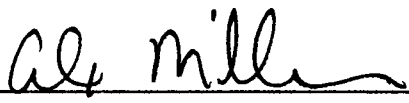


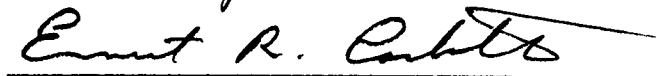
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I am submitting herewith a dissertation written by Mary Kay Stevenson Sullivan entitled "Segmenting the Informal Investment Market: A Benefit-based Typology of Informal Investors." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Business Administration.


Alex Miller, Major Professor

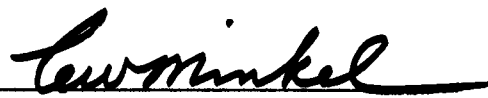
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Vice Provost
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SEGMENTING THE INFORMAL INVESTMENT MARKET:
A BENEFIT-BASED TYPOLOGY OF INFORMAL INVESTORS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville

Mary Kay Stevenson Sullivan

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ABSTRACT

Data from 473 respondents were compiled; 214 of the respondents were informal investors. The purpose of the study was three-fold: (1) to link informal investment research to theory through testing a central assumption of finance – that of a wealth-maximizing investor; (2) to develop a theory-based typology of informal investors; and (3) to search for differentiating characteristics of the investor types which might suggest strategies for entrepreneurs seeking capital.

The hypothesis of the study – that informal investors were not solely wealth maximizing, but were willing to give up financial return for various nonfinancial benefits – was strongly supported. In each of nine different hypothetical scenarios, investors in the aggregate were willing to give up some financial return. Factor analysis revealed two distinct nonfinancial factors, one normative and other-oriented, and a second which was affective and related to personal satisfaction.

From a marketing perspective which suggested segmentation based on desired benefits, a K-means cluster analysis was used to construct a benefit-based typology. Three distinct types of investors emerged: one which was interested primarily in financial benefits, one which was interested primarily in nonfinancial benefits, and a third which was interested in both.

Post hoc tests for other distinguishing characteristics suggested labels for the investor types: Rational Economic, Risk-managing, and Responsive. The Rational Economic Investor sought the highest return, had the highest perceived risk and had the shortest holding period of the investor segments.

This investor tended to specialize in an industry and to make larger investments. The Risk-managing Investor had the lowest level of risk, tended to diversify among industries, and was more likely to invest with a group. The Responsive Investor was more likely to be between 45-54, to invest in firms nearby, to have a longer holding period, and to be self-reliant in the investment process. Rational Economic Investors comprised 47% of the sample, Risk-managing were 31%, and Responsive Investors, 22%.

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CHAPTER I

INTRODUCTION AND PURPOSE

Most early stage financing [of new businesses] comes from 'informal investors' – individuals of means, most often friends or relatives of the firm's founder. Informal investors may represent the largest single source of venture capital in the country, although the actual extent of their investments is unknown.

(Federal Reserve Bank of Atlanta, 1983: 13)

New businesses are a major source of new jobs and, consequently, are a significant force in economic growth and development (Birley, 1986). Institutional financing for these start-ups, however, is scarce. Banks are typically unwilling to lend to risky new businesses and professional venture capitalists prefer young firms with a track record to unproven start-ups (Shapiro, Hoffman, Draheim and Howell, 1969; Wetzel and Wilson, 1985). This capital market "gap" is often filled by private individuals who are willing to invest their own resources in new businesses (Wetzel, 1987).

The importance of this informal or private investor as a source of capital for new business ventures has been recognized for some time. Thirty years ago, studies done by the Federal Reserve Bank of Boston noted the key role played by private individuals in providing capital for new research-based enterprises in New England (Rubenstein, 1958). It has been almost that long since individual private investors were identified as the most important sources of capital for new businesses in general and, as such, became the object of systematic study (Baty, 1964). More recent studies have reached similar conclusions regarding the vital role of the private investor in

economic development in the U. S. (Wetzel, 1981; Federal Reserve Bank of Atlanta, 1983).

On an international level, informal investors are also considered to be "one of the most important sources" of capital for economic development (OECD, 1986: 43). Examples from a study of 24 industrialized nations bear this out:

In Canada: Essentially, private individuals constitute the most frequently used source of capital in the early stages of a small business' development.

In Germany: Thus far, individuals wishing to invest in venture capital and the companies attempting to raise funds have had to rely on newspaper advertisements and private agents.

In New Zealand: Individuals who possess the requirements of wealth, management skills and the capacity to bear risk are considered to be an important source of venture capital in New Zealand.

In Australia: A Committee of Inquiry into the Development of High Technology Enterprise found that there was an acute shortage of capital for the start-up and early growth phases of high technology ventures in Australia. Typically such firms have been financed in these phases by borrowing, using the assets of the entrepreneurs as collateral, or by borrowing from the entrepreneur's relatives and friends . . . Other sources of capital for small business include the clients of accountants and solicitors and some individual and institutional investors. (OECD, 1986: 43)

Both at home and abroad, then, informal risk capital is considered vitally important for economic development. Yet relatively little is understood about this potential pool of capital for entrepreneurs. (OECD, 1986: 43).

During the past decade, considerable research has focused on the informal investor and considerable information has been brought to light. Still scholars acknowledge that much work remains to be done (Wetzel, 1987).

Three needs seem especially apparent. One is suggested in a comment by William Wetzel, considered by many to be the leading researcher in the area of informal investment (Lipper and Ryan, 1984):

There are no systematic techniques for identifying clusters of individual investors or for assessing their distinguishing investment objectives. (1983: 31)

This suggests the need for developing a typology of informal investors – a method of classifying different investor types. Attempting to address this need will be a primary focus of this study.

A second need at this stage of research is to link current studies to theory, to determine "what concepts, theories, and hypotheses are relevant" (Wetzel, 1986: 105). As we will see in the review of the literature which follows, explicit links to theory are lacking in informal investment research. The field of finance (or financial economics), with its interest in investments, seems intuitively appealing as a starting point for a conceptual framework. But an underlying assumption of finance – that an investor has only one objective, to maximize financial wealth – is at odds with both anecdotal evidence and past studies of informal investments. Testing this central assumption and drawing conclusions from the findings would help to develop needed ties to theory.

Finally, in light of the important role of informal investments in business creation and growth, a third need is to direct research toward practical application. Discovering actionable characteristics of informal investors and their investment preferences could lead to strategies for increasing the availability of informal venture capital, thereby stimulating business development.

These perceived needs lead to the three-fold purpose of this study: (1) to examine concepts of theory of finance which might apply to informal investments and to test a key assumption of finance – that of a wealth-maximizing investor, (2) to develop a typology of informal investors, using the derived conceptual framework as a foundation, and (3) to examine the investor segments for differentiating attributes or characteristics which could be adapted for practical application.

It is hoped that this study will be of significant benefit to both scholars and practitioners. For the scholar, developing links to theory could help to integrate informal investment research into the broader streams of entrepreneurship, strategic management, finance, and economics. A theory-based typology could also enhance understanding of the informal investment phenomenon and serve as an organizing framework for future research. For the entrepreneur, it is hoped that development of a typology might reveal understandable capital market segments which could result in actionable strategies for encouraging informal investment.

CHAPTER II

LITERATURE REVIEW

A review of the major studies of informal risk capital reveals several common themes, themes which have provided the focus for this study. Scholars have been interested in why individuals make informal investments, what they expect to receive in exchange, and how these persons locate, evaluate and structure their investments. Research has attempted to discover similarities and differences among persons or processes, with varying degrees of success. Some studies have attempted to categorize informal investors based on these perceived differences, but the categories suggested to date have no link to theory and, with one exception, do not attempt to offer explanation of the informal investing phenomenon.

Although the variables of interest have changed little during the past three decades, there has been a gradual evolution toward more sophisticated methodology and an expansion of the definition of informal investment (Table 1). The literature of systematic informal risk capital research begins with Baty's study of the initial financing of new ventures in New England (1964). His research involved interviews with 25 investors – individuals in venture capital firms and individuals outside the formal institution – who provided start-up funds for new ventures. While it was not the primary focus of his work, Baty did discover some differences between private, individual (or informal) investors and professional (or formal) venture capitalists.

TABLE 1
Summary of Selected Informal Investment Research

Author	Definition of the informal investor	Methods	N	Statistical Analysis
Baty, 1964	Wealthy individual or his agent investing in new technically-based ventures	Personal interview	25	Percentages
Hoffman, 1972	Private, noninstitutional individual investing in new or small company	Evaluation of hypothetical cases	39	Percentages
Wetzel, 1981	Wealthy, private individual providing equity for a new or growing company (Friends and family excluded)	Mail survey	133	Percentages
Gaston & Bell, 1986	Same as Wetzel	Mail survey	158	T-tests of means, not deductive
Haar, Starr & MacMillan, 1988	Private individual investing in a young startup company (Friends and family included)	Mail survey	130	Discriminant analysis, Chi-square tests
Aram, 1989	Private individual providing debt or equity for new or growing company	Mail survey	53	Chi-square, t-tests

Baty found that informal investors were relatively active, seeking out investment opportunities. The average required rate of return for the sample was determined to be about 20%, although the nonprofessional investor seldom could estimate his rate of return. Baty speculated that the informal investor was willing to take on more risk than professional venture capitalists and that this was evidenced in the investment instrument selected:

The private individual investor appeared to be much less concerned with protection and guarantees than other venture capital sources. He usually prefers straight equity participation, perhaps supplemented by options, to the more exotic forms such as convertible debentures.
(Baty, 1964: 38)

Also, the study discovered that those in venture capital firms gave different motives for investing than did those who were investing only for themselves. Baty concluded that the motivations of these private investors varied from entirely economic considerations to those entirely emotional, with some achieving a balance between the two. Among the "emotional" reasons given were the following:

1. Gaining the sense of excitement inherent in risk-taking.
2. Participating in a growing enterprise.
3. Gaining the satisfaction of helping to manage the enterprise. . .
4. Fulfilling a belief in the social responsibility of wealth.
5. Helping small businesses get started.

(Baty, 1964: 23)

He concluded, however, that individuals were reluctant to acknowledge these nonfinancial reasons for investing:

In certain circumstances the subject would explain in great detail the economic considerations, tax implications, etc., underlying his investment decisions, and then end by admitting that he considered such investment a terrible risk, and that he only invested for the fun of it. Or, another answer encountered more than once was that, while he considered himself to be basically economically motivated, he thought

that most of his colleagues just did it for fun. One more candid investor put it this way: "With most of these guys, the real motivation is the emotional association, like backing a winner at the races. Money is just the excuse they give their wives". (21)

There appeared to be different approaches to evaluating the investment opportunity. Baty found that the professional institutional investors were more likely to rely on their own analytic methods in assessing the probability of success, whereas he concluded that:

The private investor appears to rely very heavily on his contacts in business and technical areas in assessing the prospects of a technology, a market, or a group of entrepreneurs . . . there is an interesting and sometimes humorous current of irrationality that runs through the investment policies of many individuals. (67)

Baty cautioned against drawing firm conclusions on the basis of this small sample, a caution we would do well to observe. Indeed, a look at his tables allows us to calculate that only 10 subjects in his study would fall within the category of private individuals investing on their own account. This extremely small sample severely limits our ability to draw valid inferences.

An additional serious problem for the purpose of this study is the blurring of lines between institutional investors and those who are investing only for themselves without benefit of organized funds or markets. Most percentage results are drawn from the total sample of 25. This diminishes, for our purposes, the usefulness of Baty's profile of the typical respondent. Further, some of his methods were admittedly *ad hoc*, such as determining age on the basis of his subjective judgment. But, in spite of these drawbacks, the study serves as an important foundation for research to follow.

Hoffman (1972) focused solely on what he called "informal venture capitalists", studying the characteristics of private, noninstitutional investors in two Texas cities. His objective was to examine the process by which these informal investors identified, evaluated, and structured their investments and to look for differences in investment patterns between the two cities.

This work was a groundbreaking effort, one which provided a clear and well-organized approach to studying the characteristics of informal risk capital providers. Hoffman's categories of variables, described as investor-centered, firm-centered, and investment-centered variables, systematized important concepts for future research. His categorization of investors as either passive or participative marked the beginning of a search for a typology of informal investors.

Using prepared cases describing a new or growing firm – with the key independent variables modified in each – Hoffman asked 39 informal investors whether or not they would be inclined to invest. Based on the firm-related variables, such as age of firm or type of product, he found no differences by city in propensity to invest. There were, however, considerable differences of opinion within the aggregate sample as to which investments were more promising. He concluded that, of the major factors influencing the decision, the most critical were those deemed to be investor-centered: "based on (the investors'). . . preferences, biases, previous experiences, tax position . . ." (Hoffman, 1972: 182). In other words, investors' preferences for various benefits – some financial, some nonfinancial – appeared to account for differences in investment patterns.

Hoffman turned to demographics in search of differences. From a tally of percentages, he derived some tentative conclusions. He found that

the propensity to invest in his hypothetical firms was greatest among the 30-39 year-old age group, least among investors of older age groups. He also speculated on regional differences, suggesting that more developed areas are more likely to supply capital under more favorable conditions than are investors in less developed areas.

Finally, Hoffman examined the investors' subsequent participation in the firm. He found that investors in one city tended to take a more active role in the firm than did investors in the other city. Based on the inclination to become involved and actively assist the firm, Hoffman suggested that investors could be categorized as either "developmental/participative" or "passive/judgemental" (1972: 179).

Again, some caveats are in order. The study was not an attempt to test hypotheses, a point clearly noted by the author, but was meant to be exploratory. Thus, we do not know if the presumed differences found or the inferences drawn are significant. We should also be aware that the dependent variable was not designed to explore real investment behaviors but instead intentions to invest. These problems should not obscure the very real benefits of this landmark study.

Wetzel's studies (1981, 1983, 1985, 1986, 1987) of the informal investor or "business angel" marked a turning point in informal investment research. He ventured beyond descriptive studies of the past and turned to research suggesting causal variables. He called attention to the economic importance of individual investors, who, he pointed out, represent the largest pool of risk capital in the country (1983: 24). He estimated their aggregate portfolios at approximately \$50 billion, or twice the amount

invested by professional venture capitalists (1987), but found them to be a largely invisible force, not interested in making their presence known.

Wetzel's initial study (1981) described the characteristics of 133 New England area informal investors and examined their investment referral sources. He found the typical investor to be well-educated, experienced in starting or managing new businesses, and interested in being involved in some active role with the firm. This typical (median) investor was 47 years old and invested between \$10,000 and \$25,000 in any one particular situation (1981: 221, 245).

In looking at rate of return expectations and the expected number of "winners", or successful investments, in a portfolio, Wetzel found results which he could not explain (1981: 236). Considering the projected percentage of winners as a measure of risk, it appeared that some investors expected similar returns even when risk levels varied. In other words, the expected financial returns did not always compensate for the additional risk perceived. He later concluded that "investors do not have homogeneous perceptions of risk" (1983: 29).

A lack of homogeneity was also apparent in respondents' stated rate of financial return. The median minimum acceptable portfolio rate of return for informal investors in his sample was 20%, but he noted substantial dispersion around the median. This finding, he pointed out, reflected "the diversity of the informal investor population" (1983: 30).

Wetzel also speculated that there might be noneconomic aspects to the investment decision. His data showed that 45% of his sample would accept a lower rate of return in order to help "entrepreneurs to build successful ventures in a free enterprise economy" (1983: 31). Between 35 to 40% of respon-

dents would be willing to accept a lower financial rate of return in order to support local economic development or develop socially useful technology. He surmised that nonfinancial rewards might serve to reduce the actual cost of informal risk capital (1983).

Wetzel looked at aspects of the investment process, with particular attention to investment referral sources and degree of involvement in the firm. It was here that he made a tentative effort at categorizing the informal investor: he labeled investors as active and passive, based on the degree to which they participated in the firm.

A particular concern of Wetzel's was the perceived inefficiency in matching available informal risk capital with entrepreneurs needing funding. An outgrowth of this research was the Venture Capital Network (VCN), a non-profit organization designed to reduce market inefficiencies by serving as a clearinghouse of information for entrepreneurs seeking capital and individuals interested in investing (1986). Again, the concept of investor differences is implicit here: VCN operates on the assumption that different investors have differing preferences and differing investment objectives.

Wetzel was aware of limitations of his work and clearly reminded the reader of the highly speculative nature of some of his conclusions, such as the estimated aggregate amount of informal risk capital invested in the U. S. Further, none of his inferences was the result of hypothesis testing. He recognized this, pointing out that informal risk capital research was still in its exploratory stages and only slowly moving toward the development of theory and hypothesis-testing (1986). In addition, we should view his sample with caution due to the extremely low response rate involved; with

only 133 respondents out of 10,000 questionnaires mailed (1981: 218), the possibility of selection bias should not be overlooked.

Wetzel's more recent work has included an exhaustive review of research on informal risk capital (1986) and considerable suggestions for future study. His work has generated substantial interest in the role of the informal investor, in the popular business press as well as in academic journals (Tannenbaum, 1988; Sanger, 1984). And his work has been cited as the foundation for a number of similar studies of the informal investor in different geographic areas, many of which drew heavily from his questionnaire. Among these were Tymes and Krasner (1983), Schell (1984), and Gaston and Bell (1986).

Tymes and Krasner (1983) compared a sample of California investors with Wetzel's New England findings, but their study suffered from a limited sample as well as an uncertain delineation of the sample respondents. Of their 41 usable responses, 11 described themselves as venture capitalists. However, the researchers determined that only four of these fell within the informal investor category, that is, the non-institutional private investor. Therefore, a comparison of their results with studies looking solely at informal investors becomes difficult.

Similarly, Schell (1984) encountered difficulty in eliciting responses to his North Carolina survey. He uncovered only one self-described "informal venture capitalist" who had made an informal investment within the year of the study. Thus, his research focused on professional venture capitalists in the area instead.

Neiswander's 1985 study of informal risk capital in northeastern Ohio had a much higher response rate (48%) than previous studies, a fact he attri-

buted to the short (two page) questionnaire and his personal contact with the respondents. He identified 51 subjects who could be classified as informal investors and compared the demographics of his sample with those of Wetzel as well as Tymes and Krasner. Ohio investors were found to be older (2/3 were over the age of 50) than in other regions and did not favor any particular industry group.

A contribution to the research on informal investors was his detailed look at the evaluation process. Neiswander's data showed that informal investors in his area rejected an investment deal for one of two primary reasons: the management team lacked the skills deemed necessary or the entrepreneur had not invested his or her own funds in the venture. He also found that investors were willing to invest their time as well as their money, with respondents indicating a willingness to spend nearly 5 hours a week giving assistance to the entrepreneur.

A shortcoming to Neiswander's work, which was readily acknowledged, is the fact that he was dealing with respondents' self-reported intentions, not their actual investment behaviors. Nevertheless, his work expanded the knowledge base of informal investment research.

Gaston and Bell (1986) followed Wetzel's format in profiling the informal investor of their study. In their sample, they found the investor to be less wealthy than previous studies and estimated an average annual income of \$70,000. They also noted that capital was provided in the form of both debt and equity.

This study tested for differences in three areas: (1) between respondents who invested in new ventures owned by military veterans and those who did not, (2) between persons investing in different-sized firms and (3)

between geographic regions within the study area. They found that investors seemed to make no distinction between veteran-owned firms and other firms and that the great majority (85%) of investments reported were in small firms (those with fewer than 20 employees). Investors in the three geographic areas studied were similar, with three exceptions. The median income of investors was higher in the Mid-Atlantic states and the Southeastern region had a longer holding period (7.5 years versus an average of 4 years for the sample) and a greater percentage of voting control than the other two regions. While there was not a deductive logic to these tests, they were an attempt to describe recognizable investor types.

Haar, Starr, and MacMillan (1988) were also interested in the informal investment process. They developed propositions based on possible referral networks through which investors learn of informal investment situations. Through a series of Chi-square tests, they determined that individuals were more likely to invest in deals referred by close personal contacts over those referred by professional contacts. They also found that the closer the relationship between the referrer and the investor, the less likely the investment was to be successful. Further, their data suggested that there was a negative correspondence between successful performance and articulateness of the entrepreneur. From the latter, they concluded that the investor's business judgment could be clouded by nonfinancial factors (27).

Investors were grouped according to their investment decision patterns and were categorized as Trusters, Checkers, Evaluators, Advisors, Brokers, and Gatekeepers. These labels were meant to reflect the investor's degree of trust in others for evaluation of the investment deal. While Haar, Starr, and Macmillan described their research as exploratory, the labels

suggest an implicit questioning of motivations underlying the investment process. Even so, their research instrument follows the classical economic assumption that the investment motive is solely a financial one; the three choices listed on their questionnaire as reasons for investing are: the potential for high rate of return, tax shelter features of investment, and opportunity for capital appreciation.

The authors pointed out several potential problems with their study. First, they were concerned with selection bias, since there was a preponderance of respondents reporting successful investments. This suggested the possibility that unsuccessful investors might not have been as willing to respond as those whose investments had performed well. Second, the sample was heavily weighted with members of the financial community. This, they felt, restricted generalization. Also, due to limited sample sizes, some tests involved compressed categories which resulted in information loss. For example, the categories of referral sources were compressed into two groups. Within those two, justification for the dividing boundaries is unclear. "Personal colleague referrers" included relatives, friends, business associates and clients. The inclusion of clients, who made up nearly 10% of the sample's referral sources, in this category instead of with "professional referrers" could possibly influence the results of the study. These limitations notwithstanding, the Haar, Starr, and MacMillan study represents a notable advance in both methodology and conceptualization for informal investment research.

Another advance in the area of informal investment research came with Aram's 1989 study. He examined the personal characteristics of 53 investors, their investment patterns, and their attitudes toward future

investment in light of three different classification possibilities. These three different methods of categorizing informal investors suggest three possible approaches to developing a typology. Let us look at each of these in turn.

The first classification, called "early-stage investors", was based on presumed preferences for a particular stage of firm growth. The author sought identifying characteristics of investors who preferred early stage ventures, but found no differences in age or education. However, there appeared to be a greater percentage of individuals with an entrepreneurial background investing in early-stage businesses, rather than in more established ventures. Also, propensity to invest in startups was negatively correlated with family income and dollar amount invested.

A second classification was that of the "technology-oriented investor", based on the proportion of technology-based firms to the total number of investments. Investors in this category differed from investors with a low proportion of high-tech investments in several respects. Technology-oriented investors reported expecting higher financial returns. Further, they estimated that they would accept a higher number of "losers" in an investment portfolio, an indication of willingness to accept greater risk. Also, technology-oriented investors expected to liquidate an investment sooner and tended not to use friends as referral sources. Other differences were found in reasons for rejecting investments. No distinguishing demographic characteristics were apparent.

A third method of classification, "patterns of coinvesting", used an index to indicate the degree of coinvestment with different types of investors. (The coinvestor "types" were defined as other individuals, venture capitalists, banks, other financial institutions, and government.)

Based on this index, Aram concluded that investors were reducing risk through coinvesting. He found support for this by noting that entrepreneurs in the sample exhibited low coinvestment index scores, suggesting higher levels of risk.

Since the coinvestment index is a key variable in Aram's study and an important basis for his conclusions, let us examine it in detail. Two issues in particular suggest that the construct should be viewed with caution.

First, the index is simply an arithmetic mean, calculated by "dividing total number of coinvestors of all types mentioned over the past three years' investments by that person's total number of investments" (1989: 344). However, the mean does not relate the coinvestors to the specific investment and therefore is unlikely to be a valid indicator of the percent of time "the respondent invested alone" (Aram, 1989: 344). For example, it is possible that an individual could report five different types of coinvestors in one investment and none in the only other investment made. Although in actuality the investor invested alone one-half of the time, the index would yield a score of $5/2$ or 2.5, a fairly high score on a measure that ranged from 0.33 to 3.67. This would indicate, according to Aram, a relatively low orientation toward risk, yet the score is clearly skewed by one single investment situation.

Also, drawing conclusions of risk orientation from this mean score is further weakened by the fact that only 16 of 53 respondents invested with more than one "type" of other investor. The index could be biased since it is heavily weighted by less than $1/3$ of the sample.

These concerns should not diminish the important contributions of Aram's research. His conclusion that persons investing with others may be

more risk-averse than those who invest alone is a valuable extension of the stream of informal investment research. In interpreting the coinvestment index as a measure of risk, Aram directs inquiry from description toward explanation of the phenomena. The methodology of this study, too, is an important evolution from the raw data and percentages of earlier studies to statistical analyses using Chi-square tests and correlations.

Throughout the literature we have noticed several common themes. First, we have seen a continuing search for a method of categorizing informal investors, and several typologies have been suggested. With the exception of Haar, Starr and MacMillan's evaluative types and Aram's "coinvesting investor", these typologies have not found distinguishing characteristics that enhance our understanding of the informal investor.

Second, there are recurring variables which point to core concepts of interest. Research has emphasized the investor's desired returns from the investment, and nonfinancial "returns" as well as the expected financial rewards have been suggested. In the process, some scholars have noted considerable variation among investors in their expected financial returns and in their expression of the risk undertaken in their informal investments (Baty, 1964; Wetzels, 1981; Aram, 1989). Also, interest in the investment process as well as the attributes of the firm and the investor is frequently found in much of the past research. It is these common research issues which have helped define the focus of the present study.

In addition, the review of the literature suggests the need to establish ties to theory. As informal investment research has evolved, there has been a gradual refinement of concepts and an increasing depth of analysis. Exploratory studies have accumulated a considerable amount of descriptive data

dealing with informal investing. To date, however, these data have been examined largely in isolation from theory and have not been found to fit into any "sense-making" schema. It seems that the time is right to search for an organizing theoretical framework that would enable us to better understand, explain, and perhaps influence the phenomenon of informal investing.

CHAPTER III

CONCEPTUAL DEVELOPMENT

The conceptual foundation for this study draws on two separate fields of inquiry. The first – theory of financial decision-making – derives from economics and finance. The second – benefit segmentation – comes from the discipline of marketing. Benefit segmentation is the grouping of consumers according to the underlying advantage or benefit they desire from a product or service. While these concepts emanate from separate disciplines, they share a common interest in the decision-maker's utility or, in other words, in satisfying the decision-maker's wants or needs. Taken together, these theoretical perspectives will serve as the basis for a typology of informal investors, as well as suggesting a direction for practical application.

Theory of Financial Decision-making: Two Paradigms

Why do some individuals decide to invest money outside of organized financial markets in what we are calling "informal investments"? Why do they not instead invest these savings in an insured bank or in some publicly-traded financial instrument such as stocks or bonds? Finance theorists (and financial economists¹) have a ready answer: investors invest in hopes of maximizing wealth.

¹ The terms "finance" and "financial economics" are here considered to be synonymous, referring to the discipline concerned with how and why individuals or their agents make investments having uncertain monetary payoffs over time (Copeland and Weston, 1988).

The rational economic paradigm. Finance theory generally assumes that all individuals are wealth-maximizers, that is to say: "Individuals always prefer more wealth to less. In other words, people are greedy" (Copeland and Weston, 1988: 80). This assumption is tempered with the recognition that individuals have differing time preferences and differing degrees of willingness to take risks, but finance theory "has little to say about why these differences exist" (Copeland and Weston, 1988: 78). Therefore, according to this viewpoint, an investor makes an informal investment simply because he or she believes that this investment has the potential for higher returns than another investment at this given level of risk.

This purely financial view of economic decision-making has a long history. Adam Smith, the 18th century economist, is credited with describing what has come to be known as Rational Man or Economic Man or, on occasion, *Homo economicus* (Dessler, 1980). Classical economics followed this paradigm, assuming a rational decision-maker with complete knowledge, looking to maximize profits within the business endeavor and to maximize his economic well-being in general. For the investment decision, this entailed a search for information with which alternate choices could be evaluated, followed by a choice of the alternative which offered the greatest financial return. The term Economic Man, then, has come to carry with it a specific meaning: it describes a decision-maker with a single-minded interest in financial outcomes alone (Dessler, 1980: 85).

In addition to assuming a wealth-maximizing investor, Smith also touched upon a second concept which, 200 years later, is at the heart of finance theory: the risk-return relationship. He alluded to a positive correspondence in perceived risk and expected profits thus:

The ordinary rate of profit varies more or less with the certainty or uncertainty of returns . . . The ordinary rate of profit always rises more or less with the risk. (Smith, 1776: 213)

Although contemporary theorists would likely substitute the more flexible "tends to" for "always", the concept of a positive correlation between risk and the financial rate of return has become a cornerstone of finance (Fama and Miller, 1972: Chapter 6; Copeland and Weston, 1988: 128). Associated with this relationship is the assumption that, in a world of incomplete knowledge, investors are risk-averse. In other words, for a given level of return, investors would choose the more certain (or least risky) alternative. In order to take on additional risk, investors require a financial premium, the possibility of additional returns.

Even though investors are presumed to be risk-averse in general, it is acknowledged that individuals can and do have varying propensities toward risk, which can range from risk-seeking in certain situations to generally risk averse in others (Copeland and Weston, 1988). In fact, a key concept in determining price and financial return of investment instruments is the assumption that individuals have differing attitudes and preferences toward risk.

Finally, in completing the main assumptions of the rational economic paradigm, it should be noted that there is an implicit assumption that individuals can assess an investment's probability distribution of end-of-period returns (Copeland and Weston, 1988: 109). This probability distribution is considered a valid measure of the investment's uncertainty or risk; the *ex ante* mean of the distribution is called the "expected return"².

² "Expected return" is a technical term indicating that the return is not a single forecast but a mean of the distribution of possible returns.

Thus, we have distilled several key assumptions from classical finance theory which might offer a framework for studying the informal investor:

- (1) The investor's goal is a purely financial one, that of maximizing wealth.
- (2) The investor is risk averse, giving rise to a direct risk-return relationship associated with investment instruments.
- (3) Investors have varying risk preferences.

Deviations within the classical paradigm. From time to time there has appeared among the classicists what might be called a "minority opinion": a suggestion that the investment decision was not so rational and straight-forward as formal theory portrayed. Some statements in Keynes' General Theory, for example, suggested that psychological attitudes might be important considerations in investment decisions (Pigou, 1950). Similarly, among studies published in the Journal of Finance are some which consider nonfinancial returns. For example, Lease, Lewellen and Schlarbaum (1974: 431) concluded that a reason for investing is for "fun as well as profit". Slovic (1972: 779) found that "[m]any aspects of investment are psychological in nature". More recently, a new theory proposed by Ibbotson, Diermeier, and Siegel (1984) suggests that the cost of capital should include literally all costs and benefits, nonmonetary as well as monetary.

A close reading of two well-respected books on modern finance theory shows that theorists acknowledge the human element in investment in a way that the theoretical models do not. Fama and Miller (1972: 205) use the term "utility maximization" to describe an investor's objective, where some writers use the more restrictive "wealth maximization". They remind readers that the utility function is simply a convenient way of representing

preferences and individual tastes (1972: 7, 205) and suggest that the exploration of such issues might be of interest to other social sciences.

"Do individuals actually behave as described by the axioms?" ask Copeland and Weston (1988: 102). They point to human biases and inconsistencies in decision-making and conclude that: "The answer seems to be a resounding no – they do not. . . Much work remains to be done." Yet, in spite of these suggestions of noneconomic investment factors, the theory of finance found in almost all economics and finance textbooks still presumes only one objective for the investor – that of seeking the greatest financial return possible for a desired level of risk. This unresolved issue will lead to the hypothesis of the present study and will provide the basis for a typology.

The behavioral economic paradigm. Economic theory of decision-making was expanded with the introduction of behavioral concepts by Simon (1955, 1959, 1961) and others (March and Simon, 1958; Cyert and March, 1963). Their work emphasized that a decision-maker possessed limited knowledge and information and did not search for the best possible choice due to finite resources and personal preferences. One could not, in fact, maximize one's financial utility, but would satisfice, accepting a satisfactory economic solution instead of the hypothesized optimal one. The importance of noneconomic benefits were strongly affirmed and concepts such as "psychic income" (Simon, 1959: 262) entered the economic vocabulary. A decision-maker with personal values, multiple goals and considerable noneconomic motivation, was offered as an "important modification in the concept of economic man" (Simon, 1959: 272).

This concept is also of interest to consumer behavior theorists who have distinguished between "hedonic" or pleasure-seeking behavior and

behavior which is primarily economic (Hirschman and Holbrook, 1982; Bloch, Sherrell, and Ridgway, 1986). Similarly, economists such as Friedman and Savage (1968; 234) and Schuller and Willner (1988) acknowledge that some individuals are "buying entertainment" through making risky economic investments. In other words, investors make some financial decisions not with the intent of gaining maximum financial return, but for the entertainment value and personal enjoyment derived from the investment. It seems appropriate, then, in investigating the motivations which might lead an individual to decide to make an informal investment, to consider not just economic motives, but pleasure-seeking reasons as well.

Etzioni (1988) proposed an even more expanded view of economics to acknowledge two distinct dimensions: the rational *Homo economicus* of the classical economic tradition and a normative, affective aspect. The second dimension – what Etzioni called "the moral dimension" – is other-oriented, deriving from a sense of moral duty or doing what one believes one ought to do (93). Etzioni described the foundation of his paradigm as the "responsive community" (8), individuals living as a part of the greater society and responsive to the needs of those around them. In this view, the desire for maximum economic gain is tempered by commitment and altruism.

Indeed, empirical studies have found consistent evidence of behavior with no apparent consideration of economic reward, such as strangers leaving tips in interstate restaurants where they plan never to return, individuals anonymously returning a wallet containing money to the owner, or citizens voting when rationally their one vote will not make an impact (Frank, 1988). These are but a few examples of studies which have found cooperation alongside or in place of hypothesized self-interest

(Marwell and Ames, 1981). Examples such as these led Etzioni to call for a new and expanded paradigm in economics, one which incorporates the moral dimension of economic behavior and views the decision-maker, not in isolation, but in community.

This study of the informal investor follows the expanded paradigm, seeking to integrate the real-world empiricism of behavioral economics with the clarity and power of the classical tradition. The viewpoint underlying this study is that both economic and noneconomic objectives are theoretically linked to financial decision-making. The acknowledgment of both aspects seems in keeping with observed phenomena and thus holds promise for a more accurate understanding of the informal investment process. This two-factor view of the investment decision begins by acknowledging the financial objective of classical economic theory. However, it acknowledges also a nonfinancial factor, one which includes a broad spectrum of non-pecuniary benefits ranging from entertainment and other satisfactions to Etzioni's moral dimension. While there are other possible ways to view the informal investment decision, these two factors will provide the foundation for the present study.

Possible Alternative Conceptualizations

There are three streams of differing viewpoints which need to be considered. First, there are those who might argue that there is only one primary utility relevant to the investment decision, and that is simply whatever brings one satisfaction. Then, there are those who agree to a two-factor schema, but disagree as to what factors those are. Finally, there are

theoretical frameworks in other disciplines which point to more than just two benefit categories. Let us examine each of these possibilities in turn.

Those who hold to the single-utility viewpoint argue that all actions are explained by one basic motive, pleasure or self-satisfaction – or its corollary, the avoidance of pain (Browning and Browning, 1983: 56). Within this framework, pure altruism does not exist, since even apparent acts of giving are motivated by self-interest. Yet it has been argued strongly that acts of self-denial and sacrifice cannot be reconciled with this narrow concept of utility.

Etzioni, in particular (1988: Chapter 2), shows how this view of utility is either inconsistent with real behavior or else is tautological. He points to instances where people act in ways that do not maximize their well-being, such as giving an anonymous gift, refusing to sell a stock short due to a conviction that to do so is unpatriotic, or entering a burning building to rescue someone trapped inside. In the latter case, the rescuer is not motivated by self-interest, but by a sense of moral obligation. To call such an action maximizing the rescuer's satisfaction through enhancing the satisfaction of another only serves to make the concept of utility meaningless, Etzioni holds. To expand the concept of utility maximization to become, by definition, the motive for all behavior undermines the ability of the concept to differentiate. Once a concept is defined in such an all-inclusive way it becomes a tautology.

Etzioni is representative of the school of thought holding to a two-factor benefit schema which differs slightly from that held here. He finds two separate utilities driving consumer and investment behavior – the rational self-interested behavior of classical economics, which he calls the

logical/empirical factor, and a moral component or normative/affective factor. In describing these two factors, he distinguishes between satisfaction (doing what brings pleasure) and "the sense of affirmation that accompanies discharging one's moral commitments, commitments that are often in themselves taxing rather than pleasurable" (24). It is this moral component that explains an older person's saving instead of spending in order to leave a bequest to generations unknown or an individual's refusing to cheat when to do so would go unnoticed. In each of these, behavior is motivated by one's values, by a sense of what one ought to do, instead of simply what maximizes one's own self-interests. "There is more to life than a quest to maximize one's satisfaction", Etzioni concludes (13).

Etzioni's view differs from that of the present study in that he relegates enjoyment and other nonfinancial satisfactions to the economic or logical/empirical factor. His normative, affective motive does not include one's personal satisfaction, but is strictly other-oriented. Not all affective or feeling-based motivations, then, fall within Etzioni's normative, affective factor.

Another perspective comes from Herbert Simon, who views the process of economic decision-making as composed of two elements, the rational, "so much emphasized by economics" and the nonrational, "to which psychologists and sociologists often prefer to call attention" (1959: 274). He believes that two key motivations exist: economic and pleasure-seeking, but adds that "[t]his does not rule out the possibility of unselfish goals, for one person's pleasure may enter into another's utility function" (1963: 276). Thus, he seems to vacillate on the possibility of altruism or a moral element as a separate factor.

Here is an apparent discrepancy between these two highly regarded behavioralists. Simon describes the two primary motivations as economic and pleasure-seeking; Etzioni views the primary motivations as economic and altruistic. This difference of opinion lends support, I believe, to a more inclusive view of the noneconomic dimension.

Theories in other disciplines suggest that more than two distinct benefits should be considered. Maslow's classic hierarchy of human needs (1943; 1970), points to material needs and intangibles such as desire for affiliation, self-esteem and self-actualization. While he outlined five categories of need, it could be argued that the lower order needs might correspond to a purely economic basis for investing and the normative/affective basis for investing might relate to the higher order needs.

Similarly, Spranger's six classifications of personal values (cited in Vernon and Allport, 1931) and Alderfer's human needs theory (1969), defining three broad categories of worker needs, could be condensed into primarily economic/material versus the desire for intangibles. Also of interest is Rokeach's research (1968) dealing with terminal and instrumental values which are posited as antecedents to attitudes. These more detailed categories of needs and value systems could be distilled into the basic schema described earlier: economic and noneconomic objectives.

A Marketing Perspective

Providers of capital as "customers" in search of benefits. Current marketing thought is based on the primacy of customer wants or needs (Engel and Blackwell, 1982). In light of this, a product has been defined as "anything that can be offered to someone to satisfy a need or want" and the

terms "product" (or "service") and "satisfiers" can be considered interchangeable (Kotler, 1984: 5). It is thus possible to view the entrepreneur in search of funding as a "marketer" offering an interest in the firm (or some other consideration) in exchange for outside capital. Then, reversing the traditional demand-side vision of marketing to one defining resource suppliers as a market, we can consider potential providers of informal capital as potential customers (sources of funding) for the entrepreneur.

Similarly, a current marketing viewpoint, known as the "marketing concept", offers additional insights on this perspective. This viewpoint stresses that a sales orientation is less effective than what has come to be called a marketing orientation. A sales orientation is product-centered, emphasizing the features of the product, whereas a marketing orientation emphasizes the perceived customer benefits of a product. Current marketing principles are based solidly on this "marketing concept".

Charles Revson, founder of Revlon, provides an example of the marketing concept with his statement that "In the factory we make cosmetics, but in the stores we sell hope" (Levitt, 1983: 128). A sales orientation would focus on the product, cosmetics, but Revlon was clearly taking a marketing approach, emphasizing the underlying benefit the customer sought: hope of becoming more attractive.

Similarly, a sales orientation to the informal investment process would view the entrepreneur as selling stock in the company, while a marketing approach would focus on the needs of the "customers", the informal investors, and the benefits they seek from the investment. Thus our question, "Why do informal investors invest?" becomes "What benefits are informal investors seeking from their investment?"

Benefit segmentation. The possibility of differing desired benefits suggests an approach for constructing a typology of informal investors, an approach consistent with both marketing theory and practice. The field of marketing has for some time recognized the advantages of dividing heterogeneous groups of consumers into smaller homogeneous groups. This concept has come to be called market segmentation and is defined as the dividing of potential markets into groups of similar consumers (Peter and Olsen, 1987: 472).

Early efforts at segmentation focused on demographic, geographic, or degree-of-usage (volume) variables. Demographic descriptors include age, sex, family size, stage in family life cycle, occupation, religion, and nationality. Geographic segmentation bases include region of the country, size of the city, county, or standard metropolitan statistical area (SMSA) as well as population density descriptors (urban, suburban, rural) or climate (warm-weather or cold-weather area).

More recent marketing studies have been based on the benefits provided to the consumer through acquiring or using the product. The rationale for focusing on benefits rather than demographic or regional attributes is that the benefits people seek in a product are seen as the real reasons that actual market segments exist. People differ, not simply because they live in an urban versus a rural setting, but because their underlying needs and wants are different (Haley, 1968; 1983).

Benefit segmentation, then, seeks to discover the underlying benefits of a transaction – specifically, the benefits to the person providing the funds within the exchange. From an applied marketing perspective, benefit-based market groups or segments should also be identifiable on some physical or

demographic characteristic (Loudon and Della Bitta, 1984: 82). From a scholarly perspective, however, benefit-based segments have value in and of themselves: they enhance our understanding and our ability to explain.

Based on the marketing approach to segmentation and the "marketing concept" in general, this study will attempt to group informal investors according to the underlying benefits sought from informal investments. Then characteristics or attributes of these groups can be examined, with particular emphasis on distinguishing attributes that might suggest possible strategies for the entrepreneur in search of capital.

Hypothesis

In response to the question "What benefits are informal investors seeking?", the conceptual background presented earlier points to two alternative hypotheses. The classical paradigm, describing Economic Man as a wealth-maximizing individual, acknowledges only a financial benefit. The behavioral paradigm, on the other hand, presents strong evidence that some individuals make investments not only for financial return, but also for nonfinancial reasons such as personal satisfaction and altruism.

This study, influenced by discussion of nonfinancial considerations in previous informal investment studies, is based on the behavioral paradigm. Thus, we step away from the assumption of wealth-maximization and hypothesize that considerations other than strictly financial ones are at work within the informal investment situation. It is expected, then, that:

Hypothesis: Investors are willing to give up financial returns for nonfinancial benefits in making informal investment decisions.

Proposition for Typology Construction

If this hypothesis is supported, then the study will turn to a second question: can investors be differentiated according to the objectives or desired benefits sought from the investment? The thesis advocated here is that the two views of the benefit sought by investors – nonfinancial and financial – could serve as the basis for categorizing the informal investor. Here we take a cue from marketing theory which suggests that such a benefit-based grouping or segmentation can enhance our understanding of the phenomenon of interest.

Considering the simplest possible combinations of desired benefits would lead to the matrix in Figure 1, which suggests that some investors

Interest in Economic Benefits	High	Type 1 Investor (primarily seeking economic benefits)	Type 2 Investor (seeking both economic and noneconomic benefits)
	Low	Not logical	Type 3 Investor (primarily seeking noneconomic benefits)
		Low	High
		Interest in Noneconomic Benefits	

FIGURE 1

Possible Investor Types Based on Desired Benefits

would seek primarily financial reward from the investment, some would seek primarily nonfinancial benefits, and some would seek both. The fourth quadrant, seeking neither financial nor nonfinancial benefits, makes no sense and is thus dismissed from further consideration. In formal terms,

Proposition: Informal investors can be segmented on the basis of benefits sought, with one group seeking primarily financial benefits, one seeking primarily nonfinancial benefits, and one seeking a combination of the two.

If the total sample can be clustered into segments of investors with differing benefit preferences, the next step would be to determine in what other ways the segments differ. Finding other differences would enable us to more fully describe the clusters and could bring us a step closer to explaining how and why certain individuals make informal investments in the particular way that they do. These differences could also reveal characteristics suggesting actionable strategies for the entrepreneur, permitting him or her to tailor investment characteristics to the perceived needs of the investor.

Possible Actionable Attributes

Theory suggests a possible important difference among the segments, that of risk-propensity. Both the classical and behavioral paradigms agree that many differences can be summarized in terms of the risks investors are willing to accept (Baker and Haslem, 1974: 469). Informal investment research, too, has suggested that risk orientation could provide explanatory power (Aram, 1989). Using risk preferences as a way of describing different investor types, then, directly links theory to current informal investment studies. There is also the potential for practical application if the investor

types are found to vary in their propensity for risk. A first test, then, will be to examine the clusters for differing risk preferences.

A second test will be to see if differences in financial return can be found in the clusters. As discussed earlier, a cornerstone of theory of finance is the risk-return correlation found in financial investments. This relationship has been established for formal venture capital; several studies have found a direct, positive relationship between the risk (variance) of venture capital funds and their average annual returns (Huntsman and Hoban, 1980; Chiampou and Kallett, 1989). If there are differences in risk preferences among the informal investor segments, then it is likely that differences in financial return expectations exist also. Again, for the entrepreneur, there is the potential for research results translatable into action if informal investor types vary in their desired rates of return.

Finally, the study will look for differences among the segments in light of other variables which have been of interest in past informal investment studies. These will include demographic characteristics and aspects of the investment structure as well as characteristics of the firm in which the investment was made. Since these are observable variables, it is these characteristics which may help to provide specific direction for the entrepreneur in determining how best to approach different informal investor types with what type of investment structure.

CHAPTER IV

METHODOLOGY

Survey Design and Data Collection

A survey approach was used. The survey instrument was based in part on the questionnaires of Wetzel (1981) and Haar, Starr and MacMillan (1988), and in part on variables of interest in the literature as well as direct quotes elicited from informal investors. The instrument was pilot tested with several known informal investors and with faculty and graduate students interested in entrepreneurship.

Mail surveys of informal investment phenomena have typically elicited a very low rate of response. For example, Wetzel's (1981) usable response rate was 1.3%, Tymes and Krasner's (1983) was 6%, and that of Haar, Starr and MacMillan (1988) was 4.3%. Therefore, the questionnaire for this study was designed with an aim of maximizing response and thus increasing the power of statistical tests. This involved close adherence to Dillman's Total Design Method or TDM (1978).

The first step in Dillman's method focuses on writing questions in a manner so as to strengthen construct validity. This includes determining the question structure (open-ended, close-ended with ordered choices, close-ended with unordered response choices or partially close-ended) which will best generate valid data and devising wording which will be clear, accurate, and nonbiasing.

Next, considerable attention is given to the physical design of the questionnaire. The TDM method stresses the need to present an attractive,

well-organized questionnaire that looks easy to complete. Research has found that response to a mail survey is highest using a small booklet of no more than 10 pages of questions, with an eye-catching logo on the front cover and the back cover left blank except for a brief comment of thanks. This was the format used for this study.

The first page of questions was designed to be "fun" – interesting and easy to complete – thereby encouraging the recipient to continue. For example, in pilot tests of the survey instrument, a sequence of hypothetical scenarios were judged to be interesting and easy to answer. Further, the directions were found to be simple and direct, and the informality and use of the second person were felt to generate respondent involvement. Based on these judgments, the scenarios were placed at the beginning of the questionnaire.

Also adding to the perception of ease of response was the use of considerable blank space and arranging the answer categories in a consistent, vertical layout. An effort was made to eliminate duplication of questions so as to maintain respondent interest and keep the length of the questionnaire within recommended bounds.

The initial mailing of questionnaires included a cover letter, a stamped self-addressed reply envelope, and a separate stamped self-addressed reply postcard bearing an identification number. There was no identification number on the questionnaire itself in order to maintain total anonymity. First class stamps were used and all envelopes were hand addressed, again with the aim of engaging recipient attention. Non-respondents received a followup postcard two weeks later, then a followup letter with another questionnaire four weeks after the initial mailing.

Dillman's TDM suggests a third follow-up letter to non-respondents, this time sent by certified mail. This study did not take this final step, however, for two reasons. First, the response to earlier mailings had already yielded enough respondents to assure statistical power (as computed following Dunlap and Kemery, 1985). In other words, if real differences did indeed exist, the sample size was already large enough to provide a strong likelihood of finding results that would be statistically significant. Second, since the sample was not a random one anyway, it was not felt that this additional mailing was crucial to the overall validity of the study.

One particular dilemma in designing the questionnaire was whether to gather aggregate data on the investor's past investments, as was Wetzel's approach, or whether, following Haar, Starr and MacMillan (1988) to focus on one specific investment. An aggregated account would provide a broader, more general view, but some specific relationships would be lost. Recognizing the need for both a coarse-grained and fine-grained approach (Harrigan, 1982), it was decided to incorporate both perspectives into the survey instrument. Thus, some questions dealt with all informal investments made within a specific time frame, while more specific questions are directed toward the most recent investment made.

The study examined only investments of the past five years. This was an extension of the three-year period investigated in other studies (Wetzel, 1981; Haar, Starr and MacMillan, 1988) and was limited in order to aid respondent recall.

The questionnaire is found in its entirety in Appendix A. Some questions not germane to the present study were included to assess the extent of informal investment in this area and to gather information on the

investment process involved. Many of these were adapted from Wetzel's (1981) survey instrument.

Sample and Data

The sample was defined as potential or identified informal investors within eastern Tennessee. Due to a concentration of new venture spin-offs from the Oak Ridge National Laboratories, from the University of Tennessee at Knoxville, and from efforts at venture development by these institutions as well as the Tennessee Technology Foundation and the Tennessee Valley Authority, it was felt that the four-county area surrounding and including Knoxville/Oak Ridge was a promising area for study. This area, with 2,300 Ph.D.'s and 4,800 engineers, has been cited by the Federal Reserve System as a significant cluster of new venture activity (Koch, Cox, Steinhäuser, and Whigham, 1983) and thus appeared likely to have significant informal investment activity as well.

Research findings suggest that informal investors tend to be drawn from certain occupational groups with high discretionary income – such as attorneys, dentists, doctors, financiers, and corporate senior management (Haar, Starr, and MacMillan, 1988) – as well as from the ranks of those who themselves are entrepreneurs (Wetzel, 1981). Also, certain occupations are often intermediaries in informal investment networks – such as attorneys, accountants, and bankers (Hoffman, 1972). Since the statistical power of the study was dependent on obtaining information from a large number of informal investors and since the research design did not require a randomized sample, those groups with a high propensity to invest were specifically targeted. The sample was composed of 902 individuals from Blount,

Anderson, Sevier and Knox counties in Tennessee and drawn from the following categories: accountants, attorneys, health care providers (medical doctors, dentists, optometric doctors), top management of local business firms, commercial bankers, members of Venture Exchange Forum (a local networking organization of individuals interested in entrepreneurship) and others known to be informal investors.

The sampling procedure generated a reply from 493 respondents, for a response rate of 55%. Of these, 473 or 52% were usable responses. This response rate is considerably higher than the single-digit response rates elicited by previous large mail surveys such as Wetzel (1981) and Tymes and Krasner (1985), and compares favorably with the 48% response rate to a smaller survey administered to known informal investors by Neiswander (1985).

Of the 473 respondents to the present study, 214 or 45% described themselves as having made an informal investment within the past five years and were therefore defined, for the study's purposes, as informal investors. An additional 69 or 15% had previously made an informal investment, but not within the past five years. Of the total responding, 190 or 40% had never made an informal investment.

Operationalization and Measurement

There has been a lack of consistency in the operationalization of informal investment concepts. Even the definition of – and the label applied to – the private, informal investor has varied among studies. As pointed out earlier, these inconsistencies make comparisons among studies difficult and hamper the synthesis of research efforts. Thus, the present

study has made a concerted effort to standardize definitions and, where possible, to ground them in both practice and theory. This effort begins with the operational definition of the focal point of the study – the phenomenon of informal investing.

Informal investment. The operational definition of *informal investment* (and its synonym, *informal risk capital*) used in this study is stated in the research questionnaire:

Money provided by a private individual to a private business through noninstitutional channels. The business must produce a product or service and must have been founded by someone other than the investor. The investment could be in the form of equity (such as stock, warrants or options to buy stock) or a loan.

This does not include any of the following:

- investments made through professionally-managed venture capital funds, Small Business Investment Companies (SBIC's) or through public stock markets.
- real estate speculations (investments in land or buildings unattached to a specific business)
- investments in your own business

Three underlying concepts are important here. First, the investment is not in one's own enterprise, since this is not indicative of a potential pool of capital available to entrepreneurs in general. Second, the investment must be in a producing venture, not a shell. This, again, is to give generalizability to any findings which might enhance productive economic development. Finally, an informal investment is based on an investor's individual decision to commit funds to a specific investment with particular characteristics.

It should be noted that neither the size nor age of the firm is considered a limitation to the definition. Nor is the product or service restricted to only high-tech or innovative outputs. Further, the investor can be either

family, friend, or unaffiliated with the entrepreneur. These inclusions stem from the desire to incorporate when possible from earlier definitions, while retaining those boundaries which differentiate the informal investment process.

The rationale for including both debt and equity within the operational definition is that technically "risk capital" is any capital commitment involving a greater than average degree of risk. In the case of informal investments, typically made to firms too young or risky to find other sources of funds, the commitment of either debt or equity capital carries a high degree of risk. The construct is narrowed, however, to limit "capital" only to money provided, not other assets. This is to achieve greater accuracy of measurement through the elimination of any subjective evaluation of assets provided.

Informal investor. An *informal investor* is defined as a household, either an individual or a dyad (a group of two), which provided informal risk capital to a business. This follows consumer behavior theory which acknowledges that household expenditures may result from a joint decision or might be initiated by either partner in a dyad (Davis, 1976). Support for this operationalization within the field of economics comes from Arrow (1951: 134) and Samuelson (1956: 8-9). Within informal investment studies, the dyadic nature of the investment decision is only suggested: Wetzel cites one individual's reason for not investing as "Wife refused" (1983: 28).

In the present study, the construct "informal investor" has been restricted to those households which reported making an informal investment within the past five years. This is in keeping with past research. This also serves to provide what finance scholars call a "clean" time period, one

uncontaminated by extraordinary events which could misrepresent the typical investing environment (Lubatkin and Shrieves, 1986). For example, an international exposition held in Knoxville in 1982 was not covered by this period. Investments in a one-time event such as the exposition were considered to have limited usefulness for the more general purposes of this study.

Measurements for hypothesis testing. Two constructs were designed to examine the financial/nonfinancial aspects of informal investments. The first, intended to reflect investors' attitudes toward nonmonetary benefits of informal investing, was operationalized as the degree to which investors would be willing to give up financial returns for nonfinancial ones. A set of nine hypothetical scenarios was developed, drawing on possible nonfinancial aspects suggested in the literature. (See Q-1 through Q-9 in the questionnaire, Appendix A.) These scenarios asked respondents whether or not they would give up some portion of a "guaranteed" 20% economic return in order to invest in a situation identical except for its nonfinancial aspect. If so, respondents were asked to estimate what reduced rate of return would be acceptable. [The 20% return was chosen as representative of current average returns from formal venture capital investments (Huntsman and Hoban, 1980; Chiampou and Kallett, 1989; Business Week, 1989: 128)]. The scenarios were designed to hold all factors constant, except for one decision variable. This was phrased as a forced choice between opposites so as to maximize variance.

From the responses to these scenarios, tradeoff scores were calculated which were used to test the hypothesis of wealth maximization. The response to each scenario question was subtracted from the 20% "given" rate

of return. This yielded a financial "tradeoff" score for each scenario, *i.e.*, the amount of return one would give up for a presumed nonfinancial benefit. Averaging these scores, then finding any one scenario with a mean tradeoff score significantly different from zero would suggest that nonfinancial factors were a part of the decision-making considerations for this sample of informal investors.

A series of *t*-tests were used, comparing each of the mean tradeoff scores to zero. Setting .05 as the overall significance level and using the Bonferroni adjustment for multiple tests would require a *p* value of .005 (.05/9) for any one test in order to reject the null hypothesis of no overall difference (Neter, Wasserman and Kutner, 1985: 159). Thus the operationalized test of the hypothesis becomes:

$$H_0 : \text{TRADEOFF}_{\text{SCENARIO } i} = 0$$

$$H_A : \text{TRADEOFF}_{\text{SCENARIO } i} > 0$$

Measurements for typology construction. A measure of economic versus noneconomic behavior was developed from a focus group discussion of possible reasons for making informal investments. The resulting questionnaire items (Q-21 in the questionnaire) draw on direct quotes from investors. These items include factors judged to relate to altruism or the moral component, to entertainment or what one focus participant called "the fun factor", as well as three economic factors listed by Wetzel (1981) and Haar, Starr and MacMillan (1988). This set of items was scaled from 1 to 5, ranging from not at all important to extremely important in making an informal investment. These measurements were used to derive the investor clusters.

A K-means clustering algorithm (Hartigan, 1975) was used to group investors according to the benefits sought through informal investments. This algorithm produces centroids based on mean distances so that distances between observations in the same cluster are less than the distances between observations in different clusters. A factor analysis was used to confirm the presumption of noneconomic factors as well as economic ones, based on two sets of responses, both the scenario responses (Q-1 through Q-9) as well as the question assessing reasons for investing (Q-21 in Appendix A).

Measurements for tests of actionable attributes. Two variables of interest draw their definitions directly from finance, those of risk and return. *Risk* is operationalized as the variance of expected returns, and is calculated from the investor's estimate of the probability of optimistic, pessimistic, and most likely rate of return, along with estimates of the corresponding returns (Q-35 in Appendix A). This corresponds to a definition suggested for venture capital analysis by entrepreneurship scholars (Brophy, Amosen, and Bontrager, 1982).

Figure 2 gives an example of the calculation of variance. In this case, the respondent estimated that there was a 15% chance of the most recent investment resulting in a 40% return (the most optimistic estimate), a 70% chance of a 10% return (the most likely case), and a 15% chance of a negative 20% return. The estimate of the likelihood of a particular return was then multiplied times that projected return and the results summed to produce the expected return. From this, the variance (σ^2) was calculated thus:

$$\sigma^2 = \sum [\text{Probability}] [\text{Possible return} - \text{Expected return}]^2.$$

While other measures of risk, such as probability of default or the dispersion of annual returns (Chiampou and Kallett, 1989), coefficient of

If the response to question Q-35 on questionnaire was:

Optimistic estimate: <u>40</u> %	Chance of achieving this return: <u>15</u> %
Most likely estimate <u>10</u> %	Chance of achieving this return: <u>70</u> %
Pessimistic estimate <u>-20</u> %	Chance of achieving this return: <u>15</u> %

then the variance was calculated as follows:

Variance or $\sigma^2 = \Sigma [\text{Probability}] [\text{Possible return} - \text{Expected return}]^2$.

<u>Probability of possible return (P_i)</u>	<u>Possible return (R_i)</u>	<u>$P_i * R_i$</u>
.15	.40	.06
.70	.10	.07
.15	-.20	-.03
		$\Sigma = .10 = \text{ER or}$ Expected return

<u>$R_i - \text{ER}$</u>	<u>$(R_i - \text{ER})^2$</u>	<u>$P_i (R_i - \text{ER})^2$</u>
.30	.09	.0135
.00	.00	.0000
-.30	.09	.0135
		$\Sigma = .0270 = \text{Variance}$

FIGURE 2
Example of Variance Calculation

variation (Brigham, 1989) or probability of worst outcome (Cooley, 1979) have been suggested, the standard benchmark in studies of venture capital risk is variance of returns, or its square root, the standard deviation. This measure is difficult to estimate for an informal investment and has not been used before in this context, but it is believed to be the most theoretically valid (Reilly, 1982: 22). In addition, the use of variance as a measure of risk permits comparison of informal investments with other venture capital studies.

As a secondary measure of risk, the probability of the worst outcome was noted and tested. This was intended as a check on the variance measure. In the event that a large variance was due to unusually skewed estimations of high return, a look at the downside measure was intended to deter possible misinterpretation of the variance.

Two measures were constructed to examine financial return. *Expected return* is the mean of the probability distribution of returns; its calculation is shown in Figure 2. This variable was used to test relationships specific to the most recent investment.

A second construct used to measure return was the investors' statement of their desired rate of return from informal investments. This was derived in one of two ways. Respondents were asked what capital gains multiple they wanted from their informal investments and also what annualized rate of return they desired (Q-19 and Q-20 in Appendix A). Investors tend to think of their desired gain in one of these two basic ways, but it has been shown that not all investors use both methods (Baty, 1964). The reason for asking essentially the same question in two different ways

was to promote greater ease of response and thereby, hopefully, to maximize the number of responses to this question.

The capital gains multiple was converted into an annualized rate of return using compound value interest factor tables (Brigham, 1989). The capital gains multiple represents a compound value interest factor (CVIF), therefore the following equation could be solved:

Given: t = number of years to achieve desired multiple

CVIF = capital gains multiple

Let: x = the desired rate of return

Then: $CVIF = (1 + x\%)^t$

If both a capital gains multiple and a desired rate of return were listed, the two were averaged. This measure of return was intended to represent more general expectations than the measure derived solely from the most recent investment.

An additional set of constructs was developed to explore in greater depth the characteristics of the investor segments. These include variables which in past research have been called "investor-centered" (Hoffman, 1970) such as age, occupation, participation in the company, knowledge or degree of familiarity with industry, and entrepreneurial background. "Company-centered" variables have been thought to offer fruitful avenues of inquiry (Hoffman, 1970; Wetzel, 1983) and thus, variables such as the company's proximity to the investor, stage of firm growth and industry type were constructed. Also of interest were variables pertaining to the investment process (investment decision-making style, evaluation of results) and the investment structuring (holding period, investment instrument, degree of investment diversification). These are operationalized in Appendix B.

A series of ANOVA tests of cell means was used to test for differences in risk and return preferences as well as other differences among the three investor clusters. When the variable was categorical, a Chi-square test was done. Results significant at $\alpha = .10$ and below were noted. Since no directional hypotheses were given and since tests were *post hoc*, Tukey's honestly significant difference (HSD) tests were used to compare means among the clusters. This is a conservative test for significance when making multiple comparisons and is especially conservative when comparison groups are of unequal sample sizes, as they were here (Neter, Wasserman and Kunter, 1985: 578).

CHAPTER V

RESULTS

Results of Hypothesis Testing

Informal investors are not interested solely in maximizing wealth, as the classical economic theorists would suggest. Testing the hypothesis showed that, in the aggregate, investors would be willing to give up some potential wealth (financial return) in a number of different situations in return for nonfinancial benefits, as shown in Table 2. Each of the nine scenarios yielded tradeoff scores significantly greater than zero, although some scenarios appeared to offer greater perceived nonfinancial benefit than others. The hypothesis is supported.

In particular, the possibility of investing in socially-beneficial products instead of in products or services perceived to be unethical seemed to provoke considerable interest. In addition to yielding a high "trade-off" average, the scenario produced a number of unsolicited comments. Nine respondents wrote in the margin of the questionnaire comments to the effect that under no circumstances would they invest in a product they felt was unethical; others wrote cryptic notes such as "No!"; one drew a frowning face.

It should be noted that, in the aggregate, the investors showed a willingness to give up considerable financial return for each of the hypothetical noneconomic issues. Against a "guaranteed" return of 20%, respondents on average said they would forego over 5% of that return for the two most favored scenarios. This amounts to a 25% reduction in potential gain. Even

TABLE 2
Mean Tradeoff Scores for Total Investor Sample and *t*- tests

Scenario	Decision factor	N ^a	Tradeoff Means ^b	<i>t</i>
I	Local firm	212	3.47 (3.53)	14.28***
II	Socially beneficial product	212	5.11 (3.62)	20.53***
III	Knowledge about industry	211	5.50 (3.48)	22.99***
IV	Creation of local jobs	213	4.07 (3.91)	15.11***
V	Exciting investment	212	3.14 (4.20)	12.88***
VI	Meeting/investing with knowledgeable investors	211	3.59 (3.76)	13.87***
VII	Interacting with highly regarded co-investors	210	3.56 (3.82)	13.49***
VIII	Company committed to social ideals you support	210	3.69 (4.15)	12.88***
IX	Fun to be a part of the company	211	3.92 (3.94)	14.46***

^a N varies due to failure of respondents to answer some items

^b Number of respondents replying 'yes' to trading off financial returns

^c Grand mean for all respondents including those whose tradeoff score was zero, i.e., those unwilling to give up any financial return; standard deviations in parentheses

*** $p < .005$

the least favored scenario yielded an average "trade-off" which represented a 16% reduction in financial gain. We must remember, however, that the standard deviations were relatively large and that a number of respondents were not interested in giving up any potential wealth. (See Table 3 for trade-off scores which exclude those respondents). This lends support to a typology which subdivides investors on the basis of their reasons for investing.

Clearly, investors' *attitudes* as represented in the hypothetical scenarios indicate the importance of nonfinancial considerations for the investment decision. A look at investors' *behaviors*, too, confirms that factors other than simply economic return played a part in the most recent investment decision (Table 4). In the aggregate analysis, it is seen that economic factors elicited the highest response. However, nonfinancial matters such as personal involvement or wanting to help new business development also were of interest. The standard deviations again indicate considerable variability among the respondents, thereby supporting the notion that informal investors are not homogeneous in their investment objectives.

Results of Typology Construction

The formal proposition stated that informal investors could be grouped according to the desired benefits sought in an investment – primarily economic, primarily noneconomic, or a combination of the two. A factor analysis of the construct items (Table 5) indicated the presence of two distinct noneconomic or nonfinancial factors in addition to an economic

TABLE 3

Summary of Results for Investors Willing to Give up Financial Return

Scenario	Decision factor	Number replying 'yes'	Percent of total N ^a	Tradeoff Means ^b
I	Local firm	134	63%	5.53 (2.91)
II	Socially beneficial product	175	83%	6.12 (3.08)
III	Knowledge about industry	187	89%	6.14 (3.09)
IV	Creation of local jobs	137	65%	6.22 (3.16)
V	Exciting investment	99	47%	6.67 (3.74)
VI	Meeting/investing with knowledgeable investors	130	62%	5.74 (3.20)
VII	Interacting with highly regarded co-investors	128	61%	5.84 (3.26)
VIII	Company committed to social ideals you support	123	59%	6.24 (3.62)
IX	Fun to be a part of the company	139	66%	5.96 (3.38)

^a This shows the percent of all respondents to this question who would be willing to forgo some financial return.

^b Amount of return respondents would forgo for the given scenario. This excludes the zero score of those responding they would not give up any financial return in this instance. Standard deviations are in parentheses.

TABLE 4
Reasons for Investing: Means and Standard Deviations^a
(Item Scale = 1 - 5)

Reasons for having made an informal investment	<u>Importance to investor</u>	
	Mean	s.d.
Capital appreciation	4.04	1.00
Income	3.46	1.22
Tax benefits	2.99	1.33
Help friend/family member	2.83	1.35
Influence over an investment	2.60	1.25
Enjoyment of entrepreneurial role	2.56	1.32
Fun of having interesting investment	2.41	1.25
Support new business	2.37	1.16
Support socially-beneficial product	2.25	1.10
Positive community recognition	1.70	.92

^a N ranges from 209 - 213

TABLE 5
Factor Analysis of Reasons for Investing: Three Factor Solution,
Varimax Rotation^a

Reasons for having made an informal investment	Factor		
	1	2	3
Enjoyment of entrepreneurial role	0.806	-0.230	-0.198
Fun of having interesting investment	0.818	-0.081	0.111
Exert influence over an investment	0.740	0.146	-0.132
Positive community recognition	0.514	0.438	0.041
Tax benefits	-0.024	0.803	0.052
Income	0.034	0.711	-0.102
Nonfinancial perks ^b	0.360	0.602	0.061
Capital appreciation	-0.095	0.445	-0.445
Help friend/family member	-0.200	0.074	0.835
Support new business	0.340	-0.147	0.642
Support socially-beneficial product	0.492	0.223	0.503
 EIGENVALUE	 3.120	 1.987	 1.268
 PERCENT OF TOTAL VARIANCE EXPLAINED	 24.674	 18.235	 15.038

^a The values in bold type contribute to the factor under which they appear.

^b This item was subsequently dropped from further consideration due to apparent bias. In questionnaire development, the item was judged to relate solely to nonfinancial reasons for investing. Examples given by informal investors included the prestige of attending board meetings or being invited to attend special parties for investors. However, in administering the questionnaire, these distinctions apparently were not clear; examples given by respondents in Q-36 (reports of nonfinancial perks received) listed benefits that could be considered clearly financial: free trips to board meetings, free or reduced price on the company's product or service. This may account for the illogical loading of this item on factor 2. Because of this lack of clarity, this item was dropped from subsequent analyses.

or financial factor underlying the possible reasons for investing. The K-means clustering algorithm produced three logical clusters which seemed consistent with the underlying theoretical approach. Table 6 summarizes the results.

For Cluster 1, the three highest scores dealt with items relating to economic return (capital appreciation, income, tax benefits). Noneconomic reasons for investing received very low scores, with the exception of helping family or friends, which was still below the aggregate mean. It appears that this group of investors is investing for the financial reward – and for that alone. This cluster was comprised of 101 respondents or 47% of the sample.

The second cluster had high scores on both the economic and the noneconomic factors. In addition to financial considerations, these investors were particularly interested in the personal satisfaction that comes from being a part of the entrepreneurial process and wanting to have some influence over an investment. An additional motivator was the fun of having an interesting investment. This group of investors appeared to be much less single-minded than the Cluster 1 investors described above and valued a variety of benefits from their informal investments. Sixty-six respondents, or 31% of the sample, came under this category.

The third cluster evidenced less interest in financial benefits than the clusters described above. In contrast, this group scored higher on nonfinancial factors such as wanting to support new business or desire to support a socially-beneficial product than the other two groups. These investors also highly valued the satisfaction derived from being a part of the entrepreneurial process and the fun of having an interesting investment. This group

TABLE 6

Cluster Analysis : Results for Three Cluster Solution,
Mean Scores of Reasons for Investing (Scale = 1 - 5)^a

Variables	Cluster 1 Mean	Cluster 2 Mean	Cluster 3 Mean
<u>Economic factor</u>			
Capital appreciation	4.27 *	4.10	3.24 **
Current/future income	3.48	4.08 **	2.59 **
Tax benefits	2.80	3.78 **	1.65 **
<u>Altruistic/normative factor</u>			
Help friend/family member	2.55 **	3.04 *	2.97
Support new business	1.80 **	2.60	3.30 **
Support socially-beneficial product	1.78 **	2.39	2.84 **
<u>Personal satisfaction/affective factor</u>			
Exert influence over an investment	1.93 **	3.40 **	2.98
Enjoyment of entrepreneurial role	1.57 **	3.53 **	3.40 **
Fun of an interesting investment	1.64 **	3.02 **	3.28 **
Positive community recognition	1.33 **	2.40 **	1.57 **

^a A score of 1 = not at all important and 5 = extremely important in making an informal investment.

Significantly different from grand (overall) mean :

* = $p < .05$

** = $p < .01$

was not motivated, however, by the recognition which such an investment might bring. Cluster 3 was the smallest group, with 47 respondents or 22% of the informal investors.

Results of Tests for Actionable Attributes.

Risk and return differences. Having derived three clusters with distinctive data structures, exploratory analyses of the benefit-based clusters were done to determine additional differences among them. Table 7 shows results of the tests of risk and return variables.

Both measures of risk indicate significant differences; taken in tandem, the results suggest that investors in Cluster 1 have the highest levels of risk and those in Cluster 2 the lowest. The measures of financial return are also different, with Cluster 1 indicating higher desired return than the other two clusters. Similarly, expected return on the most recent investment was highest for Cluster 1; Cluster 2 had the lowest estimates on both measures of return. The finding of similar results for constructs attempting to measure the same concept lends credence to the construct validity of the variables used (Nunnally, 1978).

Other inductive tests involved variables divided into four categories: (1) those dealing with the structure of the investment, (2) those related to the company invested in, (3) those pertaining to the process of selecting an investment and (4) those dealing with investors themselves. These tests, too, revealed additional differences among the clusters.

TABLE 7

Results of Analysis Testing Risk and Return Variables

Variables	N ^a	Mean Scores			F	Tukey's HSD for Cluster Contrasts			
		Cluster	Cluster	Cluster		D ^b	1	2	1
		<u>1</u>	<u>2</u>	<u>3</u>		Required	vs	vs	vs
							2	3	3
Risk (Variance)	164	.134	.038	.082	4.14*	.045	†	†	†
Probability of Worst Case	164	.261	.193	.210	2.60 [†]	.061	†		†
Expected Return	164	.296	.214	.280	2.59 [†]	.060	†	†	
Desired Return	190	.239	.190	.202	2.52 [†]	.035	†		†

^a There were 164 completed responses to question Q-35, from which the first three variables were constructed. Nonrespondents to this question did not significantly differ from respondents with respect to desired return, number of investments, or cluster membership.

^b Critical difference between pairs of means required for the given level of significance

* = $p < .05$

† = $p < .10$

Investment-related differences. Wetzel's work focused attention on the holding period of the investment (the length of time until the investment can be "cashed in"), the size of the investment, the form of the investment vehicle, and whether or not membership on the board of directors is offered to an informal investor. Following this lead, this study examined cluster means and frequencies to see if the investor segments appeared to differ in any of these aspects. Complete results are listed in Tables 8 and 9.

There was a significant difference in the investment holding period, with Cluster 1 investors holding their investments for a shorter period of time (an average of 5 years, 3 months) than the other two investor types. Cluster 3 investors indicated an average holding period of close to 7 years, while those in Cluster 2 averaged approximately 6 years, 5 months. The reliability of these estimates was reinforced by similar responses to a question asking which time period category – if any – was preferred as an informal investment time horizon. Nearly one quarter of Cluster 3 investors, in contrast with 15% of the other clusters, reported that the time horizon of the investment was not important. This reinforces a supposition that Cluster 3 investors are offering "patient money" and are not as concerned as are other investors with the quick recovery of their investment funds.

The size of the investment also appeared to differ somewhat between investor types. Cluster 3 investors tended to hold smaller investments than the other segments. Cluster 1 investors reported a greater percentage (25%) of their investments to be large (over \$100,000) than the other two segments (13% and 16%, respectively). There was, however, no significant difference in the number of investments made or in the proportion of one-time investors among the segments.

TABLE 8

Results of Analysis of Variance on Investment-related Variables^a

Variables	Mean Scores			F	Tukey's HSD for Cluster Contrasts			
	Cluster	Cluster	Cluster		D Required	1 vs 2	2 vs 3	1 vs 3
	1	2	3					
Holding period	5.25	6.39	6.98	3.53*	.011	+		+
Large investments/ total	.253	.127	.163	4.66**	.061	+		+
Small investments/ total	.199	.227	.344	2.65†	.030		+	+
Degree participation in firm	2.75	2.88	2.72	0.46				
No. of investments	2.43	2.27	2.80	0.87				

^a N ranges from 209 - 214** = $p < .01$ * = $p < .05$ † = $p < .10$

TABLE 9

Results of Chi-square Tests on Investment-related Variables^a

Variables	Cluster Frequencies			df	χ^2
	Cluster 1	Cluster 2	Cluster 3		
Board membership	40.6%	35.9%	30.4%	2	1.46
Time unimportant	15.2%	15.1%	24.3%	2	2.52*
Investment instrument				4	17.89***
Stock	74.3%	63.5%	78.3%		
Combination debt, equity	7.9%	28.6%	6.5%		
Loan	17.8%	7.9%	15.2%		

^a N ranges from 210 - 212*** = $p < .001$ * = $p < .05$

On examination of the type of investment vehicle selected, Cluster 2 investors appeared distinctively different. This segment showed a greater percentage of the most recent investment to be a combination of debt and equity than other groups. This took the form of debt convertible to equity or a combination of stock plus a loan to the firm.

A larger percentage of Cluster 1 investors were found on the board of directors, with close to 41% reporting board membership, compared with 36% of Cluster 2 and 30% of Cluster 3. These results, however, were not statistically significant at $\alpha = .10$

Company-related differences. While all segments reported a sizable majority of their investments to be close to home, Cluster 3 investors reported a significantly larger percentage (85% vs. 74% for the other groups) of their total informal investments to be nearby. There was also a difference in propensity to invest in high-technology companies, with Cluster 3 investors showing a higher degree of investment in these firms. (See Table 10).

An examination of the various industries selected showed no particular preference for any specific industry by investor segment (Table 11). All three investor segments seemed to favor the service industries, which accounted for a little over one third of the total investments made. Services were followed by manufacturing and retailing/wholesaling. The fewest investments were reported in entertainment/communications and natural resources.

While proportionately more Cluster 3 investors reported their most recent investment to have taken place at the startup stage of the company (before the first sale of the product or service), a Chi-square test did not find this difference to be statistically significant. In the aggregate, however, the

TABLE 10

Results of Analysis of Variance on Company-related Variables^a

Variables	Mean Scores			F	Tukey's HSD for Cluster Contrasts			
	Cluster	Cluster	Cluster		D	1	2	1
	1	2	3		Required	vs 2	vs 3	vs 3
% investments nearby	74	74	85	3.53*	3.1	†	†	†
% high tech	16	29	32	4.66**	4.0	†	†	†
% services	34	39	39	0.52				
% manufacturing	18	16	20	0.23				
% retail/wholesale	15	10	15	0.67				
% entertainment	9	15	8	1.52				
% natural resources	6	5	8	0.42				

^a N ranges from 209 - 212** = $p < .01$ * = $p < .05$ † = $p < .10$

TABLE 11

Results of Chi-square Tests on Company-related Variables^a

Variables	Cluster Frequencies			df	χ^2
	Cluster 1	Cluster 2	Cluster 3		
Stage of firm growth				6	1.48
Start-up stage	60%	63%	70%		
Early stage	22%	20%	17%		
Growth stage (2-8 yrs)	10%	9%	9%		
Established (>8 yrs)	8%	8%	4%		
Industry specialization	53%	29%	35%	2	7.09*

^a N ranges from 208 - 212* = $p < .05$ † = $p < .10$

sample of informal investors evidenced a distinct inclination to fund startup stage firms over firms which were older.

An interesting observation, and significant at $\alpha = .10$, was the degree of specialization – or its obverse, degree of diversification – among industries within the informal investment portfolio. Considering only investors who had invested more than once, Cluster 1 investors appeared to be less diversified than the other segments, with 53% of investments concentrated in one industry. In contrast, the other clusters involved greater diversification, with 29% and 35% of Cluster 2 and Cluster 3 investments in only one industry.

Process-related differences. Respondents were asked to describe their investing style and were placed in one of four categories based on the degree to which they relied on others for information and judgment concerning the investment decision. These categories were: (1) Lead Investor (searches for opportunities, makes an independent decision to invest, often suggests to others) (2) Independent Investor (welcomes investment suggestions but relies on own investigation for investment decision) (3) Referred Investor (some individual research, but primarily influenced by recommendation from a knowledgeable person) and (4) Group Investor (invests with a group of associates, follows group consensus).

A Chi-square test revealed significant differences among the benefit-based clusters in their approach to making the investment decision. While, overall, informal investors tend to fall in the category of Independent Investors, a slightly greater proportion of Cluster 3 investors appear to be more self-reliant in their decision process, with close to 45% of this group considered as Independent and 15% as Lead Investors (Table 12). In contrast,

TABLE 12
Results of Chi-square Test on Process-related Variables^a

Variables	Cluster Percentages			df	χ^2
	Cluster 1	Cluster 2	Cluster 3		
Investing Style (as percent of the cluster)				6	15.57*
Lead investor	11%	12%	15%		
Independent investor	37%	37%	45%		
Referred investor	42%	24%	36%		
Group investor	10%	26%	4%		
Coinvested in recent invstment	71%	80%	61%	2	4.55†

^a N = 212

* = $p < .05$

† = $p < .10$

TABLE 13
Results of Analysis of Variance on Process-related Variable^a

Variable	Mean Scores			F	Tukey's HSD for Cluster Contrasts			
	Cluster 1	Cluster 2	Cluster 3		D Required	1 vs 2	2 vs 3	1 vs 3
Satisfaction	.41	.62	.49	5.46**	.13	†	†	

^a N = 211

** = $p < .01$

* = $p < .05$

† = $p < .10$

Cluster 1 investors tended to depend more on referrals, following the advice of a source considered to be knowledgeable.

A look at the data suggests that another difference lies in a greater inclination of Cluster 2 investors to invest with and rely on a group of co-investors. One quarter of this segment considered themselves to be Group Investors, compared with less than 10% in the other segments. (This is supported by data from the most recent investment, in which 80% of Cluster 2 – versus 71% and 61% of Clusters 1 and 3, respectively – reported investing along with acquaintances).

A final step in the decision-making process is evaluation of results, followed by what has been defined as "satisfaction" if one's expectations are exceeded or "dissatisfaction" if one's expectations are not met (Haar, Starr, and MacMillan, 1988). Expanding the definition of satisfaction to additionally encompass the meeting of expectations, an estimate of investor satisfaction was constructed. Based on this construct, the investor segments differed significantly in the degree of satisfaction with their investments, as shown in Table 13. Cluster 2 reported the highest degree of satisfaction (62% of investments), followed by Cluster 3 (49%). The investors in Cluster 1 reported being satisfied with the results of only 41% of their informal investments.

Investor-related differences. In addition to demographic attributes, informal investment research has been interested in whether or not the investors were entrepreneurs themselves. In this respect, the Cluster 2 segment stood out above the others, with 81% reporting that they had themselves begun a business endeavor, compared with 67% of other segments having an entrepreneurial background.

Marital status and stage of family life cycle were similar among the segments. There was, however, an age difference. Examination of the data in Table 14 suggests that Cluster 3 investors tend to be in the 45- to 54-year-old age bracket. Cluster 2 investors tend to be concentrated in the under-45 or over-55 categories.

While Table 14 presents results as a percent of each cluster, Table 15 presents the data from a different perspective; here results are shown as a percent of the category or independent variable of interest. An interesting observation here is that certain occupations appear to be more prominently represented in certain investor segments than others. Of the accountants describing themselves as informal investors, fully 3/4 fell into Cluster 1, followed by 71% of respondents in insurance. Also, slightly more than half of the respondents from the fields of law and health care were deemed to be primarily Cluster 1 types. Totally absent from this segment were any representatives from the fields of entertainment and communications.

In contrast, respondents from entertainment/communications are found largely in Cluster 2, with 80% of their number in this category. Additionally, 50% of respondents in real estate/construction and 47% of respondents in wholesaling or retailing were categorized as Cluster 2 investors. (While 50% of education-affiliated respondents also fell within this category, the number of respondents was so small that it makes any inferences about this occupational group suspect.)

Banking/finance and technical/engineering fields produced the highest proportion of any field to be listed as Cluster 3 investors. Obvious by their absence in this segment are representatives of the insurance industry.

TABLE 14
Results of Chi-square Test on Investor-related Variables

Variables	Cluster Percentages			df	χ^2
	Cluster 1	Cluster 2	Cluster 3		
Entrepreneurial background	67%	81%	67%	2	4.65 [†]
Participation in firm				4	4.22
Low	37%	30%	35%		
Medium	34%	48%	46%		
High	29%	22%	19%		
Familiarity with industry				4	3.61
Low	33%	33%	41%		
Medium	28%	22%	31%		
High	39%	45%	28%		
Age of respondent				4	8.11 [†]
Under 45 years	31%	40%	22%		
45-54 years	34%	20%	48%		
55 or over	35%	41%	30%		
Occupational field				26	36.68 [†]
Accounting	6.0%	1.5%	2.2%		
Banking/Finance	4.0%	6.3%	10.9%		
Communications/Ent.	0.0%	6.3%	2.2%		
Education	1.0%	4.7%	4.5%		
Food Service	1.0%	1.6%	2.2%		
Insurance	5.0%	3.1%	0.0%		
Law	15.0%	12.5%	6.5%		
Manufacturing	8.0%	6.3%	10.9%		
Health care	15.0%	9.4%	13.1%		
Real estate/ Construction	6.0%	12.5%	4.4%		
Retailing/ Wholesaling	7.0%	10.9%	2.2%		
Services	7.0%	10.9%	8.7%		
Technical/ Engineering	17.0%	12.5%	28.3%		
Other	8.0%	1.6%	4.4%		

[†] = $p < .10$

TABLE 15

Number and Percent of Responding Occupation Group Found in Each Cluster

Variable	Cluster Frequencies			TOTAL
	Cluster 1	Cluster 2	Cluster 3	
Occupational field				
Accounting	6 (75.0%)	1 (12.5%)	1 (12.5%)	8
Banking/Finance	4 (30.7%)	4 (30.7%)	5 (38.5%)	13
Communications/Ent.	0 0.0%	4 (80.0%)	1 (20.0%)	5
Education	1 (16.7%)	3 (50.0%)	2 (33.3%)	6
Food Service	1 (33.3%)	1 (33.3%)	1 (33.3%)	3
Insurance	5 (71.4%)	2 (28.6%)	0 (0.0%)	7
Law	15 (57.7%)	8 (30.8%)	3 (11.5%)	26
Manufacturing	8 (47.1%)	4 (23.5%)	5 (29.4%)	17
Health care	15 (55.6%)	6 (22.2%)	6 (22.2%)	27
Real estate/ Construction	6 (37.5%)	8 (50.0%)	2 (12.5%)	16
Retailing/ Wholesaling	7 (46.6%)	7 (46.6%)	1 (6.7%)	15
Services	7 (38.9%)	7 (38.9%)	4 (22.2%)	18
Technical/ Engineering	17 (44.7%)	8 (21.1%)	13 (34.2%)	38
Other	8 (72.7%)	1 (9.1%)	2 (18.2%)	<u>11</u>
TOTAL				210

Naming the Clusters: a Composite Look at Results

Examining the overall results of the exploratory tests, a broader composite view of the clusters emerges, one which suggests certain labels for the cluster groups. An aggregation of selected results appears in Figure 3.

The distinguishing characteristics of Cluster 1 are, in many ways, in keeping with the initial clustering distinction which showed a single-minded emphasis on financial return. Investors in this group perceive their informal investments to be high risk situations – higher than that of the other clusters – and expect a high rate of return, apparently to compensate for the higher-than-average risk they are assuming. These investors are the most anxious to cash in their investment, reporting a shorter desired holding period than the other clusters. This group shows a higher preponderance for straight equity participation and tends to make larger investments. All these characteristics seem in keeping with an emphasis on the strictly financial or economic aspects of investing, and, in fact, are similar to characteristics of professional venture capitalists (MacMillan, Siegel, and Narasimha, 1985).

Other characteristics dealing with the investment process help flesh out a unique profile for this investor type. Cluster 1 investors tend to rely on the recommendation of a knowledgeable investor in making the investment decision and tend to specialize within one industry. Also, they appear more likely than other investor types to serve on the board of directors.

We have before us a description of a rational, single-minded investor in the best sense of Adam Smith's Rational Economic Man. Thus, it seems appropriate to label this investor type the Rational Economic Investor. An

Cluster 1 - Rational Economic Investor (N = 101)

- Only financial motivations are important
- Seeks highest return of the investor clusters
- Perceives highest level of risk among the clusters
- Prefers straight equity participation
- Has shortest holding period
- Tends to specialize in an industry and to make larger investments
- Most likely to serve on board of directors
- Least satisfied with investments
- Most likely to rely on recommendation of knowledgeable investor

Cluster 2 - Risk-managing Investor (N = 66)

- Perceives lowest level of risk
- More likely to invest with a group than are other clusters
- More likely to diversify portfolio among industries
- More likely to hold a combination of debt and equity
- Considers both financial and nonfinancial motives important
- Wants to be able to exert influence over the investment
- Most likely to be an entrepreneur
- Enjoys the opportunity to play a part in entrepreneurial process
- Most satisfied with investments
- Least likely to be middle aged (45-54); most likely over 55

Cluster 3 - Responsive Investor (N = 47)

- Considers societally-beneficial motivations important
- Less interested in financial return than others
- Not at all interested in community recognition for his/her efforts
- Most likely to invest in high technology firms and in firms nearby
- Most likely to make smaller investments
- Most patient in expectations for cashing out the investment
- Tends to be self-reliant instead of relying on others
- More likely to be middle-aged

FIGURE 3
Distinguishing Characteristics of the Investor Clusters

unsolicited comment written on the questionnaire by one of these investors perhaps sums up the attitude of this group: "You've got to be crazy. Why else would anyone invest except for the money?"

The investors of Cluster 2 also present a distinctive profile. They are more likely to invest with a group of associates than are other investor types and they are more likely to diversify their portfolio among more than one industry. Similarly, we see diversification efforts in the deal structure, with more emphasis on combined debt and equity instruments than for the other investors. Taken in concert, these efforts at diversification could well imply some effort to reduce risk (Brealey and Meyers, 1981) and, indeed there is striking difference in the significantly lower level of risk perceived by these investors. Also, these investors are the least likely to invest large amounts and the most interested in exerting influence over their investments. This combination of factors leads to the conclusion that this cluster is decidedly attempting to manage risk. Risk-managing Investor seems an apt descriptor for this investor type.

Other characteristics of the Risk-managing Investor are of interest. These investors are primarily under 45 or over 55 years of age. Also, a higher percentage of them have been entrepreneurs themselves and, in making their informal investments, enjoy being a part of the entrepreneurial process. Finally, these investors report greater satisfaction with their investment results than do the other investor types.

The investors of Cluster 3 place greater importance on normative motivations for investing than do other investors: they are more likely to invest in order to support new business and to support a product or service which they consider to be beneficial to society. They also place less emphasis

on the potential financial returns of the investment, although they estimate the expected return – and the accompanying risk – to be relatively high. They tend to make smaller investments, and possibly more of them, and are more likely to invest in firms within the local area (within 100 miles of home or office). This investor type is the most likely to provide "patient money" for the business venture, having the longest time horizon for holding the investment.

These characteristics, taken together, present a picture of an investor motivated, not so much by financial reward, but by more altruistic factors – the desire to be of help, to provide benefits to the greater society. This supposition is reinforced by these investors' lack of interest in community recognition for their investment efforts. This brings to mind the key element in Etzioni's proposed paradigm, what he termed the "responsive" element – individuals responsive to the needs of others (1988). Clearly within this cluster is found an investor seeking something other than simply to maximize financial return. Following Etzioni, then, this will be described as the Responsive Investor.

This investor type has other distinguishing features. There is a greater propensity to invest in high technology firms and a tendency to be more self-reliant in the investment decision-making process. Also, this investor is more likely to be in the 45-54 year age bracket, an age typically considered the peak earning years (Bellante and Saba, 1986).

The results of the inductively-based statistical tests have added considerable description to the original benefit-based clusters of investors. There appear to be three distinct types of informal investors represented here, which can be described as Rational Economic, Risk-managing, and

Responsive investors. Further exploration of these findings and some possible implications will be discussed in the chapter which follows.

Other Descriptive Statistics : A Glance at Informal Investors in the Aggregate

While a detailed analysis of informal investors in the aggregate was not the purpose of this study, such information can add to our understanding of the informal investment phenomenon. A view of the aggregate can provide a look at the forest, not just the trees.

As noted earlier in describing the sample for this study, 45% of the respondents reported having made at least one informal investment in the past five years. Another 15% had made such an investment at one time, but not in the past five years. It is important to point out that the high percentage of informal investors in this study cannot necessarily be extended to the population at large. Since the survey was targeted toward known informal investors and individuals thought to have above average discretionary income which would permit such an endeavor, it is not representative of the general population.

It is possible, however, to make some general comments. The metropolitan community from which the sample was drawn comprises approximately 275,000 households. Within this area, at least 283, or roughly more than 1 out of 1000 households, have at some time made an informal investment.

The average informal investment reported in the questionnaires in this study was approximately \$80,000. With a total of 523 investments reported in the past five years, this indicates a conservative estimate of about \$42 million recently invested in this one area. To project this figure

nationally would suggest a possible \$23 billion pool of informal risk capital in this five-year time period, a figure not far from Wetzel's estimate of as much as \$5 billion a year (1986: 88). This conservative figure would support speculation that informal investments do indeed constitute a large potential reservoir of capital for economic development.

Among other aggregate data of interest are the average estimates of risk and return for this sample. The average informal investor in this study estimated what was calculated to be a 27.6% expected return on the most recent informal investment and reported an overall desired annual return of 21.9%, both considerably above average returns of most publicly-traded securities. For comparison, Table 16 summarizes risk and return figures from several sources. From this table it appears that informal investments are expected to offer a higher rate of return than other types of investments and a higher degree of perceived risk than most.

Appendix C presents results for the aggregate data set. Where possible, these are arranged according to whether (1) the respondent is currently an informal investor, (2) the respondent is not currently an informal investor, but has made such an investment at some time in the past (Prior Investor), or (3) the respondent has never made an informal investment (Noninvestor).

TABLE 16

Comparison of Risk and Return from Types of Financial Instruments

Source	Financial Instrument	Time Period Investigated	Average Return (percent)	Risk (std. dev. (percent) ^a)
Poindexter (1976)	SBIC venture capital funds (active)	Pre-1967	9.3	13.1
	SBIC funds (defunct)	Pre-1967	10.7	20.1
	SBIC funds (active)	1967-1971	13.2	37.3
Huntsman and Hoban (1980)	Venture capital funds	1960-1975	18.9	NC ^b
Chiampou and Kallet (1989)	Treasury bills	1978-1987	9.2	2.7
	Long-term bonds	1978-1987	10.9	16.2 ^c
	Common stocks	1978-1987	15.9	12.3
	Small OTC stocks	1978-1987	20.4	18.9
	Venture capital funds	1978-1987	20.6	44.6
Ibbotson and Sinquefeld (1989)	Treasury bills	1926-1987	3.5	3.4
	Medium-term bonds	1926-1987	4.9	5.5
	Long-term U.S. bonds	1926-1987	4.6	8.5
	Common stocks	1926-1987	12.0	21.1
This study	Informal venture capital	1983-1988	27.6 ^d	29.3 ^e

^a Standard deviation, the square root of variance, is reported here instead of variance so as to standardize results; variance for T-bills and bonds would be quite small

^b Not calculated

^c There was unusual fluctuation in the price of bonds during this period; historic figure is 8.5.

^d Expected return for most recent investment; overall desired annual rate of return was 21.9 %

^e Square root of variance, .086, = .293

CHAPTER VI

DISCUSSION AND CONCLUSION

Results of this study offer three advances in the evolution of informal investment research. First, the findings provide a link to theory and suggest an expansion of classical theory of financial economics. Second, based on a theory-derived rationale, a typology has been developed. And, third, other distinguishing attributes of these investor types have been found, offering the potential for practical application of the study's results. Recognizing that the data were subjected to tests which are considered quite conservative should strengthen our confidence in these results.

Linkages to Theory

Finance theory does not fully explain the phenomenon of informal investing. Not all investors are seeking simply to maximize wealth. Some would, in fact, forgo additional wealth in a variety of situations. This finding is in line with the suggestions of behavioral economists and sociologists (Simon, 1961; Frank, 1988; Etzioni, 1988, among others) and supports the perception of informal investment researchers (Baty, 1964; Hoffman, 1972; Wetzel, 1981) that nonfinancial factors are indeed important in making the investment decision. This finding confirms, then, what some scholars have suspected, but have not formally tested within the realm of informal investing. The finding also demonstrates that informal investors are not homogeneous in their reasons for investing and thereby provides the rationale for the proposed typology based on differing investor preferences.

While theory of finance does allow for certain nonrational preferences, such as the desire for liquidity (Tobin, 1951) or varying propensities for risk (Copeland and Weston, 1988), it has not yet formalized the role of other affective preferences such as those considered here. However, there is increasing awareness in the fields of finance and economics that cognitive and affective factors are significant variables unaccounted for in the current financial decision-making model (Frank, 1988; Copeland and Weston, 1988).

The results of the present study help to define these affective elements. Factor analysis clarified that in addition to the financial reason for investing, there exist at least two basic nonfinancial factors, one which is based on responding to the needs of others, and a second which is based on satisfaction or personal enjoyment. This finding helps to reconcile the differing opinions of behavioral economists such as Etzioni and Simon in recognizing both a normative or other-oriented factor as well as an affective factor which is concerned with one's own enjoyment. Recognition of these two distinct nonfinancial aspects helps expand the explanatory power of both the behavioral and the classical model.

While the study does not support the wealth-maximization assumption of finance theory, results do point to other theoretical linkages. First, we have seen that informal investors *can* estimate a probability distribution of returns, as was required to answer question Q-35 of the survey instrument. This is counter to the predictions of Baty (1964), but, as noted earlier in Chapter III, is an implicit assumption of theory of finance.

Second, the estimates of risk and return expected for informal investments appear to be consistent with the theoretical assumption of a risk averse investor who requires greater return for assuming greater risk. In a

comparison with the historical returns and variability of other financial investments (Table 16), the aggregate means of risk and return estimated in this study are higher than those of Treasury bills, medium and long-term Treasury bonds, and common stocks. This is consistent with the widely-held belief that informal investments are indeed high risk situations which are perceived to offer concomitantly high returns (Tannenbaum, 1988).

These two observations remind us that the rejection of the wealth-maximizing assumption should not be considered a rejection *in toto* of the usefulness of theory of finance for informal investment research. Rather, it should be a reminder that theory attempts to distill and simplify real-world behaviors and that the complexities of human behavior are often overlooked in the process. In this respect, studies such as the present one may suggest new research perspectives for scholars in other disciplines, perspectives which incorporate complex human behavior into the formal models.

At the same time, it is clear that theory and concepts from other disciplines can expand and enrich informal investment research. Use of a financial measure of risk – variance – for example, permitted a more precise evaluation of investors' perception of uncertainty than prior attempts to measure risk. Similarly, other concepts from other disciplines may well enhance our understanding of informal investing. It is important, however, that concepts and theory not be blindly borrowed from other fields without being sufficiently adapted to the needs of a different paradigm. To this end, it is important that underlying assumptions of other disciplines be tested and understood before being accepted into the canon of entrepreneurship.

The Benefit-based Typology

A marketing perspective suggested that a typology of informal investors could be developed by grouping respondents based on the benefits sought from the investment. This concept found support in the behavioral economists' emphasis on personal preferences and multiple objectives, as well as from past informal investor studies. Thus, based on presumed preferences for financial and nonfinancial benefits, three distinct cluster groups were derived to construct a typology of informal investors.

This typology offers several advantages over previous efforts to categorize informal investors. First, the rationale and theory which led to the clustering in this study were proposed in advance of the test. Prior efforts at categorization have been strictly exploratory, without supporting theory to provide a reason for the groupings. Second, previous categories such as participative or early-stage or technology-oriented were limited in considering only one small aspect of the investment process. This proposed typology suggests a broader, more fundamental view. Finally, the validity of the benefit-based cluster solution is strongly supported by tests that compare the clusters on variables *other* than those used to generate the clusters (Aldenderfer and Blashfield, 1984: 66).

Actionable Attributes

Besides validating the cluster solution, these tests provide additional definition and description for the proposed typology of informal investors. The investor types were found to vary, not just by virtue of the degree of emphasis on either economic or noneconomic factors, but also in other ways which appear useful for both theory and practice.

One particularly compelling finding was the striking difference among the groups in terms of risk. Taken in tandem with several other results, this may provide insight into some unexplained findings of past research. For example, it was mentioned earlier that Wetzel noticed an unexpectedly broad range of estimated returns and a wide variation of risk levels which he found difficult to explain. One possible explanation which he later suggested was that investors have differing perceptions of risk. This is indeed a possibility in the present study. Another explanation, however, is suggested by theory of finance: investors have differing preferences for risk and some, therefore, make a concerted effort to manage and reduce risk.

The idea of managing risk on the part of the entrepreneur has been the focus of earlier study (Driscoll, 1976, cited in Harr, Starr, and MacMillan, 1988; Mitton, 1984). Studies of professional venture capitalists have shown how these investors assess and manage risk and have described a category of venture capitalist as "Purposeful Risk Managers" (MacMillan, Siegel, and Narasimha, 1985: 139). Only recently has it been suggested that the informal investor, too, may be involved in risk management (Aram, 1988). The composite portrait of the Risk-managing Investor in this study lends support to this concept.

In Chapter V we noted that the actions of this investor appear to converge upon a risk-reducing strategy. This investor tends to diversify among industries more than other types and more frequently structures the investment with a combination of debt and equity instruments, methods which are acknowledged to be effective in reducing investment risk (Baty, 1964; Evans and Archer, 1968; Brealey, 1983). Also, this investor is more likely than others to invest as part of a group. It could be argued that this

results in a more thorough decision, one which has taken into consideration a greater number of options than the individual alone might consider (Taylor and Faust, 1952; Collins and Guetzkow, 1964). Therefore, a group approach to informal investing could serve to reduce perceived risk.

(On the other hand, it should be pointed out that in some instances, decision-making in groups introduces greater risk, as witnessed in the phenomenon called risky shift [Stoner, 1968]. In this case, the individual loses a sense of the inherent riskiness involved and shifts the risk onto the collective shoulders of the group. This results in the group making a more risky decision than any one individual in the group would have made. This does not appear to be the case here – since perceived risk is low – but this is an alternative viewpoint that should be considered before accepting group investing as part of a risk-reducing strategem.)

In addition, demographic factors observed are consonant with the concept of risk as a major consideration of this investor type. A preponderance of under-45-year olds and over 65-year olds fall within the Risk-managing Investor category, prompting speculation as to whether there are age-related phenomena at work here.

Numerous studies have looked for a correspondence between age and risk-propensity with mixed results. Some, such as Morin and Suarez (1983) found an increasing willingness to assume financial risk as age increased; others found an increasing *aversion* to risk with increased age in a managerial setting (Vroom and Pahl, 1971, for example).

One interesting corollary to the results of the present investigation is research showing a curvilinear relationship between age and risk-propensity (Bellante and Saba, 1986). In this case, propensity for risk was found to be

low in the early adult stage (25 to 35), then rising to the mid-years, then declining again in later years surrounding retirement. This suggests that the age group differences unique to the Risk-managing Investor might well be tied in with a pattern of risk-aversion.

A rationale for the curvilinear pattern of risk-propensity could be based on life cycle stages, with the early earning years being a time of accumulating capital; demands on a relatively new income stream would eliminate much residual disposable income and serve to limit investment in risky ventures. Similarly, approaching age 65 and after, investments are likely to be increasingly conservative with an eye to providing stable income for retirement years (Baker and Haslem, 1974).

This description of the Risk-managing Investor, taken in its entirety, is consistent not just with theory but with other observations of informal investors. One example is that of entertainer Art Linkletter, who in many ways personifies attributes of the Risk-managing Investor. In an interview concerning his informal investments (Anderson, 1986), he pointed out both his aversion to risk ("grim investments where you sweat a lot") and the personal enjoyment he seeks from the investment. Maximum financial return is not the number one priority for this septuagenarian investor.

The first question I ask is 'Who?' . . . Unless I like the people I'm not interested. The second question is whether it's any fun. By that, I mean where the people are fun to be around, and the business is stimulating. I don't like dull investments that put you to sleep or grim investments where you sweat a lot. (p 46)

The big danger . . . is greed – trying to pyramid everything one more time, doubling the throw. When you're diversified, like I am, you're protected, because if one thing goes down, something else is bound to be going up. (p. 48)

Certain characteristics of the other investor types can also be explained more fully through either theory or intuitive reasoning. In the way that the Risk-managing Investor appears focused on the concept of risk, the Rational Economic Investor appears focused, not simply in the desire to earn extraordinary returns, but also in a particular pattern of information gathering. These investors tend to specialize in a particular industry and tend to rely heavily on the judgment of a trusted source. Also, a higher percentage of this investor type serves on the board of directors, a finding which implies greater access to information.

Viewed in this light, the Rational Economic Investor appears similar to what has been described as Resourceful, Evaluative, Maximizing Man by Meckling (1976). This is not strictly the *Homo economicus* of classical economics who was assumed to consider every available option and select the one which maximized economic reward. Instead this is a decision-maker attempting to make the most of the limited resources available:

"Maximizing man recognizes that all resources are limited, including his own time. Whatever his resources, man attempts to achieve the best position he can under the constraints facing him. This optimization occurs on the basis of less than perfect information, and it recognizes that decision-making itself involves costs" (Brunner and Meckling, 1977: 72).

The work by Brunner and Meckling suggests that relying on a trustworthy source for information, instead of gathering primary data oneself, would be a consistent strategy for a rational maximizer. Also making larger than average investments could serve to maximize one's resources, by reducing the expenditure of evaluation time per dollar invested. Similarly, specializing in one industry could permit the efficient use of time and the

development of an expertise which could apply to more than a single investment. Thus theory would support the concept of a pattern of rational strategies here, strategies which are aimed at maximizing resources.

Agency theory (Jensen and Meckling, 1983) also suggests a logical correspondence between this group's interest in high return and their greater propensity to serve on the board. As a director, one can better monitor the entrepreneur's actions, reducing management's ability to feather its own nest at investor expense. Thus monitoring activities on the part of the board can increase economic return through discouraging value-reducing actions of management.

Some might argue that it is not in the entrepreneur's best interest – as both owner and manager – to engage in such behavior. But the entrepreneur, too, can be seeking noneconomic benefits, such as reduced work days, that could undercut the economic return (Nettl, 1957). An example is this comment from a disgruntled respondent: "I wish I had been a director. . . The owner was more interested in providing literary/artistic opportunities for the community than in making much money. I wish I had had some say."

The Rational Economic Investors identified in this study required high returns for their efforts, an overall desired return averaging nearly 24% (and almost 30% expected return for the most recent investment) at a time when common stocks were returning an average 12% in annualized capital appreciation plus dividends (Ibbotson and Sinquefeld, 1989). This is, indeed, a rational economic response to the perception of taking on a high level of risk.

These investors are least likely to invest in high-technology firms and they appear to be the least satisfied with investment results. While no immediate theoretical explanation is apparent, these findings suggest the need for further research in order to better understand these relationships.

One observation which appears to have a link with the purely financial emphasis of this group is a demographic one. Of the accountants who considered themselves informal investors, 75% were deemed to be Rational Economic and 71% of investors listing insurance as their field were placed in this segment. Perhaps it is not surprising that occupations based on the objective evaluation of numerical data are more likely to be find themselves in the Rational Economic Investor category.

Real-life examples of this investor type abound. One example of the Rational Economic Investor was seen earlier in the quote from a survey respondent, incredulous that an investor would consider anything other than economic objectives. Beyond the data gathered for this study, this investor type is encountered in examples such as this from The Wall Street Journal (Tannenbaum, 1988):

Zack Blackmon Sr., an electrical-contracting executive in Charlotte, N. C., was looking for an investment. "I had some of what I call high-risk money and wanted to put it somewhere."

Somewhere turned out to be Appalachian Technologies Corp., a fledgling maker of electronic equipment used by utilities. Mr. Blackmon first heard of the Charlotte company from a dentist he plays golf with. In turn, the dentist had gotten the word from an accountant who knew one of the founders. . .

[An SBA survey of informal investors found that] investors expect three or four investments out of every 10 to be losers, but look for overall profits averaging nearly 27% a year. Mr. Black, the Appalachian investor, says some investments can pay off 50-to-1. "I'd settle for 10-to-1," he adds.

The characteristics of Responsive Investor, too, present a gestalt – a unified whole – which is consistent with both real-life observation and logic. This investor's age and, by extension, stage of life and work cycle, seem intuitively appropriate for a more "other-oriented" approach to investing. Nearly one-half of this investor type is in the 45-54 year old age bracket, an age considered to be the prime earning years (Bellante and Saba, 1986). Typically, at this stage of life most major expenditures have been made and more discretionary income is likely to be available. It is not difficult, therefore, to envision this investor type at a stage where he or she is financially able to consider altruistic objectives. Also, risk is not as likely to be a concern for this age group; it was noted earlier that individuals in the middle years are willing to accept higher risk than are those in younger and older age brackets (Morin and Suarez, 1983).

This investor's risk-propensity is evidenced in a willingness to invest in high-technology firms, usually thought to involve greater than average risk (Baty, 1964). At the same time, high-technology firms are very much a part of the new venture environment in the geographic area surveyed. Thus it is not surprising that a desire to invest locally and to help struggling new ventures would likely involve a higher-than-average number of high-technology firms.

In terms of the investment process, Responsive Investors were more likely to be self-directed in their investment search, rather than relying on others for investment advice. Since they do not report being particularly familiar with the product or service, we can infer that perhaps the decision is

based more on affect or feeling than on a rational information-gathering process.

The Responsive Investors' desire to invest in ways that are socially beneficial is evidenced in comments made on the questionnaire. Said one respondent: "I helped put up equity for a local bookstore because I wanted our area to have access to high-quality books and the programs that the owner wanted to initiate. I thought it would help the literary climate, and it did." Another commented: "Friends and I wanted to help a friend get set up in business. It was so much fun that we're going to do it again."

The affective and altruistic aspects of this investor type are summed up in testimony to a Congressional committee in the late 1950's. The speaker described informal investors in this way:

Some of the persons who invest small amounts in struggling little businesses . . . may do it because they like "to take a flyer," to defy coolly calculated probability. They are exhilarated (*sic*) by the business process, like to get involved in management problems, and enjoy competing. [They] take seriously the social responsibility of wealth; they believe that they should invest in small businesses and be helpful to small businessmen.

(U. S. Congress, 1958, cited in Baty, 1964: 30)

Limitations of the Study

There are several potential limitations to the study which should be kept in mind. Some of these involve problems inherent to data collected from a questionnaire; others are specific to this study.

Data which is self-reported from a questionnaire, instead of based on actual observations, may be biased in several ways. One is a demand bias, in which respondents tend to give what they consider a socially preferable

answer instead of their own "true" response. The survey was designed to be as value-neutral as possible in order to reduce this bias. Still, with phrases such as "socially unacceptable product" or "a firm with socially-beneficial ideals", there is the possibility that the respondent will be predisposed to respond favorably. In pilot tests of the survey instrument, and later, in the actual survey, there appeared to be no reluctance to give a negative response to such phrases. Respondents to the pilot test – who, unlike the actual sample, were not anonymous – chose what might have seemed a socially "less acceptable" response fully half of the time. This helped assuage concern about demand bias.

Also, questionnaires present the very real risk of untrue answers simply because the answer is self-reported and there is no way to verify its accuracy. For this reason, self-reports of one's income, for example, are often suspect (Dillman, 1978). The survey was designed with this possible bias in mind, but the risk of over-estimating (for example, the number of investments made) remains.

Another concern when collecting data by means of a survey is the loss of information from nonrespondents. Since this study was not based on a random sample, however, it was not felt that it was cost-effective to pursue nonrespondents beyond the methods described earlier.

Finally, the sample used for this study was not a random one. We cannot, therefore, generalize to other populations. Also the restricted geographic area of the sample would, in itself, suggest caution in applying these findings to other areas. Haar, Starr, and MacMillan (1988) reminded scholars of the potential for considerable variance in the informal investor population depending on the geographic area involved. Similarly, certain

behavioral economists have found geographic differences in economic actions, with a distinct reduction in altruistic transactions in large urban areas (Frank, 1988).

Implications for Academics

This study responds to two perceived needs of scholars in the field of entrepreneurship: the need to identify clusters of individual investors and to determine their distinguishing investment objectives (Wetzel, 1983: 31) and the need to link informal investment research to theory.

In so doing, a number of issues are suggested, issues which offer fruitful areas for future research. One such area would be the exploration of relationships between risk and other variables, such as familiarity with the product or participation in the firm. The identification of a direct correlation could suggest strategies by which risk might be reduced. Other tenets of finance theory, such as the relationship between liquidity preferences and risk, could be tested to see if they apply to informal investments. Also, there is a need to test some long-held assumptions, such as whether or not stage of life cycle and perceived risk are related. The potential for research into the "risk" of informal risk capital appears to be great.

Another issue which future research might address is the role of information in the informal investment process. What relationship is there, for example, between investor familiarity with the industry and different evaluative procedures? Consumer Behavior theory has found that it is not simply prior knowledge or familiarity that determines the evaluative process, but an interaction of variables instead. Research could consider, for example, if complexity of the product is a factor interacting with

familiarity in the decision-making process. Also of interest would be the relationship between different information-seeking approaches and financial return. Agency theory could suggest theoretical hypotheses, as could research dealing with the role of information in decision-making.

The rate of return is a variable which appears to offer considerable opportunity for productive study. There is a need to determine actual rates of return of the informal investments, in addition to investors' estimates. This would allow research to make advances toward prediction. Also of interest would be exploration of relationships between risk and return, as well as between return and firm-related variables. This might permit more accurate assessment of a new venture's financial prospects.

The above recommendations for future research are primarily directed at academics interested in entrepreneurship. There are implications for academics in other disciplines as well. In particular, studies such as the present one suggest opportunities for finance scholars to expand capital market research into informal or noninstitutional markets. Copeland and Weston have pointed to a need for finance research "being extended to include assets other than common stock as well as smaller and less sophisticated marketplaces" (1988: 361). The insights of informal investment research could make a contribution in this arena.

The results of this study also hold promise for the field of behavioral economics, providing additional support for behavioral objectives within economic spheres. It also suggests the possibility of applying certain concepts from psychology to the study of the informal investor, as has been done in studies of the entrepreneur (Carland and Carland, 1984; Lindecamp, 1981).

Implications for Entrepreneurs in Search of Venture Capital.

The data derived from this study suggest several observations of interest to the entrepreneur. First, entrepreneurs in need of funding should certainly consider the possibility of seeking some capital through informal sources. In addition to the traditional sources – commercial banks or one's own capital – it appears that there exists a significant supply of noninstitutional risk capital, at least in this one geographic area studied. The estimated \$42 million in recent informal investment reported by respondents in this one limited geographic area strongly supports suggestions of a potential of informal risk capital supplying as much as \$5 billion a year in the U. S. alone (Wetzel, 1983).

Second, informal risk capital is expensive to obtain. Investments in new or growing firms are viewed as extremely risky and investors expect to be paid to take on this additional risk. Given the risks involved, however, it could be added that an average of nearly 22% cost of informal risk capital is not excessive and appears to be in line with the risk/return expectations of other investment instruments.

The entrepreneur should also recognize that for some informal investors there are nonfinancial rewards which may compensate to a degree for strictly monetary benefits. Some investors are influenced by the desire to give new businesses an assist, some by the desire to promote community welfare, such as helping create new jobs, while others are interested in the fun and excitement inherent in watching or participating in a new and growing venture. Awareness of the importance of nonmonetary returns for some investors might help the entrepreneur tailor the investment offering with these aspects in mind. This study's discovery of several distinct

investor types also suggests that it might be wise to "shop around" for the investor whose desired objectives are similar to those of the entrepreneur. Informal investors are clearly not a homogeneous group.

Also, there is the potential for structuring the investment in varying ways so as to appeal to the needs of the potential investor. In this respect, the study suggests that the entrepreneur should approach the venture financing process with a marketing orientation, seeking to determine investor needs rather than simply "sell" a product. This might involve, for example, structuring a deal with a combination of debt and equity for those who are more risk averse. This type of structuring might be found to be more appealing to both younger investors and those of retirement age. Also, consideration should be given to tailoring the holding period and the amount of the investment to the particular investor.

Finally, there was a high proportion of former entrepreneurs among the informal investors in this study. This suggests that those who have themselves started a business would be a likely source of informal funds. Also, certain occupational fields appear to be particularly good prospects, especially law, health care, and engineering or other technically-oriented fields.

Summary and Conclusion

This study found that the wealth-maximizing assumption of finance does not hold for informal investments. To the contrary, there are distinct nonfinancial benefits which are important to some informal investors, although not to all. Developing a typology from this finding involved first locating clusters of investors who differed as to the importance they placed

on financial versus nonfinancial benefits of the investment. These benefit-based clusters or segments were found to have other significantly different attributes, thereby strengthening the validity of the typology as well as suggesting possible avenues for encouraging informal investment.

The three segments making up the proposed typology – Rational Economic, Risk-managing, and Responsive – are profiled in Figure 3 on page 72. These investor types represent very real differences in expressed attitudes and investment behavior among informal investors.

Rational Economic Investors are interested primarily in financial benefits. They seek the highest return (30% expected annual return) of the investor types and perceive the highest risk. They appear to be maximizing resources through specializing in an industry, investing larger amounts per investment, and relying on the recommendation of a knowledgeable investor rather than taking the lead in searching for investment opportunities. While comprising the largest investor type (47% of the sample), these investors report the lowest degree of satisfaction.

Risk-managing Investors consider both financial and nonfinancial benefits to be important. They perceive the lowest level of risk and appear to follow risk-reducing strategies such as diversifying investments across industries, using a combination of debt and equity instruments, and coinvesting (investing with others who are known to them). Appropriate to the reduced level of risk, they report a lower expected return (21%) than the other investor types. Also, the bimodal age distribution of this group, predominantly under 45 or over 55, is compatible with studies showing age-related aversion to risk. More likely to be entrepreneurs themselves, they find that the satisfaction of playing a role in the entrepreneurial process has

been an important reason for making informal investments. Not surprisingly, perhaps, this segment is the most satisfied with their investments.

Responsive Investors are interested in responding to the needs of the larger community. Helping to support a socially beneficial product or to provide community jobs can be an important aspect of the investment decision for these informal investors. While they perceive risk to be relatively high (between that of the Rational Economic and the Risk-managing) and report a correspondingly high expected return (28%), the economic aspect of the investment is secondary to the normative or affective benefits sought. These investors are predominantly in the peak earning years of 45-54, perhaps more able to afford giving up financial return for nonfinancial considerations. And their investments are more likely to be "patient money", with the longest reported holding period.

Clearly, informal investors are not homogeneous. The benefit-based typology proposed here describes three distinct segments of the informal investment capital market. This approach, drawing on the behavioral economic paradigm and framed in light of the marketing concept, seems to offer a suitable framework for examining the phenomenon of informal investing.

This typology is offered with both academic and practitioner applications in mind. One aim in introducing a conceptual framework is to help integrate informal investment research of the past and to enable research in this area to advance. In the process, it is hoped that work such as this will direct research toward causal variables which might enable the field of entrepreneurship to better understand, explain, and perhaps influence

business investment by private individuals. Likewise, for the entrepreneur, it is hoped that the recognition of distinct informal investment market segments might result in actionable strategies which will increase the availability of informal investment capital.

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APPENDIXES

APPENDIX A

QUESTIONNAIRE



**University of Tennessee
Center for Venture Analysis
and Entrepreneurship**

Informal Business Investments In East Tennessee

This study is part of a project to help us better understand how new businesses in East Tennessee can be encouraged and strengthened. Thank you for your willingness to help.

**608 Stokely Management Center
University of Tennessee
Knoxville, TN 37996-0563**

INFORMAL BUSINESS INVESTMENTS IN EAST TENNESSEE

There are 5 parts to this survey: Part I presents hypothetical choices you might face in an investment decision; Parts II - IV ask about actual investments; Part V on the last page asks for demographic information for statistical purposes.

INSTRUCTIONS

1. Please answer all questions, unless otherwise instructed.
2. Use estimates when you can't be precise.
3. If you're in doubt as to whether your investment falls within the definition, go ahead and assume it does.
4. Please return the completed questionnaire in the prepaid envelope and mail the postcard separately.

DEFINITION OF KEY TERM

Informal business investment: (also called informal investment for short)

Money provided by a private individual to a private business through informal or noninstitutional channels. The business must produce a good or service and must be founded by someone other than the investor.

The investment could be in the form of equity (such as stock, warrants or options to buy stock) or a loan.

This does not include any of the following:

- investments made through professionally-managed venture capital funds, Small Business Investment Companies (SBIC's) or through public stock markets.
- real estate speculation - investment in land or buildings not attached to a specific business
- a non-producing tax shelter
- your investments in your own business

If you have any questions, don't hesitate to call either
Pat Postma at 974-3153 or Mary Kay Sullivan at 974-1739.

PART I - INVESTMENT SCENARIOS

Assume that you have a relatively small portion of your investment portfolio available to invest informally. (You define what 'relatively small' is in your case.)

You know that Company A and Company B are two start-up firms looking for early stage 'seed' money. A and B have similar management teams and, all things considered, face equivalent risks. In many important ways the two firms are identical, but you can invest in only one.

Company A expects to yield a 20% after tax annual return, which you consider attractive given the nature of the investment. In the scenarios below, you are asked to consider the minimum return that you would accept to invest in B instead of A. *Remember: the firms are essentially identical except for the decision factor introduced in each scenario.*

Q-1 SCENARIO I:

Company A is 300 miles away in an adjoining state.

Company B is located within an hour's drive from your home or office.

Would you accept a lower rate of return to invest in B? (Circle number of your answer.)

1 NO

2 YES → What's the lowest rate of return you would consider and still choose Company B over Company A?
(Fill in the blank with a number less than 20%.)

_____ % MINIMUM ACCEPTABLE RATE OF RETURN
FOR INVESTING IN COMPANY B

Q-2 SCENARIO II: (Each scenario is a new situation.) A's product is entirely legal, but of questionable social and ethical merit. You consider B's product to be very important and beneficial to society. Would you accept a lower rate of return to invest in B?

1 NO

2 YES → _____ % MINIMUM ACCEPTABLE RETURN

Q-3 SCENARIO III: You don't know much about A's product (or industry). You are extremely knowledgeable about B's product (or industry). Would you accept a lower rate of return to invest in B?

1 NO

2 YES → _____ % MINIMUM ACCEPTABLE RETURN

Q-4 SCENARIO IV: A will have little impact on local employment, say, creating fewer than 5 jobs. B will have significant impact on local employment, creating more than 100 jobs.

Would you accept a lower rate of return to invest in B?

1 NO

2 YES → _____ % MINIMUM ACCEPTABLE RETURN

Q-5 SCENARIO V: You consider B an exciting investment; you think A is boring. Would you accept a lower rate of return to invest in B?

1 NO

2 YES → ____% MINIMUM ACCEPTABLE RETURN

Q-6 SCENARIO VI: Some investors who are knowledgeable about B's industry will meet to evaluate B. You can meet with them. If some of them decide to invest in B (instead of A), would you accept a lower rate of return to invest in B?

1 NO

2 YES → ____% MINIMUM ACCEPTABLE RETURN

Q-7 SCENARIO VII: Some individuals you regard highly are investing in B and not A. Your investment will give you the opportunity to interact with them at Company B's events.

Would you accept a lower rate of return to invest in B?

1 NO

2 YES → ____% MINIMUM ACCEPTABLE RETURN

Q-8 SCENARIO VIII: B has a strong commitment to ideals you think are socially beneficial, such as, seeking to hire qualified handicapped individuals and providing flexible time for families. Not so with A. Would you accept a lower rate of return to invest in B?

1 NO

2 YES → ____% MINIMUM ACCEPTABLE RETURN

Q-9 SCENARIO IX: You think it would be fun to be a part of Company B. Not so with A.

Would you accept a lower rate of return to invest in B?

1 NO

2 YES → ____% MINIMUM ACCEPTABLE RETURN

PART II - INVESTMENT HISTORY

Q-10 Have you or your spouse ever made an informal business investment? (Circle number of your answer.)

1 NO → (If 'NO', skip to Q-37 on page 9.)

2 YES

Q-11 Have you or your spouse made an informal business investment in the past 5 years? (Circle number of your answer.)

1 NO → (If 'NO', skip to Q-37 on page 9.)

2 YES → If 'YES', how many?

____ NUMBER OF INFORMAL INVESTMENTS

(If you provided funds to one firm several different times, count that as one total investment.)

We'd like to learn more about these investments as a group. Questions on this page and the next deal with the total number of informal investments reported in Q-11.

Q-12 Of the investments reported in Q-11, how many fell in each of the following geographic categories? (If none, write "0".)

- ☐ HEADQUARTERS WITHIN 100 MILES OF MY HOME OR OFFICE
- ☐ BEYOND 100 MILES BUT IN SOUTHEASTERN U.S.
- ☐ OUTSIDE THE SOUTHEASTERN U.S.

Q-13 How were the investments reported in Q-11 first brought to your attention? List the number of informal investments brought to your attention through the following possible sources. (Attribute only one source for each investment, please.)

- ☐ PERSONAL RELATIONSHIP (close friend, family)
- ☐ BUSINESS ASSOCIATE (co-worker)
- ☐ PROFESSIONAL RELATIONSHIP (accountant, attorney, broker, commercial banker, etc.)
- ☐ REPRESENTATIVE OF THE FIRM
- ☐ ACTIVE PERSONAL SEARCH
- ☐ MEDIA (TV, radio, newspaper, magazine, etc.)
- ☐ OTHER (Please specify) _____

Q-14 Of the investments reported in Q-11, how many fell in each of the following size categories?

(If you provided funds to one firm several different times, count that as one total investment.)

- ☐ NUMBER OF INVESTMENTS UNDER \$10,000
- ☐ \$10,000 TO \$24,999
- ☐ \$25,000 TO \$99,999
- ☐ \$100,000 TO \$249,999
- ☐ \$250,000 OR MORE

Q-15 Of the investments reported in Q-11, how many would you describe as "high tech"? (If none, write '0'.)

- ☐ NUMBER OF HIGH TECHNOLOGY INVESTMENTS

Q-16 Of the investments reported in Q-11, how many fell in each of the following industry groups?

- ☐ COMMUNICATION/ENTERTAINMENT
- ☐ MANUFACTURING
- ☐ NATURAL RESOURCES
- ☐ RETAIL OR WHOLESALE TRADE
- ☐ SERVICES
- ☐ OTHER (Please specify) _____

Q-17 Based on your reasons for investing, indicate how many of your informal investments met your expected investment goals.

- ☐ ABOVE EXPECTATIONS
- ☐ APPROXIMATELY MET EXPECTATIONS
- ☐ BELOW EXPECTATIONS
- ☐ TOO EARLY TO TELL

Q-18 On average, how long do you expect to hold an informal investment before "cashing in" or getting your money back? (Circle number)

- 1 UNDER ONE YEAR
- 2 ONE TO THREE YEARS
- 3 FOUR TO SIX YEARS
- 4 SEVEN TO TEN YEARS
- 5 OVER TEN YEARS
- 6 NOT IMPORTANT

Q-19 What capital gains multiple do you hope to realize over this period? (If you don't know, write "DK"; if not important, write "NI".)

DESIRED CAPITAL GAINS MULTIPLE:

___ TIMES MY ORIGINAL INVESTMENT IN ___ YEARS

(For comparison: historically, an average Dow Jones Industrial stock with dividends reinvested has had a capital gains multiple of 2x original investment in a little over 7 years.)

Q-20 What annual rate of return do you hope to realize with an informal investment? (If don't know, write "DK"; if not important, "NI")

___ % DESIRED ANNUAL RATE OF RETURN

(For comparison:

Average annual rate, 1927-1987
(including capital appreciation)

Bonds
Stocks

4.8%
10.1%

Q-21 Listed below are some reasons investors have given for making informal investments. Circle a number from 1 to 5 to describe how important each item has been in making an informal investment(s).

How important to me as a reason for investing					
	NOT AT ALL IMPORTANT	MILDLY	MODER- ATELY	VERY	EXTREME- LY IMPORTANT
A. To support new business . 1	2	3	4	5	
B. The potential for high capital appreciation 1	2	3	4	5	
C. To help a friend or family member. 1	2	3	4	5	
D. For current or future income (e.g., dividends). . 1	2	3	4	5	
E. For satisfaction of playing an active role in entrepreneurial process 1	2	3	4	5	
F. For the fun of having an interesting investment . . . 1	2	3	4	5	
G. To have some influence over an investment 1	2	3	4	5	
H. To support a socially-beneficial product 1	2	3	4	5	
I. For positive recognition in the community 1	2	3	4	5	
J. For nonfinancial "perks" or privileges 1	2	3	4	5	
K. For tax benefits 1	2	3	4	5	
L. Other (specify)					
_____ 1	2	3	4	5	

Q-22 Which of the above reasons for investing are the most important to you? (Put letter of item – from A to L – in appropriate box.)

☐

MOST IMPORTANT

☐

SECOND MOST IMPORTANT

Q-23 Based on the following definitions of investor types, how would you describe your approach to informal investing? (Circle a number for each of the following)

NEVER	ALMOST NEVER	SOME-TIMES	ALMOST ALWAYS	ALWAYS
-------	--------------	------------	---------------	--------

A. LEAD INVESTOR

I search for opportunities, make an independent decision to invest and often suggest investments to others

1	2	3	4	5
---	---	---	---	---

B. INDEPENDENT INVESTOR

I welcome investment leads from others but rely on my own investigation in deciding to invest. Other investors don't influence me.....

1	2	3	4	5
---	---	---	---	---

C. REFERRED INVESTOR

I ask some questions and read materials but am primarily influenced by a recommendation from a knowledgeable person.....

1	2	3	4	5
---	---	---	---	---

D. GROUP INVESTOR

I invest along with a group of associates. I'm likely to invest if there's a group consensus, but I don't rely on a single individual.....

1	2	3	4	5
---	---	---	---	---

PART III - DESCRIPTION OF MOST RECENT INVESTMENT

Next, we'd like to learn more about your most recent informal investment.

Q-24 How did you hear of this investment opportunity? (Circle number)

- 1 ACTIVE PERSONAL SEARCH
- 2 THROUGH THE MEDIA
- 3 THROUGH AN INDIVIDUAL

→Q-25 (Describe person by circling all numbers that apply:

- | | |
|------------------------------|-------------------------|
| 1 ACCOUNTANT | 6 FRIEND/FAMILY MEMBER |
| 2 ATTORNEY | 7 BUSINESS ASSOCIATE |
| 3 BANKER | 8 OTHER (Specify below) |
| 4 BROKER | |
| 5 REPRESENTATIVE OF THE FIRM | |

Q-26 Did you invest in this company along with other investors who were personally known to you? (Circle number of answer.)

1 NO

2 YES

Q-27 On a scale of 1 to 5, how technologically complex would you say the product or service was? (Circle number.)

NOT AT ALL
COMPLEX

MODER-
ATELY

EXTREMELY
COMPLEX

1

2

3

4

5

Q-28 On a scale of 1 to 5, how innovative would you say the product or service was - including the means of producing or delivering it?

NOT AT ALL 1 2 3 4 5 EXTREMELY

Q-29 At the time you invested, how knowledgeable or familiar were you with the industry or the firm's product or service?

NOT AT ALL 1 2 3 4 5 EXTREMELY

Q-30 Were you on the Board of Directors?

1 NO

2 YES

Q-31 To what extent did you participate in the company after investing?

1 NO PARTICIPATION

2 VERY LITTLE (little more than reading reports)

3 MODERATELY (ask questions, attend meetings or equivalent)

4 A CONSIDERABLE AMOUNT (equivalent of part-time work)

5 EXTREMELY ACTIVE (equivalent of full-time work)

Q-32 How far was company headquarters from your home or office?

1 LESS THAN 100 MILES AWAY

2 BEYOND 100 MILES BUT IN SOUTHEASTERN U.S.

3 OUTSIDE THE SOUTHEASTERN U. S.

Q-33 At the time you invested, in what stage was the company?

1 START-UP (before first sale of product or service)

2 EARLY STAGE (after first sale, but during first 2 years)

3 GROWTH (after first 2 years but less than 8 years old)

4 ESTABLISHED (over 8 years old)

Q-34 How would you describe the form of your investment?

1 COMMON OR PREFERRED STOCK

2 LOAN CONVERTIBLE TO EQUITY

3 STRAIGHT LOAN

4 OTHER (Specify) _____

Q-35 In the first column below, estimate a range of annual returns for this investment. Give an optimistic, a pessimistic, and a most likely estimate. (A pessimistic estimate could even be 0 or a negative return.) Don't worry about how accurate your numbers are – just give your best guess. Then estimate the chances of that achieving that return by distributing 100 points among the 3 boxes to the right. For example, if you think the chances of achieving the optimistic estimate are 10 in 100, the most likely estimate, 80 in 100, and the pessimistic, 10 in 100, you'd write 10, 80, 10 in the boxes. Or you could have 25, 50, 25; or 30, 40, 30, etc.

ESTIMATE OF ANNUAL RATE OF RETURN	CHANCES OF ACHIEVING THAT RATE OF RETURN
OPTIMISTIC ESTIMATE: _____ %	chances in 100
MOST LIKELY ESTIMATE: _____ %	chances in 100
PESSIMISTIC ESTIMATE _____ %	chances in 100
	TOTAL = 100

Q-36 Describe any nonfinancial benefits (special recognition, privileges) given investors:

PART IV - INFORMAL INVESTMENTS REJECTED

Q-37 During the past 5 years have you been asked to consider an informal investment which you subsequently rejected? (Circle number.)

1 NO ———→ (If 'NO', skip to Q-39 on next page.)

2 YES

Q-38 Listed below are some reasons given for not making an informal investment. How often were each of these reasons that you rejected an informal investment ? (Circle a number for each item.)

	ALMOST NEVER	SOME- TIMES	USUALLY
I didn't know enough about the industry or product to evaluate the investment. . . .	1	2	3
I didn't trust the judgement of the person suggesting the investment	1	2	3
I decided the investment wouldn't be sufficiently profitable.	1	2	3
I didn't have funds available to invest at the time.	1	2	3
Other (describe) _____	1	2	3

PART V - DEMOGRAPHIC INFORMATION

Finally, we would like to ask a few questions for statistical purposes.

Q-39 Are you currently single or married?

- 1 SINGLE**
- 2 MARRIED**

Q-40 If currently or previously married, which best describes your family?

- 1 YOUNGEST CHILD UNDER 6 YEARS OLD**
- 2 YOUNGEST CHILD BETWEEN 6-18**
- 3 YOUNGEST CHILD OVER 18**
- 4 NO CHILDREN**
- 5 NOT APPLICABLE**

Q-41 What is your age?

- 1 UNDER 25**
- 2 25 TO 34**
- 3 35 TO 44**
- 4 45 TO 54**
- 5 55 TO 64**
- 6 65 OR OVER**

Q-42 Have you ever started a business?

- 1 NO**
- 2 YES**

(If 'NO') Q-42a Have you ever managed a new business?

- 1 NO**
- 2 YES**

Q-43 What is your primary occupational field? (If retired give former field)

- 1 ACCOUNTING**
- 2 BANKING/FINANCE/STOCK BROKER**
- 3 COMMUNICATION/ENTERTAINMENT**
- 4 EDUCATION**
- 5 FOOD SERVICE**
- 6 INSURANCE**
- 7 LAW**
- 8 MANUFACTURING**
- 9 MEDICAL/HEALTH CARE**
- 10 REAL ESTATE/CONSTRUCTION**
- 11 RETAIL/WHOLESALE TRADE**
- 12 SERVICES**
- 13 TECHNICAL/ ENGINEERING**
- 14 OTHER _____**

Is there anything else you would like to tell us about informal business investments? If so, please use this space for that purpose.

Also, any comments you wish to make that you think would improve the informal investment process in East Tennessee will be appreciated, either here or in a separate letter.

Your contribution to this effort is very much appreciated.
If you would like a summary of results, please indicate on the accompanying postcard. Or, call us and leave your name and address. We will see that you get it.

APPENDIX B

OPERATIONALIZATION OF ADDITIONAL VARIABLES

OPERATIONALIZATION OF ADDITIONAL VARIABLES

<u>Variable</u>	<u>Operationalization</u>
Investment-centered Variables	
Holding period in years	Years reported in Q-19 of questionnaire
Holding period by category	Q-18
Large investments	Investments of \$100,000 or more from Q-14
Small investments	Investments of \$10,000 or less from Q-14
Degree of participation	Q-31. Scale of 1 to 5, 1 = no participation, 5 = the equivalent of full-time work
Board membership	Q-30
Number of investments	Q-11, number reported
Investment instrument	Q-34. Respondents who circled both straight loan and equity or who, in replying "other", listed a combination of debt and equity were combined with "loan convertible to equity" to form the category "combination debt and equity".
Company-centered Variables	
Investments nearby	Q-12, companies within 100 miles of home or office
Percent nearby	Number of investments nearby from Q-12 divided by total number of investments from Q-11
High-technology company	Q-15, number reported
Percent of investments in high technology companies	Number from Q-15 divided by total from Q-11

Percent investments in communication/entertainment	Number of communication/entertainment companies from Q-16 divided by total from Q-11
Percent of investments in manufacturing industry	Number of manufacturing companies from Q-16 divided by total from Q-11
Percent of investments in natural resources industry	Number of natural resource companies from Q-16 divided by total from Q-11
Percent of investments in wholesale or retail trade	Number of wholesale or retail companies from Q-16 divided by total from Q-11
Percent of investments in services industry	Number of service companies from Q-16 divided by total from Q-11
Stage of firm growth	Q-33
Industry specialization	Of respondents having made more than one investment, if Q-16 showed all investments in one industry, that response was defined as "specialized in an industry"; otherwise the response was defined as "diversified".

Process-centered Variables

Investing style	Based on focus group discussions, four styles of investing were defined (Q-23). Reflecting the degree of self-reliance in information-seeking and decision-making, these were called Lead investor, Independent investor. Referred and Group investor. A response of 5 (always) or 4 (almost always) assigned the style to that respondent.
Coinvesting	Q-26, investing with others known to the investor.
Satisfaction	Defined as the percent of investments meeting or exceeding expectations (omitting those investments deemed premature to evaluate) from Q-17.

Investor-centered Variables

Entrepreneurial background	Q-42, have started a business at some time
Participation in firm	Q-31, responses of 1 or 2 = Low, 3 = Medium, 4 or 5 = High.
Familiarity with industry	Q-29, responses of 1 or 2 = Low, 3 = Medium, 4 or 5 = High.
Age of respondent	Q-41. Categories combined to give three primary age groups: under 45, 45-54, and 55 and over.
Occupational field	Q-43

APPENDIX C

AGGREGATE DATA

NUMBER OF HOUSEHOLDS WHICH HAVE MADE INFORMAL INVESTMENTS

	<u>Number</u>	<u>Percent</u>
Informal investor:		
Have made an informal investment in past 5 years	214	45%
Previous investor:		
Have made an informal investment, but not in 5 years	69	15
Noninvestor:		
Have never made an informal investment	<u>190</u>	<u>40</u>
	473	100%

ENTREPRENEURIAL BACKGROUNDS OF RESPONDENT CATEGORIES

	<u>Informal Investor</u>	<u>Previous Investor</u>	<u>Non- investor</u>
Have started a business	72%	50%	50.5%
Have not	<u>28</u>	<u>50</u>	<u>49.5</u>
	100%	100%	100 %

AGE GROUP BY RESPONDENT CATEGORIES

	<u>Informal Investor</u>	<u>Previous Investor</u>	<u>Non- investor</u>
Under 35 years	4%	2%	12%
35-44	28	16	24
45-54	33	29	31
55-64	23	31	22
65 and older	<u>12</u>	<u>22</u>	<u>11</u>
	100%	100%	100%

MARITAL STATUS BY RESPONDENT CATEGORIES

	<u>Informal Investor</u>	<u>Previous Investor</u>	<u>Non- investor</u>
Married	93%	94%	92%

RESPONSES TO TRADEOFF SCENARIOS

<u>Decision factor</u>	<u>Percent of category willing to give up financial return for nonfinancial decision factor</u>		
	<u>Informal Investor</u>	<u>Previous Investor</u>	<u>Non- investor</u>
Firm nearby vs. 300 miles away	63%	69%	65%
Socially beneficial product	83%	78%	85%
Knowledge about industry	90%	91%	88%
Creation of local jobs	65%	63%	70%
An exciting investment	47%	38%	47%
Meeting/investing with knowledgeable investors	62%	63%	63%
Interacting with highly regarded co-investors	61%	59%	65%
Company committed to ideals you support	59%	66%	65%
Fun to be a part of the company	66%	62%	61%

NUMBER OF INFORMAL INVESTMENTS MADE PER HOUSEHOLD
IN PAST FIVE YEARS

	<u>Number</u>	<u>Percent</u>
Number of households making only 1 investment	77	36%
making 2 investments	74	35
making 3 investments	26	12
making 4 investments	8	4
making 5 or more	<u>29</u>	<u>13</u>
	214	100%

GEOGRAPHIC LOCATION OF COMPANIES IN WHICH INVESTMENT
WAS MADE

	<u>Number^a</u>	<u>Percent</u>
Companies nearby (within 100 miles)	389	75%
Beyond 100 miles but within southeast U.S.	76	15
Outside the southeastern U. S.	<u>51</u>	<u>10</u>
	516	100%

SIZE OF THE INVESTMENTS, IN DOLLARS

	<u>Number^a</u>	<u>Percent</u>
Less than \$10,000	132	25%
\$10,000 to \$24,999	130	25
\$25,000 to \$99,999	154	30
\$100,000 to \$249,999	57	11
Over \$250,000	<u>50</u>	<u>9</u>
	523	100%

^a N varies since not all respondents answered all questions.

NUMBER OF HIGH TECHNOLOGY INVESTMENTS IN PAST FIVE YEARS

	<u>Number</u>	<u>Percent</u>
High technology investments	104	20%

INFORMAL INVESTMENTS OF PAST FIVE YEARS BY INDUSTRY CATEGORY

	<u>Number</u>	<u>Percent</u>
Services	194	40%
Manufacturing	105	22
Retailing/ Wholesaling	76	16
Communication/ Entertainment	55	11
Natural resources	32	7
Other	<u>25</u>	<u>5</u>
	487	100%

PRIMARY REFERRAL SOURCES FOR INVESTMENTS OF PAST FIVE YEARS

Personal relationship (friend, family)	245	47%
Business associate (co-worker)	121	24
Professional relationship (attorney, banker, etc.)	91	18
Representative of the firm	32	6
Active personal search	<u>24</u>	<u>5</u>
	513	100%

SATISFACTION WITH INVESTMENT RESULTS

	<u>Number</u>	<u>Percent</u>
Investments exceeding expectations	109	21%
Investments meeting expectations	140	27
Investments below expectations	170	33
Too early to determine	<u>100</u>	<u>19</u>
	519	100%

NUMBER OF INVESTORS ON BOARD OF DIRECTORS
OF MOST RECENT INVESTMENT

	<u>Number</u>	<u>Percent</u>
Serving on board of directors	78	38%

TYPE OF INVESTMENT VEHICLE FOR MOST RECENT INVESTMENT

Equity	135	64%
Straight debt	27	13
Debt convertible to equity	23	11
Other debt/equity combinations	<u>25</u>	<u>12</u>
	210	100%

MOST RECENT INVESTMENT BY STAGE OF COMPANY GROWTH

	<u>Number</u>	<u>Percent</u>
Startup (before first sale)	133	63%
Early stage (after first sale but during first 2 years)	44	21
Growth (after 2 years but less than 8 years old)	20	9
Established (over 8 years old)	<u>15</u>	<u>7</u>
	212	100%

DEGREE OF INVOLVEMENT IN MOST RECENT INVESTMENT

	<u>Number</u>	<u>Percent</u>
Respondents reporting no involvement	41	19%
Little involvement beyond reading reports	30	14
Moderate amount	86	41
Very involved	42	20
Extremely involved (equivalent of full-time work)	<u>12</u>	<u>6</u>
	211	100%

OTHER CHARACTERISTICS OF MOST RECENT INVESTMENT

	<u>Number of Investments</u>	<u>Percent of Investments</u>
Innovativeness of product or service		
Not at all innovative	26	12%
Very little	46	22
Moderately	61	29
Very innovative	45	21
Extremely	<u>33</u>	<u>16</u>
	211	100%
Complexity of product or service		
Not at all complex	52	25%
Very little	33	16
Moderately	63	30
Very complex	36	18
Extremely	<u>24</u>	<u>11</u>
	208	100%
Investors' familiarity with product or service		
Not at all familiar	25	12%
Very little	49	23
Moderately	56	27
Very	60	28
Extremely	<u>21</u>	<u>10</u>
	211	100%
Coinvested with others personally known to respondent	153	72%

SELF-DESCRIBED INVESTOR TYPES

	<u>Number of Respondents</u>	<u>Percent of Respondents</u>
Lead investor (I search for opportunities, make an independent decision to invest and often suggest investments to others.)	26	12%
Independent investor (I welcome investment leads from others but rely on my own investigation in deciding to invest. Other investors don't influence me.)	84	39
Referred investor (I ask some questions and read materials but am primarily influenced by a recommendation from a knowledgeable person.)	75	35
Group investor (I invest along with a group of associates. I'm likely to invest if there's group consensus, but I don't rely on a single individual.)	28	14
TOTAL	213	100%

VITA

Mary Kay Stevenson Sullivan was born in New Wilmington, Pennsylvania on December 16, 1942. She attended school in Little Rock, Arkansas and, due to the closing of Little Rock Central High School, entered college in 1959 without a high school degree. She received a Bachelor of Arts degree with a major in Romance Languages from the University of Arkansas in 1963. The following year was spent as a Fulbright Scholar in Florence, Italy. On her return to the U. S., she entered the Graduate School of Bryn Mawr College and received the Master of Arts degree from that institution in 1966.

She re-entered graduate school at the University of Tennessee, Knoxville, and received the Master of Business Administration with a concentration in Finance in June 1985. In August 1990 she received the Doctor of Philosophy degree with a concentration in Management.

The author is a member of Phi Beta Kappa, the Academy of Management, the Southern Management Association, the Strategic Management Society, and the Eastern Finance Association. Following graduation she will be Assistant Professor of Management at Maryville College, Maryville, Tennessee.