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ANATOMY OF INSTITUTIONAL INVESTORS: PREFERENCES, PERFORMANCE, AND CLIENTELES

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by

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Dedication

This dissertation is dedicated to my family. I am grateful for all their love and support through the years.

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ANATOMY OF INSTITUTIONAL INVESTORS: PREFERENCES, PERFORMANCE, AND CLIENTELES

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Institutional investors have played an increasingly important role in financial markets over the years. By the end of 1998, institutional investors accounted for 59% of the ownership of the U.S. equity market. To understand their identities, investment behavior, and portfolio performance, a detailed anatomical study of the five major groups of the institutional investment universe is conducted: bank trust departments, insurance companies, investment companies, investment advisors, and endowment and pension funds. Using the legal framework for each institutional investor group, the effects of prudent man laws and fiduciary duty regulations on portfolio choices of institutional investors are analyzed. In particular, the investment preferences and portfolio allocations of each institutional investor group are examined. Using advanced portfolio performance measurement methodologies, the equity investment performance of

each of the institutional groups is investigated. Finally, in order to study institutional investor clienteles, the reaction of institutional investors to changes in dividend policy is examined. Results support the hypothesis that legal structure has a significant impact on the investment behavior of institutional investors. Institutional investors governed by prudence-based investment regulations are found to manage the safest portfolios and show the best investment performance in the institutional investment universe. Results also provide support for the existence of institutional dividend clienteles. Implications of the findings for U.S. and world equity markets are discussed and suggestions for future research proposed.

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Chapter 1: Introduction

An institutional investor can be defined as a legal entity set up to provide investment services to clients. The clients of institutional investors can vary from individuals who invest in mutual funds to pension beneficiaries whose retirement investments are managed by public and private pension funds. Institutional investors have become increasingly more influential in the U.S. and world equity markets over the years. Substantial amounts of funds are now being invested through the use of institutional investors. The evolution of institutional investors has also affected the ownership of the equity market. In the past, individual investors have owned most of the equity market. In the past two decades, the ownership of the U.S. equity market has drastically shifted to institutional investors. At the end of 1998, institutional investors have owned 59% of the U.S. equity market.[1] Given the increasing dominance of institutional investors in the investments universe, a detailed study of these entities is essential.

This dissertation provides an anatomical study of the participants of the institutional investment universe. Institutional investors are far from a homogeneous group. Under the SEC guidelines, institutional investors can be classified into five categories, namely bank trust departments, insurance companies, investment companies, independent investment advisors, and endowment & pension funds. Bank trust departments manage the investments in

[1] Securities Industry Association 1999 Fact Book

the personal trust accounts. Insurance companies include all the life and property-casualty insurers. Investment companies are the parent entities of mutual fund families. For example, Fidelity Investments, as an investment company, oversees the operation of the family of mutual funds under its management. Investment advisors are financial fiduciaries that manage the investments of outside parties in exchange for management fees. These include brokerage houses, independent investment advisors, hedge fund families, and money management firms for private clients. Endowments manage the investments of universities and charitable foundations. Pension funds manage the retirement investments of public and private beneficiaries.

The dissertation investigates three main aspects of institutional investments. First of all, the study looks at the investment behavior of institutional investors by exploring the investment preferences of different types of institutional investors. Secondly, the study examines the equity investment performance of institutional investors and evaluates the success of the members of the institutional investor universe in managing the funds entrusted with them. Finally, the study explores the impact of institutional investors' preferences in forming clienteles. The study examines the reaction of institutional investors to changes in dividend policy and compares the reaction of institutions that have preferences for dividend payment with the reaction of institutions that do not have such preferences.

Although all of the institutional investor types share a common trait, in that they are primarily fiduciaries and manage the monies of others entrusted with

them, each group has a significantly different structure from the others. These differences result from two main requirements. First of all each institutional investor type is governed under a different set of investment regulations. These regulations directly impact the investment characteristics of institutional investors. Secondly, each institutional investor type serves a different set of clients with different needs and requirements from the portfolios under management. This dissertation, in examining the institutional investor universe and its members, studies the impact of these investment regulations and client needs on the investment characteristics of institutional investors.

The group of laws and regulations that govern a significant portion of the institutional investor universe are commonly known as the prudent man rules. These restrictions originate from case law dating back to 1830 and continue to govern the investment structure of many institutional investors. The thesis will especially study the impact of this group of rules and restrictions on the investment behavior of institutional investors. The following chapter will give more information about the prudent man rule.

Chapter 2: The Legal Structure of Institutional Investors

OVERVIEW

This chapter explores the development of the rules and regulations that govern institutional investments. The most influential of these is the prudent man rule, which oversees the investments of bank trusts. The study examines the evolution of the prudent man rule and its investment principles. This section also discusses two other regulations based on the principles of the prudent man rule, UMIFA and ERISA, which govern endowment and pension funds. In addition, the Investment Company Act, the Investment Advisors Act and the state insurance company laws are also discussed.

THE PRUDENT MAN RULE IN THE UNITED STATES

The prudent man rule is the single most important concept in the management of trusts. The rule oversees the investments of personal trusts, one of the first forms of institutional investment. The prudent man rule is based on the trust law doctrine, which requires the trustees to exercise fiduciary duty, and utmost care in managing the monies of others entrusted with them. The principles of the prudent man rule take their roots from the court case of *Harvard College v. Amory*[2] decided in the Massachusetts Supreme Court in 1830.

[2] 26 Mass. (9 Pick.) 446 (1830)

> All that can be required of a trustee to invest, is, that he shall conduct himself faithfully and exercise a sound discretion. He is to observe how men of prudence, discretion and intelligence manage their own affairs, not in regard to speculation, but in regard to the permanent disposition of their funds, considering the probable income, as well as the probable safety of the capital to be invested.

The ruling in this case required trust managers to behave as men of prudence would in investing their own monies and to avoid speculation. Although the Massachusetts ruling established the principles of the prudent man rule, it did not gain wide acceptance at the time. Investors required strict guidelines for the governance of trust investments. These guidelines were established through different court cases. For example, the court case of *King v. Talbot*[3] in 1869 in the New York Court of Appeals established the legal lists, which were adopted by many states. Unlike the rather flexible Massachusetts prudent man standards, which gave broad discretion to the trust manager in the selection of his investments as long as he acted in good faith as a man of prudence, the legal lists were quite rigid in their investment choices. Following the English law tradition, the legal lists primarily included fixed income securities. Equities were regarded as unsafe and speculative investment vehicles. The wide acceptance and the application of the legal lists continued until the Great Depression. With the collapse of the fixed income markets during this period, the perception of the safety of these investments quickly eroded. The investment community looked for an updated series of investment principles, which covered other investment sectors such as equities and real estate. In 1940s, the Trust Division of the American Bankers Association developed a set of investment principles based on

[3] 40 N.Y. 76 (1869)

the Massachusetts prudent man rule, called the Model Prudent Man Investment Act. The model statute outlined the guidelines of prudent investments. In comparison with the legal lists, the new statute included a much broader investment universe, comprised of real estate, fixed income, equities, and mutual funds. The Model Prudent Man Investment Act defined prudent investing in the same manner as the Massachusetts ruling.

> In acquiring, investing, reinvesting, exchanging, retaining, selling and managing property for the benefit of another, a fiduciary shall exercise the judgment and care, under the circumstances then prevailing, which men of prudence, discretion and intelligence exercise in the management of their own affairs, not in regard to speculation but in regard to the permanent disposition of their funds, considering the probable income as well as the probable safety of their capital.[4]

The Model Prudent Man Investment Act was adopted by the states in their own regulations of investment management. The new statute was more rigid then the standards laid out in the original Massachusetts ruling. Two major legal treatises influenced the Model Prudent Man Investment Act. The first of these is the Treatise[5] by Professor Austin Wakeman Scott. The second and the most influential work is the Restatement of Trusts[6] by the American Law Institute. The major impact of the treatises on the Model Prudent Man Investment Act is the change in the interpretation of the responsibilities of the trust manager. The trust manager is expected to be prudent to a higher degree than required in the definition of prudence in the Massachusetts ruling. The trust manager is expected to invest in a safer or more restricted manner and not take on certain risks, which

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[4] Shattuck, The Development of the Prudent Man Rule for Fiduciary Investment in the United States in the Twentieth Century, 12 Ohio St. L.J. *supra* note 4, at 509-510

[5] A.W. Scott, Law of Trusts (3rd ed. 1967)

[6] Restatement (Second) of Trusts (1959)

he may decide to take for his own monies. In light of this interpretation, the new statute requires the trust manager to be a prudent expert.

> Since men of prudence may well take risks in making investments which trustees are not justified in taking, a trustee must use the caution in making investments which is used by prudent men who have primarily in view the preservation of their property, of men who are safeguarding property for others.[7]

The treatises lay out the characteristics of the investment vehicles that are permissible in investment portfolios as prudent investments. The main goal of the treatises is the avoidance of speculation and the preservation of capital in the pursuit of income. U.S. government and municipal bonds, first mortgages on land with the state, and corporate bonds of high ratings are all considered to be prudent investments. As for equities, only non-speculative shares of common or preferred stock are allowed. These include the shares of companies with regular and stable earnings and dividends. Incidentally, the S&P Common Stock Ranking, one of the most important characteristics used in court cases in establishing prudence of equity investments, is calculated based on the same principles. The Restatement of Trusts precludes investments in low-grade corporate bonds and in shares of new and untried companies with no regular earnings and dividend record.

The main goal of the prudent man rule is the avoidance of speculation and capital loss. The prudent man rule views each investment in isolation from the remaining elements of the investment portfolio. Unlike modern investment theory, the contribution of each individual element to the overall design of the portfolio is not taken into account in evaluating individual investments. The

[7] 3 Treatise, *supra* note 28, section 227, p. 1806

primary duty of the trustee and the fiduciary is to preserve the nominal value of the capital, i.e. preservation of the corpus. This requirement is clearly established in the Restatement and the Treatise, as well as in the decision of the Supreme Court of Minnesota in the case of *In re Mayo*[8]. Although capital preservation is the main requirement of the prudent man rule, capital appreciation and inflation protection are desirable, even if not strictly required for prudence.

The prudent man rule brings high levels of responsibility and accountability to the trust managers. This responsibility cannot be delegated to others. The so-called anti-delegation doctrine of the Restatement, which is often criticized for precluding efficient portfolio management, prohibits the delegation of investment duties by the trustees to others.

> The trustee is under a duty to the beneficiary not to delegate to others the doing of acts which the trustee can reasonably be required personally to perform.[9]

In fact, the only institutional investor group that is precluded from the delegation of investment discretion is the trusts. The Restatement also underscores the importance of the responsibility of the trust manager.

> If the trustee has or procures his appointment as a trustee by representing that he has greater skill than that of a man of ordinary prudence, he is under a duty to exercise such skill.

Since professional trustees, i.e. bank trust departments are assumed to possess such skill, they are held to stringent investment standards. Under the prudent man rule, fiduciaries and trust managers can be held personally liable for capital losses should any element of the investment portfolio is deemed imprudent

[8] 105 N.W. 2d 900 (Minn. 1960)
[9] Restatement, *supra* note 29, section 171

in a court of law. Prudence is determined mainly on precedence based on the cases tried in state and supreme courts.

The prudent man rule was established in the courts. A new aspect to the interpretation of the law was added with each new case that was decided. The prudent man rule has been behind in incorporating the principles of modern investment theory. Modern portfolio theory has not been considered in the arguments in court cases. Rather, certain stock characteristics have been introduced and held up in courts as indicators of prudence of investments. For example, in the *First Alabama Bank of Montgomery N.A. v. Martin*[10] case in 1983 in the Supreme Court of Alabama, the plaintiff used the 8 item criteria cited in Graham's Security Analysis as an indicator of prudence. In the same court case, the defense introduced the S&P Common Stock Ranking as an investment selection criterion. External validation, such as S&P rankings, has played an important role in determining the prudence of investments. One other external validation factor that has been used is the commonality of the investment among fiduciaries of the same type. In the court case of *Chase v. Pevear*[11] in 1981, the Massachusetts Supreme Court concluded that to show prudence, a trustee could show whether other trustees or other institutional investors commonly hold a particular investment. The same court indicated that seasoning or age of the stock, and price history are also valid measures to consider when looking for prudence.

[10] 425 So. 2d 415 (Ala.), *cert. denied*, 461 U.S. 938 (1983)
[11] 419 N.E. 2d 1358 (Mass. 1981)

INVESTMENT REGULATIONS BASED ON THE PRUDENT MAN RULE: UMIFA AND ERISA

Based on the investment principles and guidelines established by the prudent man rule, two important regulations have been established over time. The first of these is UMIFA, Uniform Management of Institutional Funds Act of 1972, which oversees the investment policies of university endowments and charitable organizations as well as private foundations. The other one is ERISA, Employee Retirement Income Security Act of 1974, which governs the investments of private pension funds. Over time, public pension funds, which are governed by state laws, have acquired the same principles for their investment policies.

UMIFA, developed in 1972 and adopted by many states, became the investment standard for endowments, educational and philanthropic foundations. This law governs the trustees of endowments and other charitable institutions. There are some significant differences between UMIFA and the prudent man rule. Under UMIFA, personal liability is rare or non-existent. One reason is the scarcity of plaintiffs to sue since there is no party with such an incentive. The other is the judicial reluctance to charge a trustee who receives none or little compensation for his service done in good faith to a non-profit organization.

The need for UMIFA resulted from the differences in the portfolio constraints between private trusts and endowments. UMIFA was established to provide a more flexible investment environment for endowments and foundations. The main difference between the two groups is the allocation of the wealth of the trust. The private trust has to balance the needs of the current beneficiaries and the remaindermen. The investments of a private trust should produce reasonable

income for the life beneficiaries. On the other hand, they should preserve the capital for the remaindermen. In light of this, the trustee should avoid investments that are non-income producing or highly volatile.

On the other hand, endowments have different concerns. First of all, they have a perpetual time horizon for their portfolios and they only have a single beneficiary. Therefore, they can tolerate higher risk levels for higher long-term returns. In the past, endowments could only spend the income from their portfolios. Now, they are allowed to spend up to 4-5% of their total portfolio value. As a result, their preferences for non-income producing investments have changed over time.

In the investment policies of endowments, two schools of thought come into play. The old school is concerned with the preservation of the principal of the endowment fund. Capital gains are seen as a part of the principal to be preserved intact and thus income is treated separately. This view is still the dominant view. The new school applies the modern portfolio theory and is concerned with the total return of the portfolio. This new approach has started to gain acceptance among the endowments over the years.

Section 4944 of the Internal Revenue Service Code assigns tax-exempt status to endowments and foundations. The code also imposes a graduated series of excise taxes on both private foundations and its managers if the foundation invests any amount in such a manner as to jeopardize the carrying out of any of its exempt purposes. Thus endowments and foundations are concerned not to violate this code in their investments. Under this rule, managers are required to exercise

ordinary business care and prudence. The main characteristics foundations and endowments take into account in their portfolio selection are expected total return (income + capital appreciation), volatility, industry type, diversification within the portfolio, maturity of the company, earnings and dividend stability. With these standards, the code departs from the prudent man trust law doctrine and applies modern portfolio theory principles. There are specific references to inflation, diversification and portfolio-as-a-whole concept.

Soon after the establishment of UMIFA, the government also set standards for the investments of private pension funds. The federal law that governs these funds is ERISA. This law applies the principles of modern portfolio theory for its investment standards. The main duty of the pension fund manager is diversification in order to minimize the risk of large losses. Diversification forms the core of ERISA's prudence standard. ERISA is a radical change from the prudent man doctrine applied to trusts since private trusts and pension funds have significant differences. First of all, there is no balancing between beneficiaries and remaindermen. Secondly, there is a continuous inflow of new capital into pension funds. Finally, pension funds are also tax-exempt like endowments. Thus, they don't have tax considerations, unlike private trusts. As a result, pension funds hold more non-income generating investments. Since they also have a perpetual investment horizon, similar to endowments, they are more inclined to holding illiquid investments.

LEGAL STRUCTURE OF OTHER GROUPS OF INSTITUTIONAL INVESTORS

In the second half of the 1900s, financial theory and practice developed drastically. Modern investment management started to take its shape. During this period different types of institutional investors started to flourish in financial markets. As a result, investment regulations were established to oversee the investments of these new types of institutional investors. The first of these is the Investment Company Act of 1940, which governs the investments of mutual fund families. This regulation requires mutual funds to invest in accordance with their advertised investment objective. Diversification is the main requirement of the regulation. In addition, mutual funds have restrictions on short sales and the level of management fees they can charge in their investment services. Beyond these restrictions, the regulation does not impose any type of prudence restriction in the selection of investments. Similarly, Investment Advisors Act of 1940 was established to oversee the investments of independent investment advisors. The regulation brings fiduciary responsibility to these institutions. The regulation also establishes guidelines for the delegation of investment discretion between the fiduciary and the client. Beyond these restrictions, the regulation does not impose any prudence restrictions in the selection of investments. The last group of institutional investors is insurance companies, which include life and property-casualty insurers. These institutions are governed by state insurance regulations. Since most of the largest insurers are located in New York and Connecticut, the laws of these two states dominate the legal structure of this group of institutional investors. These regulations restrict the amount of funds an insurer can allocate to

equities. An insurance company cannot allocate more than 20% of its portfolio to equities and it cannot allocate more than 2% of its portfolio to an individual security. As a result of this regulation, insurance companies have historically been prominent investors in the fixed income market.

The prudent man rule has significantly impacted the investment selection decisions of the fiduciaries managing institutional funds governed by these regulations. The next chapter presents a study, which looks at the investment preferences and behavior of institutional investors and examines the trends over a 17-year period. It also investigates the differences in preferences between institutional investor types and the impact of prudent man rule based investment restrictions on the portfolio allocations of institutional investors that are governed by such regulations.

Chapter 3: Preferences of Institutional Investors

OVERVIEW

Institutional investors have always been important participants in financial markets. The significance of institutional investors has increased as the markets have developed over time. As of the end of 1998, institutional investors held 59% of the U.S. equity market, making them arguably the most influential participant. Institutional investors have also become an important part of the average U.S. household's financial life. According to a recent survey by the Investment Company Institute, as of the end of 1999, 47% of U.S. households (48 million households) invested some portion of their wealth in the U.S. equity market and a substantial portion of these investments were invested through the use of mutual funds, a type of institutional investor.[12] Moreover, public and private retirement funds are under management by pension funds and independent investment advisors, two other types of institutional investors. Given the importance of institutional investors, more needs to be understood about their identities, their preferences, the types of stocks in which they invest, and the performance of their investments. In addition, it is important to examine how these attributes have changed over time.

Numerous recent studies have focused on the impact of institutional investors. Gompers and Metrick (1999) analyze institutional investors' demand

[12] Mutual Fund Fact Book, May 2000

for stock characteristics and the implications of this demand for stock prices and returns. They find that the increase in the large institutional investors' share of the stock market from 1980 to 1996 have increased the demand for the stocks of large companies relative to smaller ones. They argue that this compositional shift has increased the price of large stocks relative to small stocks. They find that this price appreciation has translated into an extra 2.3 percent return for large stocks over small stocks. Falkenstein (1996) examines the characteristics of the stocks held in mutual fund portfolios. Bennett, Sias, and Starks (2000) test for and find that different classes of institutional investors face meaningful differences in their investment environments that influence their security selection decisions. Both studies find that stock characteristics such as size, age, price, risk and dividend yield are significant determinants of institutional ownership. Other studies have looked at the trading behavior of institutional investors. For example, Lakonishok, Schleifer, and Visnhy (1992), and Wermers (1999) examine the impact of institutional investors on stock prices. Sias and Starks (1997) and Nofsinger and Sias (1999) study the trading behavior of institutional and individual investors. Grinblatt, Titman, and Wermers (1995) and Wermers (1999) examine herding behavior of mutual funds.

Several studies in the literature have looked at the effects of regulation on institutional investments. Cummins and Westerfield (1981) examine the effect of ERISA on pension plans. They find that asset concentration ratios have declined for pension funds after the passage of ERISA. Their results give support to the impact of the regulation of the investment choices of the pension funds since the

main requirement of prudence in the ERISA regulation is diversification. Badrinath, Gay, and Kale (1989) investigate the safety-net concept in institutional investors. They find that institutional holding is an increasing function of the safety-net potential of a common stock. Del Guercio (1996) finds that bank trust portfolios, which are governed by strict prudent man rules, tilt their portfolios more to prudent stocks compared to mutual funds in the year 1988. One limitation of her study is the fact that her study sample includes institutional investor filings for one quarter, June 1988.

The study presented in this chapter contributes to the literature by examining the portfolios of institutional investors in order to identify their investment preferences. The study examines the regulatory and structural changes over time in the investment environment of different types of institutional investors and investigates their impact on the preferences and portfolio compositions of institutional investors. The study covers institutional investors for a time span of 69 quarters, from the end of 1979 to the end of 1996, making the study one of the most comprehensive examinations of institutional investments. One of the main contributions of this study to the literature is to provide evidence on the impact of the legal structure that governs institutional investors on their investment choices. Throughout the study the investment preferences of institutions that are governed by prudence-based investment regulations are compared with the investment preferences of unrestricted institutions. These comparisons yield evidence on the impact of such investment regulations on institutional investor's portfolio choices. In order to examine the preferences of

institutional investor portfolios, we use the variables identified in Falkenstein (1996), Gompers and Metrick (1999) and Bennett, Sias, and Starks (2000) and expand the analysis by including additional variables. These include market, financial and outside ranking agency variables. The study identifies variables that have been used in court cases to determine the prudence of investments. For example, the S&P Common Stock Ranking and the number of institutional investors having ownership in the investment are two major variables that have been cited by the courts as indicators of prudence. The study utilizes these and other variables to identify the investment preferences of institutional investor groups in light of the legal structure they are governed under.

Institutional investors can be classified into five groups, namely bank trust departments, insurance companies, investment companies, investment advisors and endowment and pension funds. The analysis examines institutional investors both at the aggregate and at the group level. The analysis focuses specifically on the composition of institutional investor portfolios and examines the portfolio allocation preferences of institutional investors based on different characteristic variables. In addition, the study looks at the trends in institutional portfolio allocations to determine changing preferences.

HYPOTHESIZED INVESTMENT BEHAVIOR BASED ON LEGAL STRUCTURE

Institutional investors can be defined as legal entities governed by specific financial regulations and established to invest and manage private and public funds on behalf of others. The main reason for the existence of institutional

investors is the delegation of investment authority and discretion to a financial specialist with expertise. The oldest institutional investors are bank trusts. These are institutions set up to manage trust funds of others. Dating back to a court case between Harvard College v. Amory in 1830, bank trusts have been heavily regulated. These regulations, known as prudent man rules, bring strict personal liability on the financial expert in imprudent investments. Bank trusts are believed to be one of the most conservative investors among the institutional investor universe. As a result of the prudent man rules, banks are expected to invest trust funds into very safe and prudent stocks. In addition, they are required to manage the interest of two different trust parties, namely current beneficiaries and remaindermen. They are obligated to provide a portfolio to generate stable income for the current beneficiaries and protect the principal with sufficient capital appreciation for the remaindermen. These restrictions imposed on bank trust managers influence them to favor certain stock characteristics, i.e. high dividend yield and low risk. In fact, Del Guercio (1996) studies bank trust holdings data and concludes that bank trusts tilt their portfolios to prudent stocks much more than do mutual funds. She identifies factors such as age, exchange, size, turnover, volatility and dividend yield as factors of prudence. An important question is the degree to which regulations and the legal environment affect a bank trust manager's decisions. As there have been a number of changes in these regulations and laws over the past two decades, this study employs prudence factors to identify if the factors and bank trust behavior continue to be important over the changing institutional investment universe from 1979 to 1996.

All types of institutional investors are governed by some type of regulation as are bank trusts, but the regulations differ in their influence on the institutions' holdings. For example, endowments and charitable organizations are governed by UMIFA, which brings on strict fiduciary duty and responsibility upon the managers, although not as strict as the regulations on bank trusts. Therefore this group is expected to invest in less prudent securities then bank trusts would. On the other hand, up until the mid 1990s, this regulation prohibited the spending of capital appreciation of portfolios and allowed expenditures only from the income generated from these portfolios. Thus, this regulatory environment would be expected to influence a heavy tilt towards dividend paying stocks. Pension funds are governed by ERISA, which also places fiduciary duty and responsibility on the plan managers with the most important duty of diversification. ERISA defines prudence differently than does the common law prudent man rule for bank trusts. Specifically, diversification is required as the main determinant of prudence. In this aspect, application of modern portfolio theory to investment decisions is encouraged. State laws generally govern insurance companies, another type of institutional investor. Since most of the larger insurance companies are headquartered in New York and Connecticut, those states' insurance laws apply to most of the insurance company group's investments. These laws, in addition to establishing fiduciary duty regulations, impose restrictions on the amount of equity positions held in insurance company portfolios. Monks and Minow in their book titled "Power and Accountability" indicate that 14% of insurance assets are invested in equity markets. Moreover,

life insurance companies, which hold most of the insurance assets, are limited to 20% of their assets to be invested in equities. As a result, insurance companies traditionally have invested most of their funds in fixed income securities. Since they are also bound by fiduciary duties, they can be expected to place after endowments group in safety and prudence characteristics.

Investment companies are defined by the CDA Database, under the SEC guidelines, as those institutions with more than 50% of their funds in mutual fund subsidiaries. The Investment Company Act of 1940 governs mutual funds. This regulation does not impose any kind of prudence or fiduciary duty of safety on the manager. On the other hand, managers are held responsible not to charge excessive management fees and to invest in the direction of the pre-determined investment objective. They are also required to be diversified and not to have their holdings too concentrated. As a result, this group is expected to invest in riskier and less prudent stocks than the other groups. The final group is investment advisors, defined by the CDA database as those institutions with less than 50% of their funds in mutual fund subsidiaries. Like investment companies, investment advisors are not subject to prudent man regulations. In that respect, they are expected to be closer to investment companies in investment preferences. However, some pension funds attain outside investment advisors for portfolio management services. In that case, even though the investment discretion resides with the investment advisor, the contracted pension monies are still subject to ERISA regulations. Thus, investment advisors managing pension funds don't enjoy the same degrees of freedom, i.e. same risk level as investment companies.

In examining the results of the analysis, the study also takes into account the legal environment of the specific type of institution and its expected impact on investment preferences and behavior.

DATA SET

The data used in this study originates from the CDA Spectrum Institutional Holdings Database. This database reports the quarterly holdings of institutional investors. Under the 1978 amendment to the Securities and Exchange Act of 1934, all institutional investors managing a portfolio with an investment value of $100 million or more are required to file 13F reports listing their qualifying securities under management with the SEC. These securities include stocks, bonds and derivative securities. With regard to their equity securities, institutions are required to file common stock positions greater than 10,000 shares or $200,000 in market value by each quarter end. The CDA dataset reports for each institutional investor at the end of each quarter, the number of shares held of each stock that fits the above criteria. The data set used in this paper covers a time frame of 69 quarters or a little over 17 years, from the 4th quarter of 1979 to the 4th quarter of 1996, making it one of the longest time spans used in studying institutional investments.

Two separate samples are constructed from the CDA database. The first one uses the entire quarterly database in conjunction with the CRSP database to study the market characteristics of institutional investors. The second sample uses only the annual data as of 4th quarter of each year in conjunction with the CRSP

and Compustat annual data to examine the financial characteristics of institutional investor portfolios.

The CDA dataset classifies institutions into five categories. These groups are bank trust departments, insurance companies, investment companies (mutual fund families, e.g. Fidelity Investments-aggregated), investment advisors, and endowments, public & corporate pension funds and philanthropic foundations. The distinction between an investment company and an investment advisor is established by CDA. If an institutional investor holds more the 50% of its portfolio in mutual fund subsidiaries, it is classified as an investment company and if it holds less than 50%, it is classified as an investment advisor. The investments are allocated to that group which has investment discretion, fiduciary duty, and legal liability over the investment. The study also looks at the differences in investment characteristics and performance among these groups.

INSTITUTIONAL INVESTMENTS OVERVIEW

Figures 1 through 7 present an overview of the developments in the institutional investment universe. Figure 1 depicts the increase in the percentage of the U.S. equity market held by institutional investors. Institutional investors held about 28% of the U.S. equity market at the end of 1979 and this percentage continuously increased over the years to 53% by the end of 1996, indicating the increasing presence and dominance of institutional investors in the equity market.

Figure 2 breaks down this trend into the five institutional investor groups. The investment advisors who predominantly manage the delegated portion of

pension money have experienced the largest gains. Their market share of the equity market has increased from 5% to 20% over the years. The second largest increase has occurred in investment companies, from 2.5% to 13%, but unlike the continuous increase of market share of the investment advisors, investment companies (mutual funds) have gained most of the increase in the 1990s, especially after 1993. The increases of both of these groups reflect the increasing investments of pension funds and household investments in the U.S. equity market through these two groups. The market share of two other groups, i.e. endowment & pension funds (in-house managed portion) and insurance companies have increased only slightly to around 4% and 5% respectively. The only group that has experienced a decrease in its market share is the bank trust departments group. Once the group with the largest market share of about 14% in 1979, its share has dropped to third place, to 11% over the 17-year period. Figure 3 shows the percentage breakdown of the institutional investor universe funds into the five groups. Bank trusts have lost significant market share in the institutional investor universe. Once managing 50% of the institutional funds, their share has dropped to 21% over the past two decades. In contrast, independent investment advisors has been the group with the largest gain in market share. Once only managing 19% of the overall institutional funds, this group has doubled its share to 38% of the total institutional funds under management. Investment companies have managed around 10% of institutional funds for most of the study period. However, their share has dramatically increased after 1994, more than doubling to 25% of all institutional funds. Endowments, pension funds (mostly public pension

funds), and insurance companies have maintained around a 10% share of the overall institutional funds throughout the period. These changes have not occurred as a result of an actual decrease in bank trust equity holdings. On the contrary, bank trust funds under management have increased during the period. However, most of the new institutional fund flows into the institutional universe have gone to the investment company and investment advisor categories, thus increasing their relative share of the market.

Figures 4 and 5 repeat the same analysis for the stocks of companies incorporated in the U.S. Since most institutional investors keep an overwhelming portion of their equity portfolios in domestic stocks, these figures are very similar to the overall ones. Figure 4 indicates the same continuous increase of institutional market share in the holdings of domestic companies. Institutional market share of domestic equity has increased from 35% to 54% over the study period. The trend among the groups also reflects the overall one. The increase in investment advisors is from 6.5% to 20%, for investment companies from 3% to 13%, and for endowment & pension funds and insurance companies to 4% and 5%, respectively. Again, bank trusts have lost market share from 17.5% to 11.7% over the study period.

Figure 6 and 7 repeat the above analysis for the stocks of companies incorporated in foreign countries and trading as ADRs. The results reflect the institutional ownership of the shares registered for trading in the U.S. and not the worldwide available shares outstanding. Figure 6 indicates a stunning increase of foreign equities held by institutions, with market share increasing from 3.5% to

48.5 % over the study period. Figure 7 presents a break down of this trend of the five groups. Most of this enormous increase has come about as a result of investment advisors and investment companies, especially after 1995, where their market shares have increased from 0.75% to 20.5% and 0.5% to 15.8%, respectively over the 17-year period.

Since bank trusts are under prudent man law restrictions and endowments and pensions are under UMIFA and ERISA fiduciary duty restrictions, it is expected for these groups to hold much less foreign incorporated stocks since capital losses on these investments may be difficult to justify in courts as prudent and responsible under fiduciary duty. On the other hand, since investment companies and advisors are not under any such restrictions, the high percentage of market share in foreign incorporated stocks is expected. The results of this analysis provide support for these expectations.

The figures depict the drastic shift that has occurred in the past two decades in the institutional investment universe. Institutional investors governed by prudence-based investment regulations have dominated the institutional investment universe in the 1980s. However, with the developments in the mutual fund industry coupled with the increase in households' investments in the equity market, 1990s have experience a tremendous growth in the unrestricted group of institutional investors. In fact, by the end of 1996, the two institutional investor groups not governed by prudence-based regulations, namely investment companies and independent investment advisors have become the two largest

groups in the institutional investor universe. This shift is sure to have an effect in the investment behavior of institutional investors in the U.S. equity market.

INSTITUTIONAL INVESTMENT UNIVERSE STATISTICS

This section looks at the general statistics of institutional investment portfolios. Table 1 depicts these figures both for the universe as an aggregate and also for each institutional group. Table 1 indicates that on average, an institutional investment portfolio consists of 232 stocks, which corresponds to 3.5% of the existing number of stocks in the equity market. The average institutional portfolio holds $1,634 million in equities. The concentration ratio gives the amount of value held in each stock. On average $7 million is invested in each stock. As for the stocks held by institutional investors, a given stock is held by 34 institutions on average, corresponding to 3.5% of all existing institutional investors. These statistics represent averages across all institutional investor portfolios over the 17-year sample period.

Table 1 also breaks down these statistics by institutional type. Bank trusts hold the largest number of stocks in their portfolios with an above average portfolio value and they have the lowest concentration ratio among the five groups. Independent investment advisors also have a considerably low concentration ratio. On the other hand, investment companies hold a much lower number of stocks in their portfolios with the largest value, giving them the highest concentration ratio. As a result, the average portfolio weight of a given stock is lowest in bank trust portfolios and highest in investment companies.

The low concentration ratios observed in bank trust, endowment & pension fund, and investment advisor portfolios are consistent with the hypothesis that prudence regulations and ERISA requirements for diversification are significant factors in their investment decisions. For these groups, losses incurred on highly concentrated portfolios may result in legal actions for breech of fiduciary duty. Since investment companies are not restricted in the same manner, they can hold portfolios with higher concentration levels.

Table 2 depicts the allocations of institutional investments across the three major stock exchanges both on the aggregate level and also on the group level. The table indicates that on average, institutions hold 84.8% of their portfolios in NYSE stocks, 1.9% in AMEX stocks and 12% in NASDAQ stocks. The results also show the differences in portfolio allocations among institutional investor types. Prudence restricted institutions such as bank trusts allocate a larger percentage of their portfolios to NYSE stocks and a smaller percentage of their portfolios into NASDAQ stocks compared to the investment companies.

INVESTMENT PREFERENCES & BEHAVIOR

In order to study the investment preferences and behavior of institutional investors, one must look at the characteristics of the stocks they choose to hold in their portfolios. The preferences of institutional investors have two impact points. First of all, institutional investors' preferences affect the composition of their portfolios, i.e. risk levels, allocations to certain characteristics, which will affect their investment performance. Secondly, institutional investor preferences

determine the degree to which a stock is owned by institutional investors. A stock owned to a greater degree by institutional investors will have a higher level of scrutiny and monitoring by those institutions. Thus greater information on firm quality will be generated about the stocks that are held in greater percentages by institutional investors compared to the stocks that are predominantly held by individual investors.

This study examines both impact points of institutional investor preferences. The study looks at the impact of firm characteristics in determining institutional ownership of the firm. It also examines the impact of institutional investor preferences in determining their portfolio allocations. It investigates the trends in institutional preferences over a 17-year sample period.

Characteristics of Institutional Investor Portfolios

Three main categories of characteristics are identified for this study. The first group, market characteristics, includes variables based on market performance. The second group, financial characteristics, consists of variables based on financial performance. The third group, ranking variables, consists of rankings assigned by outside ranking agencies based on different criteria.

In the analysis, the study first identifies the three types of characteristics for each stock in the CDA-CRSP-Compustat universe, representing the equity market. Then, based on the holdings of each institution, the value-weighted characteristics of the institution's portfolio are calculated. The aggregate and group characteristic levels are then calculated by averaging institutional level data

across all institutions and groups and over the sample period. All characteristics are calculated as of the end of the year using the annual database from CDA, CRSP Monthly File, and Compustat Annual File yielding 18 years of annual data.

Below is a list of the three types of characteristics used in this analysis.

Market Characteristics

Port Val: Total portfolio value in millions managed by the institutional investor.

Age: Number of years the stock has been publicly traded, measure of seasoning.

Beta: Beta calculated from a market model regression of the past 60 months of (minimum 24 months) portfolio returns on the monthly returns of the CRSP value-weighted index.

Momentum: Cumulative buy and hold return for the past 11 months, with a one-month lag from the year-end, i.e. from Jan 1st to Nov 30th.

Size: Market capitalization as of the end of the year.

Volatility: Standard deviation of past 60 month portfolio returns.

Stock Turnover: Average monthly stock turnover over the past 12 months where stock turnover is defined as the ratio of total monthly trading volume over the total number of shares outstanding at any given month.

StDev of Stock Turnover: Standard deviation of stock turnover over the past 12 months. Designed to measure the stability of stock turnover over the period.

Financial Characteristics

Capex/Sales: Capital expenditures per sales dollar, used as a proxy for investment level and growth opportunities.

Debt Ratio: The ratio of long-term debt to long-term debt plus total equity.

DIVPS: Dividends per share.

YLD: Annual dividend yield.

M/B: Market to Book ratio.

P/E: Price-Earnings ratio

S/TA: The ratio of total sales to total assets, used as a measure of the use of asset base and income potential.

Ranking Characteristics

Fortune 500: Rank assigned by Fortune magazine to the top 500 companies based on sales. This study uses the following grouping: A=1-166 B=167-332 C=333-500.

S&P Common Stock: Standard and Poor's common stock ranking. This measure scores the past performance of a stock's earnings and dividends and adjusts this to reflect growth and stability. The following grouping system is used in this study: A=7,8,9 B=16,17,18 C & D=21 and over.

S&P Senior Debt: Standard and Poor's senior debt ranking. Represents debt ratings and corresponding scores assigned by S&P. The following grouping system is used in this study: A=1-9 B=10-18 C & D=19 and over.

Table3, Table4, and Table 5 report the characteristics for the institutional investor portfolios both at the aggregate and the group level during the sample period from 1979 to 1996. Table 3 indicates the average market characteristics. Table 4 shows the financial characteristics of the institutional investor portfolios. Table 5 depicts the ranking characteristics of the institutional investor universe groups. The groups are bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment and pension funds (E). The overall portfolio characteristic for an institutional investor is calculated as the value-weighted average of the individual stock characteristics held in the portfolio. The table reports the averages across all institutions that existed in the sample period.

In this analysis, the types of institutional investors under prudence restrictions such as bank trusts and those under similar fiduciary restrictions, such as endowments and pension funds are expected to have higher levels in characteristics associated with prudence. These characteristics include size, age, beta, dividend yield, and outside agency rankings and have been used as proxies for prudence in previous research. Institutional investors not restricted by such regulations such as investment companies and independent investment advisors are expected to place in the other side of the spectrum. Insurance companies which are also governed by fiduciary requirements, although not as strict as bank trusts, are expected to place in the middle.

The results indicate the differences in characteristics between the prudence-restricted groups, i.e. bank trusts and endowment & pension funds and

unrestricted groups, i.e. investment companies and investment advisors. These differences are especially apparent in prudence related characteristics. For example, bank trusts and endowments hold older stocks in their portfolios compared to investment companies and investment advisors. The riskiness of their portfolios measured by beta is lower than those of investment companies and advisors. The prudence-restricted group holds stocks with lower turnover levels and higher stability levels than the unrestricted group. Prudence restricted group invests in stocks with higher dividend levels. The unrestricted group holds younger and riskier companies with higher levels of investment and growth opportunities compared to the prudence restricted group as indicated by Capex/Sales, M/B and P/E ratios. As expected, the stocks in prudence-restricted portfolios have higher outside agency rankings indicating higher levels of external validation. These rankings have been used and accepted as prudence measures in several court cases. In fact, the S&P common stock rating proxies for the main investment criteria, i.e. lengthy and stable earnings and dividend record, mentioned in the influential treatise, The Restatement of Trusts.

Overall, an evident spectrum of portfolio quality is observed. Bank trusts hold the highest quality stocks with the highest prudence and external validation characteristics compared to the rest of the institutional investor universe. Bank trusts are followed by the endowment & pension funds group, which also holds high quality stocks, but to a lesser extent than bank trusts. The third place belongs to insurance companies. Investment advisors and investment companies hold the higher risk, lower safety and lower prudence portfolios.

Institutional Portfolio Allocations

This part of the study looks at how institutional investors allocate their portfolios, and examines what type of characteristics they prefer to invest in based on market, financial and ranking variables. Also the study looks at how the preferences of institutional investors changed over time and what effect this had on the way they allocated their investment dollars. This task is carried out both on the aggregate and the group level.

Market, financial and outside agency ranking characteristics for all stocks in the CDA-CRSP-Compustat universe were identified in the previous section. For the analysis in this section, all the stocks in the equity market are sorted into three groups based on a given characteristic. These groups are called low, medium, and high, each including $33^{1/3}$ % of the stocks in the market. Then, the percentage of each institutional portfolio invested in stocks in each of the three groups is determined. Averaging over all institutions for the entire sample period gives the institutional allocation statistics. Moreover, the trends in institutional portfolio allocations are also studied by examining the changes during the sample period.

Table 6, Table 7, and Table 8 report the institutional portfolio allocation statistics for the market, financial, and outside agency ranking characteristics, respectively, for the institutional investor universe. Table 9a, Table 9b, and Table 9c present the results of the F-tests of differences in portfolio allocations between the five institutional investor types. The results show that institutions invest 64% of their portfolios in large stocks, 34% into medium sized stocks, and a mere 2%

in the smallest stocks. Institutions allocate 41% of their portfolios to older stocks and the rest equally to medium and young stocks. They invest 51% of their funds in medium level beta risk stocks and they stay away from low beta ones. Institutions like both high and medium momentum stocks equally with around 40% invested in each category but they dislike low momentum stocks. As for volatility, they like low volatility stocks by 60% and medium by 36%. They don't like high volatility stocks so they only invest 4% of their portfolios in them. Institutions seem to prefer medium turnover stocks with 52% invested in them. The rest is equally divided between high and low turnover stocks. Institutions favor turnover stability and they invest around 60% of their funds in high turnover stability stocks.

The allocations based on financial characteristics depict the fact that institutions are equally divided on leverage and they don't exhibit a distinct preference. They seem to prefer low and medium dividend yield stocks with about 40% invested in each group. They prefer high and medium Market-to-Book stocks with 46% and 39% invested in them, respectively, but do shy away from the low Market-to-Book stocks with only 15% in them. The same trend is true for P/E with about 45% in high and medium and only 9% in low groups.

Institutional portfolio allocations based on outside agency rankings indicate that institution favor high rankings. 70% of their portfolios are invested in Fortune 500 stocks. Within that portion of the portfolio, 78% is invested in A grade stocks, 14% in B and 8% in C stocks. Institutions equally like grade A and B stocks under the common stock ranking with 54% and 43%, respectively and

only 2.6% is in grade C&D stocks. Again, 80% of the portfolios are invested in stocks that have earned a common stock ranking. Same trend is apparent also in the senior debt ranking with 73% in grade A stocks and 26.6% in grade B stocks and only 0.3% in grade C&D stocks.

The results of the aggregate portfolio allocations also hold for the individual allocations of the five different types of institutional investor groups. In addition, as expected, bank trusts and endowment & pension funds have higher percentages of their portfolios invested in stocks with higher prudence characteristics. In contrast, investment companies and investment advisors allocate more of their funds to riskier stocks with lower prudence characteristic levels.

Market based characteristics indicate that bank trusts and endowments prefer older stocks. However, investment companies and advisors allocate their portfolios equally among the different age groups. All groups prefer medium beta stocks to the other two groups with half of their portfolio invested in them. All institutional types like high and medium momentum stocks equally, but shy away from low momentum stocks. All types significantly prefer large capitalization stocks with 60%-70% of their portfolios invested in them but strongly dislike small stocks with only 2% of their portfolios invested in them. Some institutional investors even have certain clauses in their charters precluding them from investing in stocks with prices lower then five dollars. All types strongly prefer low volatility stocks with 50%-70% of their portfolios invested in them and stay away from high volatility stocks with only 1%-6% of their portfolios invested in

them. All institutional types prefer medium turnover stocks with 50%-55% of their portfolios invested in them and high turnover stability stocks with 50%-70% of their portfolios invested in them.

The general trend is also apparent in the allocations based on financial characteristics. All institutional types are equally divided among the leverage groups, they don't indicate a preference. While bank trusts & endowments prefer medium dividend yield stocks, investment companies and investment advisors prefer low dividend yield ones. All groups prefer high and medium market-to-book and P/E stocks and shy away from low groups in both characteristics.

Portfolio allocations based on the outside agency ranking yields similar results. All institutional types strongly prefer Fortune 500 stocks with 60%-80% of their portfolios invested in them and within that portion, strongly prefer grade A stocks with 75%-86% of their portfolios invested in them. Again, bank trusts and endowment & pension funds have the larger allocations in the higher, more prudent, safer groups and investment companies and investment advisors have the lower allocations. For common stock rankings, bank trusts are distinctively different in their allocations. They allocate 91% of their portfolios to ranked stock and within that portion, 71% of their portfolios to grade A ranked stocks. Endowments follow bank trusts in their allocations. Relative to the other groups, investment companies and investment advisors allocate lower amounts to stocks with high prudence characteristic levels.

A clear picture emerges from the analysis of institutional portfolio allocations. Institutions under the governance of prudent man rules such as bank

trusts and those under the governance of prudence based fiduciary duty regulations like UMIFA and ERISA, such as endowment & pension funds allocate significantly higher percentages of their investment dollars to stocks with higher prudence, safety and legal justification characteristics. On the other hand, other institutions not restricted by these laws hold more of their funds in riskier, less prudent stocks. The results indicate that the differences in portfolio allocations between the institutional investor groups are statistically significant. Table 9d, Table 9e, and Table 9f present the results of the F-tests of differences in portfolio allocations between the four institutional investor types, excluding the bank trust departments group. Since this group is the most conservative among all the types in the institutional investor universe, the F-test excluding this group controls for the potential impact of this group on the overall results. The results indicate that the differences observed between the institutional investor groups are statistically significant, even when the bank trust departments group is excluded from the tests. These results strengthen the previous findings.

Figure 8a to 8f, Figure 9a to 9f, and Figure 10a to 10f show the changes in the institutional portfolio allocations during the sample period. At the end of every year, all the stocks in the CDA-CRSP-Compustat universe are sorted into three groups, High, Medium, and Low, based on market, financial, and ranking characteristics. The institutional allocation indicates the percentage of the institutional portfolio invested in each category. The figures show the averages across all institutions that exist in a given year. The figures indicate that there is a general trend of increasing allocations in low and medium age stocks at the

expense of older stocks over time, especially in the 1990s. Medium beta stocks seem to be the favorite of institutional investors. Over time, the rest of the portfolios have been allocated more and more to higher beta stocks out of lower beta stocks.

The figures indicate that institutions allocate their funds between medium and high momentum stocks. The low momentum group seems to be much less favored compared to medium and high momentum categories. The size graph is also interesting. There seems to be clear allocation segmentation over the years as 60%-65% in large cap, 30%-40% in medium cap and the rest to small cap stocks. This pattern has held steady over the time period.

There appears to be a similar segmentation in volatility, especially during the 1980s. In this period, 60% of an average institutional portfolio has been allocated to low volatility, 35% to medium volatility and 5% to high volatility stocks. During the 1990s, there still seems to be segmentation at a different level, 50% in low volatility, 40% in medium volatility and 10% in high volatility stocks.

Institutional investors prefer medium turnover stocks in their portfolios. However, over the years, the allocation to low turnover stocks has increased almost to the level of medium turnover stocks. High turnover stocks, once in the second place, are now the least preferred group in allocations.

Significant changes in the allocations based on financial characteristics are observed over time. In the earlier periods, institutions appear to like low and medium leverage stocks. Over time, medium allocations in leverage represented by the debt ratio have stayed around 30%-40%, but allocations to low leverage

stocks have decreased from 55% to 25%, most of which is picked up by the high leverage group, increasing its allocation from 15% to 35%. Overall, institutions seem to include companies with higher levels of leverage in their portfolios.

Institutions have also changed their preferences toward dividend policy. Institutions have always invested about 40% in medium dividend yield stocks. But their allocations in high dividend yield stocks have decreased from 30% to 10%, all of which is transferred to low dividend yield stocks, increasing their allocations from 30% to 55% over the 18-year study period.

Institutional preferences toward the market-to-book characteristic have also changed during the sample period. Institutions have decreased their allocations in the low market-to-book stocks. In the 1990s, there appears to be segmentation with 50% in high, 40% in medium, and only 10% in low market-to-book stocks. Institutional portfolios have increased their allocations in growth stocks during the study period.

Portfolio allocations of institutional investors for P/E characteristic have been more stable. During the 1980s institutions have allocated 55% of their investment dollars to medium, 35% to high and 10% to low P/E stocks. In the 1990s, this picture has slightly changed. In this period, institutional allocations have been 50% in high, 40% in medium, and 10% in low P/E stocks.

Institutional investors show strong preferences towards stocks with high outside agency rankings. Institutional investors have traditionally invested most of their funds in high-grade Fortune 500 companies. In the 1990s, institutions have increased their allocations in Non-Fortune 500 and lower grade stocks at the

expense of higher grade ones. Their allocation of 75% in the Fortune 500 companies in the 1980s have decreased to 55% in the 1990s. Within the portion invested in Fortune 500 companies, the percentage allocated to the highest rank (A) firms have also decreased from 85% to 60% in the 1990s, most of these changes occurring after 1993. As for the S&P common stock ranking, a similar shift from higher grade to lower grade stocks and from ranked to non-ranked stocks can be observed. Grade A stocks have lost significant allocation from 70% to 40%, while grade B stocks have gained allocation from 30% to 55% over the years. Grade C&D stocks have stayed around 2%-4% during the time period. A similar picture emerges when we study allocations based on the S&P senior debt rating.

Based on the trends observed in institutional portfolio allocations during the 18-year sample period, the analysis concludes that institutions have changed their investment preferences over the years. They have increased their allocations in riskier, higher leveraged, lower prudence, lower grade stocks. This result supports the expectations, since over time, he overall market share of investment companies and investment advisors have increased and surpassed those of banks, endowments, pensions, and insurance companies. Since strict prudence laws or fiduciary duty restrictions do not govern this new dominant group, overall institutional allocations have shifted towards less prudent, riskier stocks.

INSTITUTIONAL TRADING ACTIVITY: PORTFOLIO TURNOVER

Portfolio turnover is a measure used in the money management industry to gauge the trading activity of institutional investors. The level of trading activity is of interest since trading is costly. The higher the trading levels in a given portfolio, the higher will be the negative impact of the trading costs on the portfolio's overall investment performance. In light of this, low portfolio turnover is beneficial to portfolio performance. In addition, for taxable investment portfolios, high portfolio turnover increases the level of capital gains realizations and negatively affects the overall performance of the portfolio under management.

Portfolios with a high degree of trading have high portfolio turnover measures. For example, if an investor sold all his stocks at the end of every year, he would have 100% turnover. The inverse of the turnover yields the average holding time. In this case, it would be one year. If the same investor sold his stocks at the end of a two-year period, he would have a 50% annual turnover, with a two-year holding period. The study calculates portfolio turnover and holding period measures for institutional investors using the Morningstar turnover methodology. The Morningstar turnover is defined as the ratio of the lesser of annual purchases or sales carried out by the institutional investor over the average annual assets under management.

To calculate the portfolio turnover for institutional investors, at the end of every year, the net purchases and sales of all institutional investors are calculated

based on their quarterly reported holdings. This yields the annual trading activity. The ratio of the trading activity to the average annual assets under management by a given institution gives the portfolio turnover measure for that institution. The inverse of the turnover measure yields the holding period of the institutional investor. Table 10 and Table 11 indicate the results of the portfolio turnover analysis. The tables report the average turnover measure and the average portfolio-holding period for all institutional investor types, as well as for the aggregate institutional investor universe. Figure 11 depicts the comparison of the portfolio turnover measures between the institutional investor groups.

The results indicate that institutional investors governed by prudence-based investment regulations, i.e. bank trusts and endowment & pension funds, have significantly lower turnover measures and longer portfolio holding periods compared to institutional investors which are not restricted by such regulations. The test results reveal that the differences between these groups are statistically significant. The difference between the two institutional investor groups has prevailed all through the study period. The results also indicate that institutional investors governed by prudence-based investment regulations hold a stock for 3.5 years in their portfolios. In stark comparison, the unrestricted institutions hold their stocks for just 2 years in their portfolios. The results also reveal an interesting evolutionary fact about the institutional investor universe. The average turnover of the aggregate institutional universe has increased over the past two decades from 37% to 51% with average holding times decreasing from 2.7 years to 2 years.

EFFECT OF INSTITUTIONAL PREFERENCES ON A STOCK'S OWNERSHIP BASE

In addition to determining the allocation of an institution's portfolio to certain characteristics, institutional preferences also affect the ownership levels of a given stock by institutions. This analysis studies how the institutional ownership of a stock changes with different characteristics that are shown to affect institutional ownership.

Table 12 depicts the results of regressions both at the aggregate level and the group level for the change of institutional ownership of a stock in response to changes in characteristics. Institutional ownership of a given stock is calculated as the percentage of shares of the stock held by institutional investors. This statistic is used as the dependent variable in the pooled cross-sectional time-series regressions.

The results indicate that institutional ownership is positively related to size, age, beta, turnover, stability of turnover, P/E and profitability (S/TA). Institutional ownership of a stock increases as these characteristic levels increase. Momentum, volatility, market-to-book, leverage (debt ratio), dividend yield, and capital expenditures to sales are all negatively related to institutional ownership of a stock. The results are in line with the findings of Falkenstein (1996), Gompers and Metrick (1999) and Bennett, Sias, and Starks (2000).

Although the overall results generally hold at the group level, certain differences need mention. While bank trusts, endowment & pension funds and insurance companies increase their ownership of a stock as it gets older, investment companies and investment advisors decrease their ownership. This is

expected under the prudent man and fiduciary duty regulations. In addition, bank trusts are the only institutional investment group that increases its ownership of a stock with increasing dividend yield. Strickland (1995) finds a negative relation between dividend yield and ownership of taxable institutional investors such as insurance companies and investment companies, which he offers in support of tax-based clientele hypothesis. However, he finds the relationship to be positive for bank trusts, which he contends, is not consistent with the tax-based expectations since bank trusts are also taxable institutional investors. The results in this study also confirm the findings of Strickland (1995). The significant positive relationship between dividend yield and institutional ownership of bank trusts can be explained by the impact of the prudent man rules on the investment choices of bank trusts. These regulations are the binding constraints on trust portfolios as opposed to taxation concerns. In addition to focusing on capital appreciation of the portfolio for the remaindermen, bank trust managers are required to provide a stable income to current beneficiaries of the trust, a commitment they fulfill by holding dividend-paying stocks in their portfolios. Moreover, a lengthy and stable dividend payment has been accepted by courts as an indicator of prudence and has been used as an input in the calculation of outside agency rankings such as the S&P Common Stock Ranking. In light of these constraints, the results in this analysis support the hypothesis of a positive relationship between dividend yield and institutional ownership of bank trusts.

Identification of the impact of regulation on institutional investment behavior is a beneficial undertaking. The results of the analysis in this chapter

enable a greater understanding of the changing nature of the institutional investment universe in the past two decades. The study shows that unrestricted institutions have replaced the prudence-based restricted institutions over the past two decades as the dominant members of the institutional investment universe. Although this shift has made the average institutional portfolio riskier, the change has also brought about some benefits. The study reveals that the unrestricted group of institutional investors has supplied significant levels of capital to younger companies in newly developed sectors with higher growth opportunities but with higher risk levels. The prudence-restricted institutions have supplied capital to older, more established companies in tried and stable businesses, with stable earnings and dividend yields, with low risk levels and low growth opportunities. This shift in the capital allocation process has come in a very timely manner. Investment companies and investment advisors, two unrestricted institutional investor groups, have supplied substantial amounts of capital to newly developing sectors, such as technology.

Given the differences in the investment behavior of institutional investor groups, the next area to examine is the performance of institutional investors. How have different groups of institutional investors performed in managing the monies entrusted with them by their clients? The next chapter of the dissertation investigates the performance of institutional investors in detail.

Chapter 4: Investment Performance of Institutional Investors

OVERVIEW

The previous chapter examined the investment preferences of institutional investors. The study identified several important facts about institutional investors and their growth during the past two decades. First of all, prudent man rules and other similar investment regulations did have a significant impact on the investment decisions of institutional investors that are governed by these regulations. Secondly, institutional investors preferred certain stock characteristics in their investments and allocated their investment dollars based on these characteristics. Finally, investment restrictions such as prudent man rules affected the portfolio allocations towards these characteristics and as the composition of the institutional investor universe changed from prudence restricted investors in the 1980s to unrestricted institutions in the 1990s, the allocations of institutional funds to stock characteristics also changed in the same manner over the time period under study. Given the different types of institutional investors that make up the institutional investor universe and given the impact of the prudent man rules and similar restrictive investment regulations, one natural question comes into mind. How well are institutional investors doing their job? In the past two decades, institutional investors have become significant players in the U.S. equity markets. Substantial sums of private and public pension funds are under the management of institutional investors. Given the large number of

households investing in the equity markets through institutional intermediaries, and the increasing financial power of institutional investors, a critical issue is to determine how well these institutions perform in their fiduciary responsibility.

There have been ample studies on the performance of mutual funds in the finance literature. The main focus of these studies is to examine if active management strategies employed by mutual fund managers outperform passive index-based investment strategies. The studies conclude that mutual fund managers do not earn abnormal returns above the returns generated by passive investment strategies (Grinblatt and Titman (1989), Gruber (1996), Carhart (1997)). Similarly, Lakonishok, Shleifer, and Vishny (1992) find no evidence that pension fund managers beat broad market indices.

The study presented in this chapter explores the equity portfolio performance of all institutional investors over a 17-year period and is one of the most comprehensive investigations of institutional investor performance. Although finance literature is replete with studies of performance evaluation of mutual funds, little attention has been given to other types of institutional investors. This study examines the investment performance of five major types of institutional investors that make up the institutional investor universe, namely bank trusts departments, insurance companies, investment companies (mutual fund families), independent investment advisors, and endowments, public and private pension funds.

Institutions differ in their regulatory environments, which may affect their performance. Thus, this study compares institutional investor performance from a

prudence and fiduciary duty perspective. In particular, the performance of the prudence and fiduciary duty restricted institutional investor groups, i.e. bank trusts, endowments, and pension funds, is compared to the performance of unrestricted groups, i.e. investment companies (mutual funds) and independent investment advisors.

The study uses several methodologies that have been developed to measure investment performance. The first part of the study examines the equity performance of institutional investors relative to commonly used market indices. The study then calculates traditional portfolio performance measures that are widely accepted and used in the investment profession. These measures are based on the Capital Asset Pricing Model (CAPM) developed by Sharpe (1964) and Lintner (1965). The following parts of the study examine the investment performance of institutional investors using two newer methodologies. The first methodology is based on the three factor model developed by Fama and French (1993) and measures portfolio performance after taking into account the sensitivities of the portfolio to market, size and financial distress factors. The second method, using characteristic-based performance measures developed by Daniel, Grinblatt, Titman, and Wermers (1997), evaluates the performance of institutional portfolios using characteristic benchmarks. Finally, the study applies the performance evaluation methodology developed by Morningstar and explained in Blume (1998) to assign the famous star ratings to institutional investors. These different methodologies allow the evaluation of the investment performance of institutional investors from different perspectives. In addition, the

study is able to compare the portfolio performance across the five types of institutional investors.

PORTFOLIO RETURN CONSTRUCTION

In order to examine the performance of institutional investors, the study first identifies the returns of the portfolios under management. Institutional portfolios are generally composed of cash, equity, fixed income and other positions. Ideally one would like to have access to the investment returns both pre and post management expenses. Unfortunately this data is not available for all types of institutional investors. In fact, only mutual funds have performance data available on them. Therefore, the study devises a performance evaluation strategy that can be applied to all types of institutional investors. Due to data restrictions, the study focuses on the equity positions of institutional investors. The equity positions of institutional investors are determined from their quarterly filings with the Securities and Exchange Commission. Institutions with over $100 million in equity holdings are required to file their holdings each quarter within 45 days from the end of that quarter. The study uses these portfolio position filings to estimate institutions' portfolio performance. The portfolio positions are obtained from the CDA 13-F filings database. This database provides the quarterly portfolio holdings of all institutional investors that file with the SEC, from 1979 to 1996.

The filed portfolio holdings of an institutional investor for a given quarter are used to estimate the portfolio return for the next quarter in the following

manner: The study makes the assumption that for a given quarter, institutions hold the portfolio positions declared in the 13F filing at the end of the previous quarter. The portfolios are updated each quarter based on the new filings. The quarterly and monthly portfolio returns are calculated as value-weighted buy and hold returns. The weights reflect the percentage of the institutional portfolio invested in a given stock and are calculated using the CRSP trade database and the number of shares held at the beginning of a given quarter as filed by the institutional investor. Because of the frequency of the data, there are certain limitations to the estimated portfolio returns. First of all, the study assumes that the positions held at the beginning of the quarter by the institution remain constant throughout that quarter and are only updated with the next quarter's filing. As a result, the representative power of the generated portfolio returns will be higher for institutions with lower portfolio turnover rates, such as bank trusts and endowments. Second, the portfolio returns are calculated before any management or load fees are incurred, thus they represent approximate gross returns of the institutional portfolios.

PORTFOLIO & PERFORMANCE OVERVIEW

Portfolio Returns

Table 13 indicates the overall institutional performance profile. The number of institutions that are in the sample in a given year indicates that there has been tremendous growth over the 17-year study period. The number of institutions investing in the equity market in the performance sample has tripled from 563 in 1980 to 1439 by the end of 1996. The total institutional portfolio value under management and invested in equities has shown a similar increase from $448 billion to $4.1 trillion by the end of 1996. The average number of stocks held in the portfolios has also increased from 174 to 272.

The table also reports the annual equity portfolio returns of institutional investors. The calculation of annual returns is as follows: For every quarter in a given year, averages across institutional portfolio returns are calculated using both an equal-weighting and an asset-weighting basis. The asset weight represents the percentage of institutional equity holdings held by a given institutional investor in that quarter. The process is repeated for all the quarters with asset weights rebalanced every quarter. Then the quarterly returns are compounded to arrive at the annual institutional performance. This process minimizes survival bias since institutions are not required to exist during the entire year. Rather, all the institutions existing in a given quarter enter the calculations for that quarter, regardless of their survival past that quarter.

Before any risk adjustment, on an equal-weighted basis, the average institutional investor portfolio has earned more than the S&P 500 index in nine of the 17 years, more than the CRSP value-weighted index in twelve years and more than the CRSP equal-weighted index in nine years. On an asset-weighted basis, institutional investors have performed better than the three indices in 8, 12, and 9 years, respectively. Institutions appear to be performing significantly better than the S&P 500 in the first parts of both 1980s and 1990s. They don't do as well in the second parts of both 1980s and 1990s. Institutions have performed better than the CRSP value-weighted index during the entire study period. Compared to the equal-weighted index they have faired well in the second parts of both 1980s and 1990s but have not done so in the early parts of both periods.

Table 14, Table 15, and Table 16 show the institutional portfolio and performance profiles for the five different types of institutional investors. These types are bank trusts, insurance companies, investment companies (mutual funds), investment advisors, and endowment & pension funds (mostly public pension funds). Table 14 and Table 15 indicate the portfolio profiles for the five groups of institutional investors. The general trend is also observed among the individual groups. Both the amount of funds invested in the equity market and the number of stocks held in the portfolios have significantly increased over the years, most of the increase coming in the 1990s. During the 1980s, bank trusts have been the dominant group with the largest amount of funds under management. They have been replaced by investment advisors and investment companies (mutual funds) in the 1990s. These two groups managed $2.5 trillion in 1996. Table 16 indicates

the returns of the portfolios under management by the five different types of institutional investors. Investment advisors and bank trusts appear to be the top performers among the groups. They have performed better than the S&P 500 index in nine of the 17 years and better than the CRSP value-weighted index in 12 years. They are followed by investment companies and insurance companies. Endowment & pension funds seem to be performing significantly poorer than the other groups. On an asset-weighted basis, investment advisors and investment companies perform the best, surpassing the S&P 500 index and CRSP value-weighted index in 8 and 7 and 13 and 12 years, respectively. They are followed by bank trusts and insurance companies. Again the endowment & pension funds group performs the worst.

Table 17 and Table 18 indicate the return comparisons between the different types of institutional investors after adjusting for market risk. The tables report the excess returns of the equal-weighted and asset-weighted institutional portfolios for each institutional investor type over the study period. Excess returns are calculated based on the CAPM model, using the CRSP value-weighted index return as a proxy for the market portfolio return and the 3-month T-Bill rate as a proxy for the risk-free rate. Betas are calculated based on the past 60-month returns ending at the end of each study period. The institutional portfolios are formed within each institutional investment group using both an equal-weighting and an asset-weighting basis. As in the previous section, all institutions present in the study period enter that period's institutional portfolio regardless of their

survival past that period. This eliminates any possible survival bias in the calculations.

The overall results indicate that bank trust departments have performed the best among all institutional investor groups during the study period. The tables also report the results of the F-tests and Kruskal-Wallis tests of differences in performance among the institutional investor groups. The tests indicate that the observed performance differences among institutional investors are statistically significant.

So far, the study has revealed that bank trusts, the institutional investor type under the strictest form of prudent investment restrictions, show indications of superior investment performance compared to the other institutional investor types. The following sections will study investment performance of all institutional groups in detail using more advanced performance evaluation methodologies.

Portfolio Risk

Before investigating the equity portfolio performance of institutional investors in more detail, it is essential to study the distributional properties and the portfolio risk levels of institutional investments in general. Different institutional investor types are governed by significantly different investment principles. As a result, institutional investors regulated by strict prudence-based investment restrictions such as bank trusts and endowment & pension funds are expected to have lower risk profiles compared to institutional investor types, which are not

governed by such regulations. One of the main principles of the prudence-based investment restrictions is the avoidance of capital loss, thus the avoidance of risk in general, and downside risk in particular. The emphasis placed on the risk factor is so high that generation of returns and capital appreciation is regarded as a secondary objective in comparison to the primary objective, which is to protect the nominal principle, i.e. preservation of the corpus.

Tables 19a through 19d indicate the distributional properties of the overall institutional portfolio and of the institutional portfolios of each type. The skewness statistic is used to measure the symmetry and the kurtosis/excess-kurtosis is used to measure the probability mass at the tails of the return distribution. Table 19a indicates the results for the overall portfolios. In general, the aggregate institutional portfolio has a similar degree of symmetry when compared to the distribution of the overall market portfolio, proxied by the CRSP value-weighted portfolio. Both portfolios have negative symmetry compared to a normal distribution. The institutional portfolio also has a similar degree of tail mass, i.e. the probability of extreme observations, as the overall market portfolio. The excess kurtosis is positive for both portfolios. These results are in agreement with the results of previous research looking at the distributional characteristics of individual stock and index returns.

Tables 19b through 19d yield some interesting differences among institutional investor types. The prudence-restricted groups, i.e. bank trusts and endowment & pension funds have lower levels of excess kurtosis compared to the market portfolio and the unrestricted groups, i.e. investment companies and

investment advisors, which have higher levels compared to the market portfolio. The results indicate that the probability of extreme observations in the return distributions of prudence-restricted institutional investors is lower than the unrestricted institutions.

In order to compare the risk levels of the portfolios of institutional investor groups, this study uses two different measures. Modern portfolio theory uses return variance as the primary measure of investment risk.[13] Variance measures the degree of variability without regard to the direction of the variability. For example, a positive deviation from the mean portfolio return is regarded in the same manner as a negative deviation from the portfolio mean. In contrast, semi-variance, another widely used measure in the money management industry, is only concerned with the negative deviations. The study calculates both measures for the overall institutional portfolio as well as the institutional portfolios of each institutional investor type. Table 20 and Table 21 indicate the variance and the semi-variance measures for the equal-weighted and the asset-weighted institutional portfolios. In addition, the variance and the semi-variance ratios compare the risk levels of the aggregate institutional portfolio with those of the overall market portfolio.

The results indicate an interesting evolution in the riskiness of the aggregate institutional portfolio during the study period. During the past two decades, the overall riskiness of the market and the institutional investor portfolios have decreased. However, what is of interest is the relative riskiness of

[13] Portfolio Selection-Efficient Diversification of Investments, Harry Markowitz (New York: John Wiley & Sons, 1959)

the institutional investor portfolios with respect to the overall market portfolio. Thus, in this analysis, riskiness refers to the relative risk levels of the institutional investor portfolios with respect to the overall market portfolio. In the early part of 1980s where the institutional universe is dominated by prudence-restricted group of investors, the risk levels of the institutional portfolio are lower than the overall market portfolio. As the unrestricted institutional investor groups gain dominance over the years in the institutional investment universe, the overall riskiness of the institutional portfolio increases and surpasses the level of the market portfolio. The semi-variance measure, which indicates the downside and capital loss risk, follows the same trend. Overall, the relative risk level of the aggregate institutional portfolio has increased over the study period as the share of prudence-restricted institutions has declined in the institutional universe, being replaced by the unrestricted groups of institutional investors. Figure 12 and Figure 13 show the changes in the risk characteristics of the aggregate institutional portfolio and the overall market portfolio during the study period.

Table 22 and Table 23 indicate the variance of the equal-weighted and asset-weighted institutional portfolios for each type of institutional investor. The tables also show the relative riskiness of institutional investor types in comparison to the riskiness of the overall market portfolio. The tables also indicate the results of the F-test of differences between the institutional investor types. The results support the previous findings in the analysis of the aggregate institutional portfolio. The tables show that the relative riskiness of institutional portfolios has increased in general during the study period. However, the prudence-restricted

institutional investors such as bank trusts and endowment & pension funds have the lowest risk levels among the institutional investor groups. In addition, bank trust portfolios have enjoyed lower risk levels in comparison to the overall market portfolio. The results provide evidence to the idea that bank trusts which are governed under the strictest of prudence-based investment restrictions, do in fact, establish very low risk levels in their investments. Thus, they do invest with the primary objective of capital preservation. On the other hand, the unrestricted group of institutional investors such as investment companies and investment advisors has the highest risk levels in the institutional investor universe. The F-test results reveal that the differences in riskiness between institutional investor types are statistically significant.

Table 24 and Table 25 depict the risk comparison results for the semi-variance measure. The results are in line with the previous analysis. Again, the prudence-restricted institutional investors have the lowest downside risk in their portfolios. The most restricted group of investors, bank trusts, have significantly lower downside risk in their portfolios compared to any other institutional investor group, as well as the overall market. This result provides further evidence that bank trusts invest with the objective of capital preservation. All through the study period, the downside risk of bank trust portfolios is lower than other institutions and the overall market. The results indicate that bank trusts manage the safest investment portfolios in the institutional investment universe. As expected, the downside risk is the highest in the portfolios of unrestricted institutional investor types. The results of the F-tests indicate that the differences

in the downside riskiness between institutional investor groups are statistically significant.

The analysis until this point has discovered some interesting facts about institutional equity investments. The preliminary results indicate that prudence-restricted institutional investors, i.e. bank trusts, perform the best among all the institutional investor types. Not only bank trusts earn the highest returns, they also manage the safest investment portfolios. The forthcoming sections of the study will investigate the equity portfolio performance of institutional investors using more advanced performance evaluation methodologies. Using each methodology, the study will compare the performance of prudence-restricted institutional investors with the unrestricted institutional investment groups.

PERFORMANCE EVALUATION

In this section three different types of performance evaluation methodologies are employed to gauge the investment capabilities of institutional investors. The first method encompasses the traditional performance measurement techniques that are widely accepted and used in the money management industry. These include the Jensen's alpha measure, portfolio beta, the Sharpe ratio and the Treynor measure. The second methodology is based on factor methods developed by Fama-French (1992,1993,1995,1996) and used in numerous performance measurement studies in the literature. The final methodology is based on characteristics developed by Daniel-Titman (1997) and used in Daniel, Grinblatt, Titman, and Wermers (1997), and Wermers (2000) to measure and decompose investment performance of mutual fund managers into their selectivity, timing and style ability components.

Traditional Performance Evaluation Methods

The first group of measures used to evaluate the performance of institutional investor portfolios is based on the Capital Asset Pricing Model developed by Sharpe (1964) and Lintner (1965). Using this one factor covariance based asset-pricing model, Jensen's alpha and portfolio beta measures, which indicate the portfolio's performance and market risk, are obtained. Jensen's alpha (α_p) and portfolio beta (β_p) are calculated by a time series regression of monthly

excess returns of the institutional portfolio over the excess returns of the market portfolio, represented as:

$$R_{pt}-R_{ft} = \alpha_p + \beta_p (R_{mt}-R_{ft})+ \varepsilon_{it} \quad (1)$$

In the analysis, R_{pt} indicates the monthly return to an equally weighted portfolio of all institutions, R_{ft} is the monthly one-month T-Bill return, and R_{mt} indicates the monthly CRSP value-weighted index return. For both the institutional portfolio and the CRSP value-weighted portfolio, Sharpe and Treynor measures are calculated. These measures indicate the excess portfolio return per total risk (measured by the standard deviation of monthly returns) and per market risk (measured by the portfolio beta), respectively.

Table 26 shows the results of the analysis. Under the CAPM model, the study cannot attribute statistically significant excess performance to the aggregate institutional portfolio after accounting for the exposure to market risk. Further analysis on the individual institutional types will follow. Nevertheless, in all the time periods considered, both the Sharpe and the Treynor measures of the institutional portfolio are greater than those of the market portfolio which is proxied by the CRSP value-weighted index.

Tables 27 through 33 provide the same performance measures broken down by institutional investor type. The institutional portfolio of a certain type represents the returns to an equal-weighted portfolio composed of all institutions of that type. As in all the analysis in the study, the portfolio is survival bias free. All the institutions of a certain type that exist during a given month are included in the equal-weighted portfolio composition of that month regardless of the

survival of that institution past that month. Some institutions change their type during the study period. For example, occasionally one institution changes its type from an investment company to an independent investment advisor. The reason for this is that if an institution holds more than 50% of its assets in mutual funds or fund families, it is considered an investment company. Otherwise, it is classified as an investment advisor. In such cases, that institutional investor is grouped as an investment company for the months it is classified as an investment company and as an investment advisor after the change of its classification. Examination of the data revealed that such changes of type are extremely rare and do not have any effect on the results.

The tables show some striking facts about the performance of different types of institutional investors. First of all, bank trusts have a significantly positive performance after taking into account the returns due to compensation for market risk. This significant performance is apparent in almost all periods. In the 1980s, bank trusts have a 1.33% per annum additional performance, in 1990s a 1.02% per annum performance, and in the entire study period a 1.31% per annum performance. While investment companies and investment advisors do not fair well after adjusting for their compensation for market risk, the results are not statistically conclusive. Once again endowment & pension funds show the poorest performance among the institutional investors. Sharpe and Treynor measures indicate that bank trusts have greater measures than the market portfolio in all periods under study. Investment companies, investment advisors, and insurance companies have higher measures than the market in the 1980s but they don't do as

well in the 1990s and in the whole period. Endowments & pension funds have lower measures than the market portfolio and the other institutional investor types in most of the study periods.

Factor Based Performance Evaluation

Previous research has found other factors besides the returns to the market portfolio to have power in explaining the variation in stock returns. Fama and French (1992,1993,1995,1996) and Davis, Fama, and French (1999) have identified and developed a three-factor model composed of the market portfolio and two additional factors that capture the unexplained portion of the stock returns that cannot be explained by the market portfolio. These two additional factors, namely SMB and HML, reflect the size and book-to-market effects.[14] Fama and French indicate that these factors help explain the returns attributable to size and financial distress. The model indicates that the expected return on a portfolio in excess of the risk-free rate can be explained by the excess return of the market portfolio, the return of the SMB portfolio and the return of the HML portfolio. In an investment performance evaluation context, any unexplained return after accounting for the compensation for the risk born due to the sensitivities to these factors will be indicative of investment performance on behalf of the fund manager.

[14] SMB (Small minus Big) is the difference between the return on a portfolio of small stocks and the return on a portfolio of large stocks. HML (High minus Low) is the difference between the return on a portfolio of high book-to-market stocks and the return on a portfolio of low book-to-market stocks. The portfolios are formed at the end of every June and maintained for a year before being rebalanced. Details of the portfolio formation process can be found in Fama and French (1993).

In order to measure the investment performance of institutional investors as a whole and for different types of institutions, the study uses the Fama-French three-factor model in the time series regressions.[15] Specifically, the model is:

$$R_{pt}-R_{ft} = \alpha_p + \beta_1 (R_{mt}-R_{ft}) + \beta_2 * SMB_t + \beta_3 * HML_t + \varepsilon_{it} \qquad (2)$$

In the analysis, R_{pt} indicates the monthly return to the institutional portfolio, R_{ft} is the monthly one-month T-Bill return, R_{mt} indicates the monthly CRSP value-weighted index return, SMB is the size related factor portfolio return, and HML is the book-to-market related factor portfolio return.

Table 34a and Table 34b show the results of the three-factor model regressions for an equal-weighted and an asset-weighted portfolio of all institutions. The tables show that in the 1980s, both on an equal-weighted and an asset-weighted basis, institutions have performed significantly well after taking the compensation for the three risk factors into account, averaging about 90 basis points in excess compensation. However, this performance seems to fade in the 1990s. Nevertheless, for the entire study period institutions have shown a significant performance of 70 basis points.

One other interesting result that comes out of the three factor regressions is the sensitivities of the institutional portfolios towards the market and the two risk factors. In all periods the loading of both the equal-weighted and the asset-weighted institutional portfolios on the market factor is highly significant. In addition, the portfolio betas of the institutional portfolios have increased over the years. This indicates an increasing level of riskiness in the average institutional

[15] I would like to thank Eugene Fama for providing the monthly factor returns.

portfolio. The institutional universe has changed drastically over the study period. Especially during the 1990s, the number of investment advisors and investment companies that participate in the equity market has significantly increased. The number of bank trusts, insurance companies, endowment & public pension funds has not shown the same increase; instead they have even slightly decreased. However, these groups still have an influential sum of funds under their management. The difference between the first type of institutions and the latter group is the type of investment restrictions they have to abide by. While the second group of institutions is governed by strict prudence and fiduciary duty regulations, which restrict this group to invest in "prudent" stocks, i.e. larger, older, lower risk stocks, the first group is immune to such restrictions. As observed in the previous section, both the number of funds and the amount of funds in the unrestricted group have drastically increased and surpassed those in the prudence-restricted group. There is also evidence of this change in the factor regressions. Fama and French (1993,1995) show that small stocks and portfolios constructed of small stocks load positively on the SMB factor and large stocks and portfolios that include large stocks load negatively on the SMB factor. Similarly, high book-to-market stocks, i.e. low earnings, financially distressed stocks, and portfolios constructed from such stocks load positively on the HML factor. Low book-to-market stocks, i.e. strong firms with high earnings, and portfolios that include such stocks load negatively on the HML factor. Given that in the 1980s most of the institutions that participated in the equity markets were prudence and fiduciary duty restricted institutions and that these institutions held

"prudent" stocks in their portfolios, the overall institutional portfolio is expected to load negatively both on the SMB and the HML factors during this period. In the 1990s, the balance in the institutional universe tilted towards the unrestricted types, which include investment companies and investment advisors. These groups invest a much larger percentage of their funds in smaller, riskier, "less prudent" stocks. Therefore a decrease and even a change in the SMB and HML loadings of the overall institutional portfolio in the 1990s is expected. This change should be more drastic in the equal-weighted portfolio than the asset-weighted portfolio since the restricted group still has considerable sum of funds under management. In fact, this effect is apparent in the tables. During the 1980s the institutional portfolio loads significantly negatively on the SMB and HML factors. The SMB loadings become positive in the 1990s as a result of the change in the composition of institutional portfolios. There is a negative loading on the HML factor throughout the period, indicating the reluctance of institutional investors in holding financially distressed stocks in their portfolios. As expected, the change in the equal-weighted portfolio is much more dramatic than the asset-weighted one.

Tables 35 through 41 report the results of the three-factor Fama-French regressions for each of the five types of institutional investors. The group that shows the highest performance is the bank trusts. In the 1980s, bank trusts earn 123 basis points after accounting for the compensation for risks born due to the three factors. In the 1990s they show an 80 basis points performance. Overall, bank trusts show 111 basis points performance for the entire study period. The

second best institutional investor type is the independent investment advisors group. This group shows a 117 basis points performance in the 1980s. The low performance of 43 basis points in the 1990s does not have statistical significance. For the entire period, investment advisors enjoy an 84 basis points performance. The third type in the performance scale is the investment companies group. The investment companies show 142 basis points of performance in the 1980s, making them the best performing group of the decade. However, their poor performance in the 1990s place them in the third place with a 69 basis points in overall performance. Insurance companies and endowment & pension funds do not show significant performance after accounting for the three risk factors.

When the sensitivities of the institutional investor types towards the three risk factors are examined some interesting results come into view. First of all, in all periods, the more an institution is prudence and fiduciary duty restricted, the lower its portfolio beta. Bank trusts have the lowest portfolio beta thus the lowest exposure to market risk. Endowment & pension funds and then insurance companies follow them. All these types belong to the prudence-restricted group in decreasing strictness. Bank trusts are subject to the strictest type of prudent man standards. Bank trust managers can be held liable for investment losses on any component of their portfolios if they cannot justify its prudence. Age, beta, standard deviation of returns, S&P membership, and outside agency rankings are all criteria accepted in court cases to justify prudence of investments. Since bank trust managers are required to establish the prudence of each investment in their portfolios separately, regardless of its contribution to the general portfolio

composition, they invest with the highest degree of caution among all institutional investor types. Endowment & pension funds are also governed under fiduciary duty restrictions. However, the extent of these regulations is not as strict as those that govern bank trusts. For example, endowment & pension funds are given tax-exempt status by the IRS, on the basis that they will avoid speculative investments. Although managers of such institutions are required to invest with a sense of fiduciary duty, they are not required to justify the prudence of each of their investments.

The riskier two types belong to the unrestricted group. Independent investment advisors are the fourth in line in terms of portfolio beta and investment companies have the highest exposure to market risk. One reason why investment advisors have lower portfolio betas compared to investment companies is that some pension money is contracted out to investment advisors for management. These funds are managed under the ERISA regulations and with fiduciary duty considerations than a comparable investment company. To the extent of the amount of pension money under management with investment advisors, their portfolios are expected to be less risky compared to investment company portfolios.

When the sensitivities of the institutional investor portfolios towards the other two risk factors are studied, evidence of the difference between prudence-restricted and unrestricted portfolios is observed. The institutional investor type under the strictest form of prudence requirements, namely bank trusts, loads significantly negatively on the SMB factor, a realization of the tilt in their

portfolios towards larger stocks. Endowment & pension funds, another prudence-restricted group also load negatively on the SMB factor. In comparison, the two unrestricted groups, investment companies and investment advisors, load significantly positively on the SMB factor as evidence of the tilt in their portfolios towards smaller stocks. The prudence-restricted groups, bank trusts and endowment & pension funds either do not load statistically significantly on the HML factor or load significantly negatively on this factor. The loadings of the unrestricted group on the HML factor are also significantly negative. This result supports earlier findings that institutions in general avoid financially distressed stocks.

Characteristic Based Performance Evaluation

This section examines the investment performance of institutional investors using a characteristic-based methodology. In the previous section, the three-factor return generating model that is used to evaluate investment performance is based on the assumption that stocks that have similar loadings on the risk factors earn similar expected returns. The covariation of the return with the risk factors is the determinant in explaining expected returns. Daniel and Titman (1997) show that characteristics, instead of factor sensitivities, determine expected returns. For example, they show that high book-to-market firms do covary strongly with each other but they indicate that this is not related to a loading on a distress factor since they find that such firms covaried strongly with each other much before becoming distressed. They attribute this covariation to

similarities in firm characteristics, i.e. similar lines of businesses and industries. As a result they indicate that there is no separate distress factor and it is the characteristics rather than the factor loadings that determine expected returns. This idea introduces a new methodology in determining expected returns and is in stark contrast with the three-factor model applied above. For example, under the framework of the three-factor model, a small and a large firm are expected to earn similar returns if they load similarly on the SMB factor. On the other hand, under the characteristic based framework, a small firm earns a different return than a large firm based on their size characteristic regardless of their sensitivities towards the SMB factor. Daniel, Grinblatt, Titman, and Wermers (1997) use the characteristic framework to develop new benchmarks to measure the investment performance of mutual funds. Wermers (2000) uses the same characteristic benchmarks to study a new database of the mutual fund industry. The characteristic-based measures enable the decomposition of the investment returns of the institutional portfolios into their selective ability, timing ability, and style components.

In order to measure the investment performance of institutional investors using the characteristic-based framework, a set of characteristic-based benchmarks need to be developed to evaluate institutional portfolio returns. In order to do this, 125 characteristic-based benchmark portfolios are used. These portfolios are constructed from NYSE, AMEX and NASDAQ stocks using a triple sort quintile based algorithm based on size, book-to-market, and momentum

characteristics.[16] After the portfolios are constructed and the stocks in the CRSP-Compustat universe are allocated into these portfolios, the procedure yields 125 size, book-to-market, and momentum sorted benchmark portfolios. The analysis then calculates the monthly value-weighted buy-and-hold returns for these portfolios to be used as benchmark returns in the performance evaluation analysis.

Performance Decomposition of Institutional Portfolios

In this section the characteristic-based performance evaluation methodology is used to decompose institutional portfolio returns into their selectivity, timing and style components.

Characteristic Selectivity (CS)

This measure is a gauge of how well an institutional investor has performed in its choice of stocks. The characteristic selectivity measure is calculated for each institutional investor for each month and is designed to evaluate the selectivity ability of the institutional investor. The characteristic selectivity measure for a given institutional investor in month t is defined as:

$$CS_t = \sum_{j=1}^{N} w_{j,t-1} * (R_{j,t} - R_{b,t}^{j,t-1}) \qquad (3)$$

The characteristic selectivity is calculated by summing the individual selectivity measures of each stock in the institutional portfolio in that month. In the above equation, $w_{j,t-1}$ is the portfolio weight of stock j at the end of the

[16] The construction of the portfolios follows the methodology used in Daniel, Grinblatt, Titman, and Wermers (1997) and can be found in Appendix A.

previous month, t-1 (equivalently at the beginning of the current month, t), $R_{j,t}$ is the return of stock j in month t, $R_{b,t}^{j,t-1}$ is the month t, return of the benchmark portfolio b that is matched to stock j based on its characteristics at the end of the previous month, t-1. The value-weighted difference between the two returns is the selectivity measure of stock j. The sum over all stocks in the institutional portfolio yields the characteristic selectivity measure. The reasoning behind this measure is that, at the end of the previous month, t-1, (or at the beginning of the current month, t) the institutional investor selects stock j for its portfolio instead of investing the funds in a passive value-weighted benchmark portfolio with similar characteristics. Therefore, the return of this passive benchmark portfolio is used to evaluate the selection. The additional return of stock j above the expected return of this characteristic-matched portfolio is a gauge of the success of the selection, thus a measure of the selectivity ability of the institutional investor.

Characteristic Timing (CT)

This measure examines the ability of the institutional investor to change its portfolio weights towards different characteristics and investment styles while those styles are most profitable, in order to enhance its portfolio performance. The characteristic timing measure for a given institutional investor in month t is defined as:

$$CT_t = \sum_{j=1}^{N} (w_{j,t-1} * R_{b,t}^{j,t-1} - w_{j,t-13} * R_{b,t}^{j,t-13}) \qquad (4)$$

The characteristic timing is calculated by summing the individual timing measures of each stock in the institutional portfolio in that month. In the above

equation, $w_{j,t-1}$ is the portfolio weight of stock j at the end of the previous month, t-1 (equivalently at the beginning of the current month, t), $w_{j,t-13}$ is the portfolio weight of stock j at the end of the previous month one year ago, t-13 (equivalently at the beginning of the current month one year ago, t-12), $R_{b,t}^{j,t-1}$ is the current month, t, return of the benchmark portfolio b that is matched to stock j based on its characteristics at the end of the previous month, t-1, $R_{b,t}^{j,t-13}$ is the current month, t, return of the benchmark portfolio b that is matched to stock j based on its characteristics at the end of the previous month one year ago, t-13. The difference between the two component returns is the timing measure of stock j. The sum over all stocks in the institutional portfolio yields the characteristic timing measure. If an institutional investor has timing ability, he will be able to tilt his portfolio towards characteristics that are most profitable at the time. For example, if an institutional investor has tilted his portfolio towards high momentum stocks in a month where the momentum effect is strong, the first component in the above equation will be greater than the second, and yield a positive timing ability for the institutional investor.

Average Style (AS)

This measure indicates the returns earned by an institutional portfolio based on the investment style the institutional investor has selected to invest with. The average style measure for a given institutional investor in month t is defined as:

$$AS_t = \sum_{j=1}^{N} w_{j,t-13} * R_{b,t}^{j,t-13} \qquad (5)$$

The average style is calculated by summing the individual style measures of each stock in the institutional portfolio in that month. In the above equation, $w_{j,t-13}$ is the portfolio weight of stock j at the end of the previous month one year ago, t-13 (equivalently at the beginning of the current month one year ago, t-12) and $R_{b,t}^{j,t-13}$ is the current month, t, return of the benchmark portfolio b that is matched to stock j based on its characteristics at the end of the previous month one year ago, t-13. The sum over all stocks in the institutional portfolio yields the average style measure of the portfolio. If an institutional investor invests with a defined style, he will have a high style measure since the stocks in his current portfolio will also exist in his portfolio a year ago.

Note that the sum of characteristic selectivity, characteristic timing and the average style measures yield the gross return of the institutional investor portfolio. In practice, however, because the stocks are required to be in the Compustat database for a match on book-to-market characteristic, this is only approximately true.

Characteristic Based Performance Evaluation Results

Table 42 and Table 43 depict the results of the characteristic-based performance evaluation analysis of the institutional investor portfolios. The tables show the characteristic quintile numbers for an equal-weighted portfolio of all institutions. The tables also indicate the characteristic performance measures for both an equal-weighted and an asset-weighted portfolio of all institutions. The measures are depicted for each performance year as well as three investment

periods. Each month all the institutions that have valid characteristic performance data enter the composition of the institutional portfolio. The annual and period characteristic measures are calculated as the time series averages of the monthly characteristic measures of the equal-weighted and asset-weighted institutional portfolios.

The results indicate that the average institutional portfolio holds large stocks since the quintile number is around 4. It also shows that the size quintile of the institutional portfolio has been decreasing over time, evidence of institutions including smaller stocks in their portfolios. The institutional portfolio has average book-to-market and momentum quintile numbers. Although the book-to-market number has been stable, the momentum number has increased in the 1990s.

The examination of the characteristic-based performance measures also reveals interesting results. Institutional investors appear to have selective ability both in the 1980s and in the 1990s. However, they do not show any significant timing ability over these periods. Most of the returns to their portfolios come from the style they have selected for investing their portfolios.

Tables 44 through 50 examine the characteristic-based performance of each of the five different types of institutional investors. Table 44a and Table 44b report the number of institutions within each type that have valid performance data and the characteristic quintile numbers of the institutional portfolios. The institutional portfolio for each type is composed of an equal-weighted portfolio of all institutions that belong to that type. Once again, institutions such as bank trusts and endowment & pension funds which are under prudence and fiduciary duty

restrictions have higher size quintile numbers than those institutions which are unrestricted such as investment companies and investment advisors. In addition, restricted institutions have lower book-to-market and momentum quintile numbers than the unrestricted ones.

Table 45 and Table 46 report the characteristic selectivity measures for both the equal-weighted and the asset-weighted institutional portfolios for each type. As in the aggregate case, each month all institutions that belong to a certain group are included in the formation of that group's institutional portfolio. The characteristic measures are time series averages of the monthly institutional portfolio characteristic measures and t-statistics are also reported in the table. The results indicate that bank trusts have the highest selectivity in the 1980s with 103 basis points. Investment companies with 101 basis points follow them. In contrast, the other types don't exhibit a significant selectivity measure in this period. In the 1990s investment advisors and investment companies show about 70 basis points of selective ability when the asset-weighted institutional portfolio is considered. When the entire period is taken into account, bank trusts take the lead with 68 basis points. Investment companies and investment advisors follow them closely with 54 and 51 basis points, respectively. Insurance companies and endowments and pension funds show no selective ability in any of the periods.

Table 47 and Table 48 show the characteristic timing measures for the portfolios of the five groups of institutional investors. An immediate observation is that no group has a significant timing ability during the study period. Table 49 and Table 50 report the results for the average style measure for the five different

institutional investor types. For all the institutional investor types the style they have selected to invest with produces most of the returns in their portfolios. This is higher for the prudence and fiduciary duty restricted group compared to the unrestricted group, which would be expected. Bank trusts choose to invest their funds in highly safe, "prudent" stocks and they have low portfolio turnover. Endowments & pension funds also invest in the same manner, though with a lesser degree of strictness. Some of the large public pension funds are also highly indexed. As a result of all these factors, stocks that are in the portfolios of these groups will still be in their portfolios the following year, resulting in higher style measures than those of the unrestricted groups'.

THE MORNINGSTAR PERFORMANCE ASSESSMENT

Morningstar is a Chicago based company which evaluates the investment performance of mutual funds. The Morningstar star rankings are reported widely in the media, such as the Wall Street Journal and the New York Times. Moreover, mutual funds, themselves, use Morningstar rankings in their advertisements. In the past decade, the equity investments of the general public have significantly increased. The Investment Company Institute states that by the end of 1999, 47% of U.S. households (48 million households) invest some portion of their wealth in the U.S. equity market, and a substantial portion is invested through the use of mutual funds.[17] Given the commonplace acceptance and use of these star

[17] Mutual Fund Fact Book, May 2000

rankings, one can only imagine the potential impact of Morningstar evaluations on the financial decisions of the investing public.

This section uses Morningstar's methodology to assign star ratings to the five types of institutional investors, one of which is mutual funds. This enables comparisons between the performances of institutional investor groups using a methodology that is also widely accepted in the financial marketplace. The methodology used to produce the star ratings for institutional investor types is based on the algorithm explained in Blume (1998). Details are provided in Appendix B. One of the main differences between the performance evaluation methodologies used in this chapter and the Morningstar's methodology is that Morningstar's methodology calculates risk only as the downside variability, unlike the other methodologies which all assume risk as the total variability, regardless of its direction. In light of this, Morningstar's methodology provides an alternative perspective in performance evaluation measurement.

At the end of each year, the study assigns Morningstar Star Ratings to all the institutional investors, based on the methodology discussed in Appendix B. There are more banks and investment advisors in the institutional investor sample than other types. If the number of institutions that receive a high star rating is considered in the evaluation, these two types will be in favor because of their sheer majority in numbers. Therefore, in order to be able to compare these groups on a more equal footing, the study uses the percentage of an institutional type in a given star category as the performance measure.

Tables 51 through 55 report the average institutional percentage for each institutional investor type in the best (5 star) and the worst (1 star) categories for different return horizons. The tables also report the percentage allocation in the good (5 & 4 stars) and poor (2 & 1 stars) categories. In addition, the tables show the results of the F-test of differences and the non-parametric Kruskal-Wallis test of differences between the institutional types. The F-test is equivalent to the results of a one-way analysis of variance and assumes that the samples come from normal distributions. The Kruskal-Wallis test, which is a multiple sample generalization of the Wilcoxon test, examines the differences between the samples without a normal distributional assumption.

Table 51 indicates the results from star allocations for the one-year return horizon. For this shortest return horizon, institutions don't differ in their percentage allocations to the best (5 star) and the good (5 & 4 stars) groups. Although bank trusts appear to have the largest allocation in these groups and mutual funds the smallest, the differences are not statistically significant under both the parametric and the non-parametric tests. However, the picture is quite different for the allocations in the worst (1 star) and the poor (2 & 1 star) categories. Bank trusts have the smallest allocations in these categories. Mutual funds and investment advisors have the highest allocations in these categories. 11% and 12 % of the two types, respectively, fall into the worst star category. The differences among institutional investor types in these groups are quite significant. In summary, for the evaluation using short-term return histories, institutions appear to be allocated in equal percentages to the top groups. But,

prudence-constrained institutions such as bank trusts have a much smaller percentage of their type in the poor performing groups compared to unrestricted institutional types such as mutual funds and investment advisors.

Table 52 shows the results of the allocation analysis for the three-year return horizon constituting a medium term evaluation period. The number of institutional investors in Table 51 and Table 52 are the same since Morningstar requires a minimum of three-year return history to be eligible to receive a Morningstar star. The picture for the medium term return horizon starts to change. The differences in allocations to the top groups are significant in the 1980s but not in the 1990s. During the overall study period, the allocations to the top star categories between institutional investor types are significantly different. Bank trusts and investment advisors are allocated in greater percentages to the top categories, with 39% and 30% receiving a 5 or 4 star rating, respectively. The group with the smallest allocation in the top groups is mutual funds. Only 22% of the mutual funds receive a 5 or 4 star rating in the same period. The picture is much stronger for the allocations in the poor categories. Only 19% of bank trusts receive a 2 or 1 star rating while 40% and 39% of mutual funds and investment advisors are allocated to the same categories in the same period, respectively. Both the F-tests and the Kruskal-Wallis tests are highly significant for these categories.

Table 53 and Table 54 show the results for the five and ten year return horizons, establishing a long-term evaluation basis. Table 53 requires the institutional investors to have at least five years and Table 54, at least ten years of

return histories. Naturally, this introduces a survival threshold to the sample and the number of institutional investors that enter the five and ten-year analysis declines. However, since the analysis calculates the star category percentage allocations for each return horizon analysis separately and then compares the five different institutional investor types present in each return horizon, the survival threshold does not introduce a bias to the comparative analysis. The differences between institutional investor types become much more apparent in the long-term analysis. All the parametric and non-parametric tests are highly significant in this part of the examination. Table 53 indicates the results for the five-year analysis. Bank trusts appear to be the best performing among the five types, with 40 % receiving a 5 or 4 star rating. Only 19 % of the mutual funds on the other hand get a 5 or 4 star rating in the same period. Bank trusts are also the group that gets the least amount of poor ratings. Only 17 % of bank trusts receive a 2 or 1 star rating. In the same period, 41 % of mutual funds and 40% of investment advisors receive a 2 or 1 star rating. Table 54 shows the results for the ten-year return horizon. The results are highly significant and in the expected direction. Bank trusts receive the highest amount of top stars, with 42 % of them getting a 5 or 4 star rating. Only 12 % of the mutual funds get the same ratings. On the other side of the coin, only 15 % of bank trusts that have at least a ten-year history receive a 2 or 1 star rating. 47% of mutual funds receive the same poor rating in the same period.

Finally, Table 55 shows the results for the overall stars. In line with the previous findings, bank trusts place the first among all the institutional investor types with 40 % of them receiving a 5 or 4 star rating. Only 20 % of mutual funds

get the same rating in the same period. While only 18% of bank trusts receive a 2 or 1 star rating, 42 % of mutual funds receive a 2 or 1 star overall rating in the same period. Both the parametric and non-parametric tests indicate the strong significance of the results. As indicated in Appendix B, institutional investors receive an overall star rating based on a weighted average of their medium and long-term star ratings. For example, the overall rating of a 20 year old mutual fund is based on a weighted average of its three, five, and ten year rating. A younger eight-year-old fund is evaluated only on its three and five year return performance. A new three-year-old fund is evaluated on its three-year performance. Blume (1998) indicates that a fund with a long history is less likely to receive top ratings than a fund with a short history. This finding reinforces our results since bank trusts, endowments, pension funds, and insurance companies are, on average, older than the average mutual fund.

PRUDENCE PAYS! BUT WHY?

The results of all the analysis in this study indicate that institutional investors governed under strict prudence-based investment restrictions, i.e. bank trusts, manage the safest portfolios and show the best investment performance among all types of institutional investors. This part of the study investigates the impact of prudence-based investment restrictions on the portfolio performance of bank trusts and explores further the reasons beyond this group's superb performance.

In order to accomplish this task, the study conducts an investment experiment. First of all, all the stocks in the investment universe of institutional investors are categorized into prudence categories. Prudence of an individual stock is determined based on its S&P Common Stock Ranking. This ranking has been accepted by courts in legal decisions concerning trust fund management as an indicator of prudence and has been used in previous studies with the same purpose, Badrinath, Gay, and Kale, (1989) and Del Guercio (1996). Standard and Poor's assigns the Common Stock Ranking based on the growth and stability of a company's earnings and dividend record.

> S&P uses a computerized scoring system to compute basic scores for earnings and dividends, then adjusts the scores by a set of predetermined modifiers for growth, stability within long-term trend, and cyclicality. Adjusted scores for earnings and dividends are combined to yield a final score.[18]

Using the S&P Common Stock Rankings, this study assigns each stock into one of four categories, namely A, B, C&D, and No-Rank. Group A includes the stocks that have received the highest rankings from S&P, thus would be deemed the most prudent. Other ranking categories are formed accordingly. The No-Rank group includes stocks that have not received an S&P ranking either because they do not have sufficiently long earnings and dividend histories or they are foreign incorporated firms.

In the second stage, the study forms equal-weighted and asset-weighted portfolios for each S&P ranking category on an annual basis. Tables 56a through 56c present a sample of firms selected from each S&P ranking category, as well

[18] Standard and Poor's Compustat User's Guide, May 2000, The Mc-Graw Hill Companies

as the total number of firms in each S&P common stock ranking category and the percentage of the overall market allocated to each category. Table 57a and 57b and the accompanying Figures 14 through 17 depict the results of this analysis. The results indicate that the prudent category A earns the highest levels of returns in the study period compared to the other groups. Table 58a and Table 58b and the accompanying Figures 18 and 21 indicate the excess returns that are earned by the S&P ranking category portfolios during the study period. Once again, the results indicate that the prudent portfolio, category A, has performed the best among all ranking categories during the study period. Tables 59a through 59d present the results of the Fama-French three-factor model regressions applied to the returns of the equal-weighted portfolios of each S&P common stock ranking category. The analysis evaluates the performance of the ranking categories after controlling for market risk, size, and financial distress factors. The results indicate that after controlling for these factors, the most prudent portfolio of all, namely category A, performs better than all the other S&P common stock ranking based portfolios.

The study has identified and grouped all stocks into four categories based on their S&P Common Stock Ranking. The study has also identified the performance of these categories during the study period. The results indicate that the prudent portfolio which is composed of stocks with the highest S&P rankings have performed the best among all categories during the study period. The results show that stocks with high prudence levels have in fact performed better than stocks with lower prudence levels in the study period. Del Guercio (1996) shows

that bank trusts tilt their portfolios more towards prudent stocks compared to mutual funds. The study presented in chapter three of the thesis has provided evidence in the same direction. Bank trusts and other institutional investors governed by prudence-based investment regulations allocate higher percentages of their portfolios to prudent stocks compared to unrestricted types of institutional investors.

Given that the prudent stocks have performed the best among all categories during the study period, institutions, which allocate greater percentages of their investment dollars to prudent stocks, are expected to perform better than those institutions with lower portfolio allocations in such stocks. To examine this investment impact, the study calculates the portfolio allocations of each institutional investment type in each S&P Common Stock Ranking categories on an annual basis during the study period. Table 60a, Table 60b and Table 61 depict the results of this analysis. The results show that prudence-restricted institutions such as bank trusts allocate a higher percentage of their portfolios to stocks with higher S&P rankings. For example, bank trusts allocate the highest percentage of their portfolios among all institutions to category A stocks. On the other hand, unrestricted institutional investors such as investment companies and investment advisors allocate much lower percentages to category A stocks and much higher percentages to category C&D and No-Rank stocks. The table also shows the results of the F-test of differences in allocations among institutional investor types. The results indicate that the differences in allocations are statistically significant for all S&P ranking categories.

In the next phase of the investment experiment, the study forms hypothetical institutional investor portfolios for each investor type based on the average portfolio allocations for the groups. Table 62a and Table 62b report the equal-weighted and asset-weighted annual returns that would have accumulated to hypothetical institutional portfolios given the allocations to each S&P ranking category by each institutional investor type during the study period. Figure 22 and Figure 23 indicate the comparisons between the groups over the study period. Table 63a and 63b depict the excess returns that would have accumulated to portfolios formed based on average portfolio allocations of institutional investors to S&P ranking categories. Figure 24 and Figure 25 depicts the comparison charts between the different types of institutional investors.

The results of the analysis indicates that the bank trust portfolio with S&P category allocations representative of the bank trust universe, earns the highest level of raw and excess returns among all types of institutional investors. Bank trusts being the institutional investor group that is governed by the strictest form of prudence-based investment regulations, allocate the highest percentage of their portfolios to high prudence stocks. Since this group of stocks has performed better compared to the other categories during the study period, the representative bank trust portfolio earns the highest level of investment returns.

The investment experiment provides additional evidence and support to the previous analysis in this study that has indicated the superior investment performance of bank trusts. This surprising result reveals that prudence has paid off during the study period. Not only bank trusts have managed the safest

portfolios during this period, but they also have performed the best among all institutional investors.

Chapter 5: Institutional Investor Reaction to Dividend Events

OVERVIEW

The previous chapters examine the investment preferences and performance of different types of institutional investors. The studies indicate that there are significant differences in the investment preferences, portfolio allocations, and investment performance between institutional investor groups. The investment restrictions known as the prudent man rules have a significant impact in bringing about these differences. These regulations predispose institutional investors governed by these laws to include prudent stocks in their portfolios. The prudent man rules and other prudence-based investment restrictions induce preferences to form towards firm characteristics that are reflective of prudence. This section studies if such preferences cause institutional clienteles to form towards the preferred firm characteristics. The study uses dividend policy as the firm characteristic to be analyzed. Prudent man rules and other prudence-based investment restrictions as well as influential legal treatise and court decisions have cited that a lengthy and stable dividend payment is a direct indication of the prudence level of a stock. Thus institutions that are governed by such restrictions will be predisposed to be investment clienteles of dividend-paying stocks. Furthermore, such institutional investors can be expected to react much more significantly to dividend policy changes within a firm compared to other institutional investors not bound by prudence-based investment

restrictions. If institutional dividend clienteles exist as a result of prudence-based investment regulations, this may help explain the market reaction observed towards firms that change their dividend policy.

Although finance researchers have always intensively studied dividend policy, many questions remain unanswered. The primary puzzle is the motivation for firms to pay out a significant percentage of their profits in the form of regular cash dividends and the motivation for shareholders who are in high tax brackets to hold these dividend paying stocks, Allen & Michaely (1995), Black (1976) and Peterson, Peterson & Ang (1985). Although there are ample theories that attempt to explain the motivations, evidence supporting these theories is mixed.

The primary empirical evidence has focused on the reaction of the market to changes in dividend policy. Pettit (1972), Aharony and Swary (1980), Asquith and Mullins (1983), Healy and Palepu (1988), and Michaely, Thaler and Womack (1995) are among the many studies that have looked at the market's reaction to dividend omissions and initiations. The general conclusion of these studies is that a positive reaction is associated with dividend initiations and a stronger negative one with dividend omissions. These reactions have been found to have a long-term drift after the event date.

A major problem with using market reaction to ascertain motivations of firms and shareholders is that the complexity of the reaction makes it difficult to factor out the major causes. For example, in many studies of market reactions to dividend increases, although the majority of firms show a positive market response, a large number of firms still show a negative response.

This study employs an alternative measure of shareholder reaction to changes in dividend policy. Specifically, it uses the behavior of institutional investors to examine the existence of dividend clienteles and the related hypothesis. The complexity of the institutional investor population allows for a unique examination of these issues.

Institutional investors differ based on the type of clients they serve and the legal and fiduciary restrictions under which they are governed. Their clienteles and restrictions result in different preferences for portfolio allocations. For example, those institutions governed under strict prudent man rules invest a larger proportion of their holdings with "prudent" stocks. Age, lengthy and stable dividend and earnings record, low risk, and high external validation have been used as indicators of prudence, Badrinath, Gay, and Kale (1989), Del Guercio (1996).

Using a legally recognized and institutionally preferred characteristic to examine the reaction of institutions to an abrupt change in that characteristic, the study examines the reactions to dividend policy changes from a different perspective. Both case law and influential legal treatise such as the Restatement of Trusts have recognized a stable dividend payment as a prudence characteristic. In light of this, institutional investors governed by such rules are expected to prefer and react to any changes in the dividend payment characteristic. In addition, different types of institutions are taxed differently on dividends received by their portfolios. For example, while dividends earned by bank trust and mutual fund portfolios are taxable to the trust and to the mutual fund owner, those earned by

pension funds, endowments and charitable institutions are not. In light of this, preferences towards dividends are expected to exist based on the tax structure of different types of institutional investors.

Previous authors have hypothesized about institutional clientele effects. In their survey of dividend policy, Allen and Michaely (1995) assert that firms interested in having institutional investors as shareholders will pay higher dividends. These higher dividends will attract institutions that are either tax exempt (and are not affected by the adverse tax effect associated with dividends) or institutions that are constrained by prudent man and other fiduciary constraints and have to hold dividend-paying stocks in their portfolios. They also suggest that cash rich firms in maturing industries with low informational asymmetries will have a greater tendency to pay dividends than younger firms with large growth opportunities for whom raising equity capital makes paying dividends highly costly. Allen, Bernardo, and Welch (1999) present a model where institutional investors do induce the formation of dividend-based clienteles. In their model, institutions who are taxed differently than retail investors and who have significantly higher levels of ownership in firms are better able to detect firm quality and monitor firm management relative to retail investors. Thus preferences of institutions towards dividend-paying stocks arise from their relative tax advantage and are supported by the good quality firms' incentives to use dividends to attract institutional investors. Their theoretical framework lends itself to many interesting empirical implications. They indicate that under their model, a dividend increase would indicate a desire to increase institutional

ownership and a dividend decrease would indicate a desire to decrease institutional ownership. Thus an increase/decrease in institutional ownership following an increase/decrease in dividends can be expected to be observed. In addition, they indicate that the most severe institutional reaction would be expected in cases where firms with high dividend yields and high institutional ownership cut back their dividends.

Two previous studies empirically examine institutional investor behavior around dividend events. Strickland (1995) looks at the relationship between institutional ownership and dividend yield after controlling for size, performance and risk. Using data from 1990-1993, he finds that taxable institutions prefer low dividend yield stocks while tax-exempt institutions do not show a significant preference. Using a sample of firms that have dividend increases/decreases greater than 10%, he finds that the magnitude of the stock price reaction is negatively related to the ownership level of taxable institutions. He concludes that his findings support the existence of tax-induced dividend clienteles. Brav and Heaton (1998), using a dividend omission and initiation sample gathered by Michaely, Thaler and Womack (1995) in the time period 1964-1988, find that dividend-omitting firms underperform only after the ERISA regulations took effect in 1974. They argue that the pricing of dividend-omitting firms have changed with the ERISA regulation's emphasis on prudent expert rules.

This study uses two different types of dividend events to examine the reaction of institutional investors to dividend policy changes. The first event type is extreme dividend policy changes. The firms that experience such changes either

eliminate a long-standing dividend policy, not to be re-initiated again, or initiate a dividend policy for the first time. The second event type is drastic but not extreme dividend policy changes. The firms that fall into this group either decrease or increase their dividend payouts by at least 50% of the pre-event amount. The two different event types enable the analysis of several issues. First of all, the study looks at the institutional investor reaction to extreme policy changes. In this case, the dividend payment characteristic of a firm is changing. For example, a firm is becoming a non-dividend payer after a lengthy amount of time being a payer or vice versa. Institutional investors, especially those who are predisposed to holding dividend-paying stocks resulting from the strict investment restrictions that govern them, are expected to react strongly to a change in the overall dividend policy characteristic of such firms. The second sample of firms that go through drastic but not extreme dividend policy changes is also expected to arise a reaction from the institutional investor universe. Secondly, institutional investors are expected to react to dividend policy changes based on their tax status. The two dividend events also enable the study to investigate institutional investor reaction from this aspect. The study examines the behavior of institutional investors around dividend policy changes by investigating the similarities and differences in the reaction of institutional investors to the two different types of dividend events.

The first dividend event type sample consists of firms that have paid regular cash dividends before omitting them, i.e. dividend omissions, and firms that have not paid any dividends for some time before initiating payment of regular cash dividends, i.e. dividend initiations. The second event type sample

consists of firms that either decrease or increase their dividend payouts by at least 50%, i.e. dividend decreases and dividend increases. The study then looks at the institutional base and ownership changes in a four-year window around both dividend event types, both for institutional investors in general and for each institutional investor type, in particular. The analysis covers one of the longest study periods on institutional investors, from 1980 to 1996.

DATA SET

The study uses two major data sources. The firms that declare dividend events are located using the CRSP distributions database. This database reports detailed information about the distributions including type, date, and frequency. The second data source is the CDA-Spectrum 13F Filings Database. At the end of each quarter, qualifying institutional investors are required to file their end of quarter portfolio holdings with the Securities and Exchange Commission. CDA, a financial services company contracted to process this data, produces the 13F filings database that reports the quarterly portfolio positions of institutional investors. The data used in this study covers a 17-year period, from 1979 to 1996, making this study one of the most comprehensive studies on institutional investors.

FINANCIAL CHARACTERISTICS OF DIVIDEND PAYERS & NON-PAYERS

Before considering the reaction of institutional investors to dividend events, the study examines the general characteristics of dividend payers and non-payers over time in order to determine whether systematic changes have occurred over the sample period. For each year, a firm is classified as a dividend payer if it has paid regular cash dividends. Conversely, a dividend non-payer is a firm that has not paid any dividends. The study doesn't require the firms to survive throughout the study period. All firms that are payers and non-payers in a given year enter the calculations for that year regardless of their survival past that year.

The firms are required to be U.S. incorporated firms to be included in either of the samples. After the formation of the samples, the financial and institutional characteristics are calculated for both samples for all study years. Table 64 and Table 65 report the results for both samples. The results indicate that the number of firms that do not pay dividends have significantly increased over time. Dividend yields have significantly decreased over the years confirming the findings of Fama & French (1999). The average dividend paying firm is about ten times larger than the average non-paying firm. Dividend paying firms are significantly older than non-paying firms. Performance measures indicate that dividend payers perform better in general than non-paying firms in most years. Over the study period, institutional ownership of the average firm has drastically increased in both groups. It has doubled over the study period for the dividend paying firms in a steady pace over time. The growth seems to have slowed down in the later part of 1990s. For the non-payers, average institutional ownership has

quadrupled over time, most of the gains coming in the 1990s, corresponding to the growth of the money management industry. The average percentage growth in institutional ownership in the dividend payer group has been 1.10% and in the non-payer group 1.19%. Table 66 reports the results of the differences-in-means tests for two sub-periods and the entire study period. In all the periods, the dividend payer group includes larger and older stocks with higher institutional base, institutional ownership, and performance levels than the non-payer group. An interesting picture emerges when the percentage change in institutional ownership is studied throughout the study period. In the 1980s, the dividend payer group has a 0.6% higher ownership growth than the non-payer group. The picture changes in the 1990s with the non-payer group having a 0.9% higher ownership growth than the payer group. The results of both sub-periods are statistically significant. However, when the entire period is considered, these opposing developments yield a statistically insignificant difference between the two groups.

Tables 67 through 71 show the breakdown of the average number of institutional investors and the average institutional ownership by the five different types of institutional investors for the dividend payer and non-payer groups. The table also indicates the growth in institutional ownership of the two groups. The table indicates that institutions hold the dividend payer group in greater numbers and percentages than they hold the non-payer group. Institutions have increased their holdings in both groups over the study period and most of this increase has come from investment companies and investment advisors, especially in the 1990s. In the 1980s the average annual increase is larger for the dividend payer

group than the non-payer group for all institutional investor types. In the 1990s, this trend is reversed. Although the average institutional ownership increase is larger for the non-payer group than the dividend payer group, the differences are not statistically significant. Overall, institutions appear to maintain their bias towards dividend-paying stocks. They have held them in greater percentages than the non-payer ones, and this trend has not changed much during the study period.

DIVIDEND EVENT SAMPLE SELECTION

Firms that either omit/decrease or initiate/increase dividends make up the samples that are used in this study. In order to identify these firms, the distribution structure file from the CRSP database is used. The sample firms are selected based on the following criteria:

1. The firm must have paid cash dividends with monthly, quarterly, semi-annual, or annual frequency.

2. The dividend event must have occurred between the beginning of 1982 and the end of 1994. This ensures that there is institutional holdings data for two years before and two years after the event quarter, since the CDA-Spectrum Institutional Investors Database is available for the 1980 to 1996 period.

3. The sample firms are required to be U.S. incorporated firms with CRSP share code 10 or 11. This excludes all foreign incorporated firms trading as ADRs.

4. All closed-end funds and REITs are also excluded from the sample.

5. A dividend omission is defined as the last dividend payment date of a dividend-paying firm. In order for a firm to be included in the omission sample, it is

required to have been paying regular cash dividends for at least two years before the omission.

6. A dividend decrease is defined as the date the firm declares a dividend with an amount at least 50% less than its previous dividend payment.

7. A dividend initiation is defined as the date the firm declares its first dividend payment. In order for a firm to be included in the initiation sample, it is required to have been trading for at least two years prior to the dividend initiation.

8. A dividend increase is defined as the date the firm declares a dividend with an amount at least 50% greater than its previous dividend payment.

These restrictions provide ample time for the firm to be established as a dividend payer/non-payer before omitting/initiating its dividend and allow the examination of the reactions of institutional investors both in the pre and post-event periods.

DIVIDEND EVENT FIRMS AND INSTITUTIONAL INVESTOR REACTION

The above sample selection procedure yields 862 dividend omissions/750 dividend decreases and 363 dividend initiations/1986 dividend increases during the study period. Table 72 and Table 73 give an annual breakdown of these dividend events. As the tables show, both dividend omissions/decreases and dividend initiations/increases are evenly distributed across the study period. Although dividend omissions exceed dividend initiations in each year, there are more dividend increases than there are dividend decreases during the period.

Financial Characteristics and Institutional Ownership of Sample Firms

Table 74 and Table 75 present the financial characteristics and institutional ownership statistics for all the samples as well as differences-in-means tests. Age is determined as the number of years the firm has been publicly traded prior to the dividend event quarter. The results indicate that dividend-omitting/dividend-decreasing firms are significantly older than the dividend-initiating/dividend-increasing firms. Pre-dividend yield is calculated as the annual dividend yield in the year prior to the dividend event quarter. Similarly, the post-event dividend yield is the annual dividend yield in the year after the dividend event quarter. The tables indicate that dividend-omitting firms pay significantly higher dividend yields before omitting their dividends compared to the dividend levels established by dividend-initiating firms. Their yields are also much larger in the last quarter than the yields of the initiating firms in their first quarter as dividend payers. In addition, dividend-decreasing firms pay higher yields than dividend-increasing firms before the change in their dividend policy takes effect.

Size is measured as the market capitalization in millions prior to the dividend event. Dividend-omitting/dividend-decreasing firms have lower market capitalizations than the dividend-initiating/dividend-increasing firms. One other characteristic, momentum, is measured as the past 11-month buy-and-hold return with a one month lag before the event date. Not surprisingly, dividend-omitting/dividend-decreasing firms perform significantly worse over the year prior to the omission/decrease than dividend-initiating/dividend-increasing firms. Dividend-initiating/dividend-increasing firms, on the other hand, show significant

performance before the initiation/increase event. Finally, the book-to-market ratio is calculated as the ratio of the book value of Compustat stockholders equity, plus balance sheet deferred taxes and investment tax credit, minus the book value of preferred stock (redemption, liquidation, or par value), as of the December prior to the dividend event. The tables indicate that dividend-omitting/dividend-decreasing firms have a much higher ratio than dividend-initiating/dividend-increasing firms, indicating that they are out of favor relative to the dividend-initiating/dividend-increasing firms.

The difference between the samples is also apparent in the market reaction in the event quarter. Dividend-omitting/dividend-decreasing firms suffer significant negative performance in the event quarter, whereas dividend-initiating/dividend-increasing firms enjoy a significant positive reaction. CRSP value-weighted index is used to calculate the excess returns. Although the quarterly return measures are crude benchmarks for gauging the market reaction, they indicate a general agreement with the results of previous research, which looks at short and long-term market reaction to dividend events.

Before the dividend event takes place, there does not seem to be a significant difference in both the institutional base, represented by the number of institutions holding the firm, and institutional ownership, represented by the percentage of the firm held by institutional investors, between the firms that pay dividends before omitting them and firms that initiate dividends after a period of non-payment. However, even though there does not appear to be a significant difference in institutional base between firms that decrease their dividends and

firms that increase their dividends, there is a significant difference in institutional ownership between the two samples. Firms that increase their dividends have higher levels of institutional ownership at the quarter of the dividend policy change compared to the firms that decrease their dividends.

Tables 76 through 79 and the accompanying Figures 26a through 29f show the changes in the financial characteristics of both the dividend-omitting/dividend-decreasing and dividend-initiating/dividend-increasing firms from eight quarters prior through eight quarters after the dividend event. The tables show that, in the quarters dividends are paid, the dividend yield of the dividend omission/dividend decrease sample is greater than that of the dividend initiation/dividend increase sample. The table also indicates that a dividend-omitting firm loses, on average, half of its market capitalization in the event window. A dividend-initiating firm, in contrast, doubles in size in the same time period. The picture is different for the dividend-decrease and dividend-increase samples. Firms that substantially decrease their dividends experience a decrease in their market value through the second quarter after the change in their policy. Starting with the third quarter, however, firms that decrease their dividends see their market values recover. At the end of two years after the dividend decrease, their market values are higher than their values at the dividend event quarter. Dividend-initiating firms, on the other hands, enjoy a continuous increase in their market values all through the four-year event window. The intensity of the increase is higher in the pre-event period compared to the increase in the post-event period.

While the book-to-market ratio of a dividend-omitting/dividend-decreasing firm significantly increases indicating that the firms become largely out of favor, dividend-initiating/dividend-increasing firms experience a decline in their book-to-market ratios. For the dividend-omitting firms, momentum decreases and becomes significantly negative, even though it recovers towards the end of the event period. Momentum is significantly positive for the dividend-initiating firms although the levels decline after the initiation. Momentum decreases significantly for the dividend-decreasing firms in the pre-event period and is lowest at the event quarter, indicating the negative market reaction to the change in the dividend policy. However, the momentum recovers and increases substantially in the two years after the dividend-decrease event. We observe the opposite reaction to dividend-increasing firms. Momentum increases to significantly high levels in the pre-event period for these firms. After the dividend-increase event however, momentum declines in the post-event quarters. Dividend-omitting/dividend-decreasing firms show poor performance before the dividend omission/dividend decrease date. There is significant negative performance at the event quarter for these firms. The picture for dividend-initiating/dividend-increasing firms is quite different. Not only they enjoy positive performance prior to the dividend event, they also show significant performance at the event date. These findings of performance are in line with results of previous research. The dividend event firms also experience changes in their external validation measures as depicted by the S&P Common Stock Ranking measure. S&P assigns a ranking to each stock based on its earnings and dividend

record. The highest score is a 7, which receives an A+ rating, and the lowest score is a 22, receiving a D rating. The results indicate that firms that omit or decrease their dividends experience an increase in their S&P common stock ranking scores, which represents a deterioration in their external validation measures. On the other hand, firms that initiate or increase their dividends experience a decrease in their S&P scores, signaling an improvement in their external validation measures.

Institutional Reaction Measures

Institutional reaction to dividend omissions/dividend decreases and dividend initiations/ dividend increases is gauged by studying the gain or loss of institutional clientele and institutional ownership around the dividend event announcements.

Raw Institutional Base and Ownership Changes

Institutions are required to file their portfolio holdings with the SEC on a quarterly basis. As a result, in order to study institutional reaction to both types of dividend events, all 13F institutional ownership-filing quarters are identified for each firm in all the samples, starting two years (8 quarters) before the dividend event declaration date and ending two years after the event date. The quarter that corresponds to the dividend event declaration date is referred to as the dividend event quarter.

For each of the 17 quarters surrounding the dividend event, the institutions that hold the sample firms in their portfolios are identified. Two measures are

used to capture the change in institutional ownership. The first measure is the change in the number of institutions holding a given firm in their portfolios at the end of a quarter. This measure is referred to as the institutional base. The change in this measure from one quarter to the next reflects the number of institutions adding or completely dropping the firm from their portfolios. The second measure calculates the percentage of firms held in institutional investor portfolios at the end of a given quarter. To calculate this measure, the total institutional shareholdings is calculated by aggregating the number of shares held in the firm across institutional portfolios. Then, using the CRSP historical share structure file, the number of shares outstanding for the firm at the end of the given quarter is identified. The institutional ownership is calculated as the ratio of shares held by institutional investors to the total shares outstanding of the firm at the end of the given quarter. The difference in this measure between consecutive quarters yields the institutional ownership change.

Portfolio Matched Analysis

The raw change in institutional investor ownership of the sample firms gives an initial measure of the institutional reaction to dividend events. However, when the general trend in institutional ownership of the equity market during the period is studied, the results indicate that institutional ownership of the average firm has been increasing steadily over the years. Therefore new measures need to be devised to take out this influence from the institutional reaction to our sample firms. To do this, two different methodologies are employed.

The first method is to construct portfolios based on all firms, a pure dividend-paying sample and a pure non-dividend paying sample. The second method consists of characteristic based matching portfolios with two different characteristic sets used. The matched portfolios that are formed yield a benchmark measure of the institutional change in the average stock that does not experience a dividend event. The excess reaction observed in the sample firms that experience the dividend event is used as an adjusted gauge to measure this reaction.

Portfolios Formed Based on Dividend Payment

In this method three different portfolios are formed. The first portfolio consists of all the firms in the equity market. The second portfolio consists of dividend paying firms. In order for a firm to be included in this portfolio, the firm is required to have paid regular cash dividends for the entire study period. The third portfolio consists of dividend non-payers. For a firm to be in this portfolio, it is required to have paid no dividends in the entire study period.

After the formation of the above portfolios, institutional base and ownership changes for these portfolios are calculated. In order to accomplish this, for each firm in the equity market, the institutional base and ownership changes are calculated for all the quarters in the sample period using the procedure explained in the previous section. After identifying the institutional change for all firms, the average institutional base and ownership changes are calculated for each of the three portfolios for each quarter in the study period by averaging over the firms included in those portfolios. The excess institutional base and ownership

change of the sample stocks over the portfolio averages yield three adjusted measures, which are called all-adjusted change, payers-adjusted change, and non-payers adjusted change.

Characteristic Based Portfolios

Firms that omit/decrease or initiate/increase dividends have been found to show similar financial characteristics. Dividend-omitting/dividend-decreasing firms in general suffer financially before omitting/decreasing their dividends. Dividend-initiating/dividend-increasing firms on the other hand, enjoy sound financial performance before their dividend initiation/dividend increase. As a result, institutions will be reacting to these changes in financial performance. In order to extract the reaction of institutional investors to the dividend event, two different portfolio groups are formed based on financial characteristics, which will reflect changes to the general financial profile of the firm. The excess reaction of institutions after taking the financial changes into account gives a better measure of institutional reaction to the dividend event firms.

The first of the two portfolio groups is based on a match of size and anticipated dividend yield. This yields a group of firms with similar size and pre-event dividend yield with the sample firms. This group is called the SD Matched Portfolios. The second portfolio group is based on a size, momentum, and book-to-market ratio match. This group is called the SMB Matched Portfolios.

The portfolio formation process, which is repeated for each year, is as follows: The matched portfolios are formed at the end of every June, maintained

for one year and rebalanced at the end of the next June. For each stock in the equity market, size is measured as the market capitalization at the end of June. Momentum is calculated as the buy-and-hold return from the past year's July to the end of May. This yields an 11-month cumulative return with a one-month lag. The book-to-market ratio is calculated as the ratio of book equity to market capitalization as of the end of the past year's December.

Finally, anticipated dividend yield, a proxy for expected dividend yield, is calculated for each stock as the annual dividend yield as of the end of June. Previous empirical studies, Blume (1980), Strickland (1995), Benartzi, Michaely, and Thaler (1997), have all used past dividend yield as a measure of expected dividends. Only U.S. incorporated stocks are included in the formation of matched portfolios.

Each year, all the stocks with valid characteristics are first sorted into size quintile portfolios with portfolio cutoffs determined based on NYSE stocks. This ensures a balanced allocation of the size characteristic across the portfolios. The size portfolios are further sorted into dividend quintile portfolios for the SD match group and into book-to-market and momentum quintile portfolios for the SMB match group.

SD Matched Portfolios

The SD portfolio group consists of portfolios including firms with similar size and dividend yield characteristics. The group is composed of, 5x5, 25 SD portfolios which are reformed each year. After the formation of the SD portfolios,

for a given year, for the four quarters that the portfolios are in affect (3rd & 4th quarter of the previous year and 1st & 2nd quarter of the current year), the analysis finds the institutional base and ownership changes for each portfolio by averaging across all the firms in the portfolio.

SMB Matched Portfolios

The SMB portfolio group consists of portfolios including firms with similar size, book-to-market ratio, and momentum characteristics. The group is composed of, 5x5x5, 125 portfolios which are also reformed every year. The institutional base and ownership changes of these portfolios are calculated in the same manner as the SD portfolios.

After the formation of the benchmark portfolios, the matching process is accomplished. In each of the 17 quarters of the event window, each dividend event sample firm is matched to an SD and an SMB portfolio. The institutional base and ownership change of a sample firm in excess of the change of the matched portfolio is referred to as the SD adjusted and SMB adjusted institutional base and ownership change.

Regression Based Analysis

Previous research has shown that there is a significant relationship between institutional ownership and several stock characteristics (Gompers and Metrick (1999), Bennett, Sias, Starks (2000)). This methodology uses this relationship to calculate the abnormal institutional ownership change around

dividend events. Parrino, Sias, and Starks (2000) have used contemporaneous quarterly return as a control variable to determine abnormal institutional ownership. This analysis uses the contemporaneous quarterly return, size, book-to-market ratio and momentum, defined as the past nine-month return prior to the quarter, to control for the effects of these characteristics on institutional ownership. For each quarter, the institutional base change and the institutional ownership change are regressed on the above variables, using all the firms in the CDA-CRSP-Compustat universe. The intercepts from these cross-sectional regressions represent the general change in institutional ownership and the coefficients yield the relationships between institutional ownership and the stock characteristics. The resulting residuals from these regressions for the dividend event sample firms represent the abnormal institutional base and the abnormal institutional ownership changes in a given quarter.

Institutional Investor Reaction to Dividend Omissions/Dividend Decreases and Dividend Initiations/Dividend Increases

This section of the study investigates the reaction of institutional investors to dividend policy change events. Institutional investors, especially the groups that are predisposed to holding dividend-paying stocks in their portfolios because they are governed by prudence-based investment restrictions, are expected to react strongly to such firm. In addition, based on their tax status, institutional investors may also react to changes in dividend policy. For example, a taxable institutional investor may react negatively to dividend initiations/increases. The

study investigates and compares the impact of prudence-based investment restrictions and tax status on the institutional investor reaction.

Institutional Base Change

Institutional base change around the dividend event refers to the change in the number of managers holding the firms in their portfolios. A positive institutional base change indicates the number of institutions adding the sample firms to their portfolios. On the other hand, a negative institutional base change shows the number of institutions completely dropping the sample firms from their portfolios. Tables 80 through 83 indicate the institutional base changes for both the dividend-omission/dividend-decrease and the dividend-initiation/dividend-increase samples at each quarter during the event window. Table 84 depicts the cumulative institutional base changes for all the samples with reference points at the end of the quarter prior to the event quarter and the quarter two years before the event quarter. Figures 30a through 33f show the cumulative institutional base changes during the four-year event window.

Dividend Omissions/Dividend Decreases

Table 80 and Table 81 indicate the reaction of institutional investors to dividend-omitting and dividend-decreasing firms during a four-year window around the event quarter. Table 84 shows the cumulative institutional base changes for the dividend omission and dividend decrease samples. The raw institutional base change results indicate that dividend-omitting firms start to get

dropped from institutional portfolios prior to cutting their dividends. As far as four quarters prior to the omission declaration, institutions are closing their positions in dividend-omitting stocks. Within a year prior to the event 1.7 institutions drop the sample firms from their portfolios. The loss of institutional clientele is the strongest at the event quarter and the quarter after the omission declaration. At this period 3 institutions drop the sample firms from their portfolios. Institutions incur most of the clientele losses in these two quarters. Firms continue to lose clientele up to a year after the omission quarter. Within a year after the omission, 4.4 institutions have dropped the sample firms from their portfolios.

The picture is different for firms that decrease their dividends but not eliminate them. These firms get dropped from institutional portfolios only in the quarter prior to the event and at the event quarter. 1.7 institutions drop the sample firms from their portfolios at this time. In other quarters, however, firms that decrease their dividends continue to be added to institutional portfolios. Raw institutional base appears to increase significantly after the dividend decrease. Within a year of the dividend decrease, 1.8 institutions add sample firms to their portfolios. Within to years of the dividend decrease, 5.4 institutions add the sample firms to their portfolios. The results suggest that although there is a uniform negative reaction to dividend-omitting and dividend-decreasing firms around the event-quarter, on a longer-term basis, dividend-omitting firms suffer a more significant negative reaction from institutional investors compared to dividend-decreasing firms.

During the period in which this study takes place, institutional ownership has been steadily increasing. This is reflected both in the increase in the number of institutions holding an average firm in the equity market and also in the percent of institutional ownership of the firm's equity. In order to adjust for the growth in institutional investment over the years, five portfolio groups are formed based on dividend payment and other financial characteristics, which were explained in the previous section. The adjusted institutional base figures reflect the excess institutional change of dividend-omitting and dividend-decreasing firms over the matched portfolio averages. When adjustment is made for all firms in the market, the number of institutions dropping the dividend-omitting firms from their portfolios increases significantly. Dividend-omitting firms have much higher number of institutional clientele changes when compared to the average firm in the market. The loss of institutional clientele is much stronger around the omission quarter after making the adjustment. Again, the bulk of the institutional clientele loss comes in the first two quarters after the omission event. Within two quarters of the omission, the average sample firm gets dropped from 4.3 institutional portfolios and 7.9 portfolios within a year. When the adjustment is made for the dividend-decreasing sample, the negative reaction to dividend-decreasing firms becomes apparent. In comparison to an average stock in the market, dividend-decreasing firms get dropped from portfolios. For example, dividend-decreasing stocks get dropped from 1.8 institutional portfolios within the first year after the dividend decrease relative to an average stock in the market.

When the comparison is made with the payer adjustment group, a stronger picture emerges. Firms that have paid but have later omitted their dividends have much lower institutional clientele changes compared to their peers. They lose 5.6 institutions within two quarters of the change in the firm type. This trend continues after the dividend omission event. Dividend-decreasing stocks also suffer a significant reaction from institutional investors in comparison to the payer stock universe. Dividend-decreasing stocks lose 4.4 institutions within a year of the dividend decrease.

The results for the non-payer matched group are similar to the previous ones although the magnitudes differ. Two portfolios formed to take into account the institutional reaction towards changing financial characteristics other than dividend payment are SD matched and SMB matched groups. Both of these group match results indicate a strong negative clientele reaction to dividend-omitting firms even after taking the effect of other financial characteristics into account. Within two quarters, sample firms lose 3.6 and 3 institutions, and within one year 5.9 and 4.5 institutions compared to their SD and SMB matched counterparts, respectively. The abnormal institutional base change after controlling for quarterly return alone and quarterly return, size, book-to-market, and momentum characteristics support these results. Dividend omitting firms lose 5.3 and 4 institutions within two quarters after the event and 7 and 5 institutions within a year after the event.

Dividend-decreasing firms also see significant negative reaction after the portfolio and return-based adjustments. Dividend-decreasing stocks lose 1.3 and

1.2 institutions within a year of the dividend decrease when compared to stocks that have similar characteristics based on the SD and SMB portfolio adjustments. In addition, the abnormal institutional base change after controlling for quarterly return alone and quarterly return, size, book-to-market, and momentum characteristics support these results. Dividend-decreasing firms lose 1.7 and 1.9 institutions within a year after the dividend decrease.

There appears to be some differences between the reaction of institutional investors to dividend-omitting and dividend-decreasing stocks. First of all, institutions start to react and drop dividend-omitting stocks much earlier than they do dividend-decreasing stocks. Furthermore, although both dividend-omitting and dividend-decreasing stocks get dropped from institutional portfolios, the magnitude of the reaction is much stronger for dividend-omitting stocks than dividend-decreasing ones. Moreover, institutional base appears to start recovering later in the study window for dividend-decreasing stocks. For dividend-omitting stocks however, there does not appear to be a significant recovery in institutional base after the omission event.

Dividend Initiations/Dividend Increases

Table 82 and Table 83 indicate the reaction of institutional investors to dividend-initiating and dividend-increasing firms during a four-year window around the event quarter. Table 84 shows the cumulative institutional base changes for the dividend initiation and dividend increase samples. Firms that initiate dividends and firms that increase dividends enjoy an increase in

institutional clientele prior to the initiation and increase of dividends. Within a year before the initiation, 5.4 institutions add the sample firms to their portfolios. This increase in institutional clientele also continues after the initiation event. Within two quarters of the event, the sample firms are added to 3.5 institutional portfolios and within a year to 7.5 portfolios. Institutional base also increases for dividend-increasing stocks. Within a year of the dividend increase, these stocks get added to 8.2 institutional portfolios.

When the institutional base change measures are adjusted, institutional additions are still strong around the event date, but now most of the additions occur in the first two to three quarters after the dividend initiation event. Within two quarters of the event, the sample firms get added to 2.2 institutional portfolios more than the average firm. Within a year this number increases to 4.4 institutions. The same trend is observable with other portfolio match types with different magnitudes. The abnormal institutional base change results are also in the same direction. Dividend-initiating firms gain 2.4 and 2.1 institutions within two quarters after the event and 3.5 and 3.2 institutions within a year after the event.

Similar results are obtained for the dividend-increasing firms. After adjusting for the general increase in institutional ownership during the study period, the dividend-increasing firms get added to 5 institutional portfolios within a year of the dividend increase. The characteristic based matching results yield supporting results. Within a year dividend-increasing firms get added to 5 more institutional portfolios in comparison to stocks with similar characteristics. The

abnormal institutional base change results are also in the same direction. Dividend-increasing firms add 5 institutions to their institutional base within a year of the dividend increase.

The overall results for both the dividend-initiating and dividend-increasing firms indicate that firms, which enhance their dividend levels, enjoy a positive reaction from institutional investors.

There are some significant differences between the reaction of institutional investors to dividend-omissions/dividend-decreases and dividend-initiations/ dividend-increases. Based on the shift in the direction of the institutional base during the event window, institutions appear to be reacting much more significantly to an unexpected elimination/decrease of dividend policy. Institutions seem to be anticipating a dividend-initiation or a dividend-increase much earlier than the actual event, thus the direction of the institutional base does not experience a shift in its direction of increase. Moreover, the dividend policy enhancement does not seem to incite a sharp reaction around the immediate window of the dividend event. The dividend event at best serves as a confirmation of the quality of the firm and the expectations of the institutional investor base.

Institutional Ownership Change

Institutional ownership change refers to the change in the percentage holdings of institutional investors in the dividend event sample firms. A positive institutional holdings change indicates an increase in the percentage of shares held of the sample firms by institutional investors and a negative change indicates a

decrease. Tables 85 through 88 show the changes in institutional ownership for both the dividend-omission/dividend-decrease and the dividend-initiation/ dividend-increase samples at each quarter during the event window. Table 89 depicts the cumulative institutional ownership changes for all the samples with reference points at the end of the quarter prior to the event quarter and the quarter two years before the event quarter. Figures 34a through 37f show the cumulative institutional ownership changes during the four-year event window.

Dividend Omissions/Dividend Decreases

Dividend-omitting firms experience some institutional buying before they omit their dividends. After the dividend omission quarter, institutional selling is apparent. Within two quarters of the event, they lose 1.55% institutional ownership and within a year they lose 2%. The picture is slightly different for firms that decrease their dividends without eliminating them. They actually increase their raw institutional ownership by about 0.5% within a year of the dividend decrease.

When the analysis adjusts for the general increase in institutional ownership over time, dividend-omitting firms experience significant institutional selling, most of it in the first two quarters after the dividend omission. Within the first two quarters they lose 2.2% more institutional ownership than the average firm, and within a year the lose 4% more than the average firm. The same trend is observable with the other adjustment portfolios. In fact, with SD and SMB matched portfolios the institutional selling in the two quarters after the event is

distinctive. Within those two quarters, sample firms lose 1.38% and 1.25% more institutional ownership and within a year 1.68% and 1.51% more institutional ownership relative to their SD and SMB matched counterparts, respectively. Institutional ownership starts to recover six quarters after the dividend omission event but the net effect remains negative. The abnormal institutional holding change confirms these results after controlling for quarterly return, size, book-to-market, and momentum characteristics. Within two quarters of the event, dividend-omitting firms lose 2.2% and 0.9% institutional ownership. Within a year, this loss increases to 3.5% and 1.1%.

One other effect to consider is the change in the type of firm after the omission event. Before the omission event, the sample firms are dividend payers, and after the event, they are non-payers. The adjusted institutional ownership change results indicate that dividend-omitting firms experience higher institutional selling relative to their payer counterparts with 1.71% more selling than the average payer in the two years they were also dividend payers. After omitting dividends and becoming non-payers, the sample firms continue to lose institutional ownership, this time compared to the non-payer firms. Within two years after the dividend omission, the sample firms lose 5% more institutional ownership than the non-payers.

After adjusting institutional ownership for the general increase during the study period and also for matching portfolios based on characteristics, the results for the dividend-decreasing firms support those for the dividend-omitting ones. Within a year of the dividend event, dividend-decreasing firms lose 2.2% more

institutional ownership compared to the average firm in the market. The characteristic and portfolio matched results indicate that dividend-decreasing firms lose between 0.1% and 2.7% institutional ownership within a year of the dividend decrease.

There are, however, some differences between the reaction of institutional investors to dividend-omitting and dividend-decreasing firms as measured by the change in institutional ownership. First of all, the reaction to dividend omissions appears to be much stronger and enduring compared to the reaction to dividend decreases. Secondly, even though dividend-omitting firms lose raw institutional ownership after the dividend omissions, dividend-decreasing firms actually increase their raw institutional ownership after the dividend event. Finally, institutions do react strongly to dividend omissions as the direction of institutional ownership shifts strongly after the omission event. Institutions in aggregate don't show the same conviction and strength in their reaction to dividend-decreasing firms.

Dividend Initiations/Dividend Increases

The results for the dividend-initiating firms indicate that institutional buying occurs all through the two years prior to the dividend initiation event. Institutions have already increased their holdings by 2.6% in the year prior to the initiation event. Institutional buying picks up at the event quarter, with 1.9% in the two quarters after the initiation, and 4% within a year of the initiation. There's significant institutional buying after adjusting for the general increase in

institutional ownership levels. Within the first two quarters after the event, initiating firms gain 1.05% more institutional ownership compared to the average firm. Within one year, this gain increases up to 1.6%. When the analysis adjusts institutional ownership using the other match portfolios, there's still significant institutional buying after the initiation event, and now the buying in the first two quarters of the initiation event becomes much more apparent. The abnormal institutional ownership change after controlling for quarterly return alone and quarterly return, size, book-to-market, and momentum characteristics support these results. Dividend initiating firms gain 1% and 1.8% institutional ownership within two quarters after the event and 1.5% and 2.7% within a year after the event.

When the effects of changing firm type are studied, the results indicate that dividend-initiating firms experience higher institutional buying two years before the initiation relative to their non-payer counterparts. Within the two years prior to the initiation, sample firms enjoy 2% more institutional buying then the other non-payers. This trend continues after they become a payer. Within two years after the initiation event, sample firms gain 2% more institutional ownership relative to their payer counterparts.

The results are slightly different for dividend-increasing firms, however. Similar to dividend-initiating firms, dividend-increasing firms experience a significant increase in their institutional ownership prior to the dividend event. The raw institutional ownership change is also positive for dividend-increasing firms. They enjoy a 1.4% increase in their raw institutional ownership within a

year of the dividend increase. The results change when institutional ownership change is adjusted. Institutional ownership increase appears to reverse course after the dividend increase. Firms that increase their dividends lose institutional ownership in comparison to the average stock in the market. When the adjustment for institutional ownership change is made based on matching characteristic portfolios, the results are more indicative. In comparison to their SD and SMB matched counterparts, firms that significantly increase their dividends enjoy a significant excess increase in their institutional ownership prior to the dividend increase. After the dividend increase, although dividend-increasing firms still enjoy modest increases in their institutional ownership when compared to their counterparts that have the same characteristics, the increase in institutional ownership is nowhere near the pre-event period. In the post dividend-event period, institutional ownership of dividend-increasing firms remains at par with the ownership levels of other non-event firms with similar characteristics.

INSTITUTIONAL INVESTOR REACTION TO DIVIDEND EVENTS AND THE TAX REFORM ACT OF 1986

The Tax Reform Act of 1986 was the single major regulatory change that affected the taxation of dividends and capital gains during the study period. The reform act brought significant changes in the taxation of dividends and capital gains both for corporations and individuals. The act lowered the marginal tax rate to 34% from 46% for corporations. For individuals, the act eliminated the preferential treatment of capital gains over dividends. The act lowered the top marginal income tax rate to 28% from 50% while increasing the top rate on long-

term capital gains to 28% from 20%. This section of the study investigates the impact of this regulatory change on the reaction of institutional investors to dividend events.

Several previous studies have looked at the impact of the Tax Reform Act of 1986 on dividend-paying stocks. Kopcke (1988), Ben-Horim, Hochman, and Palmon (1987), and Cutler (1988) examine the effect of the Tax Reform Act of 1986 on stock prices. Bolster and Janjigian (1991) examine the effects of the Tax Reform Act of 1986 on shareholder wealth and dividend policy. The authors conclude that, although aggregate dividend payments have increased in the post-Tax Reform Act period, the rate of increase is identical to that observed during the pre-Tax Reform Act period. In addition, the authors indicate that the dividend payout ratios have remained unchanged after the passage of the Tax Reform Act of 1986.

In light of the findings by previous research, this section examines the impact of the Tax Reform Act of 1986 on the reaction of institutional investors to dividend events. To accomplish this the dividend omission and dividend initiation samples are divided into pre-act and post-act periods. The firms that omit or initiate dividend payments before the year-end of 1985 are included in the pre-act sample. Firms that omit or initiate dividend policies after the beginning of 1987 are included in the post-act sample. If the Tax Reform Act had an impact in the institutional investor reaction, this would be expected to show up in the institutional reaction to extreme dividend events. In order to determine this

impact, the study applies the analysis presented in the previous sections to both the pre-act and the post-act dividend omission and dividend initiation samples.

Table 90 depicts the results of this analysis. The results indicate that the reaction of institutional investors towards firms that either omit or initiate dividends are in the same direction both in the pre and in the post Tax Reform Act periods. Institutions decrease their positions in the dividend-omitting stocks after the dividend omission both in the pre-act and the post-act periods. The decrease is also apparent after adjusting the institutional reaction measures. On the other hand, institutions increase their positions in dividend-initiating firms all through the event window both in the pre-act and the post-act periods. These results give support to the findings of previous research. Previous research indicates that there has not been a change in the dividend payout ratios after the Tax Reform Act of 1986. The results of this analysis show that there has not been a change in the manner of the reaction of institutional investors towards dividend-omitting and dividend-initiating firms. One interesting aspect, however, comes into view with the results of the analysis in this section. The institutional reaction to dividend omissions has become stronger in magnitude after the Tax Reform Act of 1986. Although recognition of capital gains can still be deferred, the act has eliminated most of the preferential taxation treatment of capital gains relative to dividends, thus increasing the relative value of dividends with respect to capital gains. Bolster and Janjigian (1991) report that high-yield stocks have outperformed low-yield stocks when the final terms of the tax reform act were announced in August 1986. Thus after the passage of act, institutional investors holding dividend-

paying stocks are expected to react even more strongly to the elimination of dividend payments, given the increase in the level of value of dividends in addition to the value placed on them by institutions who are predisposed to holding such stocks. The differences in the institutional reaction to dividend-omitting firms between the pre-act and the post-act samples, which are statistically significant, confirm a stronger negative institutional reaction to dividend-omitting firms after the passage of the act. The favorable reaction of institutional investors to dividend-initiating firms appears to have weakened in the post-act period. However, the differences are not statistically significant.

In order to understand the roots of the reactions observed in the analysis in the previous sections, the behavior of the different types of institutional investors around dividend events needs to be studied further. The next section examines the reaction of the five different types of institutional investors to dividend-omitting and dividend-initiating firms. The analysis explores the impact of prudence-based investment regulations and institutional tax status on the reaction of institutional investor groups to dividend event firms.

INSTITUTIONAL DIVIDEND CLIENTELES

The results in the previous sections show that institutions react significantly to dividend omissions/dividend decreases and dividend initiations/ dividend increases. Even after adjusting for other financial variables, which affect institutional ownership, there's still strong institutional reaction towards firms that omit/decrease or initiate/increase dividends. This section investigates if there are

differences in this reaction among the five different types of institutional investors.

There are two major arguments why there may be differences among institutional investors towards dividend events. The first argument is based on tax clienteles. According to this theory institutions that are taxable, such as bank trusts and mutual funds, are expected to react negatively or less positively toward dividend initiations and increases, compared to institutional investors which manage tax exempt funds, such as pension funds, endowments, and investment advisors who manage large sums of pension money, which are expected to react positively. Tax-exempt institutions are expected to increase their holdings in firms that initiate or increase their dividends and decrease their holdings in firms that omit or decrease their dividend, to a greater degree than taxable institutions. Under this theory, the differences in the tax status of institutional investors will impact their reaction to changes in dividend policy.

The second theory is based on prudence and fiduciary duty restrictions on certain types of institutional investors, such as bank trusts. Under this theory, a firm that does not pay a stable and regular stream of dividends is not deemed prudent thus avoided by such restricted institutional investor portfolios. Under this scenario, there will be strong negative reaction to dividend-omitting firms from this group of institutional investors, such as bank trusts. In addition, there will be a weak reaction towards dividend-initiating firms. The reason for this is that although dividend-initiating stocks enter the investment realm of such restricted institutional investors, their age and the short amount of time they have

been dividend payers still places them in the riskier stocks category in the eyes of such investors. Under this theory most of the institutional buying for dividend-initiating stocks will be expected to come from non-restricted institutional investor groups. Institutional investors governed under the strict investment restrictions of the prudent man rules are also expected to react to dividend decreases and dividend increases, although this reaction is expected to be subdued compared to the reaction to dividend-omitting and dividend-initiating firms. Institutional investors governed by prudence-based investment restrictions, especially bank trusts, are required to provide stable income for their beneficiaries. Allocating significant portions of their portfolios to dividend yielding stocks fulfills this requirement. In light of this, such institutional investors are expected to react negatively to dividend decreases and favorably to dividend increases.

Institutional investors are classified under five different categories by CDA-Spectrum as they file 13F filings with the SEC. These types are bank trusts, insurance companies, investment companies, investment advisors, and endowment & pension funds.

Tables 91 through 122 show a breakdown of institutional reaction to dividend omissions, dividend decreases, dividend initiations, and dividend decreases for each type of institutional investor. Tables 123 through 126 indicate the cumulative institutional change for each type of institutional investor after the dividend event.

Dividend Omissions/Dividend Decreases

Table 91 indicates the reaction of different types of institutional investors to the dividend-omitting firms. The results show that during the first two quarters after the dividend event where most of the reaction to the dividend omissions occurs, bank trusts and investment advisors sell their positions more than the other groups do. Bank trusts react the strongest in this period followed by investment advisors. Together they decrease their ownership by 1.13%, where the total decrease in institutional ownership is 1.55% in this period. Other types of institutional investors also sell after dividend omissions but in lower magnitudes. Bank trusts continue to sell their positions in the year following the dividend omission. Insurance companies and endowment & pension funds also continue selling their positions after the dividend omission. Investment companies however, initially sell their positions but later reverse and start buying the dividend-omitting firms one year after the omission.

Table 92 depicts the reaction of institutional investors to dividend decreases. Bank trusts appear to be the group that reacts strongly negatively to the dividend decrease. Bank trusts continue to decrease their holdings after the dividend decrease. On the other hand, the unrestricted groups such as investment companies actually increase their institutional ownership after the dividend decrease. These results give support to the previous findings that prudence-based investment restrictions are the dominant factors impacting the investment decisions of bank trust departments. Thus, even though bank trust portfolios are taxable, the bank trusts decrease their investments in dividend-decreasing firms

since such firms will not be able to generate income for their portfolios. In addition, the prudence levels of such firms will also be decreasing after the dividend decrease. On the other hand, investment companies whose portfolios are also taxable but not governed by prudence-based investment regulations, increase their raw ownership of dividend-decreasing stocks within a year after the dividend decrease.

Table 95 shows the breakdown of institutional investor reaction to dividend omissions after adjusting for the institutional change for the average firm in the market. The same trend is also observed here. Bank trusts and investment advisors show stronger reactions to dividend omissions than the other institutional investor types. However, in this case, investment advisors show the strongest selling. They sell 1.18% more of their positions in the dividend-omitting stocks than the average firm within the two quarters after the omission. All types sell their holdings in the dividend-omitting stocks more than they do in an average stock in the market. At the end of two years, bank trusts sell 1.14% more in dividend paying firms and investment advisors sell 2.85% more in dividend paying firms than they do in their positions with an average firm in the market. The same picture emerges also with payer and non-payer matched, SD and SMB matched portfolios, and abnormal institutional ownership change after controlling for stock characteristics. Again, bank trusts and investment advisors are the groups that sell much larger positions in the dividend-omitting stocks than the other types of institutional investors. The results for the firms that decrease their dividends are similar. At the time of the dividend decrease, on an adjusted basis,

the strongest reaction comes from the bank trusts group, followed by investment advisors. The magnitude of the reaction is much more subdued compared to the reaction to dividend omissions.

Table 123 and Table 124 depict the results for the cumulative institutional ownership change for the post dividend event period. The results indicate that bank trusts reduce their institutional holdings in firms that omit their dividends. They also reduce their holdings in firms that decrease their dividends, but to a lesser extent. Investment companies on the other hand increase their positions in firms that omit their dividends. They also increase their positions in stocks that decrease their dividends. The differences in the results of bank trusts and investment companies indicate the impact of the prudence-based investment restrictions and tax-status have on the investment decisions of these two groups. Given the fact that both groups are taxable on their equity investments, the two groups act quite differently toward dividend omissions and dividend decreases. Bank trusts reduce their holdings in firms that eliminate or decrease their payouts whereas investment companies actually increase their positions in these firms. The results also hold up with matching portfolio-based measures. Investment companies react more favorably towards firms that omit or decrease their dividends, whereas bank trusts show a strong negative reaction. The results indicate that, for bank trusts, the prudence-based investment restrictions dominate their reaction to dividend-omitting and dividend-decreasing stocks. In the absence of such strict investment restrictions, the positive reaction of investment companies can be explained based on the tax hypothesis. These findings help

explain the divergence of the results between bank trusts and investment companies reported in Strickland (1995).

Dividend Initiations/Dividend Increases

The reaction of institutional investor types to dividend initiations indicate that the type of institutions that significantly buy the sample firms are different than the ones in dividend omissions. Investment companies and investment advisors are now the ones that increase their holdings in dividend-initiating firms more than the other types. Within two quarters of the dividend initiation, these two types account for 1.33% of the 1.92% increase in institutional ownership. This trend continues after the dividend initiation. Within one and two years after the dividend initiation, investment companies and investment advisors account for 2.87% and 4.79% of the 3.98% and 5.71% of the institutional buying, respectively. When the results are adjusted using the characteristic matched portfolios, however, the differences between the institutional investor types become less significant. Although all institutional investor types increase their holdings in dividend-initiating firms more than they do in an average firm, there is no clear distinction between the reactions, unlike the dividend-omitting firms. The results are similar for firms that increase their dividends.

DO DIVIDEND CLIENTELES EXIST?

The previous sections show that institutions react negatively towards firms that omit/decrease their dividends and positively towards firms that initiate/ increase dividends. In addition, the magnitude of the institutional reaction towards dividend-omitting/dividend-decreasing firms is stronger than the magnitude of the reaction towards dividend-initiating/dividend-increasing firms. This result is consistent with the existence of institutional dividend clienteles since dividend-omitting/dividend-decreasing firms are old enough and have paid dividends long enough to have a preference-based ownership clientele. The potential existence of institutional dividend clienteles is expected to generate a greater degree of institutional reaction towards firms that omit higher levels of dividends and firms that have high institutional ownership prior to the dividend omission. Under the institutional dividend clientele hypothesis, institutional investors that are predisposed to holding dividend-paying stocks as a result of investment restrictions and portfolio needs, are expected to have ownership in stocks that pay dividends. Prior analysis in this thesis and previous research has shown that the institutional ownership of such institutions, i.e. bank trusts, increases with the level of dividend payments. Thus, firms with lengthy and stable dividend policies will have attracted institutional investors that are predisposed to holding dividend-paying stocks. As a result, the magnitude of the institutional investor reaction is expected to be related to the dividend level, as well as the pre-existence of a preference-based institutional clientele. This empirical observation is also supported by the implications of the dividend clientele model developed in Allen,

Bernardo, and Welch (1999). This section examines this hypothesis using a regression framework and studying the institutional investor reaction to dividend events after controlling for other firm characteristics, which are found to impact institutional ownership.

In order to test this hypothesis, the analysis uses the two most extreme dividend events, namely dividend omissions and dividend initiations. Table 127 shows the results of the cross-sectional regressions examining the impact of firm characteristics on the magnitude of the institutional investor reaction to dividend events. The dependent variable in the regressions is the institutional ownership change within one period of the event quarter. LogSize is calculated as the natural logarithm of market capitalization before the event quarter. Book/Market is measured as the ratio of book value to market value at the end of the December prior to the event quarter. Momentum is the 11-month buy-and-hold return with a one-month lag prior the dividend event. For the omission sample, the change in the dividend yield measure indicates the annual dividend yield paid out in the year prior to the omission. For the initiation sample, this measure is calculated as the annualized dividend yield based on the initiation dividend amount. The pre-event institutional ownership indicates the average institutional ownership of the firms' outstanding shares in the year prior to the dividend event.

The table reports the results for both the dividend omission and the dividend initiation samples. The results indicate that the change in the dividend yield and the level of institutional ownership prior to the dividend event are inversely related to the institutional ownership change for the dividend omission

sample. Firms that omit higher levels of dividend payments or firms that have high institutional ownership prior to the dividend omission suffer greater institutional reaction after the dividend event. The magnitude of the institutional reaction is stronger for the dividend-omitting firms than the dividend-initiating firms. These results are consistent with the existence of institutional dividend clienteles.

Chapter 6: Conclusion and Discussion

Institutional investors have become important participants in the U.S. and world equity markets. Ownership of corporations has changed drastically in the past two decades. The corporate form with diffuse individual ownership base has relinquished itself to a corporate ownership structure with concentrated institutional investors as vigilant shareholders. In this new environment, more needs to be understood about the new owners of U.S. corporations. This dissertation contributes to the finance literature by enhancing the understanding of the characteristics and investment behavior of institutional investors. The analysis in the dissertation examines the investment preferences and performance of institutional investors in detail. The thesis also investigates the impact of institutional ownership clienteles on the reaction of the equity markets towards changes in corporate policies.

The thesis investigates characteristics of institutional investors both at the aggregate level and also for the five different institutional types in light of the legal environment they are governed in. The study finds that institutions have significantly increased their share of the U.S. equity market over the past two decades. This trend is evident not only in domestic firms, but also in foreign incorporated firms. The thesis investigates the legal structure of the institutional investor universe and the potential impact of the legal environment on institutional investment behavior. The study identifies several market, financial, and outside agency-ranking variables to examine the investment preferences and

behavior of institutional investors. The results of the analysis depict that the differences in the legal environment do affect the investment characteristics and preferences of institutional investors. The legal structure of an institutional investor has a significant impact on the type of stocks that institution holds in its portfolio. Bank trusts and endowment & pension funds, governed by strict prudence-based regulations, are found to invest in prudent, safe, and legally justifiable stocks relative to unrestricted groups such as investment companies and investment advisors. The prudent stocks include the shares of older companies with high earnings capacity, low volatility, large capitalization, high dividend yield, and high rankings both from Fortune and Standard and Poor's. The study also examines institutional portfolio preferences and changes in portfolio allocations over an 18-year time period. Institutions appear to have definite and stable preferences for large capitalization, low volatility, medium turnover, high outside agency ranking stocks. The study also looks at the trading activity of institutional investors. The results indicate that prudence restricted institutional investor groups engage in lower levels of trading activity compared to the unrestricted group of institutional investors. Finally the study finds that, an individual stock's institutional ownership is positively related to its size, age, beta, turnover, stability of turnover, P/E and profitability (S/TA) levels and negatively related to its momentum, volatility, market-to-book, leverage (debt ratio), dividend yield, and capital expenditures to sales levels.

Institutional investors are legal entities set up to provide investment management services and expertise to their clients. The success of an institutional

investor is measured by the performance of investments under management. In order to understand the investment management success of institutional investors, the thesis carries out a comprehensive performance evaluation of the institutional investor universe using several portfolio performance measurement methodologies. The analysis investigates both the investment returns and investment risk of institutional investor portfolios. The study evaluates the investment performance of institutional investors over a 17-year period. Using several different methodologies established in the finance literature, portfolio performance of different types of institutions governed under different regulations and investment restrictions are compared. The study yields some surprising results. The institutional investor type that shows the highest performance levels throughout the study is the bank trusts group. Bank trusts hold the least risky portfolios and show the strongest portfolio performance in all of the evaluation methodologies. Investment advisors place second in performance after bank trusts. Investment companies also fare well in their performance, although not as strong as the first two types. Endowment & pension funds show the lowest performance levels among the five types of institutional investors.

The results of this study are in line with previous studies on mutual fund and pension fund performance. The study provides evidence that mutual fund portfolios do not earn excess returns after controlling for market, size and financial distress factors. The results support the findings of Grinblatt and Titman (1989), Gruber (1996), Carhart (1997), and many others. In addition, the study indicates that although mutual funds do have selective ability, they do not show

significant market timing skills. In addition, most of their returns originate from their investment style. These results confirm the results found both in Daniel, Grinblatt, Titman, and Wermers (1997) and Wermers (2000). The results also show that endowment & pension funds perform the worst among all institutional investor groups. The underperformance of these groups are in line with the poor performance results of pension funds found in Lakonishok, Shleifer, and Vishny (1992). The agreement of the results of this study with the findings of previous research on mutual fund and pension fund performance increases the strength of the main finding that bank trust departments perform the best among all institutional investor types.

The study also concludes that prudence, in fact, pays. The strong performance of bank trusts is a surprising result. In spite of the fact that they are severely restricted in the types of stocks they can hold in their portfolios, bank trusts perform the best among the five major institutional investor types regardless of the performance evaluation methodology used. The study shows that the prudent investment style the bank trusts manage their portfolios with have led them to allocate more of their dollars to such stocks during the study period. The strong performance of high prudence stocks during this period has resulted in the superior investment performance of bank trusts. In addition, the study indicates that bank trusts have been able to select the better stocks among their prudent investment universe which has also helped boost their equity performance, a fact made evident by the significant stock selectivity measures enjoyed by bank trust department portfolios.

The prudence-based investment strategy has yielded the highest returns in the past two decades. There are many attributes that have contributed to this outcome. First of all, as Gompers and Metrick (1999) show, large stocks have performed better than small stock with an average of 2.3% excess performance over the study period. The main reason for this performance has been the increase in institutional investment in the U.S. equity market with most of this investment going to large capitalization stocks. The institutions governed by prudence-based restrictions have allocated most of their funds in large stocks in accordance with the regulations. The unrestricted institutional investors have also allocated significant amount of funds in large stocks, since such stocks are much more liquid compared to smaller stocks, thus the implied impact of trading is less costly for large stocks. Since the prudence-based investment strategy has led the prudence-restricted institutions to portfolios comprising of larger stocks, such institutions have benefited from the returns to large capitalization stocks during the study period. This helps explain why bank trusts have performed the best among all institutional investor types during the study period. There are additional attributes to bank trusts' performance, however. First of all, the characteristic-based performance evaluation methodology indicates that bank trusts have significant stock selection ability. Not only bank trust portfolios have realized performance gains from their exposure to large stocks, but also the stocks they have selected to include in their portfolios from the large stock universe have done better than the overall large capitalization stock group. The results indicate that the principles laid out as the cornerstones of prudence-based investment

strategy appear to be successful, at least for the period under study. In addition, the turnover statistics indicate that bank trusts have been holding the stocks in their portfolios much longer compared to other institutional investor groups. In summary, investing in stocks of large and established firms with lengthy and stable earnings and dividend levels, with high liquidity and low risk, as well as high outside agency rankings and holding those stocks with a long-term investment horizon has proven to be the most successful investment strategy in the institutional investment universe over the past two decades. A potential future study in this area could investigate the ability of prudence-based stock selection criteria to produce superior returns in other time periods and also in international markets.

A major implication of the increasing institutional ownership of corporations is the formation of institutional ownership clienteles. Institutional investors own the shares of firms that possess preferred characteristics. These may be characteristics desired by all institutional investors, such as trading liquidity, or may be specific characteristics resulting from unique investment restrictions and regulations such as prudence-based investment restrictions, or institutional investors' own charters. These specific characteristics will predispose institutional investors bound by them to form ownership clienteles of such stocks and react significantly to changes in those characteristics. For example, certain institutional investors preclude in their charters ownership of stocks with a price less than five dollars. Thus significant institutional reaction may be expected to occur towards the stocks that reach the five-dollar threshold. The thesis investigates the

existence of institutional ownership clienteles using a well-established corporate policy, namely dividend policy. Level, length, and stability of dividend payment have been an input in determining the prudence of investments. In light of this, institutional investors governed by prudence-based investment regulations are predisposed to holding dividend stocks, thus form institutional dividend clienteles. The thesis examines the institutional investor reaction around extreme and substantial dividend policy changes to study the existence of institutional dividend clienteles and to investigate the impact of prudence-based investment restrictions in creating differences in institutional investor reaction towards changes in dividend policy.

The study finds significant institutional investor reaction around dividend policy changes. The results indicate that firms that omit their dividends get dropped from institutional portfolios and experience a significant decrease in the number of institutions holding the firms. The firms that initiate dividends get added to institutional portfolios and enjoy a significant increase in their institutional base. The results also show that even institutions that still hold the stocks significantly sell their positions after a firm, which has paid regular cash dividends, experiences a dividend omission. Similarly, institutional buying takes place after a firm declares a dividend initiation. Both institutional selling after dividend omissions and institutional buying after dividend initiations continue after the dividend event takes place. Among the institutional types, bank trusts and investment advisors hold more of dividend payers and sell more of the firms' shares after a dividend omission compared to other types of institutional investors.

The reaction of institutional investors to dividend decreases and dividend increases is also in the same direction. Institutional investors react negatively towards firms that dramatically decrease their dividends and react positively towards firms that substantially increase their dividends. There are, however, certain differences in the reaction of institutional investors to dividend omissions/initiations and dividend decreases/increases. First of all, the magnitude of the reaction to dividend decreases/increases is much more subdued compared to the institutional investor reaction to dividend omissions/initiations. Secondly, the institutional reaction appears to continue after the event in case of dividend omissions and initiations. For the dividend decreases and increases, however, institutional investor reaction is shorter-lived and reverses course towards the end of the event window, unlike the institutional reaction to dividend omissions and initiations.

These findings give credence to the expectations that prudence constrained institutions such as bank trusts and institutions managing tax-exempt funds decrease their holdings in firms that omit dividends and increase holdings in firms that initiate dividends. Finally, as hypothesized by Allen, Bernardo, and Welch (1999), firms with high levels of dividend yield and institutional ownership experience a much stronger reaction compared to firms with low dividend yields and institutional ownership. Overall, the results support the existence of dividend clienteles.

Tables

Table 1: Institutional Investor Universe Statistics

This table shows the institutional investor universe statistics over the study period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe. Manager Number indicates the average number of managers in the institutional investor group. Stock Count reports the average number of stocks in the institutional portfolio and Stock Count % indicates the percentage of stocks in the equity market held in the institutional portfolio. Portfolio Value indicates the average value of the institutional portfolio. Portfolio Concentration shows the amount of funds invested in a single stock. Owner Count and Owner Count % show the number and the percentage of institutional investors holding an average stock in their portfolios. The table reports the results for the overall institutional investor universe. The table also indicates the results of the F-test of differences between the institutional investor groups. The F-test critical value at alpha=5% is 2.5.

Type	*Manager Number*	*Stock Count*	*Stock Count %*	*Portfolio Value*	*Portfolio Concentration*	*Owner Count*	*Owner Count %*
B	226	341	5.5	1,892	5.5	14.3	6.4
I	72	257	3.9	1,902	7.4	5.5	7.5
M	61	246	3.6	3,097	12.6	4.7	7.2
A	476	178	2.6	1,244	7.0	15.3	3.1
E	91	208	3.2	1,837	8.8	5.7	6.3
Overall	926	232	3.5	1,634	7.1	34	3.5
F-stat		12.9	12.9	3.9	10.2	29.9	19.2

Table 2: Institutional Investor Portfolio Allocations in Major Stock Exchanges

This table shows the average institutional investor portfolio allocations in major stock exchanges. The table also indicates the results of the F-test of differences between the institutional investor groups. The F-test critical value at alpha=5% is 2.5.

Institutional Investor Type	*NYSE*	*AMEX*	*NASDAQ*
Bank Trusts	89.0	1.4	8.6
Insurance Companies	86.1	2.3	11.0
Investment Companies	81.2	1.7	16.1
Investment Advisors	81.8	2.3	14.4
Endowments & Pensions	89.1	2.1	7.9
Overall	84.8	1.9	12.0
F-stat	11.4	8.4	8.1

Table 3: Market Characteristics of Institutional Portfolios

This table shows the average market characteristics for the five groups of institutional investors during the sample period from 1979 to 1996. Portfolio value (Port Val) indicates the value of the funds under management. The overall portfolio characteristic for an institutional investor is calculated as the value-weighted average of the individual stock characteristics held in the portfolio. The figures show the averages across all institutions that existed in the sample period. Age is the number of years the stock has been publicly traded. Beta is obtained from a market model regression of the past 60-month portfolio returns on the returns of the CRSP value-weighted index. Momentum indicates the past 11 months buy-and-hold return with a one-month lag. Stock turnover shows the average ratio of the monthly volume to the monthly shares outstanding during the year. StDev of stock turnover is the standard deviation of the stock turnover and measures the degree of stability of the stock turnover. The table also indicates the results of the F-test of differences between the institutional investor groups. The F-test critical value at alpha=5% is 2.5.

Institutional Investor Type	*Port Val*	*Age*	*Beta*	*Momentum (%/Year)*	*Stock Turnover*	*StDev of Stock Turnover*
Bank Trusts	1,917	37.5	0.93	20.1	4.9	1.7
Insurance Companies	1,936	31.9	1.01	20.7	6.1	2.4
Investment Companies	3,320	28.6	1.07	26.2	7.9	3.1
Investment Advisors	1,237	28.7	1.09	24.2	8.5	3.6
Endowments & Pensions	1,840	33.4	1.02	19.1	5.9	2.3
Overall	1,652	31.5	1.04	22.6	7.2	2.8
F-stat	3.9	34.8	24.5	20.3	35.1	30.1

Table 4: Financial Characteristics of Institutional Portfolios

This table shows the average financial characteristics for the five groups of institutional investors during the sample period from 1979 to 1996. Capex/Sales indicates the level of capital expenditure spending and is used as a proxy for investment level and growth opportunities. Debt ratio indicates the leverage level. Dividends per share (DIVPS) and the dividend yield (YLD) show the payout levels of the stocks in the institutional portfolios. Market-to-Book (M/B) and Price-to-Earnings (P/E) ratios reflect the market's valuation of the firms. Sales-to-Total Assets (S/TA) shows the level of use of the asset base of the companies as a measure of income potential. The table also indicates the results of the F-test of differences between the institutional investor groups. The F-test critical value at alpha=5% is 2.5.

Institutional Investor Type	Capex / Sales	Debt Ratio	DIVPS	YLD (%)	M/B	P/E	S/TA
Bank Trusts	0.09	0.35	1.69	3.5	2.6	16.3	0.96
Insurance Companies	0.09	0.35	1.35	3.1	2.5	17.5	0.92
Investment Companies	0.11	0.34	1.15	2.6	2.9	18.9	0.94
Investment Advisors	0.16	0.35	1.06	2.4	3.2	19.8	0.93
Endowments & Pensions	0.10	0.35	1.44	3.1	2.7	18.2	0.93
Overall	0.13	0.35	1.3	2.8	2.9	18.6	0.9
F-stat	5.6	5.3	14.9	8.6	5.4	4.5	4.4

Table 5: Ranking Characteristics of Institutional Portfolios

This table shows the average outside rating agency ranking characteristics for the five groups of institutional investors during the sample period from 1979 to 1996. The data shows the rankings received from the outside evaluation agencies and serve as external validation measures. In all these figures a lower score reflects a higher ranking. The Fortune ranking indicates the extent of investment in the Fortune 500 companies. S&P Common Stock Ranking shows the level and stability of earnings and dividends. The figures indicate the common stock ranking levels of the institutional portfolios. S&P Senior Debt Rating shows the ratings assigned by Standard and Poors to the firms' outstanding leverage and is a measure of financial strength and debt capacity. The table also indicates the results of the F-test of differences between the institutional investor groups. The F-test critical value at alpha=5% is 2.5.

Institutional Investor Type	*Fortune 500*	*S&P Common Stock*	*S&P Senior Debt*
Bank Trusts	100.5	11.5	7.5
Insurance Companies	118.3	13.0	8.5
Investment Companies	131.0	13.3	8.9
Investment Advisors	126.3	16.2	8.6
Endowments & Pensions	108.9	12.5	8.1
Overall	118.5	12.8	8.4
F-stat	5.9	6.6	4.9

Table 6: Institutional Portfolio Allocations to Market Characteristics

This table shows the average portfolio allocations for the five groups of institutional investors during the sample period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe. Each year all the stocks in the CDA-CRSP-Compustat universe are sorted into three categories based on a specific market characteristic. The percentage of portfolio allocated to each group for each characteristic is calculated for each institutional investor. The figures show the average allocations for the institutional investor portfolios during the sample period.

Type	*Group*	*Size*	*Age*	*Beta*	*Momentum (%/Year)*	*Volatility*	*Stock Turnover*	*StDev of Stock Turnover*
	Low	2.3	19.3	25.6	16.9	72.9	30.0	72.3
B	Med	25.0	26.4	55.3	46.9	26.0	54.3	21.4
	High	72.8	54.3	19.1	36.2	1.1	15.7	6.3
	Low	2.2	27.3	22.4	18.6	63.3	23.1	60.2
I	Med	35.2	29.4	50.8	43.8	33.7	52.8	28.7
	High	62.6	43.3	26.8	37.6	3.0	24.1	11.1
	Low	0.7	36.6	18.3	17.4	58.1	17.2	51.2
M	Med	34.6	29.5	48.1	40.8	37.1	50.5	32.0
	High	64.7	33.9	33.6	41.8	4.8	32.3	16.8
	Low	2.0	34.2	14.8	17.9	53.3	18.8	52.9
A	Med	37.6	30.8	50.1	41.4	40.9	51.0	30.3
	High	60.4	35.0	35.1	40.7	5.8	30.2	16.8
	Low	2.1	25.0	21.0	20.4	56.9	22.7	62.4
E	Med	36.1	29.9	53.0	44.9	38.9	55.2	26.9
	High	61.8	45.2	26.0	34.7	4.2	22.1	10.7
	Low	2.0	29.2	18.8	17.9	59.5	22.1	59.0
All	Med	34.0	29.4	51.6	43.2	36.3	52.3	27.8
	High	64.0	41.4	29.6	38.8	4.2	25.6	13.2

Table 7: Institutional Portfolio Allocations to Financial Characteristics

This table shows the average portfolio allocations for the five groups of institutional investors during the sample period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe. Each year all the stocks in the CDA-CRSP-Compustat universe are sorted into three categories based on a specific financial characteristic. The percentage of portfolio allocated to each group for each characteristic is calculated for each institutional investor. The figures show the average allocations for the institutional investor portfolios during the sample period.

Type	*Group*	Capex / Sales	Debt Ratio	DIVPS	YLD (%)	M/B	P/E	S/TA
	Low	11.3	35.9	13.7	25.1	14.6	8.0	28.5
B	Med	45.0	39.3	27.2	48.1	40.0	48.5	51.9
	High	43.7	24.8	59.1	26.8	45.3	43.4	19.6
	Low	17.0	34.4	27.0	38.4	17.9	10.9	32.8
I	Med	40.7	37.9	26.8	39.4	39.4	46.2	48.7
	High	42.4	27.6	46.2	22.1	42.6	42.9	18.5
	Low	16.9	35.5	36.4	47.9	15.3	9.7	32.2
M	Med	39.9	37.1	24.9	34.1	38.1	42.8	47.5
	High	43.2	27.5	38.7	18.0	46.6	47.6	20.4
	Low	18.6	33.2	39.3	49.9	14.8	9.9	30.2
A	Med	41.6	37.3	25.3	35.0	38.2	41.9	48.3
	High	39.8	29.5	35.4	15.1	47.0	48.3	21.5
	Low	14.6	36.5	26.3	38.8	16.6	11.1	30.2
E	Med	43.6	39.0	26.0	40.8	38.2	43.4	52.3
	High	41.8	24.5	47.7	20.4	45.3	45.5	17.5
	Low	16.2	34.4	30.7	41.8	15.2	9.6	30.1
All	Med	42.4	38.0	25.9	39.0	38.7	44.0	49.5
	High	41.4	27.6	43.4	19.2	46.1	46.4	20.3

Table 8: Institutional Portfolio Allocations to Ranking Characteristics

This table shows the average portfolio allocations to ranking characteristics for the five groups of institutional investors during the sample period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe.

Type	*Group*	*Fortune 500*	*S&P Common Stock*	*S&P Senior Debt*
	A	86.0	70.9	87.7
	B	9.6	28.4	12.2
B	C & D	4.4	0.7	0.1
	Ranked	80.4	90.7	72.8
	No-Rank	19.6	9.3	27.2
	A	79.4	53.2	74.3
	B	13.6	44.2	25.4
I	C & D	7.0	2.6	0.3
	Ranked	71.8	81.4	68.8
	No-Rank	28.2	18.6	31.2
	A	75.8	48.2	68.4
	B	14.7	49.2	31.4
M	C & D	9.5	2.6	0.1
	Ranked	63.0	75.8	31.5
	No-Rank	37.0	24.2	38.5
	A	74.4	48.1	67.2
	B	15.9	48.6	32.5
A	C & D	9.7	3.3	0.3
	Ranked	62.5	75.3	62.4
	No-Rank	37.5	24.7	37.6
	A	83.1	59.6	79.4
	B	12.2	38.1	20.3
E	C & D	4.7	2.3	0.3
	Ranked	78.3	85.7	75.7
	No-Rank	21.7	14.3	24.3
	A	78.3	54.1	73.1
	B	13.9	43.3	26.6
All	C & D	7.8	2.6	0.3
	Ranked	68.7	79.8	66.1
	No-Rank	31.3	20.2	33.9

Tables 9a-9c: Institutional Portfolio Allocation Difference Tests

The tables show the results of the F-tests of differences in portfolio allocations across the five major institutional investor types. The critical F-value at alpha= 5 % level is 2.38.

Table 9a: Market Characteristics

	Group	*Size*	*Age*	*Beta*	*Momentum (%/Year)*	*Volatility*	*Stock Turnover*	*StDev of Stock Turnover*
	Low	2.4	20.8	11.7	10.3	44.9	37.7	60.5
F-Stat	Med	7.5	7.3	19.4	13.6	38.5	15.6	31.1
	High	8.3	36.4	33.3	8.8	13.7	47.6	31.1

Table 9b: Financial Characteristics

	Group	*Capex / Sales*	*Debt Ratio*	*DIVPS*	*YLD (%)*	*M/B*	*P/E*	*S/TA*
	Low	11.7	8.8	37.8	38.4	4.7	8.3	3.4
F-Stat	Med	5.5	12.8	5.5	30.3	5.5	8.1	8.5
	High	6.5	4.1	46.6	12.2	4.3	6.1	6.5

Table 9c: Ranking Characteristics

	Group	*Fortune 500*	*S&P Common Stock*	*S&P Senior Debt*
	A	35.6	55.1	54.5
F-Stat	B	4.1	15.5	23.6
	C & D	6.7	7.3	2.2

Tables 9d-9f: Institutional Portfolio Allocation Difference Tests - Excluding Bank Trust Departments

The tables show the results of the F-tests of differences in portfolio allocations across the four major institutional investor types, excluding the bank trust departments group. The critical F-value at alpha= 5 % level is 2.38.

Table 9d: Market Characteristics - Excluding Bank Trust Departments

	Group	*Size*	*Age*	*Beta*	*Momentum (%/Year)*	*Volatility*	*Stock Turnover*	*StDev of Stock Turnover*
	Low	2.1	3.5	4.7	4.8	8.6	11.4	17.7
F-Stat	Med	3.4	2.3	6.0	6.5	5.1	8.1	6.5
	High	3.8	12.8	5.2	4.4	3.9	9.0	7.2

Table 9e: Financial Characteristics - Excluding Bank Trust Departments

	Group	*Capex / Sales*	*Debt Ratio*	*DIVPS*	*YLD (%)*	*M/B*	*P/E*	*S/TA*
	Low	2.6	4.3	5.1	4.6	2.0	2.5	3.6
F-Stat	Med	4.1	7.5	2.8	7.6	3.0	4.2	6.8
	High	6.1	2.9	15.1	4.1	2.4	2.8	3.8

Table 9f: Ranking Characteristics - Excluding Bank Trust Departments

	Group	*Fortune 500*	*S&P Common Stock*	*S&P Senior Debt*
	A	11.9	11.5	19.8
F-Stat	B	3.3	3.4	3.4
	C & D	3.6	3.1	1.4

Table 10: Institutional Portfolio Turnover

This table depicts the annual portfolio turnover measures for the five institutional investor groups comprising of bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E). Portfolio turnover measure is based on the Morningstar portfolio turnover statistic calculated as the ratio of the lesser of purchases or sales to average annual assets.

Year	Morningstar Portfolio Turnover (%)					
	B	I	M	A	E	All
1980	28.3	37.5	45.9	52.5	25.7	36.7
1981	26.1	34.5	51.7	50.0	20.8	35.0
1982	31.9	37.9	49.6	58.5	25.5	41.0
1983	29.9	45.7	50.3	59.2	28.7	42.7
1984	31.2	49.6	49.5	55.0	31.6	43.2
1985	30.5	55.2	53.8	59.0	28.1	46.3
1986	31.9	58.2	47.1	64.1	29.5	49.7
1987	29.4	47.4	56.0	67.7	30.8	51.6
1988	29.7	45.2	52.8	55.7	30.7	46.0
1989	28.7	53.8	51.3	58.9	33.6	48.5
1990	23.9	46.3	50.3	53.2	27.9	43.5
1991	25.0	40.5	47.1	48.5	30.0	41.3
1992	24.0	47.1	43.4	49.7	27.9	42.3
1993	26.7	44.8	45.7	55.1	30.5	46.8
1994	29.1	49.6	53.8	58.3	28.8	50.6
1995	28.3	45.2	62.4	58.1	34.0	51.5
1996	25.7	41.5	58.1	57.8	30.8	50.9
1980-1984	29.5	41.0	49.4	55.0	26.5	39.7
1985-1989	30.1	51.9	52.2	61.1	30.5	48.4
1990-1993	24.9	44.7	46.6	51.6	29.1	43.5
1994-1996	27.7	45.4	58.1	58.1	31.2	51.0
1980-1989	29.8	46.5	50.8	58.1	28.5	44.1
1990-1996	26.1	45.0	51.5	54.4	30.0	46.7
1980-1996	28.3	45.9	51.1	56.6	29.1	45.2

Table 11: Institutional Portfolio Holding Period

This table depicts the annual portfolio holding period measures for the five institutional investor groups comprising of bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E). Portfolio holding period measure indicates the average time a stock is held in the portfolio. The table also shows the results of the F-test of differences between institutional investor groups. The F-statistic critical value at alpha=5% level is 2.5.

Year	Holding Period (Years)						F-Stat	F-Stat Excluding B & E
	B	I	M	A	E	All		
1980	3.5	2.7	2.2	1.9	3.9	2.7	12.4	2.8
1981	3.8	2.9	1.9	2.0	4.8	2.9	23.6	20.5
1982	3.1	2.6	2.0	1.7	3.9	2.4	21.0	19.7
1983	3.3	2.2	2.0	1.7	3.5	2.3	24.2	15.7
1984	3.2	2.0	2.0	1.8	3.2	2.3	17.1	7.3
1985	3.3	1.8	1.9	1.7	3.6	2.2	28.5	5.4
1986	3.1	1.7	2.1	1.6	3.4	2.0	28.3	10.0
1987	3.4	2.1	1.8	1.5	3.2	1.9	38.6	17.5
1988	3.4	2.2	1.9	1.8	3.3	2.2	19.8	6.2
1989	3.5	1.9	2.0	1.7	3.0	2.1	22.9	3.6
1990	4.2	2.2	2.0	1.9	3.6	2.3	23.1	3.0
1991	4.0	2.5	2.1	2.1	3.3	2.4	17.8	8.4
1992	4.2	2.1	2.3	2.0	3.6	2.4	21.0	5.7
1993	3.7	2.2	2.2	1.8	3.3	2.1	23.6	11.6
1994	3.4	2.0	1.9	1.7	3.5	2.0	23.7	6.4
1995	3.5	2.2	1.6	1.7	2.9	1.9	21.5	12.4
1996	3.9	2.4	1.7	1.7	3.2	2.0	24.7	17.3
1980-1984	3.4	2.5	2.0	1.8	3.9	2.5	38.3	13.2
1985-1989	3.3	1.9	1.9	1.6	3.3	2.1	63.9	8.5
1990-1993	4.0	2.2	2.2	1.9	3.4	2.3	74.8	7.2
1994-1996	3.6	2.2	1.7	1.7	3.2	2.0	68.3	12.0
1980-1989	3.4	2.2	2.0	1.7	3.6	2.3	56.1	10.9
1990-1996	3.8	2.2	2.0	1.8	3.3	2.2	55.2	9.3
1980-1996	3.6	2.2	2.0	1.8	3.5	2.2	104.5	10.2

Table 12: Institutional Ownership Regressions

This table shows the results of the pooled cross-sectional time-series regressions of institutional ownership. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe. The dependent variable is the percentage of firms' shares owned by institutional investors. The independent variables include the market and financial variables determined in the previous sections of the study. The regressions are run for each type of institutional investor and for the aggregate institutional investor universe.

		B	*I*	*M*	*A*	*E*	*All*
Size (Log)	Coef	1.250	0.313	0.500	2.162	0.610	6.300
	t-stat	70.9	17.9	21.5	74.7	36.9	151.5
Age	Coef	0.085	0.007	-0.040	-0.054	0.021	0.034
	t-stat	39.7	4.1	-17.4	-15.2	12.5	6.5
Beta	Coef	0.026	0.011	0.002	0.055	0.035	0.094
	t-stat	2.0	0.9	0.18	3.5	2.9	4.0
Momentum (%/Year)	Coef	-0.003	-0.003	0.004	-0.003	-0.006	-0.015
	t-stat	-7.3	-6.0	7.6	-4.2	-15.9	-14.7
Volatility	Coef	-0.146	-0.065	-0.143	-0.197	-0.038	-0.326
	t-stat	-32.5	-14.5	-20.5	-28.3	-7.9	-33.1
Stock Turnover	Coef	0.019	0.065	0.240	0.409	0.025	0.621
	t-stat	4.4	19.2	51.6	59.1	6.0	57.9
StDev of Stock Turnover	Coef	0.003	-0.028	-0.100	-0.210	0.011	-0.31
	t-stat	0.9	-11.9	-31.7	-41.4	2.1	-40.2
Capex / Sales	Coef	-0.002	-0.005	-0.002	-0.009	0.001	-0.015
	t-stat	-0.7	-1.6	-0.6	-1.6	0.5	-2.3
Debt Ratio	Coef	-0.805	0.540	0.355	-1.346	-0.448	-2.377
	t-stat	-7.4	5.4	2.6	-7.5	-4.7	-9.1
YLD (%)	Coef	0.011	-0.011	-0.017	-0.032	-0.004	-0.039
	t-stat	4.7	-3.2	-6.3	-9.8	-2.3	-7.9
M/B	Coef	-0.001	-0.001	-0.001	-0.002	-0.001	-0.005
	t-stat	-2.6	-2.0	-0.6	-3.0	-2.0	-4.3
P/E	Coef	-0.0002	0.0002	0.0004	0.0013	0.0000	0.0022
	t-stat	-0.6	0.8	1.4	2.9	-0.1	3.3
S/TA	Coef	0.696	-0.034	-0.202	0.553	-0.002	1.267
	t-stat	22.2	-1.2	-5.3	10.8	-0.1	17.2

Table 13: Institutional Portfolio & Performance Profile

This table indicates the overall portfolio performance of institutional investors for each of the 17 years in the study period. The number of institutions (INum) that are in the sample in a given year is provided in the first column. Port Val indicates the total institutional portfolio value ($billion) invested in equities by the end of a given year. Number of stocks (SNum) shows the average number of stocks in a given institutional portfolio by the end of a given year. Portfolio returns depict average equal-weighted and asset-weighted returns of institutional portfolios for a given year. The table also provides the buy-and-hold returns for three broad market indices.

Year	*I Num*	*Port Val*	*S Num*	*Return (EW)*	*Return (AW)*	*S&P 500 Return*	*CRSP VW Return*	*CRSP EW Return*
1980	563	448	174	33.1%	33.4%	32.4%	33.2%	43.1%
1981	598	421	176	-3.4%	-4.8%	-4.9%	-4.0%	0.0%
1982	622	464	182	22.9%	22.4%	21.4%	20.4%	25.0%
1983	680	704	196	22.6%	21.8%	22.5%	22.7%	37.7%
1984	746	697	193	3.2%	3.2%	6.3%	3.3%	-10.5%
1985	819	796	207	32.6%	32.5%	32.2%	31.5%	25.3%
1986	888	1,039	212	16.5%	17.2%	18.5%	15.6%	7.9%
1987	938	1,454	219	2.4%	3.2%	5.2%	1.8%	-8.6%
1988	958	1,192	226	17.7%	17.4%	16.8%	17.6%	19.7%
1989	989	1,501	232	28.4%	29.3%	31.5%	28.4%	11.8%
1990	1029	1,282	220	-6.0%	-5.0%	-3.2%	-6.0%	-21.3%
1991	1100	1,749	230	36.4%	35.1%	30.5%	33.6%	51.0%
1992	1166	1,988	242	9.6%	8.8%	7.7%	9.0%	26.8%
1993	1204	2,474	262	12.6%	11.9%	10.0%	11.5%	26.3%
1994	1239	2,610	265	0.0%	0.1%	1.3%	-0.6%	-4.7%
1995	1375	3,341	262	35.1%	36.5%	37.5%	35.7%	29.9%
1996	1439	4,147	272	22.6%	22.4%	22.9%	21.3%	17.9%
1980-1984	642	547	184	15.69%	15.20%	15.54%	15.13%	19.04%
1985-1989	918	1,197	219	19.50%	19.93%	20.84%	18.97%	11.21%
1990-1993	1125	1,873	239	13.16%	12.70%	11.25%	12.02%	20.71%
1994-1996	1351	3,366	266	19.23%	19.67%	20.57%	18.79%	14.38%
1980-1989	780	872	202	17.59%	17.56%	18.19%	17.05%	15.13%
1990-1996	1222	2,513	250	15.76%	15.69%	15.24%	14.92%	18.00%
1980-1996	962	1,547	222	16.84%	16.79%	16.98%	16.18%	16.31%

Table 14: Institutional Portfolio Profile: Institutional Investor Count

This table indicates the number of institutional investors that existed in the institutional investor universe at the end of every year during the study period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe.

Year	Institution Count				
	B	I	M	A	E
1980	227	70	50	136	80
1981	232	67	52	162	85
1982	233	67	53	183	86
1983	244	65	54	232	85
1984	240	70	55	283	98
1985	241	73	58	355	92
1986	227	70	69	414	108
1987	229	74	62	467	106
1988	227	70	62	499	100
1989	227	71	57	531	103
1990	227	74	58	567	103
1991	230	76	61	638	95
1992	228	72	66	707	93
1993	228	74	67	753	82
1994	209	80	58	809	83
1995	216	83	96	898	82
1996	197	76	94	986	86
1980-1984	235	68	53	199	87
1985-1989	230	72	62	453	102
1990-1993	228	74	63	666	93
1994-1996	207	80	83	898	84
1980-1989	233	70	57	326	94
1990-1996	219	76	71	765	89
1980-1996	227	72	63	507	92

Table 15: Institutional Portfolio Profile: Portfolio Values & Stocks

This table indicates the value of funds and the number of stocks under management in the institutional investor universe at the end of every year during the study period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe. Portfolio value indicates the total institutional portfolio value ($billion) invested in equities by the end of a given year. Portfolio stocks shows the average number of stocks held in an institutional portfolio by the end of a given year.

Year	*Portfolio Value*					*Portfolio Stocks*				
	B	I	M	A	E	B	I	M	A	E
1980	201	56	36	102	52	219	150	148	161	98
1981	183	50	36	97	55	226	161	136	161	95
1982	189	58	38	126	53	239	168	142	165	97
1983	269	74	61	222	79	262	181	164	169	111
1984	266	72	55	231	73	272	180	157	164	105
1985	296	71	58	277	94	306	180	152	161	169
1986	370	88	65	393	123	335	196	147	169	161
1987	473	126	90	576	188	341	193	183	166	207
1988	386	103	73	477	153	354	233	182	169	232
1989	464	130	89	615	203	372	261	210	168	235
1990	371	106	80	556	169	347	258	211	164	220
1991	480	132	162	757	218	365	279	270	169	239
1992	547	148	206	853	235	395	325	282	175	269
1993	614	213	298	1,087	262	435	337	325	189	314
1994	627	262	347	1,097	277	456	350	372	187	353
1995	748	328	670	1,298	296	450	410	427	172	373
1996	862	403	1,026	1,531	326	502	475	487	180	353
1980-1984	222	62	45	155	63	244	168	149	164	101
1985-1989	398	104	75	468	152	342	213	175	167	201
1990-1993	503	150	186	813	221	386	300	272	175	261
1994-1996	746	331	681	1,309	300	469	412	429	180	359
1980-1989	310	83	60	312	107	293	190	162	165	151
1990-1996	607	227	398	1,026	255	422	348	339	177	303
1980-1996	2019	1937	2904	1114	1925	346	255	235	170	214

Table 16: Institutional Performance Profile: Portfolio Returns

This table indicates the equal-weighted and the asset-weighted returns of the institutional investor portfolios at the end of every year during the study period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe.

Year	*Portfolio Return (EW)*					*Portfolio Return (AW)*				
	B	I	M	A	E	B	I	M	A	E
1980	30.8	31.3	38.9	37.0	31.0	32.3	33.3	34.4	36.9	30.8
1981	-2.8	-2.8	-4.6	-3.2	-5.4	-5.0	-4.7	-3.9	-5.0	-4.5
1982	23.1	22.5	24.0	23.7	20.6	22.5	23.6	24.1	22.6	19.1
1983	22.3	23.8	23.0	23.0	21.7	22.4	22.5	22.7	21.2	20.6
1984	6.2	3.2	-0.8	1.3	2.3	5.1	3.1	0.4	1.0	4.8
1985	33.1	33.8	31.7	32.7	30.5	32.5	31.8	31.0	32.6	33.8
1986	17.5	16.8	19.2	15.8	14.7	17.9	16.8	16.9	17.1	15.7
1987	3.4	2.9	1.6	1.5	4.2	3.5	2.6	3.4	2.8	4.4
1988	17.8	16.6	15.6	18.3	16.9	16.9	16.8	16.3	18.6	15.9
1989	30.2	27.6	31.5	27.2	29.2	29.8	29.1	30.1	29.0	29.1
1990	-2.9	-6.3	-5.5	-7.4	-5.6	-2.7	-4.5	-5.5	-6.4	-5.2
1991	33.3	33.0	36.0	39.0	31.3	33.4	34.3	36.3	37.2	31.4
1992	8.7	9.3	8.7	10.2	8.2	8.3	7.3	9.3	9.3	8.9
1993	8.8	13.8	13.4	13.7	12.8	9.4	12.2	15.2	12.6	10.9
1994	1.2	-0.5	-2.5	0.0	0.2	0.7	-0.2	-0.7	0.0	0.3
1995	36.8	35.3	34.8	34.5	36.8	36.4	36.0	36.7	36.4	38.4
1996	23.4	22.8	21.2	22.5	23.6	23.0	22.7	21.2	22.9	21.7
1980-1984	15.9	15.6	16.1	16.4	14.0	15.5	15.6	15.5	15.3	14.2
1985-1989	20.4	19.5	19.9	19.1	19.1	20.1	19.4	19.5	20.0	19.8
1990-1993	12.0	12.4	13.1	13.9	11.7	12.1	12.3	13.8	13.2	11.5
1994-1996	20.5	19.2	17.8	19.0	20.2	20.0	19.5	19.1	19.8	20.1
1980-1989	18.2	17.6	18.0	17.7	16.6	17.8	17.5	17.5	17.7	17.0
1990-1996	15.6	15.3	15.2	16.1	15.3	15.5	15.4	16.1	16.0	15.2
1980-1996	17.1	16.7	16.8	17.0	16.1	16.9	16.6	16.9	17.0	16.2

Table 17: Institutional Portfolio Return Comparison: Equal-Weighted

This table indicates the excess returns for the equal-weighted portfolios of institutional investor types, which include bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also depicts the results of the F-tests and the Kruskal-Wallis tests of differences between institutional investor types. The Kruskal-Wallis (KW) critical value at alpha=5% level is 9.5.

Year	*Excess Return - Equal-Weighted*					*F Stat*	*F Table*	*KW*
	B	I	M	A	E			
1981	-1.38%	-2.00%	2.26%	4.52%	-0.64%			
1982	2.52%	1.90%	1.91%	1.63%	2.17%			
1983	0.76%	1.14%	-1.56%	-0.45%	-0.22%			
1984	2.50%	0.16%	-3.16%	-0.74%	-1.63%			
1985	2.74%	2.52%	-1.33%	-0.49%	0.51%			
1986	2.61%	1.17%	-0.13%	-0.71%	0.93%			
1987	1.52%	1.25%	0.98%	1.03%	0.92%			
1988	0.45%	-0.18%	-2.03%	0.10%	-1.81%			
1989	1.97%	-0.83%	1.31%	-1.61%	-0.26%			
1990	2.82%	0.51%	1.83%	-0.10%	0.13%			
1991	0.83%	-1.43%	0.18%	1.71%	-3.87%			
1992	-0.10%	-0.24%	-1.03%	0.26%	1.06%			
1993	-2.28%	1.56%	1.12%	0.74%	1.40%			
1994	1.68%	0.73%	-1.29%	1.14%	1.46%			
1995	2.06%	-1.52%	-2.98%	-3.45%	0.79%			
1996	2.18%	1.15%	-1.32%	-0.01%	1.72%			
1981-1984	1.10%	0.30%	-0.14%	1.24%	-0.08%			
1985-1989	1.86%	0.79%	-0.24%	-0.34%	0.06%			
1990-1993	0.32%	0.10%	0.53%	0.66%	-0.32%			
1994-1996	1.97%	0.12%	-1.86%	-0.77%	1.33%			
1980-1989	1.52%	0.57%	-0.19%	0.36%	0.00%	2.94	2.39	13.1
1990-1996	1.03%	0.11%	-0.50%	0.04%	0.39%	2.86	2.39	9.56
1980-1996	1.30%	0.37%	-0.33%	0.22%	0.17%	3.02	2.38	15.6

Table 18: Institutional Portfolio Return Comparison: Asset-Weighted

This table indicates the excess returns for the asset-weighted portfolios of institutional investor types, which include bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also depicts the results of the F-tests and the Kruskal-Wallis tests of differences between institutional investor types. The Kruskal-Wallis (KW) critical value at alpha=5% level is 9.5.

Year	*Excess Return - Asset-Weighted*					*F Stat*	*F Table*	*KW*
	B	I	M	A	E			
1981	-1.78%	-2.43%	3.20%	0.04%	-3.29%			
1982	1.61%	1.33%	2.26%	0.66%	0.63%			
1983	0.47%	-0.26%	-0.57%	-1.35%	-0.99%			
1984	1.50%	-0.02%	-1.69%	-1.27%	1.27%			
1985	1.65%	0.46%	-1.46%	-0.11%	3.16%			
1986	2.52%	0.90%	0.55%	0.69%	0.56%			
1987	1.68%	0.36%	1.13%	1.64%	1.77%			
1988	-0.48%	-0.56%	-1.91%	0.35%	-1.67%			
1989	1.13%	0.42%	0.67%	-0.39%	0.32%			
1990	3.32%	2.04%	1.81%	0.58%	1.12%			
1991	-0.06%	0.27%	0.06%	0.77%	-1.87%			
1992	-0.61%	-1.84%	-0.69%	-0.33%	-0.05%			
1993	-1.90%	0.23%	1.77%	-0.15%	-0.49%			
1994	1.38%	1.07%	0.63%	1.34%	1.77%			
1995	0.56%	-1.93%	-2.79%	-2.82%	1.02%			
1996	1.24%	0.00%	-1.37%	-0.41%	0.19%			
1981-1984	0.45%	-0.34%	0.80%	-0.48%	-0.59%			
1985-1989	1.30%	0.32%	-0.21%	0.44%	0.83%			
1990-1993	0.19%	0.17%	0.74%	0.22%	-0.32%			
1994-1996	1.06%	-0.29%	-1.18%	-0.63%	0.99%			
1980-1989	0.92%	0.02%	0.24%	0.03%	0.20%	2.53	2.39	9.55
1990-1996	0.56%	-0.02%	-0.08%	-0.15%	0.24%	2.41	2.39	9.81
1980-1996	0.76%	0.00%	0.10%	-0.05%	0.22%	2.51	2.38	10.2

Tables 19a-19d: Distributional Characteristics Of Institutional Portfolio Returns

The tables depict the distributional statistics for the equal-weighted and the asset-weighted aggregate institutional portfolio and the market portfolio. The tables also report the statistics for the portfolios of the five institutional investor groups comprising of bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E).

Table 19a: Skewness, Kurtosis, Excess Kurtosis: Aggregate

Period		Skewness			Kurtosis/ Excess Kurtosis		
		EW	AW	Mkt	EW	AW	Mkt
1980-1989	Statistic	-0.96	-0.85	-0.94	4.94/1.94	4.45/1.45	4.54/1.54
	z-value	-4.28	-3.78	-4.21	4.35	3.24	3.45
1990-1996	Statistic	-0.28	-0.17	-0.28	0.99/2.01	1.05/-1.95	1.06/-1.94
	z-value	-1.04	-0.63	-1.03	-3.76	-3.64	-3.63
1980-1996	Statistic	-0.81	-0.7	-0.81	4.72/1.72	4.34/1.34	4.61/1.61
	z-value	-4.73	-4.08	-4.75	5.02	3.90	4.70

Table 19b: Skewness: By Type

Period		*Skewness*					
		B	I	M	A	E	Mkt
1980-1989	Statistic	-0.86	-0.94	-0.95	-0.97	-0.84	-0.94
	z-value	-3.86	-4.21	-4.25	-4.34	-3.77	-4.21
1990-1996	Statistic	-0.10	-0.34	-0.20	-0.31	-0.36	-0.28
	z-value	-0.39	-1.29	-0.74	-1.15	-1.33	-1.03
1980-1996	Statistic	-0.71	-0.81	-0.80	-0.83	-0.76	-0.81
	z-value	-4.11	-4.75	-4.66	-4.83	-4.41	-4.75

Table 19c: Kurtosis: By Type

Period		*Kurtosis*					
		B	I	M	A	E	Mkt
1980-1989	Statistic	4.41	5.05	5.18	4.75	4.29	4.54
	z-value	3.15	4.58	4.88	3.91	2.88	3.45
1990-1996	Statistic	1.34	0.86	0.87	0.91	0.83	1.06
	z-value	-3.10	-4.00	-3.99	-3.91	-4.06	-3.63
1980-1996	Statistic	4.47	4.88	5.10	4.54	4.37	4.61
	z-value	4.28	5.48	6.11	4.48	4.00	4.70

Table 19d: Excess Kurtosis: By Type

Period		*Excess Kurtosis*					
		B	I	M	A	E	Mkt
1980-1989	Statistic	1.41	2.05	2.18	1.75	1.29	1.54
1990-1996	Statistic	-1.66	-2.14	-2.13	-2.09	-2.17	-1.94
1980-1996	Statistic	1.47	1.88	2.1	1.54	1.37	1.61

Table 20: Institutional Portfolio Variance

This table shows the variance measures of the equal-weighted and the asset-weighted aggregate institutional portfolios and the market portfolio as of the end of each year in the study period. The variance measure is calculated using the past 60-month returns as of the end of a given year. The table also depicts the ratios relative to the overall market.

Year	*Var EW*	*Var AW*	*Var Mkt*	*Ratio EW*	*Ratio AW*
1981	2.86%	2.87%	3.15%	0.91	0.91
1982	3.08%	3.15%	3.28%	0.94	0.96
1983	2.55%	2.60%	2.71%	0.94	0.96
1984	2.48%	2.53%	2.56%	0.97	0.99
1985	2.14%	2.18%	2.09%	1.03	1.05
1986	2.29%	2.35%	2.20%	1.04	1.07
1987	3.50%	3.49%	3.25%	1.08	1.08
1988	3.49%	3.47%	3.21%	1.09	1.08
1989	3.31%	3.30%	3.04%	1.09	1.08
1990	3.75%	3.73%	3.42%	1.10	1.09
1991	3.75%	3.70%	3.35%	1.12	1.10
1992	1.96%	1.94%	1.70%	1.15	1.14
1993	1.86%	1.83%	1.60%	1.16	1.14
1994	1.79%	1.77%	1.56%	1.15	1.14
1995	1.12%	1.13%	0.98%	1.14	1.15
1996	0.79%	0.80%	0.74%	1.07	1.09
1981-1984	2.74%	2.79%	2.92%	0.94	0.96
1985-1989	2.95%	2.96%	2.76%	1.06	1.07
1990-1993	2.83%	2.80%	2.52%	1.13	1.12
1994-1996	1.23%	1.23%	1.09%	1.12	1.13
1980-1989	2.86%	2.88%	2.83%	1.01	1.02
1990-1996	2.15%	2.13%	1.91%	1.13	1.12
1980-1996	2.55%	2.55%	2.43%	1.06	1.06

Table 21: Institutional Portfolio Semi-Variance

This table shows the semi-variance measures of the equal-weighted and the asset-weighted aggregate institutional portfolios and the market portfolio as of the end of each year in the study period. The semi-variance measure is calculated using the past 60-month returns as of the end of a given year. The table also depicts the ratios relative to the overall market.

Year	*Semi-Var EW*	*Semi-Var AW*	*Semi-Var Mkt*	*Ratio EW*	*Ratio AW*
1981	1.60%	1.57%	1.84%	0.87	0.85
1982	1.46%	1.45%	1.63%	0.90	0.89
1983	1.24%	1.24%	1.38%	0.90	0.90
1984	1.13%	1.13%	1.21%	0.93	0.93
1985	0.87%	0.88%	0.86%	1.01	1.03
1986	1.01%	1.03%	0.97%	1.04	1.06
1987	2.17%	2.15%	2.01%	1.08	1.07
1988	2.14%	2.12%	1.97%	1.09	1.07
1989	2.15%	2.13%	1.99%	1.08	1.07
1990	2.40%	2.35%	2.19%	1.10	1.07
1991	2.36%	2.29%	2.12%	1.11	1.08
1992	1.00%	0.97%	0.87%	1.15	1.12
1993	0.95%	0.91%	0.81%	1.16	1.11
1994	0.91%	0.88%	0.79%	1.15	1.11
1995	0.56%	0.56%	0.50%	1.12	1.13
1996	0.47%	0.47%	0.43%	1.08	1.08
1981-1984	1.36%	1.35%	1.52%	0.90	0.89
1985-1989	1.67%	1.66%	1.56%	1.06	1.06
1990-1993	1.68%	1.63%	1.50%	1.13	1.10
1994-1996	0.65%	0.64%	0.57%	1.12	1.10
1980-1989	1.53%	1.52%	1.54%	0.99	0.99
1990-1996	1.23%	1.20%	1.10%	1.12	1.10
1980-1996	1.40%	1.38%	1.35%	1.05	1.04

Table 22: Institutional Portfolio Variance: By Type

This table depicts the variance measures for the five institutional investor groups comprising of bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the variance measure for the market portfolio.

Year	*Variance EW*					*Variance AW*					*Variance Mkt*
	B	I	M	A	E	B	I	M	A	E	
1981	2.53	2.71	3.57	3.37	2.85	2.75	2.93	3.14	3.28	2.54	3.15
1982	2.73	3.02	3.73	3.56	3.10	2.96	3.27	3.41	3.56	2.86	3.28
1983	2.25	2.47	3.08	2.97	2.57	2.44	2.70	2.81	2.97	2.35	2.71
1984	2.17	2.44	3.02	2.88	2.50	2.34	2.61	2.77	2.89	2.27	2.56
1985	1.84	2.13	2.55	2.43	2.23	1.97	2.22	2.40	2.49	2.08	2.09
1986	2.03	2.26	2.57	2.54	2.38	2.15	2.37	2.57	2.60	2.30	2.20
1987	3.06	3.39	3.94	3.79	3.57	3.23	3.40	3.79	3.79	3.40	3.25
1988	3.05	3.39	3.91	3.75	3.54	3.21	3.37	3.79	3.75	3.41	3.21
1989	2.93	3.20	3.61	3.52	3.39	3.08	3.17	3.54	3.52	3.29	3.04
1990	3.27	3.61	4.06	4.02	3.73	3.46	3.56	3.96	4.00	3.63	3.42
1991	3.18	3.63	4.09	4.06	3.66	3.38	3.54	3.98	4.02	3.49	3.35
1992	1.63	1.87	2.04	2.16	1.84	1.74	1.84	2.10	2.14	1.79	1.70
1993	1.54	1.77	1.93	2.05	1.74	1.64	1.75	1.99	2.03	1.68	1.60
1994	1.45	1.70	1.89	1.99	1.66	1.55	1.69	1.96	1.97	1.60	1.56
1995	0.93	1.06	1.22	1.23	1.05	1.01	1.09	1.29	1.25	1.01	0.98
1996	0.66	0.73	0.89	0.87	0.74	0.71	0.80	0.91	0.87	0.75	0.74
1981-1984	2.42	2.66	3.35	3.19	2.75	2.62	2.88	3.03	3.17	2.50	2.92
1985-1989	2.58	2.87	3.32	3.20	3.02	2.73	2.91	3.22	3.23	2.90	2.76
1990-1993	2.41	2.72	3.03	3.07	2.74	2.55	2.67	3.01	3.05	2.65	2.52
1994-1996	1.01	1.16	1.34	1.36	1.15	1.09	1.19	1.39	1.36	1.12	1.09
1980-1989	2.51	2.78	3.33	3.20	2.90	2.68	2.89	3.14	3.20	2.72	2.83
1990-1996	1.81	2.05	2.30	2.34	2.06	1.93	2.04	2.31	2.32	1.99	1.91
1980-1996	2.20	2.46	2.88	2.82	2.53	2.35	2.52	2.78	2.82	2.40	2.43

Table 23: Institutional Portfolio Variance Ratios: By Type

This table depicts the variance ratios for the five institutional investor groups comprising of bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the results of the F-test of differences between the institutional investor groups. The F-test critical value at alpha=5% is 2.5.

Year	*Variance Ratio EW*					*Variance Ratio AW*					*F EW*	*F AW*
	B	I	M	A	E	B	I	M	A	E		
1981	0.80	0.86	1.14	1.07	0.90	0.87	0.93	1.00	1.04	0.81		
1982	0.83	0.92	1.14	1.09	0.95	0.90	1.00	1.04	1.09	0.87		
1983	0.83	0.91	1.14	1.10	0.95	0.90	1.00	1.04	1.10	0.87		
1984	0.85	0.95	1.18	1.12	0.98	0.91	1.02	1.08	1.13	0.88		
1985	0.88	1.02	1.22	1.17	1.07	0.95	1.07	1.15	1.19	1.00		
1986	0.93	1.03	1.17	1.15	1.08	0.98	1.08	1.17	1.18	1.05		
1987	0.94	1.05	1.21	1.17	1.10	0.99	1.05	1.17	1.17	1.05		
1988	0.95	1.06	1.22	1.17	1.11	1.00	1.05	1.18	1.17	1.06		
1989	0.96	1.05	1.19	1.16	1.11	1.01	1.04	1.16	1.16	1.08		
1990	0.96	1.06	1.19	1.18	1.09	1.01	1.04	1.16	1.17	1.06		
1991	0.95	1.08	1.22	1.21	1.09	1.01	1.06	1.19	1.20	1.04		
1992	0.96	1.10	1.20	1.27	1.08	1.02	1.08	1.23	1.26	1.06		
1993	0.96	1.10	1.20	1.28	1.09	1.02	1.09	1.24	1.27	1.05		
1994	0.93	1.09	1.22	1.28	1.07	1.00	1.09	1.26	1.27	1.03		
1995	0.95	1.07	1.24	1.25	1.07	1.02	1.11	1.31	1.27	1.03		
1996	0.90	0.99	1.21	1.18	1.01	0.97	1.08	1.24	1.18	1.01		
1981-1984	0.83	0.91	1.15	1.09	0.94	0.90	0.99	1.04	1.09	0.86		
1985-1989	0.93	1.04	1.20	1.16	1.09	0.99	1.06	1.17	1.17	1.05		
1990-1993	0.96	1.08	1.20	1.23	1.09	1.02	1.07	1.20	1.22	1.05		
1994-1996	0.93	1.05	1.22	1.24	1.05	1.00	1.09	1.27	1.24	1.02		
1980-1989	0.89	0.98	1.18	1.13	1.03	0.95	1.03	1.11	1.14	0.96	34	14
1990-1996	0.94	1.07	1.21	1.23	1.07	1.01	1.08	1.23	1.23	1.04	91	71
1980-1996	0.91	1.02	1.19	1.18	1.05	0.97	1.05	1.16	1.18	1.00	59	29

Table 24: Institutional Portfolio Semi-Variance: By Type

This table depicts the semi-variance measures for the five institutional investor groups comprising of bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the semi-variance measure for the market portfolio.

Year	*Semi-Variance EW*					*Semi-Variance AW*					*Semi-Var Mkt*
	B	I	M	A	E	B	I	M	A	E	
1981	1.41	1.50	1.95	1.92	1.60	1.49	1.61	1.74	1.80	1.36	1.84
1982	1.29	1.40	1.77	1.73	1.47	1.37	1.50	1.59	1.66	1.28	1.63
1983	1.08	1.18	1.50	1.48	1.26	1.16	1.26	1.35	1.43	1.09	1.38
1984	0.98	1.10	1.36	1.35	1.13	1.04	1.15	1.25	1.31	0.99	1.21
1985	0.74	0.87	1.04	1.02	0.91	0.80	0.89	0.97	1.04	0.83	0.86
1986	0.90	0.99	1.12	1.14	1.03	0.95	1.02	1.12	1.16	1.00	0.97
1987	1.88	2.11	2.44	2.37	2.16	1.98	2.09	2.32	2.34	2.07	2.01
1988	1.87	2.08	2.37	2.31	2.13	1.95	2.06	2.28	2.29	2.06	1.97
1989	1.89	2.08	2.36	2.30	2.15	1.98	2.07	2.27	2.28	2.08	1.99
1990	2.07	2.30	2.60	2.58	2.35	2.17	2.27	2.50	2.53	2.26	2.19
1991	1.97	2.28	2.58	2.56	2.29	2.08	2.22	2.46	2.49	2.15	2.12
1992	0.81	0.97	1.03	1.12	0.94	0.86	0.93	1.06	1.08	0.89	0.87
1993	0.75	0.92	0.98	1.07	0.88	0.79	0.87	1.00	1.02	0.82	0.81
1994	0.71	0.89	0.95	1.02	0.86	0.76	0.85	0.99	0.98	0.80	0.79
1995	0.45	0.56	0.60	0.61	0.56	0.49	0.55	0.64	0.62	0.51	0.50
1996	0.37	0.44	0.52	0.51	0.44	0.40	0.46	0.53	0.51	0.43	0.43
1981-1984	1.19	1.30	1.65	1.62	1.37	1.26	1.38	1.48	1.55	1.18	1.52
1985-1989	1.46	1.63	1.87	1.83	1.68	1.53	1.63	1.79	1.82	1.61	1.56
1990-1993	1.40	1.62	1.80	1.83	1.62	1.47	1.57	1.76	1.78	1.53	1.50
1994-1996	0.51	0.63	0.69	0.71	0.62	0.55	0.62	0.72	0.70	0.58	0.57
1980-1989	1.34	1.48	1.77	1.73	1.54	1.41	1.52	1.65	1.70	1.42	1.54
1990-1996	1.02	1.19	1.32	1.35	1.19	1.08	1.16	1.31	1.32	1.12	1.10
1980-1996	1.20	1.35	1.57	1.57	1.39	1.27	1.36	1.51	1.53	1.29	1.35

Table 25: Institutional Portfolio Semi-Variance Ratios: By Type

This table depicts the semi-variance ratios for the five institutional investor groups comprising of bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the results of the F-test of differences between the institutional investor groups. The F-test critical value at alpha=5% is 2.5.

Year	*Semi-Var Ratio EW*					*Semi-Var Ratio AW*					*F EW*	*F AW*
	B	I	M	A	E	B	I	M	A	E		
1981	0.76	0.81	1.06	1.04	0.87	0.81	0.88	0.94	0.98	0.74		
1982	0.79	0.86	1.08	1.06	0.90	0.84	0.92	0.97	1.02	0.78		
1983	0.78	0.86	1.09	1.08	0.91	0.84	0.92	0.98	1.04	0.79		
1984	0.81	0.91	1.13	1.11	0.94	0.86	0.95	1.03	1.08	0.82		
1985	0.86	1.01	1.21	1.18	1.05	0.93	1.03	1.12	1.20	0.96		
1986	0.93	1.02	1.15	1.17	1.06	0.97	1.05	1.16	1.20	1.03		
1987	0.94	1.05	1.21	1.18	1.08	0.98	1.04	1.15	1.16	1.03		
1988	0.95	1.05	1.20	1.17	1.08	0.99	1.05	1.16	1.16	1.04		
1989	0.95	1.04	1.19	1.15	1.08	0.99	1.04	1.14	1.14	1.04		
1990	0.95	1.05	1.19	1.18	1.07	0.99	1.04	1.14	1.16	1.03		
1991	0.93	1.08	1.22	1.21	1.08	0.98	1.05	1.16	1.18	1.01		
1992	0.93	1.11	1.18	1.29	1.08	0.98	1.07	1.22	1.24	1.02		
1993	0.92	1.13	1.20	1.31	1.08	0.97	1.07	1.23	1.25	1.01		
1994	0.90	1.12	1.19	1.29	1.09	0.96	1.07	1.25	1.24	1.01		
1995	0.91	1.12	1.21	1.23	1.12	0.98	1.10	1.30	1.24	1.03		
1996	0.85	1.02	1.20	1.18	1.02	0.93	1.06	1.23	1.17	1.00		
1981-1984	0.79	0.86	1.09	1.07	0.91	0.84	0.92	0.98	1.03	0.78		
1985-1989	0.92	1.03	1.19	1.17	1.07	0.97	1.04	1.15	1.17	1.02		
1990-1993	0.93	1.09	1.20	1.25	1.08	0.98	1.06	1.19	1.21	1.02		
1994-1996	0.89	1.09	1.20	1.23	1.07	0.95	1.08	1.26	1.22	1.02		
1980-1989	0.86	0.96	1.15	1.13	1.00	0.91	0.98	1.07	1.11	0.92	22	9
1990-1996	0.91	1.09	1.20	1.24	1.08	0.97	1.07	1.22	1.21	1.02	83	85
1980-1996	0.88	1.02	1.17	1.18	1.03	0.94	1.02	1.14	1.15	0.96	39	21

Table 26: CAPM Performance Measures: Aggregate

This table shows the results of the CAPM based performance evaluation measures when applied to the performance of institutional investor portfolios. The return-generating model from which the measures are derived is based on the Capital Asset Pricing Model (CAPM) developed by Sharpe (1964) and Lintner (1965). Jensen's alpha (α_p) and portfolio beta (β_p) are calculated by a time series regression of monthly excess returns of the institutional portfolio over the excess returns of the market portfolio, represented as $R_{pt}-R_{ft} = \alpha_p + \beta_p (R_{mt}-R_{ft})+ \varepsilon_{it}$. The time series t-statistics for these measures are also included in the table. In the analysis, R_{pt} indicates the monthly return to an equal-weighted portfolio of all institutions, R_{ft} is the monthly three-month T-Bill return, and R_{mt} indicates the monthly CRSP value-weighted index return. The Sharpe and Treynor measures are also presented both for the institutional and CRSP value-weighted portfolios.

Period		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
1980-1984	Coef	0.98	0.04%	0.53%	0.085	0.048	0.076	0.043
	t-stat	81.1	0.8					
1985-1989	Coef	1.04	0.01%	0.16%	0.202	0.130	0.200	0.128
	t-stat	138.1	0.4					
1990-1993	Coef	1.08	0.03%	0.42%	0.155	0.072	0.147	0.068
	t-stat	92.1	0.8					
1994-1996	Coef	1.02	0.02%	0.27%	0.372	0.132	0.365	0.129
	t-stat	59.2	0.5					
1980-1989	Coef	1.01	0.04%	0.44%	0.148	0.089	0.141	0.084
	t-stat	135.8	1.1					
1990-1996	Coef	1.06	0.02%	0.20%	0.227	0.096	0.223	0.094
	t-stat	106.7	0.5					
1980-1996	Coef	1.02	0.03%	0.39%	0.169	0.091	0.163	0.087
	t-stat	170.1	1.2					

Table 27: CAPM Performance Measures for 1980-1984: By Type

Type		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
B	Coef	0.91	0.08%	0.98%	0.095	0.054	0.076	0.043
	t-stat	62.8	1.2					
I	Coef	0.97	0.05%	0.56%	0.086	0.049	0.076	0.043
	t-stat	64.4	0.7					
M	Coef	1.07	0.04%	0.43%	0.082	0.047	0.076	0.043
	t-stat	55.6	0.4					
A	Coef	1.05	0.07%	0.90%	0.090	0.052	0.076	0.043
	t-stat	61.1	0.9					
E	Coef	0.98	-0.08%	-0.91%	0.058	0.033	0.076	0.043
	t-stat	61.3	-1.0					

Table 28: CAPM Performance Measures for 1985-1989: By Type

Type		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
B	Coef	0.98	0.12%	1.47%	0.224	0.144	0.200	0.128
	t-stat	106.3	2.6					
I	Coef	1.02	0.03%	0.40%	0.206	0.132	0.200	0.128
	t-stat	106.9	0.7					
M	Coef	1.08	0.00%	0.03%	0.198	0.129	0.200	0.128
	t-stat	57.9	0.1					
A	Coef	1.07	-0.04%	-0.44%	0.192	0.124	0.200	0.128
	t-stat	81.6	-0.6					
E	Coef	1.05	-0.02%	-0.24%	0.195	0.125	0.200	0.128
	t-stat	89.4	-0.3					

Table 29: CAPM Performance Measures for 1990-1993: By Type

Type		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
B	Coef	0.96	0.02%	0.24%	0.151	0.071	0.147	0.068
	t-stat	58.1	0.3					
I	Coef	1.04	0.00%	0.04%	0.146	0.068	0.147	0.068
	t-stat	57.9	0.1					
M	Coef	1.10	0.03%	0.35%	0.152	0.072	0.147	0.068
	t-stat	59.0	0.4					
A	Coef	1.14	0.05%	0.56%	0.156	0.074	0.147	0.068
	t-stat	57.3	0.6					
E	Coef	1.01	-0.02%	-0.21%	0.140	0.066	0.147	0.068
	t-stat	38.5	-0.2					

Table 30: CAPM Performance Measures for 1994-1996: By Type

Type		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
B	Coef	0.92	0.20%	2.37%	0.433	0.157	0.365	0.129
	t-stat	29.3	2.2					
I	Coef	0.99	0.05%	0.60%	0.381	0.135	0.365	0.129
	t-stat	46.9	0.8					
M	Coef	1.07	-0.14%	-1.68%	0.312	0.111	0.365	0.129
	t-stat	30.7	-1.4					
A	Coef	1.05	-0.02%	-0.21%	0.355	0.127	0.365	0.129
	t-stat	35.4	-0.2					
E	Coef	1.00	0.12%	1.39%	0.404	0.144	0.365	0.129
	t-stat	47.7	1.9					

Table 31: CAPM Performance Measures for 1980-1989: By Type

Type		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
B	Coef	0.95	0.11%	1.33%	0.164	0.099	0.141	0.084
	t-stat	106.6	2.5					
I	Coef	1.00	0.05%	0.57%	0.150	0.091	0.141	0.084
	t-stat	110.5	1.17					
M	Coef	1.08	0.02%	0.24%	0.143	0.087	0.141	0.084
	t-stat	81.2	0.3					
A	Coef	1.06	0.02%	0.27%	0.144	0.087	0.141	0.084
	t-stat	99.3	0.4					
E	Coef	1.02	-0.04%	-0.46%	0.132	0.080	0.141	0.084
	t-stat	99.1	-0.8					

Table 32: CAPM Performance Measures for 1990-1996: By Type

Type		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
B	Coef	0.95	0.08%	1.02%	0.247	0.105	0.223	0.094
	t-stat	62.1	1.6					
I	Coef	1.03	0.01%	0.13%	0.225	0.095	0.223	0.094
	t-stat	74.7	0.2					
M	Coef	1.09	-0.05%	-0.58%	0.208	0.088	0.223	0.094
	t-stat	63.6	-0.8					
A	Coef	1.11	0.00%	0.00%	0.221	0.094	0.223	0.094
	t-stat	66.0	0.0					
E	Coef	1.01	0.03%	0.42%	0.230	0.098	0.223	0.094
	t-stat	55.4	0.6					

Table 33: CAPM Performance Measures for 1980-1996: By Type

Type		*Beta*	*Jensen Alpha*	*Jensen Alpha (Ann)*	*Sharpe Ratio*	*Treynor Ratio*	*Sharpe Ratio Mkt*	*Treynor Ratio Mkt*
B	Coef	0.95	0.11%	1.31%	0.188	0.101	0.163	0.087
	t-stat	124.3	3.3					
I	Coef	1.00	0.04%	0.45%	0.170	0.091	0.163	0.087
	t-stat	135.8	1.2					
M	Coef	1.08	-0.01%	-0.12%	0.159	0.086	0.163	0.087
	t-stat	105.0	-0.2					
A	Coef	1.07	0.01%	0.17%	0.165	0.089	0.163	0.087
	t-stat	119.3	0.4					
E	Coef	1.02	0.00%	-0.06%	0.160	0.086	0.163	0.087
	t-stat	114.3	-0.1					

Tables 34a-b: Fama-French Regressions: Aggregate

This table shows the results of the Fama-French three-factor model regressions.

Table 34a: Equal-Weighted Institutional Portfolio

Period		*Alpha*	*Alpha(Ann)*	*MKT-Rf*	*SMB*	*HML*
1980-1984	Coef	0.10%	1.26%	0.967	-0.039	-0.052
	t-stat	1.81		66.40	-1.66	-2.44
1985-1989	Coef	0.07%	0.86%	1.016	0.047	-0.080
	t-stat	2.48		154.43	3.72	-5.27
1990-1993	Coef	0.05%	0.55%	1.053	0.074	-0.037
	t-stat	1.42		112.01	5.88	-2.84
1994-1996	Coef	0.05%	0.57%	1.016	0.094	0.004
	t-stat	1.51		86.74	6.12	0.21
1980-1989	Coef	0.07%	0.89%	0.996	0.000	-0.053
	t-stat	2.02		113.58	-0.02	-3.41
1990-1996	Coef	0.04%	0.43%	1.041	0.079	-0.026
	t-stat	1.49		138.78	8.23	-2.44
1980-1996	Coef	0.06%	0.71%	1.007	0.038	-0.040
	t-stat	2.35		153.97	3.68	-3.69

Table 34b: Asset-Weighted Institutional Portfolio

Period		*Alpha*	*Alpha(Ann)*	*MKT-Rf*	*SMB*	*HML*
1980-1984	Coef	0.11%	1.30%	0.974	-0.106	-0.076
	t-stat	1.73		62.18	-4.14	-3.30
1985-1989	Coef	0.05%	0.58%	1.028	-0.049	-0.064
	t-stat	1.82		168.59	-4.22	-4.55
1990-1993	Coef	0.04%	0.46%	1.060	-0.022	-0.042
	t-stat	1.27		122.55	-1.89	-3.43
1994-1996	Coef	0.02%	0.28%	1.036	-0.011	-0.013
	t-stat	0.71		84.78	-0.69	-0.66
1980-1989	Coef	0.07%	0.83%	1.004	-0.082	-0.064
	t-stat	1.94		117.25	-5.49	-4.20
1990-1996	Coef	0.02%	0.30%	1.053	-0.019	-0.033
	t-stat	1.11		151.60	-2.13	-3.34
1980-1996	Coef	0.05%	0.63%	1.017	-0.052	-0.049
	t-stat	2.18		162.88	-5.25	-4.74

Table 35: Fama-French Regressions for 1980-1984: By Type

Type		*Alpha*	*Alpha(Ann)*	*Mkt-Rf*	*SMB*	*HML*
Bank	Coef	0.12%	1.51%	0.942	-0.143	0.010
Trusts	t-stat	2.16		65.15	-6.07	0.47
Insurance	Coef	0.06%	0.72%	0.973	-0.030	-0.003
Companies	t-stat	0.78		50.59	-0.95	-0.09
Investment	Coef	0.14%	1.74%	1.010	0.050	-0.141
Companies	t-stat	1.75		49.07	1.49	-4.66
Investment	Coef	0.14%	1.71%	0.993	0.086	-0.109
Advisors	t-stat	1.97		55.08	2.93	-4.14
Endowments &	Coef	0.00%	-0.03%	0.964	-0.050	-0.062
Pensions	t-stat	-0.03		49.49	-1.58	-2.18

Table 36: Fama-French Regressions for 1985-1989: By Type

Type		*Alpha*	*Alpha(Ann)*	*Mkt-Rf*	*SMB*	*HML*
Bank	Coef	0.09%	1.04%	0.977	-0.116	-0.036
Trusts	t-stat	2.49		123.19	-7.63	-1.98
Insurance	Coef	0.08%	0.92%	1.005	0.043	-0.053
Companies	t-stat	1.64		94.27	2.12	-2.15
Investment	Coef	0.13%	1.53%	1.036	0.151	-0.124
Companies	t-stat	1.64		58.66	4.46	-3.05
Investment	Coef	0.07%	0.83%	1.035	0.137	-0.096
Advisors	t-stat	1.59		103.65	7.19	-4.20
Endowments &	Coef	0.02%	0.27%	1.020	-0.047	-0.137
Pensions	t-stat	0.42		84.81	-2.04	-4.97

Table 37: Fama-French Regressions for 1990-1993: By Type

Type		*Alpha*	*Alpha(Ann)*	*Mkt-Rf*	*SMB*	*HML*
Bank	Coef	0.03%	0.41%	0.982	-0.128	-0.024
Trusts	t-stat	0.85		84.14	-8.22	-1.49
Insurance	Coef	-0.02%	-0.25%	1.033	0.102	0.054
Companies	t-stat	-0.39		65.36	4.86	2.42
Investment	Coef	0.06%	0.68%	1.065	0.069	-0.080
Companies	t-stat	0.93		60.79	2.94	-3.24
Investment	Coef	0.06%	0.76%	1.091	0.152	-0.058
Advisors	t-stat	1.48		88.48	9.26	-3.38
Endowments &	Coef	-0.04%	-0.42%	1.022	0.018	0.045
Pensions	t-stat	-0.35		34.81	0.45	1.08

Table 38: Fama-French Regressions for 1994-1996: By Type

Type		*Alpha*	*Alpha(Ann)*	*Mkt-Rf*	*SMB*	*HML*
Bank	Coef	0.14%	1.68%	0.942	-0.152	0.048
Trusts	t-stat	2.79		50.47	-6.22	1.61
Insurance	Coef	0.02%	0.26%	1.017	0.020	0.115
Companies	t-stat	0.42		53.09	0.81	3.74
Investment	Coef	-0.10%	-1.17%	1.067	0.176	0.017
Companies	t-stat	-1.34		38.96	4.90	0.39
Investment	Coef	0.03%	0.41%	1.032	0.167	-0.017
Advisors	t-stat	0.83		67.06	8.26	-0.69
Endowments &	Coef	0.10%	1.21%	1.003	-0.045	0.008
Pensions	t-stat	1.70		45.28	-1.56	0.23

Table 39: Fama-French Regressions for 1980-1989: By Type

Type		*Alpha*	*Alpha(Ann)*	*Mkt-Rf*	*SMB*	*HML*
Bank	Coef	0.10%	1.23%	0.964	-0.130	0.002
Trusts	t-stat	2.89		114.30	-8.83	0.14
Insurance	Coef	0.06%	0.68%	0.993	0.003	-0.014
Companies	t-stat	1.22		89.32	0.18	-0.69
Investment	Coef	0.12%	1.42%	1.023	0.096	-0.133
Companies	t-stat	2.10		76.13	4.09	-5.54
Investment	Coef	0.10%	1.17%	1.016	0.109	-0.099
Advisors	t-stat	2.29		100.55	6.20	-5.48
Endowments &	Coef	0.01%	0.15%	1.000	-0.052	-0.077
Pensions	t-stat	0.25		84.41	-2.51	-3.65

Table 40: Fama-French Regressions for 1990-1996: By Type

Type		*Alpha*	*Alpha(Ann)*	*Mkt-Rf*	*SMB*	*HML*
Bank	Coef	0.07%	0.80%	0.974	-0.144	0.002
Trusts	t-stat	1.94		92.02	-10.61	0.13
Insurance	Coef	-0.01%	-0.11%	1.036	0.066	0.085
Companies	t-stat	-0.22		81.59	4.05	4.65
Investment	Coef	-0.01%	-0.17%	1.057	0.099	-0.065
Companies	t-stat	-0.30		70.85	5.18	-3.04
Investment	Coef	0.04%	0.43%	1.073	0.158	-0.045
Advisors	t-stat	1.10		107.32	12.33	-3.14
Endowments &	Coef	0.02%	0.24%	1.022	-0.002	0.042
Pensions	t-stat	0.32		52.14	-0.07	1.51

Table 41: Fama-French Regressions for 1980-1996: By Type

Type		*Alpha*	*Alpha(Ann)*	*Mkt-Rf*	*SMB*	*HML*
Bank	Coef	0.09%	1.11%	0.967	-0.136	0.006
Trusts	t-stat	3.74		150.52	-13.46	0.53
Insurance	Coef	0.03%	0.31%	1.008	0.031	0.025
Companies	t-stat	0.79		118.24	2.27	1.73
Investment	Coef	0.06%	0.69%	1.036	0.098	-0.099
Companies	t-stat	1.50		103.58	6.23	-5.96
Investment	Coef	0.07%	0.84%	1.032	0.134	-0.074
Advisors	t-stat	2.40		136.74	11.26	-5.87
Endowments &	Coef	0.01%	0.10%	1.011	-0.032	-0.027
Pensions	t-stat	0.20		98.31	-1.96	-1.59

Table 42: Characteristic Based Quintile Numbers: Aggregate

This table shows the number of institutional investors in the characteristic based performance evaluation sample as well as the size, book-to-market ratio (B/M), and momentum quintile numbers for the equal-weighted portfolio of all institutions.

Year	*No*	*Size Quintile*	*B/M Quintile*	*Momentum Quintile*
1982	528	4.17	2.69	2.78
1983	554	4.11	2.69	2.86
1984	607	4.00	2.65	2.78
1985	652	4.02	2.61	2.84
1986	713	4.02	2.63	2.75
1987	761	4.00	2.67	2.87
1988	831	4.03	2.72	2.91
1989	854	4.06	2.66	2.80
1990	879	4.09	2.63	2.97
1991	929	4.09	2.61	3.00
1992	961	4.06	2.60	2.87
1993	1023	4.01	2.67	2.78
1994	1072	3.96	2.68	2.82
1995	1145	4.00	2.67	2.95
1996	1213	3.95	2.64	2.94
1982-1989	688	4.05	2.66	2.82
1990-1996	1032	4.02	2.64	2.91
1982-1996	848	4.04	2.65	2.86

Table 43: Characteristic Based Performance Measures: Aggregate

Year		*CS (EW)*	*CS (AW)*	*CT (EW)*	*CT (AW)*	*AS (EW)*	*AS (AW)*
1982	Mean	2.48%	2.61%	2.40%	2.48%	18.18%	17.71%
	t-stat	1.71	1.53	1.53	1.59	0.86	0.83
1983	Mean	0.00%	0.05%	0.34%	0.31%	21.42%	20.85%
	t-stat	0.00	0.06	0.23	0.22	1.97	1.93
1984	Mean	0.30%	0.06%	0.62%	0.22%	2.81%	3.43%
	t-stat	0.33	0.06	0.64	0.28	0.19	0.23
1985	Mean	1.38%	1.41%	-1.35%	-1.58%	31.25%	31.68%
	t-stat	1.75	1.63	-2.23	-2.14	2.27	2.32
1986	Mean	0.29%	0.17%	-2.28%	-1.98%	19.40%	20.05%
	t-stat	0.46	0.19	-2.92	-2.94	1.09	1.11
1987	Mean	0.00%	-0.16%	0.18%	0.24%	7.42%	8.29%
	t-stat	0.00	-0.12	0.45	0.54	0.25	0.28
1988	Mean	0.33%	0.33%	-1.00%	-1.13%	17.28%	17.30%
	t-stat	0.41	0.44	-1.29	-1.41	1.74	1.72
1989	Mean	0.39%	0.15%	-0.44%	-0.44%	28.07%	29.12%
	t-stat	0.46	0.18	-0.88	-0.75	2.36	2.37
1990	Mean	0.47%	0.78%	1.33%	1.15%	-5.76%	-4.98%
	t-stat	0.36	0.64	1.38	1.32	-0.33	-0.28
1991	Mean	0.88%	0.85%	-1.89%	-1.65%	36.64%	35.80%
	t-stat	0.83	0.81	-2.67	-2.63	2.07	2.01
1992	Mean	-0.47%	-0.12%	0.43%	0.31%	9.25%	8.63%
	t-stat	-1.20	-0.24	0.71	0.46	1.24	1.16
1993	Mean	-0.13%	-0.08%	0.35%	0.25%	11.25%	11.00%
	t-stat	-0.21	-0.13	0.58	0.41	1.73	1.75
1994	Mean	0.70%	0.55%	0.11%	0.17%	0.17%	0.31%
	t-stat	1.84	1.14	0.27	0.35	0.02	0.03
1995	Mean	0.26%	0.49%	0.31%	0.11%	32.75%	34.19%
	t-stat	0.55	0.83	0.52	0.16	5.23	5.53
1996	Mean	1.50%	0.99%	0.94%	0.88%	19.84%	20.17%
	t-stat	2.68	1.99	1.37	1.16	1.79	1.78
1982-1989	Mean	0.65%	0.58%	-0.19%	-0.23%	18.23%	18.55%
	t-stat	2.13	1.72	-0.38	-0.47	5.42	5.54
1990-1996	Mean	0.46%	0.50%	0.23%	0.18%	14.88%	15.02%
	t-stat	1.85	2.97	0.59	0.52	2.49	2.51
1982-1996	Mean	0.56%	0.54%	0.00%	-0.04%	16.66%	16.90%
	t-stat	2.89	2.85	0.01	-0.14	5.17	5.25

Tables 44a-44b: Characteristic Based Quintile Numbers: By Type

Table 44a: Size Quintile Numbers

Year	*Number*					*Size Quintile*				
	B	I	M	A	E	B	I	M	A	E
1982	207	62	48	133	78	4.28	4.10	4.10	4.04	4.19
1983	207	58	47	164	78	4.27	4.03	3.96	3.94	4.17
1984	219	61	45	200	82	4.18	3.94	3.86	3.81	4.15
1985	215	64	50	246	77	4.20	4.00	3.83	3.82	4.20
1986	209	68	50	304	82	4.26	4.01	3.92	3.81	4.25
1987	203	66	43	365	84	4.31	4.03	3.86	3.79	4.18
1988	202	66	55	419	89	4.30	4.03	3.81	3.88	4.23
1989	206	67	54	438	89	4.31	4.02	3.85	3.91	4.34
1990	201	67	53	466	92	4.39	4.10	4.07	3.90	4.34
1991	207	72	56	504	90	4.44	4.07	4.07	3.90	4.35
1992	203	72	56	542	88	4.44	4.12	4.03	3.87	4.24
1993	199	69	56	620	79	4.40	4.13	3.97	3.82	4.31
1994	197	68	54	675	78	4.40	4.09	3.87	3.79	4.37
1995	197	76	62	743	67	4.46	4.08	3.91	3.83	4.40
1996	186	78	94	785	70	4.48	4.15	3.84	3.78	4.31
1982-1989	209	64	49	284	82	4.26	4.02	3.90	3.87	4.21
1990-1996	199	72	62	619	81	4.43	4.11	3.97	3.84	4.33
1982-1996	204	68	55	440	82	4.34	4.06	3.93	3.86	4.27

Table 44b: B/M and Momentum Quintile Numbers

Year	*B/M Quintile*					*Momentum Quintile*				
	B	I	M	A	E	B	I	M	A	E
1982	2.78	2.71	2.54	2.65	2.57	2.76	2.69	2.86	2.85	2.73
1983	2.78	2.70	2.56	2.65	2.61	2.88	2.75	2.85	2.90	2.81
1984	2.72	2.76	2.59	2.58	2.53	2.78	2.65	2.81	2.80	2.78
1985	2.64	2.76	2.55	2.58	2.52	2.91	2.77	2.75	2.78	2.88
1986	2.67	2.69	2.63	2.62	2.53	2.70	2.71	2.85	2.80	2.68
1987	2.73	2.69	2.66	2.66	2.59	2.89	2.84	2.96	2.86	2.80
1988	2.78	2.77	2.67	2.70	2.66	2.88	2.89	3.00	2.91	2.89
1989	2.72	2.76	2.57	2.63	2.66	2.76	2.80	2.89	2.83	2.74
1990	2.71	2.81	2.56	2.57	2.68	3.01	2.95	3.15	2.94	2.89
1991	2.66	2.78	2.50	2.56	2.68	3.09	3.02	3.10	2.96	2.95
1992	2.64	2.75	2.57	2.57	2.61	2.94	2.88	2.92	2.86	2.75
1993	2.72	2.86	2.72	2.62	2.70	2.74	2.78	2.91	2.80	2.68
1994	2.76	2.80	2.73	2.63	2.79	2.72	2.79	2.95	2.85	2.82
1995	2.75	2.81	2.71	2.62	2.78	2.95	2.89	2.98	2.95	2.99
1996	2.68	2.74	2.67	2.61	2.71	3.00	2.86	2.94	2.94	2.95
1982-1989	2.73	2.73	2.60	2.63	2.58	2.82	2.76	2.87	2.84	2.79
1990-1996	2.70	2.79	2.64	2.60	2.71	2.92	2.88	2.99	2.90	2.86
1982-1996	2.72	2.76	2.62	2.62	2.64	2.87	2.82	2.93	2.87	2.82

Table 45: Characteristic Selectivity (CS): By Type (Equal-Weighted)

Year		*B*	*I*	*M*	*A*	*E*
1982	Mean	2.86%	2.40%	3.00%	2.40%	1.28%
	t-stat	2.05	1.41	1.51	1.23	0.75
1983	Mean	-0.09%	-0.19%	0.31%	0.12%	0.12%
	t-stat	-0.08	-0.25	0.30	0.11	0.07
1984	Mean	1.11%	-0.13%	0.07%	-0.05%	-0.62%
	t-stat	1.06	-0.14	0.06	-0.03	-0.47
1985	Mean	1.78%	2.15%	0.91%	0.98%	1.16%
	t-stat	1.94	2.57	0.84	1.07	0.63
1986	Mean	0.52%	0.75%	1.24%	-0.18%	0.43%
	t-stat	0.89	1.05	1.25	-0.19	0.33
1987	Mean	-0.31%	-0.77%	1.25%	0.03%	0.44%
	t-stat	-0.31	-0.80	0.64	0.02	0.25
1988	Mean	0.95%	-0.27%	-0.88%	0.46%	-0.34%
	t-stat	1.28	-0.27	-0.70	0.35	-0.44
1989	Mean	1.46%	-0.02%	2.17%	-0.10%	-0.43%
	t-stat	1.62	-0.01	2.06	-0.08	-0.48
1990	Mean	1.81%	1.18%	1.40%	-0.19%	-0.16%
	t-stat	1.28	0.77	0.85	-0.10	-0.12
1991	Mean	0.85%	-0.56%	-0.36%	1.55%	-0.85%
	t-stat	1.43	-0.34	-0.27	1.00	-0.65
1992	Mean	-0.38%	-1.06%	-1.03%	-0.41%	-0.28%
	t-stat	-0.39	-1.17	-0.96	-0.55	-0.18
1993	Mean	-1.38%	-0.18%	0.24%	0.07%	1.27%
	t-stat	-1.28	-0.22	0.22	0.09	1.07
1994	Mean	0.52%	0.44%	-1.17%	0.88%	1.23%
	t-stat	0.75	0.54	-1.07	1.76	1.20
1995	Mean	0.35%	0.56%	-0.20%	0.15%	1.13%
	t-stat	0.29	0.62	-0.17	0.20	1.36
1996	Mean	0.16%	1.31%	1.15%	1.91%	1.46%
	t-stat	0.16	1.72	1.13	3.01	1.84
1982-1989	Mean	1.03%	0.49%	1.01%	0.46%	0.26%
	t-stat	2.84	1.17	2.34	1.48	1.02
1990-1996	Mean	0.28%	0.24%	0.01%	0.57%	0.54%
	t-stat	0.73	0.72	0.02	1.68	1.53
1982-1996	Mean	0.68%	0.37%	0.54%	0.51%	0.39%
	t-stat	2.50	1.41	1.75	2.31	1.57

Table 46: Characteristic Selectivity (CS): By Type (Asset-Weighted)

Year		*B*	*I*	*M*	*A*	*E*
1982	Mean	2.61%	3.27%	3.03%	2.69%	1.44%
	t-stat	2.11	1.54	1.41	1.03	0.77
1983	Mean	0.38%	0.13%	0.11%	0.10%	-1.07%
	t-stat	0.38	0.12	0.12	0.08	-1.01
1984	Mean	0.68%	-0.55%	-0.92%	-0.42%	0.64%
	t-stat	0.80	-0.62	-0.63	-0.27	0.53
1985	Mean	1.59%	0.51%	0.07%	1.23%	3.04%
	t-stat	1.61	0.51	0.05	1.16	1.86
1986	Mean	0.67%	-0.41%	0.91%	0.15%	-1.22%
	t-stat	1.05	-0.44	0.58	0.13	-0.94
1987	Mean	-0.35%	-0.65%	0.53%	0.01%	-0.01%
	t-stat	-0.39	-0.70	0.23	0.00	-0.01
1988	Mean	0.57%	-0.14%	-0.88%	0.76%	-0.70%
	t-stat	1.05	-0.20	-0.61	0.63	-0.99
1989	Mean	0.48%	0.13%	0.68%	0.00%	-0.35%
	t-stat	0.64	0.15	0.64	0.00	-0.39
1990	Mean	1.76%	1.80%	1.05%	0.08%	0.14%
	t-stat	1.94	1.85	0.57	0.04	0.13
1991	Mean	0.53%	0.65%	1.02%	1.46%	-0.42%
	t-stat	0.84	0.76	0.57	0.80	-0.61
1992	Mean	-0.03%	-1.56%	-0.26%	-0.03%	0.14%
	t-stat	-0.03	-2.77	-0.24	-0.03	0.23
1993	Mean	-0.94%	-0.14%	1.20%	0.15%	-0.21%
	t-stat	-1.09	-0.25	1.20	0.15	-0.63
1994	Mean	0.23%	0.37%	0.25%	0.81%	0.85%
	t-stat	0.47	0.65	0.21	1.04	1.47
1995	Mean	0.10%	0.30%	0.87%	0.51%	1.35%
	t-stat	0.11	0.48	0.56	0.66	1.69
1996	Mean	0.29%	1.37%	0.87%	1.64%	0.00%
	t-stat	0.40	2.09	1.17	2.66	0.00
1982-1989	Mean	0.83%	0.29%	0.44%	0.56%	0.22%
	t-stat	2.63	0.64	1.01	1.60	0.43
1990-1996	Mean	0.28%	0.40%	0.71%	0.66%	0.26%
	t-stat	0.92	0.96	3.60	2.60	1.12
1982-1996	Mean	0.57%	0.34%	0.57%	0.61%	0.24%
	t-stat	2.55	1.14	2.31	2.83	0.85

Table 47: Characteristic Timing (CT): By Type (Equal-Weighted)

Year		*B*	*I*	*M*	*A*	*E*
1982	Mean	2.20%	2.24%	2.15%	2.85%	2.39%
	t-stat	1.11	1.32	2.03	2.31	1.37
1983	Mean	-0.14%	0.44%	0.85%	0.41%	1.18%
	t-stat	-0.07	0.34	1.20	0.43	0.75
1984	Mean	1.06%	0.58%	-0.15%	0.31%	0.68%
	t-stat	0.65	0.74	-0.29	0.54	0.55
1985	Mean	-2.54%	-0.95%	-0.87%	-0.50%	-1.15%
	t-stat	-2.15	-1.53	-1.32	-0.73	-1.64
1986	Mean	-3.53%	-2.38%	-2.18%	-1.20%	-2.68%
	t-stat	-2.53	-2.39	-4.44	-2.90	-2.77
1987	Mean	0.08%	0.46%	0.17%	0.20%	0.13%
	t-stat	0.11	0.81	0.37	0.49	0.25
1988	Mean	-1.38%	-1.47%	-0.67%	-0.65%	-1.51%
	t-stat	-1.54	-1.60	-0.96	-0.95	-1.19
1989	Mean	-1.70%	0.36%	0.30%	-0.13%	-0.25%
	t-stat	-1.89	0.64	0.60	-0.32	-0.43
1990	Mean	1.93%	1.03%	1.32%	1.29%	0.43%
	t-stat	1.28	1.03	1.46	1.72	0.39
1991	Mean	-3.12%	-1.96%	-1.51%	-1.31%	-2.43%
	t-stat	-2.35	-2.75	-2.33	-2.38	-3.78
1992	Mean	0.82%	0.03%	0.23%	0.41%	0.20%
	t-stat	0.78	0.05	0.40	0.84	0.20
1993	Mean	-0.50%	0.87%	1.16%	0.39%	1.06%
	t-stat	-0.63	1.19	1.50	0.71	1.20
1994	Mean	0.24%	0.77%	-0.17%	0.06%	-0.08%
	t-stat	0.30	1.43	-0.62	0.16	-0.19
1995	Mean	0.29%	-0.19%	0.37%	0.45%	-0.52%
	t-stat	0.26	-0.44	0.84	0.87	-0.62
1996	Mean	2.03%	0.87%	0.57%	0.67%	1.45%
	t-stat	1.87	1.40	0.89	1.02	2.07
1982-1989	Mean	-0.75%	-0.09%	-0.05%	0.16%	-0.15%
	t-stat	-1.11	-0.18	-0.11	0.37	-0.26
1990-1996	Mean	0.24%	0.20%	0.28%	0.28%	0.02%
	t-stat	0.37	0.50	0.79	0.93	0.03
1982-1996	Mean	-0.28%	0.04%	0.10%	0.22%	-0.07%
	t-stat	-0.60	0.14	0.36	0.83	-0.20

Table 48: Characteristic Timing (CT): By Type (Asset-Weighted)

Year		*B*	*I*	*M*	*A*	*E*
1982	Mean	2.45%	2.50%	2.39%	2.41%	2.85%
	t-stat	1.17	1.56	2.48	2.12	1.48
1983	Mean	0.03%	0.01%	0.66%	0.49%	0.98%
	t-stat	0.01	0.01	0.87	0.49	0.58
1984	Mean	0.84%	-0.57%	-0.30%	-0.24%	0.56%
	t-stat	0.61	-0.87	-0.53	-0.45	0.40
1985	Mean	-2.45%	-1.21%	-0.61%	-0.75%	-2.03%
	t-stat	-2.43	-1.93	-0.53	-0.89	-2.09
1986	Mean	-3.07%	-1.59%	-2.09%	-0.94%	-1.84%
	t-stat	-2.50	-1.85	-3.92	-3.09	-2.97
1987	Mean	0.08%	0.95%	0.56%	0.22%	0.07%
	t-stat	0.12	1.19	0.78	0.46	0.15
1988	Mean	-1.48%	-1.53%	-1.11%	-0.60%	-1.60%
	t-stat	-1.54	-1.32	-1.15	-0.98	-1.66
1989	Mean	-1.46%	-0.06%	-0.03%	0.20%	-0.35%
	t-stat	-1.83	-0.11	-0.06	0.37	-0.54
1990	Mean	1.56%	1.25%	1.13%	0.99%	0.69%
	t-stat	1.18	1.49	1.40	1.47	0.78
1991	Mean	-2.51%	-1.43%	-1.24%	-1.13%	-1.73%
	t-stat	-2.20	-3.21	-2.07	-2.56	-2.33
1992	Mean	0.51%	-0.03%	-0.06%	0.34%	0.45%
	t-stat	0.51	-0.05	-0.11	0.61	0.52
1993	Mean	-0.31%	0.38%	0.96%	0.30%	0.56%
	t-stat	-0.43	0.72	1.07	0.54	0.54
1994	Mean	0.37%	0.34%	0.13%	0.10%	-0.14%
	t-stat	0.49	0.56	0.35	0.21	-0.30
1995	Mean	-0.16%	-0.30%	0.11%	0.47%	-0.24%
	t-stat	-0.16	-0.53	0.23	0.77	-0.22
1996	Mean	1.46%	0.71%	0.55%	0.77%	0.97%
	t-stat	1.54	0.99	0.61	1.18	1.26
1982-1989	Mean	-0.63%	-0.19%	-0.07%	0.10%	-0.17%
	t-stat	-0.98	-0.38	-0.14	0.26	-0.29
1990-1996	Mean	0.13%	0.13%	0.23%	0.26%	0.08%
	t-stat	0.25	0.41	0.76	1.02	0.23
1982-1996	Mean	-0.28%	-0.04%	0.07%	0.17%	-0.05%
	t-stat	-0.66	-0.13	0.25	0.77	-0.15

Table 49: Average Style (AS): By Type (Equal-Weighted)

Year		*B*	*I*	*M*	*A*	*E*
1982	Mean	17.67%	18.34%	18.53%	18.81%	18.09%
	t-stat	0.84	0.88	0.88	0.90	0.83
1983	Mean	22.25%	20.97%	20.38%	21.27%	20.60%
	t-stat	2.04	2.07	1.83	1.92	1.89
1984	Mean	3.89%	3.49%	1.84%	1.65%	2.81%
	t-stat	0.26	0.24	0.12	0.11	0.19
1985	Mean	32.40%	30.79%	30.08%	30.30%	32.08%
	t-stat	2.33	2.32	2.17	2.21	2.29
1986	Mean	21.53%	19.41%	18.76%	17.73%	20.14%
	t-stat	1.18	1.11	1.07	1.02	1.09
1987	Mean	8.25%	7.40%	7.15%	6.77%	8.32%
	t-stat	0.28	0.25	0.24	0.23	0.28
1988	Mean	17.43%	17.16%	16.92%	17.29%	17.32%
	t-stat	1.71	1.73	1.72	1.74	1.74
1989	Mean	30.06%	26.68%	27.30%	27.19%	29.48%
	t-stat	2.38	2.32	2.37	2.34	2.36
1990	Mean	-4.95%	-6.15%	-5.57%	-6.29%	-4.68%
	t-stat	-0.28	-0.35	-0.31	-0.36	-0.26
1991	Mean	36.98%	35.51%	37.43%	36.68%	36.11%
	t-stat	2.05	2.04	2.07	2.09	2.02
1992	Mean	8.20%	10.14%	9.11%	9.73%	8.17%
	t-stat	1.11	1.35	1.19	1.28	1.12
1993	Mean	10.58%	11.61%	10.87%	11.66%	9.79%
	t-stat	1.70	1.85	1.59	1.74	1.64
1994	Mean	0.85%	-0.17%	-0.37%	0.01%	0.55%
	t-stat	0.09	-0.02	-0.04	0.00	0.06
1995	Mean	35.27%	33.27%	32.53%	31.78%	35.48%
	t-stat	5.75	5.55	5.04	4.97	6.04
1996	Mean	20.87%	19.92%	19.20%	19.65%	20.12%
	t-stat	1.91	1.84	1.70	1.75	1.84
1982-1989	Mean	19.19%	18.03%	17.62%	17.63%	18.61%
	t-stat	5.56	5.63	5.31	5.21	5.41
1990-1996	Mean	15.40%	14.88%	14.75%	14.75%	15.08%
	t-stat	2.50	2.50	2.44	2.48	2.47
1982-1996	Mean	17.42%	16.56%	16.28%	16.28%	16.96%
	t-stat	5.25	5.23	5.04	5.08	5.16

Table 50: Average Style (AS): By Type (Asset-Weighted)

Year		*B*	*I*	*M*	*A*	*E*
1982	Mean	17.50%	18.06%	18.66%	18.19%	16.24%
	t-stat	0.81	0.86	0.90	0.87	0.77
1983	Mean	21.68%	21.74%	21.03%	19.90%	19.63%
	t-stat	1.97	2.11	1.99	1.81	1.93
1984	Mean	3.75%	4.67%	3.13%	2.41%	4.32%
	t-stat	0.25	0.32	0.21	0.16	0.29
1985	Mean	32.50%	31.42%	30.47%	30.74%	32.79%
	t-stat	2.34	2.33	2.27	2.28	2.37
1986	Mean	21.55%	19.73%	19.56%	18.48%	20.65%
	t-stat	1.17	1.11	1.10	1.05	1.10
1987	Mean	8.58%	7.83%	7.74%	7.88%	9.50%
	t-stat	0.29	0.27	0.26	0.27	0.32
1988	Mean	17.31%	17.57%	17.52%	17.20%	17.37%
	t-stat	1.69	1.74	1.76	1.74	1.70
1989	Mean	30.69%	27.61%	28.57%	28.07%	29.90%
	t-stat	2.41	2.35	2.40	2.35	2.36
1990	Mean	-4.35%	-5.39%	-5.26%	-5.53%	-4.36%
	t-stat	-0.24	-0.31	-0.30	-0.32	-0.25
1991	Mean	36.39%	34.74%	35.40%	36.05%	34.58%
	t-stat	2.01	2.00	2.00	2.02	1.95
1992	Mean	7.92%	9.25%	9.06%	8.97%	8.32%
	t-stat	1.07	1.25	1.22	1.19	1.15
1993	Mean	10.44%	11.53%	11.77%	11.17%	10.53%
	t-stat	1.70	1.81	1.79	1.72	1.82
1994	Mean	0.72%	0.09%	-0.34%	0.15%	0.97%
	t-stat	0.07	0.01	-0.04	0.02	0.10
1995	Mean	35.62%	34.52%	33.20%	33.33%	35.68%
	t-stat	5.71	5.57	5.36	5.34	5.84
1996	Mean	20.84%	20.29%	19.63%	20.02%	20.74%
	t-stat	1.88	1.81	1.70	1.76	1.83
1982-1989	Mean	19.19%	18.58%	18.33%	17.86%	18.80%
	t-stat	5.51	5.83	5.58	5.39	5.62
1990-1996	Mean	15.37%	15.00%	14.78%	14.88%	15.21%
	t-stat	2.52	2.53	2.51	2.49	2.56
1982-1996	Mean	17.41%	16.91%	16.67%	16.47%	17.12%
	t-stat	5.26	5.35	5.26	5.15	5.34

Table 51: Morningstar Star Ratings: 1-Year Return Horizon

Period			*5 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	10.1	12.1	5.4	9.7	11.6	4.1	3.5	7.9
1985-1989	8.5	9.6	8.3	10.8	10.6	0.5	2.9	1.9
1990-1993	8.6	7.0	8.3	11.3	9.7	0.7	3.1	3.0
1994-1996	13.4	5.2	4.1	10.0	10.3	1.4	3.5	5.1
1982-1989	9.1	10.6	7.2	10.4	11.0	1.9	2.6	5.3
1990-1996	10.7	6.2	6.5	10.7	9.9	1.7	2.7	7.4
1982-1996	9.8	8.5	6.9	10.6	10.5	2.4	2.5	10.5
Period			*5 & 4 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	38.8	28.8	22.7	30.5	25.9	1.5	3.5	5.0
1985-1989	35.4	30.7	30.3	28.9	33.1	0.5	2.9	3.5
1990-1993	31.9	27.6	28.6	34.0	25.3	0.5	3.1	3.0
1994-1996	48.7	31.4	14.6	28.9	31.8	5.7	3.5	9.9
1982-1989	36.7	30.0	27.5	29.5	30.4	1.6	2.6	6.2
1990-1996	39.1	29.2	22.6	31.8	28.1	2.5	2.7	7.1
1982-1996	37.8	29.6	25.2	30.6	29.3	4.1	2.5	12.3
Period			*1 Star*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	5.2	7.7	14.0	12.4	17.6	3.0	3.5	6.6
1985-1989	4.2	7.7	10.9	12.5	16.4	12.6	2.9	17.4
1990-1993	4.5	10.9	8.8	11.8	12.1	3.0	3.1	9.2
1994-1996	2.4	6.8	13.9	12.2	9.5	11.6	3.5	12.2
1982-1989	4.6	7.7	12.0	12.4	16.9	14.3	2.6	25.1
1990-1996	3.6	9.1	11.0	11.9	11.0	6.9	2.7	15.5
1982-1996	4.1	8.4	11.6	12.2	14.1	17.4	2.5	38.3
Period			*1 & 2 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	20.3	31.5	47.1	40.0	40.9	5.7	3.5	9.2
1985-1989	18.1	30.3	40.1	40.8	32.5	11.5	2.9	15.4
1990-1993	25.4	30.7	31.8	34.8	34.4	0.7	3.1	2.2
1994-1996	12.1	25.2	43.3	37.7	30.7	18.2	3.5	12.1
1982-1989	19.0	30.8	42.8	40.5	35.6	16.3	2.6	24.5
1990-1996	19.7	28.3	36.8	36.0	32.8	5.1	2.7	11.6
1982-1996	19.3	29.6	40.0	38.4	34.3	18.9	2.5	36.2

Table 52: Morningstar Star Ratings: 3-Year Return Horizon

Period			*5 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	7.4	17.3	7.2	11.1	11.6	6.2	3.5	10.1
1985-1989	11.1	10.3	2.7	9.9	11.8	13.0	2.9	12.3
1990-1993	8.2	4.7	7.8	11.9	9.2	3.3	3.1	8.7
1994-1996	7.8	6.2	4.3	11.7	9.5	3.0	3.5	7.7
1982-1989	9.7	12.9	4.4	10.3	11.7	8.8	2.6	15.6
1990-1996	8.0	5.3	6.3	11.8	9.4	5.9	2.7	14.6
1982-1996	8.9	9.4	5.3	11.0	10.6	6.4	2.5	19.6
Period			*5 & 4 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	35.3	34.5	29.0	33.1	22.0	1.9	3.5	5.4
1985-1989	42.6	31.0	13.9	27.4	31.1	17.0	2.9	17.5
1990-1993	39.6	26.8	28.6	30.6	27.0	2.8	3.1	6.1
1994-1996	36.4	31.4	19.7	32.2	32.9	1.2	3.5	6.2
1982-1989	39.9	32.3	19.6	29.5	27.7	8.1	2.6	16.6
1990-1996	38.2	28.8	24.8	31.3	29.5	2.7	2.7	6.6
1982-1996	39.1	30.7	22.0	30.4	28.5	9.9	2.5	21.3
Period			*1 Star*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	6.1	9.7	9.3	10.4	19.7	5.0	3.5	8.1
1985-1989	3.1	5.3	13.0	13.8	17.0	21.7	2.9	19.0
1990-1993	4.9	15.5	8.3	10.9	12.8	14.4	3.1	15.4
1994-1996	3.8	9.3	13.9	11.6	8.5	7.1	3.5	9.8
1982-1989	4.2	6.9	11.6	12.5	18.1	18.4	2.6	26.7
1990-1996	4.5	12.8	10.7	11.2	10.9	7.7	2.7	15.0
1982-1996	4.3	9.7	11.2	11.9	14.7	14.7	2.5	34.7
Period			*1 & 2 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	21.1	34.0	38.0	40.9	40.9	3.9	3.5	8.7
1985-1989	16.3	30.0	44.1	42.0	33.0	35.2	2.9	20.1
1990-1993	18.5	33.8	31.8	37.0	35.6	5.0	3.1	7.9
1994-1996	21.2	24.7	46.0	35.3	25.9	6.1	3.5	10.3
1982-1989	18.1	31.5	41.8	41.6	35.9	23.4	2.6	27.0
1990-1996	19.7	29.9	37.9	36.2	31.4	5.9	2.7	12.8
1982-1996	18.8	30.8	40.0	39.1	33.8	23.6	2.5	39.4

Table 53: Morningstar Star Ratings: 5-Year Return Horizon

Period	*5 Stars*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1984-1989	9.4	13.8	3.0	11.1	11.3	11.5	2.8	16.6
1990-1996	8.8	5.8	4.2	12.0	8.6	14.7	2.7	24.0
1984-1996	9.1	9.5	3.6	11.6	9.8	11.9	2.5	30.7
Period	*5 & 4 Stars*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1984-1989	43.5	31.4	13.3	26.9	27.2	29.9	2.8	22.8
1990-1996	37.7	29.1	23.8	32.0	24.8	6.7	2.7	15.4
1984-1996	40.4	30.2	19.0	29.7	25.9	21.6	2.5	35.2
Period	*1 Star*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1984-1989	2.5	7.4	14.8	14.6	16.2	20.3	2.8	22.2
1990-1996	3.0	13.6	12.2	11.4	12.8	10.4	2.7	17.5
1984-1996	2.8	10.7	13.4	12.9	14.3	20.3	2.5	33.2
Period	*1 & 2 Stars*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1984-1989	15.9	36.4	47.7	42.8	34.3	68.1	2.8	25.0
1990-1996	18.1	32.5	35.4	36.8	34.1	14.1	2.7	17.3
1984-1996	17.1	34.3	41.1	39.6	34.1	38.2	2.5	37.7

Table 54: Morningstar Star Ratings: 10-Year Return Horizon

Period	*5 Stars*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1989-1996	10.7	7.3	1.3	11.1	11.6	17.6	2.6	23.7
Period	*5 & 4 Stars*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1989-1996	41.7	26.9	12.5	31.4	26.9	50.8	2.6	32.4
Period	*1 Star*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1989-1996	1.5	13.8	16.9	12.5	13.1	31.3	2.6	23.8
Period	*1 & 2 Stars*					*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1989-1996	15.2	44.0	47.0	38.2	28.5	79.9	2.6	33.7

Table 55: Morningstar Star Ratings: Overall

Period			*5 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	7.2	18.6	8.1	11.5	10.7	8.0	3.5	10.0
1985-1989	8.8	11.4	2.1	10.1	6.9	13.7	2.9	15.6
1990-1993	7.2	4.7	2.6	9.3	7.0	8.1	3.1	12.2
1994-1996	4.6	3.6	3.4	8.4	1.0	7.3	3.5	10.1
1982-1989	8.2	14.1	4.4	10.6	8.3	9.7	2.6	19.4
1990-1996	6.1	4.2	3.0	8.9	4.4	7.1	2.7	16.3
1982-1996	7.2	9.5	3.7	9.8	6.5	6.6	2.5	23.6
Period			*5 & 4 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	35.3	34.5	30.9	33.5	21.6	3.0	3.5	5.3
1985-1989	43.0	32.6	13.0	28.2	27.8	30.4	2.9	19.4
1990-1993	43.3	30.5	21.3	29.9	25.0	9.8	3.1	12.7
1994-1996	37.5	31.5	19.6	32.2	24.8	6.7	3.5	10.8
1982-1989	40.1	33.3	19.7	30.2	25.5	10.8	2.6	21.3
1990-1996	40.8	30.9	20.6	30.9	24.9	17.0	2.7	21.6
1982-1996	40.5	32.2	20.1	30.5	25.2	26.8	2.5	42.2
Period			*1 Star*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	5.7	9.7	9.3	9.7	21.1	8.1	3.5	8.9
1985-1989	2.4	6.5	17.1	15.8	15.8	46.5	2.9	18.7
1990-1993	2.8	12.8	8.8	10.9	12.4	9.3	3.1	11.0
1994-1996	2.0	9.3	13.9	9.8	6.6	11.9	3.5	10.8
1982-1989	3.6	7.7	14.2	13.5	17.8	17.9	2.6	25.6
1990-1996	2.4	11.3	11.0	10.4	9.9	10.2	2.7	16.1
1982-1996	3.1	9.4	12.7	12.1	14.1	17.6	2.5	37.1
Period			*1 & 2 Stars*			*F Value*	*F Table*	*KW*
	B	I	M	A	E			
1982-1984	22.3	34.7	36.1	40.2	41.3	4.8	3.5	8.9
1985-1989	16.0	35.1	47.5	43.1	33.9	59.9	2.9	21.2
1990-1993	17.4	42.4	36.5	39.1	34.7	14.5	3.1	11.6
1994-1996	19.8	36.1	45.4	34.9	32.3	10.9	3.5	11.0
1982-1989	18.4	35.0	43.2	42.0	36.7	26.7	2.6	26.6
1990-1996	18.4	39.7	40.3	37.3	33.7	19.5	2.7	20.3
1982-1996	18.4	37.2	41.9	39.8	35.3	42.8	2.5	42.6

Tables 56a-56c: S&P Common Stock Ranking Category Characteristics

The tables show a sample of firms representative of each S&P Common Stock Ranking Category, as well as the number of stocks and the percentage of the overall market allocated to the categories. Firms with the highest level of earnings, dividends, and stability earn the A ranking. No-Rank indicates the firms that have not received a common stock ranking from S&P. These include foreign incorporated firms trading as ADRs and U.S. firms that do not have a sufficient earnings history to be eligible to receive an S&P ranking.

Table 56a: Representative Sample Firms

S&P Rank: A	*S&P Rank: B*
General Electric Co	AT&T Corp
Exxon Corp	Intl Business Machines Corp
Coca-Cola Co	Morgan (J P) & Co
Pfizer Inc	General Motors Corp
McDonalds Corp	Du Pont (E I) De Nemours
Procter & Gamble Co	Chrysler Corp
Johnson & Johnson	Boeing Co
Wal-Mart Stores	Eastman Kodak Co
Disney (Walt) Company	Ford Motor Co
Minnesota Mining & Mfg Co	Citicorp
S&P Rank: C&D	*S&P Rank: No-Rank*
Digital Equipment	Bank Tokyo-Mitsubishi
Venator Group Inc	Ericsson
Symantec Corp	Glaxo-Wellcome
Micron Electronics Inc	KLM Royal Dutch Air
Iomega Corp	Deutsche Telekom AG
Unisys Corp	Toyota Motor Corp
US Airways Group Inc	Telefonos De Mexico
Immunex Corp	Canon Inc
Pmc-Sierra Inc	Nextel Communications
Zenith Electronics Corp	Ingram Micro Inc

Table 56b: Number of Stocks in S&P Common Stock Ranking Categories

Year	*A*	*B*	*C & D*	*No-Rank*
1985	1103	1724	446	3930
1986	1112	2055	629	3605
1987	1015	2024	677	4038
1988	953	2032	778	4502
1989	904	2168	801	4230
1990	848	2181	860	4071
1991	806	2201	864	3981
1992	713	2272	977	4021
1993	704	2484	966	4035
1994	672	2666	977	4687
1995	660	2812	1022	4979
1996	667	3004	1013	5100
1985-1989	1017	2001	666	4061
1990-1996	724	2517	954	4411
1985-1996	846	2302	834	4265

Table 56c: Percent of Market in S&P Common Stock Ranking Categories

Year	*A*	*B*	*C & D*	*No-Rank*
1985	62.1%	20.1%	1.1%	16.6%
1986	61.0%	25.3%	1.4%	12.2%
1987	59.6%	26.7%	1.6%	12.1%
1988	58.7%	27.1%	1.6%	12.6%
1989	57.4%	28.3%	1.7%	12.7%
1990	57.0%	30.3%	1.1%	11.5%
1991	58.7%	29.1%	1.2%	11.0%
1992	53.5%	32.6%	2.0%	11.9%
1993	47.9%	37.1%	2.7%	12.3%
1994	38.6%	43.7%	2.6%	15.2%
1995	38.5%	43.3%	1.8%	16.4%
1996	37.8%	43.9%	1.5%	16.8%
1985-1989	59.8%	25.5%	1.5%	13.2%
1990-1996	47.4%	37.2%	1.8%	13.6%
1985-1996	52.6%	32.3%	1.7%	13.4%

Tables 57a-57b: S&P Common Stock Ranking Category Portfolio Returns

The tables indicate the annual returns of the equal-weighted and asset-weighted portfolios formed based on the S&P Common Stock Ranking, which is used as a measure of prudence.

Table 57a: Equal-Weighted Portfolio Returns

Year	*A*	*B*	*C & D*	*No-Rank*
1985	38.7%	26.7%	10.0%	22.6%
1986	17.6%	7.8%	-0.3%	5.8%
1987	-1.2%	-6.0%	-11.5%	-8.5%
1988	21.5%	25.8%	12.9%	17.7%
1989	25.5%	14.6%	13.7%	11.4%
1990	-6.9%	-21.1%	-29.4%	-21.0%
1991	41.2%	46.2%	56.5%	51.8%
1992	16.8%	26.7%	52.6%	22.7%
1993	7.1%	21.2%	33.0%	28.3%
1994	-1.7%	0.1%	-0.1%	-5.7%
1995	31.1%	31.2%	43.4%	29.1%
1996	22.7%	22.7%	13.3%	17.2%
1985-1989	20.4%	13.8%	4.9%	9.8%
1990-1996	15.8%	18.2%	24.2%	17.5%
1985-1996	17.7%	16.3%	16.2%	14.3%

Table 57b: Asset-Weighted Portfolio Returns

Year	*A*	*B*	*C & D*	*No-Rank*
1985	33.4%	27.1%	3.7%	30.4%
1986	21.2%	15.1%	-20.2%	15.6%
1987	3.4%	1.7%	-2.2%	4.9%
1988	16.2%	18.9%	18.6%	22.2%
1989	33.8%	23.5%	26.6%	23.9%
1990	0.4%	-15.8%	-35.2%	-10.8%
1991	32.2%	29.1%	31.5%	37.8%
1992	5.9%	12.1%	16.9%	7.6%
1993	1.7%	19.0%	22.8%	17.3%
1994	1.8%	-2.1%	-8.5%	-5.0%
1995	38.5%	36.3%	32.7%	29.5%
1996	23.9%	22.7%	12.9%	16.1%
1985-1989	21.6%	17.3%	5.3%	19.4%
1990-1996	14.9%	14.5%	10.4%	13.2%
1985-1996	17.7%	15.6%	8.3%	15.8%

Tables 58a-58b: S&P Common Stock Ranking Category Portfolio Excess Returns

The tables indicate the annual excess returns of the equal-weighted and asset-weighted portfolios formed based on the S&P Common Stock Ranking, which is used as a measure of prudence.

Table 58a: Equal-Weighted Portfolio Excess Returns

Year	*A*	*B*	*C & D*	*No-Rank*
1985	12.5%	-6.4%	-25.2%	-3.6%
1986	3.4%	-8.4%	-17.3%	-6.6%
1987	-3.6%	-7.5%	-12.9%	-11.5%
1988	5.9%	7.9%	-7.5%	3.9%
1989	0.3%	-13.4%	-13.9%	-10.1%
1990	-2.8%	-15.4%	-22.3%	-18.0%
1991	12.0%	13.9%	17.9%	24.2%
1992	8.1%	17.6%	41.9%	14.7%
1993	-4.3%	10.0%	18.2%	17.9%
1994	-1.1%	0.7%	2.2%	-5.8%
1995	-3.1%	-2.5%	1.0%	-1.5%
1996	3.4%	2.5%	-14.5%	-1.2%
1985-1989	3.7%	-5.6%	-15.4%	-5.6%
1990-1996	1.7%	3.8%	6.3%	4.3%
1985-1996	2.6%	-0.1%	-2.7%	0.2%

Table 58b: Asset-Weighted Portfolio Excess Returns

Year	*A*	*B*	*C & D*	*No-Rank*
1985	7.2%	-6.0%	-31.4%	4.2%
1986	7.0%	-1.1%	-37.2%	3.1%
1987	1.1%	0.2%	-3.6%	1.9%
1988	0.5%	0.9%	-1.9%	8.3%
1989	8.6%	-4.6%	-1.0%	2.3%
1990	4.5%	-10.1%	-28.1%	-7.8%
1991	3.0%	-3.3%	-7.2%	10.2%
1992	-2.8%	3.1%	6.2%	-0.4%
1993	-9.7%	7.8%	7.9%	6.9%
1994	2.4%	-1.5%	-6.1%	-5.1%
1995	4.2%	2.6%	-9.7%	-1.1%
1996	4.6%	2.6%	-15.0%	-2.3%
1985-1989	4.9%	-2.1%	-15.0%	4.0%
1990-1996	0.9%	0.2%	-7.4%	0.1%
1985-1996	2.5%	-0.8%	-10.6%	1.7%

Tables 59a-59d: Fama-French Regressions for S&P Common Stock Ranking Category Portfolio Returns

Table 59a: Category A

Period		*Alpha*	*Alpha(Ann)*	*MKT-Rf*	*SMB*	*HML*
1985-1989	Coef	0.2%	2.5%	0.92	0.15	0.16
	t-stat	1.8		34.6	3.0	2.6
1990-1996	Coef	0.1%	1.1%	0.91	0.09	0.14
	t-stat	0.9		30.6	2.3	3.3
1985-1996	Coef	0.1%	1.6%	0.92	0.11	0.15
	t-stat	1.8		48.1	3.6	4.3

Table 59b: Category B

Period		*Alpha*	*Alpha(Ann)*	*MKT-Rf*	*SMB*	*HML*
1985-1989	Coef	-0.1%	-1.0%	0.99	0.85	0.10
	t-stat	-0.9		45.4	20.2	2.0
1990-1996	Coef	0.1%	1.5%	0.95	0.80	0.32
	t-stat	1.6		39.8	26.2	9.4
1985-1996	Coef	0.0%	0.1%	0.99	0.82	0.25
	t-stat	0.1		57.9	30.3	7.9

Table 59c: Category C&D

Period		*Alpha*	*Alpha(Ann)*	*MKT-Rf*	*SMB*	*HML*
1985-1989	Coef	-0.8%	-8.7%	1.14	1.15	0.39
	t-stat	-1.9		12.5	6.6	1.8
1990-1996	Coef	0.5%	6.3%	0.92	1.95	0.96
	t-stat	1.3		7.7	12.6	5.6
1985-1996	Coef	0.0%	-0.1%	1.09	1.67	0.77
	t-stat	0.0		14.0	13.6	5.4

Table 59d: Category No-Rank

Period		*Alpha*	*Alpha(Ann)*	*MKT-Rf*	*SMB*	*HML*
1985-1989	Coef	-0.4%	-4.4%	0.93	0.90	0.24
	t-stat	-1.7		18.3	9.3	2.0
1990-1996	Coef	0.2%	2.3%	0.79	1.12	0.48
	t-stat	1.0		13.6	15.0	5.7
1985-1996	Coef	-0.1%	-0.7%	0.89	1.04	0.40
	t-stat	-0.4		23.1	17.1	5.7

Tables 60a-60b: Institutional Portfolio Allocations to the S&P Common Stock Ranking Categories: By Type

The tables show the percentage of portfolio allocated to each S&P Common Stock Ranking Category by institutional investors as of the end of each year in the study period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe. The table also reports the results of the F-test of differences between the institutional investor types. The F-test critical value at alpha=5% level is 2.5.

Table 60a: 1985 - 1989 Period

Type	*S&P Rank*	*1985*	*1986*	*1987*	*1988*	*1989*
	A	71.0	71.2	70.1	67.8	69.6
B	B	15.4	20.6	22.0	22.7	21.7
	C&D	0.6	0.4	0.7	1.2	1.1
	No-Rank	13.0	7.8	7.2	8.3	7.5
	A	58.2	60.0	54.7	52.7	54.2
I	B	22.2	24.8	28.9	30.1	31.7
	C&D	1.4	1.5	2.5	3.1	2.2
	No-Rank	18.2	13.7	13.9	14.1	11.8
	A	52.0	48.1	44.6	44.4	47.9
M	B	23.3	31.0	33.0	33.2	31.6
	C&D	1.4	1.6	2.4	2.6	3.1
	No-Rank	23.4	19.2	20.0	19.9	17.4
	A	51.8	52.0	48.7	47.5	46.7
A	B	24.0	30.1	32.1	31.9	33.1
	C&D	1.6	2.1	2.6	2.9	2.8
	No-Rank	22.7	15.7	16.5	17.7	17.3
	A	66.5	64.9	59.9	58.5	61.7
E	B	24.1	29.3	30.0	29.6	30.2
	C&D	1.0	1.2	1.8	1.6	2.7
	No-Rank	8.3	4.5	8.3	10.3	5.4
	A	59.7	58.9	55.5	53.7	54.1
All	B	21.2	27.2	29.2	29.4	30.0
	C&D	1.2	1.5	2.0	2.3	2.4
	No-Rank	17.9	12.5	13.3	14.6	13.5
	A	44.5	44.7	50.5	45.6	56.0
F	B	16.7	20.0	20.9	19.9	23.3
Stat	C&D	2.2	7.0	9.9	4.5	5.6
	No-Rank	27.6	21.5	19.9	17.1	22.5

Table 60b: 1990 - 1996 Period

Type	*S&P Rank*	*1990*	*1991*	*1992*	*1993*	*1994*	*1995*	*1996*
	A	72.4	69.4	63.4	56.1	53.9	54.4	55.0
B	B	20.1	21.6	26.6	33.6	36.0	34.9	34.9
	C&D	0.4	0.7	0.9	1.3	0.9	0.6	0.4
	No-Rank	7.1	8.3	9.1	9.0	9.2	10.0	9.7
	A	55.7	50.5	43.6	36.4	35.0	36.1	36.4
I	B	32.1	33.5	38.9	41.9	43.5	40.4	40.0
	C&D	1.1	3.0	2.2	3.3	2.4	1.8	1.3
	No-Rank	11.1	12.9	15.3	18.5	19.1	21.7	22.3
	A	49.9	45.3	37.2	30.9	28.6	27.5	27.2
M	B	30.8	31.0	36.7	40.0	43.8	41.2	42.7
	C&D	0.9	1.8	2.5	2.8	2.4	2.6	1.8
	No-Rank	18.4	21.9	23.6	26.4	25.1	28.7	28.3
	A	51.2	45.8	39.7	33.8	32.5	32.5	31.1
A	B	29.5	30.4	34.6	37.7	38.8	37.7	38.6
	C&D	1.9	2.6	3.6	4.1	4.0	3.1	2.6
	No-Rank	17.4	21.1	22.1	24.4	24.7	26.7	27.7
	A	63.9	60.1	53.2	48.3	45.2	44.3	44.4
E	B	28.7	30.2	37.4	38.3	43.3	40.0	40.8
	C&D	0.6	3.0	3.4	2.9	4.2	3.3	1.7
	No-Rank	6.7	6.7	6.1	10.5	7.2	12.4	13.1
	A	57.4	52.3	45.6	39.2	37.1	36.7	35.3
All	B	27.6	28.8	33.6	37.4	39.1	37.8	38.5
	C&D	1.3	2.2	2.9	3.3	3.3	2.6	2.1
	No-Rank	13.7	16.7	17.9	20.1	20.5	22.9	24.0
	A	49.8	59.9	61.2	62.9	56.4	61.4	67.8
F	B	19.8	19.7	19.0	6.7	8.2	5.2	6.0
Stat	C&D	12.2	3.4	6.1	11.0	7.4	7.0	11.5
	No-Rank	24.8	34.5	39.0	45.2	43.4	45.5	44.6

Table 61: Institutional Portfolio Allocations to the S&P Common Stock Ranking Categories: By Type (Period Averages)

This table shows the percentage of portfolio allocated to each S&P Common Stock Ranking Category by institutional investors during the study period. Bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E) make up the institutional investor universe. The table also reports the results of the F-test of differences between the institutional investor types. The F-test critical value at alpha=5% level is 2.5.

Type	*S&P Rank*	*1985-1989*	*1990-1996*	*1985-1996*
B	A	69.95	60.91	64.78
	B	20.42	29.45	25.58
	C&D	0.85	0.77	0.80
	No-Rank	8.78	8.88	8.84
I	A	56.00	41.77	47.50
	B	27.52	38.67	34.15
	C&D	2.20	2.17	2.18
	No-Rank	14.28	17.39	16.17
M	A	47.32	34.17	39.13
	B	30.48	38.56	35.52
	C&D	2.29	2.15	2.20
	No-Rank	19.90	25.11	23.14
A	A	49.08	37.06	40.73
	B	30.66	35.86	34.31
	C&D	2.50	3.23	3.01
	No-Rank	17.76	23.85	21.96
E	A	62.26	51.82	56.59
	B	28.76	36.56	33.07
	C&D	1.79	2.80	2.39
	No-Rank	7.19	8.82	7.96
All	A	56.2	42.7	47.5
	B	27.6	35.1	32.5
	C&D	1.9	2.6	2.4
	No-Rank	14.2	19.7	17.7
F Stat	A	243.4	421.6	704.4
	B	103.1	76.2	182.9
	C&D	26.3	46.0	72.3
	No-Rank	98.1	288.1	407.1

Tables 62a-62b: S&P Ranking Based Representative Portfolio Returns

This table indicates the annual returns of the equal-weighted and asset-weighted representative institutional portfolios formed based on the institutional portfolio allocations to the S&P Common Stock Ranking categories.

Table 62a: Equal-Weighted Representative Portfolio Returns

Year	*B*	*I*	*M*	*A*	*E*	*All*
1985	34.6%	32.7%	31.7%	31.7%	34.2%	32.9%
1986	14.6%	13.3%	12.0%	12.4%	13.9%	13.2%
1987	-2.8%	-3.8%	-4.5%	-4.2%	-3.4%	-3.8%
1988	22.1%	22.0%	21.9%	21.9%	22.2%	22.0%
1989	22.0%	20.1%	19.3%	19.1%	21.2%	20.1%
1990	-10.8%	-13.3%	-14.1%	-14.0%	-12.1%	-13.0%
1991	43.3%	44.7%	45.4%	45.4%	43.9%	44.8%
1992	20.3%	22.3%	22.7%	22.8%	22.0%	22.2%
1993	14.1%	17.8%	19.1%	18.7%	15.5%	17.5%
1994	-1.4%	-1.6%	-1.9%	-1.9%	-1.1%	-1.8%
1995	31.0%	30.9%	30.9%	31.0%	31.3%	31.0%
1996	22.1%	21.4%	21.0%	20.9%	21.8%	21.2%
1985-1989	18.1%	16.9%	16.1%	16.2%	17.6%	16.9%
1990-1996	16.9%	17.5%	17.6%	17.6%	17.3%	17.4%
1985-1996	17.4%	17.2%	17.0%	17.0%	17.5%	17.2%

Table 62b: Asset-Weighted Representative Portfolio Returns

Year	*B*	*I*	*M*	*A*	*E*	*All*
1985	31.9%	31.0%	30.8%	30.7%	31.3%	31.2%
1986	19.3%	18.3%	17.5%	17.6%	18.6%	18.2%
1987	3.1%	3.0%	3.0%	3.0%	2.9%	3.0%
1988	17.3%	17.9%	18.3%	18.2%	17.6%	17.9%
1989	30.7%	29.2%	28.6%	28.5%	30.0%	29.2%
1990	-3.8%	-6.4%	-7.0%	-7.0%	-5.2%	-6.1%
1991	32.0%	31.8%	32.4%	32.4%	31.6%	32.2%
1992	7.8%	8.8%	8.8%	8.8%	8.7%	8.6%
1993	9.2%	12.5%	13.3%	12.9%	10.6%	12.0%
1994	-0.3%	-1.4%	-1.8%	-1.8%	-0.8%	-1.4%
1995	36.8%	35.5%	34.9%	35.1%	36.3%	35.4%
1996	22.7%	21.6%	21.0%	21.0%	22.2%	21.4%
1985-1989	20.5%	19.9%	19.7%	19.6%	20.1%	19.9%
1990-1996	14.9%	14.6%	14.5%	14.5%	14.8%	14.6%
1985-1996	17.2%	16.8%	16.7%	16.6%	17.0%	16.8%

Tables 63a-63b: S&P Ranking Based Representative Portfolio Excess Returns

This table indicates the annual excess returns of the equal-weighted and asset-weighted representative institutional portfolios formed based on the institutional portfolio allocations to the S&P Common Stock Ranking categories.

Table 63a: Equal-Weighted Representative Portfolio Excess Returns

Year	*B*	*I*	*M*	*A*	*E*	*All*
1985	7.2%	4.8%	3.8%	3.7%	6.2%	5.1%
1986	0.1%	-1.2%	-2.5%	-2.2%	-0.8%	-1.4%
1987	-5.1%	-6.0%	-6.7%	-6.4%	-5.6%	-5.9%
1988	6.0%	5.8%	5.8%	5.8%	6.0%	5.8%
1989	-3.6%	-5.6%	-6.3%	-6.5%	-4.8%	-5.6%
1990	-6.5%	-8.8%	-9.7%	-9.5%	-7.6%	-8.6%
1991	13.5%	14.4%	15.4%	15.3%	13.6%	14.7%
1992	11.6%	13.6%	14.0%	14.1%	13.2%	13.5%
1993	2.8%	6.5%	7.9%	7.4%	4.2%	6.3%
1994	-0.9%	-1.1%	-1.4%	-1.4%	-0.5%	-1.3%
1995	-2.7%	-2.4%	-2.3%	-2.3%	-2.5%	-2.4%
1996	2.6%	1.8%	1.4%	1.3%	2.1%	1.6%
1985-1989	0.9%	-0.5%	-1.2%	-1.1%	0.2%	-0.4%
1990-1996	2.9%	3.4%	3.6%	3.5%	3.2%	3.4%
1985-1996	2.1%	1.8%	1.6%	1.6%	2.0%	1.8%

Table 63b: Asset-Weighted Representative Portfolio Excess Returns

Year	*B*	*I*	*M*	*A*	*E*	*All*
1985	4.5%	3.1%	2.9%	2.7%	3.3%	3.4%
1986	4.9%	3.8%	3.0%	3.0%	3.9%	3.7%
1987	0.9%	0.8%	0.9%	0.8%	0.8%	0.8%
1988	1.2%	1.7%	2.2%	2.0%	1.4%	1.7%
1989	5.2%	3.5%	3.0%	2.9%	4.0%	3.6%
1990	0.5%	-1.9%	-2.6%	-2.6%	-0.8%	-1.7%
1991	2.2%	1.5%	2.4%	2.3%	1.3%	2.2%
1992	-0.9%	0.1%	0.2%	0.1%	-0.1%	-0.1%
1993	-2.1%	1.3%	2.2%	1.7%	-0.8%	0.8%
1994	0.3%	-0.9%	-1.4%	-1.3%	-0.2%	-0.9%
1995	3.0%	2.2%	1.7%	1.7%	2.4%	2.0%
1996	3.1%	2.0%	1.4%	1.4%	2.5%	1.7%
1985-1989	3.3%	2.6%	2.4%	2.3%	2.7%	2.6%
1990-1996	0.9%	0.6%	0.6%	0.5%	0.6%	0.6%
1985-1996	1.9%	1.4%	1.3%	1.2%	1.5%	1.4%

Table 64: Financial Characteristics of Dividend Payers

This table shows the financial characteristics of the dividend payer group. In addition, it indicates the average number of institutional investors (Inst Base) owning the firms and the average institutional ownership (Inst Own). The table also reports average annual buy-and-hold returns and average annual excess returns over the CRSP value-weighted index.

Year	*No*	*Age Yr*	*Div Yld %*	*Size Cnst $*	*Mom %*	*B/M*	*Inst Base*	*Inst Own %*	*Inst Own Chng %*	*Ret %*	*XS Ret %*
1980	2979	15.6	5.0	425	13.1	1.2	32.9	19.0		32.4	-0.2
1981	2846	16.3	4.7	477	44.0	1.2	35.8	20.0	1.1	12.5	16.4
1982	2689	17.0	5.1	391	-6.4	1.2	39.5	22.1	2.1	32.3	12.4
1983	2594	17.4	3.8	621	85.6	1.1	44.0	24.6	2.4	36.6	14.6
1984	2599	17.7	3.9	539	-6.4	0.9	47.0	25.5	1.0	5.6	2.5
1985	2490	18.0	3.5	674	32.0	1.0	54.6	27.9	2.4	36.7	6.3
1986	2406	18.0	3.0	861	38.9	0.8	59.4	29.3	1.4	16.2	1.0
1987	2478	16.9	2.8	938	7.8	0.8	61.9	29.3	0.0	-2.0	-3.8
1988	2472	16.8	3.8	794	-5.8	1.0	64.9	29.6	0.3	25.3	8.1
1989	2408	17.0	3.7	858	17.6	0.9	70.6	31.3	1.7	19.1	-8.8
1990	2273	17.8	4.1	928	3.7	0.9	71.9	31.9	0.7	-15.6	-9.6
1991	2105	19.0	3.8	994	10.1	1.1	82.4	35.4	3.5	41.9	8.8
1992	2170	18.9	3.0	1086	26.9	1.0	87.9	36.3	0.8	27.7	18.8
1993	2262	18.7	2.7	1160	27.3	0.8	88.4	37.2	0.9	21.7	10.5
1994	2401	18.3	2.7	1064	11.3	0.8	83.0	35.7	-1.5	1.4	2.0
1995	2488	18.5	2.9	1199	14.0	0.8	86.2	35.7	0.0	32.5	-2.3
1996	2488	18.6	2.8	1446	24.9	0.8	89.5	36.6	0.9	22.4	1.8
Avg	2479	17.7	3.6	850	19.9	1.0	64.7	29.8	1.1	20.4	4.6

Table 65: Financial Characteristics of Dividend Non-Payers

This table shows the financial characteristics of the dividend non-payer group. In addition, it indicates the average number of institutional investors (Inst Base) owning the firms and the average institutional ownership (Inst Own). The table also reports average annual buy-and-hold returns and average annual excess returns over the CRSP value-weighted index.

Year	*No*	*Age Yr*	*Div Yld %*	*Size Cnst $*	*Mom %*	*B/M*	*Inst Base*	*Inst Own %*	*Inst Own Chng %*	*Ret %*	*XS Ret %*
1980	1935	7.5	0	45	13.7	1.2	5.6	6.8		49.5	20.2
1981	2439	6.8	0	58	54.2	1.0	5.8	6.8	0.0	-12.6	-9.0
1982	2651	7.3	0	35	-26.4	1.2	6.5	8.0	1.2	18.8	0.1
1983	3235	6.8	0	78	103.2	1.5	8.1	9.9	1.9	24.9	6.6
1984	3559	6.6	0	47	-27.3	0.7	7.8	10.0	0.1	-19.4	-22.7
1985	3705	7.1	0	54	5.2	0.9	9.6	11.5	1.5	15.2	-13.1
1986	4117	7.0	0	78	26.2	0.8	11.3	13.4	1.9	-1.7	-14.7
1987	4256	7.0	0	79	4.7	0.8	12.3	14.0	0.7	-14.5	-14.8
1988	4138	7.6	0	66	-21.9	1.1	13.1	13.8	-0.3	15.0	-1.2
1989	3892	8.0	0	69	6.3	1.0	14.1	14.1	0.3	7.4	-18.8
1990	3872	8.5	0	72	-2.2	0.9	14.7	14.8	0.8	-22.8	-17.2
1991	4000	8.7	0	77	4.1	1.5	17.9	17.8	3.0	56.0	25.7
1992	4101	8.7	0	90	25.2	1.2	19.4	19.4	1.6	26.7	18.5
1993	4322	8.3	0	119	26.9	0.8	21.6	22.0	2.6	22.9	12.6
1994	4654	7.9	0	120	4.5	0.7	22.4	22.8	0.8	-4.7	-4.1
1995	4844	7.9	0	161	13.6	0.7	24.5	24.1	1.3	31.6	-0.5
1996	5330	7.5	0	210	43.2	0.7	26.2	25.9	1.8	13.3	-5.7
Avg	3826	7.6	0	86	14.9	1.0	14.2	15.0	1.2	12.1	-2.2

Table 66: Mean-Difference Tests of Financial Characteristics Between Dividend Payers and Non-Payers

This table shows the results of the differences-in-means tests between the dividend payer and dividend non-payer groups.

Year	*No*	*Age Yr*	*Div Yld %*	*Size Cnst $*	*Mom %*	*B/M*	*Inst Base*	*Inst Own %*	*Inst Own Chng %*	*Ret %*	*XS Ret %*
1980-	Avg	9.9	3.9	597	8.3	0.03	41.7	15.0	0.6	13.2	11.6
1989	t-stat	36.5	16.1	9.5	0.5	0.3	9.8	9.1	2.2	1.7	2.4
1990-	Avg	10.4	3.1	1004	0.4	-0.05	63.2	14.6	-0.9	1.3	0.1
1996	t-stat	46.4	14.7	15.1	0.1	-0.4	23.1	9.2	-2.1	0.1	0.0
1980-	Avg	10.1	3.6	765	5.0	-0.01	50.5	14.8	-0.1	8.3	6.9
1996	t-stat	35.1	18.8	10.5	0.5	-0.1	10.0	7.2	-0.2	1.2	2.1

Table 67: Institutional Ownership Profile of Dividend Payers: By Type

This table shows the average number of institutional investors and institutional ownership percentage of the five different institutional investor categories that hold the dividend payer stocks. The institutional investor types include bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the results of the F-test of differences in ownership between the institutional investor groups. The critical value for the F-statistic at alpha = 5% level is 2.5.

Year	*Institutional Base*					*Institutional Ownership %*				
	B	I	M	A	E	B	I	M	A	E
1980	15.3	3.2	2.2	6.3	2.4	7.6	2.0	1.8	4.0	1.6
1981	16.6	3.3	2.1	7.8	2.6	7.7	2.2	1.7	5.0	1.7
1982	18.3	3.6	2.3	9.2	2.8	8.1	2.4	1.9	6.4	1.7
1983	20.8	3.7	2.6	11.4	3.1	8.8	2.3	2.4	8.4	1.6
1984	21.2	3.9	2.5	13.6	3.4	8.4	2.3	2.2	10.0	1.7
1985	24.0	4.2	2.6	16.8	5.1	9.1	2.3	2.0	11.9	2.2
1986	24.6	4.3	2.9	20.5	5.8	9.2	2.4	2.2	13.0	2.3
1987	24.0	4.3	3.2	21.8	6.5	8.6	2.4	2.0	13.2	2.5
1988	23.9	4.7	3.2	23.5	6.8	8.7	2.4	2.0	13.3	2.6
1989	25.8	5.4	3.6	25.8	7.6	9.0	2.5	2.0	14.5	2.8
1990	25.6	5.8	3.8	27.8	7.4	8.0	2.4	2.2	16.0	2.8
1991	28.3	6.8	4.9	33.0	7.7	8.7	2.6	3.7	16.8	3.0
1992	29.1	7.3	5.2	36.4	8.1	8.3	2.6	4.4	17.7	2.9
1993	29.1	7.2	5.4	37.3	7.7	8.5	2.9	4.8	17.9	2.7
1994	25.5	6.9	4.9	36.1	7.8	7.9	3.0	4.6	17.1	2.7
1995	24.4	7.9	8.6	35.1	7.6	6.9	3.1	7.3	15.3	2.5
1996	23.2	7.8	8.9	37.6	7.4	7.0	3.0	8.0	15.9	2.1
Avg	23.5	5.3	4.0	23.5	5.9	8.3	2.5	3.3	12.7	2.3
F-stat					56.8					71.7

Table 68: Institutional Ownership Profile of Dividend Non-Payers: By Type

This table shows the average number of institutional investors and institutional ownership percentage of the five different institutional investor categories that hold the dividend non-payer stocks. The institutional investor types include bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the results of the F-test of differences in ownership between the institutional investor groups. The critical value for the F-statistic at alpha = 5% level is 2.5.

Year	*Institutional Base*					*Institutional Ownership %*				
	B	I	M	A	E	B	I	M	A	E
1980	1.2	0.4	0.4	1.0	0.2	1.3	0.5	0.4	1.2	0.4
1981	1.4	0.4	0.4	1.2	0.3	1.3	0.6	0.4	1.5	0.4
1982	1.7	0.4	0.4	1.6	0.3	1.6	0.7	0.6	2.2	0.5
1983	2.3	0.5	0.6	2.5	0.3	1.8	0.7	0.9	3.8	0.5
1984	2.1	0.5	0.5	2.5	0.4	1.7	0.7	0.8	4.1	0.5
1985	2.8	0.6	0.5	3.4	0.6	1.9	0.7	0.8	5.5	0.6
1986	3.2	0.7	0.6	4.2	0.7	2.5	0.8	0.9	6.4	0.6
1987	3.4	0.7	0.7	4.5	1.1	2.6	0.9	0.9	6.7	0.8
1988	3.5	0.9	0.6	4.6	1.2	2.8	0.9	0.8	6.5	0.9
1989	4.1	1.1	0.6	5.2	1.2	2.9	0.9	0.7	7.0	0.8
1990	3.6	1.2	0.7	5.9	1.2	2.1	0.9	0.8	8.2	0.9
1991	4.3	1.4	1.2	7.6	1.4	2.6	1.1	1.8	9.7	1.0
1992	4.7	1.5	1.4	8.7	1.5	2.4	1.0	2.4	11.1	1.1
1993	5.4	1.6	1.7	10.2	1.6	3.0	1.3	3.0	12.6	1.1
1994	5.0	1.9	1.6	10.6	2.0	2.7	1.4	3.1	13.1	1.3
1995	5.0	2.3	3.1	10.5	2.0	2.5	1.6	5.5	12.1	1.3
1996	5.2	2.4	3.4	11.9	1.8	2.7	1.7	6.0	13.4	1.1
Avg	3.5	1.1	1.1	5.7	1.0	2.3	1.0	1.8	7.4	0.8
F-stat					21.8					30.9

Table 69: Institutional Ownership Change of Dividend Payers: By Type

This table shows the percentage change in institutional ownership of the dividend payer stocks during the study period. The institutional investor universe includes bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the results of the F-test of differences in ownership change between the institutional investor groups. The critical value for the F-statistic at alpha = 5% level is 2.5.

Year	*Institutional Ownership Change %*				
	B	I	M	A	E
1980	0.05	0.15	-0.08	1.06	0.10
1981	0.48	0.28	0.20	1.34	-0.03
1982	0.67	-0.16	0.48	2.01	-0.03
1983	-0.41	-0.03	-0.24	1.58	0.08
1984	0.67	0.09	-0.19	1.90	0.45
1985	0.11	0.02	0.17	1.11	0.09
1986	-0.59	0.00	-0.12	0.22	0.20
1987	0.14	0.08	-0.06	0.12	0.16
1988	0.28	0.05	0.05	1.13	0.16
1989	-1.02	-0.05	0.18	1.58	0.04
1990	0.72	0.13	1.54	0.77	0.20
1991	-0.46	0.01	0.63	0.94	-0.13
1992	0.24	0.34	0.40	0.17	-0.20
1993	-0.62	0.05	-0.20	-0.82	0.01
1994	-0.93	0.11	2.75	-1.75	-0.19
1995	0.02	-0.13	0.71	0.52	-0.39
1996	0.05	0.15	-0.08	1.06	0.10
Avg	-0.04	0.06	0.39	0.74	0.03
F-stat					4.4

Table 70: Institutional Ownership Change of Dividend Non-Payers: By Type

This table shows the percentage change in institutional ownership of the dividend non-payer stocks during the study period. The institutional investor universe includes bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E). The table also indicates the results of the F-test of differences in ownership change between the institutional investor groups. The critical value for the F-statistic at alpha = 5% level is 2.5.

Year	*Institutional Ownership Change %*				
	B	I	M	A	E
1980	0.01	0.07	0.02	0.29	0.03
1981	0.27	0.09	0.16	0.68	0.04
1982	0.20	0.00	0.32	1.57	0.01
1983	-0.15	-0.01	-0.09	0.34	0.00
1984	0.28	0.04	-0.06	1.37	0.12
1985	0.59	0.05	0.16	0.89	-0.01
1986	0.03	0.16	0.01	0.34	0.23
1987	0.21	-0.07	-0.15	-0.22	0.05
1988	0.14	-0.01	-0.12	0.49	-0.04
1989	-0.78	0.03	0.09	1.25	0.08
1990	0.47	0.16	1.05	1.45	0.05
1991	-0.18	-0.04	0.58	1.41	0.15
1992	0.60	0.24	0.61	1.54	0.02
1993	-0.28	0.18	0.10	0.47	0.13
1994	-0.25	0.17	2.35	-1.01	0.02
1995	0.18	0.08	0.53	1.36	-0.21
1996	0.01	0.07	0.02	0.29	0.03
Avg	0.08	0.07	0.35	0.76	0.04
F-stat					7.0

Table 71: Mean-Difference Tests of Institutional Ownership Between Dividend Payers and Non-Payers: By Type

This table shows the results of the differences-in-means tests between the institutional investor types regarding their ownership of dividend payer and non-payer stock groups. The institutional investor universe includes bank trusts (B), insurance companies (I), investment companies (M), investment advisors (A), and endowment & pension funds (E).

Period		*Institutional Base*				
		B	I	M	A	E
1980-1989	Mean	18.9	3.5	2.2	12.6	4.0
	t-stat	15.8	15.6	13.6	5.6	6.2
1990-1996	Mean	21.7	5.3	4.1	25.4	6.0
	t-stat	23.5	17.0	4.9	16.8	39.9
1980-1996	Mean	20.0	4.2	3.0	17.9	4.8
	t-stat	19.5	9.7	5.4	6.3	8.8
		Institutional Ownership %				
1980-1989	Mean	6.48	1.57	1.29	5.48	1.45
	t-stat	25.0	26.4	14.9	3.9	9.5
1990-1996	Mean	5.31	1.52	1.79	5.22	1.57
	t-stat	18.7	10.2	1.7	6.4	12.7
1980-1996	Mean	6.00	1.55	1.49	5.38	1.50
	t-stat	28.3	14.0	2.4	3.7	10.7
		Institutional Ownership Change %				
1980-1989	Mean	-0.02	0.02	0.00	0.52	0.08
	t-stat	-0.1	0.4	0.0	1.8	1.5
1990-1996	Mean	-0.26	-0.05	0.10	-0.72	-0.13
	t-stat	-0.9	-0.7	0.2	-1.3	-1.5
1980-1996	Mean	-0.12	-0.01	0.04	-0.02	-0.01
	t-stat	-0.7	-0.3	0.2	-0.1	-0.2

Table 72: Dividend Omissions and Dividend Initiations

This table shows the breakdown of dividend omissions and dividend initiations for each year in the study period.

Year	*Dividend Omissions*	*Dividend Initiations*
1982	77	8
1983	39	8
1984	61	14
1985	73	16
1986	84	29
1987	61	30
1988	54	51
1989	85	50
1990	119	35
1991	70	32
1992	60	31
1993	44	32
1994	35	27
Total	862	363

Table 73: Dividend Decreases and Dividend Increases

This table shows the breakdown of dividend decreases and dividend increases for each year in the study period.

Year	*Dividend Decreases*	*Dividend Increases*
1982	79	81
1983	62	192
1984	40	127
1985	32	124
1986	71	174
1987	42	176
1988	36	193
1989	44	139
1990	90	112
1991	85	72
1992	69	146
1993	57	220
1994	43	230
Total	750	1986

Table 74: Financial Profile and Institutional Ownership of Dividend Omission and Initiation Event Firms

This table shows the average of the financial characteristics of the sample firms. Age is the number of years the firm has been publicly traded. The pre/post event dividend yield is the annual dividend yield for the year prior to the dividend omission event (year post for the initiation event). The event quarter dividend yield is the annualized dividend yield in the event quarter. Size is the market capitalization prior to the event quarter. Momentum is the past 11-month buy-and-hold return with a one month lag from the event date. Book-to-market ratio is calculated at the end of the December prior to the dividend event. Institutional Base (Inst Base) shows the number of institutions holding the event firms in their portfolios prior to the event quarter. Institutional Ownership (Inst Own) shows institutional ownership percentages. Event quarter return and excess return over the CRSP value-weighted index reports the market reaction to the event samples at the event quarter. The results for the differences-in-mean tests are also reported in the table.

Financial Profile	*Omissions*	*Initiations*	*Mean Diff t-stat*
Age (Yr)	16.4	6.53	19.7
Dividend Yield (Pre/Post Event)	3.29%	1.90%	0.0
Dividend Yield (Event Quarter)	9.73%	4.42%	8.5
Size (Const$)	149	242	-7.1
Momentum	-11.94%	37.97%	-29.5
B/M Ratio	1.20	0.85	5.6
Inst Base (Pre Event)	26.45	26.86	-0.2
Inst Own (Pre Event)	23.36%	23.82%	-0.4
Event Quarter Return	-5.83%	13.28%	-16.4
Event Quarter Excess Return	-9.40%	9.77%	-13.5

Table 75: Financial Profile and Institutional Ownership of Dividend Decrease and Increase Event Firms

This table shows the average of the financial characteristics of the sample firms. Age is the number of years the firm has been publicly traded. The pre/post event dividend yield indicates the annual dividend yield for the year preceding and the year following the dividend event. The event quarter dividend yield is the annualized dividend yield in the event quarter. Size is the market capitalization prior to the event quarter. Momentum is the past 11-month buy-and-hold return with a one month lag from the event date. Book-to-market ratio is calculated at the end of the December prior to the dividend event. Institutional Base (Inst Base) shows the number of institutions holding the event firms in their portfolios prior to the event quarter. Institutional Ownership (Inst Own) shows institutional ownership percentages. Event quarter return and excess return over the CRSP value-weighted index reports the market reaction to the event samples at the event quarter. The results for the differences-in-mean tests are also reported in the table.

Financial Profile	*Decreases*	*Increases*	*Mean Diff t-stat*
Age (Yr)	21.2	15.9	7.1
Dividend Yield (Pre/Post Event)	6.53% / 4.02%	3.38% / 3.72%	14.9 / 1.6
Dividend Yield (Event Quarter)	3.86%	3.99%	-0.8
Size (Const$)	534	686	-2.5
Momentum	-1.85%	39.25%	-22.1
B/M Ratio	1.06	0.80	8.5
Inst Base (Pre Event)	50.5	56.19	-1.7
Inst Own (Pre Event)	27.02%	29.70%	-2.7
Event Quarter Return	-2.60%	7.07%	-11.3
Event Quarter Excess Return	-6.62%	3.84%	-13.4

Table 76: Changes in the Financial Profile of Dividend-Omitting Firms

Quarter	*Div Yld*	*Size*	*B/M Ratio*	*Momentum*	*Return*	*Excess Return*	*S&P Rank*
-8	3.24%	227	1.05	14.78%	2.55%	-1.10%	15.7
-7	2.87%	221	1.05	13.68%	3.74%	-0.65%	15.7
-6	2.83%	213	1.07	11.55%	1.74%	-2.45%	15.9
-5	3.03%	209	1.08	9.64%	1.01%	-3.01%	15.8
-4	3.36%	198	1.09	5.63%	-0.57%	-3.86%	15.9
-3	3.12%	181	1.11	-1.12%	-3.21%	-6.29%	16.0
-2	3.24%	170	1.13	-3.99%	-2.12%	-5.73%	16.1
-1	3.40%	163	1.15	-7.87%	-4.25%	-7.77%	16.2
0	9.73%	149	1.20	-11.94%	-5.83%	-9.40%	16.1
1	4.10%	116	1.25	-16.97%	-8.91%	-13.12%	16.2
2		113	1.28	-18.66%	-0.36%	-4.99%	16.5
3		113	1.36	-15.08%	-1.19%	-5.65%	17.0
4		115	1.51	-8.92%	2.74%	-1.56%	17.3
5		117	1.61	1.29%	3.02%	-0.40%	17.7
6		122	1.66	4.92%	3.01%	-0.22%	18.2
7		127	1.73	9.38%	2.00%	-1.60%	18.4
8		135	1.68	9.47%	4.67%	1.64%	18.6

Table 77: Changes in the Financial Profile of Dividend-Decreasing Firms

Quarter	*Div Yld*	*Size*	*B/M Ratio*	*Momentum*	*Return*	*Excess Return*	*S&P Rank*
-8	5.68%	573	0.97	14.28%	4.39%	0.17%	13.7
-7	5.68%	567	0.96	12.79%	2.99%	-1.02%	13.8
-6	5.70%	573	0.97	13.01%	2.85%	-1.02%	13.9
-5	6.03%	568	0.97	12.09%	2.12%	-0.92%	13.9
-4	5.92%	562	0.98	9.71%	2.11%	-0.17%	14.1
-3	6.02%	566	0.99	7.97%	-0.12%	-2.96%	14.3
-2	6.37%	563	1.02	5.64%	-0.06%	-3.19%	14.6
-1	7.39%	557	1.04	4.09%	-0.68%	-4.63%	14.5
0	3.86%	534	1.06	-1.85%	-2.60%	-6.62%	14.5
1	4.45%	522	1.07	-0.46%	3.09%	-0.85%	14.6
2	4.57%	494	1.10	3.78%	4.32%	-0.06%	15.1
3	4.61%	560	1.18	7.95%	3.10%	-1.04%	15.0
4	4.23%	580	1.24	12.82%	3.11%	-0.04%	15.1
5	4.43%	595	1.29	13.38%	3.22%	0.80%	15.3
6	4.48%	607	1.32	11.43%	2.62%	0.04%	15.6
7	4.68%	622	1.29	11.84%	2.91%	0.10%	15.6
8	4.24%	637	1.29	12.47%	3.56%	-0.08%	15.7

Table 78: Changes in the Financial Profile of Dividend-Initiating Firms

Quarter	*Div Yld*	*Size*	*B/M Ratio*	*Momentum*	*Return*	*Excess Return*	*S&P Rank*
-8		149	0.75	25.40%	7.55%	4.27%	18.2
-7		153	0.79	26.15%	4.00%	0.16%	18.1
-6		162	0.79	22.17%	6.91%	3.39%	18.0
-5		177	0.85	27.14%	6.71%	3.54%	17.8
-4		183	0.88	26.41%	9.45%	5.26%	17.6
-3		197	0.89	29.71%	7.31%	3.97%	17.6
-2		203	0.90	27.37%	5.82%	2.93%	17.6
-1		219	0.88	30.33%	8.93%	5.56%	17.6
0	4.42%	242	0.85	37.97%	13.28%	9.77%	17.7
1	1.45%	262	0.82	37.81%	5.50%	1.72%	17.7
2	1.65%	266	0.80	34.86%	5.45%	2.01%	17.8
3	1.41%	278	0.78	28.91%	5.20%	1.72%	17.6
4	3.12%	291	0.79	20.72%	5.19%	2.38%	17.5
5	1.65%	293	0.79	21.96%	5.20%	1.07%	17.4
6	1.69%	311	0.78	19.06%	2.14%	-1.16%	17.2
7	1.53%	316	0.79	17.72%	3.34%	0.07%	17.2
8	2.54%	324	0.77	14.65%	4.06%	0.07%	17.2

Table 79: Changes in the Financial Profile of Dividend-Increasing Firms

Quarter	*Div Yld*	*Size*	*B/M Ratio*	*Momentum*	*Return*	*Excess Return*	*S&P Rank*
-8	4.20%	436	0.99	27.89%	6.75%	3.33%	13.7
-7	3.98%	453	0.98	28.09%	7.55%	3.83%	13.7
-6	3.99%	471	0.97	29.11%	7.99%	4.27%	13.7
-5	3.86%	512	0.94	31.40%	8.98%	5.02%	13.7
-4	3.80%	551	0.92	35.62%	10.71%	6.66%	13.6
-3	3.45%	579	0.89	39.25%	9.90%	6.12%	13.5
-2	3.40%	603	0.88	42.37%	10.33%	6.14%	13.4
-1	3.17%	654	0.84	43.56%	8.66%	5.03%	13.5
0	3.99%	686	0.80	39.25%	7.07%	3.84%	13.5
1	3.70%	684	0.78	33.34%	5.03%	1.64%	13.4
2	3.64%	693	0.75	25.21%	3.92%	0.61%	13.2
3	3.64%	697	0.72	19.14%	3.41%	0.09%	13.3
4	3.91%	713	0.69	14.99%	3.77%	0.37%	13.2
5	3.74%	737	0.69	13.57%	3.56%	-0.13%	13.2
6	3.97%	714	0.69	12.78%	3.16%	-0.32%	13.0
7	3.75%	733	0.70	12.38%	2.65%	-0.84%	13.0
8	3.88%	755	0.71	12.02%	3.29%	-0.57%	13.0

Table 80: Institutional Base Changes: Dividend Omissions

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	0.33	-0.25	-0.89	-0.09	-0.05	0.01	-0.30	-0.32
	t	2.42	-1.84	-6.35	-0.68	-0.33	0.05	-2.21	-2.27
-7	M	0.30	-0.36	-1.09	-0.15	-0.17	0.07	-0.43	-0.44
	t	1.96	-2.36	-7.13	-0.97	-1.11	0.48	-2.89	-2.95
-6	M	0.42	-0.25	-0.96	-0.05	-0.07	0.04	-0.26	-0.29
	t	3.09	-1.86	-7.02	-0.36	-0.56	0.34	-1.96	-2.08
-5	M	0.43	-0.19	-0.84	-0.02	0.06	0.12	-0.18	-0.13
	t	2.59	-1.15	-5.08	-0.13	0.37	0.76	-1.10	-0.79
-4	M	-0.04	-0.65	-1.29	-0.51	-0.40	-0.32	-0.60	-0.47
	t	-0.28	-4.39	-8.59	-3.46	-2.75	-2.23	-4.18	-3.03
-3	M	-0.39	-1.02	-1.65	-0.88	-0.80	-0.63	-0.92	-0.84
	t	-2.72	-7.06	-11.16	-6.10	-5.44	-4.42	-6.48	-5.33
-2	M	-0.49	-1.12	-1.76	-0.96	-0.89	-0.83	-1.03	-1.01
	t	-2.82	-6.55	-10.13	-5.60	-5.27	-4.99	-6.17	-5.66
-1	M	-0.74	-1.36	-1.96	-1.21	-1.07	-0.88	-1.22	-1.02
	t	-4.84	-8.99	-12.65	-7.98	-7.06	-5.98	-8.17	-6.29
0	M	-1.42	-2.03	-2.62	-1.91	-1.74	-1.47	-1.83	-1.47
	t	-5.60	-8.03	-10.26	-7.55	-6.79	-6.11	-7.24	-5.37
1	M	-1.64	-2.30	-2.94	-2.17	-1.92	-1.54	-2.00	-1.51
	t	-6.58	-9.28	-11.73	-8.74	-7.77	-6.37	-8.09	-5.62
2	M	-0.90	-1.61	-2.24	-1.47	-1.25	-1.02	-1.50	-1.05
	t	-5.66	-10.12	-13.63	-9.29	-7.85	-6.87	-9.43	-6.04
3	M	-0.33	-1.04	-1.61	-0.94	-0.65	-0.25	-0.91	-0.39
	t	-2.77	-8.61	-12.71	-7.77	-5.29	-2.28	-7.66	-3.12
4	M	-0.13	-0.89	-1.54	-0.76	-0.35	-0.19	-0.87	-0.35
	t	-2.06	-7.34	-12.32	-6.25	-2.99	-2.65	-7.54	-3.00
5	M	0.09	-0.62	-1.20	-0.54	-0.13	0.05	-0.62	-0.15
	t	0.74	-5.01	-9.28	-4.35	-1.07	0.41	-5.07	-1.16
6	M	0.21	-0.46	-0.97	-0.39	-0.08	0.13	-0.44	-0.06
	t	1.60	-3.49	-7.13	-2.96	-0.58	1.00	-3.38	-0.48
7	M	0.42	-0.30	-0.88	-0.22	0.11	0.28	-0.28	0.09
	t	2.68	-1.96	-5.50	-1.40	0.74	1.92	-1.83	0.54
8	M	0.51	-0.19	-0.74	-0.12	0.28	0.33	-0.26	0.22
	t	3.55	-1.33	-4.99	-0.84	1.96	2.40	-1.80	1.48

Table 81: Institutional Base Changes: Dividend Decreases

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	0.97	0.38	-0.26	0.54	0.35	0.37	0.31	-0.04
	t	4.99	2.00	-1.36	2.83	1.82	1.58	1.64	-0.23
-7	M	0.08	-0.51	-1.14	-0.36	-0.50	-0.31	-0.54	-0.76
	t	0.38	-2.39	-5.40	-1.70	-2.34	-1.15	-2.59	-3.45
-6	M	0.77	0.13	-0.51	0.30	-0.17	-0.13	0.08	-0.29
	t	3.41	0.60	-2.29	1.32	-0.77	-0.48	0.39	-1.21
-5	M	0.75	0.14	-0.44	0.28	0.06	0.20	0.10	-0.24
	t	3.30	0.64	-1.99	1.23	0.27	0.75	0.45	-1.05
-4	M	0.67	0.08	-0.47	0.17	0.14	0.27	0.01	-0.23
	t	2.91	0.35	-2.06	0.75	0.60	1.01	0.04	-0.98
-3	M	0.28	-0.35	-0.87	-0.25	-0.29	-0.13	-0.32	-0.54
	t	1.28	-1.61	-4.01	-1.13	-1.29	-0.49	-1.54	-2.33
-2	M	0.06	-0.59	-1.14	-0.46	-0.60	-0.52	-0.57	-0.83
	t	0.24	-2.51	-4.89	-1.93	-2.61	-1.97	-2.47	-3.45
-1	M	-0.68	-1.33	-1.88	-1.21	-1.52	-1.42	-1.28	-1.56
	t	-2.50	-4.96	-6.96	-4.49	-5.43	-4.55	-4.81	-5.37
0	M	-0.95	-1.61	-2.12	-1.50	-1.58	-1.49	-1.49	-1.62
	t	-2.96	-5.05	-6.65	-4.70	-4.86	-3.94	-4.71	-4.67
1	M	0.21	-0.46	-0.96	-0.38	-0.33	-0.36	-0.45	-0.40
	t	1.08	-2.38	-4.88	-1.96	-1.68	-1.52	-2.36	-1.93
2	M	0.65	-0.08	-0.61	0.02	0.04	0.09	-0.11	-0.07
	t	2.86	-0.35	-2.68	0.10	0.16	0.34	-0.48	-0.32
3	M	0.94	0.18	-0.36	0.28	0.23	0.36	0.17	0.08
	t	4.60	0.91	-1.77	1.39	1.22	1.69	0.87	0.39
4	M	0.93	0.19	-0.33	0.28	0.35	0.25	0.17	0.13
	t	4.69	0.99	-1.71	1.43	1.88	1.16	0.87	0.68
5	M	0.92	0.26	-0.20	0.31	0.51	0.49	0.17	0.26
	t	3.94	1.09	-0.86	1.34	2.25	1.95	0.72	1.10
6	M	0.85	0.16	-0.32	0.24	0.25	0.39	0.09	0.06
	t	3.64	0.71	-1.39	1.04	1.15	1.52	0.38	0.26
7	M	1.08	0.35	-0.20	0.46	0.45	0.42	0.29	0.15
	t	5.11	1.69	-0.96	2.16	2.24	1.93	1.43	0.76
8	M	0.71	-0.05	-0.61	0.05	0.08	0.00	-0.12	-0.26
	t	3.38	-0.25	-2.92	0.22	0.38	0.01	-0.58	-1.25

Table 82: Institutional Base Changes: Dividend Initiations

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	0.74	0.08	-0.67	0.26	0.57	0.42	-0.13	0.23
	t	2.63	0.28	-2.37	0.93	2.03	1.53	-0.47	0.73
-7	M	0.91	0.25	-0.47	0.43	0.63	0.51	0.18	0.36
	t	4.10	1.14	-2.07	1.96	3.02	2.41	0.84	1.72
-6	M	1.04	0.40	-0.34	0.54	0.64	0.67	0.24	0.30
	t	4.42	1.72	-1.42	2.31	3.02	2.81	1.10	1.26
-5	M	1.37	0.72	0.02	0.86	0.86	0.82	0.56	0.61
	t	5.26	2.79	0.08	3.33	3.72	3.34	2.19	2.47
-4	M	1.12	0.39	-0.34	0.58	0.65	0.77	0.18	0.24
	t	4.60	1.62	-1.40	2.37	2.78	3.21	0.75	1.05
-3	M	1.13	0.52	-0.09	0.65	0.81	0.88	0.35	0.35
	t	4.80	2.23	-0.39	2.78	3.74	4.05	1.56	1.58
-2	M	1.47	0.84	0.23	0.94	1.20	1.21	0.64	0.73
	t	5.20	3.00	0.81	3.36	4.59	4.51	2.33	2.67
-1	M	1.69	1.08	0.51	1.20	1.41	1.28	0.89	0.90
	t	3.44	2.21	1.03	2.45	2.97	2.78	1.82	1.76
0	M	2.03	1.36	0.73	1.48	1.56	1.24	1.00	0.87
	t	7.62	5.11	2.71	5.55	6.11	5.12	3.79	3.38
1	M	1.44	0.84	0.34	0.90	1.12	0.85	0.73	0.66
	t	3.76	2.22	2.88	2.38	3.12	2.40	1.95	1.78
2	M	1.39	0.79	0.27	0.84	1.15	0.82	0.65	0.58
	t	5.02	2.86	2.95	3.06	4.18	3.13	2.41	2.15
3	M	1.63	0.99	0.47	1.04	1.30	1.02	0.88	0.84
	t	4.93	3.00	2.39	3.18	4.01	3.26	2.70	2.57
4	M	1.00	0.42	-0.03	0.45	0.77	0.45	0.23	0.20
	t	3.56	2.53	-0.10	2.61	2.88	2.74	0.88	0.79
5	M	0.59	-0.01	-0.50	0.02	0.39	0.12	-0.12	-0.11
	t	2.04	-0.02	-1.75	0.08	1.42	0.47	-0.42	-0.41
6	M	1.17	0.54	0.08	0.53	0.90	0.74	0.47	0.52
	t	4.21	1.94	0.28	1.90	3.33	3.02	1.72	1.90
7	M	0.65	0.05	-0.38	0.04	0.40	0.42	-0.02	0.01
	t	2.20	0.18	-1.27	0.14	1.40	1.40	-0.07	0.05
8	M	1.15	0.47	-0.05	0.47	0.90	0.72	0.35	0.49
	t	4.16	1.73	-0.18	1.74	3.51	3.08	1.33	1.93

Table 83: Institutional Base Changes: Dividend Increases

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	1.52	0.85	0.19	0.99	0.82	0.80	0.80	0.62
	t	10.63	6.03	1.37	7.03	5.94	4.64	7.10	5.14
-7	M	1.82	1.14	0.47	1.31	1.14	1.26	1.01	0.73
	t	12.60	8.09	3.37	9.17	8.23	7.58	8.83	5.92
-6	M	2.08	1.38	0.69	1.56	1.35	1.43	1.24	0.99
	t	14.20	9.54	4.80	10.40	9.46	8.38	10.60	7.88
-5	M	2.34	1.60	0.95	1.78	1.64	1.67	1.47	1.23
	t	16.40	11.30	6.70	12.60	12.10	10.20	12.80	9.95
-4	M	2.52	1.76	1.15	1.93	1.85	2.16	1.57	1.43
	t	17.60	12.50	8.15	13.60	13.10	12.00	13.60	11.40
-3	M	2.83	2.06	1.45	2.22	2.14	2.18	1.89	1.66
	t	19.73	14.53	10.30	15.57	15.23	13.04	16.54	13.82
-2	M	2.64	1.90	1.35	2.04	1.84	1.93	1.60	1.38
	t	16.79	12.20	8.70	13.07	11.84	10.14	13.28	10.43
-1	M	3.60	2.90	2.41	3.02	3.00	3.17	2.65	2.41
	t	17.99	14.61	12.12	15.15	14.99	13.44	17.06	14.04
0	M	2.83	2.17	1.70	2.27	2.39	2.50	2.03	1.87
	t	17.00	13.11	10.29	13.66	14.07	12.04	15.71	12.89
1	M	1.78	1.14	0.66	1.24	1.25	1.23	1.17	0.95
	t	12.91	8.36	4.85	9.06	9.36	7.67	10.63	7.98
2	M	1.18	0.57	0.08	0.65	0.61	0.48	0.57	0.26
	t	8.33	4.09	0.61	4.65	4.56	2.97	5.22	2.23
3	M	1.21	0.58	0.09	0.66	0.61	0.48	0.63	0.40
	t	8.79	4.29	0.67	4.85	4.83	3.31	5.70	3.43
4	M	1.19	0.57	0.01	0.65	0.68	0.52	0.53	0.30
	t	9.19	4.46	0.10	5.03	5.60	3.76	5.14	2.68
5	M	1.28	0.64	0.06	0.71	0.69	0.59	0.65	0.42
	t	9.02	4.56	0.42	5.03	5.19	3.87	5.75	3.51
6	M	0.91	0.27	-0.25	0.31	0.35	0.34	0.34	0.06
	t	6.42	1.94	-1.78	2.16	2.56	2.17	2.90	0.50
7	M	1.02	0.33	-0.24	0.40	0.36	0.43	0.45	0.04
	t	6.99	2.31	-1.69	2.72	2.57	2.60	3.68	0.28
8	M	1.21	0.51	-0.08	0.58	0.59	0.49	0.60	0.32
	t	8.30	3.53	-0.54	3.97	4.24	3.17	5.01	2.60

Table 84: Cumulative Institutional Base Changes

This table shows the average cumulative change in the number of institutional investors holding the dividend event sample firms after the event and during the entire study period. The results for all the adjustment methods are reported in the table.

Event	*Adjust \ Period*	*0 to 4*	*0 to 8*	*-8 to -4*	*-8 to 0*	*-8 to 4*	*-8 to 8*
	Raw	-4.43	-3.19	1.44	-1.60	-4.61	-3.37
	All	-7.87	-9.44	-1.69	-7.23	-13.07	-14.64
	Payer	-10.94	-14.72	-5.06	-13.05	-21.37	-25.14
Omissions	Non-Payer	-7.27	-8.53	-0.82	-5.80	-11.15	-12.41
	SD	-5.91	-5.73	-0.64	-5.13	-9.30	-9.12
	SMB	-4.47	-3.68	-0.08	-3.88	-6.88	-6.09
	Return	-7.11	-8.70	-1.76	-6.77	-12.04	-13.64
	Return & SMB	-4.77	-4.67	-1.66	-6.00	-9.30	-9.21
	Raw	1.78	5.35	3.24	1.95	4.68	8.24
	All	-1.78	-1.06	0.23	-3.65	-3.82	-3.10
	Payer	-4.39	-5.72	-2.81	-8.82	-11.09	-12.42
Decreases	Non-Payer	-1.30	-0.24	0.93	-2.49	-2.29	-1.23
	SD	-1.29	-0.01	-0.12	-4.12	-3.83	-2.55
	SMB	-1.15	0.15	0.39	-3.17	-2.84	-1.53
	Return	-1.70	-1.28	-0.04	-3.70	-3.92	-3.49
	Return & SMB	-1.88	-1.67	-1.56	-6.11	-6.37	-6.16
	Raw	7.49	11.05	5.18	11.50	16.96	20.52
	All	4.39	5.45	1.84	5.63	8.67	9.73
	Payer	1.78	0.93	-1.80	-0.42	0.63	-0.22
Initiations	Non-Payer	4.71	5.78	2.67	6.93	10.17	11.24
	SD	5.89	8.49	3.36	8.33	12.67	15.26
	SMB	4.37	6.37	3.18	7.79	10.93	12.93
	Return	3.49	4.17	1.03	3.90	6.39	7.07
	Return & SMB	3.15	4.06	1.74	4.58	6.86	7.77
	Raw	8.19	12.60	10.28	22.18	27.54	31.95
	All	5.03	6.78	6.72	15.75	18.60	20.35
	Payer	2.55	2.04	3.45	10.36	11.21	10.70
Increases	Non-Payer	5.47	7.45	7.58	17.12	20.32	22.31
	SD	5.54	7.53	6.80	16.17	19.33	21.31
	SMB	5.21	7.06	7.31	17.08	19.79	21.64
	Return	4.94	6.98	6.09	14.26	17.16	19.20
	Return & SMB	3.77	4.61	5.00	12.32	14.22	15.06

Table 85: Institutional Ownership Changes (% Shares): Dividend Omissions

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	0.13	-0.28	-0.30	-0.29	0.00	-0.06	-0.26	-0.04
	t	1.12	-2.38	-2.56	-2.52	-0.01	-0.42	-2.28	-0.34
-7	M	0.45	0.07	0.01	0.04	0.39	0.29	0.07	0.28
	t	3.26	0.51	0.05	0.28	2.49	1.84	0.49	1.97
-6	M	0.23	-0.18	-0.23	-0.21	-0.09	0.13	-0.16	0.10
	t	1.63	-1.29	-1.60	-1.47	-0.57	0.79	-1.09	0.66
-5	M	0.51	0.10	0.09	0.05	0.31	0.39	0.13	0.27
	t	2.74	0.56	0.48	0.26	1.54	2.12	0.71	1.60
-4	M	0.19	-0.24	-0.25	-0.29	0.10	0.19	-0.20	0.16
	t	1.40	-1.79	-1.87	-2.21	0.67	1.17	-1.45	1.12
-3	M	0.05	-0.40	-0.40	-0.46	0.09	-0.17	-0.34	-0.01
	t	0.42	-3.13	-3.15	-3.56	0.62	-1.10	-2.62	-0.11
-2	M	0.27	-0.15	-0.15	-0.23	0.28	0.14	-0.09	0.14
	t	1.67	-0.93	-0.93	-1.39	1.63	0.76	-0.53	0.83
-1	M	-0.07	-0.49	-0.48	-0.57	-0.16	-0.10	-0.39	-0.14
	t	-0.50	-3.49	-3.44	-4.01	-0.97	-0.60	-2.79	-0.97
0	M	-0.68	-1.02	-1.00	-1.09	-0.65	-0.65	-0.91	-0.57
	t	-3.61	-6.35	-6.28	-6.82	-3.53	-3.84	-5.69	-3.34
1	M	-0.87	-1.18	-1.13	-1.24	-0.73	-0.60	-0.95	-0.50
	t	-3.11	-5.43	-5.23	-5.73	-3.10	-2.59	-4.73	-2.28
2	M	-0.17	-0.44	-0.38	-0.56	0.00	-0.01	-0.38	0.13
	t	-3.18	-2.66	-2.32	-3.43	-0.02	-0.08	-2.33	0.73
3	M	-0.32	-0.86	-0.73	-0.96	-0.26	-0.46	-0.74	-0.20
	t	-2.11	-5.61	-4.83	-6.28	-2.46	-2.58	-4.87	-1.23
4	M	0.07	-0.57	-0.34	-0.56	-0.03	0.21	-0.47	0.01
	t	0.48	-3.96	-2.41	-3.95	-0.13	1.22	-3.33	0.04
5	M	0.06	-0.45	-0.32	-0.58	-0.20	0.06	-0.41	0.08
	t	0.44	-3.43	-2.49	-4.46	-1.18	0.39	-3.16	0.55
6	M	0.43	-0.08	0.07	-0.21	0.47	0.59	0.02	0.42
	t	2.21	-0.41	0.38	-1.06	2.24	2.76	0.08	2.10
7	M	0.16	-0.39	-0.18	-0.46	0.29	0.00	-0.31	-0.06
	t	0.92	-2.18	-1.04	-2.61	1.47	0.01	-1.75	-0.31
8	M	0.24	-0.29	-0.08	-0.39	0.15	0.00	-0.29	0.18
	t	1.46	-1.72	-0.49	-2.38	0.88	-0.01	-1.73	0.96

Table 86: Institutional Ownership Changes (% Shares): Dividend Decreases

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	0.69	0.30	0.28	0.30	0.51	0.40	0.30	0.30
	t	3.53	1.55	1.46	1.52	3.04	2.01	1.55	1.82
-7	M	0.28	-0.11	-0.11	-0.13	0.27	0.11	-0.08	0.09
	t	2.03	-0.79	-0.80	-0.98	1.85	0.65	-0.60	0.65
-6	M	0.26	-0.17	-0.17	-0.19	0.05	-0.06	-0.12	0.03
	t	2.38	-1.53	-1.62	-1.79	0.40	-0.45	-1.09	0.23
-5	M	0.40	0.03	-0.01	-0.06	0.31	0.01	0.05	0.06
	t	2.26	0.18	-0.06	-0.35	1.78	0.03	0.30	0.35
-4	M	0.45	0.04	0.04	-0.06	0.50	0.45	0.05	0.29
	t	3.30	0.29	0.31	-0.41	3.44	2.40	0.35	2.00
-3	M	0.11	-0.30	-0.29	-0.41	0.14	0.15	-0.23	0.05
	t	0.89	-2.35	-2.27	-3.17	0.96	0.89	-1.83	0.37
-2	M	-0.01	-0.45	-0.44	-0.55	-0.07	0.06	-0.39	-0.08
	t	-0.09	-2.77	-2.73	-3.41	-0.40	0.31	-2.38	-0.44
-1	M	0.51	0.07	0.07	-0.04	0.16	0.05	0.15	0.05
	t	1.95	0.25	0.27	-0.16	0.67	0.22	0.57	0.21
0	M	-0.19	-0.68	-0.60	-0.77	-0.33	-0.21	-0.57	-0.16
	t	-1.18	-4.22	-3.80	-4.79	-1.95	-1.10	-3.54	-1.01
1	M	0.04	-0.45	-0.37	-0.57	-0.16	-0.07	-0.40	-0.03
	t	0.31	-3.29	-2.75	-4.19	-1.03	-0.38	-2.94	-0.21
2	M	0.23	-0.31	-0.19	-0.42	0.03	0.09	-0.27	0.11
	t	1.61	-2.20	-1.34	-3.02	0.20	0.49	-1.89	0.73
3	M	0.36	-0.23	-0.06	-0.33	0.26	0.12	-0.15	0.17
	t	2.97	-1.86	-0.52	-2.70	1.85	0.84	-1.25	1.36
4	M	0.10	-0.52	-0.30	-0.59	-0.03	-0.08	-0.43	-0.06
	t	0.72	-3.73	-2.21	-4.31	-0.21	-0.44	-3.17	-0.45
5	M	0.17	-0.37	-0.22	-0.48	0.00	0.07	-0.35	0.06
	t	1.33	-2.86	-1.75	-3.77	-0.01	0.40	-2.77	0.47
6	M	-0.07	-0.64	-0.44	-0.71	-0.08	-0.03	-0.61	-0.14
	t	-0.44	-4.07	-2.88	-4.67	-0.47	-0.17	-3.96	-1.02
7	M	0.36	-0.17	-0.02	-0.29	0.31	0.26	-0.14	0.18
	t	2.48	-1.14	-0.12	-2.00	1.94	1.33	-0.99	1.19
8	M	0.16	-0.46	-0.23	-0.55	-0.09	-0.01	-0.47	-0.17
	t	1.02	-3.00	-1.52	-3.61	-0.52	-0.06	-3.05	-1.04

Table 87: Institutional Ownership Changes (% Shares): Dividend Initiations

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	1.07	0.63	0.59	0.61	0.93	0.86	0.55	0.83
	t	3.98	2.35	2.20	2.29	3.27	2.78	2.05	2.68
-7	M	0.62	0.21	0.22	0.16	0.33	0.49	0.18	0.18
	t	2.19	0.74	0.79	0.56	1.11	1.43	0.63	0.56
-6	M	0.81	0.36	0.41	0.33	0.55	0.43	0.38	0.57
	t	2.87	1.27	1.45	1.15	1.99	1.48	1.34	1.84
-5	M	0.77	0.40	0.36	0.28	0.58	0.63	0.38	0.64
	t	3.52	1.82	1.63	1.28	2.61	2.53	1.69	2.98
-4	M	0.70	0.24	0.26	0.19	0.58	0.83	0.22	0.43
	t	2.13	0.72	0.80	0.56	1.75	2.31	0.67	1.24
-3	M	0.46	0.09	0.12	-0.02	0.39	0.52	0.06	0.26
	t	1.78	0.34	0.46	-0.06	1.52	1.47	0.22	0.97
-2	M	0.56	0.07	0.14	0.02	0.46	0.47	0.04	0.29
	t	2.72	0.34	0.70	0.12	2.28	2.24	0.17	1.39
-1	M	0.92	0.54	0.55	0.44	0.83	0.85	0.53	0.79
	t	3.23	1.88	1.93	1.53	2.89	2.81	1.85	2.67
0	M	1.22	0.78	0.86	0.69	1.11	1.08	0.67	0.86
	t	4.96	3.19	3.52	2.81	4.52	4.19	2.78	3.49
1	M	0.70	0.27	0.39	0.19	0.67	0.56	0.26	0.53
	t	3.03	2.15	2.67	2.82	2.55	2.96	1.13	2.25
2	M	0.60	0.09	0.25	0.02	0.70	0.35	0.11	0.37
	t	3.12	2.45	2.34	2.12	3.09	2.36	0.58	1.88
3	M	0.51	0.07	0.18	-0.03	0.41	0.17	0.05	0.25
	t	2.49	2.33	2.86	-0.14	1.53	0.70	0.23	1.19
4	M	0.95	0.44	0.62	0.36	1.17	0.65	0.41	0.72
	t	4.12	2.87	2.70	1.59	4.34	2.09	1.78	3.15
5	M	0.20	-0.29	-0.05	-0.33	0.17	-0.10	-0.26	0.11
	t	0.84	-1.19	-0.19	-1.39	0.57	-0.35	-1.10	0.48
6	M	0.90	0.30	0.59	0.27	0.77	0.78	0.36	0.81
	t	3.60	1.17	2.38	1.10	2.61	2.96	1.43	3.17
7	M	0.25	-0.20	-0.01	-0.35	0.31	0.20	-0.19	0.16
	t	1.27	-1.02	-0.05	-1.85	1.27	0.88	-1.00	0.81
8	M	0.38	-0.25	0.07	-0.30	0.26	0.14	-0.18	0.25
	t	1.92	-1.22	0.33	-1.46	1.02	0.67	-0.91	1.27

Table 88: Institutional Ownership Changes (% Shares): Dividend Increases

Qtr		*Raw*	*All Adj.*	*Payer Adj.*	*Non-Payer Adj.*	*SD Adj.*	*SMB Adj.*	*Return Adj.*	*Return & SMB Adj.*
-8	M	0.60	0.15	0.17	0.06	0.45	0.48	0.06	0.20
	t	6.04	1.54	1.74	0.65	4.47	3.82	0.75	2.30
-7	M	0.79	0.36	0.35	0.25	0.52	0.64	0.28	0.33
	t	7.58	3.44	3.37	2.40	4.89	5.36	3.39	3.69
-6	M	0.89	0.44	0.44	0.35	0.64	0.66	0.36	0.43
	t	8.29	4.15	4.16	3.32	6.26	5.79	4.22	5.08
-5	M	0.81	0.35	0.36	0.26	0.68	0.72	0.25	0.32
	t	7.89	3.39	3.47	2.49	6.35	5.62	3.01	3.83
-4	M	0.95	0.46	0.49	0.34	0.67	0.78	0.39	0.50
	t	10.00	4.85	5.21	3.59	6.58	6.56	5.05	5.85
-3	M	1.17	0.63	0.69	0.56	0.91	0.97	0.51	0.66
	t	10.20	5.47	6.07	4.90	7.53	7.30	5.58	6.49
-2	M	1.37	0.85	0.91	0.76	1.16	1.25	0.75	0.95
	t	11.14	6.95	7.41	6.14	9.09	8.51	7.72	8.82
-1	M	0.25	-0.21	-0.17	-0.35	0.09	0.07	-0.25	-0.20
	t	1.80	-1.50	-1.21	-2.49	0.63	0.38	-2.23	-1.68
0	M	0.14	-0.39	-0.25	-0.45	0.12	-0.04	-0.29	0.01
	t	1.19	-3.29	-2.17	-3.83	0.95	-0.25	-3.15	0.06
1	M	0.41	-0.11	0.02	-0.14	0.26	0.24	-0.11	0.14
	t	4.30	-1.16	0.23	-1.52	2.49	1.91	-1.45	1.76
2	M	0.38	-0.13	0.02	-0.17	0.17	0.13	-0.13	0.12
	t	4.40	-1.47	0.21	-1.92	1.88	1.23	-1.84	1.67
3	M	0.27	-0.25	-0.10	-0.27	-0.01	0.03	-0.23	0.09
	t	2.99	-2.69	-1.05	-2.94	-0.12	0.22	-3.11	1.19
4	M	0.21	-0.39	-0.15	-0.33	0.04	0.02	-0.37	0.03
	t	2.07	-3.74	-1.50	-3.26	0.35	0.19	-4.64	0.30
5	M	0.06	-0.48	-0.31	-0.50	-0.14	-0.05	-0.41	-0.04
	t	0.66	-5.34	-3.58	-5.63	-1.42	-0.50	-5.41	-0.50
6	M	0.15	-0.42	-0.23	-0.47	-0.07	0.07	-0.39	0.00
	t	1.99	-5.53	-3.14	-6.40	-0.76	0.70	-6.44	0.05
7	M	0.13	-0.47	-0.26	-0.50	0.06	0.09	-0.39	0.00
	t	1.48	-5.20	-2.94	-5.53	0.63	0.91	-4.99	0.00
8	M	0.26	-0.34	-0.13	-0.40	0.27	0.19	-0.36	0.11
	t	2.80	-3.60	-1.40	-4.36	2.58	1.74	-4.56	1.34

Table 89: Cumulative Ownership Changes (% Shares)

This table shows the average cumulative change in the ownership of institutional investors of the dividend event sample firms after the event and during the entire study period. The results of all the adjustment methods are reported in the table.

Event	*Adjust \ Period*	*0 to 4*	*0 to 8*	*-8 to -4*	*-8 to 0*	*-8 to 4*	*-8 to 8*
	Raw	-1.97	-1.08	1.51	1.08	-0.21	0.68
	All	-4.07	-5.27	-0.53	-2.59	-5.64	-6.85
	Payer	-3.58	-4.09	-0.68	-2.71	-5.29	-5.80
Omissions	Non-Payer	-4.40	-6.04	-0.71	-3.05	-6.37	-8.01
	SD	-1.68	-0.96	0.71	0.27	-0.76	-0.04
	SMB	-1.51	-0.87	0.94	0.16	-0.71	-0.06
	Return	-3.46	-4.46	-0.41	-2.14	-4.69	-5.69
	Return & SMB	-1.13	-0.52	0.76	0.18	-0.38	0.23
	Raw	0.54	1.16	2.07	2.49	3.22	3.84
	All	-2.19	-3.82	0.10	-1.27	-2.77	-4.41
	Payer	-1.53	-2.43	0.03	-1.23	-2.16	-3.06
Decreases	Non-Payer	-2.68	-4.71	-0.15	-1.92	-3.83	-5.86
	SD	-0.23	-0.09	1.63	1.53	1.63	1.77
	SMB	-0.14	0.14	0.91	0.96	1.03	1.31
	Return	-1.82	-3.39	0.20	-0.83	-2.08	-3.66
	Return & SMB	0.02	-0.05	0.76	0.62	0.80	0.73
	Raw	3.97	5.71	3.98	7.13	9.89	11.62
	All	1.64	1.20	1.85	3.32	4.19	3.75
	Payer	2.30	2.90	1.84	3.51	4.95	5.55
Initiations	Non-Payer	1.24	0.53	1.57	2.70	3.25	2.54
	SD	4.06	5.57	2.98	5.76	8.72	10.23
	SMB	2.80	3.82	3.25	6.16	7.88	8.90
	Return	1.50	1.22	1.71	3.01	3.84	3.56
	Return & SMB	2.74	4.08	2.66	4.86	6.74	8.07
	Raw	1.42	2.01	4.04	6.97	8.24	8.84
	All	-1.26	-2.97	1.77	2.65	1.77	0.07
	Payer	-0.46	-1.40	1.81	2.99	2.78	1.84
Increases	Non-Payer	-1.37	-3.24	1.26	1.78	0.86	-1.01
	SD	0.59	0.72	2.97	5.25	5.71	5.84
	SMB	0.37	0.67	3.28	5.52	5.94	6.23
	Return	-1.13	-2.69	1.34	2.06	1.22	-0.34
	Return & SMB	0.39	0.47	1.77	3.18	3.56	3.64

Table 90: Cumulative Ownership Changes (% Shares): Tax Reform Act of 1986

This table shows the average cumulative change in the ownership of institutional investors of the dividend event sample firms before and after the Tax Reform Act of 1986. The results of several adjustment methods are reported in the table. The table also shows the results of the differences-in-means tests between the two periods.

Event	*Adjust \ Period*	*0 to 4*	*0 to 8*	*-8 to -4*	*-8 to 0*	*-8 to 4*	*-8 to 8*
	Raw	-2.11	-2.63	1.63	2.64	1.07	0.55
Omissions	SMB	-0.46	-1.57	0.96	1.76	1.09	-0.02
Pre-TRA	Return	-2.64	-3.21	-0.01	-1.28	-3.28	-3.84
	Return & SMB	-1.53	-1.29	0.78	0.86	-0.04	0.20
	Raw	-2.98	-2.09	0.76	-1.11	-3.11	-1.84
Omissions	SMB	-1.25	-1.51	-0.57	-1.09	-2.13	-2.22
Post-TRA	Return	-3.99	-5.25	-0.66	-2.68	-5.55	-6.81
	Return & SMB	-1.67	-0.86	0.88	0.07	-0.87	-0.06
	Raw	2.02	-1.36	0.52	3.16	4.32	2.32
t-stat	SMB	2.55	-0.82	2.24	2.17	3.01	2.75
	Return	3.18	3.42	1.85	2.52	3.26	4.89
	Return & SMB	1.01	-0.46	-0.11	1.43	1.76	1.15
	Raw	6.24	10.15	4.00	6.64	11.23	15.14
Initiations	SMB	2.15	3.46	2.31	4.30	6.26	7.57
Pre-TRA	Return	1.59	2.15	2.14	3.93	4.49	5.05
	Return & SMB	2.86	4.24	3.58	6.27	8.03	9.41
	Raw	4.33	5.69	3.30	6.48	9.91	11.27
Initiations	SMB	1.31	2.05	-0.25	-0.42	0.80	1.54
Post-TRA	Return	1.08	-0.51	1.51	2.62	3.48	1.89
	Return & SMB	2.76	3.52	2.39	4.54	6.71	7.47
	Raw	2.12	4.61	0.73	0.15	1.82	2.71
t-stat	SMB	0.37	1.54	2.36	3.76	4.11	3.92
	Return	0.25	2.08	0.51	1.09	0.92	2.45
	Return & SMB	0.05	0.17	0.96	1.14	0.78	1.08

Table 91: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - Raw

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.00	0.01	0.09	0.02	0.01
	t	0.24	0.36	1.67	0.37	0.49
-7	M	-0.16	-0.03	0.26	0.23	0.14
	t	-1.38	-0.26	3.81	2.94	2.30
-6	M	-0.02	-0.16	0.10	0.29	0.02
	t	-0.28	-1.00	1.53	3.26	0.49
-5	M	-0.03	-0.05	0.01	0.32	0.26
	t	-0.14	-0.28	0.23	3.32	1.57
-4	M	-0.01	-0.11	-0.01	0.22	0.09
	t	-0.12	-1.34	-0.12	2.37	1.53
-3	M	-0.06	0.02	-0.17	0.16	0.10
	t	-1.00	0.26	-2.65	1.62	1.55
-2	M	0.00	-0.02	0.07	0.12	0.09
	t	0.09	-0.11	0.96	1.06	1.93
-1	M	-0.16	0.09	-0.16	0.09	0.06
	t	-2.35	1.23	-2.00	0.82	1.42
0	M	-0.38	-0.14	-0.07	-0.07	-0.02
	t	-3.70	-2.56	-2.14	-2.12	-1.16
1	M	-0.26	-0.14	-0.08	-0.42	0.03
	t	-3.15	-2.76	-2.25	-4.07	0.16
2	M	-0.10	-0.03	-0.07	0.05	-0.01
	t	-3.16	-0.67	-0.80	0.39	-0.35
3	M	-0.11	0.00	0.05	-0.22	-0.04
	t	-2.01	0.06	0.33	-3.06	-1.02
4	M	0.02	-0.03	0.02	0.10	-0.05
	t	0.30	-0.57	0.20	0.93	-1.28
5	M	-0.13	-0.08	0.15	0.17	-0.05
	t	-2.92	-1.12	2.83	2.07	-1.20
6	M	-0.06	-0.02	0.31	0.26	-0.06
	t	-0.22	-0.20	3.18	2.33	-0.70
7	M	-0.19	-0.03	0.25	0.25	-0.12
	t	-1.70	-0.28	2.52	1.87	-2.76
8	M	-0.06	0.00	0.15	0.22	-0.07
	t	-0.12	0.58	2.24	1.76	-0.63

Table 92: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - Raw

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.19	0.23	0.19	0.26	-0.01
	t	2.60	1.36	3.15	1.83	-0.23
-7	M	0.13	-0.12	0.15	0.09	0.08
	t	1.78	-1.22	2.51	0.99	1.47
-6	M	-0.04	0.01	0.09	0.23	0.02
	t	-0.70	0.24	1.43	2.76	0.45
-5	M	0.05	0.00	0.15	0.17	0.15
	t	0.42	-0.03	2.12	1.40	1.55
-4	M	0.04	0.05	0.05	0.28	0.14
	t	0.61	1.06	0.80	3.32	1.28
-3	M	-0.08	-0.01	0.07	0.18	-0.02
	t	-1.07	-0.22	1.00	2.12	-0.39
-2	M	-0.19	-0.03	0.00	0.21	-0.01
	t	-2.82	-0.78	0.01	1.74	-0.34
-1	M	0.07	0.36	0.10	0.27	-0.17
	t	0.71	1.84	1.39	1.68	-1.54
0	M	-0.21	-0.15	-0.02	0.21	0.03
	t	-2.62	-1.28	-0.24	1.85	0.58
1	M	0.00	-0.04	0.10	-0.02	-0.07
	t	-0.04	-0.60	1.23	-0.15	-1.32
2	M	0.11	-0.07	0.08	0.14	0.10
	t	1.17	-1.09	1.03	1.59	1.74
3	M	-0.08	-0.01	0.19	0.18	0.09
	t	-1.07	-0.13	3.01	2.02	1.34
4	M	-0.10	-0.05	0.06	0.19	0.01
	t	-1.18	-0.70	1.01	1.92	0.25
5	M	-0.12	0.03	0.11	0.18	0.03
	t	-1.61	0.45	1.40	1.90	0.45
6	M	-0.20	-0.16	0.22	0.05	0.00
	t	-2.48	-1.19	2.90	0.63	-0.02
7	M	0.05	-0.05	0.11	0.29	-0.02
	t	0.54	-0.78	1.56	3.05	-0.42
8	M	-0.14	-0.07	0.08	0.26	0.06
	t	-2.31	-1.32	1.03	2.19	1.52

Table 93: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - Raw

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.09	0.47	0.17	0.63	-0.30
	t	1.46	1.33	1.35	3.50	-0.81
-7	M	0.14	-0.19	0.16	0.45	0.07
	t	1.82	-0.53	1.50	2.30	0.72
-6	M	0.11	0.33	0.00	0.35	0.02
	t	2.00	1.16	0.49	2.11	1.36
-5	M	0.10	0.18	0.04	0.47	-0.02
	t	1.94	1.36	0.72	2.81	-0.26
-4	M	0.18	-0.43	0.40	0.54	0.01
	t	1.89	-1.25	3.12	2.36	0.24
-3	M	0.19	0.05	0.21	0.02	0.00
	t	2.09	1.23	1.94	0.28	0.61
-2	M	0.10	-0.08	0.20	0.31	0.03
	t	1.34	-0.57	1.52	2.09	1.13
-1	M	0.18	-0.08	0.28	0.47	0.08
	t	1.52	-0.59	2.58	2.45	2.26
0	M	0.08	0.21	0.26	0.66	0.02
	t	2.02	2.10	2.80	4.11	0.84
1	M	0.17	0.07	0.24	0.17	0.04
	t	2.33	2.37	2.11	2.13	1.88
2	M	-0.09	0.00	0.21	0.45	0.03
	t	-0.91	0.20	2.37	3.24	0.77
3	M	0.02	0.09	0.21	0.18	0.01
	t	0.60	1.17	2.84	2.22	0.88
4	M	0.22	0.14	0.00	0.48	0.10
	t	2.34	2.35	0.30	2.73	2.39
5	M	-0.14	0.01	0.16	0.15	0.02
	t	-1.29	0.10	1.00	0.79	0.50
6	M	-0.01	0.10	0.08	0.67	0.06
	t	-0.15	1.57	0.71	3.78	1.29
7	M	-0.24	0.03	0.20	0.26	0.00
	t	-3.01	0.71	2.59	2.77	0.19
8	M	-0.17	0.14	0.02	0.37	0.02
	t	-1.48	1.11	0.31	2.61	0.77

Table 94: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - Raw

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.02	0.01	0.11	0.48	0.07
	t	0.35	0.18	2.30	6.10	1.91
-7	M	0.20	0.06	0.19	0.46	0.04
	t	3.80	1.11	3.68	6.18	1.20
-6	M	0.13	0.06	0.20	0.63	0.06
	t	2.52	1.43	4.07	7.72	1.87
-5	M	0.14	0.11	0.19	0.50	0.08
	t	2.29	3.14	3.66	7.00	2.85
-4	M	0.15	0.08	0.24	0.52	0.06
	t	2.66	2.00	4.88	7.06	2.78
-3	M	0.27	0.11	0.28	0.66	0.04
	t	5.43	3.28	5.61	8.30	1.11
-2	M	0.39	0.10	0.20	0.85	0.15
	t	6.92	2.66	4.60	9.75	2.32
-1	M	-0.09	0.00	0.10	0.14	0.02
	t	-1.41	-0.12	1.93	1.32	0.51
0	M	0.13	-0.16	0.04	0.02	0.00
	t	2.75	-2.44	0.94	0.26	0.00
1	M	0.11	0.07	0.09	0.15	0.08
	t	1.91	2.18	2.12	2.29	2.85
2	M	0.05	0.06	-0.02	0.19	0.11
	t	1.06	1.45	-0.38	3.17	4.21
3	M	0.02	0.10	0.08	0.05	0.10
	t	0.37	3.29	1.86	0.79	4.11
4	M	0.00	0.09	0.07	0.03	0.09
	t	-0.01	1.25	1.73	0.46	3.79
5	M	-0.02	-0.04	0.03	0.07	0.04
	t	-0.44	-0.81	0.70	1.19	1.78
6	M	0.01	0.00	0.04	0.04	0.08
	t	0.21	0.04	0.96	0.68	3.14
7	M	-0.13	-0.02	0.03	0.17	0.11
	t	-2.51	-0.47	0.68	2.74	4.47
8	M	0.07	0.03	0.11	0.07	0.06
	t	1.40	0.79	2.22	1.11	2.30

Table 95: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - All Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	-0.02	0.01	0.03	-0.29	-0.01
	t	-0.28	0.20	0.23	-3.24	-0.64
-7	M	-0.13	-0.01	0.13	-0.02	0.10
	t	-1.60	-0.11	2.00	-0.21	1.62
-6	M	-0.06	-0.13	0.02	-0.03	0.01
	t	-0.85	-1.12	0.31	-0.29	0.63
-5	M	-0.04	-0.03	-0.09	0.02	0.25
	t	-0.34	-0.50	-1.59	0.18	1.26
-4	M	-0.05	-0.11	-0.08	-0.09	0.08
	t	-0.65	-1.85	-1.63	-0.90	0.62
-3	M	-0.10	0.05	-0.24	-0.20	0.09
	t	-1.72	0.07	-4.46	-1.93	0.59
-2	M	0.00	0.01	-0.03	-0.22	0.09
	t	0.02	0.24	-1.01	-1.91	1.00
-1	M	-0.19	0.11	-0.24	-0.24	0.07
	t	-2.80	0.78	-3.55	-2.34	0.40
0	M	-0.33	-0.12	-0.12	-0.45	0.00
	t	-3.93	-3.16	-2.68	-4.09	0.19
1	M	-0.23	-0.08	-0.20	-0.71	0.05
	t	-2.40	-2.95	-3.35	-6.23	1.40
2	M	0.07	0.00	-0.20	-0.30	-0.01
	t	0.87	0.97	-2.98	-2.46	-1.42
3	M	-0.15	0.02	-0.10	-0.61	-0.01
	t	-2.50	1.04	-1.25	-5.50	-1.02
4	M	-0.04	-0.02	-0.16	-0.32	-0.03
	t	-0.55	-1.42	-2.61	-3.05	-1.52
5	M	-0.16	-0.06	0.00	-0.18	-0.05
	t	-2.37	-1.52	0.38	-2.09	-1.66
6	M	-0.06	-0.04	0.15	-0.06	-0.07
	t	-0.54	-0.40	1.43	-0.49	-1.63
7	M	-0.21	-0.04	0.09	-0.11	-0.11
	t	-2.11	-1.30	0.63	-0.76	-2.72
8	M	-0.05	-0.03	-0.03	-0.10	-0.08
	t	-0.40	-0.20	-0.18	-0.64	-1.72

Table 96: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - All Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.17	0.18	0.05	-0.05	-0.06
	t	2.29	1.08	0.82	-0.35	-1.06
-7	M	0.11	-0.15	0.05	-0.22	0.02
	t	1.59	-1.52	0.82	-2.45	0.39
-6	M	-0.06	-0.01	-0.05	-0.10	-0.04
	t	-1.22	-0.22	-0.84	-1.20	-1.00
-5	M	0.02	-0.02	0.03	-0.11	0.10
	t	0.18	-0.30	0.43	-0.93	1.03
-4	M	0.01	0.03	-0.08	-0.05	0.09
	t	0.12	0.73	-1.36	-0.55	0.81
-3	M	-0.09	-0.02	-0.07	-0.17	-0.06
	t	-1.26	-0.40	-0.97	-1.97	-1.27
-2	M	-0.21	-0.06	-0.14	-0.13	-0.06
	t	-3.15	-1.42	-1.89	-1.08	-1.38
-1	M	0.04	0.32	-0.08	-0.07	-0.21
	t	0.44	1.58	-1.17	-0.45	-1.89
0	M	-0.25	-0.18	-0.22	-0.15	-0.02
	t	-3.12	-1.60	-3.05	-1.33	-0.29
1	M	-0.04	-0.08	-0.09	-0.37	-0.12
	t	-0.55	-1.40	-1.13	-3.70	-2.32
2	M	0.06	-0.10	-0.11	-0.25	0.04
	t	0.65	-1.62	-1.59	-2.75	0.76
3	M	-0.14	-0.06	-0.03	-0.23	0.04
	t	-1.86	-1.03	-0.44	-2.47	0.65
4	M	-0.15	-0.12	-0.16	-0.21	-0.04
	t	-1.81	-1.76	-2.45	-2.16	-0.89
5	M	-0.15	-0.02	-0.05	-0.20	-0.02
	t	-2.05	-0.26	-0.68	-2.11	-0.26
6	M	-0.24	-0.20	-0.02	-0.35	-0.04
	t	-3.04	-1.46	-0.22	-4.22	-0.62
7	M	0.02	-0.08	-0.05	-0.10	-0.05
	t	0.16	-1.35	-0.73	-1.07	-1.34
8	M	-0.20	-0.12	-0.16	-0.16	0.02
	t	-3.26	-2.26	-2.11	-1.35	0.59

Table 97: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - All Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.09	0.43	0.10	0.35	-0.34
	t	0.85	1.09	0.55	1.75	-1.03
-7	M	0.14	-0.19	0.03	0.18	0.05
	t	1.54	-0.63	0.11	0.81	0.32
-6	M	0.10	0.36	-0.16	0.05	0.01
	t	1.54	1.15	-1.15	0.38	0.56
-5	M	0.11	0.18	-0.05	0.22	-0.06
	t	1.79	1.12	-0.41	1.28	-1.04
-4	M	0.19	-0.44	0.27	0.22	-0.01
	t	1.63	-1.40	1.82	0.82	-0.66
-3	M	0.18	0.01	0.11	-0.20	-0.03
	t	1.85	0.30	1.00	-0.95	-0.35
-2	M	0.09	-0.08	0.06	-0.01	0.01
	t	0.95	-0.92	0.41	-0.10	0.19
-1	M	0.17	-0.07	0.17	0.23	0.04
	t	1.30	-0.66	2.57	2.22	1.20
0	M	0.09	0.22	0.11	0.36	0.00
	t	1.47	2.99	2.29	2.30	0.59
1	M	0.18	0.04	0.15	-0.13	0.04
	t	2.04	1.54	2.13	-0.70	0.54
2	M	-0.08	0.00	0.07	0.09	0.01
	t	-1.13	0.11	0.63	0.60	0.00
3	M	0.06	0.06	0.05	-0.10	0.00
	t	0.63	0.47	0.36	-0.62	0.13
4	M	0.19	0.15	-0.17	0.19	0.08
	t	1.92	2.08	-1.49	0.99	1.46
5	M	-0.10	0.01	-0.07	-0.16	0.03
	t	-1.29	0.23	-0.68	-1.02	0.01
6	M	-0.02	0.09	-0.09	0.26	0.05
	t	-0.29	1.07	-0.62	1.39	0.77
7	M	-0.20	0.03	0.01	-0.03	-0.01
	t	-2.85	0.31	-0.03	-0.26	-0.31
8	M	-0.17	0.15	-0.20	-0.06	0.02
	t	-1.72	0.89	-1.77	-0.54	0.06

Table 98: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - All Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.00	-0.03	-0.02	0.12	0.01
	t	-0.03	-0.50	-0.31	1.58	0.39
-7	M	0.17	0.03	0.04	0.12	-0.02
	t	3.36	0.69	0.81	1.63	-0.50
-6	M	0.10	0.03	0.04	0.29	0.00
	t	1.89	0.70	0.76	3.62	0.14
-5	M	0.09	0.08	0.03	0.16	0.02
	t	1.56	2.12	0.67	2.20	0.78
-4	M	0.09	0.04	0.10	0.16	0.01
	t	1.70	1.11	1.97	2.20	0.40
-3	M	0.20	0.07	0.12	0.27	-0.02
	t	4.12	1.95	2.54	3.35	-0.47
-2	M	0.34	0.04	0.04	0.47	0.09
	t	5.94	1.01	0.99	5.44	1.48
-1	M	-0.14	-0.06	-0.06	-0.18	-0.04
	t	-2.17	-1.64	-1.26	-1.72	-0.91
0	M	0.08	-0.22	-0.09	-0.37	-0.06
	t	1.59	-3.44	-2.08	-4.72	-1.43
1	M	0.07	0.00	-0.06	-0.23	0.02
	t	1.20	-0.12	-1.47	-3.42	0.67
2	M	0.01	-0.01	-0.17	-0.18	0.05
	t	0.16	-0.16	-4.10	-2.92	2.06
3	M	-0.01	0.05	-0.07	-0.35	0.04
	t	-0.18	1.45	-1.72	-5.14	1.77
4	M	-0.05	0.04	-0.17	-0.36	0.04
	t	-1.20	0.58	-4.15	-5.24	1.77
5	M	-0.06	-0.08	-0.15	-0.33	0.00
	t	-1.27	-1.74	-3.19	-5.44	-0.09
6	M	-0.02	-0.03	-0.16	-0.38	0.04
	t	-0.60	-0.90	-3.62	-7.26	1.51
7	M	-0.17	-0.06	-0.21	-0.26	0.07
	t	-3.36	-1.79	-4.80	-4.16	2.97
8	M	0.02	-0.02	-0.12	-0.34	0.02
	t	0.42	-0.66	-2.35	-5.12	0.86

Table 99: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	-0.02	-0.01	0.04	-0.27	-0.04
	t	-0.94	-0.75	0.32	-3.57	-0.32
-7	M	-0.14	-0.04	0.14	-0.03	0.07
	t	-2.17	-0.16	1.55	-0.65	1.73
-6	M	-0.07	-0.16	0.01	0.01	-0.02
	t	-1.41	-1.31	-1.05	0.57	-0.90
-5	M	-0.03	-0.06	-0.08	0.04	0.22
	t	-0.67	-0.75	-2.31	0.33	1.13
-4	M	-0.05	-0.11	-0.08	-0.06	0.05
	t	-1.18	-1.99	-2.23	-1.62	0.25
-3	M	-0.10	0.02	-0.24	-0.14	0.06
	t	-2.13	-0.62	-3.32	-2.39	0.15
-2	M	0.01	-0.02	-0.01	-0.19	0.07
	t	-0.39	-0.65	-1.62	-2.41	0.39
-1	M	-0.17	0.08	-0.22	-0.21	0.04
	t	-2.27	0.27	-2.98	-2.98	0.37
0	M	-0.33	-0.12	-0.13	-0.39	-0.02
	t	-3.44	-2.40	-2.35	-3.52	-0.88
1	M	-0.22	-0.12	-0.19	-0.63	0.02
	t	-2.53	-2.76	-3.06	-4.74	0.90
2	M	0.10	-0.03	-0.19	-0.24	-0.03
	t	0.45	-1.17	-2.91	-3.31	-1.04
3	M	-0.12	0.00	-0.07	-0.51	-0.04
	t	-2.17	1.56	-1.91	-4.26	-1.78
4	M	0.01	-0.04	-0.07	-0.17	-0.07
	t	0.68	-1.77	-1.77	-2.43	-2.07
5	M	-0.13	-0.09	0.03	-0.05	-0.08
	t	-2.93	-2.04	1.03	-1.27	-2.30
6	M	-0.03	-0.05	0.17	0.08	-0.09
	t	-0.94	-0.65	0.75	1.05	-2.53
7	M	-0.17	-0.06	0.14	0.05	-0.13
	t	-2.42	-1.77	0.37	1.12	-2.45
8	M	0.00	-0.05	0.04	0.04	-0.11
	t	0.70	-0.39	0.34	1.18	-2.39

Table 100: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.18	0.20	0.07	-0.02	-0.07
	t	2.42	1.17	1.16	-0.14	-1.18
-7	M	0.12	-0.15	0.06	-0.17	0.02
	t	1.60	-1.57	0.97	-1.97	0.35
-6	M	-0.06	-0.01	-0.03	-0.07	-0.04
	t	-1.10	-0.19	-0.42	-0.80	-0.99
-5	M	0.01	-0.03	0.05	-0.09	0.10
	t	0.13	-0.46	0.70	-0.78	1.03
-4	M	0.01	0.03	-0.06	0.00	0.09
	t	0.16	0.55	-1.00	-0.06	0.85
-3	M	-0.08	-0.04	-0.03	-0.12	-0.06
	t	-1.11	-0.84	-0.49	-1.47	-1.20
-2	M	-0.20	-0.06	-0.10	-0.10	-0.06
	t	-3.09	-1.38	-1.42	-0.83	-1.37
-1	M	0.03	0.32	-0.05	-0.01	-0.21
	t	0.38	1.63	-0.68	-0.07	-1.86
0	M	-0.23	-0.18	-0.17	-0.06	0.00
	t	-2.86	-1.56	-2.38	-0.49	0.01
1	M	-0.02	-0.07	-0.05	-0.28	-0.11
	t	-0.26	-1.13	-0.63	-2.78	-2.06
2	M	0.09	-0.10	-0.07	-0.12	0.06
	t	0.95	-1.62	-0.97	-1.33	1.09
3	M	-0.11	-0.04	0.05	-0.07	0.06
	t	-1.50	-0.76	0.85	-0.83	0.89
4	M	-0.10	-0.08	-0.06	-0.07	-0.02
	t	-1.26	-1.14	-0.87	-0.70	-0.37
5	M	-0.13	-0.01	-0.01	-0.07	0.00
	t	-1.80	-0.10	-0.10	-0.74	-0.02
6	M	-0.21	-0.19	0.10	-0.20	-0.03
	t	-2.66	-1.40	1.42	-2.42	-0.35
7	M	0.03	-0.08	-0.01	0.05	-0.03
	t	0.27	-1.36	-0.12	0.53	-0.83
8	M	-0.16	-0.10	-0.04	0.02	0.04
	t	-2.68	-1.92	-0.57	0.13	1.07

Table 101: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.09	0.47	0.04	0.33	-0.34
	t	0.57	1.15	0.05	1.58	-1.09
-7	M	0.13	-0.17	0.02	0.16	0.08
	t	1.06	-0.66	0.28	0.56	0.22
-6	M	0.12	0.36	-0.16	0.06	0.03
	t	1.25	1.02	-1.52	0.22	0.27
-5	M	0.10	0.19	-0.06	0.18	-0.05
	t	1.01	1.00	-0.89	0.81	-1.82
-4	M	0.19	-0.42	0.25	0.23	0.01
	t	1.30	-1.46	1.39	0.69	0.94
-3	M	0.19	0.05	0.11	-0.24	0.00
	t	1.47	0.15	0.60	-1.43	0.70
-2	M	0.10	-0.07	0.08	0.00	0.03
	t	0.53	-1.27	0.18	0.34	0.40
-1	M	0.17	-0.09	0.18	0.20	0.08
	t	1.03	-1.35	1.29	0.85	1.05
0	M	0.12	0.24	0.11	0.35	0.03
	t	1.24	2.77	2.76	2.91	0.21
1	M	0.19	0.10	0.14	-0.10	0.06
	t	1.54	0.61	2.68	-0.81	0.20
2	M	-0.04	0.04	0.09	0.10	0.06
	t	-1.53	0.37	0.21	0.22	0.19
3	M	0.08	0.10	0.08	-0.12	0.04
	t	0.18	0.39	0.11	-1.06	0.45
4	M	0.26	0.17	-0.12	0.18	0.13
	t	1.85	1.43	-1.76	0.61	1.05
5	M	-0.06	0.06	0.00	-0.13	0.08
	t	-1.56	0.60	0.65	-1.25	0.49
6	M	0.07	0.15	-0.08	0.32	0.12
	t	0.27	0.82	-1.15	1.25	0.56
7	M	-0.16	0.09	0.05	-0.05	0.06
	t	-3.50	0.23	0.38	-0.93	0.65
8	M	-0.09	0.19	-0.14	0.01	0.09
	t	-1.85	0.58	-2.21	0.67	0.39

Table 102: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.01	-0.02	0.02	0.16	0.02
	t	0.17	-0.33	0.41	2.07	0.62
-7	M	0.16	0.03	0.09	0.16	-0.01
	t	3.17	0.66	1.77	2.13	-0.35
-6	M	0.08	0.03	0.08	0.34	0.01
	t	1.61	0.79	1.67	4.27	0.42
-5	M	0.08	0.08	0.07	0.21	0.03
	t	1.37	2.18	1.40	2.96	1.23
-4	M	0.09	0.05	0.15	0.22	0.02
	t	1.70	1.20	3.03	2.97	0.82
-3	M	0.20	0.08	0.18	0.37	-0.01
	t	4.05	2.20	3.65	4.62	-0.32
-2	M	0.34	0.05	0.10	0.56	0.10
	t	5.99	1.25	2.22	6.45	1.57
-1	M	-0.13	-0.06	-0.01	-0.12	-0.03
	t	-2.08	-1.52	-0.29	-1.11	-0.75
0	M	0.10	-0.20	-0.04	-0.24	-0.05
	t	2.06	-3.06	-0.94	-3.08	-1.16
1	M	0.09	0.03	-0.01	-0.10	0.03
	t	1.53	0.93	-0.19	-1.52	1.14
2	M	0.04	0.02	-0.12	-0.04	0.06
	t	0.87	0.38	-2.85	-0.75	2.47
3	M	0.02	0.06	-0.02	-0.20	0.06
	t	0.32	2.09	-0.43	-3.07	2.41
4	M	0.00	0.05	-0.03	-0.22	0.06
	t	-0.02	0.69	-0.66	-3.27	2.30
5	M	-0.03	-0.07	-0.06	-0.19	0.01
	t	-0.65	-1.60	-1.37	-3.22	0.58
6	M	0.02	-0.03	-0.08	-0.23	0.05
	t	0.43	-0.94	-1.98	-4.51	1.95
7	M	-0.13	-0.05	-0.09	-0.11	0.08
	t	-2.49	-1.42	-2.18	-1.84	3.27
8	M	0.07	0.00	-0.01	-0.20	0.03
	t	1.34	0.13	-0.21	-3.10	1.17

Table 103: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - Non-Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	-0.06	0.01	0.03	-0.31	0.04
	t	-0.94	0.75	0.32	-2.57	0.32
-7	M	-0.18	0.00	0.13	-0.06	0.15
	t	-2.17	0.16	1.55	-0.65	1.73
-6	M	-0.10	-0.11	0.02	-0.05	0.04
	t	-1.41	-1.31	-1.05	-0.57	0.90
-5	M	-0.08	-0.01	-0.10	-0.03	0.27
	t	-0.67	-0.75	-2.31	-0.33	1.13
-4	M	-0.09	-0.07	-0.09	-0.15	0.10
	t	-1.18	-1.99	-2.23	-1.62	0.25
-3	M	-0.13	0.06	-0.25	-0.24	0.11
	t	-2.13	0.62	-3.32	-2.39	0.15
-2	M	-0.03	0.01	-0.03	-0.28	0.11
	t	-0.39	0.65	-1.62	-2.41	0.39
-1	M	-0.22	0.11	-0.23	-0.31	0.08
	t	-2.27	0.27	-2.98	-2.98	0.37
0	M	-0.37	-0.09	-0.14	-0.50	0.01
	t	-3.44	-2.40	-2.35	-3.52	0.88
1	M	-0.25	-0.08	-0.21	-0.77	0.08
	t	-2.53	-2.76	-3.06	-4.74	1.90
2	M	0.04	0.00	-0.22	-0.40	0.03
	t	0.45	0.17	-2.91	-3.31	1.04
3	M	-0.19	0.05	-0.13	-0.69	0.01
	t	-2.17	1.56	-1.91	-5.26	0.78
4	M	-0.05	-0.01	-0.13	-0.36	-0.02
	t	-0.68	-1.77	-2.07	-2.43	-1.07
5	M	-0.19	-0.06	-0.01	-0.28	-0.04
	t	-2.93	-2.04	-1.03	-2.27	-1.30
6	M	-0.11	-0.02	0.12	-0.13	-0.07
	t	-0.94	-0.65	0.75	-1.05	-2.03
7	M	-0.24	-0.04	0.09	-0.16	-0.11
	t	-2.42	-1.77	0.37	-1.12	-2.45
8	M	-0.08	-0.02	-0.03	-0.18	-0.09
	t	-0.70	-0.39	-0.34	-1.18	-2.39

Table 104: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - Non-Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.13	0.19	-0.01	-0.06	-0.01
	t	0.13	1.12	-0.13	-0.45	-0.20
-7	M	0.06	-0.18	0.01	-0.24	0.04
	t	0.06	-1.82	0.11	-2.78	0.74
-6	M	-0.10	-0.05	-0.10	-0.14	-0.03
	t	-0.10	-1.09	-1.56	-1.74	-0.62
-5	M	-0.03	-0.08	-0.04	-0.19	0.09
	t	-0.03	-1.10	-0.52	-1.60	0.94
-4	M	-0.04	0.00	-0.15	-0.13	0.07
	t	-0.04	-0.04	-2.64	-1.52	0.66
-3	M	-0.13	-0.09	-0.14	-0.25	-0.06
	t	-0.13	-1.77	-1.95	-2.98	-1.26
-2	M	-0.26	-0.10	-0.22	-0.23	-0.05
	t	-0.26	-2.22	-2.97	-1.90	-1.21
-1	M	-0.01	0.29	-0.16	-0.15	-0.22
	t	-0.01	1.44	-2.24	-0.96	-1.94
0	M	-0.29	-0.24	-0.30	-0.22	-0.03
	t	-0.29	-2.05	-4.14	-1.97	-0.58
1	M	-0.08	-0.11	-0.18	-0.47	-0.16
	t	-0.08	-1.78	-2.20	-4.75	-3.03
2	M	0.01	-0.15	-0.23	-0.33	0.01
	t	0.01	-2.34	-3.18	-3.71	0.09
3	M	-0.18	-0.10	-0.12	-0.31	-0.01
	t	-0.18	-1.77	-1.87	-3.40	-0.08
4	M	-0.18	-0.14	-0.20	-0.30	-0.09
	t	-0.18	-2.05	-3.15	-3.04	-1.97
5	M	-0.20	-0.05	-0.14	-0.28	-0.06
	t	-0.20	-0.72	-1.89	-2.88	-0.86
6	M	-0.28	-0.25	-0.03	-0.40	-0.08
	t	-0.28	-1.83	-0.37	-4.86	-1.14
7	M	-0.03	-0.13	-0.12	-0.17	-0.08
	t	-0.03	-2.11	-1.78	-1.71	-1.99
8	M	-0.24	-0.15	-0.20	-0.23	-0.02
	t	-0.24	-2.97	-2.75	-1.92	-0.45

Table 105: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - Non-Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.09	0.47	0.04	0.34	-0.34
	t	0.57	1.15	0.05	1.58	-1.09
-7	M	0.12	-0.18	0.01	0.15	0.06
	t	1.06	-0.66	0.28	0.56	0.22
-6	M	0.10	0.34	-0.18	0.04	0.02
	t	1.25	1.02	-1.52	0.22	0.27
-5	M	0.09	0.18	-0.08	0.17	-0.06
	t	1.01	1.00	-0.89	0.81	-1.82
-4	M	0.18	-0.44	0.23	0.21	0.00
	t	1.30	-1.46	1.39	0.69	0.94
-3	M	0.17	0.02	0.09	-0.27	-0.02
	t	1.47	0.15	0.60	-1.43	-0.70
-2	M	0.08	-0.09	0.05	-0.02	0.01
	t	0.53	-1.27	0.18	-0.34	0.40
-1	M	0.15	-0.11	0.16	0.18	0.06
	t	1.03	-1.35	1.29	0.85	1.05
0	M	0.09	0.21	0.07	0.32	0.00
	t	2.24	2.77	0.76	2.91	0.21
1	M	0.15	0.06	0.10	-0.14	0.02
	t	2.54	0.61	0.68	-0.81	0.20
2	M	-0.08	-0.01	0.05	0.06	0.01
	t	-1.53	-0.37	0.21	0.22	0.19
3	M	0.04	0.06	0.03	-0.16	0.00
	t	0.18	0.39	0.11	-1.06	0.45
4	M	0.21	0.12	-0.17	0.13	0.08
	t	1.85	1.43	-1.76	0.61	1.05
5	M	-0.12	0.00	-0.05	-0.19	0.03
	t	-1.56	0.60	-0.65	-1.25	0.49
6	M	0.01	0.09	-0.14	0.26	0.06
	t	0.27	0.82	-1.15	1.25	0.56
7	M	-0.23	0.02	-0.02	-0.12	-0.01
	t	-3.50	0.23	-0.38	-0.93	-0.65
8	M	-0.16	0.12	-0.21	-0.06	0.02
	t	-1.85	0.58	-2.21	-0.67	0.39

Table 106: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - Non-Payers Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	-0.05	-0.07	-0.09	0.05	0.01
	t	-0.89	-1.31	-1.88	0.64	0.14
-7	M	0.11	-0.02	-0.02	0.04	-0.03
	t	2.22	-0.45	-0.35	0.55	-0.75
-6	M	0.05	-0.01	-0.02	0.22	0.00
	t	0.89	-0.27	-0.36	2.76	0.06
-5	M	0.04	0.04	-0.04	0.09	0.03
	t	0.71	1.15	-0.69	1.19	1.20
-4	M	0.03	-0.01	0.02	0.07	0.02
	t	0.57	-0.18	0.45	0.94	0.92
-3	M	0.16	0.03	0.06	0.21	0.00
	t	3.20	1.00	1.28	2.64	-0.04
-2	M	0.29	0.01	-0.03	0.39	0.10
	t	5.05	0.15	-0.62	4.51	1.52
-1	M	-0.20	-0.09	-0.13	-0.29	-0.05
	t	-3.19	-2.55	-2.62	-2.76	-1.38
0	M	0.02	-0.26	-0.16	-0.41	-0.07
	t	0.48	-3.93	-3.69	-5.16	-1.66
1	M	0.03	-0.01	-0.13	-0.25	0.01
	t	0.48	-0.24	-3.04	-3.84	0.40
2	M	-0.04	-0.02	-0.22	-0.20	0.02
	t	-0.93	-0.59	-5.19	-3.30	0.76
3	M	-0.06	0.02	-0.12	-0.34	0.01
	t	-1.21	0.71	-2.80	-5.08	0.25
4	M	-0.06	0.00	-0.13	-0.36	0.01
	t	-1.58	0.02	-3.47	-5.22	0.23
5	M	-0.09	-0.11	-0.16	-0.34	-0.03
	t	-2.06	-2.48	-3.76	-5.69	-1.19
6	M	-0.06	-0.09	-0.20	-0.42	0.01
	t	-1.45	-2.87	-4.96	-8.06	0.28
7	M	-0.19	-0.10	-0.21	-0.31	0.04
	t	-3.78	-2.92	-5.03	-4.95	1.65
8	M	-0.01	-0.05	-0.15	-0.41	-0.01
	t	-0.13	-1.58	-3.08	-6.33	-0.30

Table 107: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - SD Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.05	0.04	0.04	-0.07	-0.06
	t	0.68	0.97	0.64	-0.63	-0.72
-7	M	-0.06	-0.02	0.11	0.23	0.13
	t	-0.72	-0.08	1.41	2.10	1.97
-6	M	0.01	-0.11	0.04	-0.03	-0.01
	t	0.16	-0.68	0.57	-0.27	-0.16
-5	M	0.03	0.00	-0.10	0.09	0.28
	t	0.25	0.21	-1.16	0.73	1.49
-4	M	-0.03	-0.09	-0.02	0.21	0.04
	t	-0.33	-0.82	-0.03	1.76	0.97
-3	M	0.02	0.11	-0.23	0.10	0.09
	t	0.26	1.00	-3.00	0.88	0.94
-2	M	0.15	0.00	0.01	0.00	0.12
	t	1.54	0.28	0.20	0.03	1.75
-1	M	-0.12	0.19	-0.20	-0.07	0.04
	t	-2.53	2.51	-1.96	-0.56	1.25
0	M	-0.22	-0.14	-0.01	-0.26	-0.01
	t	-2.63	-2.67	-0.82	-2.91	-0.68
1	M	-0.13	0.00	-0.17	-0.43	0.00
	t	-2.79	0.95	-2.22	-2.96	0.80
2	M	0.13	0.06	-0.15	-0.05	0.00
	t	1.40	0.60	-2.43	-0.31	0.28
3	M	0.16	0.02	0.00	-0.41	-0.03
	t	1.79	0.19	0.24	-2.85	-1.31
4	M	0.26	-0.05	0.16	-0.22	-0.17
	t	2.64	-0.45	1.64	-1.49	-1.96
5	M	-0.22	-0.05	0.24	-0.03	-0.14
	t	-2.52	-0.13	2.43	-0.29	-1.99
6	M	-0.09	-0.03	0.28	0.37	-0.06
	t	-0.74	-0.47	2.73	2.62	-0.23
7	M	-0.22	0.00	0.22	0.36	-0.07
	t	-2.09	0.86	2.23	2.25	-0.57
8	M	0.02	0.00	0.02	0.19	-0.06
	t	0.14	0.68	0.65	1.22	-0.40

Table 108: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - SD Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.26	0.10	0.18	0.13	-0.04
	t	3.21	1.87	2.91	0.89	-0.65
-7	M	0.18	-0.03	0.09	0.03	0.04
	t	2.32	-0.44	1.31	0.29	0.72
-6	M	-0.04	0.02	0.05	0.09	-0.02
	t	-0.61	0.36	0.72	0.97	-0.47
-5	M	0.15	0.01	0.12	0.04	0.05
	t	1.38	0.11	1.61	0.32	0.91
-4	M	0.08	0.04	0.01	0.35	0.13
	t	1.04	0.87	0.11	3.85	1.12
-3	M	0.06	0.03	0.00	0.12	-0.03
	t	0.70	0.58	-0.02	1.33	-0.63
-2	M	-0.15	-0.03	-0.10	0.13	-0.03
	t	-2.15	-0.62	-1.30	1.07	-0.57
-1	M	0.00	0.14	0.01	0.17	-0.17
	t	0.05	1.01	0.08	1.06	-1.46
0	M	-0.16	-0.09	-0.06	0.06	0.00
	t	-1.91	-0.80	-0.72	0.46	0.00
1	M	0.07	-0.03	0.00	-0.23	-0.09
	t	0.91	-0.42	0.04	-1.93	-1.76
2	M	0.16	-0.01	0.01	-0.05	0.06
	t	1.73	-0.14	0.12	-0.44	1.00
3	M	-0.03	0.03	0.10	0.05	0.07
	t	-0.33	0.41	1.12	0.47	1.06
4	M	0.04	-0.04	0.05	-0.07	0.03
	t	0.41	-0.61	0.63	-0.61	0.64
5	M	-0.09	0.06	-0.07	0.04	0.01
	t	-1.18	0.74	-0.77	0.33	0.12
6	M	-0.18	-0.17	0.44	-0.05	-0.01
	t	-2.11	-1.19	3.68	-0.43	-0.10
7	M	0.06	0.01	0.08	0.25	-0.02
	t	0.64	0.15	0.98	2.19	-0.53
8	M	-0.09	-0.04	-0.02	0.00	0.08
	t	-1.31	-0.62	-0.25	-0.02	1.84

Table 109: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - SD Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.13	0.47	0.13	0.52	-0.31
	t	1.66	1.17	0.83	2.71	-0.87
-7	M	0.10	-0.22	0.18	0.22	0.06
	t	1.36	-0.60	1.52	1.08	0.53
-6	M	0.13	0.41	-0.16	0.16	0.02
	t	2.14	1.27	-0.95	1.05	1.06
-5	M	0.13	0.17	-0.01	0.34	-0.06
	t	2.15	1.16	-0.12	1.96	-1.00
-4	M	0.21	-0.41	0.34	0.44	0.01
	t	2.08	-1.25	2.55	1.89	0.03
-3	M	0.22	0.07	0.17	-0.04	-0.03
	t	2.35	1.36	1.67	-0.04	-0.06
-2	M	0.13	-0.07	0.15	0.23	0.02
	t	1.65	-0.62	1.16	1.55	0.68
-1	M	0.19	-0.07	0.25	0.41	0.06
	t	1.51	-0.52	2.28	2.13	1.85
0	M	0.16	0.22	0.16	0.57	0.00
	t	2.40	2.13	2.75	3.52	0.64
1	M	0.39	0.01	0.19	0.09	-0.01
	t	3.45	0.47	2.49	2.60	-0.30
2	M	0.04	0.04	0.24	0.41	-0.03
	t	0.74	0.59	2.52	2.60	-0.05
3	M	0.15	0.10	0.24	-0.03	-0.05
	t	1.98	1.04	1.79	-0.10	-0.66
4	M	0.20	0.21	0.09	0.57	0.11
	t	1.90	2.61	0.81	2.68	2.40
5	M	-0.05	0.03	-0.04	0.13	0.09
	t	-0.50	0.12	-0.27	0.51	1.46
6	M	-0.14	0.15	0.01	0.66	0.08
	t	-1.03	1.75	0.10	2.97	1.42
7	M	-0.04	0.07	0.10	0.16	0.02
	t	-0.25	1.00	0.71	0.88	0.47
8	M	-0.14	0.22	0.00	0.19	-0.01
	t	-0.82	1.77	0.17	1.16	-0.40

Table 110: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - SD Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.06	0.11	0.00	0.29	0.02
	t	1.32	2.23	0.08	3.80	0.51
-7	M	0.18	0.09	0.10	0.23	0.03
	t	3.51	1.68	1.80	2.89	0.77
-6	M	0.14	0.05	0.05	0.44	0.01
	t	2.72	1.07	0.90	5.16	0.15
-5	M	0.14	0.10	0.10	0.43	0.03
	t	2.56	2.64	1.75	5.67	1.13
-4	M	0.14	0.04	0.14	0.31	0.01
	t	2.79	1.14	2.43	3.94	0.55
-3	M	0.23	0.14	0.20	0.46	0.01
	t	4.59	3.26	3.47	5.48	0.29
-2	M	0.35	0.06	0.17	0.73	0.10
	t	6.67	1.62	3.61	7.92	1.56
-1	M	-0.09	0.00	0.02	0.05	-0.05
	t	-1.32	0.09	0.42	0.51	-1.70
0	M	0.17	-0.02	0.05	-0.13	-0.03
	t	3.45	-0.46	1.05	-1.36	-0.80
1	M	0.15	0.04	0.06	0.04	0.05
	t	2.45	1.21	1.30	0.48	1.78
2	M	0.06	0.05	-0.08	0.04	0.07
	t	1.31	1.11	-1.75	0.60	2.81
3	M	0.07	0.10	0.01	-0.25	0.07
	t	1.45	2.97	0.13	-3.02	2.66
4	M	0.09	0.09	0.02	-0.20	0.05
	t	2.10	1.23	0.28	-2.40	2.12
5	M	0.02	-0.04	0.07	-0.14	0.02
	t	0.38	-0.81	1.11	-1.98	0.64
6	M	0.09	0.02	0.00	-0.20	0.05
	t	2.02	0.78	0.08	-3.09	1.96
7	M	-0.05	0.02	0.00	0.04	0.09
	t	-0.84	0.50	-0.03	0.52	3.57
8	M	0.14	0.04	0.24	-0.04	0.04
	t	2.75	1.28	3.27	-0.50	1.48

Table 111: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.02	0.05	0.02	-0.12	-0.02
	t	0.26	0.96	0.23	-1.10	-0.10
-7	M	-0.03	-0.02	0.13	0.12	0.10
	t	-0.30	-0.31	1.97	1.01	1.97
-6	M	0.06	-0.12	0.05	0.12	0.02
	t	0.75	-0.75	0.80	1.14	0.53
-5	M	0.03	-0.05	-0.02	0.23	0.21
	t	0.22	-0.49	-0.28	1.95	1.56
-4	M	0.06	-0.05	0.02	0.16	0.00
	t	0.81	-0.21	0.45	1.33	0.47
-3	M	-0.05	0.06	-0.18	-0.09	0.09
	t	-0.86	0.73	-1.71	-0.65	1.07
-2	M	0.08	0.08	-0.04	-0.08	0.11
	t	0.88	0.45	-0.52	-0.60	1.35
-1	M	-0.15	0.19	-0.24	0.04	0.06
	t	-2.12	2.26	-1.98	0.29	0.76
0	M	-0.27	-0.16	-0.07	-0.16	0.00
	t	-3.14	-2.62	-0.97	-2.32	0.45
1	M	-0.10	-0.17	-0.05	-0.33	0.07
	t	-2.62	-2.93	-0.94	-2.66	0.01
2	M	0.14	0.08	-0.22	-0.06	0.04
	t	1.73	1.38	-2.21	-1.44	1.37
3	M	-0.11	0.05	-0.12	-0.38	0.09
	t	-1.69	0.04	-1.10	-2.78	0.69
4	M	0.11	-0.02	0.10	0.03	-0.01
	t	1.52	-0.26	0.60	0.23	-0.06
5	M	-0.01	-0.06	0.04	0.10	-0.01
	t	-0.09	-0.56	0.57	0.99	-0.17
6	M	0.11	-0.01	0.16	0.34	-0.01
	t	0.95	-0.26	1.74	2.28	-0.45
7	M	-0.10	0.03	-0.02	0.10	-0.01
	t	-1.01	0.44	-0.09	0.64	-0.29
8	M	0.07	0.12	-0.11	-0.07	-0.01
	t	0.63	1.38	-0.76	-0.37	-0.48

Table 112: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.19	0.11	0.07	0.11	-0.01
	t	2.07	2.00	0.86	0.68	-0.08
-7	M	0.28	-0.10	0.09	-0.09	0.03
	t	2.75	-1.73	1.04	-0.83	0.44
-6	M	-0.03	0.00	0.04	-0.02	0.00
	t	-0.45	0.08	0.54	-0.20	0.08
-5	M	0.13	-0.07	0.10	-0.17	0.05
	t	0.98	-1.01	1.22	-1.18	0.77
-4	M	0.08	0.07	0.07	0.24	0.14
	t	0.90	1.39	0.56	2.09	1.08
-3	M	0.01	-0.01	0.07	0.14	-0.03
	t	0.11	-0.26	0.88	1.30	-0.57
-2	M	-0.16	0.06	-0.10	0.21	0.06
	t	-1.93	1.10	-1.17	1.40	1.18
-1	M	0.02	0.00	0.01	0.11	-0.14
	t	0.22	-0.03	0.15	0.64	-1.14
0	M	-0.25	0.11	-0.15	0.08	0.04
	t	-2.93	1.83	-1.78	0.58	0.69
1	M	0.11	0.04	0.06	-0.25	-0.05
	t	1.37	0.75	0.63	-1.78	-0.96
2	M	0.19	-0.09	-0.08	-0.02	0.11
	t	1.80	-1.46	-0.97	-0.18	1.69
3	M	-0.04	-0.05	0.08	0.03	0.04
	t	-0.50	-0.88	1.05	0.26	0.72
4	M	-0.07	-0.10	-0.04	0.04	0.05
	t	-0.86	-1.26	-0.50	0.30	1.01
5	M	-0.04	0.05	-0.08	0.06	0.01
	t	-0.43	0.87	-0.77	0.52	0.24
6	M	-0.08	0.13	0.11	-0.17	-0.02
	t	-0.78	1.89	1.15	-1.21	-0.26
7	M	0.11	0.01	-0.07	0.13	0.03
	t	0.95	0.17	-0.45	0.90	0.56
8	M	-0.08	0.00	0.00	0.05	0.05
	t	-1.16	0.06	0.03	0.26	1.21

Table 113: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.17	0.33	0.11	0.53	-0.27
	t	1.50	0.83	0.58	2.20	-0.78
-7	M	0.16	-0.19	0.20	0.26	0.06
	t	1.44	-0.61	1.12	1.03	0.32
-6	M	0.09	0.50	-0.14	0.00	-0.01
	t	1.75	1.55	-0.42	0.32	-1.00
-5	M	0.20	0.17	-0.12	0.45	-0.07
	t	2.03	0.97	-0.46	2.26	-1.52
-4	M	0.32	-0.42	0.38	0.56	-0.01
	t	2.43	-1.29	2.90	2.22	-0.23
-3	M	0.10	0.05	0.36	0.09	-0.08
	t	1.07	1.23	1.79	0.67	-0.39
-2	M	0.09	-0.04	0.15	0.26	0.00
	t	1.27	-0.19	1.22	1.75	0.44
-1	M	0.22	-0.12	0.35	0.38	0.02
	t	1.81	-0.94	2.98	1.65	1.18
0	M	0.14	0.24	0.11	0.56	0.03
	t	1.97	2.15	1.11	2.15	0.86
1	M	0.21	0.08	0.35	0.03	-0.11
	t	2.28	1.19	2.63	1.24	-0.76
2	M	-0.07	0.15	-0.05	0.24	0.07
	t	-0.51	1.48	-0.25	1.41	0.73
3	M	0.09	0.07	0.13	-0.04	-0.08
	t	0.74	0.44	0.82	-0.31	-1.30
4	M	0.19	-0.07	0.11	0.34	0.08
	t	1.65	-0.11	0.88	1.86	1.25
5	M	-0.13	0.06	-0.05	-0.01	0.03
	t	-1.13	0.39	-0.51	-0.19	0.05
6	M	0.07	0.14	-0.09	0.59	0.07
	t	0.73	1.50	-0.64	2.09	1.15
7	M	-0.21	-0.04	0.35	0.16	-0.05
	t	-2.25	-0.04	1.58	1.23	-0.12
8	M	-0.07	0.09	-0.19	0.31	0.00
	t	-0.81	0.45	-1.21	1.78	0.31

Table 114: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.10	0.04	0.08	0.30	0.00
	t	1.67	0.74	0.77	3.43	-0.05
-7	M	0.27	0.06	0.07	0.30	0.02
	t	4.10	1.09	1.24	3.49	0.77
-6	M	0.17	0.06	0.05	0.43	0.03
	t	2.79	1.27	0.82	5.09	0.94
-5	M	0.13	0.10	0.12	0.46	0.02
	t	1.92	2.61	1.59	5.34	0.55
-4	M	0.13	0.03	0.15	0.41	0.02
	t	2.34	0.77	2.75	4.70	0.73
-3	M	0.22	0.11	0.16	0.52	0.03
	t	3.78	2.94	2.73	5.84	0.80
-2	M	0.32	0.01	0.15	0.80	0.09
	t	5.72	0.26	3.00	7.78	1.51
-1	M	-0.07	-0.02	0.00	0.04	-0.04
	t	-0.96	-0.59	-0.03	0.33	-1.43
0	M	0.16	0.00	0.04	-0.21	-0.06
	t	2.70	0.01	0.68	-1.97	-1.50
1	M	0.09	0.08	0.03	0.02	0.05
	t	1.26	2.30	0.70	0.21	1.59
2	M	0.09	0.00	-0.02	-0.02	0.04
	t	2.01	0.05	-0.33	-0.30	1.26
3	M	0.09	0.06	0.06	-0.22	0.04
	t	1.89	1.82	1.37	-2.30	1.41
4	M	0.05	0.04	-0.01	-0.13	0.06
	t	1.00	0.69	-0.16	-1.48	2.70
5	M	0.05	-0.03	0.00	-0.11	0.03
	t	0.98	-0.84	-0.10	-1.41	1.16
6	M	0.12	0.05	-0.03	-0.12	0.05
	t	2.76	1.61	-0.39	-1.64	1.90
7	M	-0.01	0.03	-0.07	0.03	0.09
	t	-0.20	1.07	-1.50	0.43	3.56
8	M	0.13	0.04	-0.02	-0.06	0.03
	t	2.26	1.25	-0.44	-0.80	1.14

Table 115: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - Return Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	-0.03	-0.02	0.04	-0.26	-0.04
	t	-0.47	-0.30	0.70	-2.93	-0.82
-7	M	-0.15	0.01	0.17	0.00	0.12
	t	-1.78	0.11	2.23	-0.01	1.57
-6	M	-0.07	-0.18	0.01	0.02	-0.04
	t	-0.95	-1.17	0.17	0.19	-0.76
-5	M	-0.05	-0.06	-0.09	0.06	0.21
	t	-0.40	-0.49	-1.15	0.56	1.23
-4	M	-0.05	-0.16	-0.07	-0.03	0.03
	t	-0.74	-1.92	-0.89	-0.35	0.49
-3	M	-0.10	0.00	-0.23	-0.12	0.03
	t	-1.66	-0.05	-3.50	-1.16	0.42
-2	M	0.00	-0.04	0.02	-0.16	0.03
	t	-0.04	-0.32	0.21	-1.34	0.67
-1	M	-0.18	0.06	-0.20	-0.15	0.00
	t	-2.72	0.76	-2.49	-1.40	0.02
0	M	-0.32	-0.22	-0.16	-0.34	-0.12
	t	-3.84	-3.19	-1.89	-3.00	-2.64
1	M	-0.15	-0.17	-0.21	-0.58	-0.06
	t	-1.01	-2.78	-2.27	-5.10	-1.51
2	M	0.07	-0.04	-0.21	-0.24	-0.07
	t	0.84	-0.86	-2.41	-2.00	-1.55
3	M	-0.14	-0.06	-0.11	-0.51	-0.10
	t	-2.37	-1.17	-0.83	-4.56	-2.31
4	M	-0.03	-0.09	-0.21	-0.23	-0.10
	t	-0.39	-1.38	-2.44	-2.18	-2.50
5	M	-0.16	-0.11	-0.08	-0.13	-0.09
	t	-2.37	-1.59	-0.91	-1.49	-2.52
6	M	-0.02	-0.04	0.14	0.01	-0.07
	t	-0.18	-0.53	1.27	0.05	-1.70
7	M	-0.19	-0.07	0.07	-0.03	-0.14
	t	-1.95	-1.43	0.63	-0.22	-3.75
8	M	-0.05	-0.03	-0.06	-0.09	-0.05
	t	-0.43	-0.34	-0.58	-0.58	-1.38

Table 116: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - Return Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.16	0.18	0.06	-0.04	-0.07
	t	2.20	1.08	1.14	-0.28	-1.14
-7	M	0.11	-0.15	0.06	-0.17	0.02
	t	1.53	-1.53	1.04	-1.94	0.32
-6	M	-0.06	-0.01	-0.04	-0.04	-0.05
	t	-1.23	-0.31	-0.62	-0.52	-1.20
-5	M	0.01	-0.03	0.05	-0.08	0.10
	t	0.11	-0.43	0.70	-0.63	0.98
-4	M	0.00	0.02	-0.07	-0.02	0.08
	t	0.00	0.45	-1.26	-0.29	0.78
-3	M	-0.09	-0.03	-0.02	-0.09	-0.07
	t	-1.25	-0.54	-0.30	-1.06	-1.50
-2	M	-0.20	-0.06	-0.09	-0.07	-0.07
	t	-3.05	-1.40	-1.26	-0.60	-1.58
-1	M	0.04	0.32	-0.04	0.02	-0.23
	t	0.48	1.58	-0.56	0.10	-2.04
0	M	-0.24	-0.18	-0.15	-0.04	-0.03
	t	-3.06	-1.57	-2.11	-0.33	-0.60
1	M	-0.04	-0.08	-0.07	-0.31	-0.12
	t	-0.54	-1.38	-0.82	-3.17	-2.36
2	M	0.06	-0.09	-0.09	-0.21	0.05
	t	0.67	-1.48	-1.25	-2.29	0.81
3	M	-0.13	-0.06	-0.02	-0.16	0.03
	t	-1.69	-1.14	-0.38	-1.73	0.52
4	M	-0.15	-0.12	-0.15	-0.12	-0.04
	t	-1.83	-1.75	-2.26	-1.30	-1.03
5	M	-0.15	-0.04	-0.04	-0.18	-0.02
	t	-2.08	-0.50	-0.60	-1.86	-0.22
6	M	-0.24	-0.22	-0.02	-0.32	-0.05
	t	-3.04	-1.59	-0.30	-3.85	-0.70
7	M	0.02	-0.09	-0.04	-0.08	-0.06
	t	0.16	-1.56	-0.58	-0.81	-1.43
8	M	-0.21	-0.13	-0.15	-0.14	0.02
	t	-3.39	-2.55	-2.01	-1.12	0.42

Table 117: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - Return Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.04	0.38	0.04	0.27	-0.35
	t	0.58	1.04	0.29	1.47	-1.00
-7	M	0.11	-0.20	0.04	0.13	0.04
	t	1.36	-0.60	0.39	0.62	0.32
-6	M	0.12	0.35	-0.10	0.11	0.01
	t	1.52	1.06	-0.84	0.56	0.22
-5	M	0.11	0.18	-0.05	0.23	-0.04
	t	1.65	1.09	-0.45	1.23	-0.96
-4	M	0.15	-0.48	0.21	0.19	-0.04
	t	1.56	-1.43	1.61	0.82	-0.74
-3	M	0.17	0.01	0.12	-0.21	-0.01
	t	1.66	0.15	1.03	-1.08	-0.27
-2	M	0.06	-0.09	0.06	-0.03	0.01
	t	0.70	-0.88	0.42	-0.18	0.29
-1	M	0.17	-0.07	0.17	0.28	0.05
	t	1.21	-0.86	1.38	1.36	1.04
0	M	0.11	0.24	0.09	0.33	0.05
	t	1.24	1.84	0.73	1.91	0.68
1	M	0.17	0.04	0.15	-0.12	0.04
	t	1.88	0.52	1.18	-0.67	0.52
2	M	-0.08	-0.01	0.07	0.10	0.01
	t	-1.15	-0.06	0.72	0.71	0.15
3	M	0.04	0.04	0.07	-0.11	-0.01
	t	0.48	0.43	0.56	-0.64	-0.23
4	M	0.18	0.14	-0.15	0.17	0.08
	t	1.80	1.92	-1.29	0.92	1.49
5	M	-0.14	-0.02	-0.08	-0.17	0.00
	t	-1.33	-0.30	-0.50	-0.91	-0.03
6	M	-0.02	0.09	-0.08	0.31	0.04
	t	-0.21	1.16	-0.54	1.65	0.71
7	M	-0.22	0.01	0.00	-0.03	-0.02
	t	-2.92	0.14	0.02	-0.17	-0.34
8	M	-0.17	0.13	-0.16	-0.03	0.00
	t	-1.60	0.91	-1.33	-0.19	-0.02

Table 118: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - Return Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	-0.03	-0.03	-0.06	0.06	0.01
	t	-0.62	-0.61	-1.49	1.02	0.19
-7	M	0.11	0.10	-0.04	0.10	0.01
	t	2.91	2.23	-0.93	1.58	0.52
-6	M	0.11	0.01	0.01	0.22	0.00
	t	2.79	0.36	0.23	3.57	-0.13
-5	M	0.04	0.06	0.00	0.13	0.00
	t	0.88	2.19	0.03	2.28	0.01
-4	M	0.05	0.04	0.04	0.14	0.01
	t	1.13	1.26	0.96	2.20	0.74
-3	M	0.16	0.07	0.10	0.20	-0.02
	t	4.47	2.32	2.40	3.13	-0.79
-2	M	0.28	0.01	-0.01	0.44	0.08
	t	6.38	0.38	-0.15	6.30	1.79
-1	M	-0.13	-0.04	-0.10	-0.22	-0.04
	t	-2.60	-1.28	-2.52	-2.65	-1.36
0	M	0.07	-0.16	-0.10	-0.35	-0.04
	t	2.01	-3.49	-2.66	-5.32	-1.23
1	M	0.05	0.00	-0.07	-0.20	0.02
	t	1.26	0.05	-2.16	-3.82	0.79
2	M	0.00	-0.02	-0.16	-0.17	0.03
	t	-0.10	-0.51	-4.47	-3.25	1.22
3	M	-0.03	0.03	-0.05	-0.30	0.04
	t	-0.85	1.27	-1.40	-5.60	1.89
4	M	-0.03	0.00	-0.10	-0.37	0.03
	t	-1.02	0.06	-3.07	-6.56	1.79
5	M	-0.03	-0.05	-0.14	-0.29	0.00
	t	-0.78	-1.54	-3.53	-5.64	-0.07
6	M	-0.03	-0.04	-0.14	-0.34	0.03
	t	-1.02	-1.44	-3.73	-7.77	1.31
7	M	-0.17	-0.05	-0.16	-0.21	0.07
	t	-3.98	-1.71	-4.27	-3.89	3.65
8	M	0.01	-0.01	-0.12	-0.37	0.02
	t	0.27	-0.37	-2.82	-6.47	1.09

Table 119: Institutional Ownership Changes By Investor Type (% Shares): Dividend Omissions - Return & SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.01	0.04	-0.02	-0.12	-0.02
	t	0.21	0.80	-0.16	-1.28	-0.46
-7	M	-0.05	0.03	0.19	0.10	0.15
	t	-0.73	0.37	2.41	0.93	1.75
-6	M	0.00	-0.04	0.06	0.12	-0.03
	t	-0.03	-0.30	0.89	1.27	-0.53
-5	M	-0.01	-0.03	0.01	0.19	0.08
	t	-0.10	-0.25	0.06	1.75	1.25
-4	M	0.04	-0.11	-0.01	0.17	0.04
	t	0.53	-1.25	-0.10	1.70	0.66
-3	M	-0.03	0.03	-0.11	0.06	0.02
	t	-0.40	0.37	-1.66	0.52	0.32
-2	M	0.04	-0.02	0.09	-0.01	0.04
	t	0.42	-0.14	1.13	-0.10	0.80
-1	M	-0.13	0.07	-0.15	-0.01	0.03
	t	-1.86	0.92	-1.72	-0.08	0.83
0	M	-0.26	-0.17	-0.01	-0.14	-0.10
	t	-2.90	-2.40	-0.07	-1.18	-2.06
1	M	-0.02	-0.15	-0.07	-0.31	-0.05
	t	-0.11	-2.33	-0.68	-2.53	-1.43
2	M	0.20	-0.01	-0.05	0.00	-0.01
	t	2.28	-0.23	-0.56	-0.04	-0.26
3	M	-0.04	-0.02	0.00	-0.19	-0.08
	t	-0.66	-0.41	0.03	-1.59	-1.78
4	M	0.07	-0.04	0.00	-0.02	-0.06
	t	1.00	-0.57	-0.01	-0.24	-1.33
5	M	-0.06	-0.06	0.15	0.13	-0.08
	t	-0.79	-0.84	1.60	1.43	-2.09
6	M	0.04	-0.02	0.29	0.21	-0.05
	t	0.37	-0.21	2.52	1.53	-1.11
7	M	-0.16	-0.06	0.19	0.06	-0.15
	t	-1.48	-1.09	1.75	0.38	-2.86
8	M	0.04	0.03	0.18	0.10	-0.08
	t	0.33	0.41	1.85	0.60	-1.69

Table 120: Institutional Ownership Changes By Investor Type (% Shares): Dividend Decreases - Return & SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.19	0.04	0.08	0.04	-0.07
	t	2.55	0.82	1.36	0.30	-1.03
-7	M	0.16	-0.13	0.10	-0.04	0.01
	t	2.18	-2.81	1.61	-0.47	0.23
-6	M	0.00	-0.01	0.03	0.03	-0.03
	t	0.04	-0.29	0.53	0.37	-0.59
-5	M	0.07	-0.06	0.07	-0.07	0.04
	t	0.62	-0.90	1.01	-0.51	0.68
-4	M	0.04	0.06	-0.03	0.17	0.10
	t	0.64	1.24	-0.48	1.98	0.88
-3	M	-0.01	-0.01	0.02	0.10	-0.05
	t	-0.19	-0.14	0.34	1.11	-0.93
-2	M	-0.14	0.01	0.01	0.09	-0.04
	t	-1.94	0.12	0.17	0.69	-0.86
-1	M	0.02	-0.01	0.02	0.15	-0.15
	t	0.24	-0.23	0.24	0.93	-1.43
0	M	-0.20	0.08	-0.05	0.16	0.02
	t	-2.38	1.49	-0.72	1.32	0.40
1	M	0.06	-0.03	0.02	-0.10	-0.12
	t	0.76	-0.48	0.18	-0.90	-2.36
2	M	0.17	-0.11	0.00	0.02	0.08
	t	1.61	-1.95	-0.02	0.20	1.31
3	M	-0.04	-0.05	0.00	0.08	0.03
	t	-0.44	-1.04	0.04	0.78	0.58
4	M	-0.08	-0.05	-0.05	0.08	-0.04
	t	-0.85	-0.75	-0.72	0.77	-0.96
5	M	-0.05	0.08	0.01	0.08	-0.03
	t	-0.68	1.24	0.12	0.76	-0.57
6	M	-0.16	0.04	0.10	-0.17	-0.03
	t	-1.98	0.64	1.26	-1.85	-0.36
7	M	0.08	0.02	0.01	0.13	-0.09
	t	0.75	0.26	0.08	1.29	-1.48
8	M	-0.09	-0.06	-0.07	-0.03	0.03
	t	-1.33	-1.23	-0.82	-0.21	0.75

Table 121: Institutional Ownership Changes By Investor Type (% Shares): Dividend Initiations - Return & SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.08	0.46	0.16	0.36	-0.36
	t	1.15	1.10	1.05	1.76	-0.90
-7	M	0.13	-0.28	0.28	0.08	-0.07
	t	1.51	-0.73	2.08	0.34	-0.91
-6	M	0.15	0.51	-0.08	0.18	0.04
	t	1.64	1.32	-0.60	0.93	0.68
-5	M	0.13	0.24	-0.04	0.38	-0.02
	t	1.89	1.42	-0.36	2.25	-0.55
-4	M	0.13	-0.40	0.32	0.35	-0.04
	t	1.54	-1.16	2.35	1.42	-0.70
-3	M	0.22	0.07	0.16	-0.12	0.01
	t	1.99	0.99	1.27	-0.58	0.26
-2	M	0.03	-0.06	0.17	0.15	0.00
	t	0.43	-0.60	1.17	0.97	0.02
-1	M	0.25	-0.09	0.21	0.38	0.08
	t	1.82	-1.04	1.67	1.77	1.51
0	M	0.15	0.24	0.17	0.41	0.05
	t	1.69	1.82	1.35	2.26	0.64
1	M	0.23	0.09	0.20	0.02	0.05
	t	2.41	1.12	1.53	0.08	0.67
2	M	-0.06	0.04	0.19	0.25	0.02
	t	-0.89	0.37	1.94	1.62	0.27
3	M	0.08	0.09	0.08	0.00	0.02
	t	1.02	0.86	0.64	-0.01	0.40
4	M	0.24	0.13	-0.12	0.35	0.09
	t	2.33	1.82	-1.06	1.87	1.63
5	M	-0.04	0.00	0.03	-0.02	0.02
	t	-0.38	-0.05	0.21	-0.09	0.49
6	M	0.08	0.14	0.03	0.56	0.06
	t	0.93	1.79	0.22	2.94	1.10
7	M	-0.14	0.05	0.17	0.14	0.00
	t	-1.99	0.68	1.32	0.84	-0.04
8	M	-0.09	0.16	-0.01	0.20	0.02
	t	-0.80	1.13	-0.05	1.40	0.42

Table 122: Institutional Ownership Changes By Investor Type (% Shares): Dividend Increases - Return & SMB Adjusted

Qtr		*Bank Trust Departments*	*Insurance Companies*	*Investment Companies*	*Investment Advisors*	*Endowment & Pension Funds*
-8	M	0.03	-0.01	-0.03	0.10	0.00
	t	0.77	-0.31	-0.67	1.49	0.14
-7	M	0.12	0.11	-0.04	0.10	0.03
	t	3.08	2.44	-0.86	1.49	1.19
-6	M	0.13	0.01	0.04	0.25	0.01
	t	3.35	0.31	0.83	4.18	0.27
-5	M	0.05	0.07	-0.03	0.21	-0.01
	t	1.07	2.36	-0.74	3.53	-0.51
-4	M	0.07	0.03	0.06	0.17	0.02
	t	1.82	1.03	1.37	2.52	1.21
-3	M	0.19	0.10	0.11	0.26	-0.01
	t	4.77	3.17	2.47	3.82	-0.23
-2	M	0.28	0.03	0.02	0.57	0.09
	t	6.35	1.01	0.62	7.37	1.91
-1	M	-0.10	0.00	-0.10	-0.18	-0.08
	t	-1.80	0.03	-2.48	-2.05	-3.28
0	M	0.15	-0.03	-0.08	-0.18	-0.03
	t	3.79	-1.02	-2.15	-2.43	-1.12
1	M	0.08	0.05	-0.05	-0.02	0.04
	t	1.82	1.85	-1.33	-0.35	1.74
2	M	0.05	0.01	-0.08	0.03	0.01
	t	1.56	0.50	-2.13	0.49	0.62
3	M	0.09	0.07	0.01	-0.12	0.08
	t	2.15	2.89	0.26	-2.03	3.33
4	M	0.08	0.01	0.02	-0.12	0.05
	t	2.39	0.23	0.71	-1.92	2.51
5	M	0.05	0.02	-0.07	-0.06	0.03
	t	1.41	0.76	-1.49	-0.99	1.26
6	M	0.07	0.03	-0.07	-0.07	0.05
	t	2.17	1.04	-1.90	-1.43	2.15
7	M	-0.05	0.06	-0.04	-0.03	0.09
	t	-1.12	2.02	-0.99	-0.51	4.66
8	M	0.13	0.05	0.06	-0.13	0.03
	t	2.85	1.86	1.35	-2.05	1.28

Table 123: Cumulative Ownership Changes By Investor Type (% Shares): Dividend Omissions

Adjustment	*Qtr*	*Bank Trust Depts.*	*Insurance Comp.*	*Investment Comp.*	*Investment Advisors*	*Endowment & Pension Funds*
Raw	0 to 4	-0.83	-0.34	-0.14	-0.57	-0.09
	0 to 8	-1.27	-0.48	0.73	0.34	-0.39
All	0 to 4	-0.67	-0.20	-0.79	-2.40	-0.01
	0 to 8	-1.14	-0.38	-0.58	-2.85	-0.32
Payer	0 to 4	-0.55	-0.32	-0.65	-1.93	-0.13
	0 to 8	-0.89	-0.57	-0.26	-1.82	-0.54
Non-Payer	0 to 4	-0.82	-0.12	-0.84	-2.72	0.10
	0 to 8	-1.43	-0.26	-0.67	-3.48	-0.20
SD	0 to 4	0.19	-0.12	-0.17	-1.37	-0.21
	0 to 8	-0.32	-0.19	0.59	-0.49	-0.55
SMB	0 to 4	-0.22	-0.23	-0.36	-0.90	0.19
	0 to 8	-0.14	-0.16	-0.29	-0.43	0.14
Return	0 to 4	-0.57	-0.58	-0.89	-1.90	-0.44
	0 to 8	-0.99	-0.83	-0.83	-2.15	-0.78
Return & SMB	0 to 4	-0.04	-0.39	-0.12	-0.67	-0.30
	0 to 8	-0.17	-0.50	0.69	-0.17	-0.66

Table 124: Cumulative Ownership Changes By Investor Type (% Shares): Dividend Decreases

Adjustment	*Qtr*	*Bank Trust Depts.*	*Insurance Comp.*	*Investment Comp.*	*Investment Advisors*	*Endowment & Pension Funds*
Raw	0 to 4	-0.28	-0.31	0.41	0.71	0.17
	0 to 8	-0.68	-0.55	0.92	1.50	0.24
All	0 to 4	-0.52	-0.55	-0.62	-1.21	-0.08
	0 to 8	-1.09	-0.97	-0.90	-2.04	-0.18
Payer	0 to 4	-0.37	-0.47	-0.29	-0.59	0.00
	0 to 8	-0.85	-0.85	-0.25	-0.79	-0.02
Non-Payer	0 to 4	-0.73	-0.73	-1.03	-1.64	-0.27
	0 to 8	-1.48	-1.31	-1.52	-2.71	-0.52
SD	0 to 4	0.09	-0.14	0.10	-0.24	0.07
	0 to 8	-0.20	-0.27	0.52	0.00	0.12
SMB	0 to 4	-0.06	-0.09	-0.12	-0.12	0.19
	0 to 8	-0.15	0.10	-0.15	-0.05	0.26
Return	0 to 4	-0.50	-0.54	-0.48	-0.84	-0.12
	0 to 8	-1.08	-1.02	-0.74	-1.56	-0.22
Return & SMB	0 to 4	-0.08	-0.17	-0.09	0.24	-0.03
	0 to 8	-0.31	-0.10	-0.03	0.25	-0.15

Table 125: Cumulative Ownership Changes By Investor Type (% Shares): Dividend Initiations

Adjustment	*Qtr*	*Bank Trust Depts.*	*Insurance Comp.*	*Investment Comp.*	*Investment Advisors*	*Endowment & Pension Funds*
Raw	0 to 4	0.40	0.51	0.93	1.95	0.20
	0 to 8	-0.17	0.79	1.39	3.40	0.30
All	0 to 4	0.44	0.46	0.21	0.41	0.12
	0 to 8	-0.05	0.74	-0.14	0.42	0.22
Payer	0 to 4	0.61	0.65	0.30	0.42	0.32
	0 to 8	0.37	1.14	0.13	0.58	0.68
Non-Payer	0 to 4	0.40	0.44	0.08	0.21	0.11
	0 to 8	-0.10	0.66	-0.34	0.10	0.21
SD	0 to 4	0.94	0.59	0.91	1.60	0.02
	0 to 8	0.59	1.05	0.99	2.74	0.20
SMB	0 to 4	0.56	0.47	0.64	1.13	0.00
	0 to 8	0.21	0.71	0.65	2.19	0.06
Return	0 to 4	0.42	0.46	0.23	0.37	0.17
	0 to 8	-0.13	0.66	-0.09	0.45	0.18
Return & SMB	0 to 4	0.63	0.59	0.52	1.01	0.22
	0 to 8	0.44	0.93	0.75	1.89	0.33

Table 126: Cumulative Ownership Changes By Investor Type (% Shares): Dividend Increases

Adjustment	*Qtr*	*Bank Trust Depts.*	*Insurance Comp.*	*Investment Comp.*	*Investment Advisors*	*Endowment & Pension Funds*
Raw	0 to 4	0.31	0.16	0.26	0.45	0.38
	0 to 8	0.24	0.13	0.46	0.80	0.67
All	0 to 4	0.10	-0.15	-0.56	-1.49	0.10
	0 to 8	-0.13	-0.34	-1.20	-2.80	0.23
Payer	0 to 4	0.24	-0.04	-0.21	-0.82	0.16
	0 to 8	0.17	-0.19	-0.44	-1.56	0.33
Non-Payer	0 to 4	-0.11	-0.26	-0.75	-1.56	-0.02
	0 to 8	-0.46	-0.61	-1.47	-3.04	-0.02
SD	0 to 4	0.54	0.25	0.05	-0.50	0.21
	0 to 8	0.74	0.30	0.36	-0.84	0.41
SMB	0 to 4	0.47	0.18	0.11	-0.56	0.13
	0 to 8	0.75	0.27	-0.02	-0.81	0.34
Return	0 to 4	0.06	-0.14	-0.47	-1.38	0.08
	0 to 8	-0.16	-0.29	-1.04	-2.60	0.20
Return & SMB	0 to 4	0.45	0.12	-0.17	-0.41	0.15
	0 to 8	0.66	0.27	-0.29	-0.69	0.34

Table 127: Do Dividend Clienteles Exist?

This table shows the results of the cross-sectional regressions examining the impact of firm characteristics on the magnitude of the institutional investor reaction to dividend events. The dependent variable in the regressions is the institutional ownership change within one period of the event quarter. LogSize is calculated as the natural logarithm of market capitalization before the event quarter. Book/Market is measured as the ratio of book value to market value at the end of the December prior to the event quarter. Momentum is the 11-month buy-and-hold return with a one-month lag prior the dividend event. For the omission sample, the change in the dividend yield measure indicates the annual dividend yield paid out in the year prior to the omission. For the initiation sample, this measure is calculated as the annualized dividend yield based on the initiation dividend amount. The pre-event institutional ownership indicates the average institutional ownership of the firms' outstanding shares in the year prior to the dividend event. The t-statistics are given in parenthesis.

Explanatory Variable	*Dividend Omissions*	*Dividend Initiations*	*Full Sample*
Constant	0.003	0.018	0.032
	(0.27)	(1.16)	(3.55)
Log Size	0.005	0.004	0.005
	(2.06)	(1.17)	(2.53)
Book/Market	0.001	-0.003	0.001
	(0.45)	(-0.49)	(0.30)
Momentum	0.009	0.023	0.015
	(1.16)	(3.72)	(2.94)
Δ Dividend Yield	-0.804	-0.496	-0.818
(Gain/Loss)	(-3.01)	(-0.92)	(-3.46)
Pre-Event Institutional	-0.158	-0.066	-0.130
Ownership	(-8.73)	(-2.81)	(-8.91)
Event Dummy			-0.036
(Omission=1)			(-5.61)
Adjusted R-Square	0.18	0.14	0.20
F	20.1	6.0	27.2

Figures

Figure 1: Institutional Ownership of the Equity Market: Aggregate

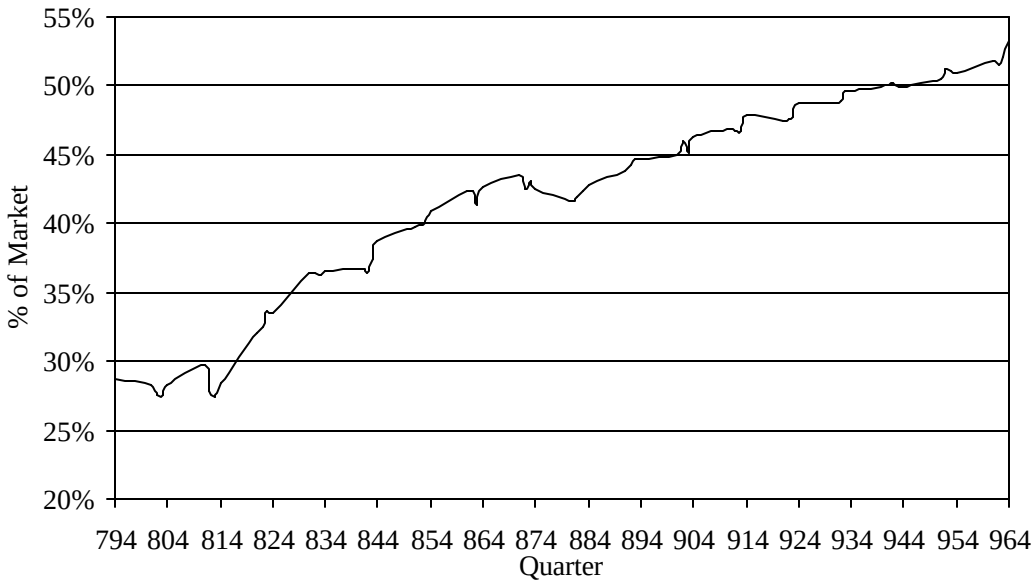


Figure 2: Institutional Ownership of the Equity Market: By Type

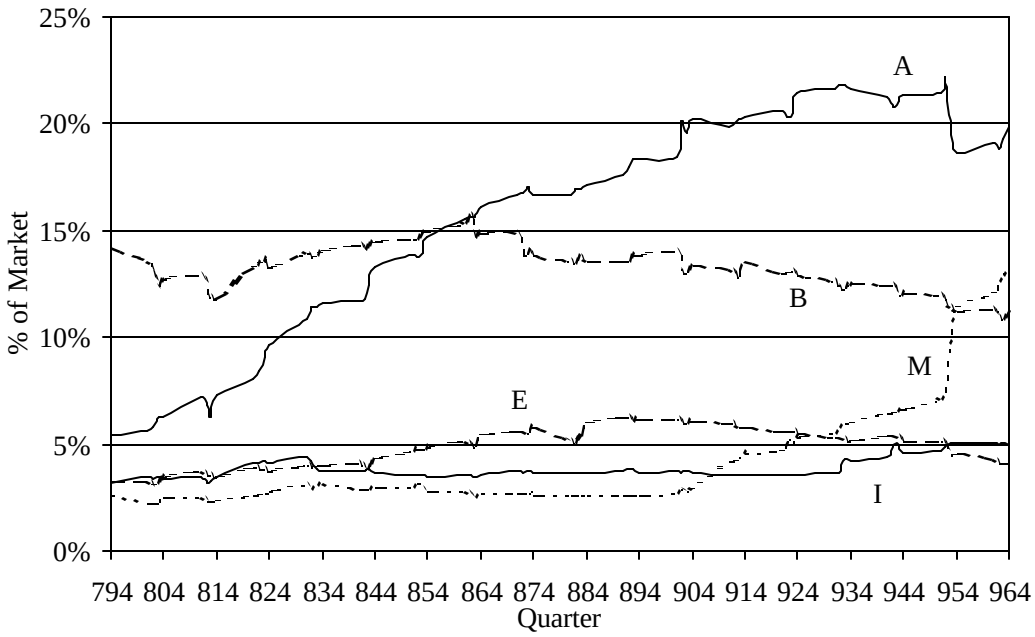


Figure 3: Institutional Investor Universe Profile

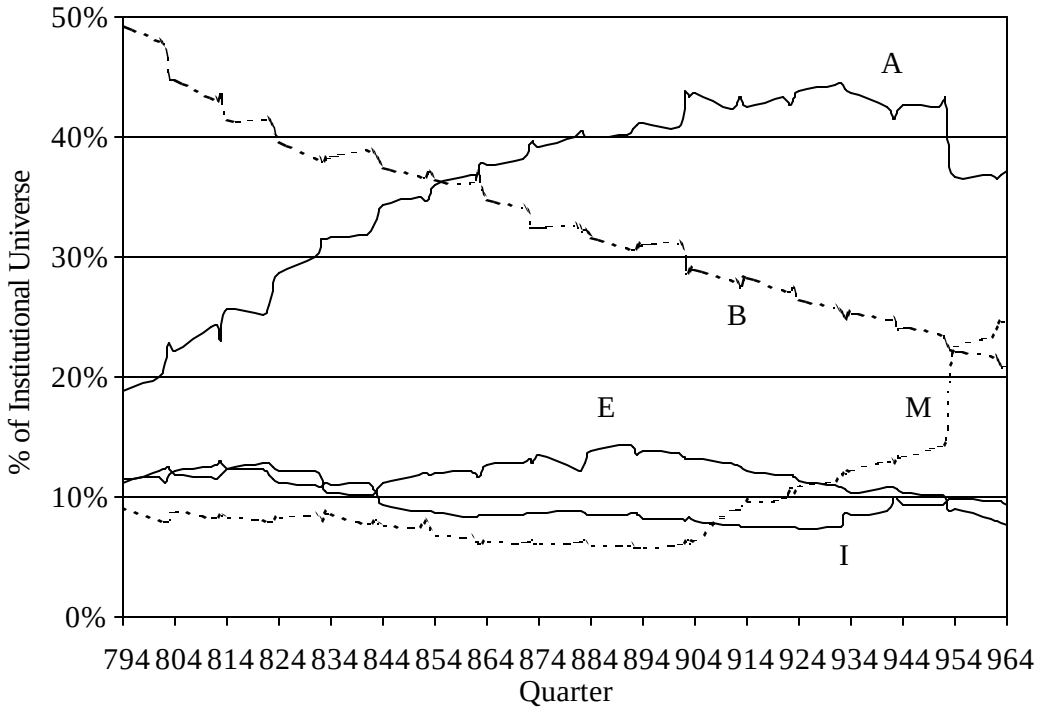


Figure 4: Institutional Ownership of Domestic Stocks: Aggregate

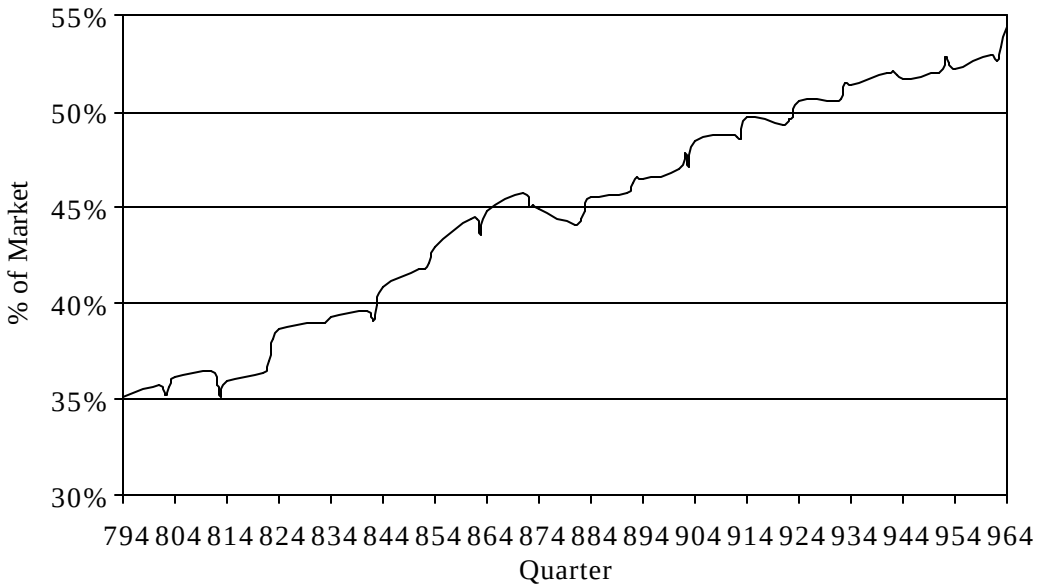


Figure 5: Institutional Ownership of Domestic Stocks: By Type

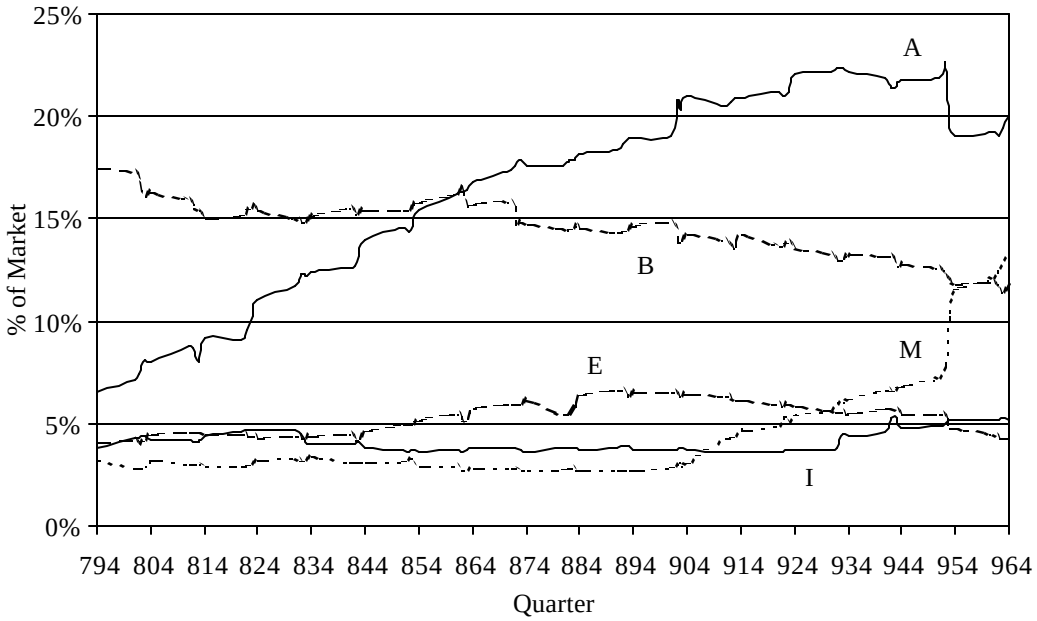


Figure 6: Institutional Ownership of Foreign Equity (ADRs) Registered to Trade in the U.S.: Aggregate

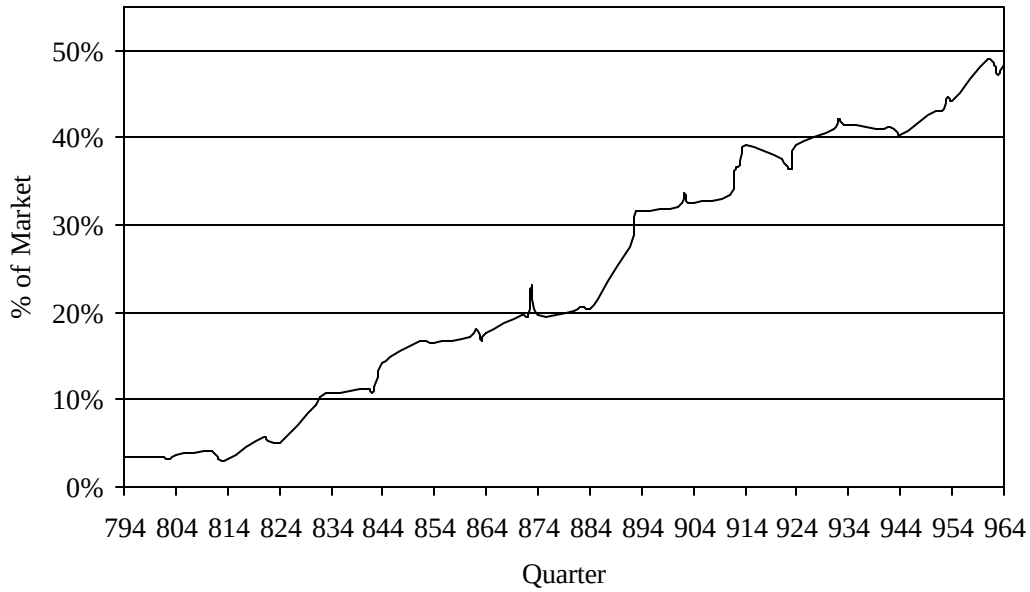
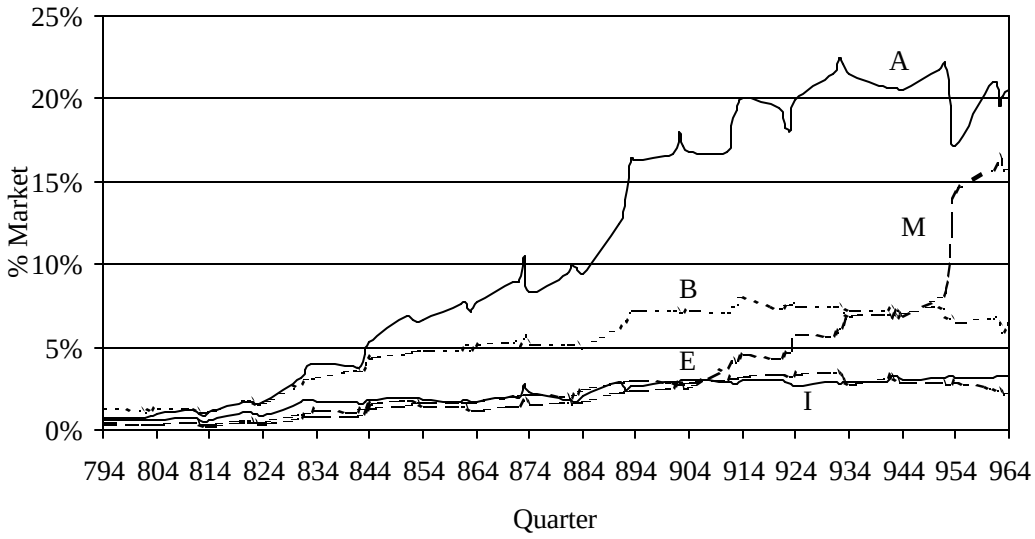
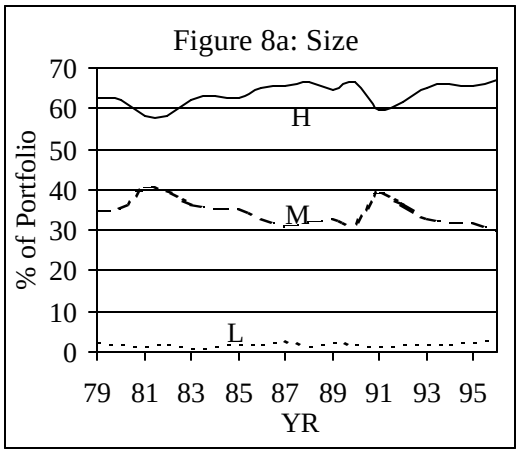
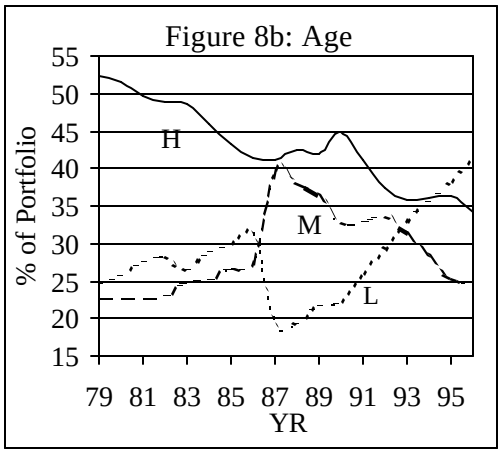


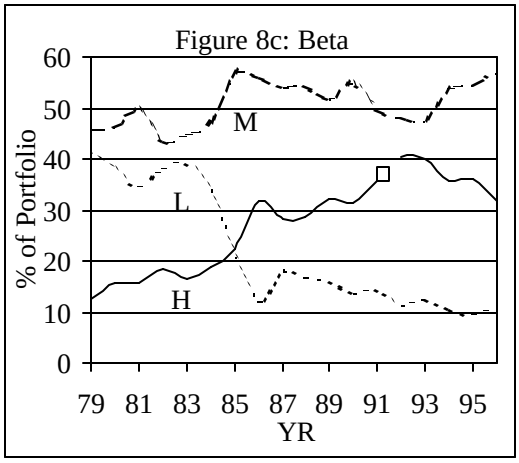
Figure 7: Institutional Ownership of Foreign Equity (ADRs) Registered to Trade in the U.S.: By Type

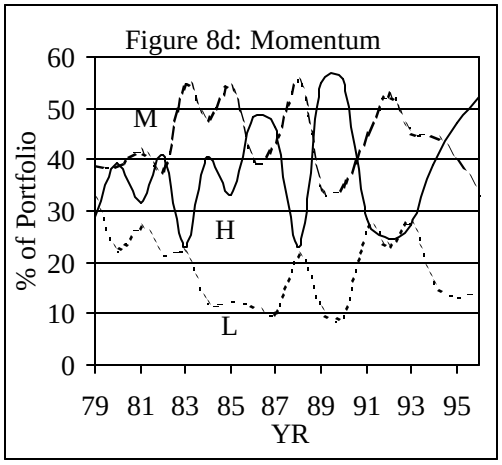


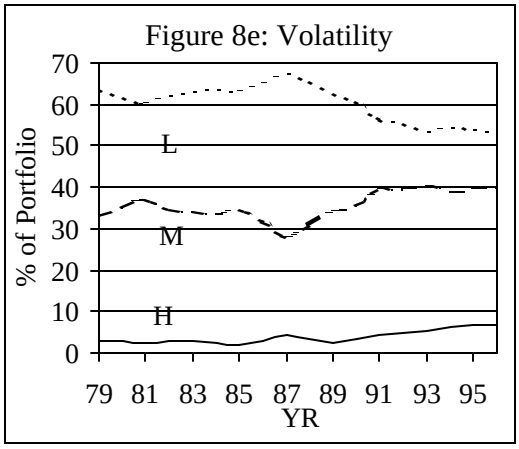
Figures 8a-8f: Institutional Portfolio Allocations: Market Characteristics

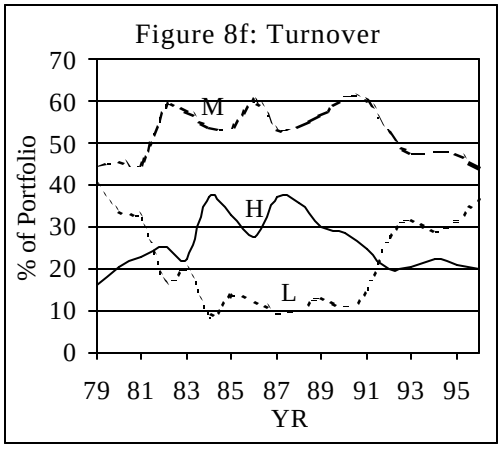




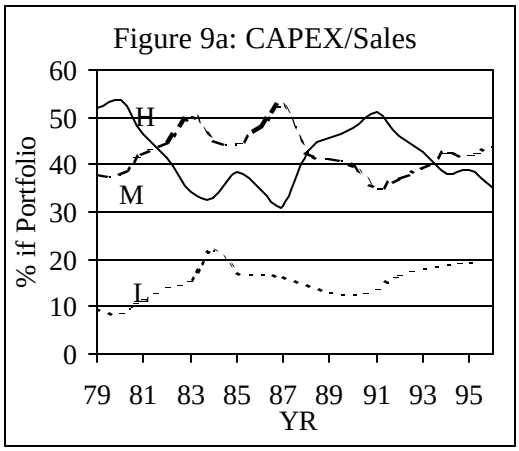


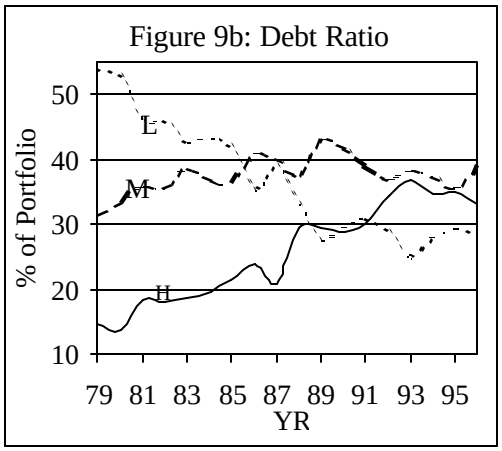


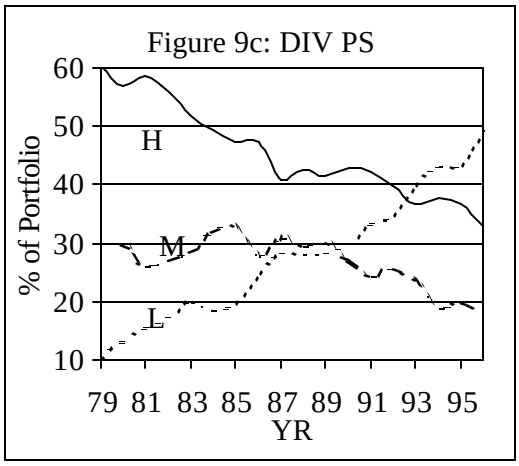


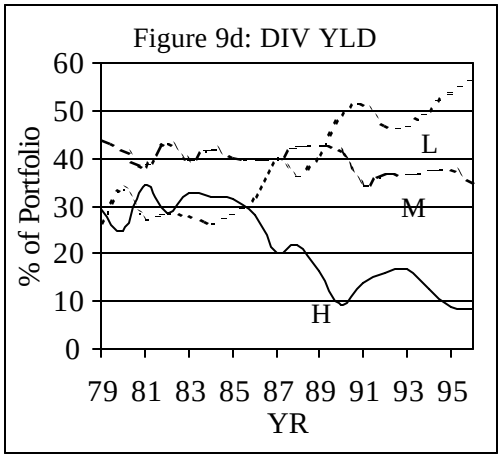


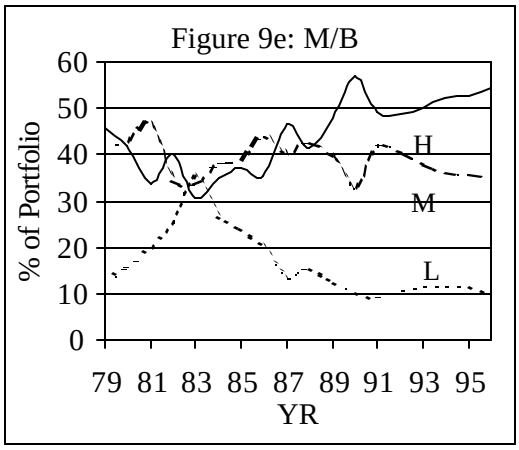
Figures 9a-9f: Institutional Portfolio Allocations: Financial Characteristics

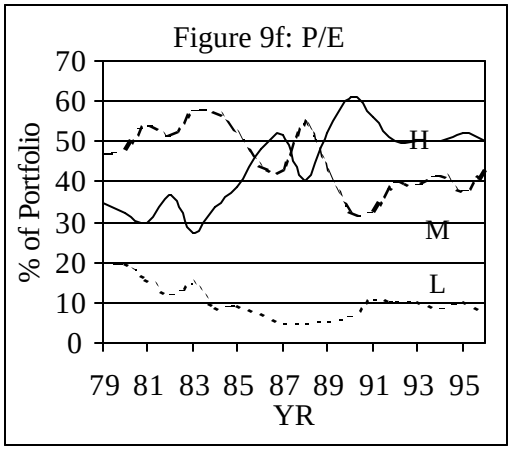




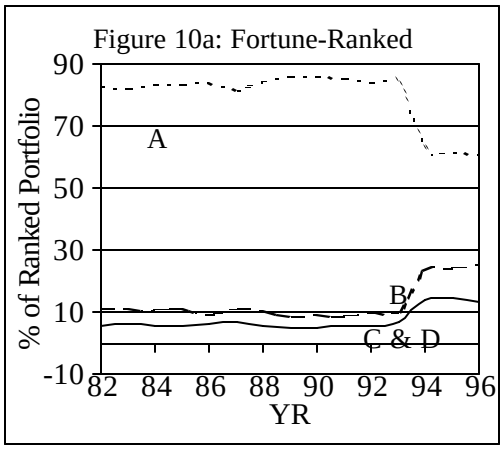


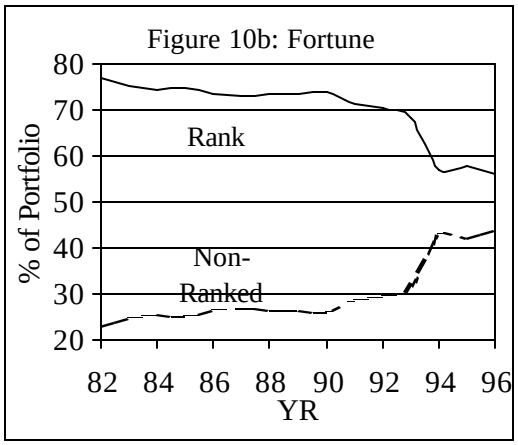


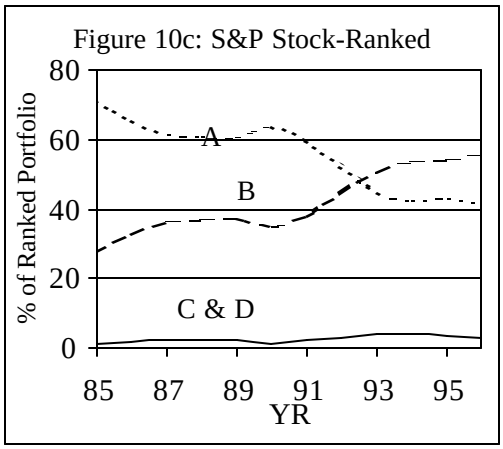


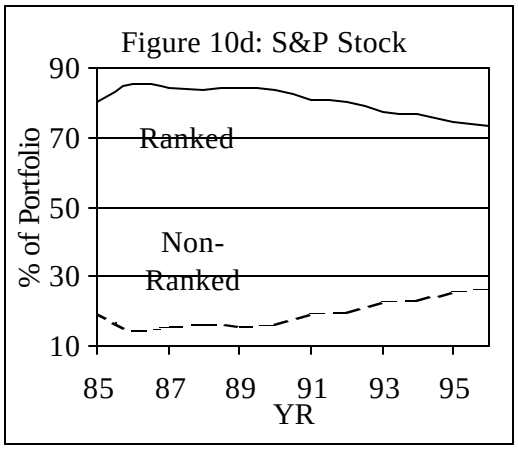


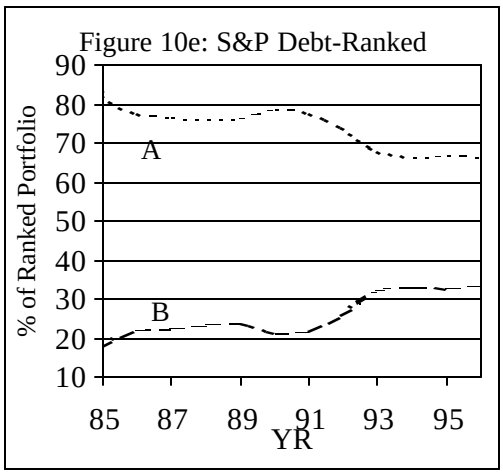
Figures 10a-10f: Institutional Portfolio Allocations: Ranking Characteristics











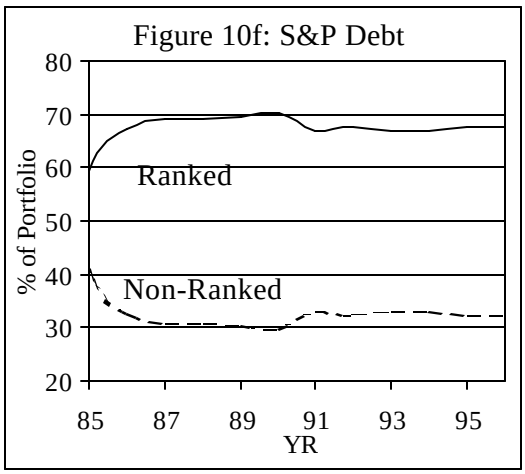


Figure 11: Institutional Portfolio Turnover

This figure depicts the institutional portfolio turnover measures for the five institutional investor groups comprising of bank trust departments (B), insurance companies (I), investment companies (M), independent investment advisors (A), and endowment & pension funds (E). The figure also shows the portfolio turnover measure for the aggregate institutional portfolio. Portfolio turnover measure is based on the Morningstar portfolio turnover statistic calculated as the ratio of the lesser of purchases or sales to average annual assets.

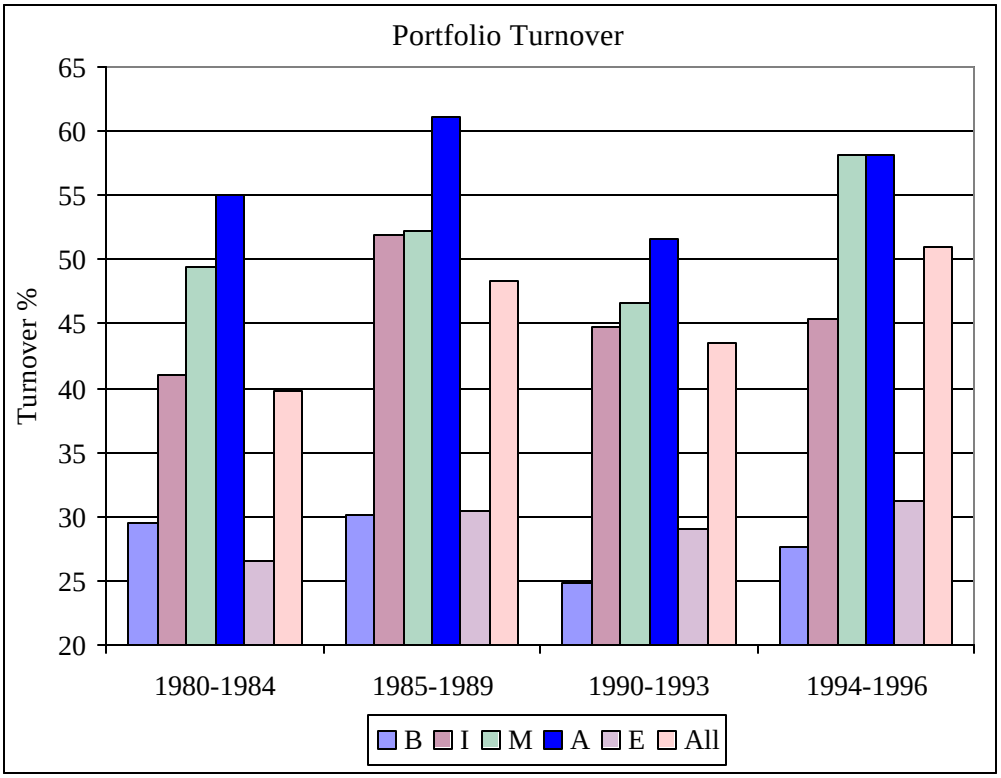


Figure 12: Institutional Portfolio Variance

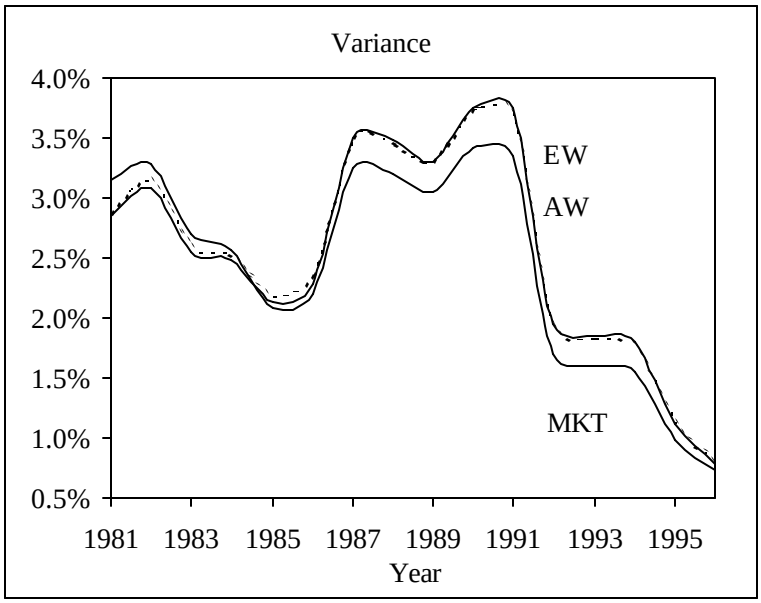


Figure 13: Institutional Portfolio Semi-Variance

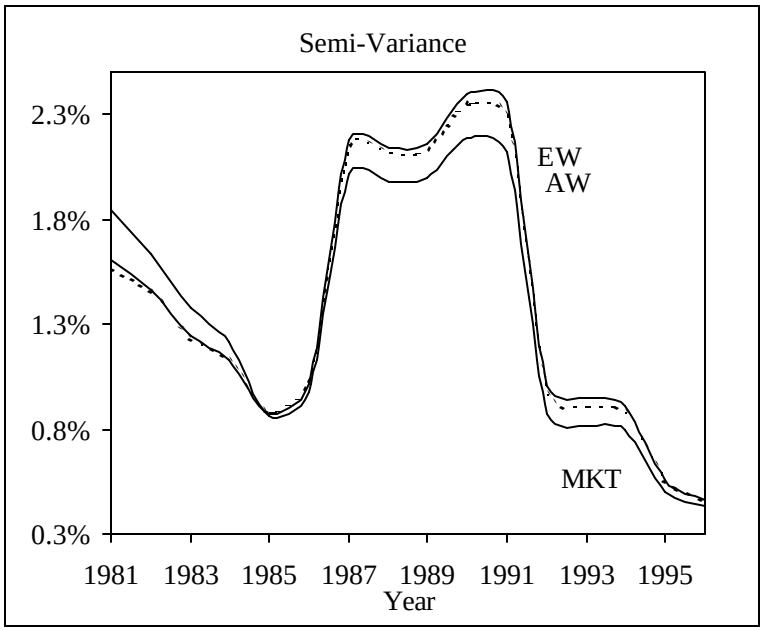


Figure 14: S&P Stock Ranking Equal-Weighted Portfolio Returns

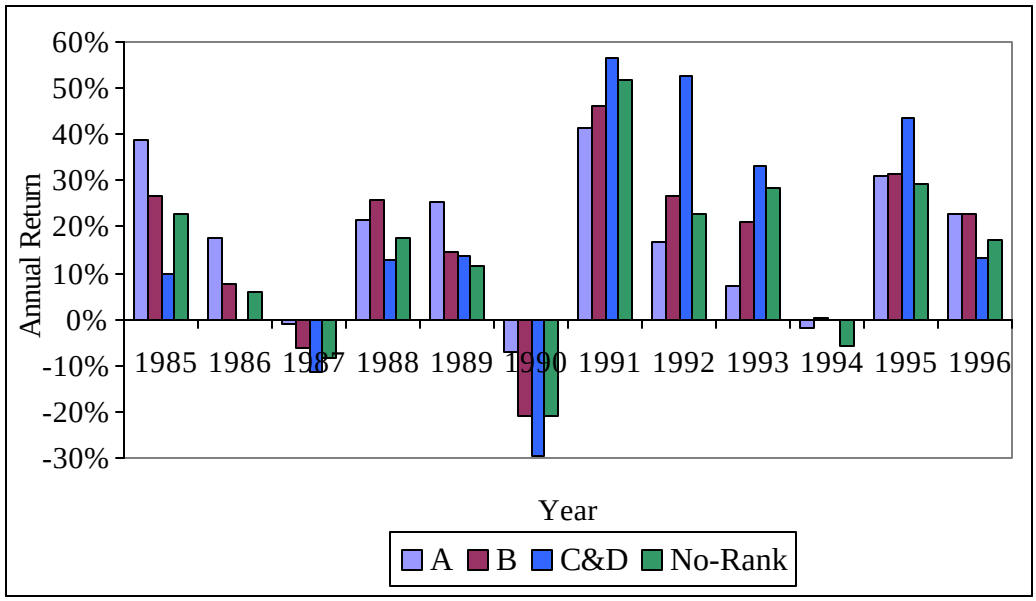


Figure 15: S&P Stock Ranking Asset-Weighted Portfolio Returns

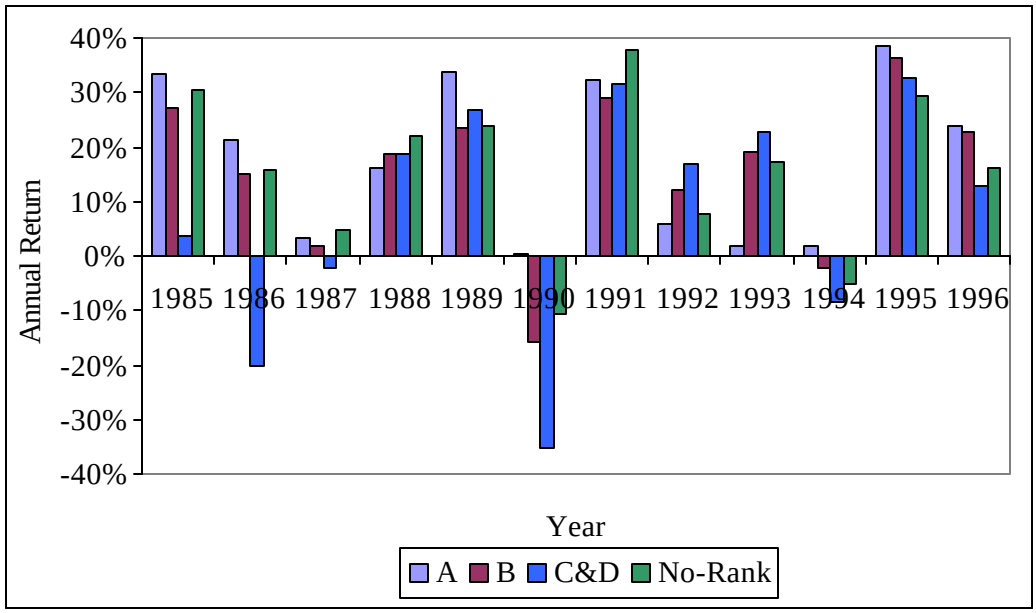


Figure 16: S&P Stock Ranking Equal-Weighted Portfolio Period Returns

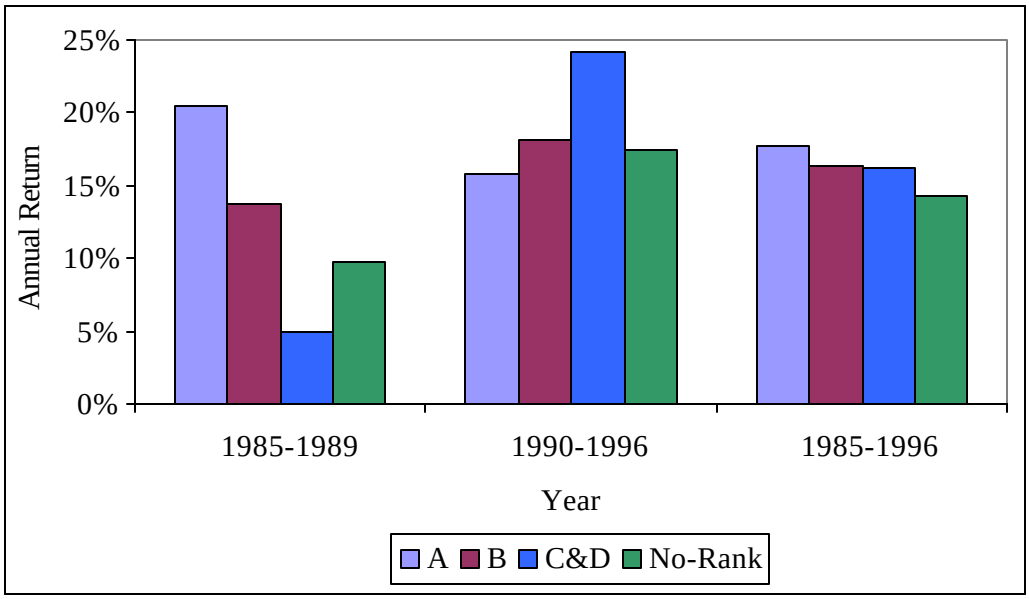


Figure 17: S&P Stock Ranking Asset-Weighted Portfolio Period Returns

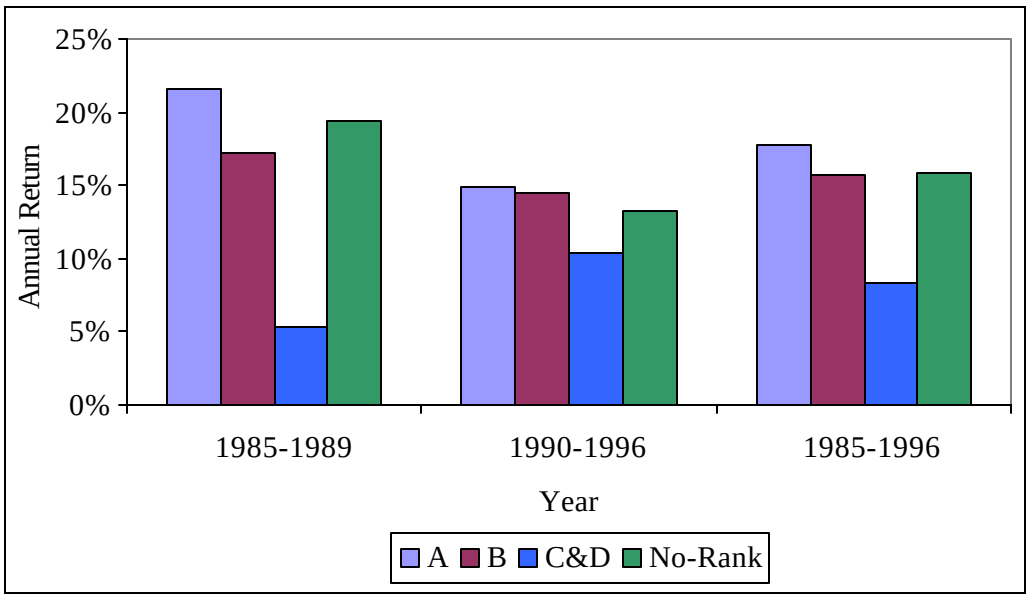


Figure 18: S&P Stock Ranking Equal-Weighted Portfolio Excess Returns

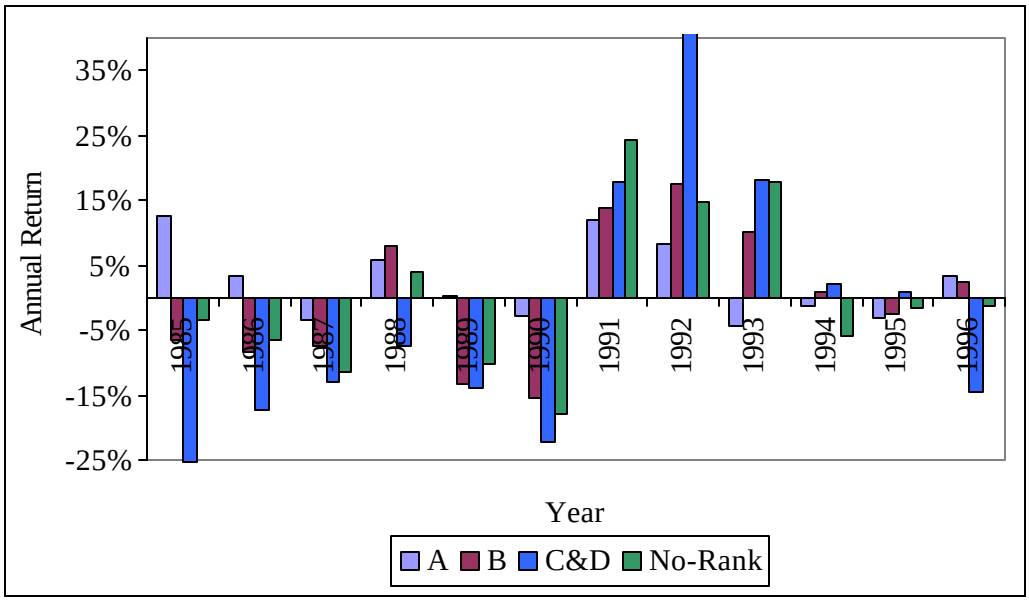


Figure 19: S&P Stock Ranking Asset-Weighted Portfolio Excess Returns

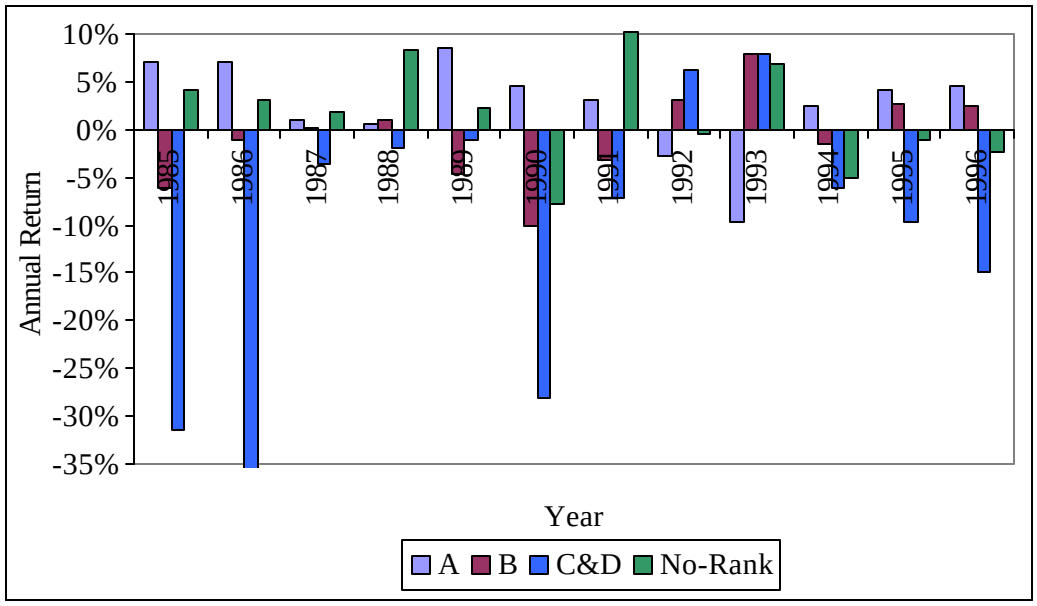


Figure 20: S&P Stock Ranking Equal-Weighted Portfolio Period ExcessReturns

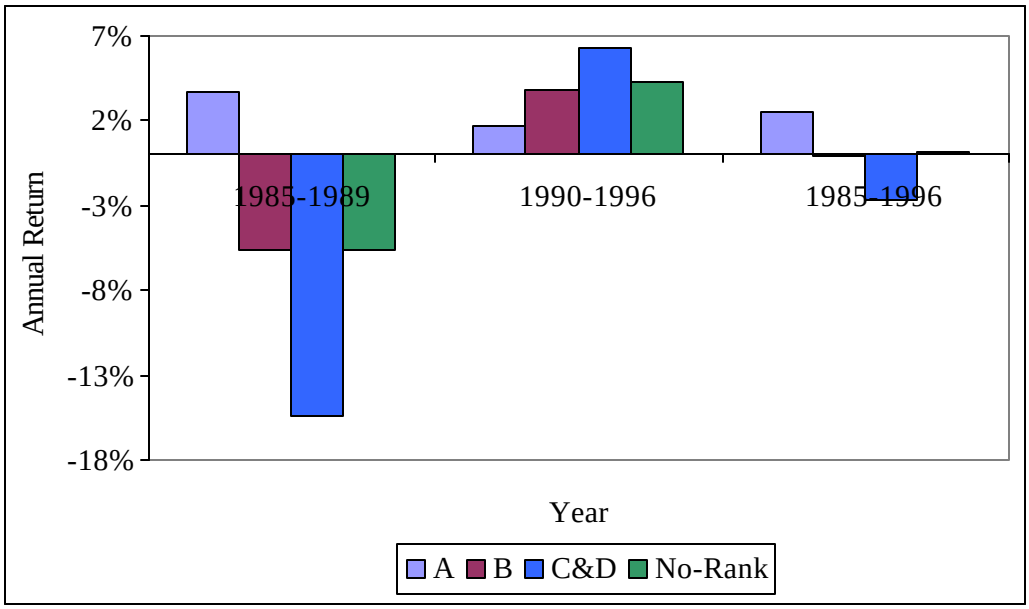


Figure 21: S&P Stock Ranking Asset-Weighted Portfolio Period Excess Returns

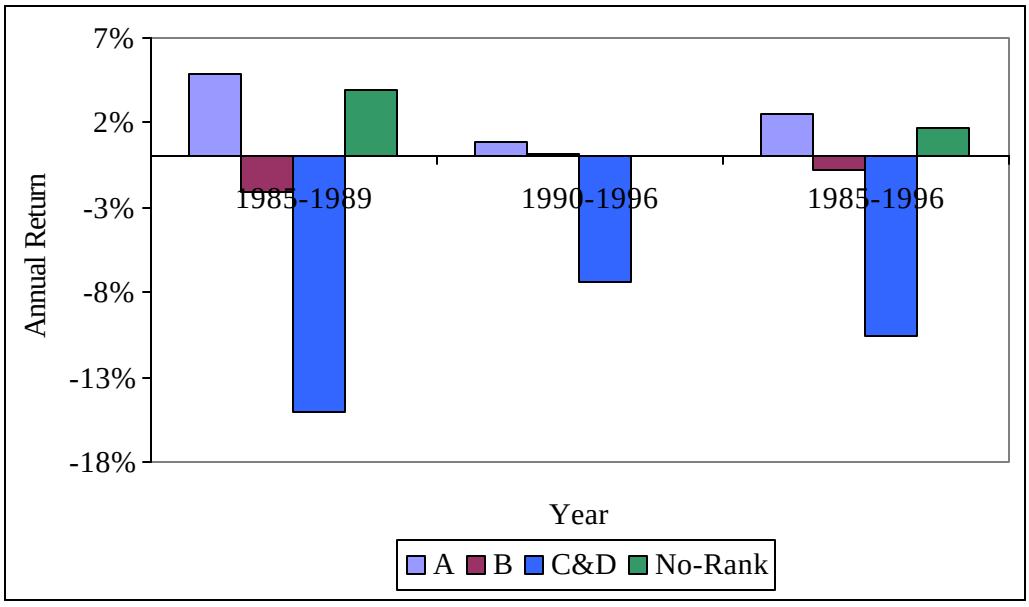


Figure 22: S&P Ranking Based Equal-Weighted Representative Portfolio Returns

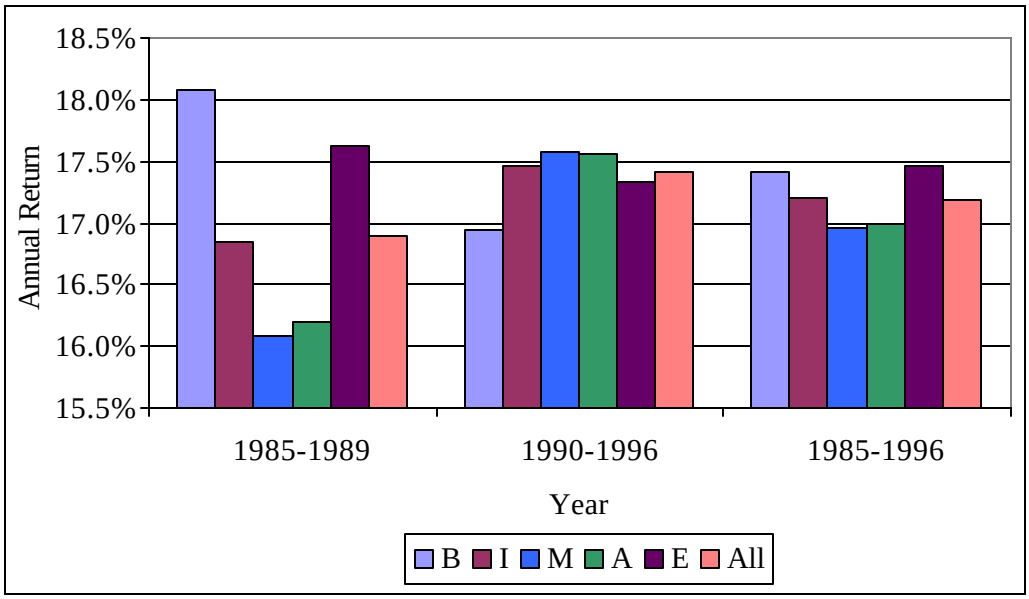


Figure 23: S&P Ranking Based Asset-Weighted Representative Portfolio Returns

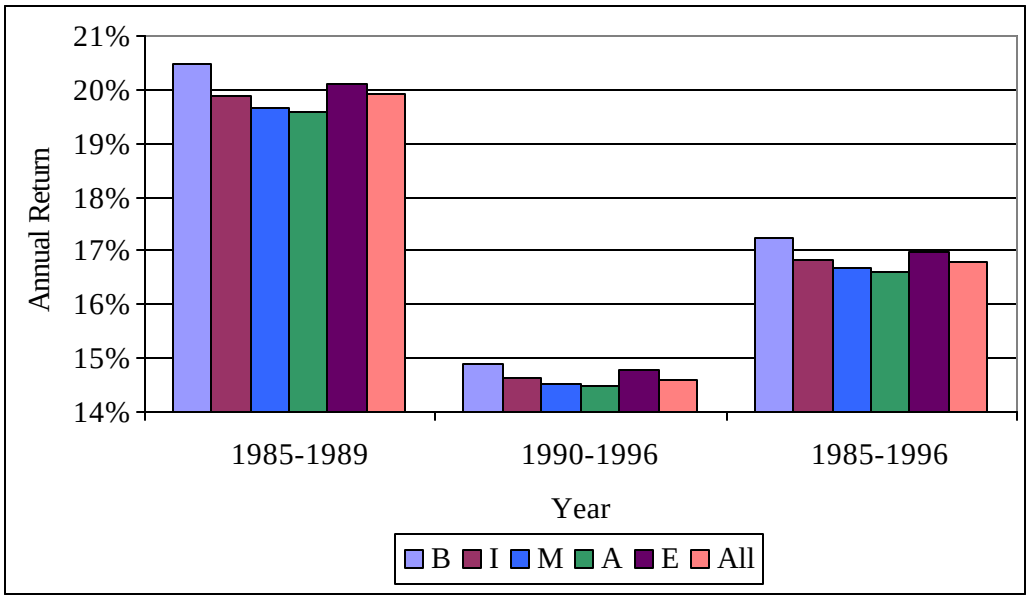


Figure 24: S&P Ranking Based Equal-Weighted Representative Portfolio Excess Returns

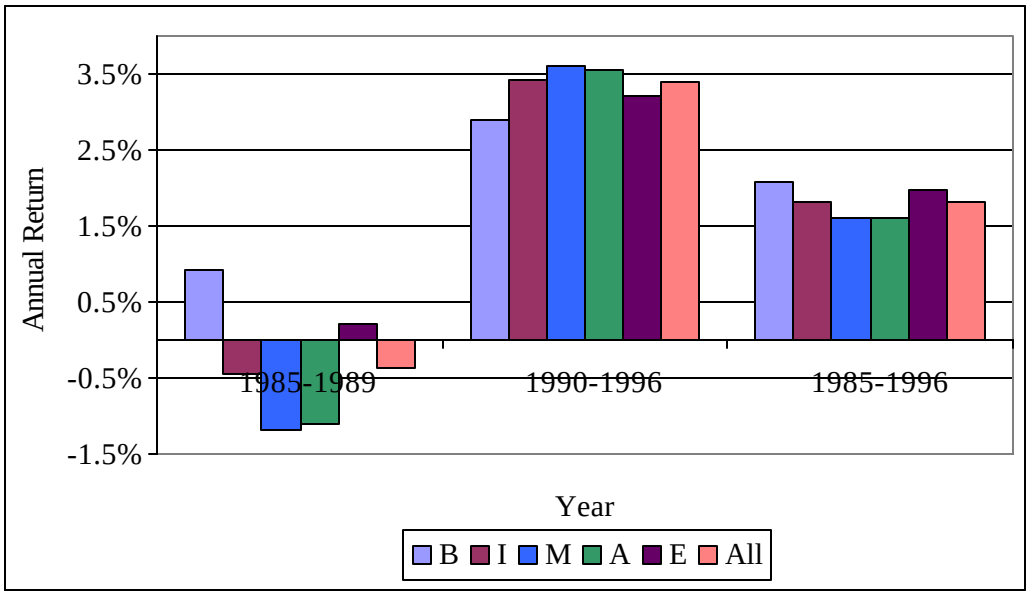
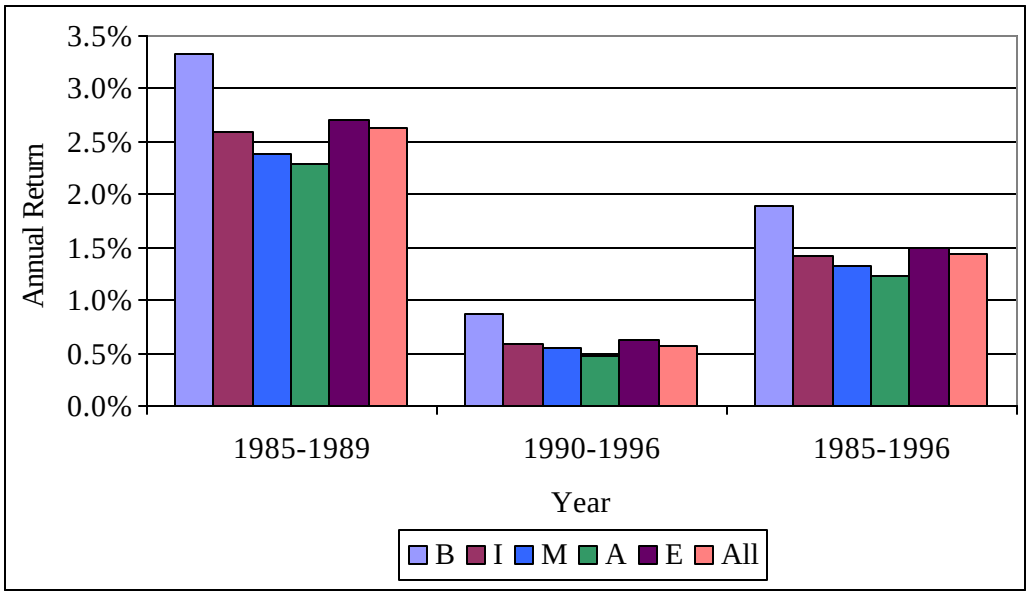
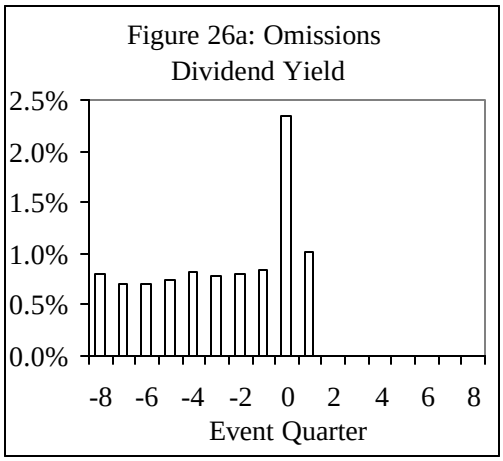
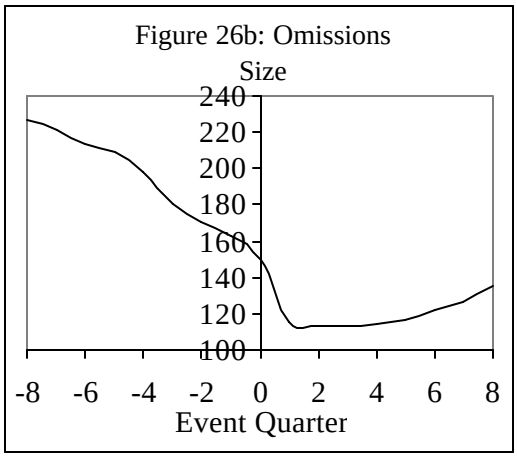


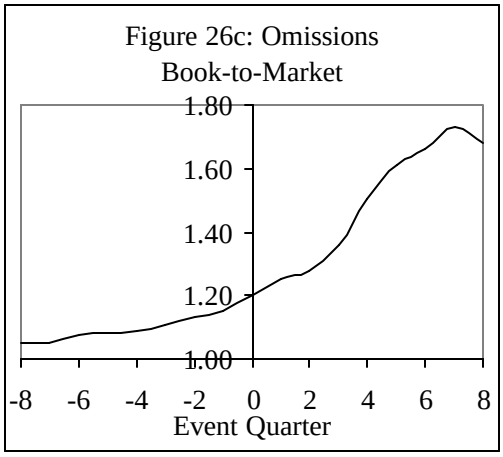
Figure 25: S&P Ranking Based Asset-Weighted Representative Portfolio Excess Returns

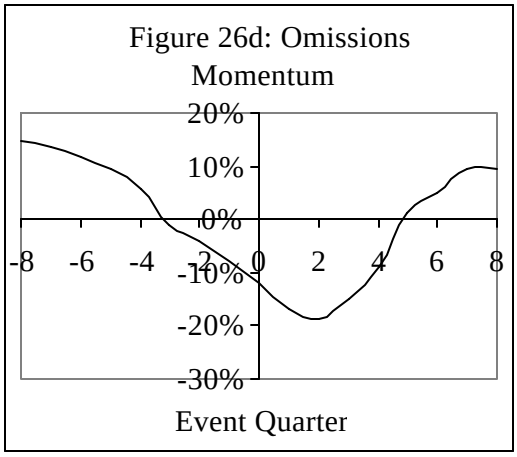


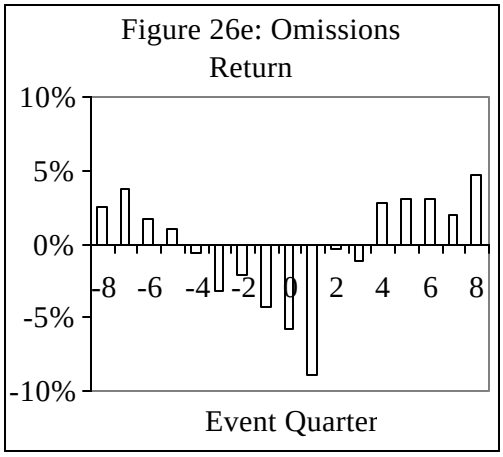
Figures 26a-26f: Changes in the Financial Profile of Dividend-Omitting Firms

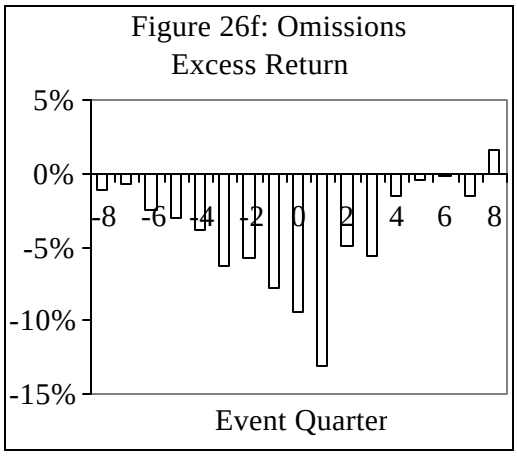




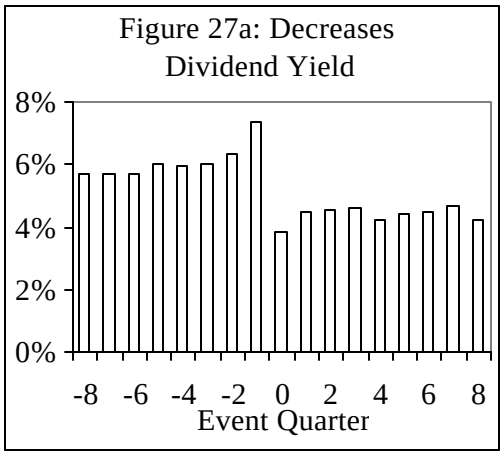


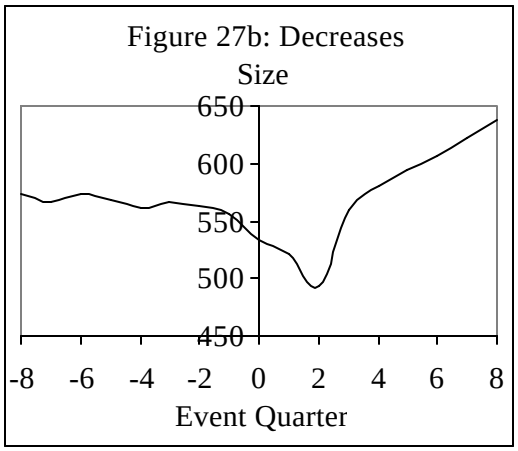


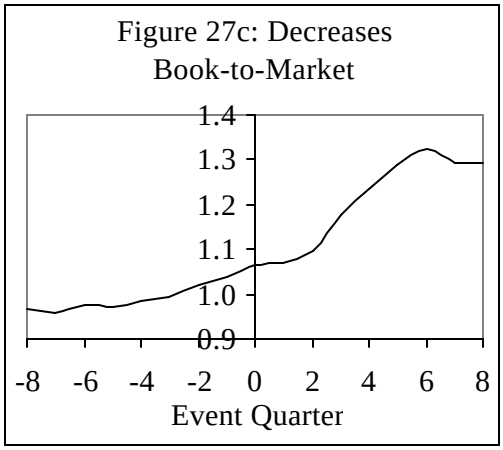


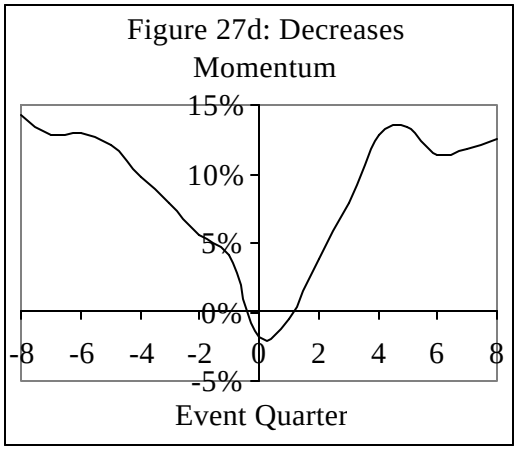


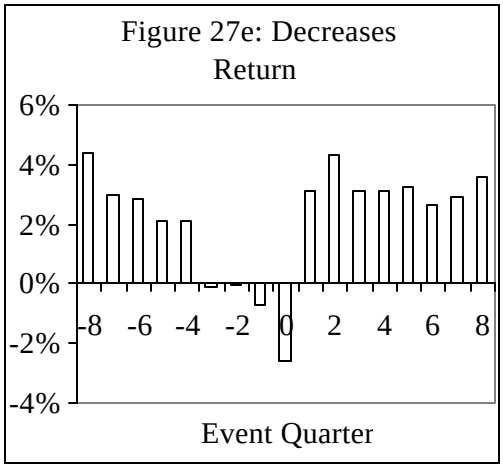
Figures 27a-27f: Changes in the Financial Profile of Dividend-Decreasing Firms

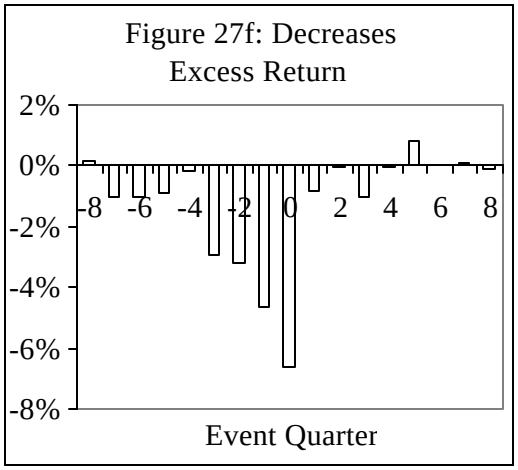




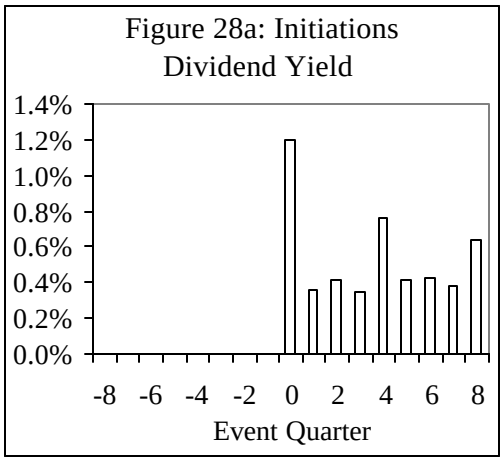


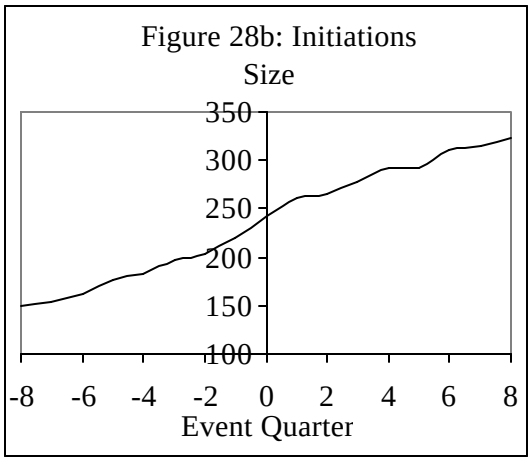


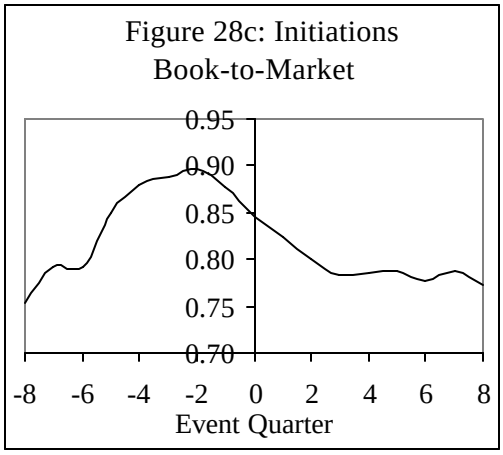


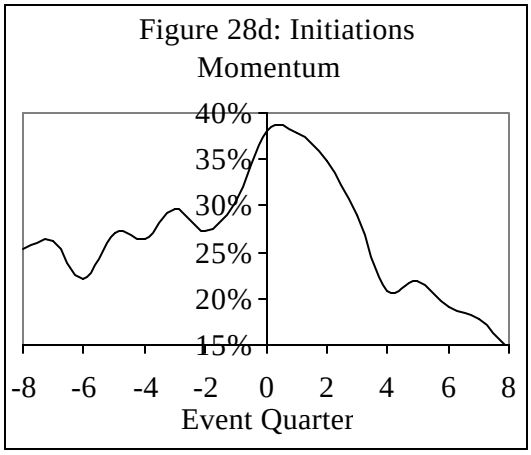


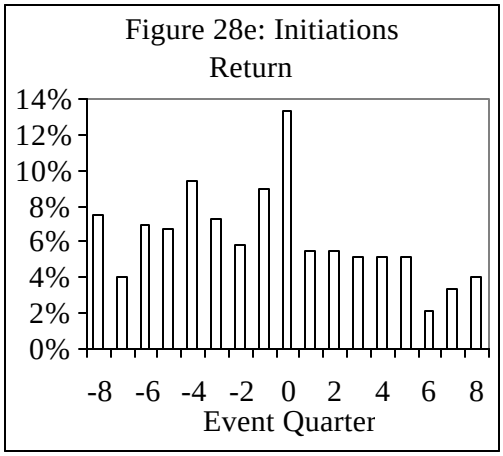
Figures 28a-28f: Changes in the Financial Profile of Dividend-Initiating Firms

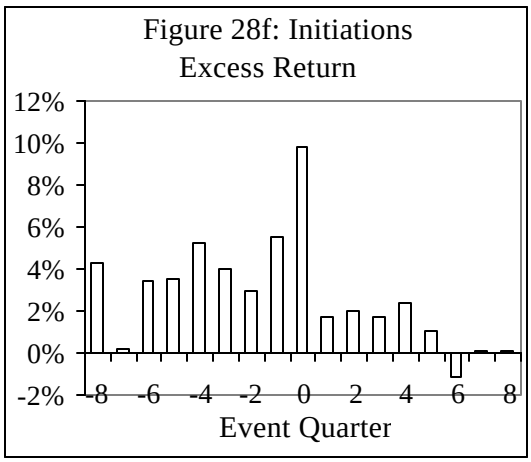




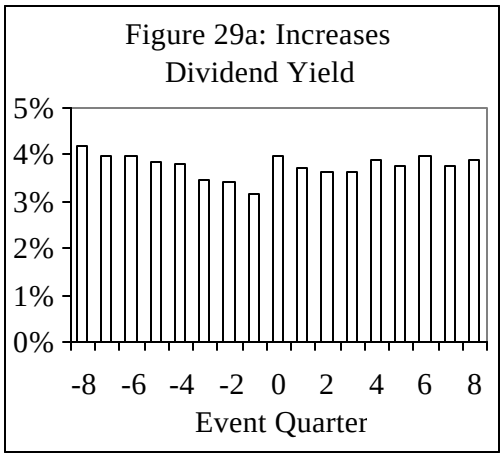


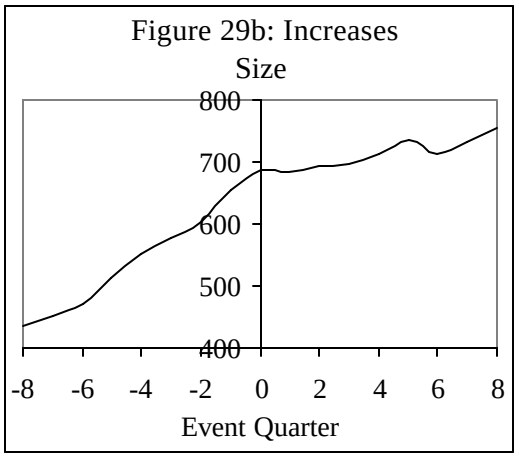


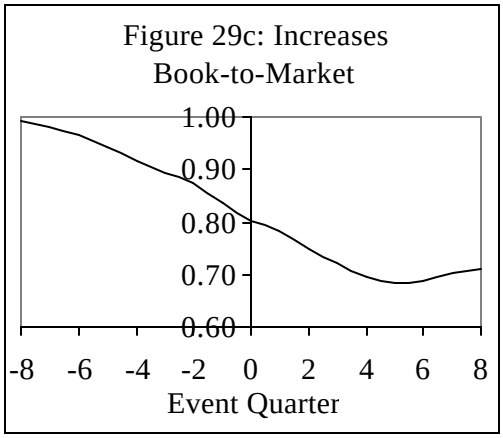


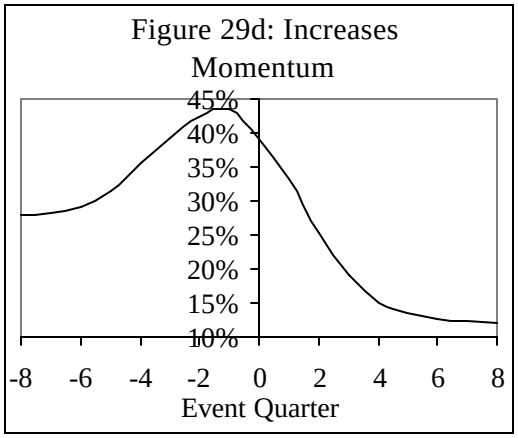


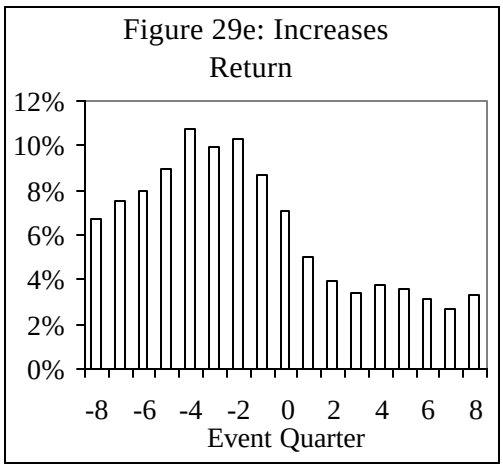
Figures 29a-29f: Changes in the Financial Profile of Dividend-Increasing Firms

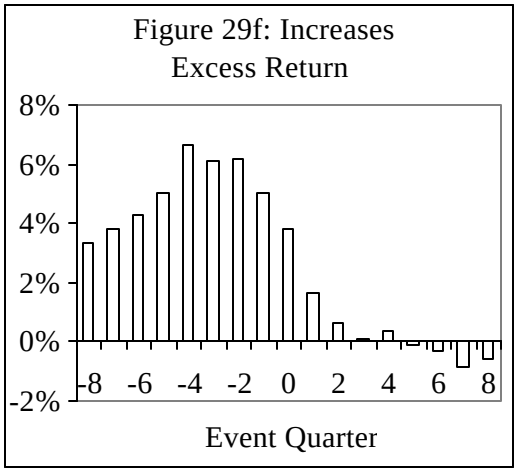




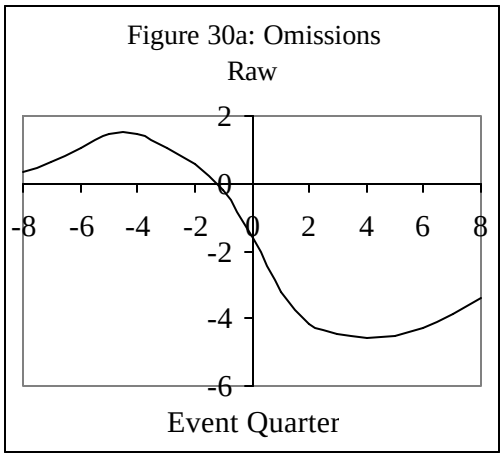


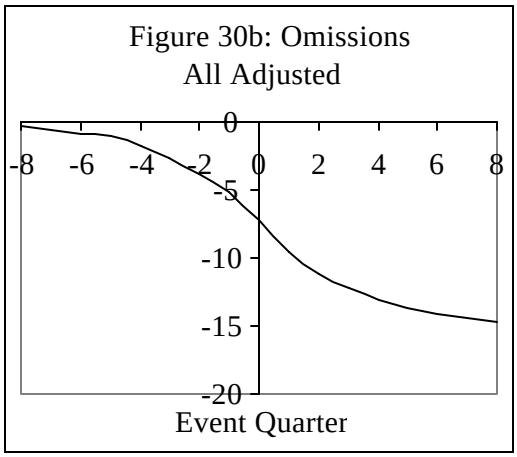


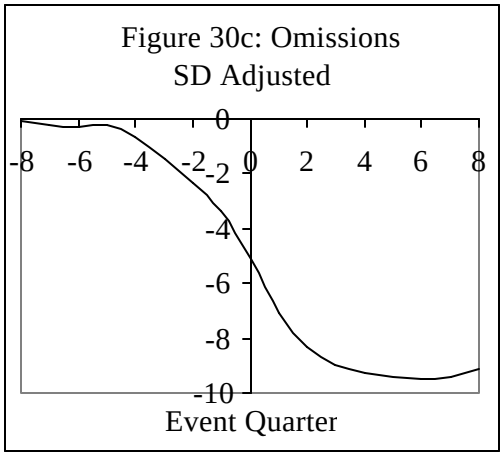


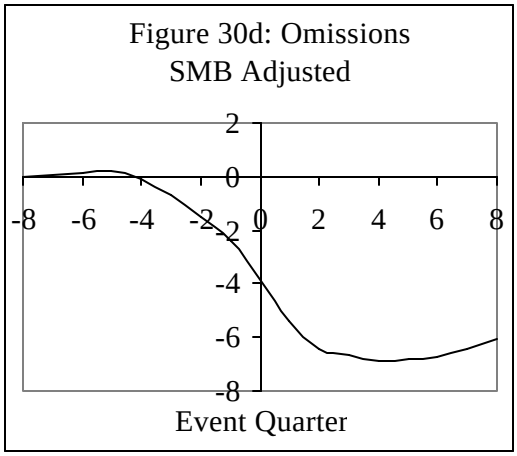


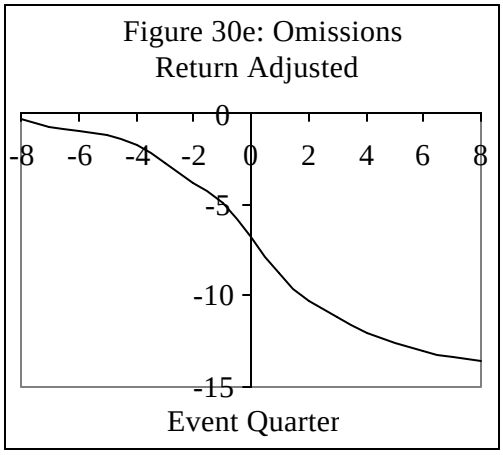
Figures 30a-30f: Cumulative Institutional Base Changes: Dividend Omissions

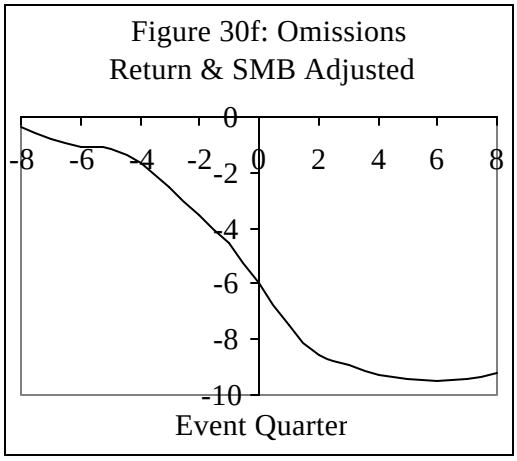




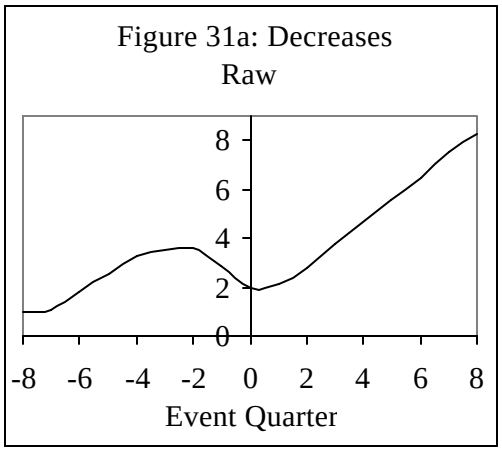


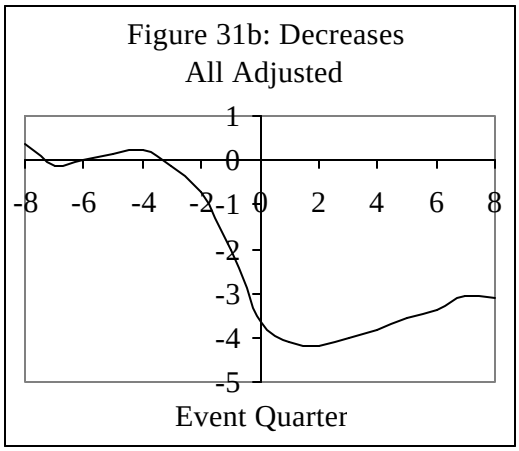


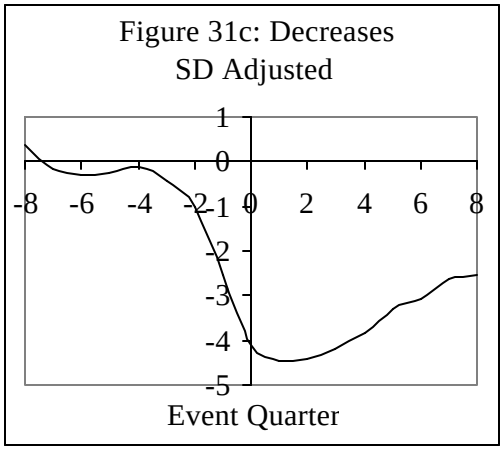


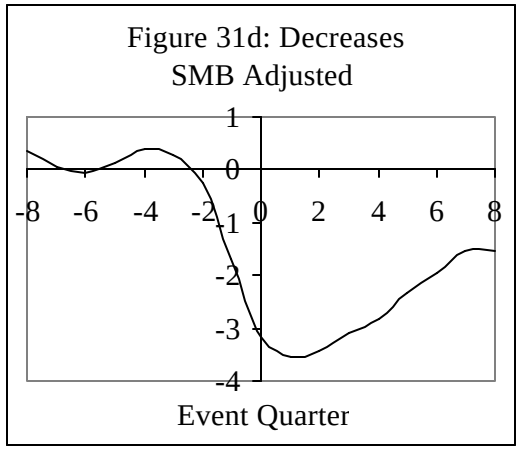


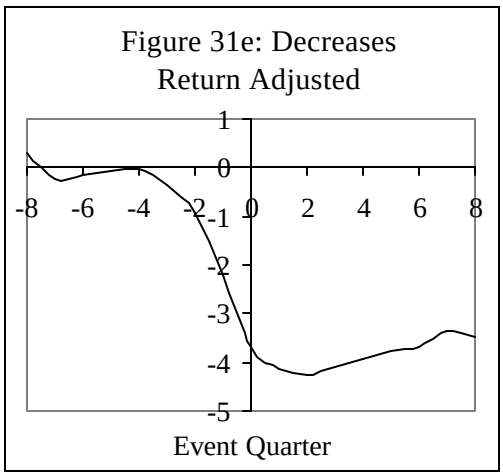
Figures 31a-31f: Cumulative Institutional Base Changes: Dividend Decreases

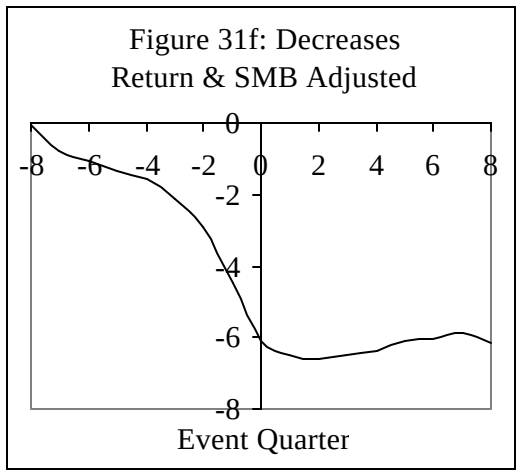




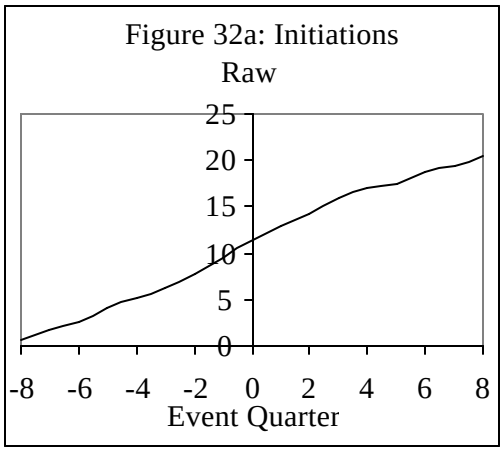


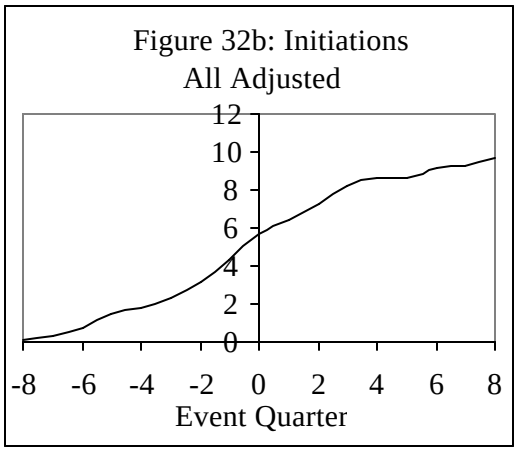


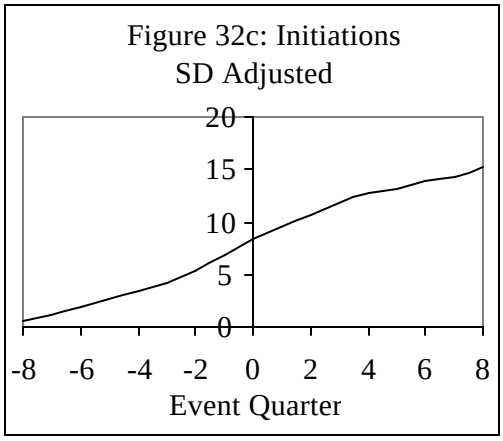


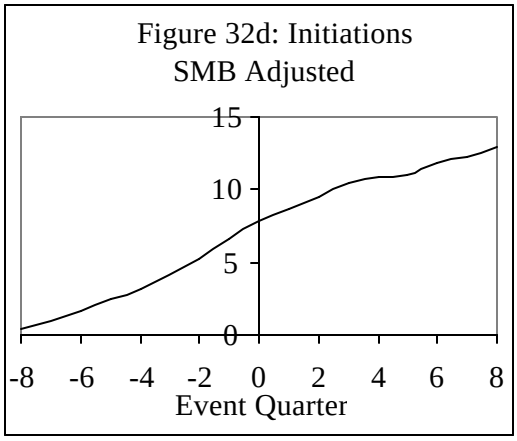


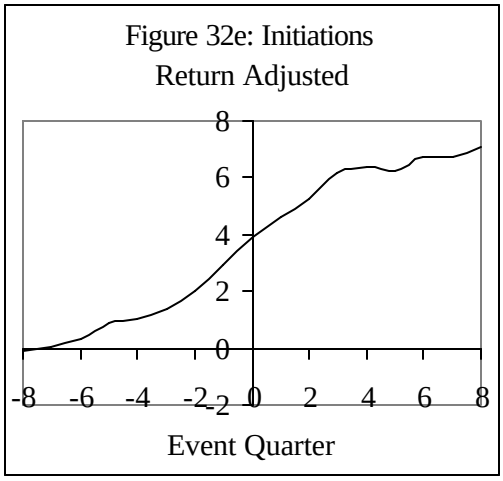
Figures 32a-32f: Cumulative Institutional Base Changes: Dividend Initiations

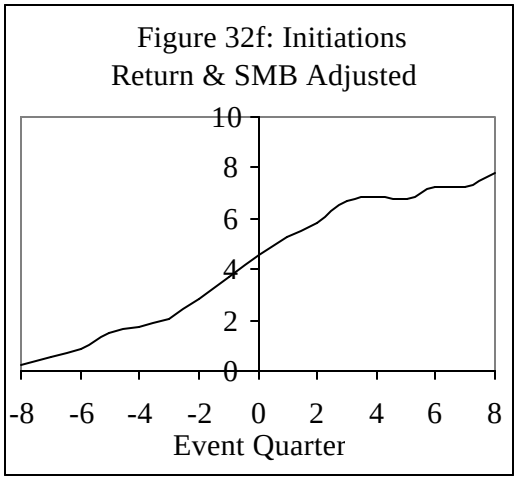




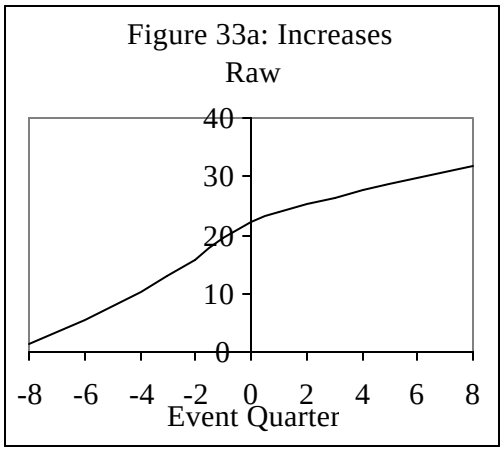


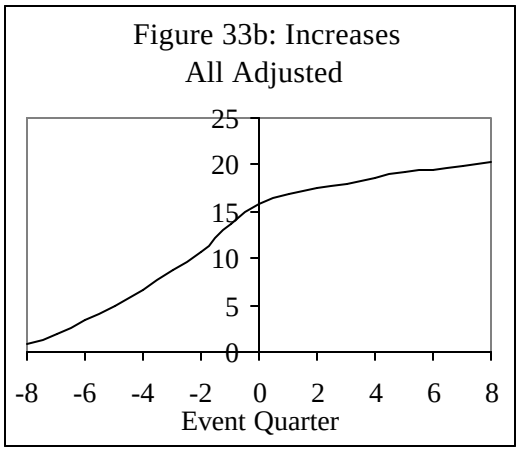


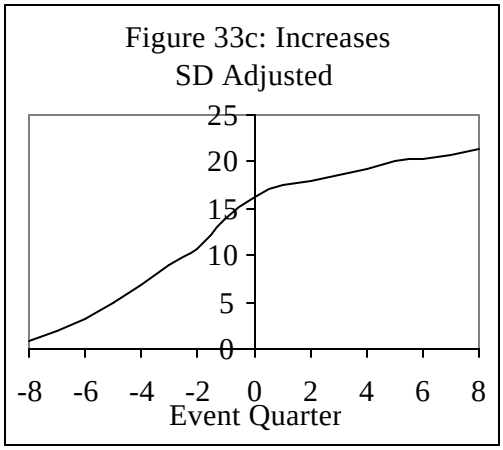


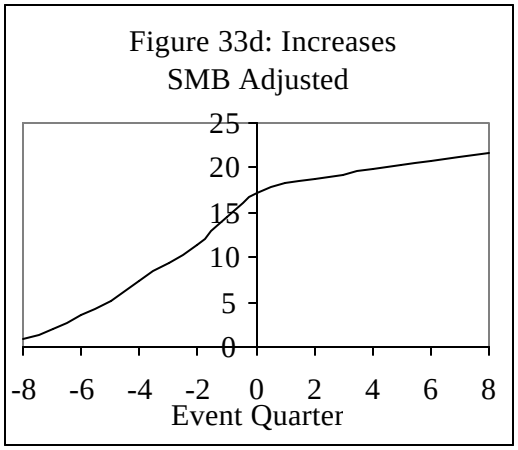


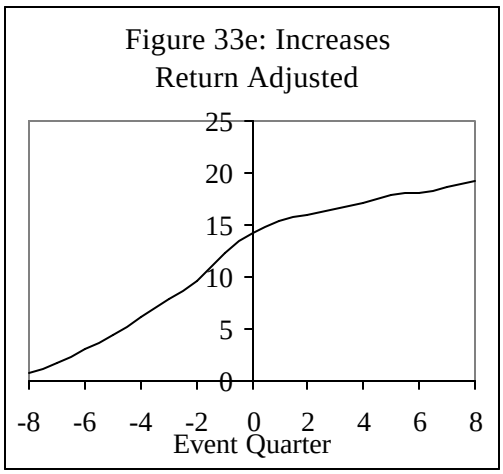
Figures 33a-33f: Cumulative Institutional Base Changes: Dividend Increases

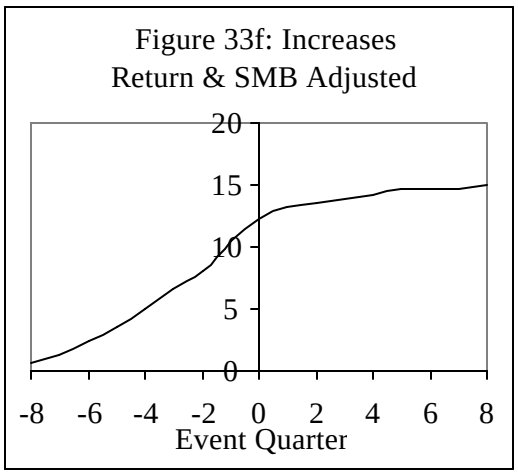




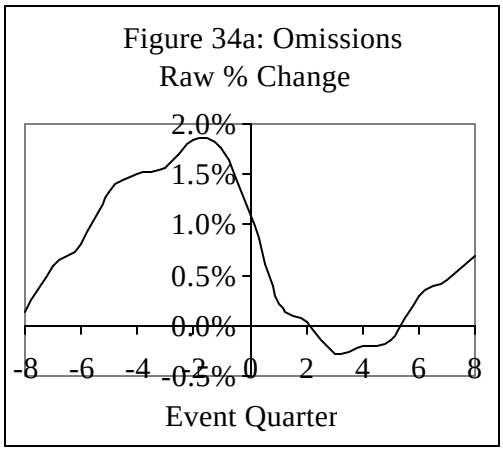


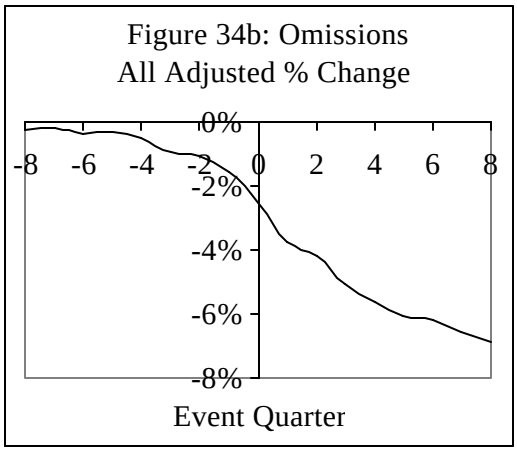


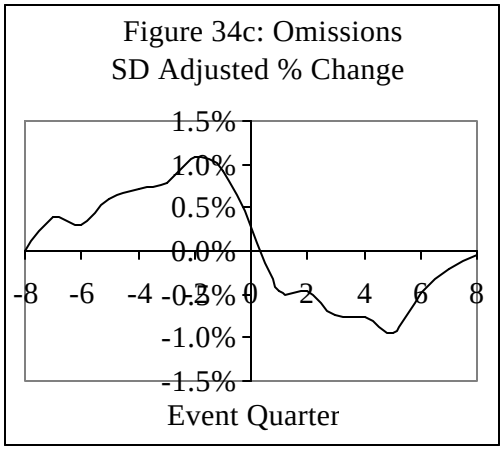


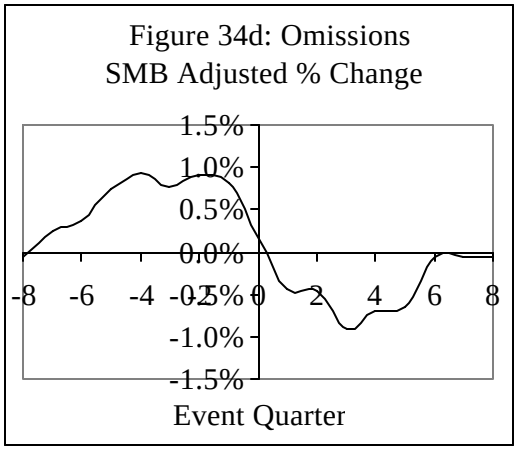


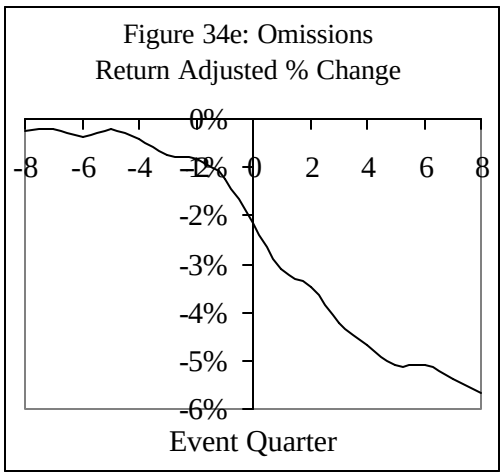
Figures 34a-34f: Cumulative Ownership Changes: Dividend Omissions

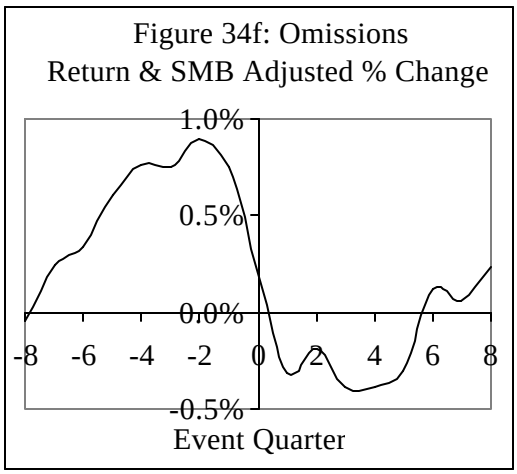




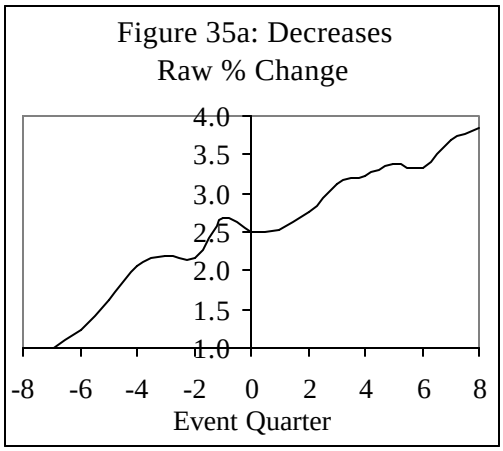


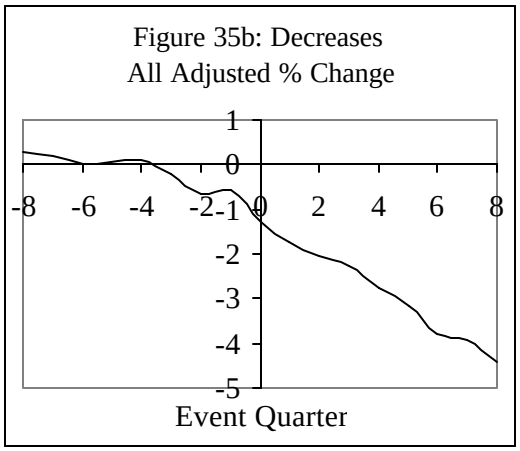


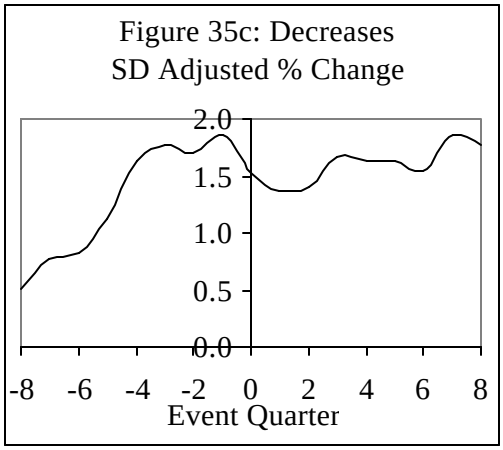


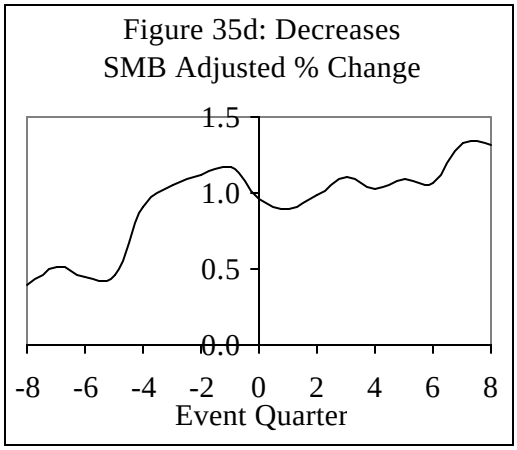


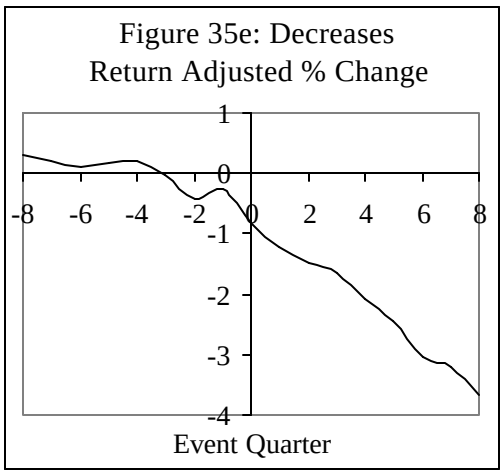
Figures 35a-35f: Cumulative Ownership Changes: Dividend Decreases

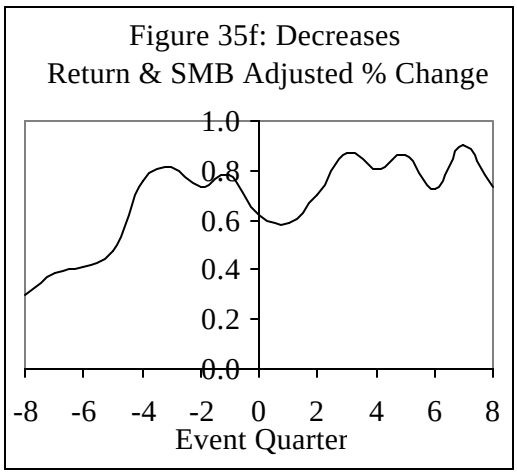




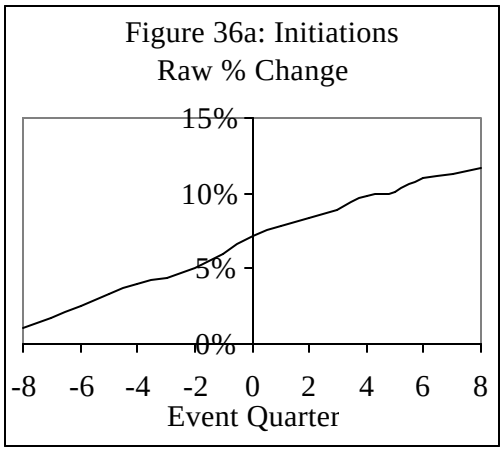


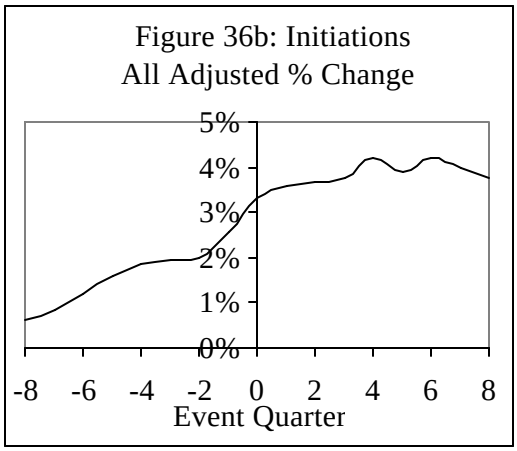


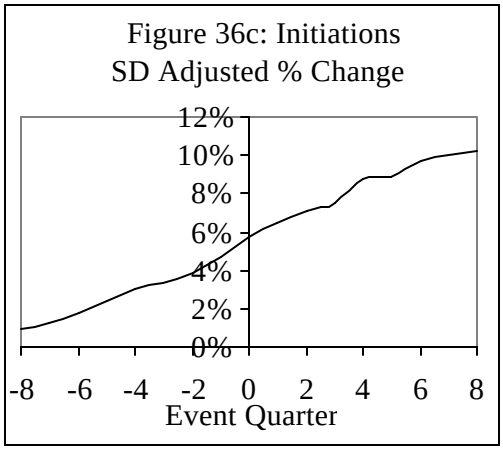


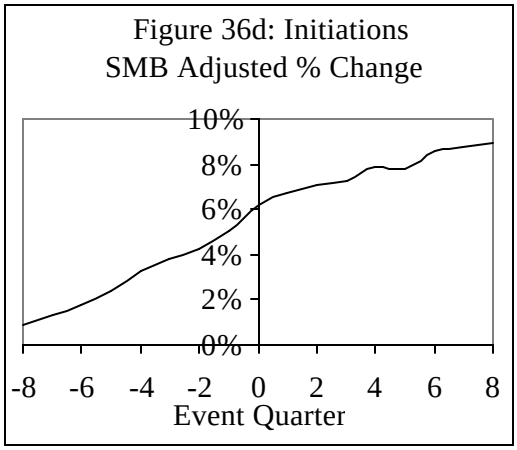


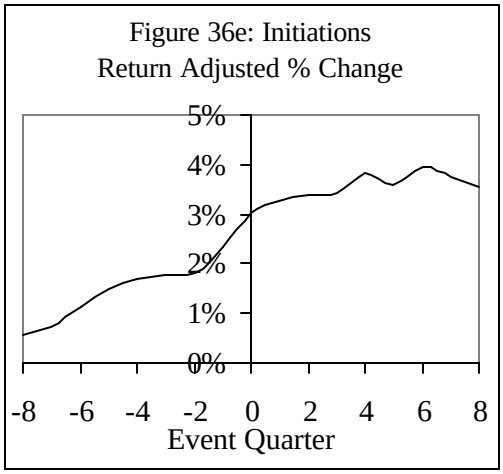
Figures 36a-36f: Cumulative Ownership Changes: Dividend Initiations

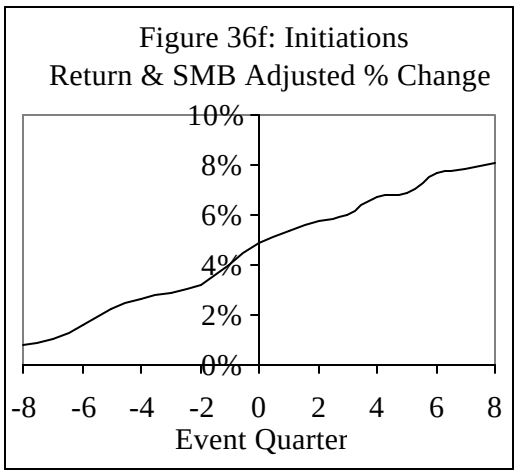




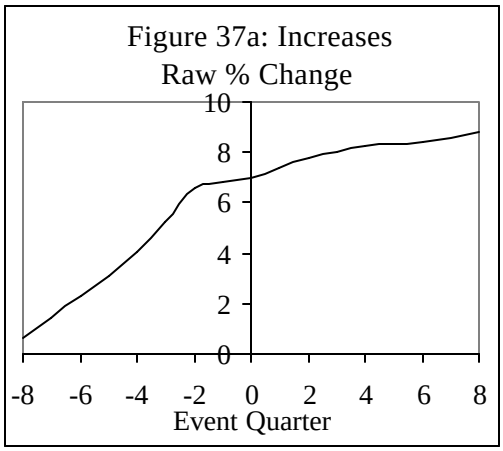


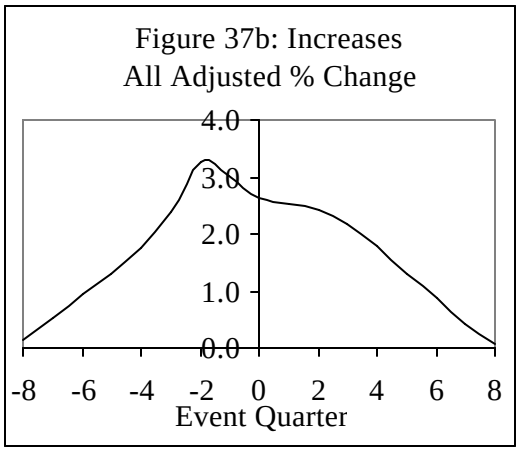


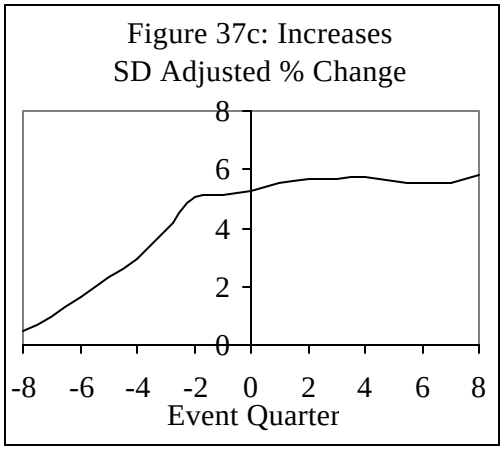


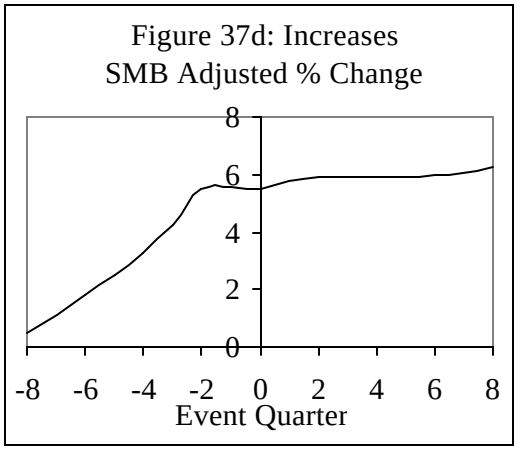


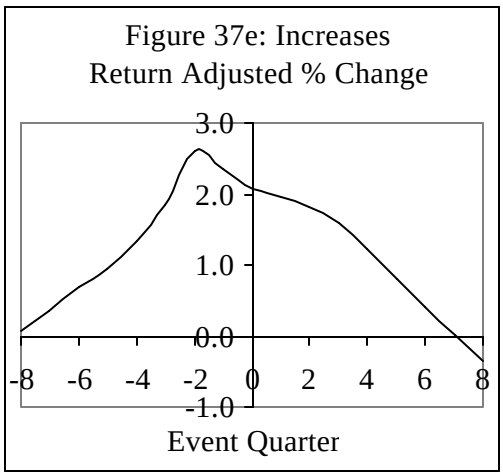
Figures 37a-37f: Cumulative Ownership Changes: Dividend Increases

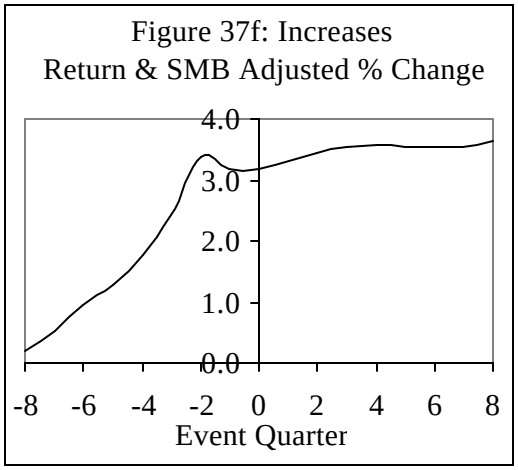












Appendix A: Construction of the Characteristic Based Benchmark Portfolios

This appendix explains the formation of the 125 characteristic-based benchmark portfolios.

Benchmark portfolios are formed annually, at the end of every June and maintained for one year, from the beginning of July to the end of next June. At the end of every June, we calculate three characteristics for all the stocks in the intersection of the monthly CRSP NYSE, AMEX, NASDAQ database and the annual Compustat database. These characteristics are size, book-to-market ratio and momentum. Size is measured as the market capitalization at the end of June. The book-to-market ratio is calculated as the ratio of the book value at the end of the previous December and the market value used in this ratio is also obtained from the same time period. Following Fama and French (1993), book value is calculated as the Compustat value of stockholder's equity, plus balance sheet deferred taxes and investment tax credits (if available), minus the book value of preferred stock. Redemption, liquidation or par value is used as the value of the preferred stock (in that order, depending on availability). Momentum is calculated as the past 11-month buy-and-hold return with a one month lag, i.e. from the previous July to the end of May. This helps us to avoid the monthly return reversals indicated in Jegadeesh (1990). Only U.S. incorporated firms (CRSP share code 10 or 11) are included in the benchmark portfolios. Foreign incorporated firms trading as ADRs, REITs, and closed-end funds are all

excluded. In addition, firms with negative book-to-market values are also excluded from the benchmark portfolio formation.

In the first stage of the benchmark portfolio formation process, all the NYSE stocks are sorted by size to determine size quintile cutoffs. The stocks are then allocated into these quintile portfolios based on the cutoffs determined using NYSE stocks only. This ensures an equal number of NYSE stocks in all the size quintile portfolios and a balanced size distribution among the five size portfolios. In the second stage, each size portfolio is sorted into five additional quintile portfolios based on its book-to-market values, yielding us 25 size, book-to-market portfolios. In the final stage, each size, book-to-market portfolio is sorted into five additional quintile portfolios based on its momentum. The sorting procedure yields 125 size, book-to-market, and momentum sorted characteristic based benchmarks. Using these portfolios monthly value-weighted buy-and-hold returns for each portfolios are calculated. The weights are rebalanced monthly.

Appendix B: Morningstar Star Ratings Methodology

This appendix discusses the methodology used to produce Morningstar type ratings for all types of institutional investors. The methodology is based on the algorithm explained in Blume (1998).

Morningstar stars are developed from relative rankings based on risk-adjusted historical returns and reflect the overall evaluation of an institutional investor's one, three, five, and ten-year performance. The analysis discussed below is for a three-year return horizon. This analysis is carried out for the four different return horizons before arriving at the overall Morningstar star figure. The institutional investor is required to have at least a three-year history before being eligible to receive a Morningstar Star Rating.

In the first step, the Return Rating is calculated for each institutional investor portfolio. Return Rating is given as the ratio of the Return Measure to the Average Return Measure. The Return Measure of an institutional portfolio is calculated as the difference between the three-year cumulative buy-and-hold return and the three-year cumulative risk-free return (T-Bill rate).

$$\text{Return Measure}_p = \prod_{1}^{36} (1+R_{pt}) - \prod_{1}^{36} (1+R_{ft}) \qquad (1)$$

R_{pt} is the monthly portfolio return of the institutional portfolio and R_{ft} is the monthly risk-free rate. As mentioned in Blume (1998), Morningstar adjusts the mutual fund's portfolio return for the load of the mutual fund by reducing the portfolio return by the load amount. Since this study is comparing the portfolio

returns of different types of institutional investors, there's no need to make any load or expense adjustments and use the portfolio returns as a whole. The Average Return Measure is the greater of the average of the return measures over all institutional investors and the cumulative risk-free rate, i.e. Average Return Measure = Max {Mean(Return Measure), Cumulative Risk Free Return}. The Return Rating for each institutional investor is given as:

$$\text{Return Rating}_p = \text{Return Measure}_p \ / \text{Average Return Measure} \qquad (2)$$

In the second step, the Risk Rating is calculated for each institutional investor portfolio. Risk Rating is given as the ratio of the Risk Measure to the Average Risk Measure. The Risk Measure of an institutional investor is calculated as the absolute value of the sum of the negative deviations from the risk free and represented as:

$$\text{Risk Measure}_p = \left(\sum_{t=1}^{36} - \text{Min}(R_{pt} - R_{ft}, 0) \right) / 36 \qquad (3)$$

The Risk Measure is in the spirit of semi-variance, which is the sum of the squared negative deviations from the mean. In the Risk Measure the deviations are not squared and they are measured from the risk-free rate instead of the mean. The reasoning behind such a risk measure has its roots in the theory of prudence. Bank trusts, the first type of institutional investors established in the financial markets, were required for 150 years (until 1995) to invest under a strict prudence standard. Under these requirements that were developed through case law and interpretations of financial law by several state supreme courts, trust managers were held liable for losses on each individual stock in their portfolio, regardless of the role of that stock in the portfolio based on the modern portfolio theory, i.e.

diversification and mean-variance efficiency. In addition, the main duty that was assigned to the trust manager was the "preservation of corpus", that is the preservation of the principal entrusted to the manager by the trust owner. Other types of institutional managers, i.e. endowments, pension funds, investment managers contracted to manage pension money were also evaluated using similar criteria for a long period before the modern portfolio theory concepts were established in the investment profession. Risk measures based on the idea of semi-variance are concerned about the risk of capital loss, dubbed the "bad" risk. The portfolio manager is assumed to be happy about the "good" risk, the deviations above the expected return. The Morningstar risk measure, by taking only the downside deviations from the risk-free rate into account, indicates the downside potential, the potential of capital loss, of the institutional portfolio. In this respect, for institutional investors who would experience a much larger disutility from a capital loss compared to a capital gain, i.e. lawsuits filed because of capital losses and loss of clientele, the Morningstar risk measure is a valid measure of portfolio risk. The Average Risk Measure is the average of Risk Measures over all institutional investors. Finally, the Risk Rating for each institutional investor is given as:

$$\text{Risk Rating}_p = \text{Risk Measure}_p \ / \text{Average Risk Measure} \quad (4)$$

In the third step, the Morningstar Star Rating is calculated as the difference between the Return Rating and the Risk Rating for each institutional investor, i.e.

$$\text{Star Rating}_p = \text{Return Rating}_p - \text{Risk Rating}_p \quad (5)$$

In the final step a Morningstar Star is assigned to each institutional investor based on a percentile scale. Following Morningstar's methodology, institutional portfolios are first ranked in a descending order based on their Star Ratings. Institutions in the top 10 percentile receive a five-star rating. Institutions in the next 22.5 percent receive four stars, institutions in the next 30 percent receive three stars, institutions in the next 22.5 percent receive two stars, and institutions in the last 10 percentile receive one star.

This procedure is repeated for the one, five and ten year return horizons. Based on the star ratings for these periods, Morningstar assigns an overall star rating. The procedure is as follows:

i. Fund has three, five, and ten year history:

Overall Star Rating = Round (0.2 * 3-Year Stars + 0.3 * 5-Year Stars + 0.5 * 10-Year Stars)

ii. Fund has three and five year history:

Overall Star Rating = Round (0.4 * 3-Year Stars + 0.6 * 5-Year Stars)

iii. Fund has only a three-year history

Overall Star Rating = 3-Year Stars

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