Pension Fund Portfolio Turnover and Performance Evaluation

- This Issue Brief examines pension fund portfolio turnover and performance evaluation. It provides background on investment asset turnover, analyzes the implications of active and passive management strategies, and describes the criteria by which pension plan sponsors evaluate investment managers. In addition, the discussion presents the findings of two EBRI surveys designed to estimate the turnover activity at both the plan sponsor and investment manager levels.

- There are two distinct measures that may be adopted in analyzing pension plans’ short-term trading behavior. Ideally, one would have information on average holding periods by major categories of assets. However, currently there are no compelling reasons for a plan sponsor or investment manager to produce these figures for a tax-exempt trust. The alternative measure that is more widely available is the portfolio turnover rate, which is calculated as some measure of purchases or sales of assets divided by average assets held for the period.

- Estimated average holding periods for Frank Russell Company clients portfolios suggest that more than 80 percent of the domestic equity assets had holding periods in excess of six months.

- Evidence from EBRI questionnaires suggests that equity turnover reported on a plan-wide basis averaged 50.38 percent for U.S. common stock in 1990 (59 percent of the average in 1986) and that equity turnover reported by individual managers averaged 40.26 percent for U.S. common stock in 1990 (85 percent of the average in 1986).

- Both plan sponsors and investment managers agree that a rather long time horizon is used to evaluate investment performance before a manager is terminated. Investment managers’ investment styles also appear to have lengthy time horizons.

- Plan sponsors and equity investment managers are largely in agreement on how managers are being evaluated. It is apparent that short-term performance is not a high priority in that evaluation.

- Equity investment managers have an average tenure with the sample plans of more than five years and experience low turnover. The managers appear to have sufficient time to prove their style without having to resort to short-term tactics for quick stock price appreciation.
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Introduction

Pensions, Social Security, and personal savings provide retired workers the income they need to maintain their preretirement standard of living. The investment of a pension plan's assets may affect this retirement benefit—directly in the case of defined contribution plans and indirectly in the case of defined benefit plans.

In a defined contribution plan, the employer makes specified contributions to an account established for each participating employee. The final retirement benefit reflects the total of employer contributions, any employee contributions, and investment gains or losses. The accumulated amount may also include employer contributions forfeited by employees who leave before they become fully vested, to the extent such contributions are reallocated to the accounts of remaining employees. In most cases, participants allocate their accounts among various investment options and bear the investment risk. A participant who is willing to assume higher investment risk during employment increases the likelihood of higher performance, which leads to a larger retirement benefit. Lower investment returns lead to a smaller retirement benefit and a greater reliance on Social Security and personal savings.

In a defined benefit plan, each employee's future benefit is determined by a specific formula, and the plan provides a guaranteed level of benefits on retirement. Usually, the promised benefit is tied to the employee's earnings and/or length of service. The employer is responsible for deciding how to allocate the assets and must bear the risk of investment gains and losses. A defined benefit plan is generally under no obligation to increase benefits in retirement, but higher returns may make ad hoc benefit increases more likely (they may also decrease the amount of future contributions necessary from the employer).

Defined benefit plan sponsors may have different investment goals, depending on such factors as the participants' demographic characteristics and a firm's financial status. A sponsor may strive for stable plan costs or assurance of the firm's financial flexibility while taking into consideration tradeoffs between return and risk. The tradeoffs in turn affect the benefit retirees receive. For example, high investment returns, which incur more risk, may allow the sponsor to lower future plan contributions or may increase the likelihood of postretirement benefit increases. With lower investment returns, which have less risk, an employer would have to make larger contributions in the future to secure benefits. Sponsors’ tolerance for short-term variation also may influence the choice of investments.

A number of corporate managements contend that benefit fund investment decisions are driven by short-term considerations, an orientation that forces them to operate their businesses with a similar short-term focus. Specifically, they allege that benefit funds base their buy-hold-sell decisions solely on a security's short-term performance. They maintain that benefit funds will not hold a stock that promises long-term gains if the management's long-term-oriented strategic actions detract from current earnings. In this regard, these critics also maintain that, if a company's stock price declines (perhaps as a result of large scale sales by benefit funds) and, as a consequence, the company becomes the target of a takeover, those benefit funds that have continued to hold shares will almost certainly tender them. These critics also argue that the Employee Retirement Income Security Act of 1974 (ERISA) encourages benefit funds to operate in this manner and therefore ERISA should be amended to force all benefit funds, regardless of their liability structure or purpose, to pursue a “long-term investment approach.”

In support of their contention that benefit fund investments are driven by short-term considerations, these critics cite the turnover rates of active equity
managers. However, the managers who produce this level of turnover argue that their investment techniques achieve superior returns. They note that producing superior returns for their clients is the reason they are in business, and it is necessary for them to retain the clients and attract new ones. Critics also maintain that some investment managers pursue short-term investment strategies because they are pressured by pension fund sponsors who expect them to outperform a benchmark or index each quarter.

By the end of the 1980s there appeared to be a growing belief among some members of Congress that high stock turnover was indeed preventing corporate managements from undertaking long-term projects. In September 1989, fearing that corporate America was increasingly being acquired by institutional investors having only a transient interest in the companies they own and control, Sens. Nancy Kassebaum (R-KS) and Robert Dole (R-KS) introduced the Excessive Churning and Speculation Act of 1989 (S. 1654). Although this bill was never enacted, it would have placed an excise tax of 10 percent on capital gains from assets held less than 30 days and 5 percent on gains from assets held for longer than 30 days but less than 180 days. Plans with less than $1 million in assets at their most recent valuation would have been exempt from these taxes as would transactions entered in as a hedge (transactions to reduce risks). The bill was introduced with the stated purpose of lengthening the alleged short-term investment mentality of institutional investors.

Many, if not most, pension fund sponsors disagree with the contention that pension benefit funds are short-term oriented. They say that many of their benefit funds have long-term liabilities, consequently making long-term investments not only desirable but necessary. In fact, some pension fund sponsors believe that making investment decisions with solely a short-term focus would be contrary to their responsibilities as fiduciaries, because ignoring longer-term impacts on the economy and U.S. businesses could be detrimental to future investment opportunities. Many pension fund sponsors believe that ERISA, as it is currently written, is consistent with such a long-term approach.

Responding to the alleged pressure exerted on investment managers to produce returns that outperform a benchmark index each quarter, some pension fund sponsors note that they and their corporate managements do not evaluate their investment managers on the basis of short-term performance. As shown later in this Issue Brief, both plan sponsors and investment managers agree that managers generally are evaluated on their performance over at least one market cycle (three to five years) or longer. This Issue Brief examines pension fund portfolio turnover and performance evaluation. It provides background on investment asset turnover, analyzes the implications of active and passive management strategies, and describes the criteria by which pension plan sponsors evaluate investment managers. In addition, the discussion presents the findings of two Employee Benefit Research Institute (EBRI) surveys designed to estimate the turnover activity at both the plan sponsor and investment managers levels.

Background on Investment Asset Turnover

There are a number of reasons why a pension portfolio may turn over its investments. The following discussion uses the equities market to illustrate these reasons.

One factor influencing a pension fund’s equity portfolio is the different buy and sell decisions investment managers make. Managers who

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1. See section titled Equity Turnover in Pension Plans for surveys and studies of turnover rates.
2. For an examination of the consequences of this proposal, see “Pension Fund Taxation,” EBRI Issue Brief no. 105 (Employee Benefit Research Institute, August 1990).
3. Opponents of the bill argued that investors may be able to use derivatives to achieve their goals without technically triggering the tax and that it could be very difficult to administer the hedging exceptions under the proposal.
are driven to duplicate the market are regarded as passive managers, while those who attempt to beat the market are known as active managers. In duplicating the market, a manager purchases stocks that are included in the chosen index, such as the Dow Jones Industrial Average (DJIA) or the Standard & Poor’s 500 (S&P 500). Stocks are purchased in the same proportion as in the chosen index and consequently move the portfolio in direct relation to the index. Passively invested funds are used to control portfolio risk, to obtain broad market exposure cheaply, and/or guarantee market performance.

Turnover in this management style is a result of changes in the index or of choosing a different index. Occasionally, the DJIA, S&P 500, or any other index changes its portfolio due to economic or market changes or changes in the size of companies. When these changes occur, passive-style managers need to make similar changes in their portfolios to continue replicating the particular index. The S&P 500 made an average of 25.4 company changes (additions or deletions) annually during the 1980s (Standard and Poor’s Corporation, 1990).

Turnover can also result when an active-style investment manager attempts to outperform the market by (a) choosing stocks that will, on average, outperform the market and/or (b) timing his or her purchases and sales of stocks to make a profit. More risk is involved in this style in terms of volatility of returns because there are no guarantees that the chosen stock will outperform the market.

There is a range of investment styles between active and passive management as well as combinations of these and other styles. Such combinations will lead to a range of options between risk (volatility of returns) and return. Each combination will also lead to different turnover ratios. Additionally, pension plan sponsors can choose a group of investment managers, which diversifies not only the portfolio’s stock holdings but also the styles. Choosing a group of different style investment managers allows the portfolio to benefit in some part of the portfolio no matter which type of manager performs best during any specified period of time.

Reactions to predetermined market conditions may also cause turnover in investments. Some investment managers use quantitative models that look for market conditions ranging from a percentage change in an index, a percentage change in any stock or segment of stocks, or a difference between various markets such as futures and stocks. These models can lead to different amounts of turnover, depending on the likelihood of the predetermined condition occurring.

However, turnover may not depend on quantitative models at all, as the investment managers may just sense or determine that there has been a change in the market significant enough to warrant changing the investment holdings. If the pension plan sponsor permits the manager to hold cash, the exposure to the stock market may be increased or decreased in reaction to market conditions by varying the percentage of cash held.

Turnover in the pension portfolio may also result from the plan sponsor’s decisions. The sponsor may decide to take a different direction by changing the type of investments, such as switching from stocks to bonds or choosing a manager with a different investment style. A sponsor also may wish to continue the current investment allocation and style but change managers to achieve a more satisfactory investment performance.

Each decision leads to a particular amount of turnover. If the new manager wishes to begin with a completely different group of stocks, then that part of the portfolio is completely turned over before the new
strategy or allocation is implemented. However, if the new manager wishes to continue with the current stocks but make future buy and sell decisions on a different basis, then no turnover occurs due to the change in managers.

Therefore, turnover can result from basic implementation of the investment manager’s style, changing market conditions, or a change in investment direction or investment managers.

Investment Decisions That Need To Be Made by the Plan Sponsor

Investment strategies of pension fund managers need to be analyzed within the context of the overall investment decisions made by the plan sponsor. This section briefly defines, from the plan sponsor’s point of view, three decisions that effectively constrain the parameters within which the investment manager must function. These decisions concern whether pension assets should be managed passively or actively, how assets should be allocated, and how external managers should be chosen and evaluated.

Whether Pension Assets Should Be Managed Passively or Actively—Proponents of the passive strategy argue that as the stock market becomes increasingly efficient, it is more difficult for investment managers to consistently outperform the market. If actively managed funds do indeed encounter difficulties producing a gross rate of return superior to that of the market, it will obviously be even more difficult to produce a superior return on a net basis (after the effects of fees and transactions costs have been accounted for).

Index funds represent the ultimate form of passive investing. An equity index fund replicates a particular index such as the S&P 500 and is designed to generate a beta of 1.0 (i.e., the rate of return on the fund is expected to be equal to that of the S&P 500). These funds are based on the efficient market hypothesis that assumes that the securities markets are efficient in the processing of information. In other words, the prices of securities observed at any time are based on a correct evaluation of all information available at the time.

If this hypothesis were true, the value of an investment manager’s services would be far less than the current level of compensation enjoyed by these professionals. However, a number of published studies have reported contrary evidence indicating at least a lack of complete efficiency in the market. Anomalous results have been found in the so-called weekend, small firms, and January effects.

Some sponsors will use index funds as an investment for the core of their portfolio and allow active management of the remaining amount of the assets. This tactic possesses the advantage of freeing the investment managers from having to deal with the core portfolio and, instead, allowing them to focus their time on their specialty areas. Moreover, given a relative sense of security for the core investment, investment managers are able to pursue a higher risk strategy on their subset of the plans’ assets in hopes of above average returns.

Passive investing may also be implemented through the bond market by dedication and immunization techniques.

How Assets Should Be Allocated—The asset allocation decision is a process that determines the best portfolio composition among the various major types of assets (stocks, bonds, etc.). This

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4 For a further discussion of beta, see section on Market-Related Variability.


decision takes into account the sponsor's investment objective and, as a result, reflects the level of risk the sponsor desires.

Three considerations must be assessed in setting investment objectives:

- Characteristics of the sponsor and its industry;
- Demographics of the work force and maturity of the plan; and
- Possibility of plan termination.

Characteristics of the sponsor and its industry must be considered in determining policy. For example, a sponsor with thin profit margins, high labor costs, and in a highly cyclical industry has less tolerance for variability in pension costs than does a company with relatively large profit margins, low labor costs, and a less cyclical earnings pattern. Whether the industry as a whole is growing, stagnant, or declining will also affect the degree of conservatism built into the investment strategy.

Demographic considerations are also important because a rapidly growing company with a young work force has less concern for cash flow and investment liquidity than does a company with a more mature work force and many pensioners. A sponsor in the first category would more likely be able to withstand several years of capital losses on the pension plan portfolio without impeding benefit payments.7

The possibility of plan termination is important for companies with some risk of plan shutdown, merger, acquisition, or other corporate reorganization because the investment policy must take into account the possibility that the Pension Benefit Guaranty Corporation (PBGC) will take over the plan and value its assets at the time of termination at the current market value. If a plan termination occurs during a business recession and PBGC steps in, the claim against the sponsoring company will be larger than it would be at some other time.

How External Managers Are Evaluated—Before an investment manager’s performance can be measured, the sponsor's investment objectives for the manager need to be expressed in a useful manner. Often, this expression takes the form of a guideline statement. The guideline statement should cover such questions as:8

- How much risk is the plan sponsor prepared to take to achieve a specific benchmark rate of return?
- What is the time period for measurement of performance relative to objectives?
- What is the sponsor’s preference in terms of asset mix, especially as it relates to stocks?
- What is the liability outlook for the plan and what should the fund's investment strategy be in light of this outlook?
- What are the sponsor’s cash flow or liquidity requirements?
- How much discretion is the manager permitted regarding foreign investment, private placements, options, financial futures, and so on?

Another matter that needs to be discussed at an early stage is exactly what constitutes an acceptable level of turnover. If the sponsor has decided that extensive turnover activity does not add value to the portfolio performance, guidelines to limit this activity should be established. If the sponsor has concluded that turnover expenses should be virtually eliminated, passive investment should be considered.

7 This statement only considers the plan's cash flow aspects. Many of the actuarial cost methods used to determine the minimum funding standard for a defined benefit pension plan will amortize investment gains and losses over a maximum of five years. Therefore, if the sponsor desires to control volatility of the contribution stream from year to year, it is important that pension plan investments do not experience a large decline in value. Moreover, with the advent of Financial Accounting Standards Board Statement no. 87, which established financial reporting and accounting standards for employers that offer pension benefits, there are now several accounting consequences of pension plan asset allocation that must take into consideration the plan’s goals.

After measuring the returns, it is necessary to evaluate the risk-adjusted performance of investment managers. Although some investment managers still report their performance by comparing their equity portfolio return with a common stock index (such as the Standard & Poor's 500 Stock Average [S&P 500] index) and their bond portfolio results with a bond index (such as the Smith Barney Shearson government and corporate bond index) without any adjustment for their portfolio's risk, there is a growing realization that return cannot be meaningfully evaluated without simultaneously considering the investment's risk. Portfolio risks are commonly measured in one or more of three ways:9

- Total variability in absolute terms,
- Total variability in relative terms, and/or
- Market-related variability.

**Absolute risk can be measured in one of two ways. The most common is to compute the standard deviation of the periodic returns. Another method is to rank in order the returns over a particular period and to divide the distribution into percentiles. The range from the 25th to the 75th percentile, referred to as the semi-interquartile range in several measurement systems, is then used as a measure of the portfolio's absolute risk.**

**Relative risk measurements start with one of the two absolute risk measurements for the portfolio in question and then divide it by a similar measure for the market during the same time period.** For example, if the absolute risk measure for an equity portfolio was its standard deviation based on quarterly returns for the last five years, the denominator for the relative risk measure might be the standard deviation of the S&P 500 based on quarterly returns for the last five years.

Although relative risk measurement is an improvement over absolute risk measurement in that it factors in the activity of the market over the measurement period, at present the most common method for adjusting returns for risk is to use the capital asset pricing model (CAPM).10 The CAPM uses standard statistical techniques (simple linear regression) to compute the intercept (alpha) and the slope (beta) of a line that analyzes the relationship between the periodic returns of the portfolio and those of the market (e.g., the S&P 500).

In other words, beta indicates the sensitivity of the return for a portfolio of equities to the returns of the market. A beta equal to 1.0 would mean that, on average, the portfolio return should approximate that of the market. A portfolio with a beta less than 1.0 would tend to be viewed as conservative in that it would be expected to earn less than the market during a bull market but...
suffer a smaller loss during a bear market. Alpha, on the other hand, is widely interpreted as a measure of the investment manager’s skill as measured in a risk-adjusted setting. Performance better than that predicted by the portfolio’s market risk (beta) is attributed to the investment manager’s value added (alpha). To the extent it is considered statistically significant, a positive alpha is regarded as evidence of the investment manager’s skill.

A normal portfolio, which is a list of assets and investment weights, initially was conceived as a benchmark for investment managers whose investment habitat and style could not be adequately captured by a broad-based index such as the Standard & Poor’s 500. A normal portfolio sets the norms for predicting and measuring the returns of an individual money manager, similar to the way a standard benchmark relates to securities markets as a whole. In other words, a normal portfolio controls for management style, thus providing a benchmark against which discretionary investment management can be evaluated.

There are three steps to building a normal portfolio. First, determine the relevant investment characteristics, which, through the performance of regression analysis, can be identified as being correlated with a company’s return. Second, discriminate between investment style, as reflected in the stable exposure of the portfolio to a given characteristic over time, and discretionary investment decisions, as seen by the portfolio’s varying exposure to a characteristic over time. Third, define the normal portfolio by screening the security holdings to identify those that have the appropriate characteristics to be included in the portfolio.

**Equity Turnover in Pension Plans**

Two distinct measures may be adopted in analyzing pension plans’ short-term trading behavior. Ideally, one would have information on average holding periods by major categories of assets. Although this information would have been required if the Dole/Kassebaum proposal had been enacted, currently there are no compelling reasons for a plan sponsor or investment manager to produce these figures for a tax-exempt trust. The alternative measure that is more widely available is the portfolio turnover rate, which is calculated as some measure of purchases or sales of assets divided by average assets held for the period.

Perhaps the only wide-scale holding period study undertaken to date is based on estimated average holding periods for Frank Russell Company client portfolios as of December 31, 1988. The data base used for these estimates included 55 clients, 96 plans, and 1,339 portfolios with a total market value of $52 billion in domestic equity and $36 billion in fixed-income securities. Chart 1 provides the holding periods for domestic equities and fixed-income securities. Assuming no behavioral modifications occurred in response to the short-term trading tax, 4 percent of the domestic equity assets would have been subject to the 10 percent tax and 16 percent would have been subject to the 5 percent tax if the Dole/Kassebaum proposal had been in effect in 1988. Unfortunately, there is no way of telling how much income would have been produced, because the tax applies to the (unknown) capital gains produced in each class.

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11 A detailed discussion of this concept is beyond the scope of this discussion. Most standard textbooks on investments include this information.


14 We are indebted to Marlaina Wall of the Frank Russell Company for supplying us with these figures.
In contrast, several methods may be adopted in an attempt to gauge short-term trading activity based on portfolio turnover rates. The most direct method is to request turnover rates from the plan sponsors or investment managers. This method provides the most accurate measurement because in many cases these sponsors and managers have direct access to records of buy and sell decisions. However, this method can lead to bias because those with the lowest turnover may be the most likely to provide information.

Plan sponsors are not required to directly report turnover statistics to the federal government. However, for plan years through 1987, a proxy for turnover can be calculated from Form 5500, which pension plan sponsors must file with the Internal Revenue Service (IRS) and the U.S. Department of Labor (DOL). While the 5500 forms provide a near universal sample, the turnover is a proxy and, therefore, it may not be as accurate as results from a direct questionnaire.

According to Form 5500 data analyzed by McCarthy and Turner, the plan weighted turnover rate for stock portfolios in private pension plans increased from 42.3 percent in 1981 to 56.5 percent in 1987. This increase of 33 percent is less than that experienced by other investors (chart 2) and is thought to be largely attributable to the reduction in transaction costs during this period.

Starting in 1988, Form 5500 no longer requests the information to calculate turnover rates. In an attempt to measure turnover activity since that time, the Employee Benefit Research Institute (EBRI) sent a questionnaire to the sponsors of the 1,000 largest corporate pension plans in 1991. A total of 147 responses were received, representing a response rate of 14.7 percent. These plans accounted for $182.9 billion in total investment assets, which represented approximately 14 percent of the total private trusteed pension assets at the time. A second questionnaire was sent to the major equity investment managers for each plan sponsor that returned the first questionnaire. A total of 506 surveys were mailed and 212 responses were received, representing a response rate of 42 percent. These plans accounted for $25.0 billion in total investment assets, or approximately 1.9 percent of total private trusteed pension assets.

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16 Berkowitz and Logue (1988) provide statistical evidence that turnover seems to be closely related to trading costs (which were generally declining during the period) and mildly related to timing opportunities. However, turnover did not appear to be related to stock picking opportunities as measured by the standard deviation of stock returns. Another likely cause for the increase in measured turnover activity is the increased use of options by pension plans. Unfortunately, no data bases currently permit analysis of such transactions among pension plans.

17 The Employee Benefit Research Institute (EBRI) conducted this research under a contract for the Financial Executives Research Foundation. The results of this research have recently been released in Employee Benefit Research Institute, Time Horizons of Pension Fund Managers (Morristown, NJ: Financial Executives Research Foundation, 1993).

18 Due to limitations of various data bases and the need to link to information for nonresponders to measure potential sample bias, we decided the best method was to link the Form 5500 data base and the Money Market Directory (MMD) data base. This allowed us to use the contact names from MMD and the proxy turnover rates from the 5500 forms. An initial attempt to match these data bases was done on the largest 1,000 private pension plans (based on plan assets) from the most recent Form 5500 data base that provided turnover information (1987). Due to terminations and mergers since 1987, this attempt did not yield a 100 percent match, and we used an iterative procedure to find the next largest plan until a matched sample of 1,000 plans was obtained.
Table 1
Annual Turnover Rates for Entire Sample of Plan Sponsors, 1986–1990
(means reported in percentages)

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<td>37.80</td>
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<td>39.22</td>
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Source: Employee Benefit Research Institute tabulations.

Table 2
Annual Turnover Rates for Consistent Sample of Plan Sponsors, 1986–1990
(means reported in percentages)

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<td>Mean</td>
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</tr>
<tr>
<td>Mean</td>
<td>85.97</td>
<td>64.95</td>
<td>55.41</td>
<td>60.51</td>
<td>50.38</td>
</tr>
<tr>
<td>International Common Stock</td>
<td>n 8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Mean</td>
<td>33.13</td>
<td>44.63</td>
<td>48.00</td>
<td>45.25</td>
<td>45.50</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.

Both questionnaires asked respondents to provide turnover information on their common stock portfolios for a five-year period ending with 1990. Plan sponsors were also asked to provide separate information on the domestic and international components, if available. The two-year overlap with the Form 5500 information allowed us to make useful inferences on the type of sponsors and investment managers returning the survey.

Evidence from the questionnaires suggests that:

- equity turnover reported on a planwide basis averaged 50.38 percent for U.S. common stock in 1990 (59 percent of the average in 1986), and
- equity turnover reported by individual managers averaged 40.26 percent for U.S. common stock in 1990 (85 percent of the average in 1986).

The mean annual turnover rates and number of responses for the plan sponsors are reported in table 1. More than one-third of the respondents reported turnover rates for the last two years for both the total and U.S. common stock categories. The response rate for international common stock was much smaller, reaching a maximum of 14 percent for the 1989 calendar year. Both the total and the U.S. common stock categories...

---

19 For purposes of this survey, turnover was defined as the lesser of purchases or sales measured in dollars as a percentage of the average asset value of the equity portfolio. Sponsors were specifically asked if they used a different definition of turnover. Only a single sponsor indicated that this was the case, and this observation was removed from the analysis described below.

20 A potential limitation of any questionnaire survey dealing with turnover activity is that the results would be biased if the respondents were those with abnormally small (or large) turnover ratios. We attempted to test for this phenomenon by using the Form 5500 data to construct a proxy for the common stock turnover ratio. Cumulative distributions of the turnover ratios based on this proxy were constructed for both the respondents and the nonrespondents to the survey. The results are remarkably similar for the quarter of the respective populations with the lowest Form 5500 turnover rates. The 25th percentile ratios for the turnover proxy were 0.734 and 0.739 for respondents and nonrespondents, respectively. For the remaining three-quarters of the population, however, a respondent is more likely to have a lower Form 5500 turnover ratio than a nonrespondent. The median is 0.884 for the respondents and 0.966 for the nonrespondents for a sample bias of approximately 9.5 percent. This discrepancy becomes more pronounced when we observe the Form 5500 turnover ratios for those with larger than average values. The 75th percentile figures are 1.050 (respondent) and 1.298 (nonrespondent) for a bias of approximately 19 percent. Thus it appears that the average turnover statistics reported on the questionnaire may be lower than would be expected if all recipients had responded.
Table 3
Annual Turnover Rates for Entire Sample of Investment Managers, 1986–1990
(means reported in percentages)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>129</td>
<td>143</td>
<td>156</td>
<td>167</td>
<td>179</td>
</tr>
<tr>
<td>Mean</td>
<td>47.55</td>
<td>51.13</td>
<td>44.28</td>
<td>45.28</td>
<td>44.77</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.

Table 4
Annual Turnover Rates for Consistent Sample of Investment Managers, 1986–1990
(means reported in percentages)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>129</td>
<td>129</td>
<td>129</td>
<td>129</td>
<td>129</td>
</tr>
<tr>
<td>Mean</td>
<td>47.55</td>
<td>50.76</td>
<td>42.79</td>
<td>43.59</td>
<td>40.26</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.

Table 5

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>64</td>
<td>73</td>
<td>55</td>
<td>52</td>
<td>46</td>
</tr>
</tbody>
</table>

Note: Turnover is measured as reported share volume divided by average shares listed.

appear to indicate a sharp reduction in turnover in 1987 and 1988 and then somewhat of an increase in 1989 before leveling off. The international common stock component does not follow this trend; however, the small response rate may have caused an undue amount of fluctuation in the reported means.

A problem with the results reported above is that sponsors with abnormally high or low turnover rates may influence the annual means if they do not provide information for the entire time series. Table 2 eliminates this source of bias by including for each category only those sponsors that provided information for the entire five years. The results in this table confirm the trends observed for both the total and U.S. common stock in the previous table. The consistent sample selection also allows a comparison of the levels of turnover over time. The mean rates in 1990 were 59 percent of the 1986 mean rate of turnover activity for both the total and U.S. common stock categories. The international common stock category indicates that the turnover ratio increased dramatically in 1987 and then leveled off to a rate approaching that of U.S. common stock.

The plan sponsor respondents’ investment managers were also asked to provide turnover rates experienced by the portfolio for the survey plan in the years 1986 to 1990, although only for U.S. common stock.21 The mean annual turnover rates and number of responses for both the entire sample and the consistent sample are reported in table 3 and table 4, respectively. The trend appears to indicate a mild increase in turnover in 1987 before decreasing and leveling off. The consistent sample selection (table 4) also allows a comparison of the levels of turnover over time. The mean rates in 1990 were 85 percent of the 1986 measure of turnover activity.

Table 5 portrays turnover statistics for the New York Stock Exchange (NYSE) during this period. Although comparisons between the two sets of results need to consider the potential impact of definitional differences, the mean turnover ratios for the equity investment managers responding to our questionnaire were consistently below the NYSE averages; however, the gap between the two numbers appears to be narrowing with time. The annual averages for the plan sponsors were consistently higher than those of the investment managers and exceeded the NYSE averages in three of the five years. The disparity in turnover ratios between the investment managers and the plan sponsors may be due in part to the fact that we asked for the names of the major equity investment managers. To the extent that plan sponsors responding to our survey had decided to invest a small portion of their equity portfolio in one or more styles that generated above average turnover, the results would show up in the sponsor’s turnover ratios but not in the turnover ratios of the equity investment

21 Four managers indicated that they used a different definition of turnover from that requested; their observations were removed from the analysis described below. See footnote 26 for a description of the investment manager sample used in this study.
managers responding to our survey. Because the NYSE data reported above include all traders, some would argue that equity mutual funds would provide a more valid comparison of turnover activity among other institutional investors. Table 6 provides the 1990 turnover ratios for 987 equity mutual funds as reported by Rugg & Steele. The overall fund-weighted turnover ratio for the year was 90.48 percent, more than twice the level for the same time period reported by pension plan investment managers responding to our survey. When the turnover ratios are also grouped by fund objective, the averages vary from a low of 46.21 percent for funds predominantly investing in precious metals securities to a high of 119.32 percent for the sector funds.

Table 6
1990 Portfolio Turnover for Equity Mutual Funds by Objective (numbers reported in percentages)

<table>
<thead>
<tr>
<th>Objective</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggressive Growth</td>
<td>105.63</td>
</tr>
<tr>
<td>Global</td>
<td>83.19</td>
</tr>
<tr>
<td>Growth and Income</td>
<td>70.18</td>
</tr>
<tr>
<td>Income</td>
<td>87.86</td>
</tr>
<tr>
<td>International</td>
<td>70.78</td>
</tr>
<tr>
<td>Long-Term Growth</td>
<td>96.62</td>
</tr>
<tr>
<td>Precious Metals</td>
<td>46.21</td>
</tr>
<tr>
<td>Sector</td>
<td>119.32</td>
</tr>
<tr>
<td>Special</td>
<td>100.00</td>
</tr>
<tr>
<td>Grand total</td>
<td>90.48</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.

Based on the available Form 5500 evidence, defined benefit plans have experienced higher common stock turnover rates than have defined contribution plans (chart 3); however, much of this differential is attributable to the inclusion of employee stock ownership plans (ESOPs) in the latter category. Chart 4 provides additional detail on the relative degree of stock portfolio turnover by type of plan from 1981 through 1987. This chart shows the time series of common stock turnover ratios for defined benefit plans and two different types of defined contribution plans: money purchase and ESOPs. The median common stock turnover ratio for each plan type is divided by the corresponding figure for all plan types for the year.23 While the median turnover ratio for ESOPs ranged from approximately 20 percent to 40 percent of

22 See the description of active versus passive asset management on pages 5–6 for further explanation of this phenomenon.

23 The authors used a definition of turnover different from that used in the previous graph for the detailed analyses that follow. Although this prevents a meaningful comparison of the absolute turnover numbers for the various classes, standardizing for the aggregate turnover activity in the year allows an analysis of the relative impact of observable characteristics on turnover.

Chart 3
Stock Portfolio Turnover Rates in Private Pension Plans by Type of Plan: 1981–1987


Note: Turnover is defined as the minimum of purchases or sales of common stocks divided by the average of beginning and ending year common stock. It is measured on a plan-weighted basis.
the median turnover for all plan types during this period, the turnover activity for money purchase plans resembled that experienced by defined benefit plans.

It would appear that the size of the plan also has a bearing on the extent of portfolio turnover. Chart 5 plots the time series of median turnover rates for both defined benefit and defined contribution plans with assets in excess of $300 million. Similar to chart 4, the observations are standardized by dividing the median turnover for all plans of the same type in that year. For the entire sample period, large defined benefit pension plans experienced 20 percent to 60 percent more turnover than defined benefit plans in general. To the extent that plan sponsors believe that active plan management increases the net investment income of the plan relative to passive management, this result would be expected as long as they can avail themselves of economies of scale. However, the correlation of plan size and turnover reverses for defined contribution plans, with large plans having 30 percent to 60 percent less turnover. Unfortunately, the available data do not exclude ESOPs from this category, and it is not possible to tell from the data whether these results are due to an abundance of ESOPs in the large plan category.

As mentioned previously, there are a number of reasons why a pension portfolio may turn over its investments. McCarthy and Turner divided the Form 5500 turnover ratios into three categories:

- turnover to maintain the percentage of the portfolio held in common stock in a growing or declining plan,
- turnover to change the percentage of the portfolio held in common stock, and
- other turnover.

Chart 6 shows that, during the sample period, the proportion of common stock turnover attributable to the “other” category consistently remained in the 70 percent to 80 percent range. While much of the activity in this category is undoubtedly due to stock selection, even a completely passive indexed strategy will entail a certain amount of turnover activity due to the value of the individual components of the index. As a measure of comparison with the turnover ratios produced from these actively managed funds, table 7 portrays the turnover activity experienced by a large commingled fund that is designed to replicate the S&P 500. These numbers are not directly comparable to the numbers reported in previous tables due to the tendency of many managers to invest in stocks with smaller capitalizations than those reflected in the S&P 500. Turnover ratios for a completely passive “small cap” strategy would be expected to be larger than those reported above. Table 8 provides representative information from 1987–1990 for one index fund that invests in the smaller 50 percent of the stocks traded on the NYSE, AMEX, and NASDAQ.

McCarthy and Turner also explored the association between overall rates of return on the entire portfolio and the degree of turnover. Defining a low turnover plan as one with less than 20 percent common stock turnover and a high turnover plan as one with 120 percent common stock turnover or more, they found no evidence to support the notion that higher turnover leads to larger overall rate of return (chart 7). However, this type of comparison may be misleading if the relative riskiness of the portfolio is related to the degree of turnover. In other words, the true association between rate of return and turnover may be masked if portfolios that are actively traded typically result in a higher beta. If the market rate of return is positive during the sample period (as it was for most of the 1980s), the true cost of turnover will be underestimated. Ippolito and Turner (1987) regressed the stock turnover as a percentage of portfolio value on the annual rate of return for pension plans over the period 1977–1983. Their analysis directly controlled for the correlation between the rate of return for the pension plans and the market rate of return in each year. Based on the regression results, they concluded that each additional percentage point of annual

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24 Limiting the analysis to defined benefit plans gave similar results.
Chart 4
Relative Degree of Stock Portfolio Turnover by Type of Plan: 1981–1987


Note: Turnover is defined as the minimum of purchases or sales of common stocks divided by the average of beginning and ending year common stock. It is measured on a plan-weighted basis.

Chart 5
Relative Degree of Stock Portfolio Turnover for Large Private Pension Plans by Type of Plan: 1981–1987


Note: Large plans defined as those with assets in excess of $300 million.

Chart 6

Table 7
Annual Turnover Rates for S&P 500 Proxy, 1986–1990 (reported in percentages)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Turnover</td>
<td>6.96</td>
<td>5.97</td>
<td>6.32</td>
<td>8.15</td>
<td>4.43</td>
</tr>
<tr>
<td>Turnover Due Solely to Dividend Reinvestment</td>
<td>3.92</td>
<td>3.64</td>
<td>3.94</td>
<td>4.01</td>
<td>3.42</td>
</tr>
</tbody>
</table>

Source: State Street Global Advisors; Boston, Massachusetts.

Table 8
Annual Turnover Rates for Small Cap Proxy, 1987–1990 (reported in percentages)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Turnover</td>
<td>14.15</td>
<td>16.10</td>
<td>13.29</td>
<td>13.60</td>
</tr>
</tbody>
</table>

Source: State Street Global Advisors; Boston, Massachusetts.

Stock turnover would cost the plan nearly two basis points in its annual rate of return.

Although we were unable to update the survey to obtain more recent turnover information, we were able to obtain turnover figures for clients of the Frank Russell Company. While the number of entities represented in this database fluctuated over the reporting period, the most recent figures based on the 12 months ending December 31, 1992 included 42 clients, 58 plans, and 1,292 portfolios. The average market value of the domestic equity investments in 1992 was $66 billion. Table 9 provides the annual turnover ratios for these portfolios from 1988 to 1992. The first three years of the time series in this table overlap with the last three in the EBRI survey. It appears that the shape of the trend line for the Russell database is very similar to that observed for plan sponsors over the same period; however, the clients in the Russell database average 9 percent to 13 percent lower turnover per year than the average respondent to the EBRI plan sponsor survey. Table 9 suggests that the decrease in 1990 turnover rates may have been a temporary phenomenon, as the 1991 rates rebounded to 49.4 percent and then decreased slightly to 45.4 percent in 1992.

The 1992 turnover rate reported by Russell is virtually identical to the 46 percent figure obtained by the Committee on Investment of Employee Benefit Assets (CIEBA) in its survey of investment practices of ERISA-governed U.S. defined benefit plans. The CIEBA survey was also designed to measure the relative difference in turnover due to active management of the pension assets. The results for CIEBA’s 105 members (representing $373 billion of pension assets) indicated

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25 We are indebted to Marlaina Wall of the Frank Russell Company for supplying us with these figures.

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Chart 7
Overall Rate of Return by Turnover Type for All Plans: 1981–1987


Note: A low turnover plan is defined as one with less than 20 percent common stock turnover, and a high turnover plan as one with 120 percent or more common stock turnover.
that turnover for actively managed portfolios and passively managed portfolios was 60 percent and 18 percent, respectively.

### Questionnaire Surveys

**Methodology and Analysis of Overall Response**

As mentioned in the previous section, EBRI sent out two sets of questionnaires to estimate turnover activity at both the plan sponsor and the investment manager levels. The survey instruments were also used to collect information on the overall investment process. The first questionnaire was sent to plan sponsors. Its objective was to determine the plan sponsors’ propensity to change investment decisions, the reasons for these decisions, and their impact on common stock turnover. The second questionnaire was sent to the major equity investment managers for each plan sponsor that returned the first questionnaire. The objective of the second survey was to determine the impact of various investment strategies and sponsor evaluation techniques on common stock turnover.

Generally, the questions are multiple choice, and the respondents were asked to identify the degree to which they agreed or disagreed with a given statement. For certain questions, the respondents were asked to rank and weight given alternatives.

#### Plan Sponsors

As expected, the vast majority (93 percent) of the respondents sponsored a defined benefit pension plan.

#### Investment Managers

Investment managers were asked to identify the cat-

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26 The second questionnaire was sent to investment managers identified in Part B of the plan sponsor questionnaire as one of the 10 largest domestic equity managers. Managers that were identified by more than one sponsor were asked to complete a separate survey for each plan. In the case in which the respondent was managing more than one portfolio for the plan, information was requested for the plan with the largest portfolio.

<table>
<thead>
<tr>
<th>Table 9</th>
<th>Domestic Equity Turnover Rates for Frank Russell Company Client Accounts: 1988–1992 (numbers reported in percentages)</th>
</tr>
</thead>
<tbody>
<tr>
<td>46.1</td>
<td>51.1</td>
</tr>
</tbody>
</table>

Source: Frank Russell Company; Tacoma, Washington.

<table>
<thead>
<tr>
<th>Table 10</th>
<th>Sponsors’ Asset Mix, December 31, 1990</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. Common Stock</td>
<td>48%</td>
</tr>
<tr>
<td>International Common Stock</td>
<td>5</td>
</tr>
<tr>
<td>Real Estate</td>
<td>5</td>
</tr>
<tr>
<td>Domestic Fixed Income</td>
<td>39</td>
</tr>
<tr>
<td>International Fixed Income</td>
<td>1</td>
</tr>
<tr>
<td>Venture Capital and Private Equity Funds</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.
category that was most applicable to their investment style for the survey portfolio. More than one-half of the respondents were either value or growth managers, as can be seen in table 11.

The majority of the managers (60 percent) indicated that they typically invest in large capitalization stocks for the survey portfolio. Medium capitalization stocks represented 32 percent of the respondents, and small capitalization accounted for 9 percent of the sample.

The mean asset size of the portfolios represented in the second survey was $140 million, with a median size of $39 million.

Similar to the results reported for plan sponsors, the vast majority of the assets managed by the respondents were not under passive management. On average, 87 percent of the plans' equity portfolios were actively managed. A total of 85 percent of the respondents reported that no portion of their portfolio was passively managed, while 10 percent relied exclusively on passive techniques.

In analyzing the data from the questionnaires, we find that both plan sponsors and investment managers agree that a rather long time horizon is used to evaluate investment performance before a manager is terminated. The investment managers' investment styles also appear to have lengthy time horizons.

Both plan sponsors and investment managers were asked to indicate two time frames they used in evaluating equity managers’ performance. The first time frame requested was the one used on an ongoing, recurring basis. The second was the one used to determine the amount of data they needed to decide whether an existing manager should be terminated.

More than two out of three plan sponsors (68 percent) indicated that they used a quarterly time frame on an ongoing, recurring basis, while only 10 percent based their termination decision on less than three year’s worth of information. A termination decision based on a three-to-five-year time frame was the most popular, accounting for 61 percent of the responses. Twelve percent chose a time frame longer than 5 years, and another 11 percent indicated that their termination decisions would be based on information collected over a complete market cycle (chart 8).

Nearly one out of two investment managers (47 percent) indicated that they thought plan sponsors used a quarterly time frame on an ongoing, recurring basis, with 85 percent mentioning one year or less. A termination decision based on a three-to-five-year time frame was the most popular, accounting for 48 percent of the responses. Twelve percent chose a time frame longer than 5 years, and another 23 percent indicated that their termination decisions would be based on information collected over a complete market cycle (chart 9). This evidence appears to contradict anecdotal evidence that investment managers experience pressure from plan sponsors to achieve “short-term” results, which might encourage high portfolio turnover.

The close agreement between the plan sponsor and investment manager on both time horizons is illustrated in table 12. Individual investment manager observations were linked to the plan sponsor information to determine whether the plan sponsor’s actual time horizon was the same as that perceived by the investment manager. A total of 176 pairwise comparisons were available from the data. Panel A of the table focuses on the time frame used for on-going evaluations; panel B indicates the amount of information collected before a

---

### Table 11

<table>
<thead>
<tr>
<th>Investment Style</th>
<th>Percentage of Investment Managers Selecting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadly Diversified/Core</td>
<td>9%</td>
</tr>
<tr>
<td>Defensive</td>
<td>2%</td>
</tr>
<tr>
<td>Growth</td>
<td>18%</td>
</tr>
<tr>
<td>High Yield (income)</td>
<td>4%</td>
</tr>
<tr>
<td>Quantitative</td>
<td>4%</td>
</tr>
<tr>
<td>Sector Rotational</td>
<td>4%</td>
</tr>
<tr>
<td>Value</td>
<td>37%</td>
</tr>
<tr>
<td>Passive</td>
<td>9%</td>
</tr>
<tr>
<td>Other</td>
<td>11%</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.
Chart 8
Plan Sponsors’ Time Frame Used in Evaluating Performance of Investment Managers

*What time frame is generally used in evaluating the performance of an equity manager on an on-going, recurring basis and in deciding whether or not to terminate that manager?

Source: Employee Benefit Research Institute tabulations.

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Chart 9
Investment Managers’ Perception of Plan Sponsors’ Time Frame Used in Evaluating Performance of Investment Managers

“What time frame do you feel the plan sponsor generally uses in evaluating performance for this portfolio on an on-going, recurring basis and in deciding whether or not you will be terminated?”

Source: Employee Benefit Research Institute tabulations.
Table 12: Distribution of Plan Sponsors’ Time Horizons and Associated Investment Managers’ Perceptions

<table>
<thead>
<tr>
<th>Plan Sponsor</th>
<th>Quarterly</th>
<th>Semi-Annually</th>
<th>Annually</th>
<th>Bi-Annually</th>
<th>3–5 Years</th>
<th>Over 5 Years</th>
<th>Over a Complete Market Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarterly</td>
<td>75</td>
<td>11</td>
<td>27</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Semi-Annually</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Annually</td>
<td>10</td>
<td>2</td>
<td>4</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Biannually</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3–5 years</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Over 5 Years</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Over a Complete Market Cycle</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

B: Termination Evaluation

<table>
<thead>
<tr>
<th>Plan Sponsor</th>
<th>Quarterly</th>
<th>Semi-Annually</th>
<th>Annually</th>
<th>Biannually</th>
<th>3–5 Years</th>
<th>Over 5 Years</th>
<th>Over a Complete Market Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quarterly</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Semi-Annually</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Annually</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Biannually</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3–5 years</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>55</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>Over 5 Years</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>16</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Over a Complete Market Cycle</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>11</td>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.

termination decision is made.

As can be seen from the upper left-hand corner of the first matrix in panel A, 75 plan sponsor-investment manager combinations (42 percent) agreed that the ongoing evaluation used a quarterly time horizon. Panel B provides the pairwise comparisons for determining the extent to which investment managers correctly perceived the plan sponsor’s time horizon for termination evaluations. A total of 166 observations were available for this matrix. Adding together all the observations except those in the nine cells in the bottom right hand corner provides a count of all plan sponsor-investment manager combinations in which either party believed the termination decision was based on less than three years of experience. Only 26 such combinations (16 percent) were observed. This evidence appears to be in stark contrast to allegations that plan sponsors’ time horizons for terminating an investment manager (or the investment manager’s perception of the time horizon) lead to short-term trading behavior.

Investment managers were asked in general how long their performance would have to lag the performance benchmark agreed upon with the plan sponsor before they would alter the stock/industry selection process. More than three out of four respondents (78 percent) indicated that they would not alter their selection process based on inferior performance. Among those indicating that they would alter their selection process, the most prevalent time frame was a complete market cycle, accounting for 10 percent of the responses.

More than one-half (55 percent) of the investment managers indicated that the plan sponsor allowed them to raise cash. These managers were also asked how long their performance would need to differ from the performance benchmark before they would alter their normal style with respect to raising/holding cash. The majority (61 percent) of the respondents indicated that they would not alter their timing decisions based on their performance.

A major finding of this study was that plan sponsors and equity investment managers are largely in agreement on how the managers are being evaluated. It is apparent that short-term performance is not a high priority in that evaluation.

Sponsors were asked to rate on a scale of 1 (little importance) to 4 (very important) 10 possible criteria by which they evaluate the performance of each equity investment manager. Whether the manager has invested...
1.00 1.50 2.00 2.50 3.00 3.50 4.00

Chart 10
Plan Sponsors’ Criteria for Evaluating the Performance of the Plans’ Equity Investment Managers

- Performance against a specifically tailored benchmark
- How well plan's objectives have been met
- How well manager has invested according to stated strategy
- Degree of risk in the manager's portfolio
- Investment performance of other managers
- Other retirement portfolios that are similar
- Other retirement portfolios managed by the same person
- Predetermined objectives
- Performance of a group of stock mutual funds
- Market indices

Source: Employee Benefit Research Institute tabulations.

according to his/her firm's stated strategy was by far the most important criterion, with 73 percent of all respondents rating it as very important. Market indices (e.g., S&P 500, composite market index) ranked second (chart 10). For comparison, investment managers were asked to rank the relative importance of 10 criteria by which the portfolio's overall investment performance is evaluated. Market indices received the highest rating. Whether the managers had invested according to their stated strategy was nearly as important (chart 11).

Managers were asked to rate the importance to the plan sponsors of six possible criteria used in evaluating their investment performance in selecting stocks and industries. Performance below that required by the plan sponsors or the respondents themselves was by far the most important criterion, with 68 percent of all respondents rating it as very important. The other top two criteria mentioned were violation of specific limitations (e.g., how much to invest in a certain industry or specific stock) and violation of specific restrictions concerning the types of investments that the fund may make (chart 12).

Sponsors were asked to rate the relative importance of 12 possible reasons for terminating an equity manager. Although “inferior performance” was one of the listed categories, it ranked as only the third most important criterion. The two most important reasons were loss of confidence in the manager's process and inconsistent investment philosophy or style. Violation of specific restrictions concerning the type of investment that the fund may make ranked fourth, with an average of 3.34, and violation of specific limitations (e.g., how much to invest in a certain industry or specific stock) ranked seventh (chart 13).

These managers were asked how they thought the plan sponsor would rate seven factors with respect to their normal style of raising/holding cash. Appropriate reactions to market conditions and performance required by the plan sponsor or the investment manager themselves were rated as very important reasons. Violation of specific restrictions concerning the types of investment that the fund may make and changes in the portfolio's structure that do not meet the fund's objective were moderately important (chart 14).

Equity investment managers have an average tenure with the sample plans of more than five years and experience low turnover. The managers thus have sufficient time to prove their style without having to resort to short-term tactics.
Chart 11
Investment Managers' Evaluation of Plans' Overall Investment Performance

- Performance against a specifically-tailored benchmark
- How well plan's objectives have been met
- How well manager has invested according to stated strategy
- Degree of risk in the manager's portfolio
- Investment performance of other managers
- Other retirement portfolios that are similar
- Other retirement portfolios managed by the same person
- Predetermined objectives
- Performance of a group of stock mutual funds
- Market indices

Source: Employee Benefit Research Institute tabulations.

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Chart 12
Investment Managers' Perception of Plan Sponsors' Criteria for Evaluating Portfolios' Overall Investment Performance

- Performance below that required by sponsor or manager
- Changes in structure of portfolio do not meet objective of fund
- Potential overlap in investment portfolio of other managers
- Turnover or transaction costs too high compared to performance
- Violation of specific restrictions concerning types of investments
- Violation of specific limitations

Source: Employee Benefit Research Institute tabulations.
Chart 13
Plan Sponsors’ Reasons for Terminating an Equity Investment Manager

- Costs to close out manager’s account
- Inferior performance
- Loss of confidence in manager’s process
- Fund’s rate of return experiences a decline greater than allowed
- Personnel turnover
- Changes in structure of portfolio do not meet objective of fund
- Inconsistent investment philosophy or “style”
- Extensive overlap in investment portfolio of other managers
- Turnover or transaction costs too high compared to performance
- Turnover or transaction costs too high
- Violation of specific restrictions concerning types of investments
- Violation of specific limitations

Source: Employee Benefit Research Institute tabulations.

Chart 14
Investment Managers’ Perception of Plan Sponsors’ Criteria for Evaluating the Managers’ Normal Style of Raising/Holding Cash

- Appropriate reactions to market conditions
- Performance required by plan sponsor or manager
- Changes in structure of portfolio do not meet objective of fund
- Potential overlap in investment portfolio of other manager
- Turnover or transaction costs too high compared to performance
- Violation of specific restrictions concerning types of investments
- Violations of specific limitations

Source: Employee Benefit Research Institute tabulations.
for quick stock price appreciation.

After the investment managers’ performance has been evaluated, the plan sponsor has to make difficult decisions about which managers to retain and which to terminate. Perhaps the most important factor is the timeframe used before making a termination decision. As discussed previously, the most popular timeframe used in an investment manager termination decision was three to five years (selected by 61 percent of those responding).

The evaluation of investment managers by plan sponsors, including reasons for termination, was also discussed previously. Criteria for evaluation and termination were known and understood by the investment managers.

There is not a heavy turnover of investment managers by plan sponsors. Plan sponsors reported average tenures of equity managers, employed at the end of the year, ranging from 5.7 to 6.3 years between 1986 and 1990. Average tenure of managers terminated during these years ranged from 5.9 to 7.4 years. This figure corresponds to an average tenure in 1990 of 6.9 years among the investment managers responding to the second questionnaire (table 13).

Additional information may be derived from this question by computing an annual manager turnover ratio for each sponsor. For each case in which the necessary information was available, the number of equity managers terminated by the fund during the year was divided by the number of equity managers employed by the fund during the year. The mean turnover ratio for the sample ranged from 8.6 percent to 10 percent.

These long tenure lengths and low turnover rates reinforce the fact that plan sponsors have rather long time horizons.

Table 13
Descriptive Data for Plans’ External Equity Managers, 1986–1990

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Number of Equity Managers Employed by the Firm</td>
<td>5.8</td>
<td>6.1</td>
<td>5.9</td>
<td>6.2</td>
<td>6.3</td>
</tr>
<tr>
<td>Average Tenure of Equity Managers Employed at End of Year</td>
<td>5.8</td>
<td>5.7</td>
<td>6.0</td>
<td>5.9</td>
<td>6.3</td>
</tr>
<tr>
<td>Number of Equity Managers Hired by Fund During Year</td>
<td>0.5</td>
<td>0.9</td>
<td>0.6</td>
<td>0.8</td>
<td>0.6</td>
</tr>
<tr>
<td>Number of Equity Managers Terminated by Fund During Year</td>
<td>0.6</td>
<td>0.7</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>Average Tenure of the Terminated Managers</td>
<td>6.0</td>
<td>6.9</td>
<td>7.0</td>
<td>7.4</td>
<td>5.9</td>
</tr>
</tbody>
</table>

Source: Employee Benefit Research Institute tabulations.

Manager Evaluation and Equity Turnover

The next set of findings focuses on the relationship between investment manager...

Chart 15
Association Between Equity Turnover and Sponsors’ Evaluation of Plans’ Overall Investment Performance

Performance of similar types of retirement funds
Performance against a specifically tailored benchmark
Predetermined objectives
Performance of a group of stock mutual funds
Market indices

High turnover
Low turnover

Source: Employee Benefit Research Institute tabulations.
evaluation and equity turnover. These relationships were explored in an attempt to ascertain whether the turnover was driven by pressure for better performance. The sample of plan sponsor respondents providing turnover information was split into two groups: those with reported 1990 common stock turnover ratios below the sample median for plan sponsors (designated as low turnover in this section) and those with ratios equal to or above the median (designated as high turnover). A similar procedure was conducted for the sample of investment manager respondents, although their reported stock turnover ratios were compared with the sample median for investment managers.

External Management of Equity Portfolio

Plan sponsors were asked to indicate the percentage of the plan’s equity portfolio that was managed externally. The results suggest that lower turnover is strongly associated with external management of the equity portfolio. None of the respondents in the low turnover group had any portion of their equity portfolio managed internally. Those in the high turnover group had an average of 8.7 percent managed internally, with one respondent reporting that the entire equity portfolio was managed internally.

Evaluation of the Plan’s Overall Investment Portfolio

The association between a plan sponsor’s common stock turnover and his or her view of the importance of various criteria in evaluating the plan’s overall investment performance is shown in chart 15. None of the criteria was strongly associated with the plan sponsors’ turnover rate. In other words, for a particular criterion, the difference in the mean scores for the high and low turnover groups was not statistically significant. However, two of the criteria that investment managers thought were preferred by the plan sponsor were strongly associated with the investment manager’s turnover rate: how well the manager has met the plan’s objectives and performance against a specifically tailored benchmark. Managers experiencing low turnover on average thought their plan sponsors rated these criteria as less important than those experiencing high turnover (chart 16).
Criteria for Evaluating the Performance of a Plan’s Equity Investment Managers

Plan Sponsor Turnover—The only criterion for evaluating the performance of a plan’s equity investment managers that was strongly associated with plan sponsor turnover was performance against a specifically tailored benchmark (chart 17). Sponsors with high domestic common stock turnover on average rated this criterion as more important in their evaluation than those with low turnover. A potential explanation for this result is that, as the evaluation standard becomes more precise, the investment manager is forced to more aggressively pursue a value-added strategy.

Investment Manager Turnover—

- Performance in Selecting Stocks and Industries. The only criterion for evaluating performance in selecting stocks and industries that was strongly associated with investment manager turnover was potential overlap in investment portfolios of other investment managers employed (chart 18). Managers with low U.S. common stock turnover on average felt their plan sponsors would rate this criterion as more important in their evaluation than those with high turnover.
- Ability to Raise Cash. Although the low turnover managers on average are allowed to raise cash more frequently than their high turnover counterparts (56.4 percent versus 55.5 percent), the difference is too small to be statistically significant.
- Evaluation of Normal Style of Raising/Holding Cash. There appears to be no strong association between a respondent’s common stock turnover and his or her perception of the plan sponsor’s view of how important various criteria are in evaluating the normal style of raising/holding cash (chart 19).

Performance-Related Guidelines, Goals, and Objectives

Two types of performance criteria were strongly associated with plan sponsor common stock turnover. Sponsors with low turnover had a much larger portion of their portfolio measured against (1) the rate of inflation plus a specified number of percentage points or (2) other equity investments than their counterparts with higher turnover (chart 20). This supports the earlier conclusion that investment managers with more generic
Chart 18
Association Between Equity Turnover and Investment Managers’ Perception of Sponsors’ Evaluation of Performance in Selecting Stocks and Industries

- Performance below that required by sponsor or manager
- Changes in structure of portfolio do not meet objective of fund
- Potential overlap in investment portfolio of other managers
- Turnover or transaction costs too high compared to performance
- Violation of specific restrictions concerning types of investments
- Violation of specific limitations

Source: Employee Benefit Research Institute tabulations.

Chart 19
Association Between Equity Turnover and Investment Managers’ Perception of Sponsors’ Evaluation of Normal Style of Raising/Holding Cash

- Appropriate reactions to market conditions
- Performance required by plan sponsor or manager
- Changes in structure of portfolio do not meet objective of fund
- Potential overlap in investment portfolio of other managers
- Turnover or transaction costs too high compared to performance
- Violation of specific restrictions concerning types of investment
- Violation of specific limitations

Source: Employee Benefit Research Institute tabulations.
guidelines may not be selling existing securities as aggressively as those with specifically tailored benchmarks.

Two types of performance criteria were strongly associated with investment manager common stock turnover. Sponsors with low turnover were more likely to have their portfolio measured against the rate of inflation plus a specified number of percentage points and less likely to have it measured against a mutually agreed upon normal portfolio (chart 21).

Reasons for Terminating an Equity Investment Manager

None of the reasons for terminating an existing equity investment manager was strongly associated with plan sponsor common stock turnover in this study (chart 22).

Data Regarding External Equity Managers

One of the more revealing findings from these surveys is that a sponsor’s manager (as opposed to portfolio) turnover ratio is not strongly associated with the plan sponsor’s common stock turnover rates. In fact, the low common stock turnover group had a slightly larger manager turnover ratio (11.0 percent) than that of the high common stock turnover group (10.7 percent). Tests were also run to examine the potential influence on common stock turnover of the number of managers hired and fired during the year and the average tenure of both existing and terminated managers. In no case was there statistical significance; however, the average tenure of the terminated managers was substantially longer for firms with low turnover (5.41 years) than for their high turnover counterparts (3.58 years). The lack of statistical significance for this difference was due in part to the small number of responses to this question (24). The results suggest that investment managers in the high turnover category have had a slightly longer tenure with the survey plan. However, this result is heavily influenced by the maximum reported tenure in the high turnover category, and the result is not statistically significant.

Conclusion

A number of corporate managements allege that pension benefit funds base their buy-hold-sell decisions solely on a security’s short-term performance. By the end of the 1980s there appeared to be a growing belief among some policymakers that high stock turnover was indeed preventing corporate managements from undertaking long-term projects. Many, if not most, pension fund sponsors disagree with the contention that pension benefit funds are short-term oriented—their benefit funds have long-term liabilities and, as a consequence, it is not only desirable but necessary that they be invested long term.

With respect to the alleged pressure exerted on investment managers to produce short-term results, pension fund sponsors generally do not evaluate their investment managers on the basis of short-term performance. As shown in this Issue Brief, both plan sponsors and investment managers agree that managers generally

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27 As discussed earlier, normal portfolios have appeared as the appropriate benchmark for performance measurement; they can control for capitalization biases as well as biases toward almost any other investment characteristic.
Chart 21
Association Between Equity Turnover and Investment Managers’ Perception of Sponsors’ Performance-Related Guidelines, Goals, and Objectives

Source: Employee Benefit Research Institute tabulations.

Chart 22
Association Between Equity Turnover and Sponsors’ Reasons for Terminating an Existing Investment Manager

Source: Employee Benefit Research Institute tabulations.
are evaluated on their performance over at least one market cycle (three to five years) or longer. Although differences in data base constructions and portfolio objectives make any turnover comparisons between pension sponsors and other investors problematic, the data reported in this Issue Brief suggest that approximately 80 percent of the domestic equity held by U.S.-based plans had holding periods in excess of six months.

In summary, the belief that investment managers are pressured by fund sponsors to produce returns that outperform a benchmark index each quarter appears to be at odds with the data analyzed in this report.

References


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