1984. Accounting and Market Value Measures of Profitability: Consistency, Determinants, and Uses. *Journal of Business and Economics Statistics* 2: 375-383.
- Huth, W., MacDonald, D. 1989. The Impact of Antitrust Litigation on Shareholder Return. *Journal of Industrial Economics* 37: 411-426.
- Kurtz, R., Rhoades, S. 1991. *A Note on the Market Share—Profitability Relationship*. Working paper, Board of Governors of the Federal Reserve System.
- Markides, C. 1995. *Diversification, Refocusing, and Economic Performance*, Cambridge, MA.: MIT Press.
- McGahan, A. 1999. ‘Competition, Strategy and Business Performance’, *California Management Review* 41 (3), 74-101.
- McGahan, A., Porter, M. 1997. ‘How Much Does Industry Matter, Really?’ *Strategic Management Journal* 18, 15-30.
- Melitz, M. 2003. The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity. *Econometrica*. 71(6): 1695-1725.
- Melnick, G, J. Zwanziger, A. Bamezai, Pattison, R. 1992. ‘The Effects of Market Structure and Bargaining Position on Hospital Prices’, *Journal of Health Economics* 11, 217-233.
- Mueller, D. 1986. *Profits in the Long Run*. Cambridge University Press: Cambridge, UK.
- Pautler, P. 2003. Evidence on mergers and acquisitions. *The Antitrust Bulletin*. 48(1), 119-221.
- Porter, M. 1980. *Competitive Strategy*. The Free Press: New York, NY.

- Porter, M. 1985. *Competitive Advantage*. The Free Press: New York, NY.
- Ravenscraft, D. 1983. Structure-Performance Relationships at the Line of Business and Industry Level. *Review of Economics and Statistics* 65(1): 22-31.
- Robinson, K. 1998. 'An Examination of Influence of Industry Structure on Eight Alternative Measures of New Venture Performance for High Potential Independent New Ventures', *Journal of Business Venturing* 14, 165-187.
- Rumelt, R. 1974. *Strategy, Structure, and Economic Performance*, Cambridge: Harvard University Press.
- Sapientza, P. 2002, 'The Effects of Banking Mergers on Loan Contracts. *Journal of Finance*, 57 (1): 329-367.
- Schmalensee, R. 1989. Intra-Industry Profitability Differences in U.S. Manufacturing, 1953-1983. *Journal of Industrial Economics* 37(4): 337-357.
- Scherer, F., Ross, D. 1990. *Industrial Market Structure and Economic Performance*. 3<sup>rd</sup> edition. Houghton Mifflin: Boston, MA.
- Schumpeter, J. 1944. *Capitalism, Socialism, and Democracy*. Harper & Brothers: New York, NY.
- Sequeria, J., Rasheed, A. 2003. The Role of Social and Human Capital in the Start-up and Growth of Immigrant Businesses. In Stiles, C., Galbraith, C. (ed) *Ethnic Economics: Structure and Process*. Elsevier Science: Oxford, UK.
- Shepherd, W. 1972. Elements of Market Structure. *Review of Economics and Statistics* 54(1): 258-262.
- Smirlock, M., Gilligan, T., Marshall, W. 1984. Tobin's q and the Structure-Performance Relationship. *American Economic Review* 74(5): 1051-1060.
- Telser, L. 1961. 'How Much Does it Pay Whom to Advertise?' *American Economic Review* 51, 194-205.
- Thomadakis, S. 1977. A Value-bases Test of Profitability and Market Structure. *Review of Economics and Statistics* 59 (May): 179-85.
- Toksoy, D., Hasan, A. 2004. Measuring the marketing performance of state nurseries in Turkey: Examples of Eastern Anatolia and Black Sea regional nurseries. *Turkish Journal of Agriculture and Forestry*, 28(6), 443-456.
- Weiss, L. 1969. 'Advertising, Profits and Corporate Taxes', *Review of Economics and Statistics* 51, 421-430.

Table 1: Sample of 225 Industries and 3 Industry Variables, 2002 U.S. Census

<b>NAIC</b>	<b>Manufacturing Description</b>	<b>Firms</b>	<b>Size (bil)</b>	<b>GROWTH</b>	<b>CONC</b>
323110	Commercial Lithographic Printing	13	55.09	2.0	16.1
325412	Pharmaceutical Preparations	12	90.72	7.2	50.1
325620	Toilet Preparations	7	27.12	2.4	58.4
326199	All Other Plastics Product	12	87.32	6.6	8.1
331419	Primary Smelting of Nonferrous Metal	11	2.86	-3.2	49.6
332116	Metal Stamping	6	14.79	4.5	11.3
332710	Machine Shops	9	90.49	21.7	5.4
334119	Other Computer Peripheral Equipment	12	24.42	-1.9	60.2
334220	Broadcasting & Wireless Comm. Equip.	9	49.21	4.4	59.2
334290	Other Communications Equipment	14	4.90	3.9	50.2
334310	Audio & Video Equipment	10	9.33	2.7	52.4
334412	Bare Printed Circuit Board	12	12.07	8.4	24.7
334413	Semiconductor & Related Device	13	93.34	3.8	64.0
334419	Other Electronic Component	11	12.00	3.2	13.6
334513	Industrial Process Measuring Instruments	9	7.71	0.1	39.1
334515	Electrical Signals Measuring Instruments	8	16.12	3.0	53.7
335999	Other Electrical Equipment & Components	8	9.44	6.8	20.2
336211	Automobile	9	10.65	3.6	43.9
336399	Other Motor Vehicle Parts	8	43.51	4.5	38.3
339112	Surgical & Medical Instruments	15	69.06	10.8	44.0
339115	Ophthalmic Goods	9	4.27	4.4	59.0
339920	Sporting & Athletic Goods	8	11.89	2.4	29.2
Total		225			
Average		10.2	33.92	4.6	38.7
Std Dev		2.4	32.51	4.9	19.2

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Table 2: Industry Structure and Market Performance: Fully Specified Regression Estimates

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<u>Model:</u>	Ln(EV/S)	Ln(MV/S)
Independent Variables	$\beta$	$\beta$
Constant	-0.137	-0.273
CONC	0.014***	0.023***
GROWTH	4.575***	5.970***
SIZE	-0.001	0.000
MKTSHR	-16.260**	-21.310**
SCALE	-0.039	0.354***
$R^2$	0.088	0.203
$F$	4.213***	11.236***
$N$	225	225

---

\* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

Table 3: Industry Structure and Market Performance by Industry Growth: Regression Estimates

Model:	Low Growth Ln(EV/S)	High Growth Ln(EV/S)	Low Growth Ln(MV/S)	High Growth Ln(MV/S)
Independent Variables	$\beta$	$\beta$	B	B
Constant	0.76	-0.158	0.783	-0.481
CONC	0.010	0.021**	0.025**	0.047***
GROWTH	--	--	--	--
MKTSHR	-25.598	-12.504	-44.251**	-15.476
SCALE	0.148**	-0.110	0.568***	0.313***
$R^2$	0.158	0.149	0.422	0.312
$F$	3.380**	3.009**	13.145***	7.834***
$N$	76	73	76	73

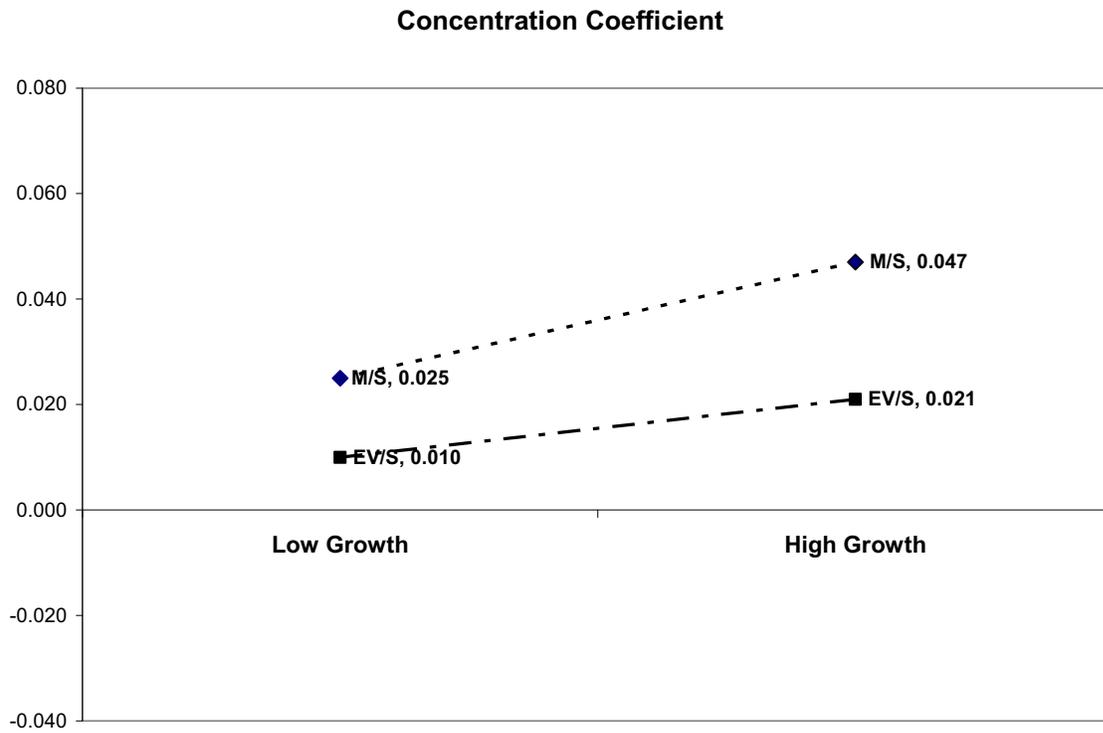
\* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

Table 4: Industry Structure and Market Performance by Industry Concentration:  
Regression Estimates

Model:	Low Concentration Ln(EV/S)	High Concentration Ln(EV/S)	Low Concentration Ln(MV/S)	High Concentration Ln(MV/S)
Independent Variables				
	B	B	B	B
Constant	10.176	36.694	1.858	14.922
CONC	--	--	--	--
GROWTH	-1.614	-19.524	0.081**	29.524
MKTSHR	45.574	77.260	-12.728	-23.232
SCALE	-0.532***	-2.106***	-0.060	-0.836*
$R^2$	0.120	0.163	0.018	0.062
$F$	3.314**	4.801***	0.451	1.628
$N$	77	78	77	78

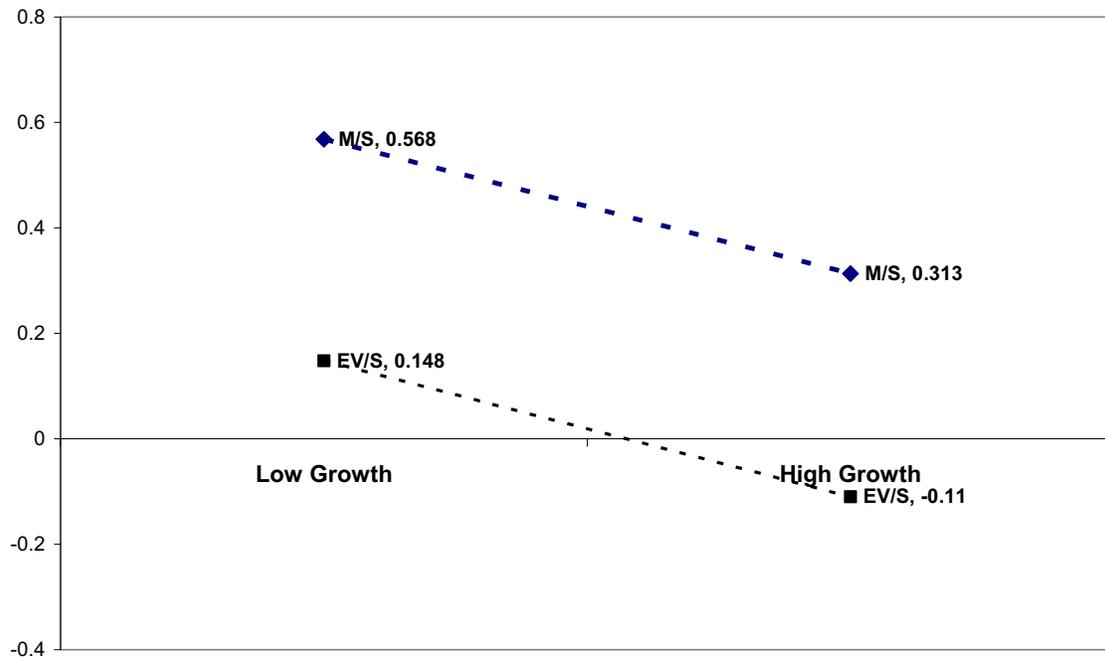
\* $p < 0.10$ ; \*\* $p < 0.05$ ; \*\*\* $p < 0.01$

**Figure 1**  
**Relative Impact of Industry Concentration on Firm Value by Industry Growth**



**Figure 2**  
**Relative Impact of Firm Scale on Firm Value by Industry Growth**

**Scale Coefficient**



**Figure 3**  
**Relative Impact of Firm Scale on Firm Value by Industry Concentration**

**Scale Coefficients**

