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SMALL BUSINESSES, THE ECONOMY, AND HIGH INTEREST RATES: IMPACTS AND ACTIONS TAKEN IN RESPONSE

Working Paper 83-400*

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TABLE OF CONTENTS

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ABSTRACT

In the Fall of 1982 a questionnaire was mailed to 10,000 randomly-selected subscribers to INC. Magazine. The survey was designed, first, to measure the perceived impacts interest rates and the economy had exerted on small to mid-sized companies throughout the U.S. and, second, to gather information on how companies had responded -- how many and what kinds of actions they had taken to deal with these forces. The companies were also asked to comment on their loan activity and the ease or difficulty they had experienced in obtaining financing since January 1982.

Of the 1,057 companies returning usable questionnaires, 71 percent indicated they had been hurt by interest rates or by the economy, with 37 percent having been hurt severely, and they provided financial data which supported these conclusions but which also indicated that the actions taken had been effective -- interest as a percent of sales increased 43 percent but pre-tax profits as a percent of sales only went down 18 percent from 1977 to 1981.

The effects of interest rates and the economy were seen to have been: (1) basically similar in impact on the responding companies, and (2) largely undifferentiated as between companies in different regions of the country, of different size, and in different sectors of the economy. Responses to these effects, however, varied widely. Individual companies which had been affected adversely by economic conditions were far more prone to take action than those who were less affected by interest rates and the economy. Indeed, companies hurt severely took, on the average, 47 percent more actions to deal with economic conditions than did companies which perceived

themselves to be unaffected -- although the actions chosen and the degree and direction of actions taken varied widely.

As for financing, 58 percent of the responding companies applied for one or more loans and 96 percent of them were successful in obtaining at least one of the loans they applied for.

THE SURVEY AND THE RESPONDENTS

The Survey

A questionnaire was mailed in August 1982 to 10,000 randomly-selected subscribers to INC. magazine which asked questions in four categories -- see Appendix A:

1. Perceived effects on your company of (a) interest rates and (b) the economy.

2. Actions taken as a response to each of these effects.

3. Financial information for the years 1977 - 1981.

4. Loans applied for in 1982 and the applications' success or failure.

The Respondents

Usable responses[1] were received from 1,057 companies which represented a wide diversity of enterprises (Exhibit 1). Manufacturers and distributors each represented approximately one-third of the sample, service companies about one-fourth, and financial/real estate companies and "other" about one-tenth.[2] The size of companies ranged considerably, with 33 percent having ten or fewer employees and 5 percent having over 500. Almost one-quarter of

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[1]One thousand one hundred nineteen responses were received for an overall response rate of 11.2 percent. Of those companies not included in the analysis, five had gone out of business (two were bankrupt); five were pre- or early start-up companies; 23 represented entities not appropriate to the survey (e.g., they were too large -- one was Fortune 500 -- or represented nonprofit organizations such as government agencies or universities); and the remaining responses were received too late to be included in the analysis. In addition, one company returned a blank survey with the large inscription (in red): "I am too busy trying to keep the wolf from the door to fill this out."

[2]For purposes of analysis the original eight industry classifications on the questionnaire (Appendix A) were collapsed into four economic sectors: <u>manufacturing</u>, which includes extractive industries and construction; <u>distributing</u>, comprised of distribution, wholesaling, and retailing; <u>service</u> -- both labor- and capital-intensive, and financial (e.g., banking, insurance) combined with real estate.

the companies had been in business for fewer than five years (seven for under one year), but 13 percent had been in business for over 50 years -- one for 152. The mean age for all companies was 22 years, the median 12. All regions of the country were represented roughly in proportion to the region's population.

Two demographic characteristics were of some interest. The first was the relatively large number of product lines carried by all types of businesses. Second, and even more surprising, was the very high percentage of imported products sold in relation to the percentage of exports. Only 27 percent of distributors sold no imported products while almost one quarter of them generated over 50 percent of sales from imported goods. In contrast, only six percent of manufacturers sold 25 percent or more of their products overseas and only 50 percent of the manufacturers and 25 percent of the distributors sold overseas at all.

THE EFFECTS OF INTEREST AND THE ECONOMY

Companies' Perceptions of Effects

The questionnaire asked companies how they perceived their sales and profits to have been affected separately by interest rates and the economy (Appendix A, p. 4). Seventy-seven percent indicated that their sales had been hurt both by interest rates and the economy, 80 percent that their profits had been hurt by both.[3] Not surprisingly then, it was found that the effects of interest and the economy were by and large perceived to be the same. There was only one significant difference: the economy affected sales more

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[3] In 95 percent of the cases the effects of interest rates and the economy were either in the same direction (i.e., both helped or both hurt) or one would have an impact on the company while the other had no perceived effect.

than interest affected profits.[4]

Were Some Companies More Affected Than Others?

It might be expected, in general, that interest rates and the economy would affect certain companies more than others; e.g., high interest rates would be presumed to affect companies with debt more than companies that are self-financed. They would also affect the sales of certain firms more than others -- in particular, those with high-priced products such as automobiles or housing. Further, some parts of the country presumably have been hit harder by the recession than others, and very small companies -- because of their more restricted options for dealing with adverse conditions (you can't cut back what isn't there!) -- might be expected to feel the force of economic conditions more strongly than larger firms with a wider resource base and a more stable market niche. Perhaps because of the pervasive nature of these conditions, however, the effects were perceived overall to be the same regardless of company size, region of the country, or economic sector. The one exception was that manufacturers and distributors indicated they were hurt more by interest than were service companies.[5]

The Effects of Economic Conditions

Because differences in the effects of interest rates and the economy were not significant overall -- either for companies as a whole or for particular groups of firms -- the responses to four separate questions on the

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[4] at $p < .05$. Simultaneous tests of hypotheses (paired t-tests) were performed using the Bonferroni principle (Morrison, 1976) to provide a more conservative estimate.

[5] at $p < .05$. The effects of interest rates and the economy on sales and profits were analyzed by multivariate analysis of variance (MANOVA) for the three different groupings of companies.

effects of interest and the economy on profits and on sales were combined to facilitate subsequent analysis. These combined effects, termed hereafter "economic conditions," are shown in Exhibit 2.[6] The effects of economic conditions were also not differentiated by size of company or geographic location, but again manufacturers and distributors indicated they were hurt more than were service companies.[7]

The Financial Impacts

For 304 of the 1,057 respondents, reasonably complete financial data were available for at least the prior two years.[8] Selected financial information on these companies for each year from 1977 to 1981 is shown in Appendix B. This information can be used to substantiate or refute the respondents' perceptions of the effects of economic conditions. It can also be used to explore whether the actions the companies took in response to these conditions had any effect.

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[6] The four groups -- "hurt severely," "hurt somewhat," "unaffected," and "helped" -- are defined by natural breaks in a frequency distribution of the combined variable.

[7] at $p < .05$. (ANOVA)

[8] The letter accompanying the questionnaire recognized the sensitivity financial information has in privately-held companies and encouraged recipients to return the survey even if the financial data were omitted or incomplete. While a large percentage of the returned questionnaires contained some financial information, much of it was fragmentary and thus excluded from analysis. Several characteristics were tested for statistically significant differences between those providing usable financial information and all other respondents. Only one characteristic was found to be significantly different: by size of company proportionally fewer companies in the 1-10 employee range, and proportionally more in the 250+ range, were represented in the financial sample than in the sample at large ($p < .05$). This can at least partially be accounted for by the necessary exclusion from analysis of companies which reported fewer than two years of financial information, since smaller companies -- many of which had not even been in business for two years -- make up a large proportion of these firms. Of the 304 companies in the financial sample, 92 percent supplied usable information for three years, 79 percent for four years, and 69 percent for five years.

Indications of the Effects of Economic Conditions

The perception by 71 percent of the responding companies that they had been hurt by economic conditions was borne out by their financial performance -- see Exhibit 3. While sales had increased at a compound growth rate of 12.9 percent per year (inflation being a major contributor), return on equity had decreased and interest rates and interest expense had increased substantially.

Those companies that indicated they had been hurt severely by economic conditions had, on the whole, lower profit ratios, higher interest expense and debt-equity ratios, and smaller increases in sales (over the four-year period from 1977 to 1981) than did other groups. Those companies hurt, but hurt somewhat less, also differed from those unaffected or helped on a number of measures -- Exhibit 4.

Indications of the Effectiveness of Actions Taken

While it is not possible from the questionnaire data to conclusively prove that the actions taken by the responding companies to counteract the impact of interest rates and the economy had any effect on performance, there are indications that they were, in part at least, effective.

> Interest rates went up by 88.6 percent (Exhibit 3) yet interest expense as a percent of earnings-before-taxes-and-interest went up only by 52 percent and interest as a percent of sales went up only by 43 percent. While the latter is, in part, confounded by the effects of inflation on sales, the former measure suggests some careful management by the respondents.
>
> While interest rates and interest expense increased substantially, pre-tax profit as related to sales and to owners' equity (ROE) decreased only by 18 percent and 23 percent respectively.

It is now appropriate to examine the actions taken by the respondents.

ACTIONS TAKEN IN RESPONSE TO ECONOMIC CONDITIONS

The Actions

The questionnaire set forth 45 actions which companies might have taken in response to economic conditions (Appendix A, pp. 1-2) and asked respondents to indicate either (1) that they did not take the action or (2) the degree to which they were influenced to do so by (a) interest rates, and (b) the economy.[9] Responses paint a picture of wide variability:

- While none of the 45 actions were taken by fewer than 90 of the firms responding, only 13 were taken by more than half of all companies, and only three by 70 percent or more.
- Thirty-four of the actions were taken significantly more often by companies in some economic sectors than by those in others.
- Thirty-four actions were also taken significantly more often by companies hurt (either severely or somewhat) than by companies either helped or unaffected.
- For 22 of the 45 actions companies could also indicate the direction and extent of the action taken — e.g., raise or lower sales prices by 10 or 20 percent. In these situations, there was considerable variation in direction and some in the extent of the action taken.

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[9] For 33 of the 45 actions companies taking the action reported that they had been influenced significantly more ($p < .05$) to do so by the economy than by interest rates -- a finding which is not surprising in that interest rates are generally considered to be a factor within the economy. Although statistically significant, these differences were quite small from a practical (managerial) standpoint. A number of tests were performed using the full scale (1 to 5) of influence for interest rates, the economy, and both combined (a 2 to 10 scale). We ultimately found it more fruitful to look solely at whether or not the company actually took the action where at least one of the two economic forces played a role in that decision. Results reported reflect this distinction.

The five most commonly taken actions regardless of economic sector or degree of impact of economic conditions were:

- Monitor collections more closely (89% of all respondents)
- Budget expenses and monitor compliance (83%)
- Change sales prices (71%)
- Stop selling to slow-paying customers or put them on COD (67%)
- Streamline the organization (64%)

Those actions that were taken by 70 percent or more of respondents in any economic sector are shown in Figure 1 below:

Figure 1

Actions Taken by 70 Percent or More of Respondents

Action	All Companies	By Economic Sector: Manufacturers	Distributors	Service	Fin/RE
* Monitor collections more closely	89%	94%	87%	89%	76%
* Budget expenses and monitor compliance	83	84	83	81	88
* Change sales prices	71	74	73	--	--
Move to purchase to order	--	79	74	--	--
* Stop selling to or COD slow-payers	--	75	75	--	--
Require suppliers to deliver on shorter notice	--	73	--	--	--
Change depth of inventory	--	--	78	--	--

-- indicates a percentage less than 70 percent.

The asterisk in Figure 1 marks those actions that were in the "top 10" most frequently taken by each sector: One other action in the "top 10" for each economic sector was streamline the organization -- taken by 64% of all respondents.

The percentage of companies taking each of the 45 actions, both overall and within sectors of the economy, is given in Appendix C, along with each action's relative rank.

Factor Analysis (Action Groups)

Because of the difficulty of discussing such a large number of actions, factor analysis was employed as a data reduction technique for the purpose of breaking out groups of actions which may have been taken as a group -- and thereby could be discussed as a generic category of activity.[10] The analysis identified ten such action areas (factors) encompassing all of the 45 actions.[11] The actions comprising the ten factors are presented in Exhibit 5.

To explore the extent to which companies in different sectors, of different size, or affected differently by economic conditions may have been active in these ten action areas, we computed an "activity index" for all respondents within each factor and employed this index, rather than factor scores,[12]

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[10] The 45 actions were grouped on the questionnaire to facilitate managements' responses, but these categorizations were not intended to be applicable to any particular group of respondents or to imply that any particular set of actions would or would not be taken as a group.

[11] The ten factors provided for a fairly clear simple structure in terms of substantive meaning. Four of the actions appeared in more than one factor. Although a "tighter" factor structure was found (which eliminated 11 of the 45 actions and all but one overlap between factors) the amount of variance explained remained nearly the same, and the structure was deemed overall less useful for the purpose of grouping actions.

[12] The "activity index" is simply the number of actions taken by the company within each factor divided by the numbers of actions in the factor; i.e., the percent of those actions taken by the company. We elected not to use factor scores because we felt that a direct measure of companies' activity in the ten areas would be empirically much more useful than the indirect estimation of factor scores (See Nunnally, 1978 for a comprehensive discussion of the difficulties involved in factor score estimation.) -- particularly since a number of variables used to define a factor had multiple correlations with the factor of less than .50, a circumstance which would make the estimation of factor scores highly inexact.

to attempt to identify differing levels of activity for different groups of respondents. These "activity indices" for all respondents and for each economic sector are shown in Exhibit 6 along with each factor's relative rank among the ten.

Overall, the typical company took 17.9 actions out of a possible 45 -- or 39.8 percent on the average. Exhibit 6 shows that there were considerable differences in the extent to which these groups of actions were taken -- a range of 57.9 percent (high) to 8.9 percent (low). Further, as could be expected, there were significant differences in the extent to which companies in different economic sectors took certain groups of actions.

The areas in which manufacturers were more active than the others were the two manufacturing-related factors, plant and production, and organization, operations, and international. This is not surprising given the nature of manufacturing activities and the relatively larger size of manufacturing companies.[13]

Companies hurt either somewhat or severely were more active in most areas than were those helped or unaffected (Exhibit 7). This also is not surprising and is discussed more fully in connection with companies' overall level of activity in a later section of the paper.

Six of the ten factors also showed statistically significant differences by size of company.[14] Although results lacked a clear pattern in every

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[13] On the average (median), manufacturers had two to three times the value added of companies in the other sectors -- see Appendix B.

[14] The six factors showing significant differences were: production, organization, operations, plant, labor, and international. Five were significant at $p < .001$, one at $p < .01$.

case, larger companies, in general, were more active in those areas than were smaller ones, especially those with fewer than 25 employees. This is quite understandable since very small companies, for the most part, simply don't have the range of options open to them that larger ones have. Those actions which the smaller companies did not take were largely related to production and personnel.

DIRECTION AND EXTENT OF ACTION

As indicated previously, for 22 of the 45 actions listed in the questionnaire, respondents could indicate the extent and direction of the action -- e.g., increase sales prices by 20 percent, decrease administrative personnel by 30 percent, or increase the level of borrowings by 40 percent (Appendix A, p. 2). The number of companies taking different kinds of actions, as we have seen, varied considerably. What was quite surprising was that for each of the above 22 actions which some companies took in one direction, other companies, to a greater or lesser extent, would take the same action in the opposite direction. The extent of the action taken, its direction, and the percentage of all companies taking it are shown in Exhibit 8. A look at the left side of the exhibit shows, for example, that for the fifth action -- change sales prices -- 70.8 percent of all companies changed prices, with 44.9 percent increasing them and 25.9 percent decreasing them. With inventory depth the opposite was true: 15.1 percent of companies increased inventory depth, 41.9 decreased.

The degree to which the action was taken also varied -- see the right side of Exhibit 8. Companies increasing sales prices increased them, on the average, by 25.9 percent, while those decreasing prices decreased them by an average of 15.4 percent. This shows that while there is considerable diversity in the direction of response by companies taking the same action, there is less diversity in its extent or intensity.

Whether or not these differences are "arbitrary" is a matter of some interest, since at first glance the pattern seems to be fairly random.

To take a look at why companies in similar circumstances might take opposite actions, we eliminated from the analysis those companies which did not take action at all and tested for whether some groups of companies took decreasing (or conversely, increasing) actions significantly more often than others.

Perhaps the most logical assumption would be that companies affected positively by economic conditions would take actions in different ways than companies which are affected negatively. For example, companies which have been helped by economic conditions might expand the breadth and depth of their inventory while businesses seriously hurt might contract both breadth and depth. As shown below, those companies hurt were clearly more likely to decrease inventory depth than were other groups:

	Increased	Decreased
Helped by Economic Conditions	23.0%	24.6%
Unaffected	13.7	33.3
Hurt Somewhat	11.4	43.5
Hurt Severely	17.9	48.1

A complete analysis of the 22 actions by impact group showed that there were, in fact, statistically significant differences for half. In almost every case, companies which were hurt took "decreasing actions" significantly more often than did either or both companies helped or unaffected by economic conditions. The 11 actions which were taken significantly more frequently by companies hurt than by others are shown in Exhibit 9. This analysis explains a great deal, but by no means all, of the difference in the direction of actions taken by companies.

Analysis by economic sector was less elucidating. Only five of the 22 actions showed significant differences:

- Service companies increased credit limits more than did distributors*
- Manufacturers and distributors decreased prices more than did service or financial companies*
- Manufacturers, distributors, and service companies increased advertising more than did financial companies*
- Manufacturers and service companies increased the number of their product lines more than did distributors**
- Manufacturers cut back production/service personnel more than did service or finance companies*

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* $p < .05$ ** $p < .01$

But even allowing for both industry differences and differences in the effects of the economy, opposite actions are still taken by a large number of companies in apparently similar circumstances -- and large numbers of companies seemingly take very few actions. The first observation can be explained by viewing small businesses as a considerably varied set of enterprises facing a bewildering variety of economic and competitive conditions -- this explains the diversity of actions. The second observation can be related to this, but it can also be hypothesized that small business owner-managers are often passive.

HOW ACTIVE OR PASSIVE WERE THE COMPANIES?

The results of the survey indicated that a great many companies took very few actions -- 25 percent took 12 or fewer actions in response to economic conditions although only 13 took no action at all.[15] This raises the question as to whether or not the small business community is active or passive in the face of changing economic conditions.

To address this question, the number of actions taken by each company in response to those conditions was looked at. The fewer the actions taken, the more the company was viewed as passive, the larger the number of actions taken, the more it was viewed as active. The overall level of activity was analyzed by economic sector and by the way in which companies had been affected by interest rates and the economy. Exhibit 10 presents the average number of actions taken by all companies and by companies in different sectors of the economy, of different size, or affected differently by economic conditions.

The exhibit shows, not surprisingly, that companies which indicated that they were unaffected by the economy took, on the average, the fewest number of actions in response to changing economic conditions. It also shows that those helped by these conditions took more actions than those unaffected, but fewer actions than those hurt. As would be expected, those hurt severely took more actions than any other group -- some 46.4 percent of the

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[15] Nine of the 13 indicated that they had been unaffected by economic conditions -- a possible reason for maintaining the status quo -- but two of the companies reported they had been hurt severely by those conditions. (The remaining two companies did not complete that section of the questionnaire which dealt with those impacts.)

45 possible actions set forth by the questionnaire.[16] This is hardly a passive posture given the varied types of small businesses and the considerably different situations they face in the market economy.

An examination of companies in different economic sectors shows that manufacturers take the highest number of actions (47 percent on the average); distributors take the next most (41 percent); and service and real estate companies take the fewest (31 percent and 30 percent respectively).[17] This is partially due to some of the actions included in the questionnaire being inapplicable to service and financial companies. But it can well be due also to the greater exposure to adverse conditions faced by manufacturers and companies with large inventories.

The analysis in Exhibit 12 shows that for the 25 percent of the companies taking the fewest number of actions, those unaffected by economic conditions took the fewest actions -- and those hurt severely took twice as many as those unaffected. Moving up to the 50 percent of the respondents taking the fewest actions, those hurt severely took 47 percent of the actions listed on the questionnaire (21 out of 45), while those companies which were unaffected by economic conditions took only 29 percent (13 actions). This is a considerable difference and one which goes a long way towards quelling the idea that small businesses are not responsive to their environment.

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[16] Statistically, those hurt severely were more active than all other groups; those hurt somewhat were more active than those unaffected or helped ($p < .0001$).

[17] Statistically, manufacturers were more active than all other groups; distributors were more active than were service or financial/real estate companies ($p < .0001$).

The differences in the number of actions taken narrow for groups of the most active companies (the upper quartile). But what is surprising is that these companies took between 51 percent and 93 percent of the possible actions -- proving once again that averages can be quite misleading and that small business managers can and do respond vigorously to their environment.

LOAN EXPERIENCE

Of the 1,057 companies responding to the survey 614, or 58 percent, had applied for at least one loan in the period from January 1, 1982 until the survey was distributed in August, 1982. The loan application rate for those 614 companies was:

Number of Loans Applied For	% Applying	Cumulative %
1 or 2 loans	53.6%	53.6%
3 or 4 loans	32.9	86.5
5 loans	8.0	94.5
6 or more loans	5.5	100.0

The percentage of responding companies applying for each of ten loan categories is given in Exhibit 12. As would be expected, the highest percentage of companies applied for a line of credit -- and those who tried it were, for the most part, successful. The only other type of loan which a quarter or more of the companies tried to obtain was a secured short-term loan and again they were quite successful. Unsecured and long-term loans were applied for quite infrequently -- and with lesser success.

The typical company, regardless of economic sector, size, region of the country, or the degree to which it had been affected by economic conditons, applied for one or two loans.[18] It was striking that for all the

[18] The mean for all companies was 1.55.

companies who tried to get at least one loan, 96 percent got at least one and 80 percent got all the loans they applied for.[19] This leads to two conclusions:

- Loans were available to smaller companies willing to pay the interest rates, but they were available in limited types.
- Small businessmen were aware of loan limitations and, for the most part, applied only for a few loans which they felt they had a good chance of obtaining.

There were no statistically significant differences among economic sectors, companies of different size, or companies in different parts of the country in either the number of loans attempted or their success rate in obtaining them. Companies which indicated they had been hurt severely by economic conditions, however, tried for a significantly larger number of loans[20] and had a significantly lower success rate[21] than did either those unaffected or hurt only somewhat by economic conditions. As shown in Exhibit 13, the success rate for all companies also tended to decrease as a function of the overall number of loans applied for.[22]

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[19] The mean success rate for all companies for all types of loans was 89.8 percent.

[20] $p < .05$

[21] $p < .01$

[22] statistically significant at $p < .0001$.

STATISTICAL REFERENCES

Morrison, D. F., Multivariate Statistical Methods (New York: McGraw-Hill Book Co.), 1976.

Nunnally, Jum C., Psychometric Theory (New York: McGraw-Hill Book Co.), 1978.

Exhibit 1

CHARACTERISTICS OF RESPONDENTS

Economic Sector	Total Responses Number	Total Responses Percent
Manufacturing	341	32%
Distribution	355	34
Service	255	24
Finance and Real Estate	49	5
Other or Unspecified	57	5
Total	1057	100%

Size of Company	Number	Percent
1-10 employees	343	33%
11-24	264	25
25-99	265	25
100-499	124	12
Over 500	47	5
Total	1043	100%

Age of Company		
Less than 5 years	240	23%
5 to 9 years	192	19
10 to 19 years	208	20
20 to 49 years	262	25
Over 50 years	137	13
Total	1039	100%

Region of Country	Population Percent	All Respondents Number	All Respondents Percent
Northeast			
New England	5.8%	54	5.2%
Middle Atlantic	16.3	121	11.6
South			
South Atlantic	15.9	139	13.4
East South Central	6.6	62	6.0
West South Central	11.0	104	10.0
North Central			
East North Central	17.4	174	16.7
West North Central	8.6	124	11.9
West			
Mountain	4.7	87	8.4
Pacific	13.7	175	16.8
Total	100.0%	1040	100.0%

Exhibit 1 (cont.)

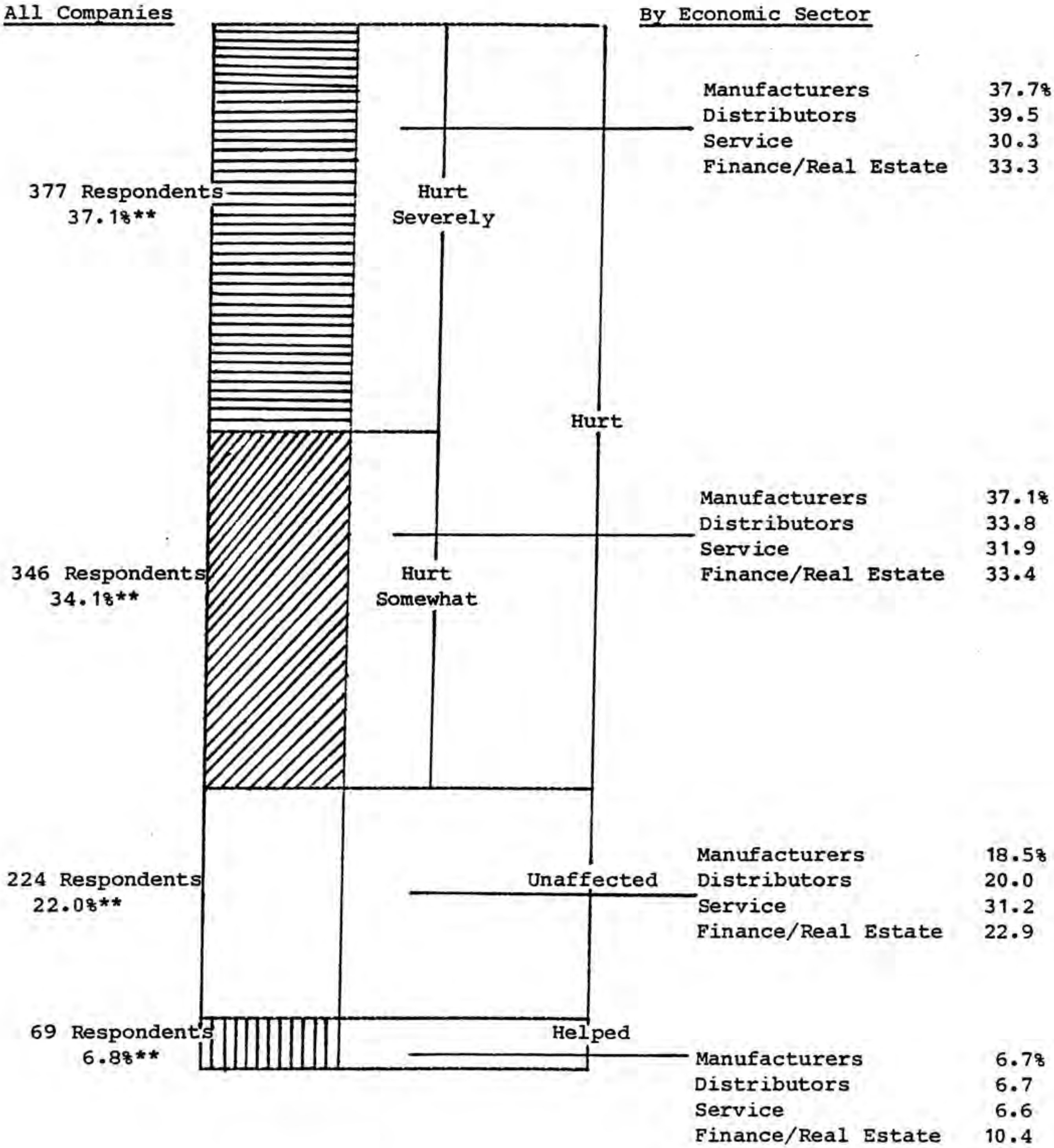
CHARACTERISTICS OF RESPONDENTS

	Number of Product Lines by Economic Sector		
	One	2-10	11 and over
Manufacturing	39%	54%	7%
Distribution	31	53	16
Service	56	43	1
Finance and RE	50	46	4

	Percent Products That Are Sold in Markets Outside USA				Percent Products Sold That Are Manufactured Outside USA			
	None	0-10%	10-25%	Over 25%	None	0-10%	10-25%	Over 50%
Manufacturing	50%	32%	12%	6%	71%	18%	7%	4%
Distribution	75	20	3	2	27	32	18	23
Service	81	13	3	3	82	11	4	3
Finance and RE	78	16	2	4	90	4	0	6

Exhibit 2

PERCEIVED EFFECT OF ECONOMIC CONDITIONS*



*Combined index of effects of interest rates and the economy.
**Data are missing for 41 of the 1057 respondents.

Exhibit 3

FIVE-YEAR SUMMARY OF FINANCIAL DATA[1]
(All Companies)

	1981	1980	1979	1978	1977	1977-1981 Change
Pre-tax Profit as a % of Sales	3.8%	4.3%	5.0%	4.5%	4.4%	-17.8%
Change in Sales over Prior Year	+13.9	+15.4	+15.9	+19.0	n/a	+62.5
Pre-tax Return on Equity	20.6	23.7	26.3	24.9	24.2	-22.7
Interest Expense as a % of Sales	1.5	1.3	1.1	0.9	0.7	+42.9
Interest Expense as a % of EBIT[2]	18.2	15.2	13.3	11.2	10.8	+52.0
Average Interest Rate[3]	18.0	16.1	13.9	10.9	9.2	+88.6

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[1] Complete financial data for all companies and by economic sector are given in Appendix B. All figures presented are medians since the arithmetical averages (means) are heavily influenced by the largest numbers. For example, the mean 1981 sales for all companies is $8.1 million while the median is $1.4 million. The mean pre-tax profit is $277,000 while the median is $46,000; and the mean debt-to-equity ratio is 2.51:1 while the median is 1.08:1. Since we are really concerned with the impact of economic conditions on the typical company, the median is the more useful measure.

[2] Earnings before Interest and Taxes.

[3] The interest rate reported on short-term debt at the end of each of the five years.

Exhibit 4

FINANCIAL INFORMATION
BY PERCEIVED IMPACT OF ECONOMIC CONDITIONS

1981 Financial Ratio	Number Responding	Perceived Impact of Economic Conditions Ratio of Mean Ranks of Impact Groups to Mean Rank for All Respondents*			
		Helped	Unaffected	Hurt Somewhat	Hurt Severely
Interest as a % of Profit**[1]	257	.926	.918	1.097	.973
Interest as a a % of Sales[2]	271	.827	.775	1.018	1.122
Interest as a % of EBIT[3]	261	.736	.766	1.027	1.142
Debt to Owner's Equity Ratio[2]	261	.904	.812	.966	1.142
Profit as a % of Sales[3]	290	1.303	1.290	1.034	.779
Pre-tax ROE[3]	262	1.198	1.237	1.023	.840
Pre-tax ROA[3]	271	1.417	1.336	1.004	.775
Change in sales:					
1977 - 81[3]	203	1.353	1.239	1.019	.819
1978 - 81[3]	233	1.413	1.278	1.012	.791
1979 - 81[3]	274	1.297	1.280	1.055	.779
1980 - 81[3]	299	1.355	1.197	1.064	.796

*The ratio of the mean rank for each group to the mean rank for all companies. Thus for "Interest as a % of Profit," the mean rank of those "hurt a lot" was 125. When this is divided by the mean rank for those responding, 257/2 or 128.5, the result is 0.973.

**All profits are pre-tax profits.

---

1 No significant differences (Kruskal-Wallis ANOVA).
2 Significant at p <.01 (Kruskal-Wallis ANOVA).
3 Significant at p <.001 (Kruskal-Wallis ANOVA).

NOTE: Because of the wide variability and non-normal distribution of financial indices, all financial data were analyzed by nonparametric statistical methods. For example, interest as a percent of profit ranges from -2800% to +12,500%, with a mean of 84%. The median, however, is only 14% and the interquartile range is 0% to 59%. Thus the mean is not a very informative indicator of performance. The same holds true for other financial ratios.

Exhibit 4 (page 2) - Statistical Results

I. Financial Ratio	X^2**	Kruskal-Wallis* Significance
Profit as a % of Sales	35.207	.000[1]
Return on Equity	18.789	.000[2]
Return on Assets	41.728	.000[3]
Interest as a % of Profit	4.074	.254
Interest as a % of Sales	14.365	.002[4]
Debt-to-Equity Ratio	11.753	.008[5]
Interest as a % of EBIT	17.466	.001[6]

*Numbered footnotes give Mann-Whitney U results.
**Corrected for ties.

[1] Those hurt a lot ranked lower than anyone else ($p < .001$); those hurt some ranked lower than those unaffected ($p. < .01$).

[2] Those hurt a lot ranked lower than those unaffected ($p < .001$) and than those hurt some or helped ($p < .05$); those hurt some ranked lower than those unaffected ($p < .05$).

[3] Those hurt a lot ranked lower than those helped or unaffected ($p < .001$) and those hurt some ($p < .01$).

[4] Those hurt a lot ranked higher than those unaffected ($p < .001$); those hurt some ranked higher than those unaffected ($p < .05$).

[5] Those hurt a lot ranked higher than those unaffected ($p < .01$) and those helped ($p < .05$).

[6] Those hurt a lot ranked higher than those unaffected ($p < .001$) and those helped ($p < .05$); those hurt some ranked higher than those unaffected ($p < .01$).

II. Change in Sales	X^2*	Significance
1977-81	19.810	.000[1]
1978-81	30.527	.000[2]
1979-81	33.947	.000[3]
1980-81	29.256	.000[4]

*Corrected for ties.

[1] Those hurt a lot rank lower than those unaffected ($p < .001$), helped ($p < .01$) and hurt some ($p < .05$); those hurt some rank lower than those helped or unaffected ($p < .05$).

[2] Those hurt a lot rank lower than those helped or unaffected ($p < .001$) and those hurt some ($p < .01$); those hurt some rank lower than those unaffected or helped ($p < .05$).

[3] Those hurt a lot rank lower than those unaffected or hurt some ($p < .001$) and those helped ($p < .01$); those hurt some rank lower than those unaffected ($p < .05$).

[4] Those hurt a lot rank lower than all other groups ($p < .001$).

Exhibit 5

COMPOSITION OF FACTORS

(Varimax Rotation)

FACTOR1 - Production

Action	Correlation with Factor*
Redesign products	.7220
Standardize parts	.7017
Substitute less expensive materials	.6494
Install new equipment	.6549
Refurbish old equipment	.6376
Postpone equipment expansion	.6296
Produce to order	.5422
Eigenvalue** 13.4	
Percent of variation explained 29.8%	

FACTOR2 - Credit Lending

Action	Correlation with Factor
Stop selling to or put on COD slow-paying customers	.7939
Monitor collections more closely	.7342
Add interest to past due accounts	.6932
Change customer credit limits	.6264
Drop low margin customers	.5593
Eigenvalue 2.4	
Percent of variation explained 5.2%	

FACTOR3 - Organization

Action	Correlation with Factor
Change administrative salaries	.7336
Change production/service wages	.7265
Change number of administrative personnel	.7179
Change number of production/service personnel	.6472
Streamline the organization	.4725
Eigenvalue 2.1	
Percent of variation explained 4.6%	

FACTOR4 - Inventory

Action	Correlation with Factor
Change inventory depth	.7518
Change inventory breath	.7031
Purchase to order	.6319
Require suppliers to deliver on shorter notice	.6211
Produce to order	.4129
Eigenvalue 1.7	
Percent of variation explained 3.9%	

---

*In general a .4 cutoff was used for loading; however, in three cases we loaded slightly lower, once at .39 and twice at .37.

**All factors with an eigenvalue greater than or equal to one were retained.

Exhibit 5 (page 2)

FACTOR5 - Marketing

Action	Correlation with Factor
Change level of customer service	.6813
Change salespeople's incentives	.6470
Change sales prices	.5088
Change number of product lines offered	.5074
Change amount of advertising	.4658
Change distribution methods	.4577
Change discount for prompt payment	.3694

Eigenvalue	1.5
Percent of variation explained	3.3%

FACTOR6 - Operations

Action	Correlation with Factor
Accelerate or delay the introduction of new product lines	.6579
Change the pace of factory technology	.6341
Accelerate or delay product improvements	.6245
Change the pace of office technology	.6168
Alter the planned rate of growth for existing lines	.5010
Change the purchase/production ratio	.4297

Eigenvalue	1.3
Percent of variation explained	3.0%

FACTOR7 - Plant

Action	Correlation with Factor
Postpone plant expansion	.6267
Budget expenses and monitor compliance	.5830
Postpone equipment expansion	.4691
Alter planned rate of growth for existing lines	.4586
Refurbish old equipment	.3921

Eigenvalue	1.2
Percent of variation explained	2.8%

FACTOR8 - Labor

Action	Correlation with Factor
Hire outside managers	.7640
Negotiate union concesssions	.6081
Accelerate retirements	.5312

Eigenvalue	1.1
Percent of variation explained	2.5%

Exhibit 5 (page 3)

FACTOR9 - Credit Borrowing

Action	Correlation with Factor
Increase equity	.6912
Obtain industrial subsidized loan	.6200
Change level of borrowing overall	.4817
Relocate to a less expensive location	.4260
Change days outstanding of accounts payable	.3663

Eigenvalue	1.1
Percent of variation explained	2.4%

FACTOR10*- Labor

Action	Correlation with Factor
Change level of sales abroad	.7366

Eigenvalue	1.0
Percent of variation explained	2.2%

TOTAL VARIATION EXPLAINED BY FACTOR1 THROUGH FACTOR10: 59.6%

---

*Although it is generally considered objectionable to have a factor defined by only one variable, from a substantive standpoint that condition does, in this instance, make a certain amount of sense due to the nature of the variable (action) in question. Since the factor does meet the eigenvalue $\geq$ 1.0 criterion we have retained it.

Exhibit 6

ACTIVITY INDEX* BY FACTOR
FOR ALL RESPONDENTS AND BY ECONOMIC SECTOR

Factor or	All Companies		Manufacturing		Distribution		Service		Financial/RE	
Action Group	Rank	Index	Rank	Index	Rank	Index	Rank	Index	Rank	Index
Credit Lending[3]	1	57.9	3	62.1	2	62.6	1	50.1	1	51.8
Plant[1]	2	54.5	2	66.5	3	48.6	2	48.5	2	45.7
Inventory[3]	3	53.9	1	67.9	1	63.9	5	30.7	7	21.6
Organization[2]	4	46.6	5	50.8	4	45.2	3	44.7	3	39.6
Marketing[3]	5	38.8	7	40.2	5	42.1	4	33.4	4	32.7
Operations[1]	6	34.0	6	44.8	7	30.0	7	28.6	5	30.3
Production[1]	7	33.4	4	54.8	8	23.6	8	22.2	8	17.5
Credit Borrowing[4]	8	30.9	8	32.0	6	31.6	6	28.9	6	27.8
Labor[4]	9	10.9	10	13.1	9	8.8	9	9.4	9	15.6
International[1]	10	8.9	9	15.2	10	6.8	10	5.1	10	2.0

[1] Mfg. > all others ($p < .001$)

[2] Mfg. > all others ($p < .05$)

[3] Mfg., Dist. > Service, Finance/RE ($p < .001$)

[4] No significant differences

*Percent of actions taken within that subset of actions. The highest possible "index" would be 100.0.

Exhibit 7

LEVEL OF ACTIVITY BY FACTOR

Differences by Degree of Impact of
Economic Conditions*

Those hurt severely by economic conditions were more active than any other group in 7 of the 10 areas:

- Organization
- Marketing
- Inventory
- Operations
- Plant
- Labor
- Credit Borrowing

They were also more active than those hurt some or unafffected in credit lending and took more actions in production than did those unaffected or helped.

Those companies hurt some did more than those unaffected or helped in:

- Organization
- Plant

They did more than those unaffected in 6 areas:

- Production
- Inventory
- Marketing
- Operations
- Labor
- Credit Borrowing

Those helped were more active in credit lending than those unaffected (but did not differ from either hurt category).

*All are significant at p <001.

Exhibit 8

PERCENT OF RESPONDENTS TAKING ACTION AND THE EXTENT AND DIRECTION OF THE ACTION

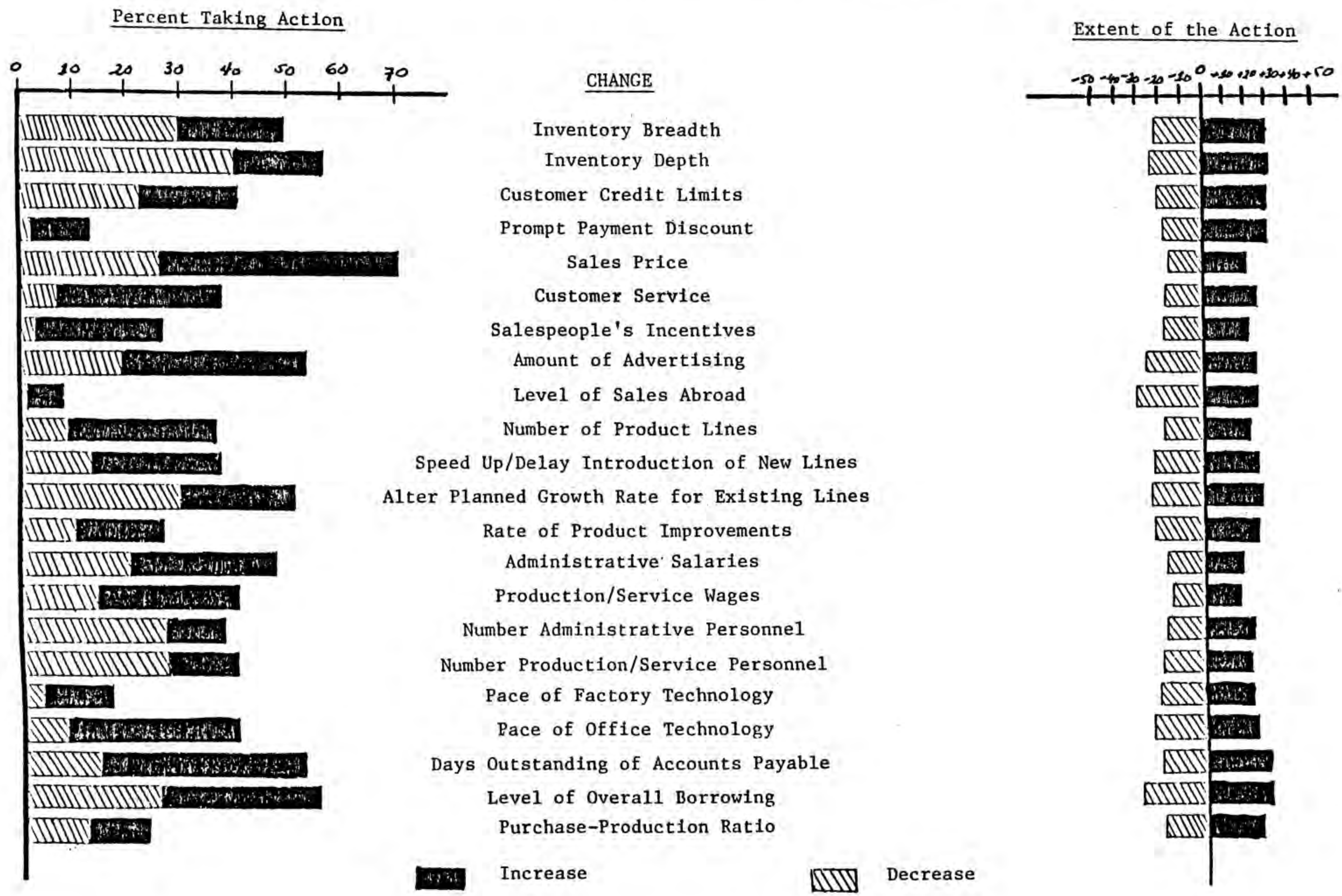

Exhibit 9

DIFFERENCES IN DIRECTION OF ACTION BY DEGREE OF IMPACT OF ECONOMIC CONDITIONS

Action	Differences
Decrease Inventory Breadth[1]	Hurt severely > helped, unaffected; hurt somewhat > helped.
Decrease Inventory Depth[1]	Helped < all others.
Decrease Sales Prices[1]	Hurt severely, hurt somewhat > unaffected.
Decrease Amount of Advertising[2]	Hurt severely > all others; hurt somewhat > unaffected.
Decrease Number of Product LInes[3]	Hurt severely, hurt somewhat > unaffected.
Slow the Rate of Growth for Existing Product Lines[3]	Hurt severely > helped, unaffected.
Decrease Level of Administrative Salaries[2]	Hurt severely > all others; hurt somewhat > helped, unaffected.
Decrease Level of Production/ Service Personnel Wages[2]	Hurt severely > all others.
Decrease Number of Administrative Personnel[3]	Hurt severely, hurt somewhat > helped, unaffected.
Decrease Number of Production/ Service Personnel[2]	Hurt severely, hurt somewhat > helped, unaffected.
Slow the Pace of Office Technology[2]	Hurt severely > all others.

---

[1] $p < .05$
[2] $p < .001$
[3] $p < .01$

Exhibit 10

NUMBER OF ACTIONS TAKEN

By Degree of Impact

	All Companies	Helped	Unaffected	Hurt Some	Hurt Severely
Mean	17.9	15.6	14.2	17.8	20.9
Median	17.6	14.8	13.5	17.1	20.8

By Sector of the Economy

	All Companies	Manufacturing	Distribution	Service	Finance/ Real Estate
Mean	17.9	21.2	18.1	14.7	14.1
Median	17.6	20.9	18.3	13.9	13.6

By Size of Company*
(Employees)

	All Companies	1-10	11-24	25-99	100-249	250-599	500 or more
Mean	17.9	16.0	17.6	19.6	18.3	21.3	20.2
Median	17.6	15.5	17.6	19.1	17.2	20.8	19.7

*Statistically those companies with 1-10 employees took fewer actions than all other groups and those with 11-24 took fewer than companies with 25-99 or more than 250 employees ($p < .0001$).

Exhibit 11

NUMBER OF ACTIONS TAKEN BY COMPANIES
AT THE UPPER END OF EACH QUARTILE GROUP

		By Economic Sector				By Impact Group			
Percent of Respondents	All Companies	Manufacturing	Distribution	Service	Finance/ Real Estate	Helped	Unaffected	Hurt Some	Hurt Lots
First 25%	12	15	12	10	8	10	8	12	16
Second 25%	17	21	18	13	13	14	13	17	21
Third 25%	23	27	23	20	20	20	20	22	26
Fourth 25%	42	41	42	37	32	35	38	42	41

Exhibit 12

PERCENT OF RESPONDENTS APPLYING FOR AND OBTAINING LOANS

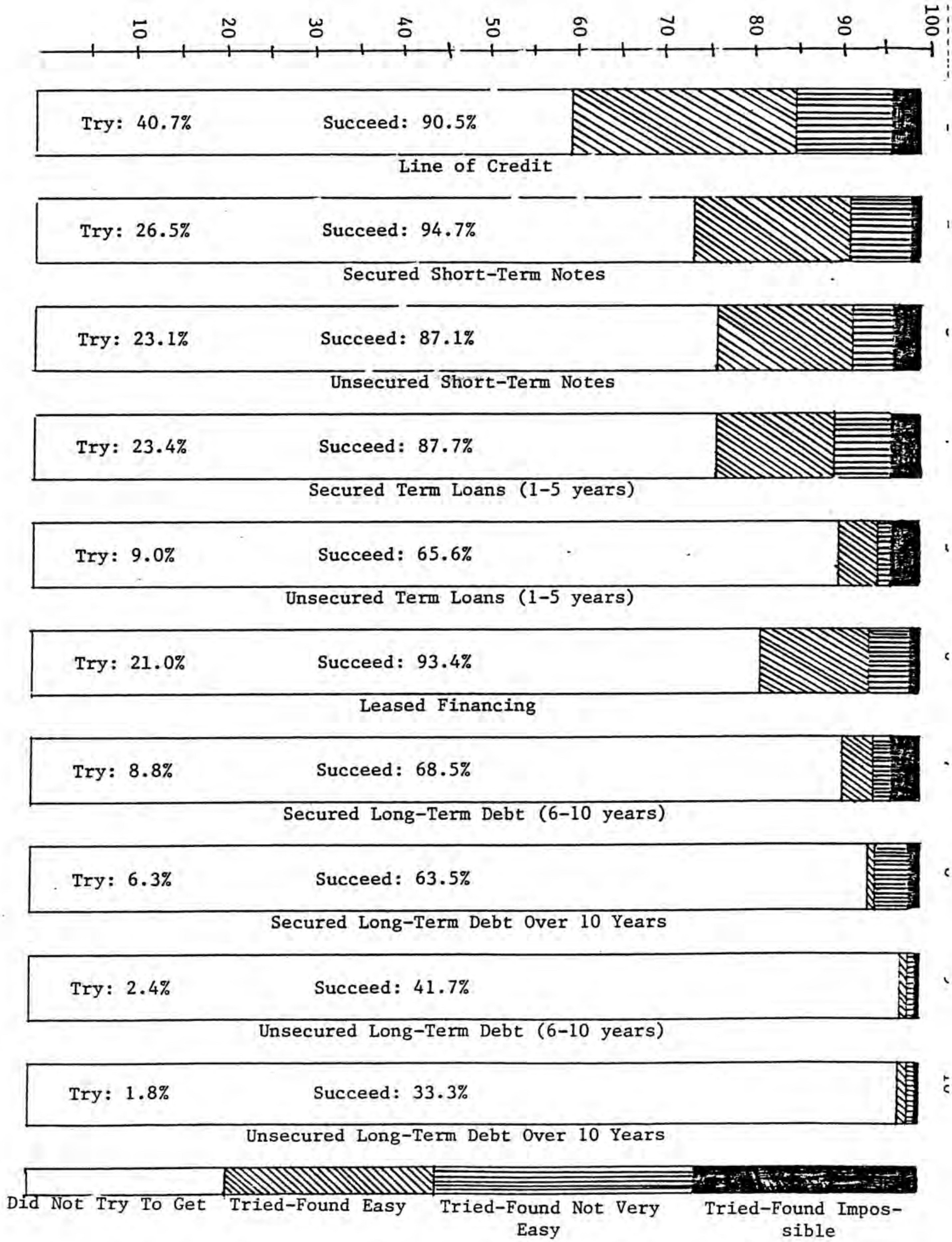

Exhibit 13

BREAKDOWN OF SUCCESS RATE BY
NUMBER OF LOANS TRIED

Number of Loans Tried	Success Rate	Number of Companies*
1	93.7%	175
2	94.5	154
3	90.0	130
4	88.5	72
5	79.2	49
6	79.7	23
7	71.4	3
8	16.7	3
9	36.1	4
10	0.0	1
		614

*443 companies did not attempt any loans.

APPENDIX A

ECONOMIC IMPACTS ON BUSINESS

A. Below are listed some actions which you might have taken either in response to high interest rates or just due to the overall economic situation today. For each action would you please indicate (by circling) to what extent your company has responded to each action *and* whether that action was in response to Interest Rates (Column A) or the General Economic Conditions (Column B). If your company has not taken any action please circle 0 (zero).

ACTION	(A) To What Extent Have High Interest Rates Influenced You To Take This Action: A GREAT DEAL		MODERATELY		NOT AT ALL	NO ACTION	(B) To What Extent Has The Economy Influenced You To Take This Action: A GREAT DEAL		MODERATELY		NOT AT ALL
INVENTORY											
1. Require suppliers to deliver on shorter notice	5	4	3	2	1	0	5	4	3	2	1
2. Move toward purchasing-to-order rather than to inventory	5	4	3	2	1	0	5	4	3	2	1
3. Move toward producing-to-order rather than to inventory	5	4	3	2	1	0	5	4	3	2	1
RECEIVABLES											
4. Add interest to past-due accounts	5	4	3	2	1	0	5	4	3	2	1
5. Stop selling to or move some customers to COD who pay slowly	5	4	3	2	1	0	5	4	3	2	1
6. Monitor collections more closely	5	4	3	2	1	0	5	4	3	2	1
SALES											
7. Drop low margin customers	5	4	3	2	1	0	5	4	3	2	1
8. Change the way products are distributed	5	4	3	2	1	0	5	4	3	2	1
WAGES											
9. Negotiate concessions from unions	5	4	3	2	1	0	5	4	3	2	1
OPERATING EXPENSES											
10. Relocate to a less expensive location	5	4	3	2	1	0	5	4	3	2	1
11. Postpone plant expansion	5	4	3	2	1	0	5	4	3	2	1
12. Budget expenses and monitor compliance	5	4	3	2	1	0	5	4	3	2	1
LINES OF CREDIT											
13. Obtain industrial subsidized development loan, e.g. SBA, IRB, etc.	5	4	3	2	1	0	5	4	3	2	1
14. Borrow from stockholders (obtain additional equity financing)	5	4	3	2	1	0	5	4	3	2	1
MANUFACTURING/PRODUCTION											
15. Substitute less expensive materials	5	4	3	2	1	0	5	4	3	2	1
16. Standardize parts, assemblies, etc.	5	4	3	2	1	0	5	4	3	2	1
17. Redesign products for production efficiency	5	4	3	2	1	0	5	4	3	2	1
18. Install new equipment	5	4	3	2	1	0	5	4	3	2	1
19. Postpone equipment expansion	5	4	3	2	1	0	5	4	3	2	1
20. Refurbish old equipment as an alternative to purchasing new equipment	5	4	3	2	1	0	5	4	3	2	1
MANAGEMENT											
21. Streamline organization	5	4	3	2	1	0	5	4	3	2	1
22. Accelerate retirements	5	4	3	2	1	0	5	4	3	2	1
23. Hire new managers from outside	5	4	3	2	1	0	5	4	3	2	1

B. For actions below, listed on the left, please circle the number in Column A (high interest rates) and Column B (the economy) which describes the extent to which those conditions influenced you to take that action (exactly as you did on the first page of the questionnaire). *In addition*, please circle the *percentage* in Column C which best indicates the *extent* of the action taken.

ACTION	(A) To What Extent Have High Interest Rates Influenced You To Take The Action						(B) To What Extent Has The Economy Influenced You To Take This Action					(C) To What Extent (%) Have You Taken The Action		
	A GREAT DEAL		MODERATELY		NOT AT ALL	NO ACTION	A GREAT DEAL		MODERATELY		NOT AT ALL	INCREASE	NO CHANGE	DECREASE
ASSETS														
1. Change the number of different items carried in inventory (breadth)	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
2. Change the number of units held in inventory of each different item (depth)	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
3. Change the credit limit on customers	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
4. Change the discount for prompt payment	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
OPERATIONS														
5. Change sales price	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
6. Change the level of customer service	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
7. Change incentives of sales people	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
8. Change amount of advertising	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
9. Change the level of sales abroad	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
10. Change the number of product lines offered to customers	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
11. Speed up or delay the introduction of new product lines or services	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
12. Alter your planned rate of growth for existing product lines or services	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
13. Accelerate or delay product improvements	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
EMPLOYMENT														
14. Change salaries/wages for administrative/overhead personnel	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
15. Change the salaries/wages for production/service personnel	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
16. Change the number of administrative/overhead personnel	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
17. Change the number of production/service personnel	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
18. Change the pace of technology in the factory	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
19. Change the pace of technology in the office	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
OTHER														
20. Change the days outstanding of accounts payable	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
21. Change the level of your borrowings overall	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%
22. Change the purchase/production ratio of the products you sell	5	4	3	2	1	0	5	4	3	2	1	+50%	0%	−50%

If there are any other actions that you have taken in response to either high interest rates or the economy, list them on a separate sheet with the degree of action, if applicable.

COMPANY DESCRIPTION

What is your principal business(es) (Check no more than two).

1. ( ) Extractive
2. ( ) Manufacturing
3. ( ) Distribution
4. ( ) Wholesaling
5. ( ) Financial
6. ( ) Retailing
7. ( ) Service-Labor Intensive (e.g. consulting, computer software, etc.)
8. ( ) Service-Capital Intensive (e.g. motel, airline)
9. ( ) Other ______________________ Please Explain

How would you describe your industry?

Description ______________________________

10. What is your industry's three-digit SIC code (if known)? __________ SIC

How many employees are there in your company (consider all plants, divisions, branches, etc.)?

11. ( ) 1-10
12. ( ) 11-19
13. ( ) 20-24
14. ( ) 25-99
15. ( ) 100-249
16. ( ) 250-499
17. ( ) 500-999
18. ( ) 1,000 or more

In what year was your company founded?

19. __________ Year Founded

Below would you list the number of different locations you have which fall into the various categories.

NUMBER OF LOCATIONS

20. Sales Only __________

21. Production/service only __________

22. Production/service & sales __________

Would you please indicate the number of major product line groups (e.g. women's clothing, job-shop machines, consulting, petro-chemical products, etc.)

23. ______________________ Number of Products Lines

How would you describe the primary market area in which you are offering your products or services for sale?

24. ( ) local
25. ( ) regional
26. ( ) national
27. ( ) international

What percent of your company sales are from *sales outside the United States?*

28. ( ) None
29. ( ) 0% - 4.99%
30. ( ) 5% - 9.99%
31. ( ) 10% - 14.99%
32. ( ) 15% - 19.99%
33. ( ) 20% - 24.99%
34. ( ) 25% - 29.99%
35. ( ) 30% - 39.99%
36. ( ) 40% - 49.99%
37. ( ) 50% or more

What percent of your company sales are from *products* produced outside the U.S.?

38. ( ) None
39. ( ) 0% - 4.99%
40. ( ) 5% - 9.99%
41. ( ) 10% - 14.99%
42. ( ) 15% - 19.99%
43. ( ) 20% - 24.99%
44. ( ) 25% - 29.99%
45. ( ) 30% - 39.99%
46. ( ) 40% - 49.99%
47. ( ) 50% or more

What is the zip code of your headquarter locations?

48. Zip Code _ _ _ _ _

ECONOMIC CONDITIONS

Below are a few statements on economic conditions for which we would like to have your opinion. Please circle the number which best answers the question. A +5 answer is the most positive and a −5 answer is the most negative.

	HELPED A GREAT DEAL					LITTLE, IF ANY, EFFECT					HURT A GREAT DEAL
1. How have high interest rates affected your company's sales in the last two to three years	+5	4	3	2	1	0	1	2	3	4	−5
2. How have economic conditions affected your company's sales in the last two to three years	+5	4	3	2	1	0	1	2	3	4	−5
3. How have high interest rates affected your company's profitability in the last two to three years	+5	4	3	2	1	0	1	2	3	4	−5
4. How have economic conditions affected your company's profitability in the last two to three years	+5	4	3	2	1	0	1	2	3	4	−5

FINANCING

Below are various forms of financing that your company might have tried to obtain since the beginning of this year (Jan. '82). For each type would you indicate (a) whether your company attempted to obtain this financing since January and (b) if you have attempted financing, how difficult it was for your company to obtain it.

If your company has not attempted any outside financing since Jan. '82, please check here ( ).

	(A) Tried To Obtain Since Jan. '82			(B) For Each "Yes" Response to (A) Please Answer: Tried and Found It		
TYPES OF OUTSIDE FINANCING	YES	NO		EASY	NOT VERY EASY	IMPOSSIBLE
1. Line of credit	( )	( )		( )	( )	( )
2. Secured short term notes	( )	( )		( )	( )	( )
3. Unsecured short term notes	( )	( )		( )	( )	( )
4. Secured term loans (1-5 years)	( )	( )		( )	( )	( )
5. Unsecured term loans (1-5 years)	( )	( )		( )	( )	( )
6. Leased financing	( )	( )		( )	( )	( )
7. Secured long term debt (6-10 years)	( )	( )		( )	( )	( )
8. Secured long term debt (over 10 years) . . .	( )	( )		( )	( )	( )
9. Unsecured long term debt (6-10 years) . . .	( )	( )		( )	( )	( )
10. Unsecured long term debt (over 10 years) .	( )	( )		( )	( )	( )

Company Financial Data

Please fill the table below with your best estimate of the data requested. We would appreciate your filling out the data for every year from 1977-1981 that your company has been in business. However, even partial data will help.

Please be assured again that this information is strictly confidential and totally anonymous.

If you keep your records on a non-calendar fiscal year basis, please use the calendar year which includes the most months of your fiscal year. For years ending on June 30, use the latest calendar year. Thus, data for fiscal year ending February 28, 1981 would be recorded as 1980 data, for fiscal years ending September 30, 1981, the calendar year would be 1981 and for June 30, 1981 year end, the calendar year would also be 1981. Remember an educated guess or partial data are better than no response, but please return the questionnaire no matter how many questions you have answered.

(In thousands of dollars, please)

HISTORICAL DATA	1981	1980	1979	1978	1977
1. Sales for the year					
2. Purchases of raw material, purchased parts or finished goods					
3. Interest Expense (dollars)					
4. Profit before tax but after interest expense					
5. Owner's equity at end of year					
6. Total assets at end of year					
7. Average interest rate charged on short-term debt on the last day of the year					

Appendix B

FINANCIAL SUMMARY BY ECONOMIC SECTOR
(Medians)

	1981				
	All Companies (304)	Manufacturing (99)	Distributors (110)	Service (75)	Finance/ Real Estate (7)
Sales ($000s)	1381	1989	1725	532	5300
Purchases ($000s)	652	991	1185	48	73
Value Added ($000s)	638	1083	560	306	298
Interest Expense ($000s)	18	25	20	5	33
Earnings Before Interest and Taxes (EBIT) ($000s)	83	122	85	38	50
Pre-tax Profit ($000s)	46	66	47	25	38
Owner's Equity ($000s)	225	409	311	108	133
Total Assets ($000s)	543	1070	650	200	342
Average S-T Interest Rate (%) at End of Year	18.0	17.8	18.0	18.4	17.0
Pre-tax Profit as % of Sales	3.8	4.2	3.2	4.7	3.9
Pre-tax ROE (%)	20.6	20.5	20.6	25.0	15.4
Pre-tax ROA (%)	9.3	9.6	9.1	11.3	5.0
Interest Expense as % of Pre-tax Profit	14.0	14.0	18.2	4.5	59.1
Interest Expense as % of Sales	1.5	1.5	1.4	1.4	2.2
Interest Expense as % of EBIT*	18.2	18.5	21.8	6.9	37.1
Debt to Equity Ratio	1.08:1	1.13:1	1.33:1	0.66:1	3.35:1

*Higher than interest as a percent of profit for all five years because of the effects of those companies which showed losses for those years (an average of 15% of all firms).

Appendix B (Page 2)

FINANCIAL SUMMARY BY ECONOMIC SECTOR
(Medians)

	1980				
	All Companies (304)	Manufacturing (99)	Distributors (110)	Service (75)	Finance/ Real Estate (7)
Sales ($000s)	1088	1994	1500	504	4800
Purchases ($000s)	551	701	1140	23	66
Value Added ($000s)	514	808	485	281	240
Interest Expense ($000s)	11	23	14	3	20
Earnings Before Interest and Taxes (EBIT) ($000s)	85	118	86	33	35
Pre-tax Profit ($000s)	52	86	59	28	34
Owner's Equity ($000s)	182	343	287	100	121
Total Assets ($000s)	500	1000	557	203	257
Average S-T Interest Rate (%) at End of Year	16.1	16.1	16.1	16.1	20.0
Pre-tax Profit as % of Sales	4.3	5.4	3.4	6.5	2.1
Pre-tax ROE (%)	23.7	25.7	21.7	26.7	9.2
Pre-tax ROA (%)	10.0	10.5	8.6	13.4	4.9
Interest Expense as % of Pre-Tax Profit	12.6	17.4	15.7	3.3	2.9
Interest Expense as % of Sales	1.3	1.4	1.2	1.1	2.6
Interest Expense as % of EBIT	15.2	16.8	16.7	9.1	20.5
Debt to Equity Ratio	0.95:1	0.99:1	1.26:1	0.77:1	0.80:1

Appendix B (Page 3)

FINANCIAL SUMMARY BY ECONOMIC SECTOR
(Medians)

	1979				
	All Companies (279)	Manufacturing (93)	Distributors (99)	Service (68)	Finance/ Real Estate (7)
Sales ($000s)	1173	2043	1909	360	4300
Purchases ($000s)	601	800	1116	18	68
Value Added ($000s)	551	777	504	184	210
Interest Expense ($000s)	9	16	12	3	13
Earnings Before Interest and Taxes (EBIT) ($000s)	78	99	86	21	85
Pre-tax Profit ($000s)	46	68	61	20	30
Owner's Equity ($000s)	200	329	270	79	141
Total Assets ($000s)	438	948	583	155	206
Average S-T Interest Rate (%) at End of Year	13.9	14.2	13.7	14.2	14.5
Pre-tax Profit as % of Sales	5.0	6.1	3.6	6.5	3.0
Pre-tax ROE (%)	26.3	28.7	25.0	25.3	18.2
Pre-tax ROA (%)	10.8	14.4	9.3	10.2	9.5
Interest Expense as % of Pre-Tax Profit	12.5	14.3	19.1	2.8	3.3
Interest Expense as % of Sales	1.1	1.1	1.0	0.8	1.4
Interest Expense as % of EBIT	13.3	13.0	18.2	5.5	4.7
Debt to Equity Ratio	0.95:1	1.01:1	1.12:1	0.60:1	3.69:1

Appendix B (Page 4)

FINANCIAL SUMMARY BY ECONOMIC SECTOR
(Medians)

	1978				
	All Companies (239)	Manufacturing (82)	Distributors (85)	Service (56)	Finance/ Real Estate (7)
Sales ($000s)	1162	2002	1875	386	3600
Purchases ($000s)	694	791	1091	19	57
Value Added ($000s)	511	730	488	201	218
Interest Expense ($000s)	8	14	16	2	4
Earnings Before Interest and Taxes (EBIT) ($000s)	70	87	100	36	24
Pre-tax Profit ($000s)	53	69	62	36	23
Owner's Equity ($000s)	215	276	325	77	134
Total Assets ($000s)	490	925	612	151	182
Average S-T Interest Rate (%) at End of Year	10.9	11.1	10.4	11.5	11.8
Pre-tax Profit as % of Sales	4.5	5.3	3.6	5.9	1.6
Pre-tax ROE (%)	24.9	27.8	21.4	39.5	11.9
Pre-tax ROA (%)	11.0	11.8	8.7	11.3	5.0
Interest Expense as % of Pre-Tax Profit	10.8	10.1	16.7	0.0*	3.2
Interest Expense as % of Sales	0.9	1.0	0.9	0.5	1.5
Interest Expense as % of EBIT	11.2	10.3	16.2	3.4	2.2
Debt to Equity Ratio	1.00:1	1.02:1	1.22:1	0.68:1	1.22:1

*0.018

Appendix B (Page 5)

FINANCIAL SUMMARY BY ECONOMIC SECTOR
(Medians)

	1977				
	All Companies (209)	Manufacturing (73)	Distributors (80)	Service (43)	Finance/ Real Estate (7)
Sales ($000s)	1189	1753	1417	322	2200
Purchases ($000s)	698	721	919	37	58
Value Added ($000s)	518	601	400	210	218
Interest Expense ($000s)	6	8	7	1	4
Earnings Before Interest and Taxes (EBIT) ($000s)	53	72	59	33	20
Pre-tax Profit ($000s)	45	58	50	29	5
Owner's Equity ($000s)	201	239	292	50	142
Total Assets ($000s)	478	787	526	150	198
Average S-T Interest Rate (%) at End of Year	9.2	9.4	9.0	8.5	11.0
Pre-tax Profit as % of Sales	4.4	5.0	3.6	6.2	2.8
Pre-tax ROE (%)	24.2	26.1	21.8	36.6	4.0
Pre-tax ROA (%)	9.0	8.6	7.5	12.5	13.1
Interest Expense as % of Pre-Tax Profit	10.5	8.8	12.5	5.3	0.6
Interest Expense as % of Sales	0.7	0.7	0.7	0.6	1.4
Interest Expense as % of EBIT	10.8	8.1	12.8	5.0	13.8
Debt to Equity Ratio	0.99:1	1.12:1	1.13:1	0.43:1	0.39:1

Appendix C

ACTIONS TAKEN BY ECONOMIC SECTOR

Action	All Companies		Manufacturing		Distribution		Service		Finance Real Estate	
	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking
Inventory										
1. Require suppliers to deliver on shorter notice	7	58	6	73	10	64	18	37	29	22
2. Move to purchasing to order rather than to inventory	5	66	3	79	5	74	11	47	25	27
3. Move to producing to order rather than to inventory	23	40	7	68	29	34	33	19	36	12
4. Change the number of different items carried in inventory (breadth)	14	49	17	52	7	70	28	23	24	27
5. Change the number of units held in inventory of each different item (depth)	8	57	8	67	3	78	25	27	32	20
Receivables										
6. Add interest to past due accounts	13	51	20	50	12	58	12	45	8	47
7. Stop selling to or move to COD some customers who pay slowly	4	67	4	75	4	75	7	51	4	55

Appendix C (Page 2)

ACTIONS TAKEN BY ECONOMIC SECTOR

Action	All Companies		Manufacturing		Distribution		Service		Finance Real Estate	
	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking
8. Monitor collections more closely	1	89	1	94	1	87	1	89	2	76
9. Change the credit limit on customers	19	42	24	47	15	49	21	33	15	39
10. Change the discount for prompt payment	39	17	39	20	34	19	40	12	43	8
Sales										
11. Drop low margin customers	22	40	29	44	18	44	22	33	12	43
12. Change the way products are distributed	29	32	35	33	22	40	32	21	23	31
13. Change sales price	3	71	5	74	6	73	3	67	7	51
14. Change the level of customer service	26	39	32	38	20	41	15	39	13	41
15. Change the incentives of salespeople	31	30	37	24	23	39	29	23	21	31
16. Change amount of advertising	11	54	22	48	8	65	10	49	10	43
17. Change the level of sales abroad	45	9	40	15	44	7	44	5	45	2

Appendix C (Page 3)

ACTIONS TAKEN BY ECONOMIC SECTOR

Action	All Companies		Manufacturing		Distribution		Service		Finance Real Estate	
	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking
18. Change the number of product lines offered to customers	28	37	31	39	17	47	26	24	16	37
19. Speed up or delay the introduction of new product lines or services	25	39	26	44	21	40	23	31	14	39
20. Alter your planned rate of growth for existing product lines and services	12	52	13	58	14	51	8	51	9	47
21. Accelerate or delay product improvements	32	28	28	44	35	18	27	24	27	24
Employment										
22. Change salaries/wages for administrative/ overhead personnel	15	49	21	49	16	48	6	51	11	43
23. Change salaries/ wages for production/ service personnel	20	42	23	47	25	38	13	42	18	35
24. Change the number of administrative/over-head personnel	27	38	30	43	26	37	19	35	17	35
25. Change the number of production/service personnel	24	40	19	50	24	38	20	34	26	27

Appendix C (Page 4)

ACTIONS TAKEN BY ECONOMIC SECTOR

Action	All Companies		Manufacturing		Distribution		Service		Finance Real Estate	
	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking
26. Negotiate union concessions	41	11	41	15	45	6	41	11	38	12
Operations										
27. Change the pace of technology in the factory	38	18	34	37	43	8	42	9	42	8
28. Change the pace of technology in the office	21	41	25	46	27	36	14	42	6	51
29. Relocate to a less expensive location	43	9	45	7	42	8	39	13	33	20
30. Postpone plant expansion	16	46	15	57	19	42	16	39	20	33
31. Budget expenses and monitor for compliance	2	83	2	84	2	83	2	81	1	88
Management										
32. Streamline organization	6	64	10	65	9	65	4	62	3	59
33. Accelerate retirements	44	9	44	11	40	9	45	4	37	12
34. Hire new managers from outside	40	13	43	13	39	11	37	13	30	22

ACTIONS TAKEN BY ECONOMIC SECTOR

Action	All Companies		Manufacturing		Distribution		Service		Finance Real Estate	
	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking
Manufacturing/ Production										
35. Substitute less expensive materials	37	21	36	33	36	15	34	15	44	6
36. Standardize parts, assemblies, etc.	35	23	27	44	37	15	36	13	39	10
37. Redesign products for production efficiency	33	27	16	54	38	13	35	15	35	14
38. Install new equipment	30	32	18	52	33	22	30	23	34	18
39. Postpone equipment expansion	17	46	9	67	30	32	17	38	19	35
40. Refurbish old equipment as an alternative to buying new equipment	18	45	11	63	28	34	24	31	28	24
Lines of Credit										
41. Obtain industrial subsidized development loan, e.g., SBA, IRB	42	11	42	13	41	9	43	9	40	10
42. Obtain additional equity	36	23	38	22	32	26	31	22	31	22

Appendix C (Page 6)

ACTIONS TAKEN BY ECONOMIC SECTOR

Action	All Companies		Manufacturing		Distribution		Service		Finance Real Estate	
	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking	Rank	% Taking
43. Change level of borrowing overall	9	56	14	57	11	61	5	51	5	55
Other										
44. Change the days outstanding of accounts payable	10	54	12	60	13	55	9	51	22	31
45. Change the purchase production ratio of the products you sell	34	25	33	38	31	26	38	13	41	10

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