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RESEARCH PAPERS:



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BOOK REVIEW:



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(2) Speaking publicly and objectively on behalf of the economic and business conditions in Pennsylvania and speaking for economic and business education in Pennsylvania.

(3) Encouraging freedom of economic and business discussion.

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**Specifically the following criteria will be used for reviewing:**

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# ZAPPING: A PROFILE OF CHANNEL SWITCHING BEHAVIOR

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## ABSTRACT

This exploratory research builds a theoretical framework for understanding the phenomena of program and commercial avoidance behavior using electronic remote control of television channels and provides the basis for more detailed investigations. The research shows that flipping, grazing, and zapping are pervasive, interrelated behaviors that are changing the nature of today's viewing environment. Furthermore, gender, age, and a desire to see what else is on other stations appear to be key individual factors which explain channel changing actions. The research has also shown that some programs, commercial styles, and commercial product classes elicit more channel changing behavior.

## INTRODUCTION

The subject of program and commercial avoidance behavior received considerable attention in business and academic literature since the mid-1980s, although such viewer behavior is hardly new. In the early 1950s when television was in its introductory stage, researchers identified increased water consumption during commercial breaks and first recognized that television does not completely capture and hold a viewer's attention (Waldrop, 1990). Today, this problem of retaining viewers is exacerbated by the advent of the remote control.

In 1988 the remote control was present in approximately 50% of households; by the following year, the level of penetration grew to 72% (Gross, 1988; Marton, 1989). Furthermore, younger audiences, especially those who grew up watching television using a remote control, have accepted and are comfortable with the device (Secunda, 1988). Given the new ease and convenience of changing channels brought about by the remote control, and an audience of the future attuned to making extensive use of this technology, this portends significant increases in channel changing behavior. Such behavior includes flipping (watching two shows simultaneously), grazing (watching three or more shows at a time), and zapping (eliminating commercials).

## RESEARCH BACKGROUND

The literature acknowledges that audience loss, especially during commercial breaks, is not a recent phenomenon. Falling asleep on the couch, talking to others, or leaving the room while the television is on ("physical zapping") are common avoidance activities which do not involve channel switching. Although these behaviors are difficult to measure, studies have addressed the issue and concluded that 30-40% of viewers engage in physical zapping during prime time commercials (Fountas, 1985).

Today, networks and advertisers are focusing on how the new technology for channel changing is affecting audiences sizes. Unfortunately, the results of studies on this matter vary widely. One 1987-88 television season study claims that 13% of viewers change channels during a program, thus indicating a somewhat minor problem. Another study claims a higher 25%, and a third study, limited to an 18 to 34 age group, claims that over 50% change channels during a half-hour of viewing (Benson, 1988). To further confuse the issue, McSherry's research review indicates that, overall, there is essentially no ratings loss for commercials compared to the program rating (1985). However, average network prime-time share in 1979 was 92%; by 1988 it fell to 73%, and further decline is expected (Secunda, 1988). The shrinking share of network audiences combined with the sharply increasing cost per

thousand of network media time makes the problem of zapping of greater concern. Furthermore, given the concerns and actions of networks and advertisers, the importance of research in the area of channel switching behavior will increase in importance in future.

Advertisers are seeking more accurate measures of audience loss (Lewin, 1988). It has been suggested that air time rates should be based not on the rating of the program in which an ad is placed, but on the rating of the commercial itself (Benson, 1988). Advertisers also believe there is about a 40% tune-out factor during commercial breaks, and a 1984 estimate indicates that $16 billion in air time each year is wasted due to physical and electronic zapping (Kessler, 1985; Nuccio, 1989). Advertisers are also experimenting with advertising executions. Commercials that blend in with the program style, roadblocking (simultaneous airing of a commercial on all major networks), vignettes (two-part commercials with a conventional commercial in between), and expensive extravaganza advertising (e.g., the much-touted Apple MacIntosh "1984" advertisement) are examples of some of the creative actions advertisers are experimenting with to discover how they can ensure today's viewer receives their promotional messages ("To Have and to Hold," 1988; Kessler, 1985).

The networks are also being called upon to change and improve programming and create a better environment for promotional messages. A research study by Television Audience Assessment Inc. concluded that shows that provide a "high degree of impact - or emotional and intellectual stimulation" and capture and hold the viewer's attention will enhance the memorability and believability of the commercials aired during the show and result in a purchase preference for the advertised product/service (Meyers, 1986). Advertisers are also calling for shows that are less likely to be flipped or grazed over, such as specials, mini-series, and shows that have complex plots (Gross).

In addition to increased attention as to how commercial and program factors affect channel changing behavior, individual factors are also being considered. Heeter and Greenberg's review of research studies reports that males and younger people are more active channel changers (1985). Meyer's profile of the channel changer supports the previous findings on gender and sex and further suggest channel changers are highly educated, are in managerial and professional occupations, are affluent, and enjoy leisure activities like sports and arts performances.

## THEORETICAL FRAMEWORK

As the literature review indicates, channel changing behavior has been viewed from three separate perspectives. A portion of the literature has broadly identified and discussed the channel changing phenomenon as a trend which will continue and become more pronounced with the increasing penetration and acceptance of the remote control. Channel changing has also been addressed in the literature with a focus on the effects on audience ratings and what changes in programming and advertising need to be made. Finally, the literature has examined consumer behavior issues by developing demographic profiles of flippers/grazers/zappers and exploring the underlying reasons for channel changing behavior. Although each group of findings contributes towards a greater understanding of channel changing behavior, no one perspective provides a holistic framework for understanding the interrelated forces which bring about the behavior. Such a framework can be developed by recognizing that television viewing is a communication process and examining channel changing behavior as an activity that occurs during the stages of this process.

The main elements of the communication process include the sender, the message, the media, and the receiver (Kotler, 1991). The sender attempts to elicit a response or reaction from the receiver after the message has been received. In this light, the contents of programs and commercials are messages sent by the networks and advertisers (the senders) through the television media to the viewer (the receiver). Individual characteristics of the receiver affect his/her responses to the messages in the form of channel changing behavior. Given this interpretation, the factors that affect channel changing behavior can be represented by the framework shown in Figure 1.

This framework depicts channel switching behavior as a function of the nature of the program being viewed, the product and type of commercial involved and the characteristics of the individual

viewing. This framework can be expanded by including the situation or external factors surrounding the television program viewing, such as the presence of others and the viewing circumstances involved.

## METHODOLOGY

The data was collected via a self-reported mail questionnaire. The survey included five categories of questions. The first part consisted of itemized rating scale questions which asked respondents to indicate the amount of flipping, grazing, and zapping they exhibit while watching television. The second set of questions measured respondents' preferences for different types of shows (e.g., dramatic series, situation comedies) and what channel changing behaviors they exhibit when a given type of show comes on the station they are currently watching. The third part of the survey consisted of itemized rating scale questions which assessed the amount of zapping behavior occurring with different commercial styles (e.g., lifestyle, musical) and commercial product classes (e.g., food, financial services). The fourth section explored the possible underlying reasons for channel changing behavior (e.g., boredom, habit). The final section of the questionnaire requested basic demographic information - gender, age, educational level, and hours of television viewing during the weekday and weekend.

Since the purpose of this study was to explore a new framework for understanding channel changing behavior, a judgment sample was considered sufficient for this purpose. Respondents were selected to achieve a balanced representation of males and females covering a wide range of adult age groups. All had access to a remote control while viewing television. A sample of 260 respondents from Indiana University of Pennsylvania and surrounding areas in Western Pennsylvania yielded 158 useable responses. Of course, as with any nonprobability method, results must be interpreted with caution. It should be noted that in surveys such as this there is likely to be under reporting of zapping behavior by individuals. Therefore a direct mail survey will not be the most effective methodology. In the future, the empirical validity of the framework can be ascertained by surveying significant others (e.g., parents, spouses) about the viewing habits of the respondent and assessing the consistency of responses.

## FINDINGS

I. Channel changing behavior (individual factors)

Table 1 describes the percentage of respondents who indicated various levels of flipping, grazing, and zapping behavior.

To simplify the analysis, respondents will be categorized as heavy channel changers (those who flip/graze/zap more than half or all the time) and light channel changers. Thus, 44.9% of respondents reported heavy zapping behavior, 20.9% report heavy flipping behavior, and 46.8% report heavy grazing behavior.

In assessing the extent of these channel changing behaviors, the questions were worded so that the entire range and extremes of the activity were included. The definition of "heavy" channel changing in this research project is conservative when compared to other researchers' definitions. For instance, Heeter and Greenberg did not include a "never" category in their study and ultimately classified viewers as zappers and nonzappers. Despite the conservative definition, this study suggests the three types of channel changing behavior are pervasive and merit serious attention by networks and advertisers.

Significant results were found for gender and age in regards to flipping and zapping behavior (see Tables 2 & 3).

Other studies support this project's finding that gender is a key variable. Heeter and Greenberg found that males zap nearly twice as much as women, and Meyers reports that more than half of zappers are males. These results may suggest males are more comfortable with technological devices which encourage such viewing behavior. Men may also be attracted to the power of having control over the viewing environment. Such reasoning may also apply to the results on flipping behavior.

The survey also indicates a heavier zapping and flipping behavior among respondents in younger age groups. As mentioned in the literature review, it is likely that those who grew up with remote control

television are more comfortable with channel changing. It is also possible that youthful lack of patience may explain such behavior.

No statistically significant results were obtained for grazing behavior, nor were educational level or amount of weekday or weekend television viewing were found to be related to zapping or flipping behavior. Other studies, however, have found important factors. For instance, McSherry reports that heavy zappers are light television viewers, and Meyers found that 20% have a college degree. Benson also reports that over 20% of those 18-34 graze over three or more programs in a half-hour period. The type of sample drawn for this survey may explain why results regarding these factors were inconclusive.

Table 4 presents the percentage of respondents who indicated the reasons as to why they change channels.

Heeter and Greenberg also found that seeing what else is on is a primary reason for channel changing. It is possible viewers are seeking information. Or, one may speculate that the frequent changes networks make with schedules forces viewers to deal with the unpredictability of programming by changing channels. Of course, this suggests more stable schedules may lessen channel changing behavior, with a resulting positive effect on program and commercial audience ratings.

The results also indicate respondents have an overall tendency to be either heavy or light channel changers regardless of the purpose for changing the channel (avoiding commercials, watching two shows, or viewing three or more shows at a time). The survey showed that 78.8% of heavy grazers report heavy flipping behavior; 84.8% of heavy flippers report heavy zapping behavior; 71.8% of heavy zappers report heavy grazing behavior. These results strongly suggest the channel changing behaviors cannot be treated as separate phenomena, or that any stand-alone efforts to decrease channel changing via new approaches to programming or advertising will not be highly effective.

II. Channel changing behavior (program factors)

Table 5 reports the percentage of respondents who tune in to each type of show and, of those who do, the percentage who flip, zap, or watch the show without changing channels.

The results indicate flipping behavior occurs most often during talk shows and is least prevalent during movies. Additionally, a significant number of respondents report watching movies and news programs in their entirety. However, only one-fifth report watching talk shows in their entirety. Zapping occurs most frequently during situation comedies and least frequently during soap operas.

These results suggest that programs that have involved plots (movies, soaps) are less subject to channel changing behavior because the viewer will lose interest in the show and likely stop watching the show if he/she misses a part of the story line. As mentioned in the literature review, it is stimulating shows with complex plots that are best at capturing and holding viewer attention. The lack of heavy zapping behavior during news programs may be due to the viewers' need for learning basic daily information.

The results of this section suggest advertisers need to consider both the size of the audience and the types and amount of channel changing behavior exhibited by the audience, realizing that they may face a trade-off between these factors (e.g., high viewership, but high levels of flipping/zapping behavior). Of course, the subject matter of the show should also be appropriate for the advertised product.

III. Channel Changing Behavior (commercial factors)

The results indicates zapping behavior varies with the style of commercials. Table 6 lists the percentage of respondents who are heavy zappers (those who would definitely or would likely change the channel) of basic execution styles (Kotler).

These results are somewhat consistent with McSherry's findings, which indicate "entertaining" commercials perform better, assuming that musical and personality symbol commercials can be considered entertaining. Meyers also reports that lifestyle ads appeal less to today's television viewers. These results offer pertinent information to advertisers seeking successful execution strategies that will capture and hold the viewer's attention.

Likewise, the results indicate zapping behavior varies with the product or service advertised. Table 7 lists the percentage of respondents who are heavy zappers of commercials advertising the categories of products/services.

One can speculate that these results may be related to commercial style. For instance, advertisements for recreational products/services and beverages, which are subject to less zapping behavior, often feature music or personality symbols, two commercial execution styles that are subject to less zapping behavior. Similarly, it is possible ads for OTC remedies are subject to heavier zapping behavior because they often utilize a scientific evidence execution style which respondents indicate they often zap. These results are also useful to advertisers, especially at the media selection stage - for some products, other forms of media besides television may prove to be more effective in reaching advertising objectives.

## CONCLUSIONS

A 1985 editorial in the Journal of Advertising Research identified the remote control as a major factor in a continuing trend towards increased zapping behavior (Tauber). Tauber recognized that the issue was in the early stages of study and raised a host of questions that merited further investigation, such as: Who zaps and why? What ads are more prone to zapping?

As mentioned throughout this paper, channel changing behavior has indeed received considerable study since that time, but it appears that many questions still remain. This research project has attempted to build a theoretical framework for understanding the phenomena and providing the basis for more detailed investigations.

The research has shown that flipping, grazing, and zapping are pervasive, interrelated behaviors that are changing the nature of today's viewing environment. Furthermore, gender, age, and a desire to see what else is on other stations appear to be key individual factors which explain channel changing actions. The research has also shown that some programs, commercial styles, and commercial product classes elicit more channel changing behavior.

Currently, much of the confusion stems from contradictions in the facts, figures, and statistics generated by various studies conducted via self-report survey methods. Future areas of research should incorporate more actual audience measurement techniques (e. g., people meters) in order to finally achieve an accurate assessment of channel changing behavior. By clarifying the problem in this manner, programmers and advertisers may be able to more easily find and implement corrective measures.

Future research should also explore the psychographic issues that have emerged from some of the patterns observed in this study. For instance: Why are men and younger people more active channel changers? Why are certain commercial execution styles and product classes zapped more? By building detailed profiles of viewers, and exploring their channel changing behavior in regards to programming, commercial styles, and product classes, media professionals and advertisers will be able to cope with or possibly reverse the threatening trends in television viewing behavior.

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**Figure 1 - Internal Factors that Impact Channel Switching Behavior**

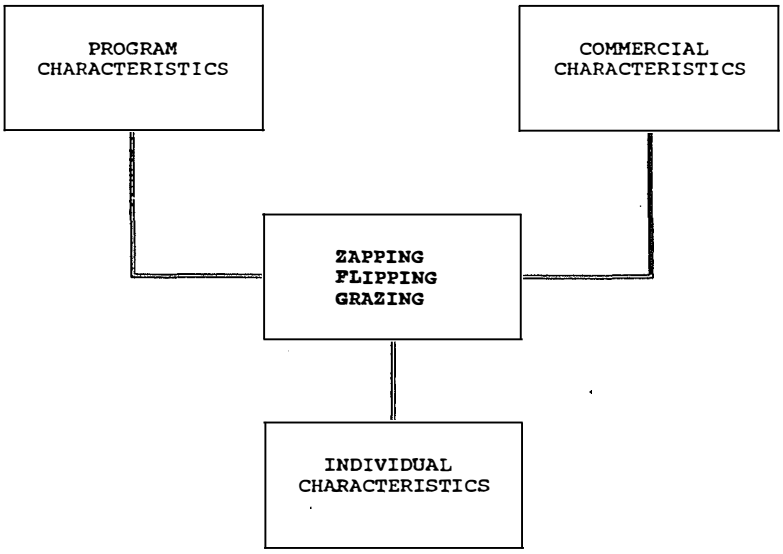

**TABLE 1 - Various Levels of Switching Behavior Among Respondents**

| | flip | graze | zap |
|---|---|---|---|
| all the time | 7.0 | 19.6 | 17.7 |
| more than half the time | 13.9 | 27.2 | 27.2 |
| about half the time | 14.6 | 17.1 | 18.4 |
| less than half the time | 43.7 | 30.4 | 23.4 |
| never | 20.9 | 5.7 | 13.3 |

**TABLE 2 - Impact of Gender and Age on Flipping Behavior**

**GENDER**

| | male | female |
|---|---|---|
| heavy | 27.8 | 14.3 |
| light | 72.2 | 85.7 |
| $X^2$ | | 3.53 |
| significance | | .06 |

**AGE**

| | >20 | 21-40 | >40 |
|---|---|---|---|
| heavy | 46.2 | 18.3 | 20.0 |
| light | 53.8 | 81.7 | 80.0 |
| $X^2$ | | | 5.37 |
| significance | | | .07 |

**TABLE 3 - Impact of Gender and Age on Zapping Behavior**

| | male | female |
|---|---|---|
| heavy | 51.9 | 37.7 |
| light | 48.1 | 62.3 |
| $X^2$ | | 2.65 |
| significance | | .10 |

| | >20 | 21-40 | >40 |
|---|---|---|---|
| heavy | 76.9 | 44.1 | 38.0 |
| light | 23.1 | 55.9 | 62.0 |
| $X^2$ | | | 6.38 |
| significance | | | .04 |

**TABLE 4 - Reasons for Changing Channels**

| | |
|---|---|
| don't like what is on the current channel | 23.4 |
| boredom | 20.8 |
| want to see what else is on the other stations | 47.4 |
| habit | 5.2 |
| other | 3.2 |

**TABLE 5 - Impact of Show Type on Switching Behavior**

| type of show | viewership | flip | zap | watch |
|---|---|---|---|---|
| sitcom | 94.7 | 11.1 | 46.5 | 42.4 |
| movie | 96.7 | 2.7 | 34.5 | 62.8 |
| game show | 65.3 | 30.6 | 34.7 | 34.7 |
| news | 96.2 | 13.3 | 25.3 | 61.3 |
| drama series | 80.3 | 9.8 | 33.6 | 56.6 |
| soaps | 46.8 | 13.7 | 37.0 | 49.3 |
| talk show | 75.5 | 40.4 | 38.6 | 21.1 |
| sports | 63.2 | 33.7 | 32.7 | 33.7 |

**TABLE 6 - Basic Execution Styles Among Heavy Zappers**

| | |
|---|---|
| musical | 14.6 |
| personality symbol | 32.1 |
| technical expertise | 33.8 |
| fantasy | 39.5 |
| testimonial evidence | 39.7 |
| mood/image | 40.8 |
| slice of life | 42.9 |
| scientific evidence | 45.2 |
| lifestyle | 58.3 |

**TABLE 7 - Commercial Contents that Receive Heavy Zapping**

| | |
|---|---|
| recreational products/services | 14.8 |
| beverages | 23.4 |
| clothing | 24.7 |
| electrical appliances/high tech products | 27.9 |
| (tied) food and vehicles | 30.5 |
| furnishings | 41.9 |
| personal care items | 44.2 |
| over-the-counter remedies | 46.1 |
| products/services for babies/children | 47.0 |
| yard/home care items | 47.7 |
| financial services | 57.8 |

# THE EFFECTIVENESS OF THE BOARD OF DIRECTORS: MANAGEMENT VIEWS

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## ABSTRACT

One of the major problems plaguing business today is the perceived ineffectiveness of its Boards of Directors. Previous studies concluded that most of the corporate powers are vested in the hands of management rather than the Board of Directors. However, none of these studies have considered the view of management. A good source of evidence on the influence of the Board is management itself and management has not yet been consulted. The researchers of this study felt that it's about time to go directly to management and assess their perception toward the Board of Director's roles and importance.

## INTRODUCTION

Many studies have shown that the management of large corporations is not accountable to the board of directors as the traditional theory had suggested. These studies concluded that most of the corporate powers are vested in the hands of management rather than the board of directors. It is important to mention that none of these studies have considered the view of management toward the Board's role and influence. A good source of evidence on the influence of the Board is management itself and management has not yet been consulted. This research attempted to ask a representative sample of management about Board influence. A representative sample of management from the largest 100 companies in Dallas - Fort Worth geographic region was selected. One of the reason for limiting the study to this region is that: The Dallas - Fort Worth area has a sufficiently diverse corporate base to give variety to the sample. In addition, it is necessary to try to avoid extreme types of corporations such as mining companies which have a large work force and very thin levels of management, or conversely, service corporations such as banks and insurance companies which have a proliferation of very high levels of officers. Before discussing the methods used and management views, a brief discussion of some of the previous studies seems in order.

## LITERATURE REVIEW

The classic study of Adolf Berle and Gardiner Means in 1932[1] classified companies on the degree of management control versus owner control. The primary sources of the data were: the New York Times (1928-1930); the Wall Street Journal (1928-1930); Standard and Poor's Corporation Records (1929-1931); and the Moody's Manuals (1930). The study found that managers of the largest 200 non-financial companies -- and not the stockholders -- have control over corporate resources and concluded that 44% by number and 58% by assets of these 200 corporations were management controlled. The study also showed that none of the owners of these corporations had a stock ownership interest of 5% which was the minimum needed to anticipate some influence as defined by the researchers. Their study confirmed that 65% of the corporations and 80% of their combined wealth were controlled by either management or a legal device, which have only small stakes in the corporation. This showed the degree to which ownership and control have become vested in two separate groups. It's important to mention that Berle and Means were the first to direct attention to the emergence of the corporate governance issue and how the separation of ownership from control constituted a fundamentally new economic structure. Subsequently, many authors and researchers have studied various attributions of corporate ownership.

In 1971, similar research replicating the Berle and Means study was done by Robert Larner who used a 10% stockholder interest as a cut-off point. Larner has changed the critical cut-off point from 5% to 10% assuming that it took interest of at least 10% by an individual or compact group that would

vote as a unit to exercise significant influence. The primary sources for Larner's study were corporate proxy statements, stock ownership information submitted to the SEC on the 10K form, and reports filed with the FDC and ICC. Larner's study confirmed the earlier research done by Berle and Means. He concluded that as of 1963, 85% of the top 200 corporations were controlled by management.[2]

Another study on the board of director's role and importance was conducted by Myles Mace (1971).[3] Mace used personal interviews with top executives and directors. Most of these top executives were board members in other corporations. Mace concluded that Boards have failed to exercise strong discipline for management. Also, only few companies had meaningful boards, audit and nominating committees, or board majority of directors without some economic or financial tie to management. Mace quoted one of the chief executives as saying "Here in New York it is a system club. There are a group of companies that you can see and you know them as well as I do where the chief executive of company A has B and C and D on his Board. They are chief executive officers of B and C and D and he is on their Boards. They are all members of the Brook Club, the Links Club or the Union League Club. Everybody is washing everybody else's hands."[4] He quoted others as saying "...you certainly don't want anyone on your board who even slightly might be a challenge or question to your tenure, so you pick personal friends with prestigious titles and names you sure as hell are not going to ask Ralph Nader or Lewis Gilbert or...what's the name of that woman who is so unpleasant at stockholder's meetings?"[5]

These examples concur with the writing of Buchholz (1986) and Steckmest (1982) that the outside members of the Board are "buddies" or "subservient" to management. Heidrick and Struggles (1983) showed that 75% of the companies who responded to their survey in 1980 have the chief executive as chairman of the Board and this percentage increased as the size of the company grew. Heidrick and Struggles used questionnaires in their surveys about Board Demographics and composition. These questionnaires were sent to the Board of the 1000 largest industrial organizations and 130 leading non-industrial companies. In November of 1991, Judith H. Dobrrizynski, suggested that the job of chairman of the board and the chief executive should be split. On Business Weeks list of Americas 1000 most valuable firms 80% of them consists of one person in the role of chief executive officer and the chairman of the board.

The CEO monitors the information provided to the rest of the board and casts a major influence on the outcome of these meetings.[6] Few studies of corporate boards have paid attention to the issue of board composition. Some of these studies include the following: 1) Vance's (1964) in which he studied the board of 103 large manufacturing firms,[7] 2) Lanver (1969) in which he studied the board structure of new firms.[8] They found that better performing companies tended to have boards dominated by inside directors.

Interestingly enough, the study conducted by Pennings (1980) reached the opposite conclusion.[9] Pennings tends to suggest that companies perform better when the composition of their board is dominated by outside directors.

Harrison (1986) suggested that most of the results of previous studies of corporate boards were purely descriptive and were assembled to provide a sense of historical trends in the board size and composition.[10] Harrison's (1986) studies on board composition were based on data collected from 753 large American manufacturing firms. This sample consisted of all manufacturing firms included in the 1980 edition of Standard and Poor's Compustat Industrial Data tapes for which relevant data were available. These firms range in size, indicated by 1980 sales, from a low of $5 million to a high of $103 billion with a sample average of $2.1 billion. Standard and Poor's included these firms on the Compustat tapes because they were judged to be in industries with special significance to the American economy.

The legal responsibility of the Board of Directors is to represent the stockholders' interest, the owners of the organization. However, this interest has been not only translated to mean maximization of the financial returns to the stockholders in the form of dividends and capital gains. Recently, the number of lawsuits against the board members by stockholders has increased which placed the board members under pressure to be effective in maximizing stockholders' wealth. Some analysts

think that the board of director roles should go beyond maximizing the wealth of the stockholders. It should mean an effective board of directors who truly oversee organizations growth, evaluate performance and constrain management compensation.[11] Writers and business critics for the last twenty years have reprimanded irresponsible management of large corporations for their narrow self-interest, concentration on short terms rather than the future of the organization. Corporate raiders have used this condition to support the argument of putting companies into "play" or to take over an existing company. The call for more responsive and effective board of directors through an increase of the outsider member was renewed. Patton and Baker, in 1987 indicated that the number of outsiders has increased from 52% in 1969 to 68% in 1985.[12] In 1988 Kesner, Victor and Lamont have reported that 73% of the directors involved in the various committees of the board are outsiders.[13]

As a conclusion, Berle and Means (1932), Larner (1971), Mace (1971 and 1990), Heidrick and Struggles (1983), Smith (1970), Burch (1972), Vance (1964), Buchholz (1986), Steckmest (1982), Geneen (1984),and William (1979) believe that even though the traditional corporate statutes require that the business affairs of the corporation be managed by the board of directors, in practice this board rarely performs either as management or policy makers of the corporation. They think that the board of directors is ineffectual in protecting stockholder's rights. The researchers of this study felt that it's about time to go directly to management and assess their perception toward the Board of Director's roles and importance.

After reviewing a number of studies conducted on this issue I have found that none of these studies have analyzed the view of management (see summary table 1). Therefore, my study is the first that I know of that surveys the opinion of the three levels of management. Operating level management was included because they are classified as management and because they should be familiar with the chain of authority and the respondibilities of the various groups within the corporation since they must be able to respond to employees questions and concerns about how the corporation is governed. Before stating the research questions, the assertions as to Board effectiveness need to be outlined.

1) Board composition: Since the Board is composed of insiders (officers of the company) and outsiders, many people think that those outsider directors are not independent from management. They are a friend of management or a friend of a friend (Mace, 1971). A conference board report in 1975 states that many of the outside members of the board are either friends or colleagues of the chief executive officer. In an article "Corporate Couch Potatoes: The Awful Truth About Boards of Directors", the auther suggested that the reasons directors have failed as corporate watchdogs is that they tend to represent management rather than the shareholder. This is not surprising, given that they are chosen by management from a group of people exactly like management, and are paid by management. Most can not devot much time to what is, after all, a part-time job, and may not have the expertise to be effective even if they try. Many directors own very few shares in the companies they supervise, so their sympathies are not with the shareholders. (Eaton, Leslie, 1990)

Boards are barred from interfering in a company's general operation though they do get involved in major strategic and financial decisions, and are supposed to ensure that companies obey the law. But the boards biggest job is to hire, evaluate, pay, and fire the managers, who are the shareholder's employees. Many directors are retired company executives or bankers, lawyers, suppliers, and the like, whose livelihood depends on the chairman's favor. It is not unknown for directors to go on boards in the expectation of gaining company business. Even directors who seem to have no ties can be bound by consulting contracts. About 80% of the time the company's CEO also serves as chairman of the board. Executive recruiter Karn/Ferry International's annual survey of CEOs on board-related topics found that 74% of the 426 companies it surveyed relied on recommendations by the chairman to come up with new directors; 55% had a nominating committee. Only 16% used a search firm to find directors.[14]

The amount of time spent in meetings is very minimal and proved to be insufficient to manage and direct a corporation's business affairs. Management claims that the time spent is not sufficient to enable the board of directors to vote

efficiently. Corporate presidents responded to Mace's (1971) interview as follows "...(the) board is handicapped in exercising the responsibility to measure management unless it has more than a casual amount of time to spend on the company's business...and I think the man who serves on several boards and has a full time job some place else can't do it. He is not sufficiently knowledgeable, he is not sufficiently concerned, and he doesn't have the time to do it."[15]

2) Flow of Information: The issue of the flow of information to board of director's members: Copeland and Towl (1947), Mace (1971), Heidrick and Struggles (1971) claim that the information flowed to the board of directors is controlled by the executives. For example, Heidrick and Struggles showed in their study that only 17.2% of the industrial corporations sent directors manufacturing data before the board meeting, and only 21.3% of the corporations sent marketing data. The same study showed that about 6% sent an agenda, and 11% sent no information at all.[16] In addition to that, the boards have no staff of their own to analyze the information they received or gathered, therefore they should depend on management to analyze and evaluate data. One of the outside directors of Barnes Company said, "we outsiders on the board got all our information on the threat of technological change through the president."[17] From the facts and figures presented above which show that the board's lack of data and the ability to evaluate other data gathered, it is reasonable to conclude that it is doubtful that boards are effective in making useful or meaningful decisions. It is evident that time spent by boards and information flow to them have restricted a board's effectiveness and ability to manage the business and make corporate policy.

## STUDY QUESTIONS AND HYPOTHESES

Based on the previous allegations, the researcher raised the following two questions and hypotheses.

Question 1. On a scale of one to five, where one is low and five is high, "Indicate the amount of influence on strategic corporate decisions that you believe each group has." Actually, this question was included to determine whether managment really thinks that the board (which was one of the groups included) has any influence on corporate policy.

Geneen (1984) stated that "the reality is that among the Fortune 500 companies, 95% of their board of directors are not doing what they legally, morally and ethically should do, even if they wanted to, they could not." Geneen thinks (like others) that management doesn't want the board to have an influence on corporate policy.

Murray Weidenbaum (1985) stated that the board of directors is a vital part of the business firm, but it often does an inadequate job of carrying out its responsibility to represent the stockholders.

If all those individuals claims are right, then one would think that management will say that boards don't have influence on corporate policy. Therefore, it seems reasonable to hypothesize that: (H1) management is expected to say that board of directors do not have influence.

Question 2. On a scale of one (strongly agree) to five (strongly disagree), please indicate your opinion of the following statement: "The board of directors plays a significant role in corporate policy."

Myles Mace's 1971 study showed that in the view of the board of directors themselves, the main role of the Board was an advisory one, while other writers have reported that Boards are unable to manage corporations in any meaningful way: Geneen (1984), Weidenbaum (1985), Buchholz (1981), Steckmest (1982). Therefore, it is important to ask management what they think about the Board role. First of all, we are testing whether management accepts the Board role as an advisory one. Second, whether they think the Board role is significant and if it is, then what is the role from management's point of view?

If those critics' claims are right then one would think that management will say that the board of director's role is only an advisory one, but not significant. Our hypothesis, therefore: (H2) management expected to agree that the board role is merely advisory, but not significant.

## METHODOLOGY

1) The study population: All of the various levels of management in the largest 100 publicly-held corporations in the Dallas-Fort Worth area constituted the population of this study. The

reasons for limiting the study to Dallas-Fort Worth area is because the Dallas-Fort Worth area has a sufficiently diverse corporate base to give variety to the sample. In addition, it is necessary to try to avoid extreme types of corporations such as mining companies which have a large work force and very thin levels of management, or, conversely, service corporations such as banks and insurance companies which have a high percentage of officers in relation to their total employment.

2) Possible biases with the sample in selection. a) It is conceivable that clusters of questionnaires were administered to a small part of the corporation. Therefore, the returned questionnaires used may not accurately reflect the various functional roles within the corporations. For example, the survey may have a disproportionate number of managers in marketing, financial control and other functional area rather than an accurate staff mix. b) Further problems were encountered by using managerial networks where people share common ideas which might not be shared in the larger population of management.

However, the sample does appear to reflect the demographics of corporate society reasonably well. Examining the responses and comparing data generated in this study with both what one would expect as a reasonable distribution and with other published sources suggest that the responses are within a wide limit admittedly reflective of corporate society. The analysis of the questionnaire, however, was restricted to examine general trends rather than making a precise calibration of management attitudes. The study has not undertaken analyses which might prove to be sensitive to small variations in the data. Instead, the study findings depend almost entirely on general inferences from responses to various questions, so as to convey a broad, rather than precise, picture of managerial perceptions.

Before mailing the questionnaire to the managers of the largest 100 publicly-held corporations and several other large corporations in the Dallas- Fort Worth area, a pilot study was conducted. The pilot study showed a satisfactory result, and introduced minor changes to the instrument. The instrument has been modified by the researchers accordingly.

## ANALYSIS

A total of 400 questionnaires were distributed to managers in the large corporations. 171 completed questionnaires (or about 43% response rate) were returned and, therefore, constituted the sample of the study. The high rate of return for this kind of questionnaire-study is significant and gives more assurance about the validity of findings. The distribution of the respondents based on various personal data is presented in Table 2.

## STUDY FINDINGS

1) With regard to question 1: "Does management really think that the board has any influence on corporate policy?", management's perceptions toward board of director influence were examined (influence was defined as the ability to change corporate policies).

The study shows that management perceived the board to have high influence. On a scale of one to five where one is very low and five is very high, management in general gave the board an influence score of 4.26 (see Figure 1). This response shows that management really believes that board of directors have a great deal of influence on corporate policy. This means that we have to reject hypothesis #1 which anticipated, based on the literature, that management does not think the board has an influence on corporate policy.

2) With regard to question 2: "The board of directors plays a significant role in corporate policy," the results seem to suggest that management views the board's role as not merely advisory but as significant. Table 2 shows that the overall mean is 2.62 which indicates that management, in general, tends to agree (by about 61% to 24%) that the board plays a significant role in corporate policy.

A total of 61.5 percent of management in general agreed that the board plays a significant role in corporate policy. These results rejected the critics previous views that management doesn't think the board exercises significant influence. When management was asked "What is the role of the Board?", the respondents were given a chance to give their opinion on the role of the board. Some respondents at all three levels of management mentioned the following. First, the board role is to

evaluate past corporate performance and set future goals. Second, the board also monitors and controls management. Third, it should remove the chief executive officer when necessary. Fourth, the Board should protect the financial investment of the stockholders. Also, the Board should make strategic decisions involving significant impact and large capital expenditures, such as acquisitions or expansions. Finally, the board should review corporate internal audits.

In addition to that, some lower level managers indicated another role of the board should be to promote corporate public relations. Middle level managers felt the board should be a means of checks and balances and should track the corporate external environment. Top level managers mentioned that the board should be responsible for changes in corporate structure and setting corporate ethics for the company.

## DISCUSSION

Since this survey was conducted many studies and articles were published on various issues of corporate governance. Almost all of these articles suggested a reform; and the issue became what can and must be done to increase the effctiveness of Corporate Governance. For example, an article in the Harvard Business Review (July-Aug. 91) suggested that BOD should follow guidelines to be effective. Other studies showes that during the late 70s and 80s the board of directors lost a cosiderable part of their voice to the chairman and CEO of the board and corporation respectively (Alkhafaji, 1989). A recent study from Harvard (Pawns or Potentates: the reality of corporate boards by Jay W. and E. MacIverj) suggests that boards have evolved norms of operastion that limit a directors power. And that much of the reason for this loss is the combination of CEO-chairman into one position. (Martin and Roberts, 1991).

Since management thinks that the board can play a role and can be effective in designing corporate policies the next step is to encourage the board of directors to practice their expected role efficiently. Here are some suggestions:

First: There is a need to Improve the composition of the board. For example more outsid members and these should be independent.

Second: The CEOs should not be allowed to chair the board of directors. Third: Those outsider directors should meet periodically alone to discuss corporate policies and the changes that should be pursued.

Fourth: There is a need to revitalize the board active participation in the various committees such as the audit, nominating, and compensation committees. These committees should establish standards for the board to evaluate the performance of the CEO's and top level management.

Fifth: The board should be encouraged to inquire preliminary questions before, during and after the meetings.

Sixth: The compensation committee should establish the standards and means that motivate the board of directors and executives to fulfill their duties the way that is expected by the stockholders. Also to find the means to encourage stockholders active participation in the selection of the board. The shareholders should see themselves as the owners of the company and not as investors.

## CONCLUSIONS

The purpose of this study was to find out management's perception of the board of directors role and importance in corporate policy. The study reveals that management perceives the Board as having a high influence on corporate policy and thus, plays a significant role. For example, management thinks that the Board's role is to evaluate past corporate performance and set future goals, to monitor and control management and remove the CEO when necessary. These results are different from Berle and Means, Robert Larner and other studies mentioned earlier who claimed that management, not the Board, is in control of corporate policy. This indicates that management views have either shifted to recognize the importance of the Board or the previous studies have fallen short in finding what management's views actually are regarding this issue.

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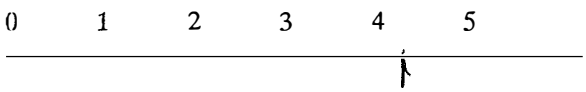
Table 1 - Summary of Previous Studies' Approaches & Findings

| Authors | Source of Data | Nature of Data | Sample | Conclusion |
|---|---|---|---|---|
| Berle & Means 1933 | -New York Times 1928-1930<br>-The Wall Street Journal 1928-1930<br>-Standard & Poor's Corp. Records | mgt. control vs. owner control<br>-private ownership<br>-majority ownership<br>-minority ownership<br>-legal device | 200 largest non-financial corporations ranked by asset as of January, 1930 | The study concluded that 44% by number and 58% by asset of the co. were under mgt control. Moreover, an additional 21% of the co. were in mgt control through the use of legal devices such as holding co. |
| Robert Larner study 1970 | -corp. proxy statements<br>-stock ownership information submitted annually to the SEC on the 10K form<br>-Reports filed with the FTC & ICC | repliating Berle & Means study (updating)<br><br>% stock ownership by largest shareholder | largest 200 non-financial corp. ranked by asset as of 1963 | 85% of the top 200 corp. were controlled by management.<br><br>Change the critical cut-off from 5% to 10% to have any influence on corporation. |
| Myles Mace 1971 & 1990 | personal interviews with top executives and outsider directors | Board of Directors roles and responsibilities | large co. presidents & outsider directors | -Board function is an advisory one<br>-Board failed to exercise strong discipline for management<br>-Few co. had meaningful boards, audit committees, procedures for director nominations by stockholders, or a Board Majority of directors without some economic or familial tie to management |
| Ephraim P. Smith 1970 | -proxy statements<br>-Standard & Poor's Register of Corp., Directors and Executives - 1970 | Demographics about the Board composition<br><br>-mgt. vs. outside control | 500 largest industrial corp. in the U.S.<br><br>-Fortune 500 | He found that 20-25% of the outside directors in large American corp. were lawyers or investment bankers, the majority of whom had business dealings with the corp. on whose board they served. |
| Philip Burch study 1972 | -Fortune 1950-1971<br>-Standard & Poor's corp. Record<br>-Time 1955-1971<br>-Business Week 1955-1971<br>-Forbes 1955-1971<br>-New York Times 1960-1971<br>-Moody's Manuals<br>-1963 House Select Committee on small business report | -Family control vs management control<br><br>-Similar to Berle & Means<br><br>-Representation on Board of Directors in addition to stock ownership | top 300 industrial corporations | He concluded that 39.5% of top 200 industrial corp. in 1965 were probably under family control and another 17.5% were in the possible family control category. The 43% remaining were under mgt. control with no significant stock ownership or board repreeentation to indicate family control. (p. 242) |
| Heidrick & Struggles 1972-1983 | -questionnaires to the Board of Directors Chairmen | Demographics about Board composition (inside/outside), size, committees, etc. | 1000 largest industrial organizations & 350 leading non-industrial firms | -1972 Heidrick & Struggles showed that 49.8% of co. who responded to the survey had 50% or more of the Board composed of insider members.<br>-1983 Heidrick & Struggles showed that about 59% of the Boards that responded to the survey were independent (outsider) while only 27.2% were insider mgt. and 13.1% affiliated non-mgmt members. |
| My Study 1988 | survey of management in large corporations | Board influence and Board role | 171 managers of large non-financial corps. | -Boards have great influence on Corporate policy.<br>-Board roll is significant. |

Figure 1

Indicate the amount of influence on strategic corporate decisions that you believe the board has.




Average Management Mean = 4.26

Table 2

Distribution of Respondents: Personal Data Sex Based on Position

| Position | Sex | Frequency | Percentage (%) |
|---|---|---|---|
| Lower Level Management | Male | 52 | 81.25 |
| | Female | 12 | 17.75 |
| Middle Level Management | Male | 68 | 93.15 |
| | Female | 5 | 6.85 |
| Top Level Management | Male | 34 | 100.00 |
| | Female | 0 | 0.00 |
| Total | | 171 | |

Table 3
Frequencies Distribution of Question 2: The

Board of Directors Plays a Significant Role in Corporate Policy

| | L. L. Mgt Frequency | | M. L. Mgt Frequency | | T. L. Mgt Frequency | | Totals | | Overall | |
|---|---|---|---|---|---|---|---|---|---|---|
| Respondent Choice | # | % | # | % | # | % | # | % | mean | St Dev |
| Total Agree | 40 | 62.50 | 44 | 60.22 | 21 | 61.77 | 105 | 61.40 | 2.62 | 1.04 |
| Indifferent | 9 | 14.06 | 13 | 17.81 | 2 | 5.88 | 24 | 14.04 | | |
| Total Disagree | 15 | 23.44 | 16 | 21.92 | 11 | 32.55 | 42 | 24.56 | | |
| Total | 64 | 100.00 | 73 | 100.00 | 34 | 100.00 | 171 | 100.00 | | |

# WHICH ORDINARY PEOPLE HIRE ACCOUNTANTS?-- PREDICTORS OF HOUSEHOLD EXPENDITURE ON ACCOUNTING SERVICES

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## ABSTRACT

Between 1970 and 1987, the percentage of GNP attributable to services has risen from 11.8 to 17.5%. Professional services of all types, including accounting services, have increased in volume over the past two decades and are expected to continue increasing during the decade of the nineties. Accounting firms, like other professional service firms, have begun to adopt some modern marketing practices. This study is intended to identify the characteristics of consumer households who are clients of accounting firms in contrast to characteristics of households who are not clients, and, then to identify the characteristics of households that spend more heavily on accounting services.

## INTRODUCTION

Between 1970 and 1987, the percentage of GNP attributable to services has risen from 11.8% to 17.5% (U.S. Bureau of the Census 1989, p. 751). Professional services of all types, including legal, health, educational, social, and accounting services, have increased in volume over the past two decades and are expected to continue increasing during the decade of the nineties. The growth of accounting services has been particularly rapid. Between 1980 and 1986, for example, the number of accounting, auditing, and bookkeeping establishments increased by about 50% and the 1986 payroll amounted to some $9 billion (U.S. Bureau of the Census 1989, p. 765).

Accounting firms, like other professional service firms, have begun to adopt modern marketing practices like the marketing audit (Wheatley 1983) and expanding the marketing mix to address practice development (George and Wheiler 1986). Since accounting firms have begun to advertise their services, to franchise in order to reach the mass market, and to target new market segments to continue their rate of growth, they could benefit from a more thorough understanding of the characteristics of these market segments. This study is intended to identify the characteristics of consumer households who are clients of accounting firms in contrast to households who are not clients, and, then to identify the characteristics of households that spend more heavily on accounting services. Market analysis, which identifies buyer versus non-buyer characteristics and which identifies characteristics of heavy versus light users, would be of some practical importance particularly to smaller accounting firms that would not be skilled in the techniques of such analysis.

The theoretical literature on the consumer marketing of accounting services is still relatively slight, although during the 1980s a growing number of practitioners have turned their attention to improving their practice through marketing. Only a few academics have conducted empirical studies on the marketing of accounting service firms or their marketing mix (Ferguson and Higgins 1989) or have attempted to identify the characteristics and objectives of households who use tax preparation and other accounting services (Slemrod and Sorum 1984; Liebtag 1986; Long and Caudill 1987; Collins, Milliron, and Toy 1990).

Recently, the focus in household accounting research has shifted from the characteristics of households likely to use such a service to the specific attributes of the service and service firm as

well as to the objectives of the taxpayers in selecting the firm. For example, Ferguson and Higgins (1989) examined the impact of the price charged for the service as well as the type of credentials (CPA, Tax advisor, and Bookkeeper) held by the service personnel on the perceived quality of the service. Collins, Milliron, and Toy (1990) examined the taxpayers' objectives in using the services. In earlier research, Slemrod and Sorum (1984) studied the effect on the percentage of taxpayers using the service of a variety of influences such as income, age, education, and self-employment. Then Long and Caudill (1987) added variables like marginal tax rate, number of dependents claimed, and the difficulty of completing the tax return to the demographic variables studied in previous research in their study of the likelihood of using such a service. Liebtag combined the examination of the characteristics of the household (family income, age, occupation, and race of household head, and the source--either savings or gifts/inheritance--of one-half of assets) with the information sources used by these household in selection of the accounting service firm. However, no study has yet attempted to apply the set of demographic predictors, which was previously identified for purchase or non-purchase of the service, to segments within purchasers--light versus heavy users of the service. Furthermore, it is not clear that the full set of relevant predictors has been identified.

In addition to those predictors identified in literature specifically directed to accounting services, the general literature on consumer expenditure provides support for differences in consumption of a variety of goods and services by gender, urban or rural residence, dual versus single income families, level of education for household head, and occupation for household head (Bellante and Foster, 1984; Rubin, Riney, and Molina 1990; and Soberon-Ferrer and Dardis 1991). Since contemporary consumer behaviorists, who study the measurement of social class, recommend including the information for both spouses when married couples are surveyed, the last two predictors -- education and occupation of household head -- should be modified to include education and occupation of spouse, where relevant (Coleman 1983).

Finally, the service characteristics in themselves suggest some important predictors of usage. As studies which focus on taxpayer objectives indicate, households whose tax preparation would be more difficult than normal and households whose tax savings could be enhanced by professional assistance should be more likely to use accounting services (Long and Caudill 1987; Collins, Milliron, and Toy 1990). Tax savings could easily be an inducement for both households with home mortgages and households whose last year's tax bills were high. Greater difficulty in filling out the tax returns could be expected from families with working spouses and/or working children. Similarly, households in which an adult is employed in a managerial, professional, technical capacity or is self-employed may have to do more extensive record-keeping and may have to keep closer track of tax law to fill out their returns.

Therefore, based on the existing literature on accounting services and on consumption in general and based on the benefits anticipated from tax preparation services, the following set of household characteristics are expected to differentiate clients from non-clients, and heavier-usage clients from lighter-usage clients: gender of household head, residence in either an urban or rural community, the presence or absence of two earners in the family, whether or not the household is currently paying off a home mortgage, whether or not the household head or spouse has had some college education, whether or not the household head or spouse is in a job which is likely to involve the filing of a more complex tax return, before tax family income, taxes paid last year, age of household head, and number of adults in the family sixteen years or older (potential workers whose taxes must be reported).

## METHODS

The data to test the above hypotheses came from the public use tapes for the 1987 Consumer Expenditure Survey of the Bureau of Labor Statistics (BLS). The survey used a nationwide probability sample of U.S. households which replaced one-fifth of the respondents each quarter. The response rate for the survey was extremely high -- 86 % -- and its representativeness of the U.S. population is very good. This study tracked the 1,321 respondents who participated for the full four quarters of 1987. Of these, 327 households were clients for accounting services, and 794 were not. Although the tax season is concentrated in the first

two quarters, some accounting activity was expected in later quarters because of filing extensions for a variety of households and preparation of quarterly and fiscal year-end statements for households with self-employed adults. The BLS expenditure category, accounting services, cannot be broken down into any greater detail to specify kinds of services; we recognize this as an important limitation of this study. Other limitations include: the lack of inclusion of lifestyle and attitudinal variables and of in-depth information of the specific accounting services used which may also influence accounting service usage.

Although the measurement of most of the demographic variables was self explanatory (household head male or female, presence or absence of a home mortgage, urban or rural residence, head and spouse both working or not, age in years of household head, total family dollar income before taxes last year, total dollar taxes paid last year, and number of adults in household over 16 years of age), education and occupation were treated in a more complex fashion. If the respondent was unmarried, his or her occupation or education was used to represent the household (some college education or not for the education variable and employed or not in one of the following jobs likely to involve a more complex tax return--managerial, professional, technical, or self-employed). If the respondent was married, education and occupation were treated as present or absent if either spouse had some college education or if either spouse was employed in a job involving a complex tax return.

In order to test whether or not differences existed in the profile of clients versus non-clients, t-tests were used on the ratio scaled variables of age of household head, number of adults of sixteen years or more, before tax family income, and dollar amount of taxes paid last year. Then chi-square tests were used on the categorical variables of gender, home mortgage, two-earner family, urban/rural residence, some college education, and employment in a job requiring a complex tax return. A cutoff for statistical significance was determined at the probability level of .05 for both sets of tests.

In order to test which characteristics influence the level of spending on accounting services, a multiple factor analysis of variance was used with covariates for the ratio scaled variables. Analysis of variance tests for differences in the average level of a dependent variable over multiple categories of independent variables. In this case, the categories to be tested included: gender (male or female head), residence (urban or rural), home mortgage (yes or no), some college education (yes or no), job requiring complex return (yes or no), and two earner family (yes or no). Ratio scaled variables (like family income, taxes paid, age of household head, and number of adults sixteen or older) were included along with the categorical variables and both types of influence were estimated in the same model. Once again, a probability level of .05 was determined for statistical significance.

## RESULTS

Table 1 gives the demographic profiles of both client and non-client groups as well as the probability level for the t-tests and chi-square tests. The typical client household was headed by a fifty-one year old male with a non-working wife, holding a home mortgage, living in an urban area, earning a before tax income of $31,960, supporting 2.1 adults sixteen or over, and paying over $3,400 in taxes the previous year. The typical non-client household was also headed by a male (about two years younger) with a non-working wife, not holding a home mortgage, also living in an urban area, earning a before tax income of $22,878, supporting 2.0 adults sixteen or over, and paying slightly over $2,000 in taxes the previous year. All demographic differences between the client and non-client households were significant at the .05 level except for age of household head, level of education, and presence or absence of two-earners in family. Although there are many similarities between the two profiles, the client households have a higher income, pay more taxes, and more frequently hold jobs requiring more complex returns, have more working adults in the family, and have male instead of female heads.

Table 2 shows the ANOVA results on predictors of the level of annual household expenditure on accounting fees for the client households. The model is reasonably good for correlates of behavior, since it explains twenty-four percent of the variance in expenditure on accounting fees and is statistically significant. In addition, the most important predictors are clearly indicated. Income is the most

powerful predictor of amount spent on accounting services; as income rises, so does the expenditure level. However, two other variables are also important as predictors--age of household head and level of education. As age increases so does the expenditure level. Table 3 shows that client households with some college education spend over $260 a year on accounting services, while client households with less education spend only about $90 a year.

## CONCLUSIONS

This study has identified the characteristics of consumer households who are clients of accounting firms and has contrasted them to households who are not clients. Although both client and non-client households share many similarities, client households are wealthier, pay more taxes, tend to have home mortgages, and hold jobs requiring more complex returns. These differences highlight the benefits which may attract potential clients to accounting firms and can therefore be useful in market segmentation and target marketing. For a practicing accountant, then, who wishes to identify prospects in his/her local market, the above profile plus information from the US Census on the distribution of income, occupation, and home ownership for the residents of each census tract can identify streets where the likelihood of finding clients is higher. Once the street information is known, prospects may be identified by name with a city directory. Although some households on the streets identified by this procedure may not fit the profile (since not all residents in an area are alike), enough of them will to justify the effort. Given the new loosening of restrictions on solicitation and promotion in accounting, the practicing accountant will be able to make contact either by phone or direct mailing in addition to standard advertising procedures.

This study has also shown that once the target market for accounting service clients has been generally specified, it is also possible to sub-divide that market into additional segments that relate to level of spending using a similar procedure. Lighter users tend to be younger, earn less income, and have less education than heavier users of this service. Once the profile has been established, through the use of such secondary sources as the US Census of Population and Housing and a city directory, the practicing accountant can attempt to identify and contact potential higher volume clients.

Additional research on the light versus heavy segments of the client market could help to tailor the service marketing mix for accounting services. This study represents a beginning to such efforts, which should now be focused on identifying the light versus heavy client segments' objectives in using the service and their specific sensitivities to the package of service offerings, its pricing, and level of personal interaction.

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**TABLE 1**
**DEMOGRAPHIC PROFILE OF THE SAMPLE**

| CHARACTERISTICS | CLIENTS | NON-CLIENTS | PROB OF T & CHI-SQUARE |
|---|---|---|---|
| NUMBER | 327 | 794 | |
| % MALE | 75 | 64 | .001 |
| % WITH MORTGAGE | 51 | 42 | .003 |
| % WITH TWO EARNERS | 28 | 24 | .241 |
| % URBAN | 84 | 89 | .016 |
| % HH AND/OR SPOUSE WITH... SOME COLLEGE COURSEWORK | 29 | 25 | .168 |
| % HH AND/OR SPOUSE WITH... OCCUPATION LIKELY TO INVOLVE MORE COMPLEX TAX RETURN | 62 | 51 | .000 |
| MEAN BEFORE TAX FAMILY INCOME | $31,860 | $22,878 | .001 |
| MEAN AGE OF HOUSEHOLD HEAD | 51 | 49 | .085 |
| MEAN NUMBER OF ADULTS >16 YR | 2.1 | 2.0 | .041 |
| MEAN TAXES PAID LAST YEAR | $3,482 | $2,034 | .001 |

**TABLE 2**
**ANOVA RESULTS ON PREDICTORS OF**
**ANNUAL HOUSEHOLD EXPENDITURE FOR ACCOUNTING FEES**

| SOURCE OF VARIATION | DF | SUM OF SQUARES | F STATISTIC | PROB OF F |
|---|---|---|---|---|
| **ANNUAL EXPENDITURE ON ACCOUNTING FEES** (R-SQUARE = 0.2422) | | | | |
| MODEL | 10 | 6,915,550 | 10.10 | 0.0001 |
| SEX | 1 | 88,818 | 1.30 | 0.2557 |
| URBAN/RURAL | 1 | 105,717 | 1.54 | 0.2150 |
| TWO EARNERS | 1 | 211,270 | 3.08 | 0.0800 |
| MORTGAGE | 1 | 92,519 | 1.35 | 0.2460 |
| EDUCATION | 1 | 2,027,191 | 29.60 | 0.0001 |
| OCCUPATION | 1 | 1,334 | 0.02 | 0.8891 |
| BEFORE TAX INCOME | 1 | 3,478,250 | 50.78 | 0.0001 |
| TOTAL TAXES PAID | 1 | 134,270 | 1.96 | 0.1625 |
| AGE HOUSEHOLD HEAD | 1 | 767,940 | 11.23 | 0.0009 |
| ADULTS OVER 16 YRS | 1 | 8,240 | 0.12 | 0.7289 |
| ERROR | 316 | 21,643,279 | | |
| TOTAL | 326 | 28,558,829 | | |

**TABLE 3**
**CELL MEANS FOR EXPENDITURE ON ACCOUNTING FEES**

| | | | | | COVARIATES | |
|---|---|---|---|---|---|---|
| **FACTOR AND LEVEL** | **NUMBER** | **FEES** | **INCOME ($000)** | **AGE** | **TOTAL TAXES PAID ($)** | **NUMBER OF ADULTS** |
| HH GENDER | | | | | | |
| MALE | 245 | $154.42 | $35 | 47 | $3,668 | 2.3 |
| FEMALE | 82 | 116.40 | 22 | 53 | 2,927 | 1.6 |
| **RESIDENCE** | | | | | | |
| URBAN | 274 | $156.54 | $34 | 48 | $3,903 | 2.1 |
| RURAL | 53 | 84.66 | 23 | 50 | 1,308 | 2.2 |
| **TWO EARNERS** | | | | | | |
| NO | 237 | $158.01 | $30 | 52 | $3,473 | 2.1 |
| YES | 90 | 110.33 | 38 | 39 | 3,508 | 2.1 |
| **MORTGAGE** | | | | | | |
| NO | 159 | $162.51 | $24 | 53 | $2,463 | 2.0 |
| YES | 168 | 126.27 | 40 | 44 | 4,447 | 2.2 |
| **COLLEGE EDUCATION** | | | | | | |
| SOME | 95 | $267.92 | $47 | 47 | $6,785 | 2.0 |
| NONE | 232 | 94.51 | 26 | 49 | 2,130 | 2.2 |
| **TAX SITUATION AS CONSEQUENCE OF OCCUPATION** | | | | | | |
| COMPLEX | 204 | $159.62 | $39 | 45 | $4,454 | 2.2 |
| LESS | 123 | 120.46 | 20 | 55 | 1,871 | 2.0 |

# PROFILING CONSUMER EXPENDITURES OF THE ASIAN-AMERICAN HOUSEHOLD

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## ABSTRACT

Given the higher median income level and educational attainment of the Asian-American family in the United States, marketers need a better understanding of the differences to be expected in this subculture's buying patterns in order to improve their target marketing. The Survey of Consumer Expenditures, produced by the Bureau of Labor Statistics in order to update the consumer price index, provides a nationwide probability sample of all US households including Asian-American. The most current survey available on public-use tapes is for 1987. This paper explores the differences in profile of household expenditures for all major budget categories of total current consumption (for example, food, housing, transportation, apparel, health care, personal care, reading, personal insurance, education), included on the tape.

## INTRODUCTION

Given the higher median income level and educational attainment of the Asian-American family in the United States, marketers need a better understanding of the differences to be expected in this subculture's buying patterns in order to improve their target marketing. In 1979, for example, Asian Americans had a median income of $23,095 with 34.3 percent who had 4 or more years of college in contrast to only $19,917 and 16.2 percent with 4 or more years of college (U.S. Bureau of the Census, 1991, Table 44). The awareness of the importance of this group as an attractive, upscale market segment has even begun to sprend to the popular business press (New York Times, January 11, 1990, p. D19). The Survey of Consumer Expenditures, produced by the Bureau of Labor Statistics (BLS) in order to update the consumer price index, provides a nationwide probability sample of all US households including Asian-American. This paper will explore the differences in profile of household expenditures for all major budget categories of total current consumption (for example, food, housing, transportation, apparel, health care, personal care, reading, personal insurance, education), included on the tape for the survey conducted in 1987. Such differences may then be used to ground propositions about Asian-American buying behavior, since the literature on this group is, at present, very sparse.

Historically, expenditure data has proven quite useful in consumer research for market segmentation and target marketing. In the marketing literature, such data has been employed to profile Black versus White consumer patterns (Alexis, 1962; Akers, 1968; Bullock, 1968; Barban and Cundiff, 1964; Dalrymple, Robertson, and Yoshiro, 1971; Hirshman, 1980; and Moschis, 1985), consumption by stage in family life cycle (Lansing and Morgan, 1955; Wells and Gubar, 1966; Hisrich and Peters, 1974; Landon and Locander, 1979; Derrick and Lehfeld, 1980; Fritzsche, 1981; Frey and LaBay, 1983; and Wagner and Hanna, 1983), consumption of families with working versus non-working wives (Strober and Weinberg, 1977; Weinberg and Winer, 1983; Nickols and Fox, 1983; Bryant, 1988; and Rubin, Riney, and Molina, 1990), and, more recently, consumption of service users (Bellante and Foster, 1984). It has not yet been used to explore the buying patterns of Asian-American households. Instead, the existing scholarly literature on Asian Americans is largely confined to surveys of their attitudes toward brands, the rate they adopt new products, credit orientation, store preference, product information sources, ethnic attitudes and cultural values (Dalrymple, Robertson, and Yoshino, 1971; Tan and McCullough, 1985). In comparison, the popular business press has concentrated on the contrast between Asian and Anglo-American demographics, with relatively little emphasis on their buying patterns (Kern, 1988). This study will attempt to merge the academic literature on expenditure

research and the popular business literature on Asian-American demographics to provide a framework for future research on Asian-American consumption.

## METHODOLOGY

The survey on which this study is based was conducted by the Bureau of Labor Statistics in 1987, using a probability sample of the entire U.S. non-institutional population--over 5,000 households. However, given the low incidence of the Asian-American subculture in the general population and to prevent the error associated with the comparison of a very small to a very large group distorting the true nature of the relationship, the 132 Asian households were matched to a random subsample of 132 Caucasian households within each income group from annual household income of less than $5,000 to $40,000 or more. The technique of matching has a long history in behavioral research as a method of error reduction when groups under study differ systematically (Kerlinger, 1973).

Since some of the differences between the expenditure patterns of the two groups could be caused by the higher income of the Asian group, income will be included as a control variable in addition to race, in a two-way analysis of variance of race (two levels: Asian and Caucasian) and income (seven levels: less than $5K, $5K to less than $10K, $10K to less than $15K, $15K to less than $20K, $20K to less than $30K, $30K to less than $40K, and $40K and over), with an interaction between race and income. The criterion variable is dollar expenditures on one out of a set of 21 expenditure categories. Clearly, the size of the sample is small for the number of separate tests, and this represents a source of potential error in this study.

A profile of the sample is given in table 1. The Asian sample has a higher percentage of male household heads and a higher percentage of college educated household heads in comparison to the Caucasian sample. In addition, a higher percentage of Asians live in the Western region and a higher percentage live inside an urban area, especially in more densely populated urban areas.

To preserve the confidentiality of the households' responses in such small-group analysis, the BLS does not permit the disaggregation of the naturally heterogeneous Asian-American sample into smaller sub-samples of Japanese, Chinese, Koreans, and so forth. Furthermore, other sub-cultural groups like Asian Indians and Hawaiians and other Pacific Islanders are mixed in with the Asians. We recognize this limitation as a potential source of error in this study, since any mean expenditures may overstate the behavior of some sub-groups and understate the behavior of others; however, it is not possible to untangle this confounding because of the BLS reporting categories. Nevertheless, some insight may still be gained from the aggregate analysis in guiding future research, which may be designed to permit analysis on a more detailed level.

Another limitation of the study is the BLS expenditure categories themselves, which subdivide total current consumption into: **food and alcohol** (food consumed at home, food consumed away from home, and alcoholic beverages), **housing** (expenditures on owned or rented dwelling, other lodging, utilities, household operations, equipment and furnishings), **apparel and apparel services**, **transportation**, **health care**, **entertainment**, **personal care**, **education**, **reading**, **tobacco**, **cash contributions** (to charities, churches, educational, non-profit and political organizations), **insurance**, and **miscellaneous**. Future marketing studies may create other classification schemes for expenditures, which are more managerially useful. The expenditures are measured in terms of total dollars and cents within the first quarter of 1987. No brand or frequency of purchase information is available. The measures included in the BLS survey are also a limitation of the study.

## RESULTS

Table 2 shows the ANOVA results for the full set of 21 expenditures. The overall model was significant at the .05 level for 14 out the 21 categories (total expenditures, food away from home, food at home, alcoholic beverages, owned dwelling, rented dwelling, utilities, household equipment and furnishings, apparel and apparel services, transportation, entertainment, personal care, personal insurance, and miscellaneous). Clearly, even at a high level of aggregation, differences between the two subcultures and differences in income do translate into differences in expenditure patterns.

Although either race or income may be statistically significant in some models which, in total, are not significant, because of the repeated tests on the same data, these models will be ignored as potentially misleading. A larger sample of Asians is needed to determine more precisely whether or not race is an influential factor in cash contributions and tobacco expenditures.

For the most part, the most important influence is income. Income is a statistically significant effect in all the 14 models which show overall significance. The higher the income level, the higher the average expenditure as the cell means in table 3 indicate. The same cannot be said for the effect of race or of the interaction term for race by income. Only five of the 14 significant models show race as a significant factor, and only two of the 14 show the interaction term to be significant.

The five models in which race is a significant factor include expenditures on alcohol, rented dwelling, utilities, personal care, and miscellaneous. Except for expenditures on alcoholic beverages, rented dwellings, utilities, and miscellaneous, the F statistic for income (in those models which show overall significance) is higher than that for race or race by income. The table of cell means (table 3) indicates the direction of these four exceptional relationships, where race is more powerful an influence than income. Asian households spend less than Caucasian households, in the same income category, on alcohol, utilities, and miscellaneous, and more than Caucasian households on rented dwellings. In only one case, expenditure on personal care, is race a significant influence in the model (when the whole model is itself significant), but of lesser importance than income. In that instance, Asian expenditure on personal care is less than Caucasian expenditure, in the same income groups.

These same findings are confirmed by the marginal means for Asian and Caucasian households (when income is no longer controlled). The Asian first quarter expenditure mean is lower for personal care ($48.55 versus $66.48), alcoholic beverages ($59.95 versus $91.39), utilities ($301.50 versus $467.45), and miscellaneous ($46.35 versus $146.15), but higher on rented dwellings ($488.20 versus $179.61).

The two models out of the 14 which are significant overall and which show a significant interaction between race and income include total expenditures and rented dwelling. As table 3 indicates, low-income Caucasian households spend less on total expenditures than low-income Asian-households, while high-income Caucasian households spend more than high-income Asian households. Except for the highest income category ($40K and over) where Caucasians spend more than Asians, Caucasian households spend less on rented dwellings than Asian households.

## MARKETING IMPLICATIONS & SUGGESTIONS FOR FUTURE RESEARCH

Once again, it is important to recognize that, since the number of Asian-Americans in the survey was extremely small, the study's findings may be an artifact of size rather than a valid representation of the population trends. Furthermore, the limitation created by the BLS reporting category, which lumps together such groups as Chinese, Korean, Hawaiian, and Asian Indian, among others, undoubtedly distorts the true, underlying pattern of consumption. Additional research is needed on this important segment, to determine whether or not the results in this study are truly reliable. Nevertheless, the examination of the expenditure patterns of this group is sufficiently fruitful to encourage future scholarship with more precise definitions and a wider range of predictor variables--including one or more standard indices of cultural values, marketing mix variables on product and brand, promotion, and shopping habits.

In summary, except for five expenditure categories (rented dwelling, alcoholic beverages, personal care, utilities, and miscellaneous), marketers interested in forecasting and explaining expenditure levels in the aggregate for Asian and Caucasian households may consider that income by itself instead of in combination with race is adequate as a segmentation variable. In about two-thirds of the expenditure categories, the most important influence was income level. In only five categories was race important. Generally, the direction of that relationship is to show a lower level of spending for Asians in comparison to Caucasians--a tendency towards thrift and financial conservatism. This finding should be interesting to marketers of financial services in locating depositors and investors who would appreciate security as well as profit.

In developing a marketing mix for this segment for any of these product categories, therefore, it is possible that an appeal to value for money would be successful. Rather than reacting to price as an indicator of product quality, this segment may well be more receptive to moderately-priced products for which an independent judgement of quality is made. However, there is also a possibility that a self-service or discount orientation could also succeed. Without brand and pricing information to add to the expenditure analysis, we cannot be certain. The Asian expenditure pattern, therefore, suggests at least two possible avenues for future research on Asian consumption--the likelihood of greater price consciousness and the likelihood of greater emphasis on value for money in price-quality judgements.

Only for the expenditure category of rented dwelling was this trend towards thrift reversed. Asians spend more on rented dwellings than Caucasians of comparable income. Perhaps the demographic profile provides a key to interpreting these results. Asians, in this sample, lived in urban areas and especially in Western region urban areas like California where rents tend to be higher. Rates of home ownership are likely to be higher in less densely populated urban areas and outside of California. A more thorough analysis of real estate purchasing in different regions for these two groups is needed before any further implications can be suggested.

For expenditures on personal care, utilities, and alcohol, race was a more important predictor than income, but Caucasian household spent more than Asian households. If additional research could disaggregate these expenditures to look at individual transactions, it would be possible to tell if the higher expenditure level translates to a few high-dollar purchases or many low-dollar purchases. A lower level of spending does not mean that a market segment is an unattractive possibility, if the pattern of spending can be correctly identified. The analysis of expenditures has to the identification of a potential segment for these product classes, but it cannot provide sufficient information to evaluate or prioritize the attractiveness of the segments. Further research is needed for that purpose.

Although this study has identified five aggregate expenditure categories in which Asian and Caucasian households, of the same income characteristics, differ, its conclusions must be considered tentative. The same results may not be repeated when expenditure categories are more narrowly defined, or when the sample sizes are larger. Furthermore, it is possible that the aggregation across many different Asian-origin groups, like Chinese, Japanese, Korean, or other, may disguise as much as it reveals. Future market segmentation researchers need to build into their designs more narrowly defined expenditure categories as well as more narrowly defined subcultural groups. In addition, marketing mix variable like pricing and product features would improve the usefulness of these results. Expenditure research is helpful in the initial diagnosis of segments, but it is not sufficient in and of itself for the design of a complete market segmentation plan.

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**TABLE 1**
**DEMOGRAPHIC PROFILE OF THE SAMPLE**

| RACE | ASIAN HOUSEHOLD HEAD | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| INCOME | <5K | 5K <10K | 10K <15K | 15K <20K | 20K <30K | 30K <40K | 40K & + | |
| GROUP | 1 | 2 | 3 | 4 | 5 | 6 | 7 | TOTAL |
| NUMBER | 12 | 8 | 12 | 17 | 32 | 10 | 41 | 132 |
| % MALE | 50 | 38 | 58 | 65 | 78 | 80 | 78 | 92 |
| % MARRIED | 42 | 38 | 50 | 47 | 69 | 80 | 80 | 64 |
| % MGR/PROFF/TECH | 17 | 13 | 25 | 29 | 50 | 40 | 53 | 40 |
| % SOME COLLEGE | 42 | 25 | 25 | 53 | 47 | 70 | 63 | 51 |
| % WESTERN REGION | 58 | 75 | 75 | 88 | 75 | 80 | 80 | 77 |
| % URBAN | 100 | 100 | 100 | 94 | 100 | 100 | 100 | 99 |
| % LIVING INSIDE SMSA | 100 | 100 | 92 | 88 | 100 | 100 | 100 | 98 |

| RACE | CAUCASIAN HOUSEHOLD HEAD | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| INCOME | <5K | 5K <10K | 10K <15K | 15K <20K | 20K <30K | 30K <40K | 40K & + | |
| GROUP | 1 | 2 | 3 | 4 | 5 | 6 | 7 | TOTAL |
| NUMBER | 12 | 8 | 12 | 17 | 32 | 10 | 41 | 132 |
| % MALE | 33 | 75 | 83 | 71 | 81 | 90 | 93 | 80 |
| % MARRIED | 8 | 50 | 50 | 53 | 72 | 80 | 95 | 68 |
| % MGR/PROFF/TECH | 33 | 25 | 17 | 23 | 47 | 40 | 66 | 44 |
| % SOME COLLEGE | 33 | 13 | 13 | 24 | 47 | 60 | 63 | 43 |
| % WESTERN REGION | 18 | 20 | 20 | 33 | 22 | 57 | 33 | 29 |
| % URBAN | 92 | 63 | 83 | 88 | 84 | 70 | 95 | 86 |
| % LIVING INSIDE SMSA | 67 | 50 | 67 | 76 | 75 | 60 | 93 | 77 |

**TABLE 2**
**ANOVA RESULTS OF MAJOR EXPENDITURES BY RACE, INCOME AND THE INTERACTION OF RACE WITH INCOME**

| EXPENDITURE TYPE & SOURCE OF VARIATION | DF | SUM OF SQUARES | F STATISTIC | PROB OF F |
|---|---|---|---|---|
| **TOTAL EXPENDITURES** (R-SQUARE = 0.4665) | | | | |
| MODEL | 13 | 2,147,311,864 | 16.82 | 0.0001 |
| RACE | 1 | 9,622,593 | 0.98 | 0.3232 |
| INCOME | 6 | 1,991,143,571 | 33.80 | 0.0001 |
| RACE * INCOME | 6 | 146,545,700 | 2.49 | 0.0235 |
| ERROR | 250 | 2,454,732,138 | | |
| TOTAL | 263 | 4,602,044,003 | | |
| **FOOD AWAY** (R-SQUARE = 0.2057) | | | | |
| MODEL | 13 | 5,661,363 | 4.98 | 0.0001 |
| RACE | 1 | 9,431 | 0.00 | 0.9748 |
| INCOME | 6 | 5,316,097 | 10.13 | 0.0001 |
| RACE * INCOME | 6 | 345,178 | 0.66 | 0.6839 |
| ERROR | 250 | 21,867,607 | | |
| TOTAL | 263 | 27,528,970 | | |
| **FOOD AT HOME** (R-SQUARE = 0.1570) | | | | |
| MODEL | 13 | 8,602,949 | 3.58 | 0.0001 |
| RACE | 1 | 83,924 | 0.45 | 0.5010 |
| INCOME | 6 | 7,756,623 | 7.00 | 0.0001 |
| RACE * INCOME | 6 | 762,402 | 0.69 | 0.6598 |
| ERROR | 250 | 46,196,133 | | |
| TOTAL | 263 | 54,799,083 | | |
| **ALCOHOLIC BEVERAGES** (R-SQUARE = 0.1020) | | | | |
| MODEL | 13 | 463,702 | 2.18 | 0.0107 |
| RACE | 1 | 65,142 | 3.99 | 0.0469 |
| INCOME | 6 | 270,570 | 2.76 | 0.0129 |
| RACE * INCOME | 6 | 128,060 | 1.31 | 0.2543 |
| ERROR | 250 | 4,081,588 | | |
| TOTAL | 263 | 4,545,290 | | |
| **OWNED DWELLING** (R-SQUARE = 0.2747) | | | | |
| MODEL | 13 | 87,541,059 | 7.28 | 0.0001 |
| RACE | 1 | 148,770 | 0.16 | 0.6887 |
| INCOME | 6 | 85,425,376 | 15.40 | 0.0001 |
| RACE * INCOME | 6 | 1,966,912 | 0.35 | 0.9069 |
| ERROR | 250 | 231,186,122 | | |
| TOTAL | 253 | 318,727,181 | | |

**TABLE 2 (CONTINUED)**
**ANOVA RESULTS OF MAJOR EXPENDITURES BY RACE, INCOME AND THE INTERACTION OF RACE WITH INCOME**

| EXPENDITURE TYPE & SOURCE OF VARIATION | DF | SUM OF SQUARES | F STATISTIC | PROB OF F |
|---|---|---|---|---|
| **RENTED DWELLING** (R-SQUARE = 0.1797) | | | | |
| MODEL | 13 | 15,746,012 | 4.21 | 0.0001 |
| RACE | 1 | 6,284,762 | 21.86 | 0.0001 |
| INCOME | 6 | 5,424,445 | 3.14 | 0.0055 |
| RACE * INCOME | 6 | 4,036,805 | 2.34 | 0.0323 |
| ERROR | 250 | 71,878,497 | | |
| TOTAL | 253 | 87,624,509 | | |
| **OTHER LODGING** (R-SQUARE = 0.1550) | | | | |
| MODEL | 13 | 2,416,034 | 1.41 | 0.1550 |
| RACE | 1 | 3,092 | 0.02 | 0.8784 |
| INCOME | 6 | 2,362,666 | 2.99 | 0.0078 |
| RACE * INCOME | 6 | 50,275 | 0.06 | 0.9990 |
| ERROR | 250 | 32,968,256 | | |
| TOTAL | 253 | 35,384,289 | | |
| **UTILITIES** (R-SQUARE = 0.3069) | | | | |
| MODEL | 13 | 5,531,333 | 8.51 | 0.0001 |
| RACE | 1 | 1,817,954 | 36.38 | 0.0001 |
| INCOME | 6 | 3,174,661 | 10.59 | 0.0001 |
| RACE * INCOME | 6 | 538,718 | 1.80 | 0.1003 |
| ERROR | 250 | 12,494,274 | | |
| TOTAL | 253 | 18,025,607 | | |
| **HOUSEHOLD OPERATIONS** (R-SQUARE = 0.0468) | | | | |
| MODEL | 13 | 538,884 | 0.94 | 0.5083 |
| RACE | 1 | 47,913 | 1.09 | 0.2973 |
| INCOME | 6 | 402,481 | 1.53 | 0.1697 |
| RACE * INCOME | 6 | 88,490 | 0.34 | 0.9176 |
| ERROR | 250 | 10,982,013 | | |
| TOTAL | 253 | 11,520,897 | | |
| **HOUSEHOLD EQUIPMENT AND FURNISHINGS** (R-SQUARE = 0.1069) | | | | |
| MODEL | 13 | 5,992,089 | 2.30 | 0.0068 |
| RACE | 1 | 153,809 | 0.77 | 0.3816 |
| INCOME | 6 | 5,718,675 | 4.76 | 0.0001 |
| RACE * INCOME | 6 | 119,605 | 0.10 | 0.9964 |
| ERROR | 250 | 50,052,933 | | |
| TOTAL | 253 | 56,045,023 | | |

**TABLE 2 (CONTINUED)**
**ANOVA RESULTS OF MAJOR EXPENDITURES BY RACE, INCOME AND THE INTERACTION OF RACE WITH INCOME**

| EXPENDITURE TYPE & SOURCE OF VARIATION | DF | SUM OF SQUARES | F STATISTIC | PROB OF F |
|---|---|---|---|---|
| **APPAREL AND APPAREL SERVICES** (R-SQUARE = 0.0946) | | | | |
| MODEL | 13 | 8,861,464 | 2.01 | 0.0205 |
| RACE | 1 | 709,762 | 2.09 | 0.1493 |
| INCOME | 6 | 7,053,466 | 3.47 | 0.0026 |
| RACE * INCOME | 6 | 1,098,236 | 0.54 | 0.7779 |
| ERROR | 250 | 84,809,424 | | |
| TOTAL | 253 | 93,670,888 | | |
| **TRANSPORTATION** (R-SQUARE = 0.0939) | | | | |
| MODEL | 13 | 84,327,478 | 1.99 | 0.0219 |
| RACE | 1 | 814,074 | 0.25 | 0.6175 |
| INCOME | 6 | 50,247,720 | 2.57 | 0.0196 |
| RACE * INCOME | 6 | 33,265,684 | 1.70 | 0.1209 |
| ERROR | 250 | 814,177,380 | | |
| TOTAL | 250 | 898,504,858 | | |
| **HEALTH CARE** (R-SQUARE = 0.0710) | | | | |
| MODEL | 13 | 5,875,718 | 1.47 | 0.1293 |
| RACE | 1 | 458,367 | 1.49 | 0.2234 |
| INCOME | 6 | 5,161,553 | 2.80 | 0.0119 |
| RACE * INCOME | 6 | 255,798 | 0.14 | 0.9911 |
| ERROR | 250 | 76,915,898 | | |
| TOTAL | 253 | 82,791,616 | | |
| **ENTERTAINMENT** (R-SQUARE = 0.1348) | | | | |
| MODEL | 13 | 20,127,488 | 3.00 | 0.0004 |
| RACE | 1 | 145,384 | 0.28 | 0.5963 |
| INCOME | 6 | 17,034,248 | 5.49 | 0.0001 |
| RACE * INCOME | 6 | 2,947,856 | 0.95 | 0.4592 |
| ERROR | 250 | 129,164,769 | | |
| TOTAL | 253 | 149,292,257 | | |
| **PERSONAL CARE** (R-SQUARE = 0.1522) | | | | |
| MODEL | 13 | 159,917 | 3.45 | 0.0001 |
| RACE | 1 | 21,222 | 5.96 | 0.0154 |
| INCOME | 6 | 132,410 | 6.19 | 0.0001 |
| RACE * INCOME | 6 | 6,284 | 0.29 | 0.9394 |
| ERROR | 250 | 890,683 | | |
| TOTAL | 253 | 1,050,600 | | |

**TABLE 2 (CONTINUED)**
**ANOVA RESULTS OF MAJOR EXPENDITURES BY RACE, INCOME AND THE INTERACTION OF RACE WITH INCOME**

| **EXPENDITURE TYPE** & SOURCE OF VARIATION | DF | SUM OF SQUARES | F STATISTIC | PROB OF F |
|---|---|---|---|---|
| **EDUCATION** (R-SQUARE = 0.0756) | | | | |
| MODEL | 13 | 12,572,370 | 1.57 | 0.0981 |
| RACE | 1 | 380,684 | 0.62 | 0.4321 |
| INCOME | 6 | 6,964,893 | 1.89 | 0.0833 |
| RACE * INCOME | 6 | 5,226,792 | 1.42 | 0.2084 |
| ERROR | 250 | 153,690,010 | | |
| TOTAL | 253 | 166,262,380 | | |
| **READING** (R-SQUARE = O.0601) | | | | |
| MODEL | 13 | 157,205 | 1.23 | 0.2581 |
| RACE | 1 | 1,314 | 0.13 | 0.7150 |
| INCOME | 6 | 147,956 | 2.51 | 0.0225 |
| RACE * INCOME | 6 | 7,935 | 0.13 | 0.9917 |
| ERROR | 250 | 2,457,987 | | |
| TOTAL | 253 | 2,615,192 | | |
| **TOBACCO** (R-SQUARE = 0.0460) | | | | |
| MODEL | 13 | 177,373 | 0.93 | 0.5260 |
| RACE | 1 | 78,718 | 5.35 | 0.0216 |
| INCOME | 6 | 63,376 | 0.72 | 0.6360 |
| RACE * INCOME | 6 | 35,279 | 0.40 | 0.8791 |
| ERROR | 250 | 3,681,525 | | |
| TOTAL | 253 | 3,858,898 | | |
| **CASH CONTRIBUTIONS TO CHARITIES, CHURCHES, EDUCATIONAL, NON-PROFIT & POLITICAL ORGANIZATIONS** (R-SQUARE = O.0712) | | | | |
| MODEL | 13 | 8,496,292 | 1.48 | 0.1269 |
| RACE | 1 | 3,629,532 | 8.19 | 0.0046 |
| INCOME | 6 | 3,251,741 | 1.22 | 0.2948 |
| RACE * INCOME | 6 | 1,615,019 | 0.61 | 0.7242 |
| ERROR | 250 | 110,767,579 | | |
| TOTAL | 253 | 119,263,871 | | |
| **PERSONAL INSURANCE** (R-SQUARE = 0.4801) | | | | |
| MODEL | 13 | 71,993,383 | 17.76 | 0.0001 |
| RACE | 1 | 102,188 | 0.33 | 0.5675 |
| INCOME | 6 | 71,102,813 | 38.01 | 0.0001 |
| RACE * INCOME | 6 | 788,382 | 0.42 | 0.8644 |
| ERROR | 250 | 77,946,775 | | |
| TOTAL | 253 | 149,940,157 | | |

**TABLE 2 (CONTINUED)**
**ANOVA RESULTS OF MAJOR EXPENDITURES BY RACE, INCOME AND THE INTERACTION OF RACE WITH INCOME**

| EXPENDITURE TYPE & SOURCE OF VARIATION | DF | SUM OF SQUARES | F STATISTIC | PROB OF F |
|---|---|---|---|---|
| **MISCELLANEOUS** (R-SQUARE = O.1833) | | | | |
| MODEL | 13 | 2,027,081 | 4.32 | 0.0001 |
| RACE | 1 | 657,278 | 18.19 | 0.0001 |
| INCOME | 6 | 1,046,113 | 4.83 | 0.0001 |
| RACE * INCOME | 6 | 323,690 | 1.49 | 0.1808 |
| ERROR | 250 | 9,031,737 | | |
| TOTAL | 253 | 11,058,818 | | |

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**TABLE 3**
**CELL MEANS FOR EXPENDITURES BY RACE AND INCOME**

| RACE | INCOME GROUP | TOTAL EXPENDITURES | FOOD AWAY FROM HOME | FOOD AT HOME |
|---|---|---|---|---|
| CAUCASIAN | <$5K | $2020.92 | 75.50 | 334.50 |
| | 5K <10K | 3116.01 | 91.75 | 509.00 |
| | 10K <15K | 3544.88 | 116.50 | 486.00 |
| | 15K <20K | 4089.33 | 190.65 | 442.18 |
| | 20K <30K | 5079.20 | 195.25 | 618.75 |
| | 30K <40K | 6964.09 | 437.80 | 610.60 |
| | 40K & + | 11260.59 | 490.24 | 913.98 |
| ASIAN | <$5K | 2737.22 | 101.08 | 542.00 |
| | 5K <10K | 3581.75 | 130.50 | 425.63 |
| | 10K <15K | 3762.19 | 150.75 | 631.58 |
| | 15K <20K | 4743.54 | 129.88 | 476.65 |
| | 20K <30K | 5623.27 | 299.59 | 750.63 |
| | 30K <40K | 8155.99 | 436.80 | 493.50 |
| | 40K & + | 8680.54 | 412.88 | 853.05 |
| | | **ALCOHOLIC BEVERAGES** | **OWNED DWELLING** | **RENTED DWELLING** |
| CAUCASIAN | <$5K | 17.17 | 91.75 | 244.50 |
| | 5K <10K | 73.75 | 128.00 | 291.25 |
| | 10K <15K | 121.50 | 270.08 | 214.67 |
| | 15K <20K | 22.94 | 408.47 | 153.53 |
| | 20K <30K | 67.72 | 616.19 | 161.44 |
| | 30K <40K | 142.50 | 702.90 | 280.80 |
| | 40K & + | 142.12 | 1572.66 | 128.90 |
| ASIAN | <$5K | 36.67 | 181.17 | 390.25 |
| | 5K <10K | 11.25 | 52.13 | 704.37 |
| | 10K <15K | 20.00 | 0.00 | 1021.67 |
| | 15K <20K | 56.47 | 669.41 | 283.53 |
| | 20K <30K | 63.16 | 580.84 | 728.69 |
| | 30K <40K | 122.40 | 1147.40 | 379.70 |
| | 40K & + | 71.73 | 1604.17 | 242.17 |
| | | **OTHER LODGING** | **UTILITIES** | **HOUSEHOLD OPERATIONS** |
| CAUCASIAN | <$5K | 15.83 | 236.27 | 50.42 |
| | 5K <10K | 6.13 | 384.24 | 82.13 |
| | 10K <15K | 4.25 | 356.54 | 17.43 |
| | 15K <20K | 31.05 | 392.54 | 13.35 |
| | 20K <30K | 19.68 | 401.85 | 122.79 |
| | 30K <40K | 143.00 | 416.67 | 171.00 |
| | 40K & + | 240.70 | 678.50 | 124.78 |
| ASIAN | <$5K | 0.00 | 146.42 | 66.25 |
| | 5K <10K | 0.00 | 248.17 | 21.25 |
| | 10K <15K | 31.00 | 216.70 | 29.58 |
| | 15K <20K | 91.82 | 243.93 | 33.43 |
| | 20K <30K | 32.50 | 307.65 | 44.91 |
| | 30K <40K | 170.10 | 371.58 | 123.09 |
| | 40K & + | 218.93 | 384.08 | 105.83 |

**TABLE 3 (CONTINUED)**
**CELL MEANS FOR EXPENDITURES BY RACE AND INCOME**

| RACE | INCOME GROUP | HOUSEHOLD EQUIPMENT | APPAREL | TRANS-PORTATION |
|---|---|---|---|---|
| CAUCASIAN | <$5K | $87.23 | 203.38 | 133.08 |
| | 5K <10K | 110.38 | 182.92 | 435.00 |
| | 10K <15K | 182.75 | 271.65 | 528.83 |
| | 15K <20K | 187.34 | 208.55 | 442.82 |
| | 20K <30K | 157.55 | 594.15 | 643.88 |
| | 30K <40K | 293.70 | 431.85 | 701.10 |
| | 40K & + | 477.12 | 725.53 | 2064.37 |
| ASIAN | <$5K | 81.75 | 202.79 | 467.50 |
| | 5K <10K | 6.38 | 143.74 | 323.38 |
| | 10K <15K | 77.22 | 341.61 | 426.75 |
| | 15K <20K | 149.28 | 242.48 | 1333.94 |
| | 20K <30K | 154.47 | 413.66 | 857.50 |
| | 30K <40K | 152.80 | 522.99 | 1290.60 |
| | 40K & + | 427.04 | 483.59 | 980.59 |
| | | **HEALTH CARE** | **ENTER-TAINMENT** | **PERSONAL CARE** |
| CAUCASIAN | <$5K | 124.03 | 140.06 | 31.17 |
| | 5K <10K | 184.68 | 237.76 | 55.88 |
| | 10K <15K | 237.43 | 186.49 | 25.75 |
| | 15K <20K | 709.08 | 113.67 | 53.06 |
| | 20K <30K | 257.13 | 243.66 | 58.78 |
| | 30K <40K | 204.03 | 671.63 | 65.80 |
| | 40K & + | 349.50 | 515.91 | 102.54 |
| ASIAN | <$5K | 128.18 | 77.87 | 18.67 |
| | 5K <10K | 100.18 | 133.60 | 31.50 |
| | 10K <15K | 110.50 | 295.33 | 27.50 |
| | 15K <20K | 488.15 | 98.29 | 39.76 |
| | 20K <30K | 173.12 | 228.07 | 43.47 |
| | 30K <40K | 182.83 | 1439.38 | 56.10 |
| | 40K & + | 295.97 | 504.97 | 72.54 |
| | | **READING** | **EDUCA-TION** | **TOBACCO** |
| CAUCASIAN | <$5K | 12.08 | 0.00 | 44.78 |
| | 5K <10K | 28.25 | 0.00 | 45.50 |
| | 10K <15K | 26.00 | 0.00 | 88.11 |
| | 15K <20K | 29.88 | 0.00 | 87.69 |
| | 20K <30K | 32.88 | 7.94 | 87.21 |
| | 30K <40K | 46.80 | 18.60 | 146.47 |
| | 40K & + | 68.54 | 407.54 | 90.26 |
| ASIAN | <$5K | 12.08 | 242.08 | 28.17 |
| | 5K <10K | 13.25 | 1065.00 | 54.17 |
| | 10K <15K | 11.58 | 21.50 | 64.28 |
| | 15K <20K | 24.47 | 14.29 | 47.92 |
| | 20K <30K | 38.56 | 138.88 | 36.29 |
| | 30K <40K | 67.80 | 10.00 | 52.87 |
| | 40K & + | 82.73 | 261.07 | 68.28 |

**TABLE 3 (CONTINUED)**
**CELL MEANS FOR EXPENDITURES BY RACE AND INCOME**

| RACE | INCOME GROUP | CASH CONTRIBUTIONS | PERSONAL INSURANCE | MISCELLANEOUS |
|---|---|---|---|---|
| CAUCASIAN | <$5K | $125.33 | 20.73 | 45.40 |
| | 5K <10K | 40.34 | 177.46 | 28.84 |
| | 10K <15K | 291.98 | 95.73 | 59.29 |
| | 15K <29K | 190.04 | 274.01 | 169.57 |
| | 20K <30K | 217.38 | 537.47 | 57.74 |
| | 30K <40K | 163.88 | 1056.78 | 301.95 |
| | 40K & + | 558.30 | 1386.29 | 245.23 |
| ASIAN | <$5K | 3.13 | 20.08 | 5.17 |
| | 5K <10K | 25.13 | 81.19 | 27.75 |
| | 10K <15K | 10.46 | 269.67 | 9.21 |
| | 15K <20K | 61.79 | 228.87 | 40.41 |
| | 20K <30K | 6.52 | 711.54 | 23.52 |
| | 30K <40K | 225.05 | 877.60 | 51.18 |
| | 40K & + | 127.28 | 1407.60 | 92.01 |

# A TEST OF THE STRUCTURAL STABILITY OF THE CAPITAL ASSET PRICING MODEL OVER THE 1986 TAX REFORM ACT

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## ABSTRACT

Structural stability of portfolio betas under the CAPM model has been assumed and tested by many authors including (among others) Sharpe and Cooper (1972) and Francis (1980). The analysis of prior data in order to estimate future betas assumes structural stability and is therefore central to the estimated and published values produced by firms such as Standard and Poor and Value Line, as well as other services, which are used by investors to estimate risk and return characteristics of securities. McDonald (1985) discovered that only major world events such as war and oil embargoes produced significant shifts (structural instability) of portfolio betas, and that structural stability was consistently the normal condition. The changes in taxes on capital gains and dividends inherent in the Tax Reform Act of 1986 imply differing effects on no, low and high dividend securities. Our study segmented portfolios into these three categories and indicate that the Tax Reform Act of 1986 produced substantial structural instability in differing dividend yield portfolios.

## INTRODUCTION

A security's beta contains valuable information about different aspects of the stock's risks as well as price movements. Value Line and Standard and Poor publish betas which assume structural stability in order to estimate future betas. These published betas are then used by investors in order to estimate the return and risk characteristics of securities for purchase. If structural instability occurs, these estimates will not be characteristic of the risk and return of the security and can therefore lead to substantial errors in this selection process.

While the alpha and error term constitute the nonmarket (or nonsystematic) component of excess return, a security's beta value measures the expected change in its excess return per 1% change in the excess return of the market (the system) portfolio (Sharpe, 1981, p. 152). Successful estimation of future betas is critically dependent on the analysis of historical betas. Careful study of the stability of beta is thus warranted, especially for those investment companies (such as Standard and Poor and Value Line) whose conditional estimates are often used as a guideline for portfolio selection decisions.

Remarkable beta stabilities for portfolios or individual stocks were reported by Blume (1968, 1974); Jacob (1971); Sharpe and Cooper (1972); Baesel (1974); Klemkosky and Martin (1975); Altman, et al (1978); Francis (1980); Tole (1981); and Theobald (1981). Furthermore, McDonald (1985) found that significant changes in betas were witnessed only in time periods when major world events (i.e., world wars or oil embargoes) took place. Hence, portfolio betas have been considered remarkably stable in general. Despite the estimation of divisional betas by Yagil (1987) over the tax law, a study of the structural stability of betas pre and post Tax Reform Act of 1986 within the context of covariance analysis is lacking. The Tax Reform Act of 1986 provides an excellent opportunity to do such a statistical analysis for a structural change that is neither a war nor a major embargo, the only major events which previous studies have verified to produce unstable portfolio betas.

The purpose of this paper is to test the stability of the fundamental structure of both alpha and beta in terms of the Chow test during the period which encompasses the 1986 Tax Reform Act. In what follows, Jensen's alpha (1968) is employed to

measure the performance of a portfolio as compared to the market. A positive alpha implies that the portfolio outperformed the market on a risk adjusted basis. Conversely, a negative alpha implies that the portfolio performed poorly relative to the market (see Francis, 1980). In the following section, we will (i) describe the data necessary for testing the stability of the capital asset pricing model, (ii) present and estimate the parameters, and (iii) interpret the results in view of the 1986 Tax Reform Act.

## DATA DESCRIPTION

In order to assure the validity of the normality assumption in the regression analysis, we employ a large sample to invoke the celebrated central limit theorem. Two hundred and seventy three trading days are used for estimation purposes. One hundred forty nine and one hundred twenty four trading days before and after the 1986 Tax Reform Act are deemed large enough to have the desirable sampling properties for each subset of the regressions.

If we had employed a longer time span, the potential beta instability would have been phased out, much like recent findings by Means and Yang (1992) in terms of the Modigliani and Miller theorem. Hence, the choice of the time span in this study is justified. To reduce the standard error of the betas, we randomly chose 39, 33, and 34 stocks from no dividend, low dividend and high dividend stocks respectively. The sample securities are reported in Table 1. With a portfolio of 25 stocks or more, the variation in betas due to unsystematic risk or company specific variation is considerably reduced (see Sharpe, 1981). The stocks are grouped into three classes: high dividend stocks with dividend yields greater than 5%; low dividend stocks with dividend yields less than 3%; and no dividend stocks with zero dividends.

Daily market and security returns are from the Center for Research in Security Prices (CRSP) tapes; daily dividend yields were hand calculated from Moody's Dividend Record, Standard and Poor's Dividend Records and the Wall Street Journal (the procedure is defined in the explanation of Equation 1).

## THE CAPITAL ASSET PRICING MODEL

One powerful yet simple description of the relationship between risk and return in an efficient market was developed in the mid-1960's. This approach, the capital asset pricing model, provides perhaps one of the most frequently used techniques in current investment practice. The standard form of the capital asset pricing model was developed independently by Sharpe (1964), Litner (1965A, 1965B) and Mossin (1966). Since there are many forms of the model (see Elton and Gruber, 1987), we utilize our own variation of an after-tax formulation similar to that proposed by Litzenberger and Ramaswami (1979, 1980, 1982) as shown below:

$$R_t - Rf_t = \alpha + \beta_1 [E(R_{mt}) - Rf_t] + \beta_2 b_t + e_t \quad [1]$$

$$R_t - Rf_t = \alpha + \beta_t [(R_{mt}) - Rf_t] + e_t \quad [2]$$

where $R_t = \sum_{i=1}^{n} [P_i(t) - P_i(t-1) + Div_i/P_i(t-1)]/n$

= equally weighted portfolio rate of return of n securities based on the summation of the individual CRSP security returns with dividend yield

$Div_t$ = the dividend of security i

$b_{it}$ = $(Div_{i,T-1})/ T^*Price_{t-1})$ (i.e., an allocated daily dividend yield for security i, which was hand calculated)

$b_t$ = $\sum_{i=1}^{n} b_{it}/n$ (i.e., the daily sum of the individual dividend yield terms which becomes the daily dividend yield for the portfolio)

$R_{mt}$ = rate of return of the market using the Standard and Poor 500 Index as a market proxy

T = trading days between the last ex-dividend date and the next ex-dividend date

$Div_{i,t-1}$ = last dividend paid at last ex-dividend date

$Price_{t-1}$ = price at the end of the previous month

$Rf_t$ = risk free rate of return using the three month Treasury Bill

$e_t$ = disturbance term which is random, independent and normally distributed

Note that: (1) the dividend yield term is zero for the no dividend stocks (hence, it becomes the conventional Capital Asset Pricing Model or Equation 2); and, (2) the dividend estimation function is a naive model which assumes that the next period dividend will be the same value as the last period dividend until the firm announces a change.[1]

## THE STATISTICAL TEST OF THE STRUCTURAL STABILITY

The estimated regression results for three sets of different stocks are reported in Tables 2 through 4. A perusal of Table 2, equations (N-1) and (N-2), indicates that the tax laws have decreased the beta coefficients by 7.9 percentage points for the no dividend stock portfolio. A decrease of 13.7 percentage points in the portfolio beta coefficient is observed for equations (L-1) and (L-2) in Table 3 for the low dividend stocks. On the other hand, an increase of 6.6 percentages in the beta can be seen from equations (H-1 and H-2) in Table 4. Changes in the alpha coefficient can be computed in a similar fashion. However, a formal statistical procedure can be employed to detect whether significant differences exist before and after the tax law change.

The classical test of equality between two subsets of regression coefficients is commonly referred to as the Chow test (see Rao, 1952; Kullback and Rosenblatt, 1957; Chow, 1960; Fischer, 1970; Johnston, 1972; and Maddala, 1977). This procedure provides some explanation as to whether additional sample observations can be considered to come from the same population or appear to represent a different sample. It is thus possible to determine if the tax law has altered the structural stability of the portfolio betas in the regression models. Separate regressions (149 and 124 trading days before and after the 1986 Tax Reform Act) are estimated for each type of dividend yield portfolio with a dummy variable for testing the differential intercept (D) and the same dummy variable multiplying the excess market premium for testing differential slopes (DRET). Combined regressions for both years are also estimated for $n = n_1 + n_2 = 273$ observations. The estimates recorded in (N-1) and (N-5) are to be used to test the equality of the slope and the intercept for the no dividend stock group coefficients respectively before and after the tax law change. Similar estimates are made for the portfolios of the low dividend stocks (equations (L-1) through (L-5) of Table 3) and the high dividend stocks (equations (H-1) through (H-5) of Table 4).

First, we conduct the overall structural stability (both slope and intercept) before and after the new tax law took effect by using the following F statistics:

$$F_1 = \frac{(SSE_3 - SSE_1 - SSE_2)/k}{(SSE_1 + SSE_2)/n_1 + n_2 - 2k} \qquad [3]$$

where

$n_1$ = sample size before the 1986 Tax Reform Act

$n_2$ = sample size after the 1986 Tax Reform Act

k = number of independent variables including intercept

$SSE_1$ = sum of squares of residuals of the Capital Asset Pricing Model before the 1986 Tax Reform Act

$SSE_2$ = sum of squares of residuals of the Capital Asset Pricing Model after the 1986 Tax Reform Act

$SSE_3$ = sum of squares of residuals for both years

The F statistics for testing the overall structural stability are shown in Table 5. The test of the stability of the intercept or $\alpha$ coefficient before and after the new tax law is based on the following F statistic:

$$F_2 = \frac{(SSE_3 - SSE_4)/p\text{-}1}{SSE_4/n_1 + n_2 - k - p + 1} \quad [4]$$

where

$SSE_4$ = sum of squares of residuals with a dummy intercept D for both years

$p = 2$ = number of classes

Likewise, the test on the stability of the slope before and after the tax law is based on the following F statistic:

$$F_3 = \frac{(SSE_4 - SSE_1 - SSE_2)/k - p + 1}{(SSE_1 + SSE_2)/n_1 + n_2 - 2k} \quad [5]$$

The estimated F statistics are reported in Table 5. An examination of the table indicates that the null hypothesis of overall stability for the no dividend portfolio cannot be rejected. In addition, the F statistic for testing differential slopes ($F_3$) is much greater than that for testing differential intercept ($F_2$). This may imply that there is more relative instability of the beta coefficients in the no dividend stock portfolio.

In the case of the low dividend portfolio, the sample F ($F_3$) is nearly significant at a 5% level whereas $F_2$ is insignificant. This indicates that the TRA of 1986 may well have altered the slope ($\beta$ coefficient or market component of the excess return) while only weakly effecting the intercept coefficient ($\alpha$ coefficient or nonmarket component of the excess return).

In the case of the high dividend portfolio, the overall structural stability is clearly not preserved ($F_1 = 5.835$). Unlike the low dividend case, the null hypothesis that the $\beta$ coefficient is stable for the high dividend group cannot be rejected since $F_3 = 1.321$. However, there is a significant change in the $\alpha$ coefficient ($F_2 = 14.531$). In view of the above results, it can be seen that the new tax law definitely affected different types of portfolios in different ways, depending on their dividend policy.

## DISCUSSION OF THE RESULTS

An examination of Table 2 reveals that the no dividend portfolio beta decreased from 0.916 to 0.837. For a given alpha value, a decreased beta value implies that such stocks became more defensive (or moved closer to the market variation). This group of securities lost some of the differential advantage in after tax returns between 1986 (when the maximum tax rate was 50% on dividend yield and 20% on capital gains) and 1987 (when the maximum tax rate on dividend yield became 38.5% and 28% on capital gains). This would imply less variation in the before tax return relative to the variation in the after tax returns, consistent with the decrease in the before tax beta observed in the regression (for those individuals in the highest tax bracket in both years). There are countervailing effects, however. In the highest tax bracket, capital gains still had an absolute tax advantage relative to dividend yields. In other tax brackets, the implied shift of the effective tax rate becomes an even more obscure estimate. Dividend exclusions may have been a possibility in 1986 but not in 1987 for small investors and there may have been a decrease or increase in the tax rate based on individual investor characteristics in the two periods. The oberved decrease in the portfolio beta in the no dividend group is consistent with predictions of other authors (i.e.,Ben-Horim and Palmon, 1987). Similar results were found for the low dividend stocks, that is, the portfolio beta decreased from 0.807 to 0.73.

On the other hand, the tax advantage on the dividend income appears to have made high dividend stocks more attractive and volatile. Consequently, the portfolio betas have increased significantly (from 0.489 to 0.555) and the portfolios have become less defensive with respect to market risks. This result is consistent with the decrease in relative tax advantage of capital gains to dividend yields. The after tax relative advantage in capital gains of the market portfolio has tended to decrease relative to this group, so the before tax returns require less of a differential to provide the same after tax differential. The covariation of this portfolio with the market should therefore increase, as observed.

For a given portfolio beta, the Jensen's alpha value of the no dividend stocks moved closer to one since investors of this type of stocks experienced a potential tax increase. This made the no dividend stock portfolio less overpriced, i.e., the alpha was increased from -0.000823 to -0.000465. A similar

result was found for the high dividend yield stocks with an alpha value increase from -0.0295 to -0.01617, which can be perhaps to some degree, attributed to the loss of $200 dividend exclusion clause. On the other hand, the alpha value decreased further for the low dividend portfolio, which is the least predictable stock type depending on the mixture of capital gain and dividend yields as well as the individual tax bracket of the investor. However, these alpha values are to be treated with caution since many of them are insignificant and can be combined with the error term in the Capital Asset Pricing Model.

In sum, the overall structural stability was preserved in the case of the no dividend stocks ($F_1$ = 0.509). However, it was not preserved for either the low dividend or the high dividend stock groups. The alpha instability appears to be the source of overall structural instability for the low dividend stock group while the beta instability appears to have caused the overall instability in the case of the high dividend stock group. Contrary to the prior findings of beta stability, the 1986 Tax Reform Act did have significant impact on the fundamental structure of the Capital Asset Pricing Model for the high and low dividend stock groups.

## IMPLICATIONS FOR ACADEMIC RESEARCHERS AND INVESTORS

The results of this study indicate that the assumption of structural stability is violated when the time frame spans the Tax Reform Act of 1986. Rather than assuming structural stability for research that spans the time frame from 1986 to 1987, academic researchers should always segment into two separate time periods and test for structural stability prior to aggregating data for 1986 and 1987 as part of the same period. These results are also dependent on the dividend yield grouping (high, low and no) and research should not aggregate these dividend yield types and assume stability since the structural instability may appear structurally stable when aggregated across dividend yield types (see Means and Yang, 1992).

For investors, the implications are also clear. Betas which are computed using time frames which span the pre and post period of the Tax Reform Act of 1986 should be assumed to have structural instability unless structural stability has been verified. Since the majority of published betas are based on the prior five year monthly return periods (i.e., Standard and Poor estimates) this instability will continue until after 1992 data has been distributed by CRSP (approximately July 1993). Published betas should thus be viewed with skepticism by investors.

## CONCLUSIONS

This study has indicated that the assumption of structural stability of portfolio betas, assumed to exist except during major world events such as war and oil embargoes, does not exist in the time frame which spans the Tax Reform Act of 1986. No dividend portfolio securities appear to have maintained structural stability over the 1986 to 1987 time frame with some indication of a shift in beta. The low dividend portfolio exhibited alpha instability. The high dividend portfolio exhibited substantial beta instability. Our results imply that structural instability of the CAPM model was caused by Tax Reform as well as war or oil embargoes. Tests of stability are thus shown to be necessary in any time frame when a major tax change occurs.

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TABLE 1

| GROUP 1 (NO DIVIDEND) | GROUP 2 (HIGH DIVIDEND YIELD) | GROUP 3 (LOW DIVIDEND YIELD) |
|---|---|---|
| 1. AMREP (AXR) | 1. BELL SOUTH CORP.* (BLS) | 1. ALBERTO-CULVER (AVC) |
| 2. ANALOG DEVICES (ADI) | 2. BAYSTATE GAS (BGC) | 2. ALBERTSON'S, INC. (ABS) |
| 3. AYDIN CORP. (AYD) | 3. ATLANTIC RICHFIELD (ARC) | 3. AMERICAN FAMILY* (AFL) |
| 4. BURLINGTON COAT FACTORY (BCF) | 4. AMERICAN ELECTRIC POWER (AEP) | 4. AMERICAN INTERNAT'L GROUP* (AIG) |
| 5. BIOCRAFT LABORATORIES (BCL) | 5. AMERICAN BUILDING MAIN. (ABM) | 5. AMERICAN STORES (ASC) |
| 6. CNA FINANCIAL (CAF) | 6. BOSTON EDISON (BSE) | 6. ANHEUSER-BUSCH* (BUD) |
| 7. CIRCUS CIRCUS ENT. (CIR) | 7. CANADIAN PACIFIC (CP) | 7. AUTOMATIC DATA PROCESSING* (AUD) |
| 8. CLAYTON HOMES (CMH) | 8. CAROLINA POWER & LIGHT (CPL) | 8. BANDA G, INC. (BDG) |
| 9. COMPAQ COMPUTER (CPQ) | 9. CASCADE NATURAL GAS (CGC) | 9. BOEING, CO. (BA) |
| 10. CONT'L. INFORMATION SYSTEMS (CNY) | 10. CENTRAL ILL. PUBLIC SERVICE (CIP) | 10. CARREN-WALLACE (CAR) |
| 11. CRAY RESEARCH (CYR) | 11. CENTRAL LOUISIANA ELEC. (CNL) | 11. CIRCUIT CITY STORES (CC) |
| 12. DIGITAL EQUIPMENT (DEC) | 12. CENTRAL & SOUTHWEST (CSR) | 12. COMDISCO, INC. (CDO) |
| 13. DIVERSIFIED INDUSTRIES (DML) | 13. COMMONWEALTH EDISON (CWE) | 13. COMMUNITY PSYCHIATRIC CENTER (CMY) |
| 14. ELECTRONIC ASSOCIATES (EA) | 14. CONNECTICUT NATURAL GAS (CTG) | 14. COOPER TIRE & RUBBER (CTB) |
| 15. EMERSON RADIO (EME) | 15. BANKAMERICA REALTY INVESTORS (BRE) | 15. DREYFUL CORP. (DRY) |
| 16. FEDERAL EXPRESS (FDX) | 16. GREEN MOUNTAIN POWER (GMP) | 16. ENNIS BUSINESS FORMS** (EBF) |
| 17. GENERAL DATACOMM INDUSTRIES (GPC) | 17. HAWAIIAN ELECTRIC INDUSTRIES (HE) | 17. EQUITEC FINANCIAL (EFG) |
| 18. GENERAL HOMES (GHO) | 18. HOUSTON INDUSTRIES (HOU) | 18. FAMILY DOLLAR STORES (FDO) |
| 19. JEWEL COR INC. (JC) | 19. HYDRAULIC CO. (THC) | 19. FIRST BOSTON (FBC) |
| 20. KNOGO CORP. (KNO) | 20. ILLINOIS POWER (IPC) | 20. FLORIDA EAST COAST*** (FLA) |
| 21. QUINSA MOTOR HOMES (LQM) | 21. INT'L FLAVORS & FRAGRANCES (IFF) | 21. FORD MOTOR (F) |
| 22. MARSHALL INDUSTRIES (MI) | 22. INTERSTATE POWER (IPW) | 22. GERBER SCIENTIFIC** (GRB) |
| 23. ORION PICTURES (OPC) | 23. IOWA RESOURCES (IOR) | 23. GOLDEN WEST FINANCIAL (GDW) |
| 24. PRIME COMPUTER (PRM) | 24. KANSAS CITY POWER & LIGHT (KLY) | 24. HANDLEMAN CO. (HDL) |
| 25. RAMADA INC. (RAM) | 25. KANSAS GAS & ELECTRIC (KGE) | 25. HELLIG-MYERS CO. (HMY) |
| 26. RECOGNITION EQUIPMENT (REC) | 26. KENTUCKY UTILITIES (KU) | 26. HEWLETT-PACKARD (HWP) |
| 27. ROYAL INTERNATIONAL OPTICAL (RIO) | 27. FIRST UNION REAL ESTATE (FUR) | 27. HITACHI, LTD (HIT) |
| 28. REECE CORP. (RCE) | 28. FEDERAL REALTY INVESTMENT (FRT) | 28. HOMESTEAD FINANCIAL (HFL) |
| 29. SHOE TOWN (SHV) | 29. EMPIRE DISTRICT ELECTRIC (EDE) | 29. HONDA MOTOR (HMC) |
| 30. SYMS CORP. (SYM) | 30. EASTERN UTILITIES ASSOCIATES (EUA) | 30. JAMESWAY CORP.* (JMY) |
| 31. TGI FRIDAY'S (TGI) | 31. DUQUESNE LIGHT (DQU) | 31. RAYCHEM CORP. (RYC) |
| 32. TANDY CORP. (TAN) | 32. DUKE POWER (DUK) | 32. RUSSELL CORP. (RML) |
| 33. TANDY CRAFTS, INC. (TAC) | 33. DETROIT EDICSON (DTE) | 33. SHAW INDUSTRIES (SHX) |
| 34. TELEX CORP. (TC) | 34. DELMARVA POWER & LIGHT (DEW) | |
| 35. TERADYNE, INC. (TER) | | |
| 36. TIMEPLEX, INC. (TIX) | | |
| 37. TOLL BROTHERS (TOL) | | |
| 38. TOYS "R" US (TOY) | | |
| 39. TRANSCON INC. (TEL) | | |

*Stock split (2 for 1) during study period.
**Stock split (3 for 2) during study period.
***Issued special dividend during study period.

**TABLE 2**
**THE REGRESSION ANALYSIS OF NO DIVIDEND STOCKS**

Year = 1986

$$R_{it} - RF_t = -0.000823 + 0.916\ [E(R_{Mt}) - RF_t] + e_{it} \qquad \text{(N-1)}$$
$$(-1.624)^* \quad (17.184)$$

n = 149, adjusted R square = 0.665, F = 295.3, $SSE_1$ = 0.00562

Year = 1987

$$R_{it} - RF_t = -0.000465 + 0.837\ [E(R_{Mt}) - RF_t] + e_{it} \qquad \text{(N-2)}$$
$$(0.694) \quad (12.91)$$

n = 124, adjusted R square = 0.574, F = 166.7, $SSE_2$ = 0.00658

Year = 1986 to 1987

$$R_{it} - RF_t = -0.000701 + 0.879\ [E(R_{Mt}) - RF_t] + e_{it} \qquad \text{(N-3)}$$
$$(-1.72) \quad (21.327)$$

n = 273, adjusted R square = 0.625, F = 454.8, $SSE_3$ = 0.01224

Year = 1986 to 1987

$$R_{it} - RF_t = -0.000834 + 0.878\ [E(R_{Mt}) - RF_t] + 0.00029D + e_{it} \qquad \text{(N-4)}$$
$$(-1.512) \quad (21.129) \quad (0.358)$$

n = 273, adjusted R square = 0.624, F = 226.7, $SSE_4$ = 0.012236

Year = 1986 to 1987

$$R_{it} - RF_t = -0.000823 + 0.916\ [E(R_{Mt}) - RF_t] + 0.00036D - 0.0784\ DRET^{**} + e_{it} \qquad \text{(N-5)}$$
$$(-1.491) \quad (15.78) \quad (0.433) \quad (-0.943)$$

n = 273, adjusted R square = 0.6239, F = 151.4, $SSE_5$ = 0.0121958

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*The values in parentheses are corresponding t value and probabilities.
**The DRET = D* $[E(R_{Mt}) - RF_t]$ is a dummy variable used to test the equality of the slope coefficient.

TABLE 3
THE REGRESSION ANALYSIS OF LOW DIVIDEND STOCKS

Year 1986

$$R_{it} - RF_t = -0.001 + 0.867\,[E(R_{Mt}) - RF_t] + 13.497\,b_{it} + e_{it} \quad \text{(L-1)}$$
$$(-0.892)^* \quad (17.813) \qquad (0.762)$$

n = 149, adjusted R square = 0.681, F = 158.65, $SSE_1 = 0.004678$

Year = 1987

$$R_{it} - RF_t = -0.0203 + 0.73\,[E(R_{Mt}) - RF_t] + 410.291\,b_{it} + e_{it} \quad \text{(L-2)}$$
$$(-2.058) \quad (15.367) \qquad (2.079)$$

n = 124, adjusted R square = 0.676, F = 129.3, $SSE_2 = 0.003444$

Year = 1986 to 1987

$$R_{it} - RF_t = -0.0008 + 0.81\,[E(R_{Mt}) - RF_t] + 12.953\,b_{it} + e_{it} \quad \text{(L-3)}$$
$$(-0.815) \quad (23.83) \qquad (0.762)$$

n = 273, adjusted R square = 0.675, F = 283.9, $SSE_3 = 0.008345$

Year = 1986 to 1987

$$R_{it} - RF_t = -0.0011 + 0.808\,[E(R_{Mt}) - RF_t] + 15.06\,b_{it} + 0.00043D + e_{it} \quad \text{(L-4)}$$
$$(-1.005) \quad (23.636) \qquad (0.868) \qquad (0.617)$$

n = 273, adjusted R square = 0.6746, F = 188.98, $SSE_4 = 0.0083334$

Year = 1986 to 1987

$$R_{it} - RF_t = -0.00117 + 0.868\,[E(R_{Mt}) - RF_t] + 16.317\,b_{it} + 0.00053D -$$
$$(-1.062) \quad (18.196) \qquad (0.944) \qquad (0.77)$$

$$0.122\,DRET^{**} + e_{it} \quad \text{(L-5)}$$
$$(-1.783)$$

n = 273, adjusted R square = 0.677, F = 143.67, $SSE_5 = 0.0082356$

*The values in parentheses are corresponding t value and probabilities.

**The $DRET = D^* [E(R_{Mt}) - RF_t]$ is a dummy variable used to test the difference of the slope coefficient.

**TABLE 4**
**THE REGRESSION ANALYSIS OF HIGH DIVIDEND STOCKS**

Year 1986

$$R_{it} - RF_t = \underset{(-3.497)*}{-0.0295} + \underset{(13.583)}{0.489}\,[E(R_{Mt}) - RF_t] + \underset{(3.580)}{125.4}\,b_{it} + e_{it} \qquad \text{(H-1)}$$

n = 149, adjusted R square = 0.583, F = 104.321, $SSE_1$ = 0.00252715

Year = 1987

$$R_{it} - RF_t = \underset{(-1.582)}{-0.01617} + \underset{(13.326)}{0.555}\,[E(R_{Mt}) - RF_t] + \underset{(1.496)}{61.76}\,b_{it} + e_{it} \qquad \text{(H-2)}$$

n = 124, adjusted R square = 0.595, F = 91.239, $SSE_2$ = 0.0027167

Year = 1986 to 1987

$$R_{it} - RF_t = \underset{(-2.354)}{-0.01497} + \underset{(18.401)}{0.515}\,[E(R_{Mt}) - RF_t] + \underset{(2.356)}{61.455}\,b_{it} + e_{it} \qquad \text{(H-3)}$$

n = 273, adjusted R square = 0.566, F = 178.622, $SSE_3$ = 0.00558085

Year = 1986 to 1987

$$R_{it} - RF_t = \underset{(-3.388)}{-0.0219} + \underset{(19.087)}{0.522}\,[E(R_{Mt}) - RF_t] + \underset{(3.5)}{94.014}\,b_{it} - \underset{(-3.803)}{0.00218}D + e_{it} \qquad \text{(H-4)}$$

n = 273, adjusted R square = 0.5869, F = 129.8, $SSE_4$ = 0.00529607

Year = 1986 to 1987

$$R_{it} - RF_t = \underset{(-3.415)}{-0.0221} + \underset{(12.85)}{0.492}\,[E(R_{Mt}) - RF_t] + \underset{(3.526)}{94.682}\,b_{it} - \underset{(-3.881)}{0.00223}D +$$

$$\underset{(1.119)}{0.061}\,DRET^{**} + e_{it} \qquad \text{(H-5)}$$

n = 273, adjusted R square = 0.5873, F = 97.786, $SSE_5$ = 0.00527143

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*The values in parentheses are corresponding t value and probabilities.

**The DRET = D* $[E(R_{Mt}) - RF_t]$ is a dummy variable used to test the difference of the slope coefficient.

TABLE 5

| | Sample F* | Degrees of Freedom |
|---|---|---|
| | $F_1$* = 0.441 | (2,269) |
| No Dividend Stock | $F_2$ = 0.088 | (1,270) |
| | $F_3$ = 0.79 | (1,269) |
| | $F_1$ = 2.81 | (3,267) |
| Low Dividend Stock | $F_2$ = 0.374 | (1,269) |
| | $F_3$ = 3.665 | (2,267) |
| | $F_1$ = 5.784 | (3,267) |
| High Dividend Stock | $F_2$ = 14.465 | (1,269) |
| | $F_3$ = 1.329 | (2,267) |

*$F_1$ is used to test the overall structural stability of the Capital Asset Pricing Model over the 1986 Tax Reform Act; $F_2$ is for testing the corresponding $\alpha$ stability; and $F_3$ is for testing the corresponding $\beta$ stability.

## ENDNOTE

[1]Equation 1 initially contained a change in dividend yield term (bpit) which estimated the effects of an announced change in dividends by dividing the change in dividend by the number of days between the announced change and the next ex-dividend day. In other words, our initial model assumed a status quo dividend amount as a naive forecast with an adjustment factor built in for announced new dividend information. During this period, for the securities studied, there were an insufficient number of changed dividends for this variable to be significant in the regression. It was therefore eliminated as a variable in Equation 1.

# Investor Use of Indirect and Direct Statement of Cash Flows Information for Stock Price Prediction Decisions

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## ABSTRACT

This study examined the effects of alternative reporting forms of a statement of cash flows (SCF) required by Financial Accounting Standards Board Statement No. 95 on stock price prediction decisions. Three case studies with annual financial information for three actual companies represented the primary experimental instruments used during this study. The financial disclosures of each case study firm contained either a SCF-direct, SCF-indirect, or statement of changes in financial position-working capital financial statement. Each case study asked sophisticated (financial analysts, portfolio managers, and stockholders) and naive (MBA students) investor subjects to develop three-month and twelve-month stock price predictions. Analysis of variance and multiple regression statistical results provided no evidence of significantly different usage of SCF or working capital information by either investor group in stock price predictions encompassing the two prediction periods. These results support previous assertions that financial statement users are generally indifferent toward cash flow information presented under two alternative forms: the SCF-direct and SCF-indirect. The results of this study suggest the reporting of cash flows under a standardized SCF-indirect format because of additional preparer costs associated with the SCF-direct method and a possible lack of additional information content of SCF-direct data for investment decisions.

## INTRODUCTION

The accounting profession designed the statement of cash flows (SCF) to supply useful information regarding changes in a company's cash flow position occurring over a period of time. Most studies have focused upon the perceived usefulness of cash flow information for financial decisions (Lee and Tweedie 1981; Seed 1984; Chang and Most 1985). These perceptual surveys did not investigate whether disclosures of cash flow information affect the actual decision-making processes of financial statement users. Market-based research has discovered some information content of general cash flow information (Bowen, Burgstahler, and Daley 1987; Wilson 1987). However, these studies did not focus upon the application of SCF disclosures for particular financial decisions. Allen (1985) found that hypothetical SCF information improved financial analyst bankruptcy predictions.

This study attempts to expand the cash flow literature in several areas. First, statistical tests determine the level of investor use of SCF information prepared in accordance with Financial Accounting Standard Board Statement No. 95. In addition, this research investigates the impact of SCF-direct and SCF-indirect versions of reporting cash flows from operations on investor decisions. If no significant differences are found in financial decisions based upon financial information containing alternative SCF-direct and SCF-indirect disclosures, the relevance of allowing dual presentation formats for reporting cash flows from operations information may be questioned. Finally, this study attempts to extend the external validity of cash flow research by investigating the effects of alternative SCF and working capital disclosures on common investment decisions of two diverse investor groups over two decision time periods.

Two hypothesis groups encompassed the objectives of this research study. The null hypotheses employed to test for significant differences in use of cash flow and working capital information for three-month and twelve-month stock price predictions of professional and naive investors were:

$H_{O1}$: There are no significant differences in stock price prediction values of professional and naive investors associated with SCF-direct and SCF-indirect information.

$H_{O2}$: There are no significant differences in stock price prediction values of professional and naive investors associated with SCF-direct and working capital information.

$H_{O3}$: There are no significant differences in stock price prediction values of professional and naive investors associated with SCF-indirect and working capital information.

The null hypotheses used to test for significant relationships between SCF information and three-month and twelve-month price predictions of professional and naive investors after controlling for working capital disclosure effects were:

$H_{O4}$: There are no significant relationships between SCF-direct information disclosures and three-month and twelve-month stock price prediction values of professional and naive investors.

$H_{O5}$: There are no significant relationships between SCF-indirect information disclosures and three-month and twelve-month stock price prediction values of professional and naive investors.

## BACKGROUND

FASB members Lauver and Swieringa have contended that direct listings of cash receipts and payments from operations meet the cash flow reporting objectives of FASB Concepts Statement No. 5 (FASB 1984, para. 52) and Statement No. 95 (FASB 1987, para. 4). Supporters of the direct method include investors (Seed 1984) and commercial lenders (FASB Statement No. 95, 1987, para. 111).

Financial statement preparers support preparation of the indirect SCF, which represents a carryover reporting format from the previous statement of changes in financial position (SCFP) compiled on a cash basis. Preparers believe that additional preparer costs caused by accounting reporting system changes outweigh incremental user benefits derived from information which directly lists cash receipts and payments from operations (FASB Statement No. 95, 1987, para. 112). Other SCF-direct opponents believe that the direct method may produce an alternative earnings performance measure which is not founded upon generally-accepted accounting principles (Englard and Goodman 1986).

Information processing theory, as summarized by Lord (1985), suggests that the linkage of SCF and cash flow information needs of investors might improve cash flow information processing and affect stock price prediction decisions, especially among professional investors with more highly developed cash flow concepts. Information processing theory also implies that the form of SCF disclosure will not significantly affect use of SCF information for investment decisions. Use of prototypical information and decision heuristics such as availability and representativeness (Kahneman and Tversky 1973; Tversky and Kahneman 1973; 1974) might nullify any incremental information use of particular SCF reporting styles.

Abdel-Khalik and Keller (1979) found that financial analysts fixated on earnings data when predicting stock prices while ignoring cash flow tax savings resulting from inventory valuation changes. However, the Abdel-Khalik and Keller (1979) study may not reflect current trends in the investment market toward use of cash flow information in stock price predictions (Kaplan 1985; Dorfman 1987; Dreyfus 1988). Furthermore, the present study focused upon the comparative effects of SCF information on decisions of professionals and naive investor groups. This comparative approach extended the within-group results of both the Abdel-Khalik and Keller (1979) and Allen (1985) studies to potential SCF information use across groups.

## METHODOLOGY

### Subjects

Financial analysts, bank portfolio managers, and stockbrokers comprised the professional investor group of this study. Eighty-three professional investors agreed to participate in this study when contacted through random telephone solicitations.

MBA students enrolled in graduate-level financial and investment analysis courses at three midwestern universities represented the naive sample group. The MBA investor sample group was assumed to have been previously exposed to basic accounting principles and financial statements prior to their participation in this study.

### Experimental Materials

Case study companies used in this study were given fictitious names and fiscal year-end reporting dates to minimize identification of actual companies by participants. Alternative SCF-direct, SCF-indirect, and SCFP-working capital disclosures for each case study firm represented the independent variables of the case studies. Firm description, balance sheet, and income statement information was held constant for each case study firm regardless of the

form of change in financial position statement presented. Each case study also contained a series of three-year financial ratios and other financial information. These additional disclosures provided sample group members with summary data for earnings, working capital, or cash flow trend analysis. Based upon this financial information, each subject developed low and high stock price prediction values for each case study firm. These pricing requests patterned a pessimistic-most likely-optimistic pricing range utilized by Abdel-Khalik and Keller (1979) when eliciting stock price predictions from financial analysts.

Information displayed in the SCF-direct and SCFP-working capital reporting formats for each case study appeared in actual SCF-indirect disclosures contained in each company's annual report. SCF presentations followed FASB Statement No. 95 reporting guidelines. The relatively stable performance of the plastics industry over the actual fiscal-year period under review caused the inclusion of three plastics manufacturers in the case studies.

After completing the three case studies, each participant provided personal, educational, occupational, and professional information. A follow-up question asked each subject if a stock valuation model was used to develop case study stock price predictions. Additional follow-up queries included subject considerations of Dow Jones industrial average price movements, expected general economic conditions, and other information incorporated in case study stock prediction decisions. The last follow-up question requested minutes expended by each subject in completing the three case studies: Demographic and follow-up information attempted to examine personal, external, and time effects on stock prediction values.

## Procedure

Table 1 illustrates the random variations in the presentation sequence of company financial data and change in financial statement information appearing in the case study package. These variations controlled for possible response bias caused by company size and the order of the different disclosure forms of SCF and working capital information. The entire case study package exposed subjects to each of the three forms of SCF and working capital information for potential use in stock price prediction decisions.

Completion of the case studies by subjects during similar time periods, within-group homogeneity, and across-group geographic similarity contributed to the assumption of equivalent effects of extraneous variables on stock price prediction values of both sample groups. The matching of case study companies as to fiscal years and New York Stock Exchange membership further attempted to minimize
extraneous variable influence on stock price prediction values.

Significant stock price prediction differences within either investor sample group discovered under analysis of variance (ANOVA) statistical procedures would result in rejection of some or all of the first groups of null hypotheses ($H_{O1}$ to $H_{O3}$). In this experiment, the random assignment of change in financial position statements, reporting formats, and company presentation orders to both investor sample groups produced a three-factor completely randomized fixed-effects factorial design model (Daniel and Terrell 1986, p. 301) illustrated in Table 1. An additional two-factor completely randomized fixed-factor factorial experimental design model (ANOVA Model 2) controlled for the overall financial statement effect of each case study company on stock price prediction values in combination with alternative SCF and working capital presentations (see Table 2). There appeared to be no evidence of ANOVA assumption violations inherent in the case study design of this experiment to significantly reduce the reliability of F-statistic data.

Table 3 illustrates Regression Model One, which investigated linkages between personal characteristics, case study SCF information, and stock price prediction values. Regression Model One included dummy variables identifying particular financial information of each company and SCF and working capital disclosures accompanying specific stock price prediction values. These dummy variables tested whether SCF disclosures significantly influenced stock price prediction values beyond subject characteristics, working capital disclosures, and overall case study financial information. Random assignment of case study treatments to experimental subjects and large observation sizes (111 and 153) of naive and

professional investor sample groups appeared to satisfy randomness and normality requirements for multiple regression statistical validity. In addition, visual inspection of scatterplots of multiple regression residuals plotted against stock price prediction dependent variables provided straight-line patterns which satisfied linearity and homogeneity conditions for Regression Model One.

ANOVA and multiple regression models analyzed the influence of each independent variable on low (pessimistic), high (optimistic), mean (average) and range (risk) stock price prediction values of each case study company provided by both sample investor groups for three-month and twelve-month periods. Dividing the fiscal year-end common stock price of the each firm into the corresponding stock price prediction values for each case study company produced equally-weighted stock price values which were input into each statistical model.

## RESULTS

Professional investors returned 55 completed response sheets (66% response rate). MBA students completed their response sheets during classroom time and returned forty-three usable case study response sheets.

### ANOVA Results

ANOVA Model One test results appearing in Tables 4 and 5 support the first three null hypotheses of this study. Alternative SCF and working capital information disclosed within case study financial data had no significant impact on three-month or twelve-month stock price prediction values of either professional or naive investor groups.

Conversely, company, SCF, and working capital presentation orders within the case studies substantially affected low and range stock price predictions of naive/student investors. Application of Fisher's Least Significant Difference procedure (Iman and Conover 1983) revealed significant mean differences ($p$ = .03) for three-month and twelve-month stock price predictions of naive investors when the sequence of case study companies began with the firm possessing the largest absolute earnings and total asset values. This statistical evidence suggests that the absolute value of a company may significantly influence naive/student investors interpretations of financial statement data for investment decisions.

ANOVA Model Two test results pictured in Table 5 disclosed no significant differences ($p$ l.t. .10) on three-month or twelve-month stock price prediction values of either sample group under SCF or working capital information treatments. On the other hand, ANOVA Model Two data clearly show the influence of overall financial data of each case study company on investor stock price predictions. This finding confirmed that subjects based their stock price predictions on the financial information of each case study firm.

In summary, statistical evidence obtained from both ANOVA models revealed that cash flow information presented in either form of a statement of cash flows did not significantly affect stock pricing decisions of professional or naive investors. These ANOVA results contradict prior research suggestions (Seed 1984; Campbell, Johnson, and Savoie 1984) that cash flow disclosures are widely used by investment professionals and influence stock valuations.

### Multiple Regression Results

Regression Model One was designed to identify relationships between a variety of specific information variables and stock price prediction values (see Table 3). Because no MBA students were chartered financial analysts, the chartered financial analyst independent variable (CFA) was not included in the naive investor regression model. Missing demographic and follow-up data reduced the total number of naive and professional investor's observations used in Regression Model One statistical analysis to 111 and 153, respectively.

Regression Model One results appearing in Tables 6 and 7 support prior ANOVA findings of a lack of significant influence of different SCF disclosures on stock price predictions. One exception to this apparent lack of influence was the effect of SCF-direct information on twelve-month range prediction values of professional investors. Regression Model One results also confirmed ANOVA implications of substantial use of particular company financial data by both investor groups for stock price prediction values across prediction periods.

ANOVA and multiple regression statistical findings strongly imply the exclusion of SCF disclosures as a primary information source for stock price predictions of professional and naive investors. Conversely, stock market, economic, and other external information variables were found to significantly influence investor stock price prediction decisions.

## CONCLUSIONS

This study compared the possible use of alternative working capital, SCF-direct, and SCF-indirect financial statement information in actual stock price prediction decisions of professional and naive investor sample groups. Information processing theory suggests that cash flow information might be more easily assimilated into cash-basis investment decisions of investors.

However, statistical findings from ANOVA and multiple regression analyses confirmed a general lack of impact of SCF or working capital disclosures on three-month and twelve-month price prediction values of professional or naive investor sample groups. Some possible significant effect of SCF-direct data on twelve-month stock price prediction range values represented an exception to statistical results. The combination of significant influence of overall case study financial data and lack of influence of SCF information included in the case study financial disclosures suggests that investors mentally process particular financial, stock market, and economic information during their stock price prediction decision evaluations with little regard for cash flow financial statement reports.

The relatively small sample size of both investor groups represents a limitation to the conclusions of this research study. In addition, both sample groups represented a convenience sampling restricted primarily to eastern Ohio and western Pennsylvania. These two criteria prevent the extension of the research conclusions to general populations. Use of stock price prediction values which were unique to case study firms precludes extension of these conclusions across all companies and investment decisions. Finally, information processed for stock price predictions may include additional variables not identified in the multiple regression model of this study. However, this study focused upon whether the transfer of particular cash flow information, in combination with other financial data, occurs within individual stock price prediction decisions.

Subject to experimental design and regression model limitations, the results of this research provide implications for several areas of cash flow research. Statistical data produced consistent evidence of the lack of materiality of the content and form of cash flow and working capital financial disclosures in stock price prediction decisions. These conclusions support financial statement preparer assertions that alternative SCF presentation formats provide little additional information to financial statement users for their stock pricing evaluations.

The findings of this research do not support advocates of the SCF-direct presentation format, nor FASB permission of alternative SCF reporting guidelines. This research study lends support to the standardization of cash flow reporting, perhaps under an SCF-indirect presentation format. The standardized SCF-indirect format apparently will not significantly diminish analytical use of cash flow information, at least for investment purposes, while improving financial statement comparability between firms. Furthermore, cost/benefit concerns of financial statement preparers facing accounting information system adjustments caused by SCF-direct adoption will be eliminated by requiring a uniform SCF-indirect financial report.

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Table 1 - ANOVA Model One - Three-Factor Completely Randomized

Fixed-Effects Factorial Design

| Company Order Treatments (COMPOR) | Statement Order Treatments (STMTOR) | Statement Treatment (STMT) Working Capital | SCF-Direct | SCF-Indirect |
|---|---|---|---|---|
| AKC | 123 | $X_a$ | $X_k$ | $X_c$ |
| CKA | 321 | $X_a$ | $X_k$ | $X_c$ |
| AKC | 132 | $X_a$ | $X_c$ | $X_k$ |
| CKA | 231 | $X_a$ | $X_c$ | $X_k$ |
| AKC | 213 | $X_k$ | $X_a$ | $X_c$ |
| CKA | 312 | $X_k$ | $X_a$ | $X_c$ |
| AKC | 231 | $X_c$ | $X_a$ | $X_k$ |
| CKA | 132 | $X_c$ | $X_a$ | $X_k$ |
| AKC | 312 | $X_k$ | $X_c$ | $X_a$ |
| CKA | 213 | $X_k$ | $X_c$ | $X_a$ |
| AKC | 321 | $X_c$ | $X_k$ | $X_a$ |
| CKA | 123 | $X_c$ | $X_k$ | $X_a$ |

Note. AKC = Akron, Kent, Canton Company Order
CKA = Canton, Kent, Akron Company Order
123 = Working Capital (WC) - SCF-Direct (D) - SCF-Indirect (I) Statement Order
132 = WC - I - D Statement Order
213 = D - WC - I Statement Order
231 = D - I - WC Statement Order
312 = I - WC - D Statement Order
321 = I - D - WC Statement Order
$X_a$ = Akron Company Mean Stock Price Predictions (Low, High, Mean, Range)
$X_k$ = Kent Company Mean Stock Price Predictions (Low, High, Mean, Range)
$X_c$ = Canton Company Mean Stock Price Predictions (Low, High, Mean, Range)

Table 2 - ANOVA Model Two - Two-Factor Completely Randomized Fixed-Effects

Factorial Design

| Company Financial Information Treatments (COMP) | Statement Treatment (STMT) Working Capital | SCF-Direct | SCF-Indirect |
|---|---|---|---|
| Akron Company | $X_{11}$ | $X_{13}$ | $X_{15}$ |
| | $X_{12}$ | $X_{14}$ | $X_{16}$ |
| | $X_{24}$ | $X_{22}$ | $X_{21}$ |
| | $X_{26}$ | $X_{25}$ | $X_{23}$ |
| Kent Company | $X_{13}$ | $X_{11}$ | $X_{12}$ |
| | $X_{15}$ | $X_{16}$ | $X_{14}$ |
| | $X_{23}$ | $X_{21}$ | $X_{22}$ |
| | $X_{25}$ | $X_{26}$ | $X_{24}$ |
| Canton Company | $X_{14}$ | $X_{12}$ | $X_{11}$ |
| | $X_{16}$ | $X_{15}$ | $X_{13}$ |
| | $X_{21}$ | $X_{23}$ | $X_{25}$ |
| | $X_{22}$ | $X_{24}$ | $X_{26}$ |

Note. $X_{ij}$ = Stock Price Predictions (Low, High, Mean, Range)
$_i$ = 1, if Akron, Kent, Canton Company Order
$_i$ = 2, if Canton, Kent, Akron Company Order
$_j$ = 1, if Working Capital (WC) - SCF-Direct (D) - SCF-Indirectr (I) Statement Order
$_j$ = 2, if WC - I - D Statement Order
$_j$ = 3, if D - WC - I Statement Order
$_j$ = 4, if D - I - WC Statement Order
$_j$ = 5, if I - WC - D Statement Order
$_j$ = 6, if I - D - WC Statement Order

Table 3 - Regression Model One for Studying Financial Information and Personal Characteristics Effects on Stock Price Prediction Values

$$Y_i = B_o + B_1DEG + B_2MAJ + B_3OCC + B_4INVEX + B_5ESTPER + B_6CFA + B_7STVAL + B_8DJ + B_9ECON + B_{10}OTHER + B_{11}TIME + B_{12}STMTD + B_{13}STMTI + B_{14}COMPK + B_{15}COMPC + E_i$$

Where:

| | |
|---|---|
| $Y_i$ = | Three-month or twelve-month stock price prediction values (low, high, mean, range) |
| $B_o$ = | Y intercept |
| $B_1...B_{16}$ = | Coefficients for independent variables |
| DEG = | Dummy variable for highest completed degree (Master and above = 1, otherwise zero) |
| MAJ = | Dummy variable for highest completed degree major (Finance and accounting = 1, otherwise zero) |
| OCC = | Dummy variable for principle occupation (Financial analyst, portfolio manager, or stockholders = 1, otherwise zero) |
| INVEX = | Investment experience (years) |
| ESTPER = | Dummy variable for normal stock price estimation period (Twelve-month = 1, otherwise zero) |
| CFA = | Dummy variable for Chartered Financial Analyst status (Yes = 1, otherwise zero) |
| STVAL = | Dummy variable for subject use of stock valuation model for price predictions (Yes = 1, otherwise zero) |
| DJ = | Dummy variable for subject use of anticipate Dow Jones industrial average price movements for stock price predictions (Yes = 1, otherwise zero) |
| ECON = | Dummy variable for subject use of anticipated general economic conditions for stock price predictions (Yes = 1, otherwise zero) |
| OTHER = | Dummy variable for subject use of other miscellaneous outside information for stock price predictions (Other items listed = 1, zero items listed = 0) |
| TIME = | Time used in completing survey instrument and case studies (minutes) |
| STMTD = | Dummy variable for subject use of SCF-direct information for stock price predictions (SCF-direct =1, otherwise zero) |
| STMTI = | Dummy variable for subject use of SCF-indirect information for predicting stock price predictions (SCF-indirect = 1, otherwise zero) |
| COMPK = | Dummy variable for subject use of Kent Company financial information for stock price predictions (Kent Company = 1, otherwise zero) |
| COMPC = | Dummy variable for subject use of Canton Company financial information for stock price predictions (Canton Company = 1, otherwise zero) |
| $E_i$ = | Error term |

Table 4 - ANOVA Model One Results for Use of Financial Information by Naive Investors in Stock Price Predictions

Three-Month Prediction Values (n = 129)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0071 | 0.40 | 0.0172 | 0.54 | 0.0114 | 0.65 | 0.0031 | 0.11 |
| B(STMTOR) | 5 | 0.0043 | 2.44* | 0.0152 | 0.48 | 0.0111 | 0.64 | 0.0716 | 2.47* |
| C(COMPOR) | 1 | 0.0823 | 4.68* | 0.0011 | 0.04 | 0.0257 | 1.47 | 0.0642 | 2.22 |
| AB | 10 | 0.0205 | 1.17 | 0.0173 | 0.54 | 0.0130 | 0.75 | 0.0234 | 0.81 |
| AC | 2 | 0.0024 | 0.14 | 0.0022 | 0.07 | 0.0002 | 0.00 | 0.0091 | 0.32 |
| BC | 5 | 0.0285 | 1.62 | 0.0124 | 0.39 | 0.0108 | 0.62 | 0.0388 | 1.34 |
| ABC | 10 | 0.0046 | 0.26 | 0.0135 | 0.42 | 0.0055 | 0.31 | 0.0141 | 0.49 |
| Error | 93 | 0.0176 | | 0.0319 | | 0.0175 | | 0.0281 | |

Twelve-Month Prediction Values (n=129)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0015 | 0.06 | 0.0254 | 0.56 | 0.0096 | 0.41 | 0.0155 | 0.34 |
| B(STMTOR) | 5 | 0.0415 | 1.78 | 0.0248 | 0.54 | 0.0134 | 0.58 | 0.0790 | 1.75 |
| C(COMPOR) | 1 | 0.0919 | 3.95* | 0.0042 | 0.09 | 0.0339 | 1.46 | 0.0568 | 1.26 |
| AB | 10 | 0.0399 | 1.72 | 0.0244 | 0.53 | 0.0162 | 0.70 | 0.0640 | 1.42 |
| AC | 2 | 0.0052 | 0.22 | 0.0056 | 0.12 | 0.0036 | 0.15 | 0.0072 | 0.16 |
| BC | 5 | 0.0353 | 1.52 | 0.0250 | 0.55 | 0.0106 | 0.45 | 0.0783 | 1.74 |
| ABC | 10 | 0.0090 | 0.39 | 0.0363 | 0.79 | 0.0172 | 0.74 | 0.0218 | 0.48 |
| Error | 93 | 0.0233 | | 0.0457 | | 0.0232 | | 0.0450 | |

*p<.05 **p<.01

Table 5 - ANOVA Model One Results for Use of Financial Information by Professional Investors in Stock Price Predictions

Three-Month Prediction Values (n=165)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0055 | 0.22 | 0.0141 | 0.51 | 0.0080 | 0.34 | 0.0071 | 0.61 |
| B(STMTOR) | 5 | 0.0177 | 0.71 | 0.0040 | 0.14 | 0.0071 | 0.30 | 0.0150 | 1.29 |
| C(COMPOR) | 1 | 0.0005 | 0.02 | 0.0087 | 0.31 | 0.0033 | 0.14 | 0.0050 | 0.43 |
| AB | 10 | 0.0163 | 0.65 | 0.0421 | 1.53 | 0.0242 | 1.06 | 0.0174 | 1.50 |
| AC | 2 | 0.0115 | 0.46 | 0.0403 | 0.73 | 0.0154 | 0.66 | 0.0016 | 0.14 |
| BC | 5 | 0.0186 | 0.74 | 0.0307 | 1.11 | 0.0190 | 0.81 | 0.0224 | 1.93 |
| ABC | 10 | 0.0225 | 0.90 | 0.0149 | 0.54 | 0.0165 | 0.70 | 0.0090 | 0.77 |
| Error | 129 | 0.0250 | | 0.0276 | | 0.0234 | | 0.0116 | |

Twelve-Month Prediction Values (n=165)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0041 | 0.11 | 0.0463 | 0.88 | 0.0136 | 0.37 | 0.0462 | 1.42 |
| B(STMTOR) | 5 | 0.0429 | 1.15 | 0.0132 | 0.25 | 0.0219 | 0.59 | 0.0246 | 0.77 |
| C(COMPOR) | 1 | 0.0001 | 0.00 | 0.0026 | 0.05 | 0.0010 | 0.03 | 0.0016 | 0.05 |
| AB | 10 | 0.0174 | 0.47 | 0.0468 | 0.88 | 0.0221 | 0.60 | 0.0400 | 1.24 |
| AC | 2 | 0.0108 | 0.29 | 0.0220 | 0.42 | 0.0155 | 0.42 | 0.0034 | 0.11 |
| BC | 5 | 0.0142 | 0.38 | 0.0788 | 1.49 | 0.0235 | 0.63 | 0.0922 | 2.87** |
| ABC | 10 | 0.0300 | 0.81 | 0.0236 | 0.45 | 0.0216 | 0.58 | 0.0207 | 0.64 |
| Error | 129 | 0.0373 | | 0.0529 | | 0.0370 | | 0.0321 | |

*p<.05 **p<.01

Table 6 - ANOVA Model Two Results for Use of Financial Information by Naive Investors in Stock Price Predictions

Three-Month Prediction Values (n=129)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0126 | 0.67 | 0.0257 | 0.92 | 0.0181 | 1.11 | 0.0042 | 0.15 |
| B(COMP) | 2 | 0.0501 | 2.68 | 0.0263 | 0.94 | 0.0054 | 0.33 | 0.1311 | 4.64* |
| AB | 4 | 0.0038 | 0.20 | 0.0267 | 0.95 | 0.0101 | 0.62 | 0.0208 | 0.74 |
| Error | 120 | 0.0187 | | 0.0280 | | 0.0163 | | 0.0282 | |

Twelve-Month Prediction Values (n=129)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0061 | 0.25 | 0.0367 | 0.90 | 0.0180 | 0.81 | 0.0135 | 1.42 |
| B(COMP) | 2 | 0.1341 | 5.48** | 0.0942 | 2.32 | 0.0210 | 0.90 | 0.3762 | 9.18** |
| AB | 4 | 0.0043 | 0.17 | 0.0463 | 1.14 | 0.0091 | 0.41 | 0.0647 | 1.58 |
| Error | 120 | 0.0245 | | 0.0407 | | 0.0223 | | 0.0410 | |

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

Table 7 - ANOVA Model Two Results for Use of Financial Information by Professional Investors in Stock Price Predictions

Three-Month Prediction Values (n=165)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0058 | 0.24 | 0.0177 | 0.68 | 0.0102 | 0.34 | 0.0059 | 0.54 |
| B(COMP) | 2 | 0.0717 | 3.00 | 0.1921 | 7.40** | 0.1095 | 4.93** | 0.0899 | 8.17** |
| AB | 4 | 0.0086 | 0.36 | 0.0189 | 0.73 | 0.0101 | 0.46 | 0.0144 | 1.31 |
| Error | 156 | 0.0239 | | 0.0260 | | 0.0222 | | 0.0110 | |

Twelve-Month Prediction Values (n=165)

| | | Low | | High | | Mean | | Range | |
|---|---|---|---|---|---|---|---|---|---|
| Source | df | MS | F | MS | F | MS | F | MS | F |
| A(STMT) | 2 | 0.0059 | 0.17 | 0.0590 | 1.20 | 0.0160 | 0.47 | 0.0660 | 2.11 |
| B(COMP) | 2 | 0.0708 | 2.02 | 0.2489 | 5.08** | 0.1005 | 2.94 | 0.2373 | 7.59** |
| AB | 4 | 0.0022 | 0.06 | 0.0257 | 0.52 | 0.0077 | 0.22 | 0.0251 | 0.80 |
| Error | 156 | 0.0351 | | 0.0490 | | 0.0342 | | 0.0313 | |

*p<.05 **p<.01

Table 8 - Regression Model One Results for Significant Relationships Between Financial Information and Stock Price Prediction Values of Naive Investors

Three-Month Prediction Values (n = 111)
Coefficients (t-values)

| | $B_1$ | $B_2$ | $B_3$ | $B_4$ | $B_5$ | $B_6$ | $B_7$ | $B_8$ |
|---|---|---|---|---|---|---|---|---|
| 1. Low | .009 | -.075*** | .143** | -.008 | -.027 | NA | -.057 | -.073*** |
| | (.13) | (2.49) | (2.45) | (.76) | (1.00) | | (1.40) | (2.69) |
| 2. High | -.105* | -.060** | -.019 | -.011 | -.002 | NA | -.058 | .002 |
| | (1.80) | (2.21) | (.35) | (1.18) | (.08) | | (1.58) | (.07) |
| 3. Mean | -.048 | -.067*** | .062 | -.010 | -.014 | NA | -.057* | -.036 |
| | (.90) | (2.72) | (1.29) | (1.10) | (.65) | | (1.70) | (1.59) |
| 4. Range | -.113* | .015 | -.162*** | -.003 | .025 | NA | -.001 | .074 |
| | (1.85) | (.53) | (2.93) | (.32) | (.98) | | (.02) | (2.91)*** |

| | $B_9$ | $B_{10}$ | $B_{11}$ | $B_{12}$ | $B_{13}$ | $B_{14}$ | $B_{15}$ |
|---|---|---|---|---|---|---|---|
| 1. Low | .116** | -.040 | .002* | .005 | .026 | .080*** | -.019 |
| | (2.13) | (1.50) | (1.80) | (.17) | (.85) | (2.69) | (.64) |
| 2. High | .009 | -.014 | >.001 | -.013 | .002 | .015 | .048* |
| | (.18) | (.59) | (.32) | (.50) | (.09) | (.54) | (1.77) |
| 3. Mean | .060 | -.027 | .001 | -.004 | .014 | -.033 | .014 |
| | (1.39) | (1.23) | (1.27) | (.17) | (.56) | (1.33) | (.58) |
| 4. Range | -.103** | .026 | -.002 | -.019 | -.023 | .095*** | 0.67** |
| | (2.07) | (1.02) | (1.59) | (.66) | (.82) | (3.35) | (2.35) |

Twelve-Month Prediction Values (n = 111)
Coefficients (t-values)

| | $B_1$ | $B^2$ | $B_3$ | $B_4$ | $B_5$ | $B_6$ | $B_7$ | $B_8$ |
|---|---|---|---|---|---|---|---|---|
| 1. Low | .095 | -.064* | .192*** | -.009 | -.025 | NA | -.034 | -.108*** |
| | (1.31) | (1.89) | (2.94) | (.78) | (.82) | | (.75) | (3.56) |
| 2. High | -.061 | -.085** | .005 | -.003 | .016 | NA | -.081 | -.013 |
| | (.73) | (2.07) | (.07) | (.24) | (.46) | | (1.54) | (.36) |
| 3. Mean | .016 | -.072** | .099* | -.006 | -.004 | NA | -.058 | -.060** |
| | (.26) | (2.36) | (1.66) | (.56) | (.16) | | (1.40) | (2.19) |
| 4. Range | -.156* | -.017 | -.187** | -.006 | .041 | NA | -.047 | 0.95*** |
| | (1.83) | (.43) | (2.43) | (.39) | (1.15) | | (.88) | (2.68) |

| | $B_9$ | $B_{10}$ | $B_{11}$ | $B_{12}$ | $B_{13}$ | $B_{14}$ | $B_{15}$ |
|---|---|---|---|---|---|---|---|
| 1. Low | .164*** | -.057* | .003** | .002 | .007 | -.118*** | -.003 |
| | (2.79) | (1.87) | (2.18) | (.06) | (.20) | (3.52) | (.09) |
| 2. High | .021 | -.059* | .001 | -.037 | -.001 | .061 | .077** |
| | (.31) | (1.68) | (.36) | (.96) | (.02) | (1.58) | (2.02) |
| 3. Mean | .092* | -.058** | .002 | -.018 | .003 | -.028 | .038 |
| | (1.73) | (2.10) | (1.43) | (.58) | (.10) | (.94) | (1.24) |
| 4. Range | -.143** | -.002 | -.002 | -.039 | -.007 | .179*** | .082** |
| | (2.06) | (.06) | (1.50) | (.99) | (.19) | (4.54) | (2.06) |

*p<.10 **p<.05 ***p<.01

Table 9 - Regression Model One Results for Significant Relationships Between Financial Information and Stock Price Prediction Values of Professional Investors

Three-Month Prediction Values (n=153)
Coefficients (t-values)

| | $B_1$ | $B_2$ | $B_3$ | $B_4$ | $B_5$ | $B_6$ | $B_7$ | $B_8$ |
|---|---|---|---|---|---|---|---|---|
| 1. Low | -.016 | -.018 | -.028 | >.001 | .044 | -.012 | -.031 | -.037 |
| | (.55) | (.58) | (.79) | (.15) | (1.23) | (.36) | (1.10) | (1.12) |
| 2. High | .005 | -.049 | -.033 | .002 | .037 | -.049 | -.017 | -.049 |
| | (.18) | (1.54) | (.90) | (1.01) | (1.00) | (1.40) | (.58) | (1.47) |
| 3. Mean | -.005 | -.033 | -.031 | .001 | .041 | -.031 | -.024 | -.043 |
| | (.19) | (1.14) | (.90) | (.63) | (1.19) | (.94) | (.89) | (1.38) |
| 4. Range | .022 | -.031 | -.005 | .002 | -.007 | -.037 | 0.14 | -.013 |
| | (1.04) | (1.43) | (.20) | (1.27) | (.29) | (1.54) | (.72) | (.56) |

| | $B_9$ | $B_{10}$ | $B_{11}$ | $B_{12}$ | $B_{13}$ | $B_{14}$ | $B_{15}$ |
|---|---|---|---|---|---|---|---|
| 1. Low | .046 | .046 | -.002 | .019 | .017 | .022 | -.057 |
| | (.47) | (1.22) | (1.33) | (.62) | (.53) | (.73) | (1.80)* |
| 2. High | 0.78 | .086 | -.002 | .038 | .029 | .098 | -.021 |
| | (.77) | (2.24)** | (1.01) | (1.21) | (.90) | (3.08)*** | (.66) |
| 3. Mean | .062 | .066 | -.002 | .029 | .023 | .060 | -.039 |
| | (.66) | (1.85)* | (1.25) | (.98) | (.76) | (2.04)** | (1.30) |
| 4. Range | .032 | .040 | >.001 | .019 | .013 | .076 | .035 |
| | (.45) | (1.54) | (.42) | (.89) | (.57) | (3.48)*** | (1.60) |

Twelve-Month Prediction Values (n=153)
Coefficients (t=values)

| | $B_1$ | $B_2$ | $B_3$ | $B_4$ | $B_5$ | $B_6$ | $B_7$ | $B_8$ |
|---|---|---|---|---|---|---|---|---|
| 1. Low | -.027 | -.038 | -.027 | -.001 | .045 | -.015 | -.023 | -.044 |
| | (.75) | (1.01) | (.63) | (.41) | (1.02) | (.35) | (.67) | (1.10) |
| 2. High | .034 | -.066 | .010 | -.002 | .071 | -.076 | -.049 | -.025 |
| | (.83) | (1.57) | (.20) | (.63) | (1.44) | (1.59) | (1.28) | (.55) |
| 3. Mean | .003 | -.052 | -.009 | -.001 | .058 | -.045 | -.036 | -.034 |
| | (.10) | (1.44) | (.21) | (.58) | (1.37) | (1.11) | (1.10) | (.89) |
| 4. Range | .061 | -.208 | -.037 | -.001 | .026 | -.061 | -.027 | .019 |
| | (1.85)* | (.84) | (.93) | (.34) | (.66) | (1.59) | (.87) | (.52) |

| | $B_9$ | $B_{10}$ | $B_{11}$ | $B_{12}$ | $B_{13}$ | $B_{14}$ | $B_{15}$ |
|---|---|---|---|---|---|---|---|
| 1. Low | -.004 | .019 | -.002 | -.001 | .001 | -.009 | -.076 |
| | (.03) | (.43) | (1.23) | (.03) | (.02) | (.25) | (2.00)** |
| 2. High | .173 | .164 | >-.001 | .058 | .057 | .118 | -.022 |
| | (1.27) | (3.21)*** | (.10) | (1.38) | (1.32) | (2.77)*** | (.51) |
| 3. Mean | .085 | .091 | -.001 | .029 | .029 | .054 | -.049 |
| | (.73) | (2.10)** | (.70) | (.79) | (.78) | (1.50) | (1.33) |
| 4. Range | .177 | .145 | .002 | .060 | .056 | .127 | .054 |
| | (1.62) | (3.51)*** | (1.22) | (1.75)* | (1.61) | (3.72)*** | (1.56) |

*p<.10 **p<.05 ***p<.01

Table 10 - Analysis of Variance (ANOVA) and R-Squared Results for Regression Model One

| Stock Price Prediction Value | ANOVA F - Ratio (all b's = 0) | ANOVA Probability | R-Squared Overall |
|---|---|---|---|
| **Three-Month Naive Investor Predictions (n = 111)** | | | |
| Low | 2.85 | .001*** | .2939 |
| High | 1.85 | .043** | .2121 |
| Mean | 2.46 | .005*** | .2644 |
| Range | 2.22 | .012** | .2442 |
| **Twelve-Month Naive Investor Predictions (n = 111)** | | | |
| Low | 3.29 | .001*** | .3242 |
| High | 1.51 | .122 | .1806 |
| Mean | 2.05 | .021** | .2303 |
| Range | 2.80 | .002*** | .2897 |
| **Three-Month Professional Investor Predictions (n = 153)** | | | |
| Low | 1.13 | .332 | .1105 |
| High | 1.99 | .020** | .1789 |
| Mean | 1.60 | .082* | .1489 |
| Range | 1.40 | .156 | .1329 |
| **Twelve-Month Professional Investor Predictions (n = 153)** | | | |
| Low | 0.81 | .669 | .0811 |
| High | 2.27 | .007*** | .1989 |
| Mean | 1.35 | .180 | .1289 |
| Range | 2.86 | .001*** | .2387 |

*p<.10 **p<.05 ***p<.01

# A NATIONWIDE SAMPLING OF BUSINESS SCHOOL DEANS' ATTITUDES TOWARD AACSB AND ACBSP ACCREDITATION

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## ABSTRACT

The American Assembly of Collegiate Schools of Business (AACSB) has been the sole accrediting body for baccalaureate and master's degree programs in business administration and accounting since 1916. Many schools have trouble meeting the standards of AACSB. A second accrediting agency, ACBSP, the Association of Collegiate Business Schools and Programs, began accrediting business schools in 1990. In March, 1990, a questionnaire addressed to the Dean of the College of Business was mailed to 436 schools in order to determine the deans' perceptions of accreditation generally and of AACSB and ACBSP in particular. Based on the results of this study, it appears that AACSB is universally recognized as the accrediting body for schools of business. One inescapable conclusion of this study is that accreditation by AACSB is the overwhelming choice of deans of schools of business.

## INTRODUCTION

Baccalaureate and masters degree programs in business administration and accounting have been accredited since 1916. One purpose of accreditation is to ensure high quality in business administration education. The need for quality assurance was intensified by the Ford Foundation and Carnegie Corporation reports on the state of business education issued in 1959 (Gordon & Howell, 1959; Pierson, 1959). The Carnegie Corporation report called for greater academic quality and rigor. It recommended less undergraduate specialization, higher academic standards and more Ph.D. coverage in the classroom (Pierson, 1959). The Ford Foundation reached similar conclusions (Gordon & Howell, 1959).

The American Assembly of Collegiate Schools of Business (AACSB) has been the sole accrediting body for baccalaureate and master's degree programs in business administration and accounting since 1916. In the past thirty years AACSB has revised its requirements for business and accounting program accreditation three times. The revisions have all been at least indirectly in response to the criticisms levelled at business and accounting education by the Ford Foundation and Carnegie Corporation reports. The initial and most direct response to those critiques was a call for increased efforts in the area of scholarly research and publication at institutions seeking to gain or retain AACSB accreditation (AACSB, 1962-63). Today when determining which business schools merit accreditation, two primary measures are used: (1) the percentage of faculty with doctorates and (2) the amount of published research (Sandholtz, 1989).

Many business schools have trouble meeting those standards. One major problem is that since 1971 business schools have more than doubled their output of graduates while doctoral production has remained flat (Sandholtz, 1989). The result is a 15% shortage of doctorally qualified business faculty nationwide. According to Stephen Trachtenburg, president of George Washington University, the system cannot produce enough business Ph.Ds. Consequently, there can be only 200 or so accredited business schools in the U.S. (Sandholtz, 1989). Of approximately 1,200 schools offering business programs, 665 belong to AACSB, but only 266 are accredited business programs.

Those schools which have been frustrated in prior attempts to satisfy AACSB requirements have recently chosen to create another accrediting body, the Association of Collegiate Business Schools and Programs (ACBSP) (Sandholtz, 1989). The founders of that organization contend there will never be enough business doctorate holders available to allow many more than the current number of institutions to enjoy AACSB

accreditation.

The ACBSP was ostensibly formed to fill the needs of teaching-oriented schools. Many of the over 900 schools not accredited by AACSB fit that description. Many individuals involved in the formation of ACBSP feel that higher education cannot afford 1,200 business research institutions. They believe that AACSB requirements, specifically the percentage of faculty with doctorates and amount of published research, effectively exclude the majority of programs from accreditation. ACBSP began accrediting business schools in 1990 (Sandholtz, 1989).

This study was conducted for five reasons. The first was to determine whether or not the deans of colleges of business thought accreditation of business programs was valuable. If the deans regarded accreditation as valuable, they were then asked to identify the reasons why they believed accreditation was important. Second, an attempt was made to determine each dean's perception of AACSB accredited schools versus non-AACSB accredited
schools in the following areas: (1) quality of research, (2) quantity of research, (3) quality of graduating students, (4) quality of instruction, (5) quality of student applicants and (6) quality of the faculty. In addition, the deans were asked if they thought the difficulty associated with attaining AACSB accredited status was primarily due to a shortage of Ph.D. business faculty. The third purpose of the study was to determine the level of awareness of the deans of business schools toward AACSB and ACBSP. The fourth purpose was to identify the percentage of deans who would be interested in institutional accreditation by each accrediting body. The final reason was to profile those institutions most interested in being accredited by one or both of the agencies.

## METHODOLOGY

In March, 1990 a questionnaire addressed to the dean of the college of business was mailed to 436 schools. Only those U.S. schools listed in Hasselback's Accounting Faculty Directory (Hasselback, 1989) that had a dean identified by name with a corresponding address were mailed questionnaires. One follow up letter was sent after the initial mailing. The number of returned questionnaires was 214.

## RESULTS

Description of the Responding Institutions

The respondents in this survey were deans from small and large colleges and universities spread throughout the U.S. The characteristics of the responding institutions are shown in Table I. Sixty-six percent were located in urban areas and 34% were situated in what would best be described as rural areas. Twenty percent of the schools had a total enrollment under 5,000 students. Forty eight percent had between 5,000 and 14,999 students and 22% enrolled between 15,000 and 25,000 students. The remaining 10% had enrollments exceeding 25,000 students.

In the area of institutional control 25% of the schools were private, 67% were public and 8% were state-related. When asked how they would characterize their institution, 6.5% of the deans indicated that their school was research oriented. Thirty-seven percent said their institution was teaching oriented and the remaining 56.5% stated their school had a balanced emphasis on research and teaching. One hundred nineteen (55.6%) of the responding institutions were currently accredited by AACSB and 91 (42.5%) were member institutions of AACSB but not currently accredited by it. Four institutions (1.9%) were neither accredited by nor members of AACSB.

Deans' Thoughts on Accreditation

When asked if accreditation of a business program is valuable, 211 of the respondents said yes. Three deans indicated that accreditation, even in a general sense, is not. The deans who believed accreditation is valuable were then asked to circle their reason(s) for this belief from a list of 9 items. The response patterns are shown in Table II.

It appears from these survey results that the most important reason for seeking accreditation is the enhancement of institutional prestige. This is followed rather closely by the belief that quality faculty are more easily recruited by accredited institutions. By far, the least important reason for seeking accreditation is the reduction of class size.

An additional part of this question asked the respondents to specify, in writing, any other

reason(s) why accreditation was valuable. There were 55 usable responses to this question. Twenty of the deans indicated an important reason for accreditation of a school of business revolves around resource allocation within the institution. Accreditation helps the school of business compete for resources. One dean stated that accreditation "helps schools finesse resources from universities." Another dean wrote that accreditation "helps to insure at least minimal levels of resources from the university."

Seventeen of the respondents indicated that accreditation establishes and monitors desirable standards and that these standards promote quality. Of the remaining 18 written responses, one dean stated that AACSB accreditation enables the dean to keep his/her job. Another said that many employees will be reimbursed only for courses or programs taken at accredited schools. Another indicated that accreditation may help students in gaining acceptance of transfer credits or when seeking admission to graduate programs. One dean said accreditation makes the faculty feel good and another indicated that accreditation is becoming less and less important.

Perceptions of AACSB and non-AACSB Accredited Schools

The deans were then asked to report their level of agreement with a series of statements comparing AACSB accredited schools with schools that are not accredited by AACSB. The results are shown in Table III.

Nearly 90% of the respondents believe that AACSB accredited schools produce research that is higher in quality than non-accredited schools. Almost 95% of the respondents agree or strongly agree that AACSB accredited schools attract higher quality faculty members than non-accredited schools. This supports the results shown in Table II which indicated that 88% of the deans believe that accreditation enables the institution to recruit quality faculty more easily.

It is interesting to see that nearly 97% of the respondents agree or strongly agree that AACSB accredited schools produce a greater quantity of research than non-accredited schools. Apparently, the deans believe that there is a very close connection between the quality of the faculty and the quantity and quality of research.

There does not, however, seem to be such a close relationship between the quality of the faculty and the quality of instruction. Only 58% of the respondents agreed or strongly agreed that the quality of instruction is better at AACSB accredited schools as compared to non-AACSB accredited schools. It also should be mentioned that two-thirds (66.67%) of the respondents believe that AACSB accredited schools graduate students who are better prepared to meet the demands of the workplace than are graduates of non-accredited business schools.

Of approximately 1200 colleges and universities offering programs in business, 665 belong to AACSB, but only 266 are accredited. Sandholtz (1989) says that there can only be 200 or so accredited business schools in the U.S. because it is not possible to produce enough business Ph.Ds. According to this survey, however, the respondents do not consider the shortage of Ph.D. business faculty to be the primary cause of so few business programs being accredited. When presented with the following statement -- "the difficulty associated with attaining AACSB accredited status is primarily due to a shortage of Ph.D. business faculty" -- 104 respondents disagreed and 25 strongly disagreed. Of the 206 deans who answered this question, 59 agreed and 18 strongly agreed. Nearly 63% of the deans do not consider the shortage of Ph.D. faculty to be a main concern. A shortcoming of the questionnaire was that a question was not included that addressed the issue of what causes the difficulty in achieving AACSB accreditation.

Deans' Attitudes Toward AACSB and ACBSP

When the respondents were asked if they were familiar with AACSB, all 214 deans replied "yes." When asked the same question regarding ACBSP, however, the results were quite different. Sixty-seven deans were quite familiar with ACBSP and 133 were somewhat familiar with this accrediting body. Fourteen respondents were unfamiliar with ACBSP.

Each dean was asked which type of accreditation was best for furthering the goals and mission of the institution's business program. One hundred fifty-six said AACSB was the best accrediting body for their institution and 25 deans selected ACBSP as

the most appropriate accrediting agency. Another 25 of the responding deans indicated that both accrediting agencies were equally desirable. Eight deans said that neither AACSB nor ACBSP was desirable. Of the 50 responding deans who favor some role for ACBSP, 37 were from institutions characterized as being teaching oriented. The remaining 13 reported a balanced emphasis on teaching and research. Twenty nine of these institutions are located in urban areas. Many (45%) were colleges and universities enrolling fewer than 15,000 students.

When asked directly whether the institution would be interested in becoming accredited by ACBSP, a substantial portion (79%) of the 214 responding deans said "no." Only 15% of the responding institutions indicated they were interested in becoming accredited by ACBSP. The remaining 6% wrote responses indicating that they were not sure. This is especially interesting because 79 of the deans characterized their institutions as teaching oriented and another 121 schools were described as having a balanced emphasis on research and teaching. Although ACBSP was ostensibly formed to fill the needs of teaching oriented colleges and universities, most of the 200 schools which see themselves as being teaching oriented or placing equal emphasis on teaching and research, are not interested in this new accrediting body.

The strength of AACSB as an accrediting agency is further illustrated by the fact that virtually all of the responding institutions which were not currently accredited by AACSB are striving to become accredited by this body in the next decade or two. In addition, 69% of the deans believe ACBSP represents an unnecessary proliferation of accrediting bodies for business schools.

## CONCLUSIONS

Based on the results of this study, it appears that AACSB is universally recognized as the accrediting body for schools of business. ACBSP was not as widely recognized. Only 67 of the respondents were very familiar with ACBSP. This, of course, may be due to the fact that AACSB has been the only accrediting agency for schools of business since 1916. On the other hand, ACBSP has just begun to accredit institutions.

It would seem that ACBSP has rather a challenging time ahead of it. Not only was the level of recognition of the agency much lower than that for AACSB but at the present time it also apparently suffers from lack of acceptance as a legitimate accrediting body. ACBSP was not considered to be a possible accrediting agency by 169 of the respondents. The schools that did show some interest in ACBSP tended to be relatively small teaching oriented institutions.

The results of this study might be especially discouraging for ACBSP because 200 of the 214 respondents either emphasize teaching or place equal emphasis on teaching and research. Only 14 of the institutions characterized themselves as being research oriented. It could, of course, be possible that most of the research oriented schools did not respond to the questionnaire. One inescapable conclusion of this study is, however, that accreditation by AACSB is the overwhelming choice of deans of schools of business.

At this point it is too early to determine whether or not ACBSP will survive as a legitimate accrediting body. It is possible that ACBSP might serve as an interim accrediting agency for schools eventually planning to become accredited by AACSB. On the other hand, as ACBSP's purpose and standards gain wider recognition it might become a legitimate alternate accrediting body.

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TABLE I

| CHARACTERISTICS OF THE SAMPLE | % OF TOTAL |
|---|---|
| Location: | |
| Urban Area | 66% |
| Rural Area | 34% |
| Enrollment: | |
| Under 5000 | 20% |
| 5000 - 14,999 | 48% |
| 15,000 - 25,000 | 22% |
| over 25,000 | 10% |
| Institutional Control: | |
| Private | 25% |
| Public | 67% |
| State-related | 8% |
| Institutional Emphasis: | |
| Research oriented | 6.5% |
| Teaching oriented | 37.0% |
| Balanced emphasis | 56.5% |
| AACSB Status: | |
| Accredited institutions | 55.6% |
| Member institutions | 42.5% |
| No affiliation | 1.9% |

TABLE II

| REASONS WHY ACCREDITATION IS VALUABLE | | % OF TOTAL (n=211) |
|---|---|---|
| 1. | Institutional prestige is enhanced | 90.2% |
| 2. | Quality faculty are more easily recruited | 88.3% |
| 3. | Helps the institution compete more effectively with other business programs | 74.8% |
| 4. | Quality students are more easily recruited | 73.4% |
| 5. | Employment opportunities for graduates are better | 61.2% |
| 6. | Grant opportunities are greater | 44.9% |
| 7. | Research opportunities are greater | 42.5% |
| 8. | Library holdings are increased | 34.1% |
| 9. | Class size is reduced | 21.0% |

(Note: More than one response could be given.)

TABLE III

| Statement | LEVEL OF AGREEMENT % Strongly Disagree | Disagree | Agree | Strongly Agree | n |
|---|---|---|---|---|---|
| AACSB accredited schools produce research that is higher in quality than non-accredited schools. | 0.10 | 9.43 | 39.62 | 50.00 | 212 |
| AACSB accredited schools produce a higher quantity of research than non-accredited schools | 0.96 | 2.39 | 33.49 | 63.16 | 209 |
| AACSB accredited schools graduate students who are better prepared to meet the demands of the workplace than are graduates of non-accredited business schools. | 7.35 | 25.98 | 48.53 | 18.14 | 204 |
| The quality of instruction is better at AACSB accredited schools as compared to non-AACSB accredited schools. | 11.11 | 30.81 | 40.91 | 17.17 | 198 |
| AACSB accredited schools attract a higher quality of student applicants than non-accredited schools. | 1.44 | 13.94 | 55.77 | 28.85 | 208 |
| AACSB accredited schools attract higher quality faculty members than non-accredited schools. | 0.48 | 4.83 | 42.03 | 52.66 | 207 |

# GRADES AND THE LAW: WHERE DO WE STAND?

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**ABSTRACT**

This paper takes an in-depth look at judicial intervention into the process of grading and eveluation of students at the college and university level. The following areas are explored: courts inclination to intervene; the rights of faculty, students, and administration in the grading process; and the administration's ability to change grades. It is the author's contention that if recommendations are followed, the increase in challenges and the possibility of litigation in this matter will greatly decrease.

## INTRODUCTION

This paper takes an in-depth look at judicial intervention into the process of grading and evaluation of students at the college and university level.

There are three (3) reasons that this area is of increasing importance in today's society. First, the grades a student receives play an important role in their future endeavors. Secondly, both students and their parents have become more "consumer rights" conscious and consequently, more likely to challenge grades. Finally, America has become a "litigation - happy" society and frequently looks to the courts to settle any disputes, whether real or imaginary.

The following areas are explored: (1) under what circumstances are the courts prone to intervene; (2) the rights of faculty with respect to the giving of grades; (3) the rights of students to challenge grades and the method of evaluation used in the determination of those grades; (4) the rights of the administration with regard to student "due process" rights and;(5) administration intervention in faculty - student grading.

After discussing the above areas, I will make some recommendations which can reduce the possibility of judicial intervention.

## UNDER WHAT CIRUMSTANCES WILL COURT INTERVENTION TAKE PLACE?

The courts have generally been reluctant to become involved in matters of grading and evaluation; however, under certain circumstances they will poke their judicial noses into this purely educational matter. There are three (3) preliminary issues which the court will examine before deciding whether judicial intervention is required.

### Issue #1: Is the institution "Public" or "Private"?

If the institution is private, the courts are not as likely to intervene in the grading policies and/or procedures. The relationship between the student and a private institution is based purely on contract law and in most cases the student does not have "Privity" with the faculty member. Unless there exists some specific language in the contract between the student and the institution which gives the student "a cause of action", it is unlikely that the court will intervene in this purely private relationship 1.

With regard to "Public" institutions: It has been held that in most states, education is a "right" of the citizen; and actions of state colleges or universities are classified as state-action as described under the Fourteenth Amendment, thus colleges and universities cannot deprive a person of an education without some kind of due process of law. It has been repeatedly held that students at the state college/university level may bring action with regard to the grades they have received under Section 42 U.S.A. 1983.

### Issue #2: What is the effect of the grading decision on the student?

If the student is simply arguing that they should

have received an "A" letter grade as opposed to a "B" letter grade and thus their QPA is reduced from 3.8 to 3.7, then the courts will more than likely determine that this is de minimus and unworthy of the courts' intervention. If, on the other hand, the grading policy results in the student being subjected to any of the following: (a) dismissal, (b) academic probation or (c) denial of a degree, then the courts would view the grading policy as having a substantial impact on the parties involved and so would be more inclined to grant judicial review.

**Issue #3: Is the challenge based on disciplinary or academic grounds?**

When the basis of the grade challenge is due to a violation of the disciplinary code of the school, as opposed to academic reasons, the courts are more likely to intervene, for example, giving a student an "F" grade in Accounting I for fights in the hall would probably be viewed as inappropriate action taken by the faculty member in the eyes of the courts.

The use of academic penalty as punishment is not as perverse at the college or university level, as it is in secondary schools; however, it is sometimes used. In the Board of Curator, University of Mo. vs. Horowitz (435 U.S. 78 [1978] the court made it clear that they feel comfortable "reviewing fact" with regard to disciplinary action, but because the "determination of academic grading is not as readily adapted to the procedural tool of judicial or administrative decision making, it is best left to the professor."

Although the courts have sometimes sanctioned the use of academic penalties as a form of punishment, a judicial review may result. The lowering of a student's grade for cheating or not attending classes; however, would be acceptable to the courts.

The focus of the paper from this point on will be based on the following assumptions: (1) we are dealing with a Public Institution; (2) the problem is not de minimus in nature; and (3) the action taken is not disciplinary in nature but rather due to an academic situation.

**RIGHTS OF THE PARTIES:**

FACULTY:

The courts have said that with regard to academic performances, the freedom of the university professor to assign grades according to his/her own professional judgement is of substantial importance to the professor. To effectively teach his/her students, a professor must initially evaluate their relative skills, ability and knowledge. The professor must then determine: (a) whether or not the student has absorbed the course materials, (b) whether new or more advanced course materials should be introduced and (c) whether a review of the previous course materials should be undertaken. The professor's evaluation of his/her students and the assignment of grades is central to the professor's teaching method. The courts have concluded: (1) a professor should retain a wide latitude of discretion in dealing with the issuance of grades; (2) no interference on their part will be necessary unless there is clerical or mechanical error, fraud, arbitrariness, bad faith, incompetency, capriciousness or other appropriate causes existing which would make such intervention necessary. The decision of a professor pertaining to a student's grade is usually considered "final" where none of the previously stated conditions exist. Terms such as clerical or mechanical errors or fraud need no further clarification; however some clarification seems necessary in dealing with the terms: arbitrariness and capriciousness. (The term arbitrary is defined as: non-rational, not done or action according to reason or judgement, depending on will alone. The term capricious is defined as: based on a whim, inconsistent.) Where there is no rational basis for the method used by the professor in determining how a student was given a grade, the court will intervene. (I suppose this means that our "favorite" method of throwing the exams down the steps and assigning grades based on the level of the step on which the exam falls is no longer acceptable).

An interesting question arises in regard to the term - - arbitrary. The courts state in Gaspar v. Bruton (513 F. 2d 843 [10th Cir.] 1975) that the assigning of grades is subjective and thus the professor may decide subjectively what grade the student is to receive. This then leads to the question of: When does subjectivity become arbitrariness? Although there exists no case law; it appears from the dictum

in the case that as long as the subjective standard which was used in determining the grade has an absence of a clear showing of "arbitrariness or bad faith", then the grading standard will be approved by the court. This distinction, of courts, is very critical since a number of faculty members use papers in determining the student's grade. The grading of papers is not considered to be an objective standard, but rather subjective, based on years of professional training. A professor should be able to distinguish clear cut differences between the two papers which receive different grades. It would clearly be arbitrary if two students who have handed in the exact same papers were to receive entirely different grades.

The courts will also exclude the student's opinion as to the worth of his or her work. It is simply not enough for a student to say he/she did a better job than another student who did a paper on the same subject.

Another question is asked: Can you take into consideration factors other than the written course work? The answer to this is clearly, Yes. A professor can include class participation and attendance when determining a grade; however, if these factors are included an accurate record must be kept.

Faculty members question the amount of information which must be included in the syllabus and at what point the syllabus can be construed to be a "contract". A number of publications and educational professionals have suggested that the syllabus somehow creates a contract between the faculty member and the student. There is no case law to support this proposition. The information which a professor chooses to include in the syllabus, as to the grading policy, without an institutional policy with regard to this matter, is purely at the discretion of the faculty member.

It should be noted that when attempting to defend grading policies, where the faculty member, has given clear notice as to how grades will be determined, the courts will be less likely to intervene and more likely to rule that the administration of the grade was neither arbitrary, capricious nor done in "Bad Faith". However, once specific information is given to the student, any violation of this procedure may be considered capricious, unless there is a rational basis for the change of policy and there is notice given to the students as to the change in policy.

## CAN THE ADMINISTRATION MAKE A FACULTY MEMBER CHANGE AN INDIVIDUAL STUDENT'S GRADE?

Case law on this point is very clear. The administration has no right to make a faculty member change the grade of a particular student (See Parate vs Isibor, 868 F2d 821 [6th Cir] 1989). Case law also indicated that the grading of a student is part of a faculty member's academic freedom and that this is communication between the faculty member and the student as to the faculty members judgment pertaining to the student's performance. Therefore, interference by the administration into this communication would be a violation of the faculty members First Amendment rights. The administration cannot require faculty members to change students' grades. Administrations only recourse in this matter will be addressed later in this paper under the section pertaining to the administration and its rights.

### THE STUDENT:

The determination of grading and grade policy lies within the discretion of the faculty member. The student who wants to challenge a particular faculty member's grading system must go through the process which is described in the student handbook and outlines the procedure for challenging a grade. No court will review the challenge of the grading policy of the faculty member where the student has not exhausted all of the options available, as outlined in the student handbook.

Most state universities have adopted some method by which students may challenge faculty grading. When the student's challenge of the grading policy of a faculty member has gone through all the procedures outlined by the administration and he/she still feels that the grade is capricious or falls within one of the other categories, he/she then has the right to petition the court for intervention in the matter. The burden of proving that the grade was arbitrary and capricious or in bad faith rests solely with the student. It is an awesome one for the student to overcome. The student should save all papers received from faculty members. If the student receives a grade which is significantly

different from what the work product and test grades indicate was earned, then a question as to whether or not the procedures and policies have been violated and the grade was arbitrary and capricious arises.

If the grade was arbitrary and capricious, the remedy that the courts will dictate is: The faculty - issued grade be arrived at in a rational manner. No cases exist in which the court designated the grade that should be issued to a student who had challenged the system and won. In fact all of the cases have resulted in the court ordering the university to follow a procedure to insure that the grade was not arrived at in an arbitrary manner. In those cases where no procedure exists one must be developed and implemented, along with a procedure for student's challenge of grades.

Where the student's grade has been based on class attendance, the question arises as to the validity of the reasons for the absenteeisms. If the reasons are valid, the student must be allowed to make up missed class work. Where the student has missed classes due to religious reasons, the courts have been consistent in their insistence that this is an excused absence and the student must therefore be allowed to make up missed work.

It would also follow that where the student has been absent on university business (i.e. debate team, athletic activities) the student must also be allowed to make up missed work. Where a student has been suspended or expelled from a class for disciplinary reasons and has therefore missed class work, the case law clearly indicated that faculty cannot penalize or punish the student by lowering their grade solely for absenteeism due to disciplinary reasons. This would suggest that a student in this situation must be given a opportunity to make up missed class work or the student will have been administered a "double punishment". Where the student misses classes for reasons that are not related to the previously stated situations, but purely because they did not "feel" like attending classes, the faculty member may take this into consideration when giving a final grade. In this case the professor's actions would not be considered arbitrary in nature.

THE ADMINISTRATION/INSTITUTION:

The institution cannot compel a faculty member to change grades, as previously indicated in this paper. The case law further states that the faculty member has no constitutional interest in what grade is ultimately received by the student; thus it would be appropriate for the administration to change the student's grade itself, as was done in HILLIS vs. STEPHEN F. AUSTIN STATE UNIVERSITY (665 F. 2d 547 [5th Cir.] 1982).

The university must have a clear - cut policy with regard to challenging of grades and this policy must allow the student an opportunity to be heard. This does not suggest however, that the student must be given a "full-blown" hearing. If the student is given an opportunity to be heard and the official who hears the case decides that the process which was used to determine the grade was rational, then no further due process requirement must be given to the student. There is only a minimal procedural "due process" requirement in regard to this issue as compared to the full-blown" due process requirements that are extended to disciplinary expulsion.

The academic challenge process by which a student is given the opportunity to challenge a grade is only as wide or as narrow as the institution itself chooses. The challenging process explained in this paper represents a process which meets the "due process" requirement that students are entitled to in public institutions.

## CONCLUSIONS

As one can see, the courts are more likely to intervene in "Public" institutions rather than in "Private" institution. It is also noted that: Intervention will most probably take place when there is a clear possibility of real damage to the student's academic future and where a clear showing of arbitrariness and capriciousness is present.

--Faculty members cannot be required to change students grades.

--Faculty members can, when calculating a grade, be subjective; they can not be arbitrary.

--The syllabus does not in and of itself constitute a contractual relationship, but when it states the basis for a professor's computation of

grades, this procedure must be followed.

--Students must realize that the "burden of proof" with regard to challenging a professor's grade is their responsibility. This responsibility is an awesome and often difficult task. Students must also keep in mind the fact that the courts will probably not change the grade but will instead, remand the issue back to the institution for determination of the grade in a rational manner.

--In the determination of grades, non-academic considerations can be made for attendance and class participation.

--Administration must understand that they violate faculty members rights by demanding that they change students grades, however they possess the authority to change the grades themselves.

--A "due process" challenge system, to be used by students, in the event of a dispute, must be developed and implemented.

## RECOMMENDATIONS

The following are the author's recommendations after researching this issue:

Faculty members must determine grades in as rational a manner as possible, this means in a manner which is both explainable and defensible, if the occasion should arise.

Faculty members should not be intimidated by students who threaten to levy court action against them because of an omission on the syllabus or because they feel their grade was insufficiently high.

Faculty members should be aware of their rights with regard to the policy pertaining to changing grades and should not be intimidated by the administration as long as they are acting within those rights.

The degree of specificity that faculty members include in their syllabus should be considered carefully due to the implication of the charge of capriciousness which could stem from omissions of stated items on the syllabus.

Remember that the "burden of proof" in proving that the grade was arrived at incorrectly will lie solely with the challenger; and that in order for the grade to be successfully challenged at least one of the following conditions must be proved: Arbitrariness, Capriciousness, Bad Faith, or Incompetency.

Be aware that before the courts can be petitioned to intervene in the challenge of a grade, all of the procedures as outlined for the student by the institution must be followed. It is only when all avenues have been exhausted, and one or more of the previously mentioned conditions exist, that the courts' intervention can be petitioned.

The conditions under which the challenge is lodged, i.e. academic or disciplinary reasons, will carry heavy weight in the initial decision as to whether or not the courts will even agree to hear the case.

It is the author's contention that if all of the above recommendations are adhered to by faculty members in institutions, Private and Public, then both the increase in challenges and the possibility of litigation in this matter will greatly decrease.

## END NOTE

In those jurisdictions where the courts have allowed wrongful discharge based on implied contract (i.e. California) and have said that this implied contract is derived from the employee handbook, it would be but one small step to say that there is an implied contract between the student and the private institution; and if there is a section within the student handbook which discusses "Fair Grading", then it would seem to me that the student could challenge under a theory of implied contract in a private institution. (See University of Miami et al. v. Militana, District Court of Appeal of Florida, 1966 184 So. 2d 701).

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# REFLECTIONS ON TOTAL QUALITY MANAGEMENT IN HIGHER EDUCATION

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## ABSTRACT

This paper describes the total quality management (TQM) approaches of four quality gurus, namely Deming, Juran, Crosby, and Imai. The commonalities in the approaches are summarized. Finally, the conditions necessary for implementation of TQM in educational institutions are discussed along with my reflections on application.

## INTRODUCTION

A friend of mine recently commented that "stupidity is doing the same thing over and over again in exactly the same manner and expecting the results to be different." In many instances, however, thus is precisely what we do while managing the "processes" and "systems" in our educational institutions. Total Quality Management (TQM), on the other hand, involves procedures where one constantly examines the way things are done and looks for ways to improve the "processes" and "systems" in order to obtain better results. The purpose of this paper is to describe TQM. First, I will summarize briefly the TQM approaches of four quality gurus. Then I will comment on their commonalties. Finally, I will make some observations on the conditions that are necessary for implementation of TQM.

Please note, however, I will discuss neither the tools used in TQM, nor the criteria for measuring quality, such as the Malcolm Baldrige Award Criteria. A comprehensive total quality management resource bibliography for describing the tools and techniques for TQM as well as a proposed quality baselining procedure can be found in Cornesky et al. (1991). Perhaps these can be discussed in future articles.

At this point many readers may be asking themselves what is TQM, and why should we be involved in implementing it? Fair enough.

What is TQM? In a nutshell, TQM is a procedure wherein everyone in the organization knows the organizational mission and adopts a quality philosophy to continuously improve on how the work is done to meet the satisfaction of the customer. The general principles and tools of TQM encourage everyone in the organization to point out dysfunctional processes and systems and to recommend improvements. For this to occur, management must effectively cultivate the arts of listening, analyzing, and implementing. TQM encourages teamwork. TQM is not a set of inflexible rules and regulations.

why should TQM be implemented? TQM should be implemented because it will increase the quality of education. In addition, it will not only decrease the cost of delivering education, but it will also decrease the cost of running the entire institution. Finally, it will increase significantly the morale of all employees.

### Approaches to Total Quality Management

This section will introduce the reader to the principles of total quality management (TQM) by briefly (1) reviewing the ideas of TQM leaders, and (2) discussing how their ideas might apply to colleges and universities.

#### The Deming Approach

Of all people known for stressing quality, Deming is the pioneer. He stresses statistical process control (SPC) and a 14-point process for managers in order to improve quality and productivity. Contrary to popular opinion, his approach is humanistic. It treats people as intelligent human beings who want to do a good job. Deming "hates" managers who allege that the workers are responsible for quality problems.

The following are Deming's 14- points:

1. Create constancy of purpose for improvement of product and service, with the aim of becoming competitive and staying in business, and to provide jobs.

2. Adopt the new philosophy. We are in a new economic age. Western management must awaken to the challenge, learn their responsibilities, and take on leadership for change.

3. Cease dependence on inspection to achieve quality. Eliminate the need for inspection on a mass basis by building quality into the product in the first place.

4. End the practice of awarding business on the basis of price tag alone. Move toward a single supplier for any one item on the basis of a long term relationship of loyalty and trust. Minimize total cost by working with a single supplier.

5. Improve constantly and forever every process for planning, production, and services, to improve quality and productivity, and thus constantly decrease costs.

6. Institute training on the job.

7. Adopt and institute leadership. The aim of supervision should be to help people and machines and gadgets do a better job. Supervision of management is in need overhaul, as well as supervision of production workers.

8. Drive out fear, so that everyone can work effectively for the company.

9. Break down barriers between departments. People in research, design, sales, and production must work as a team to foresee problems of production and those that may be encountered with the product or service.

10. Eliminate slogans, exhortations, and targets for the work force that ask for zero defects or new levels of productivity. Such exhortations only create adversarial relationships, since the bulk of the causes of low quality and productivity belong to the system and thus lie beyond the power of the work force.

11. a. Remove work standards (quotas) on the factory floor. Substitute leadership.

b. Eliminate management by objectives. Eliminate management by numbers, and numerical goals. Substitute leadership.

12. a. Remove barriers that rob the hourly worker of his right to pride in workmanship. The responsibility of supervisors must be changed from sheer numbers to quality.

b. Remove barriers that rob people in management and engineering of their right to pride in workmanship. This means, inter alia, abolishment of the annual or merit rating and of management by objective.

13. Institute a vigorous program of education and self-improvement.

14. Put everybody in the company to work to accomplish the transformation. The transformation is everybody's job. (Deming 1986, p. 23)

I would like to examine briefly several of the points and consider how they might be applied to institutions of higher education. For a more nearly complete discussion of Deming's philosophy and how his points might be applied to higher education, please refer to Cornesky et al (1990).

Point 1: Create a Constancy of Purpose

Most institutions of higher education have ill-defined and confusing mission statements. Some mission statements are totally misleading, whereas others are so comprehensive that they are meaningless. I recommend highly that both the faculty and administration utilize research data and become jointly involved in producing a plan which concentrates on a focused mission statement that is not only responsive to both present and projected societal trends and needs, but also realistic for the institution and for its budget. Regardless of the institution, the mission statement should incorporate innovative teaching and learning strategies and have a total quality improvement (TQI) oriented philosophy.

Point 2: Adopt the New Philosophy

Once the focused mission of the institution is in place, it is important that the president and the Governing Board accept the plan. Only when the

top management seriously adopts a plan based upon quality and trust will the plan be accepted by the faculty, staff, and students.

Point 8: Drive Out Fear

Fear must be removed from the work setting so that employees can work constructively. When employees feel that they are trusted, they will take more pride in their work and quality will increase. As quality increases, the work place will become a fun place, rather than just a job. A fun place develops and promotes collegiality, and the cycle starts all over again.

Two things must either be modified or eliminated from the institutional procedures if fear is to be reduced and if the organization is going improve significantly: 1) management by objectives (MBO) and 2) job descriptions.

MBO, according to Peters (1988, p. 603) " ... is one more great idea that has been neutered by bureaucrats in nine out of ten applications. That is, MBO (like performance appraisals) is a superb tool if the objectives are (1) simple, (2) focused on what's important, (3) genuinely created from the bottom up (the objectives are drafted by the person who must live up to them, with no constraining guides), and (4) a 'living contract' not a form-driven exercise."

Job descriptions tend to tie people down to narrow functions. Job descriptions are favored by people who prefer paper over people (Peters 1988, p. 605). Job descriptions not only do not favor situational management, but they also reduce the possibility of having pride in workmanship. Job descriptions favor centralization of authority, information, planning and resource allocation - all of which instill fear, rather than driving fear out of the organization. Finally, job descriptions increase barriers between departments, rather than breaking them down.

Point 11: Eliminate Quotas and Numerical Goals: Substitute Leadership

Deming believes that having quotas and numerical goals impedes quality more than any other single working condition. Yet, entire state systems are funded on student enrollments and other items such as the size of the physical plant. Within a given institution, the budget may be allocated to the academic departments based entirely on the student credit hours generated, rather than the quality of the graduate. A budget based solely on the size of the student body and the number of student credit hours generated tends to encourage colleges and universities to accept students who are not prepared for the college experience. Such budgeting may even encourage faculty to grade "easier" in order to ensure a sufficient enrollment to maintain a current faculty level, rather than risk the department's allocation. Imposed quotas and numerical work standards do as much as any-thing else to discourage collegiality.

Point 12: Remove Barriers that Rob Employees of their Right To Pride

This point deals with removing barriers to pride of workmanship, including the bureaucratic Management by Objective and annual merit rating. Too many objectives are set by management and are numerically driven, rather than quality driven. Too many performance evaluations are numerically driven. In addition to being statistically invalid, they are used to threaten the employee. Unless objectives and performance standards are defined clearly and measured frequently using statistically valid multiple evaluation tools, and unless recognized deficiencies are tied directly into a development program, performance evaluations act as a mechanism to reduce teaming.

Point 14: Involve Everyone in the Transformation to Quality

Deming's last point is to involve everyone in the transformation to quality. Too many times faculty and staff contributions are not sought, or they are ignored. Too many times the managers of our institutions act as if they know all the answers to the everyday problems and, as a result, they proceed to give orders and become boss-like, rather than accepting the fact that with an employee's body comes a free brain.

Like American industries, institutions of higher education suffer from five of the "Deadly Diseases" and "Obstacles" as described by Deming (1982, p. 97).

1. Lack of constancy of purpose

Most colleges and universities have mission statements that the faculty and staff have never read. The mission statements usually have not been updated for years, or if they have, they have not been tied into a long-range plan.

Most long-range plans and mission statements of colleges and universities are so broad and general that they are meaningless. Frequently resources are not sufficient to accomplish the stated objectives. In fact, many comprehensive institutions act as if they are research universities offering doctorates, when they simply do a good job teaching and, at best, a mediocre job at research.

2. Emphasis on short-term results

Many employees of colleges and universities hope to survive the day. These include secretaries, faculty, chairpersons, deans, vice presidents, and presidents. To some employees long-term results are those that are expected next week, rarely next month, almost never next year. Faculty have to concentrate on heavy teaching loads while administrators concentrate on the required paper work. No one appears to have time to understand what is happening in other units, and most importantly, no one has the time to point out faults in the processes and systems. If faults are discovered, tradition and habit will usually dictate temporary repair, and then it is business as usual-no change towards TQI.

3. Evaluation of performance, merit rating, or annual review

Performance reviews of faculty at most institutions are poorly done and are not statistically valid. Almost no performance reviews of faculty are associated with opportunities for professional development, and, therefore, act as mechanisms to build in fear and competition, rather than cooperation. Probably the most devastating thing about performance reviews of faculty is that they encourage each faculty member to do what has been done in the past since it has been accepted by the academy, rather than to experiment with new, controversial teaching/learning styles that may be considered immediate failures, but which may be highly successful for future generations. Performance reviews of administrators work similarly, i.e., conformance is rewarded.

4. Mobility of top management

I believe that when an institution of higher education has a firm commitment from the governing board, president, vice presidents, deans, and chairpersons for establishing total quality improvement, it will not only retain good administrators, but there will be a rush of both administrators and faculty applying for positions.

5. Running an institution on visible figures alone

For most colleges and universities the number of students is directly related to the bragging rights of the region. Some of the more prestigious institutions brag about the high number of quality applicants they had to reject. Resources are allocated to institutions based on the number of students and other factors such as the size of the physical facility. Entire budgets are allocated to academic departments based on the number of student credit hours generated. In these examples, the quality of the educational experience is not even considered. If quality and innovation were primary factors in planning, they would be reflected in resource allocation.

In summary, the Deming philosophy is to reduce variability in the work processes by using statistical tools and to establish a management style that is supportive of ongoing improvement. It should be noted that Deming believes that the main reason for working is to have fun. Before one can have fun at the work place, however, quality must be part of the institutional culture.

Deming believes that quality is never one's problem, but a solution to the problem. He and Juran (see below) support the concept that the organized human activity of work takes place within a system where 85 percent of the system is controlled by management and 15 percent or less is under the direct control of the worker. Since people work in the system, the main job of management is to improve the system with the help of the workers. Deming believes that quality management is the ability to treat the problems of systems and the problems of people simultane-ously.

Deming and the other gurus of quality believe that

successful organizations are customer driven, and they support the concept that everyone is a customer and must receive the respect and service commensurate with that title.

The Juran Approach

Joseph Juran (1988) believes that top level plans for annual improvement must be established by management. Encourages projects as a means to achieve the improvement. The Juran philosophy seems to appeal to the supervisor-type manager since s/he feels more in "control. "

Juran's philosophy indicates that the cost of poor quality is the result of poor planning by management. His approach for improving quality is 1) to plan, 2) then control, and 3) then improve-the plan, control, improve approach is known as the Juran trilogy. Let us review these techniques in greater detail.

Quality planning is the process for preparing to meet the institutional goals. According to Juran, the result should be a process that is capable of meeting those goals under operating conditions. To have quality planning in universities and colleges, managers should involve crossfunctional teams and openly supply data to the team members so that they may work together to meet the needs of the "customers."

Quality control is a process for meeting goals under operating conditions. Quality control requires collecting and analyzing data. In order to measure the difference between the actual performance before and after the process and/or system was modified, the data should be statistically significant and the processes and/or systems should be in statistical control.

Quality improvement is the process for breaking through to a new level of performance. The result is that the particular process and/or system is obviously of higher quality in delivering either a product or service.

Juran's philosophy stresses involving employees in task forces much as does Waterman ( 1989). In my opinion the philosophy and procedure would require managers to listen to the employees about needed improvements and to help them to identify and rank the processes and systems that are major impediments to quality. This can be done through a nominal group ranking process. It is unlikely, however, that any department/unit-the President's Office, the VPAA's Office, the Dean's Office, or the academic department, can undertake more that two to three major projects per year for improvement. It is also obvious that management cannot delegate either the review of the recommended plan of action from the task force or the actual resource allocation pro-cess required to address the plan of action.

In manufacturing organizations the cost of poor quality has been estimated to be between 25 and 30% of the cost of doing business. Juran and Crosby believe that the "Cost of Poor Quality" in service organizations (colleges and universities?) is forty percent of the total cost of doing business.

The Crosby Approach

The Crosby (1984) philosophy seems to appeal to the human resource type of manager. Crosby enforces the belief that quality is a universal goal and that management must provide the leadership to compel an enterprise in which quality must never be compromised.

Crosby defines quality as conformance to requirements. He believes that the system of quality is prevention, that appraisal is done now, on-the-spot, not later. He encourages a performance standard of zero defects and says that the measurement of quality is the price of non-conformance- doing something over rather than doing it right the first time. He believes that managers should be facilitator and should be considered as such by the employees, rather than as punishment sent from God.

Like Deming, Philip B. Crosby (1984, p. 99) has fourteen steps for quality improvement:

1. Management commitment
2. Quality improvement team
3. Measurement
4. Cost of quality
5. Quality awareness
6. Corrective action
7. Zero defects planning
8. Employee education

9. Zero defects day
10. Goal setting
11. Error-cause removal
12. Recognition
13. Quality councils
14. Do it over again

Let us briefly examine several of the points and consider how they might be applied to institutions of higher education.

Point 1: Management Commitment

Crosby, like all of the other quality gurus, makes the point that before lasting change towards quality can be realized, management must be trained in quality processes and systems, and management must make it clear that they are going to support the commitment towards quality.

Point 2: Quality Improvement Team

In order to get the entire organization involved in adopting the new quality philosophy-which is Deming's second point as well-Crosby (1984, p. 106) clearly states that the team should consist of individuals who represent all functions of the organization. Crosby recommends that the team have as its primary function the setting up of educational activities for all units.

In higher education cross-functional teams are rare: it is uncommon to place secretaries, custodial personnel, human relations personnel, building and grounds personnel, police, faculty, management, union officers, and students on a team to do anything. One can only speculate what would happen if such a team were established to implement a total quality improvement (TQI) culture on campus.

Point 3: Measurement

Crosby makes the point of establishing baseline data in order to evaluate the improvement process. He states that people become frustrated when such data are not available and, as a result, they don't have an indication as to how they are doing.

If faculty and staff do not know how they are progressing towards the announced quality goals, they will become frustrated and will operate under their own rules as students do in classes without clearly written course syllabi.

Point 4: The Cost of Quality

Crosby (1984, p. 110) recommends a special workshop for the organizations comptroller and other interested individuals so that they can establish a procedure for their accounting system. He recommends that the cost accounting procedure be pulled together in a orderly fashion so all that is described is measured in the same manner all of the time.

It is not unusual for colleges and universities within the same state system to measure head count, cost per student credit hour, cost per FTE student, cost per major, etc. in entirely different ways. In fact, meaningful comparison between institutions sometimes becomes nearly impossible. And it is not unusual within an institution for data between departments to be entered and interpreted in different ways so that meaningful baseline data is almost impossible to establish.

Point 5: Quality awareness

Crosby states (1984, p. 111) that quality has to become part of the corporate culture. Everyone should understand that management is committed to quality, and therefore, quality is the policy. He emphasizes that the employees must be informed of the cost of not doing a task correctly the first time.

Point 6: Corrective action

The main purpose of corrective action is to identify problems and then to take the actions necessary to eliminate the problems. Corrective action is not redoing someone else's mistakes. Corrective action procedures should be based on data and can only be effective if the system under investigation is in statistical control.

Corrective action steps require the empowerment of employees to bring to the administration's attention things that are not only done incorrectly, but also things that could be done better and more efficiently. Corrective action requires teamwork coupled with quality circles and action oriented task forces.

Point 8: Employee education

After management is educated about TQI and TQM, it is essential that the employees of the entire organization be trained in the philosophy and procedures.

Point 13: Quality councils

Crosby (1984) states that "the idea of quality councils is to bring the quality professionals together and let them learn from each other" (p. 119). This is an excellent way to keep the organization focused on "quality" issues and to prevent slippage to the traditional manner of operation. Whereas Deming encourages total involvement of the customer and the supplier, Crosby's point on instituting "quality councils" is truly a necessity to ensure the constant and tedious reminders that are necessary to keep the institution pointed in the same direction.

Like Deming's five diseases, Crosby (1984) has his own five "sins" for troubled organizations. They are:

1. The outgoing product or service normally contains deviations from published, announced, or agreed-upon requirements.

Crosby mentions that service companies do not document their quality (nonconformances) with the rigor of product producing companies.

Institutions of higher education, especially comprehensive colleges and universities, often claim that their graduates are liberally educated and are able to speak, read, write, and to analyze critically. The truth of the matter is that far too many college graduates do not speak, read, or write well enough to satisfy employers and others who expect college level communication skills.

2. The company has an extensive field service or dealer network skilled in rework and resourceful corrective action to keep the customers satisfied.

In institutions of higher education corrective action is taken through divisions of continuing education, retraining and reeducating employees inadequately prepared the first time around. Of course, divisions of continuing education provide a valuable service, as many professions require updating to remain current.

3. Management does not provide a clear performance standard or definition of quality, so each employee develops their own.

Like companies with poor management, institutions of higher education permit the employees to create their own performance standards and the public continues to support this endeavor. For example, at many public institutions one-half of the students who enter never graduate. There are two main reasons for the high drop out rate: 1) students were permitted entrance into the institution who were not educationally prepared for college; and 2) the professors cannot teach effectively if we consider motivation to be an essential part of TQI and TQM.

4. Management does not know the price of nonconformance.

Whereas product companies spend 20 percent or more of their sale dollars on doing things wrong and then redoing the work (Crosby 1984, p. 5), it is conservatively estimated that such activities cost service companies 40 percent of their total revenue. Since higher education provides a service, why should public institutions of higher education be any different from other service companies?

5. Management denies that it is the cause of the problem.

Why is it that so few managers and union leaders in institutions of higher education believe they may learn something about quality by attending a Philip B. Crosby management school? Crosby makes a strong case for the professional development of managers so they are capable of understanding and implementing quality processes.

The Imai Approach

Imai (1986) supports the continuous improvement process wherein people are encouraged to focus on the processes and systems in which they work rather than on the results. He believes that by continually improving the processes and systems, the result will be a better product or service. This has become known as the "P" or process approach, rather than the "R" or results approach. The process approach is also known as the Kaizen approach.

In the "R" approach, management examines the anticipated result(s), usually predetermined by Management by Objectives, then rates the performance of an individual(s). The person's performance is influenced by reward and punishment: that is, by use of the "carrot and stick. In the "P" approach, management supports the individuals and the teams in their efforts to improve the processes and systems leading up to the end result.

The continuous improvement, or Kaizen approach, has a long-term, undramatic effect on a process or system. Change is gradual and consistent. The approach involves everyone, and the resulting group effort is focused on processes and systems rather than on one person's performance evaluation. The approach needs little monetary investment, but it requires a great deal of effort on part of management to maintain the group process. The Kaizen approach is people oriented.

The typical approach to problems used in many institutions of higher education is totally different. The technical approach used by many of institutions demand a short-term, but dramatic approach that can result in abrupt and volatile changes. The technical approach in most institutions usually involves a select few, and individual performances are measured and evaluated rather than the results of teamwork.

## Principles of Total Quality Management

In the previous section, I identified the TQM and TQI models of Deming, Juran, Crosby, and Imai. Although different in some respects, they have common elements. The purpose of this section is to examine the common elements of the quality experts and suggest how they may be applied to institutions of higher education.

The seven common elements that bind the foundations of total quality management (TQM) and total quality improvement (TQI) by Deming, Juran, Crosby, and Imai are

1. Processes and Systems
2. Teaming
3. Customers and Suppliers
4. Quality by Fact, Process, and Perception
5. Management by Fact
6. Complexity
7. Variation

Let us examine each of these common elements.

### Processes and Systems

All of the combined tasks or steps necessary to accomplish a given result are defined as a process.

Even though Imai can be considered the champion in using the process ("P") approach over the more commonly used result ("R") approach, the other leaders in quality also stress improving the processes 'and systems in which employees work in order to increase constantly the quality of goods and services. Deming, Juran, and Crosby stress that since management controls at least 85 percent of the processes and systems in which the employees work, most poor quality results are due to poor management.

Every work activity is a part of a process and system. It follows that institutions can improve only if they improve the processes and systems in which the employees work. If the managers of institutions of higher education improve the processes and systems, they will get not only better quality results, but better productivity as well.

A "system" as used in this text means an arrangement of persons, places, things, and/or circumstances that either makes, facilitates, or permits things to happen. The very nature of a system will determine what will happen and how it will happen.

Most administrators inherit organizations established by previous managers. They face the challenge of maintaining the strengths and eliminating the weaknesses of systems established by their predecessors. Most likely they have entered situations where anticipated results yield predictable attitudes and behaviors. This cycle of predictability is not only difficult to alter, but it also inhibits change towards quality. This is illustrated in Figure 1.

If we assume that administrators control 85-90 percent of the processes and systems, they can influence faculty and students to seriously commit to quality. Faculty and students will most likely work

hard if they are convinced that quality will be the result (Glasser 1990, p. 433). I agree with Dr. Glasser's comment " ... That quality is contagious" (p. 435). If management directs all of its energies towards improving the processes and systems for quality results with, of course, those professors and staff responsible for providing and receiving the service, I am confident that quality results will lead to a modified behavior, an improved attitude, and eventually to an organizational culture directed towards achieving quality. An example of this process is displayed in Figure 2.

Teaming

Teams and teamwork are extremely important in producing a quality service or product. Although hierarchy is needed within all organizations in order to avoid chaos, most work in institutions of higher education and other service organizations is accomplished across, not within, organizational boundaries.

The informal power structure and the resulting culture in institutions of higher education do not readily permit collegiality in a management system based upon hierarchy; however, teaming, when done properly, is invariably found in institutions having high morale.

In their recent books Waterman (1990) and Levering (1988) stress the importance of teamwork in effecting change and in keeping morale high.

In fact, selecting processes that if improved will greatly advance either the quality of service provided or the product produced is one of the best and most highly recommended ways in which to approach changes towards an institutional culture of TQI and TQM. Waterman (1990), in his powerful book Adhocracy: The Power to Change, refers to means for getting people actively in-volved in embracing and effecting change. He suggests that people under the proper leadership will participate in meaningful task forces with the intention of changing their organization from one of non-quality to one of high quality.

Customers and Suppliers

Higher education's concept of customers differs from the private sector's because in higher education there are no "repeat customers" in the usual sense. Students, once enrolled, tend to remain until they have received degrees. Some may leave the institution but usually not because of dissatisfaction. Except for education majors, alumni tend not to return to the same institution for additional degrees. It can be argued though that if alumni and current students are well satisfied with their experience, they will recommend the institution to others. Likewise, employers who are well satisfied with the university's graduates may be disposed to hire additional graduates from the institution. Thus students, alumni, and employers share some of the characteristics of traditional customers.

A further parallel to the customer concept lies in the relationships among various components of a college or university. For example, virtually every operating unit is a "customer" of the maintenance department. Individual academic departments are customers of the dean's office, and vice-versa. An institution of higher education is a complex web of relationships where any given person or office is both a customer and a supplier. The customer/supplier philosophy can be applied by concentrating on each unit of the institution in its role as a user of processes and systems to supply service to other units.

The customer/supplier relationship is very important if teamwork is to be effective. The institution must develop an understanding and appreciation of the concept in order to promote trust, pride, and quality. Central to applying the concept of quality in the classroom itself is the acceptance of the student in the customer/supplier relationship!

Central to accepting the customer/supplier relationship as a prime condition for achieving TQI and TQM is the removal of the quasi-military model of management from the colleges and universities. Instead, leadership training for all employees, including faculty and students, should be undertaken so that everyone can reach her/his maximum performance. In fact, the decentralization that is necessary to stimulate effectively a customer/supplier attitude requires a participative atmosphere. For this atmosphere to exist within institutions, empowerment of all employees (including the students) is necessary. With

empowerment comes trust; with trust comes pride-in-workmanship; and with pride-in-workmanship comes teamwork for total quality improvement. An excellent reference for developing self-leadership skills has been published by Manz and Sims ( 1989).

Quality by Fact, Process, and Perception

Each of the quality leaders examines quality from at least three different perspectives. They examine quality by fact: that is, does the product or service meet the specified requirements? They examine the quality of the process: that is, does the process an/or system produce the product or service as intended? And finally, they examine quality by perception: that is, are the customer's expectations met?

It is conceivable that an institution can have quality by fact and of process, yet the perception of the customers, either the graduates or the employers of the graduates for example, may be that qualities not evident. In this case, total quality has not be achieved. This is usually but not always the result of poor past performance, though poor marketing can also contribute to the perception.

Management by Fact

All leaders in the study of quality emphasize the need for complete and comprehensive data before major decisions are made.

In determining the institution's mission or even in setting out to improve a simple process, one simple rule must apply: institutional research data should be complete and accurate and should be made freely available to everyone, since information is useless if it is not available. The free availability of information serves at least two purposes. First when people know the facts they are in a position to offer essential advice. They can call attention to a serious flaw in a developing plan. A flaw that is identified early and corrected can prevent unnecessary expenditures. Second, freely available information creates an atmosphere of trust that is essential for effective planning and high morale. On the other hand, lack of information creates distrust.

If possible, decisions should be based on data rather than hunches. Data and facts have a tendency to uncover the root of the problem rather than the symptoms; thus, permanent solutions can be offered rather than quick fixes.

Complexity

All of the quality leaders realize that most processes and systems which produce a product or service are complex.

Complexity can be defined, especially for institutions of higher education, as extra steps that are added to a process to deal with errors in the preceding process, or steps added to recover from errors occurring in the process.

Variation

Every process involving machines an/or humans displays variation. In higher education, for example, we see wide variation in the incoming freshmen as well as variation in the teaching and in the quality of graduates. Excessive variation, however, causes the processes and systems to be erratic and unpredictable. The end result is poor quality.

Since every process shows variation, no two products-be they components, services, reports, teaching effectiveness, graduates-will ever be identical. The goal, therefore, is to increase the uniformity of the process. This can be done by getting everyone involved to study processes and to identify the potential sources of variation in an attempt to standardize the processes and systems.

Once a process is under control, one can determine common cause and special cause variations by the use of simple statistics. Common cause variation is the inherent variation of a process that is the result of many small sources of variation. Special cause variation is a large, sporadic variation that i s unusual to the process under study.

**Five Conditions Necessary for Implementing TQM**

The purpose of this section is to describe the conditions that are necessary for establishing a total quality culture in educational institutions. Although I have borrowed extensively from the quality leaders, I have not promoted a single philosophy such as Deming's or Crosby's, as I believe that individual institutions may wish to use key points from all the theorists or develop their own

philosophy. I believe, however, that institutions wishing to adopt a new approach, emphasizing total quality management, can do so by adopting a clear focus on the conditions necessary for change.

The following five conditions for implementing TQM and TQI should be established sequentially, rather than at random:

## CONDITION ONE: EDUCATION AND COMMITMENT OF ADMINISTRATION

All of the quality leaders make the point that before lasting change towards quality can be realized, management must (1) be trained in quality processes and systems, and (2) make it clear that they are going to support the commitment towards quality.

Since implementing TQM and TQI in our institutions of higher education requires an enormous deviation from how most managers supervise, the president and her/his top managers should undergo a training program on the principles of TQM and TQI. Then the president must insist that the middle managers receive a similar education.

Management must make it apparent that TQM and TQI are not being tested as concepts, but that the commitment to proceed with them is genuine! In fact, the president must consistently "walk the talk" on TQM/TQI and to let it be known that the only thing that is debatable is how best to implement them throughout the entire institution.

## CONDITION TWO: EDUCATION AND COMMITMENT OF FACULTY AND STAFF

Critical to the success of TQM and TQI is the education not only of the managers, but of the faculty and staff as well. Once the faculty and staff understand the principles of TQM and TQI, they will commit to the movement even if only in incremental amounts. The education of faculty and staff should include an understanding of quality philosophies and processes as well as training on the tools and techniques that they will need for implementation. After attending initial basic sessions on the principles of TQI and TQM, it will be necessary to separate the various groups and to tailor the programs for each unit, such as the academic departments, the accounting department, the continuing education unit, the police department, building and grounds, etc. The obvious reason for educating the employees on TQM and TQI is to inform them that their participation is essential for the processes to work. After they realize that the TQM/TQI movement is not just another management tool to increase productivity, that their contributions are respected and their responsibilities for improving the quality are essential, most employees will make a commitment.

## CONDITION THREE: ESTABLISH TRUST

Since one of the main functions of TQM and TQI is to show constant improvement in increasing the quality of service and product delivered, it is obvious that measurements must be done in all departments to gather baseline data. Then the departments must take measurements on various operations over time to show that the changes have resulted in improvements. The improvement process of gathering data and pointing out defects will be considered initially as a threat by employees. The only way to overcome the perceived threat is to establish trust. In institutions having poor records of collegiality, this may take time. Note, however, that only management can extend the offering of empowerment and trust since they control 85-95 percent of the processes and systems in which the employees work.

The first thing that needs to be done in establishing trust is to explain in detail why comprehensive measurements have to be taken. Explanations should show how data can 1) demonstrate trends in customer satisfaction levels, including their satisfaction with the administration and other departments/units; 2) determine if the institution is meeting its mission and quality goals; 3) reveal to the state legislators that the institution is improving in efficiency and productivity; and 4) let the employees know how well they and their unit/department are doing.

Second, the employees should also be informed that most of the measurements will be done by their department/unit and will be relevant to their needs as well as the needs of their customers. They should also be informed that the measurements will be simple, understandable, and few in number. The

measurements will be done by all departments and divisions, beginning with top management (if not previously done). Because baseline data is valuable as a means of taking a picture of the system in order to measure improvement, it must include all parts of the organization. Otherwise, management may later face the accusation that because it did not make noticeable changes, improvements in other parts of the company/organization were hindered.

Third, the employees must see that the commitment made by management is more than a "club" culture. In addition to replacing those managers who do not comply with TQI procedures, those who are retained must actively and enthusiastically participate in the same kinds of self-examination required of employees. Managers must be involved in measuring their own effectiveness and making honest judgments from the data.

Instead of control, trust is the main ingredient that must be established in order to make the institution a place where working relationships can flourish. People cannot feel like robots ; they must flourish and have fun in their work. Of course, the act of trust involves a gamble. According to Levering (1988) "trust is, ... , a calculated risk made with one's eyes open to the possibilities of failure, but it is extended with the expectation of success" (p. 188). In places with poor management-union relationships, one can almost always be sure that a lack of trust is one of the main reasons.

When trust exists faculty and staff will realize that management really respects their opinion. This is also true of middle managers caught between the faculty/staff and the top managers, especially deans and department chairpersons. As a result of trust, employees will feel empowered to take corrective action on poor processes and will feel free to be authentic and to express their true feelings about the tasks, processes, and systems that are out of control and which need attention in order for the institution to demonstrate constant improvement.

Some suggest that it takes three to six years or longer to establish trust and empowerment in an institution. This may be true; however, if trust and empowerment are focused on initial TQI projects, faculty and staff will participate actively in the actual implementation of TQI. For this to occur, management must treat trust and empowerment as an evolutionary process, by getting faculty and staff involved initially in processes that show respect and trust for their knowledge and judgement such as using the nominal group process to direct unit planning. As faculty and staff become more involved-by virtue of feeling trusted and empowered-in changing the processes the system, management must focus its attention on trust and empowerment. This involves getting the employees educated in TQM and TQI as mentioned in Condition Two, and then applying the adhocracy procedures as discussed by Waterman (1990). Among his suggestions for instituting participative management: 1) get the right start, 2) action, and 3) get results.

Let us look at these procedures.

Get the right start includes getting managers and faculty and staff involved immediately after they have been educated in TQM and TQI. This is best accomplished by selecting a project team and project which requires "fixing" processes and systems so that an increase in quality can be measured effectively. The chairperson of the cross-functional team should not be the perceived "expert" (Waterman 1990, p. 23), nor should the chairperson be a manager. The team should consist of ten or fewer people and should represent as many units as are affected by its work. After the project team is formed, it must have

* Consistent support of management.
* Baseline data to demonstrate improvements.
* Time for regular meetings.
* Recognition of team success and efforts.

Action means "do it." It means examining the baseline data and measuring the cost of nonconformance. It means defining the problems and examining alternatives. Eventually it may mean making suggestions that are innovative and totally new - suggestions that may make the faculty, staff, and administration uncomfortable as no one likes potential failure(s). Action means that the administration implements, to the extent possible, every suggestion made by the team. Action means measuring the results of the modified process an/or system and rewarding the team if improvement occurs, but not punishing the team if there is no improvement. After all, it is far better to have tried and failed, than is not to have tried anything.

Getting results, according to Waterman (p. 55), is implementing change. Like most American institutions, colleges and universities plan well, but they are deficient at implementing plans. A good example is the practice of most institutions of higher education to form long-range plans and mission statements that are not directly tied to the actual budgeting process, therefore, the master plan has no relation to the allocated budget. It is no wonder, therefore, that most institutions have difficulty in implementing even the most basic action plan that requires the allocation of resources.

These three steps, along with establishing trust and empowering employees, will crystallize the implementation of TQM. If properly nurtured with continuous educational experiences, TQM should result in the faculty and staff making correct identification of poor processes and systems as well as in making better decisions and/or recommendations of how not only to solve the problem, but also how to improve it. In addition, empowered employees feel better about themselves as they develop their skills to a fuller extent. This will result in greater job satisfaction and better morale as well as in improved productivity and quality.

Without trust and empowerment, participative management cannot exist. What does exist " ... is a pushy, controlling, directive management style" (p. 23). The end result is a death sentence for quality.

## CONDITION FOUR: ESTABLISH PRIDE IN WORKMANSHIP

One outcome of a no-holds-barred crusade towards improving the processes and systems for quality results is that the employees are trusted. The empowered employees begin to improve the processes and systems, and they begin to contribute significantly to improving quality. When they are rewarded and recognized for their efforts, they have greater pride in workmanship. A good reward and recognition program is an essential catalyst for involving everyone in the TQI and for changing the institutional culture.

## CONDITION FIVE: CHANGE THE INSTITUTIONAL CULTURE

In the previous sections, I elaborated on the necessity to empower employees and students in order to establish trust, pride-in-workmanship, and quality. Much of what I promoted can be described as establishing self-leadership skills in the work force, including management. Maximum autonomy and self-leadership are necessary in educational institutions if a culture of excellence is to result. Whereas minimum autonomy will surely result in a quality crisis, maximum autonomy that recognizes the unique talents and contributions of each individual, including the students, will lead to positive subcultures based on quality. When quality results are recognized and rewarded, all employees (faculty, staff, and managers) will have an increased pride-in-workmanship which will result in additional increases in quality and teaming. This cycle can be so strong that the entire institutional culture may change within five or six years. In fact, Deal and Kennedy (1982) make a case for a strong and unique organizational culture as a necessity for survival and success.

Institutional culture can be changed under two conditions. First when the institution is about to close, and second, when there is a group effort to alter the course. By managing the systems towards TQI, the institution's outdated culture is explicitly managed and thus change is not only possible, it is also probable (please refer to Figure 2).

Until trust and empowerment are established as routine, managers, faculty and staff will not readily move towards TQM and TQI. They will resist change in attempts to protect themselves. Such behavior reinforces the old institutional cul@re. It is apparent, therefore, that even if the entire institution is educated and trained in TQM and TQI processes and systems, little or no change will occur till the trust and empowerment factors are generously woven into the institutional cloth. When this occurs, everyone will be highly supportive of each other's efforts for TQI. As a result, pride-in-workmanship increases and the cycle breeds on itself.

The basic philosophy of every quality leader is based on principles of managing the institutional culture, and not the people. Managing does not necessarily mean control. If control is the main agenda of an administration, quality will be difficult to achieve because faculty do not and will not relinquish to a cookie-cutter approach their rights to individual innovation. Leadership, according to Gardner (1990). . . is the process of persuasion or

example by which an individual (or leadership team) induces a group to pursue objectives held by the leader or shared by the leader and his or her followers (p. 1).

Gardner says that leadership must not be confused with status, power, or official authority. Leaders are part of a system and they are affected by the system in which they work. Leaders perform tasks that are essential for others to accomplish their purpose, which in the case of TQM would be to increase the quality of services and or product. As quality increases so will the pride-in-workmanship. The result will be that a new institutional culture will emerge, one in which working becomes fun.

During a recent teleconference, W. Edwards Deming stated that the main reason for working is to have fun. In his book Joy In Work, Henri de Man (1939) concluded, after interviewing industrial workers in Germany during the mid-1920's, " . . . every worker aims at joy in work just as every human being aims at happiness" (p. 11).

NOTE: This article is adapted from a book ,mplementing Total Quality Management in Educational ,nstitutions by Robert Cornesky, Sam McCool, Larry Byrnes, and Robert Weber, Magna Publications, ,nc., 1991. At the time of the article's submission, Dr. Cornesky was Dean of the College of Science, Management and Technologies at Edinboro University in our SSHE System.

For those interested in the TQM/TQ, Tools and how they may be used in an academic setting, please be informed that in April 1992 a forthcoming book Total Quality ,mprovement Guide for ,nstitutions of Higher Education by Robert A. Cornesky will be published.

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Figure 1: Process Inhibiting Change to Quality.

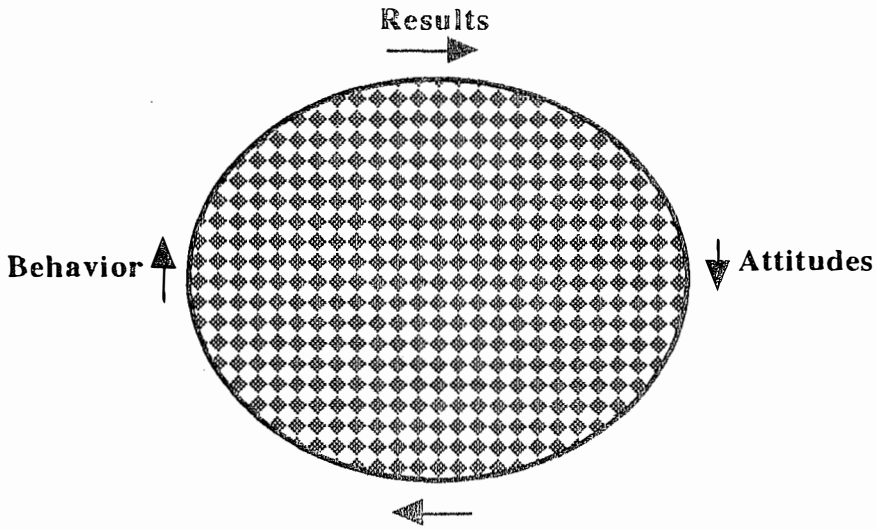
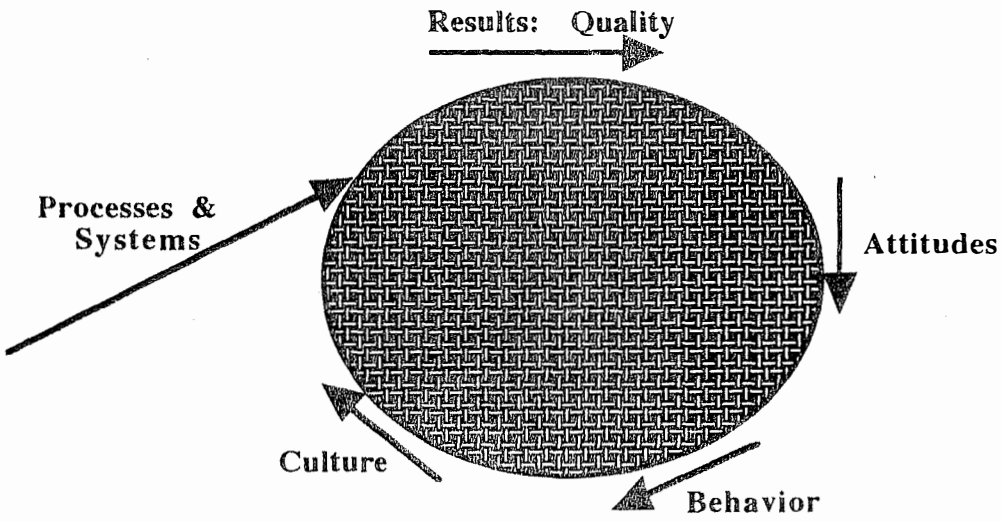



Figure 2: Process and Results of Introducing Change to Quality.



## BOOK REVIEW

Robert Cornesky, Sam McCool, Larry Byrnes and Robert Weber, *Implementing Total Quality Management in Higher Education* (Madison WI: Magna Publications, Inc., 1991) 159 pp.

If you enjoyed Bob Cornesky's article in this journal, or if you are interested in quality in higher education, you will want to read the publication that Bob and his co-authors have put together on this subject. Essentially, they have authored a monograph that addresses some of the elements that need be considered in implementing the cultural changes that apparently are required in providing quality in higher education.

The text consists of four chapters that address selective, relevant aspects of quality management to higher education, an extensive bibliography on quality management, and a number of case-type vignettes that undoubtedly were drawn from authors' experiences. You have received a taste of text coverage by reading the article in this journal; it forms the basis, sans cases, for chapter 1 of this monograph. The authors' purpose in preparing this chapter was to introduce readers to the principles of total quality management -- sort of putting us all on the same footing. Chapter 2, "Principles of Total Quality Management," deals with potential applications of basic principles to institutional management. Serious readers may find some of the visuals in this chapter helpful in analyzing their current situation. Chapter 3, "Determining Your Institution's Quality Index," is meant to suggest a baselining methodology from which improvement in quality management may be initiated. Again, forms in this chapter may prove useful. Chapter 4, "Five Necessary Conditions for Implementing TQM and TQI in Academic Institutions," elaborates on the conditions necessary for establishing a total quality culture in colleges and universities. Readers will appreciate the cases in this chapter that relate to actual, "can-do" situations.

The authors' basic premise is that institutions should plan more effectively and they urge a collaborative approach (p 9). Thus, readers should not expect pat approaches for improving quality. Rather, this text should be taken as a first step in a self-help approach. For the reader to expect more undoubtedly would lead to disappointment.

It is difficult to imagine anyone involved in higher education that would not be interested in improving quality. What Bob has brought to us in this monograph is some indication of methodology necessary to implement change. It thus provides the foundation on which change may be implemented. Readers thus will appreciate the insight that is provided for their own situations. Readers will also appreciate the writing style, overall approach, and organization that the authors have taken in treating their topic -- they have produced a very readable text.

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