Earnings Trends and Beating Analysts’ Forecasts: Are Both Considered Together Over Time?

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Archival research shows that the market reacts to two features of earnings: earnings trend and performance relative to analysts’ forecasts (i.e., meet/beat behavior). We investigate investor reaction to these two earnings features when provided together. We predict that the judged importance of each feature depends on its consistency across time. Specifically, we predict that if a feature is (is not) consistent over time, it will (will not) affect judgments of valuation and investment desirability. We test the effects of the two earnings features via four experiments using investment-savvy MBA participants. Our results show that investors generally rely only on an earnings feature when it is consistent, although we find some use of meet/beat information even when it is inconsistent. When both earnings features are consistent over time, investors use both in an additive fashion. Implications for researchers, firm managers, and theory are provided.
1. Introduction

Prior research in accounting indicates the importance placed by market participants on two features associated with earnings—(1) the trend in a firm’s earnings over time, and (2) whether the firms’ earnings meet or beat analysts’ forecasts. For example, Barth, Elliott, and Finn (1999) find that when earnings show consistent increases over time (i.e., exhibit a positive trend), firms are rewarded with a higher price-earnings multiple. Bartov, Givoly, and Hayn (2002) reveal a market valuation premium placed on firms that meet or beat analysts’ earnings forecasts, and Kasznik and McNichols (2002) show that beating these forecasts consistently is particularly valuable. Most of the existing research has separately examined either earnings’ trends or meet/beat performance, with less focus on examining how the market reacts to both factors in combination. The purpose of our study is to investigate how investors’ react to the combination of earnings trends and performance relative to analysts’ forecasts over multiple periods. We show this reaction is not static, but rather depends on the intertemporal consistency of those two earnings features.¹

Understanding how investors react to both factors over multiple time periods is important because market participants routinely evaluate firms in light of multi-period data about a firm’s earnings trend and their performance relative to analysts’ forecasts (Tan, Libby and Hunton, 2007). While research on the reaction to earnings trends takes a multi-period approach (e.g., Barth, et al., 1999), most research investigating the market reaction to missing or meeting analyst forecasts studies the effect of this performance for the current period only (e.g., Bartov, et al., 2002). Thus, even though market participants have information on both trend and meet/beat performance over time, prior research has not fully capitalized on this institutional fact. Further, since the two features may not be independent, conclusions drawn from either set of studies may
need to be modified when both features are considered in combination. In short, it is unclear how investors incorporate multi-period information about earnings trend and performance relative to analyst’s forecasts into their judgments about a firm.

To address the question of the how investors use earnings trends and multi-year benchmark information, we undertake the following in this paper: First, we draw on psychology theory to identify possible judgment strategies that investors could use when evaluating both earnings features over multiple periods. Judgment strategy refers to the manner in which individuals combine information about a firm’s earnings trend and benchmark performance to form judgments about firm valuation, desirability as an investment, and so on (Ashton, 1982). Specifically, we generate three possibilities: a dominance strategy wherein only one of the earnings features influences the judgments, an additive strategy wherein both features are used but have independent effects on judgment, and an interactive strategy wherein both features are used but interact in their effect on judgments.

Second, we conduct four experiments to investigate the conditions under which these strategies are used. Multiple experiments are necessary to test our hypothesis that how investors react to these two earnings features depends on their consistency over time. Consistency is important because we argue that it affects the informativeness of the earnings feature (Tucker and Zarowin, 2006). In each experiment, participants are presented with multi-period information about two attributes of earnings—specifically, they are told earnings per share (i.e., trend information) and whether the companies beat or missed analysts’ earnings forecasts (hereafter, benchmark performance). They are provided this information for a five-year time period and for four firms. These firms are identical except for the earnings trend and benchmark performance documented for each. Participants evaluate each of the four firms along several
dimensions that pertain to market-related measures, including value, desirability as an investment, and future prospects. These measures are relevant because they map into the those studied in archival studies, including market returns (based on investor valuations and desire to invest) and their relation to future earnings (Bartov, et al., 2002; Kasznik and McNichols 2002).

In the first two experiments, we test the effects of earnings trend and benchmark performance when only one of the two is consistent across time. Specifically, in experiment one, earnings trend is varied as consistently increasing or flat across the five-year time horizon. In contrast, the benchmark performance is not consistent as it alternates between beats and misses in two different patterns. In experiment two, we “reverse” the design. Specifically, benchmark performance is consistently beating or missing while earnings trend is not consistent, but rather alternates between earnings increases and decreases in two different patterns.

The third and fourth experiments both vary earnings trend and benchmark performance such that each is consistent across time. Specifically, the third experiment manipulates the earnings trend as consistently increasing versus flat and manipulates benchmark performance as consistently beating versus missing the benchmark. The fourth experiment provides an even stronger test than the third by substituting meeting the benchmark for missing the benchmark. That is, it arguably reduces the judgment difference between the two levels of benchmark performance (i.e., from consistently beating versus missing to consistently beating versus meeting), thereby making it less likely that investors will differentially react to it.

Overall, the results of the four experiments confirm our prediction that investors’ judgment strategies used when reacting to earnings features depends on the consistency of those features. Specifically, our first two experiments reveal that when only earnings trend or benchmark performance is consistent (and the other is inconsistent across time), investors rely more
heavily on the consistent earnings feature. This result suggests a reliance on a dominance judgment strategy. However, one unanticipated finding emerged from these first two experiments. Even when firms’ benchmark performance is not consistent, we observe that investors nevertheless also incorporate that information in their evaluations, indicating an additive judgment strategy in this situation. Although this latter result might indicate that benchmark performance dominates investors’ evaluations of companies, the results from our experiments three and four suggest otherwise. In particular, these experiments indicate that when earnings trend and benchmark performance are each consistent across time, they exert independent and additive effects on investors’ judgments. In addition, our results do not lend credence to the idea that firms that consistently beat benchmarks and have increasing earnings trends are rewarded with an additional valuation premium beyond the sum of the value for the two individual factors.

Experimentation affords us several advantages. First, through experimentation, we are able to hold constant economic variables that often are present in naturally occurring situations but that are unrelated to our primary research question. For example, by design, we can hold constant the total amount of reported earnings over the five-year period that we study. Second, by using an experiment, we are able to investigate different combinations of earnings trends and benchmark consistency—combinations that may not be found in sufficient frequency in archival data to allow for powerful tests. As shown in the data of Brown and Caylor (2005), earnings trends and benchmark performance often move together. That is, increasing earnings trends are commonly coupled with earnings that beat the analyst benchmark, and flat or decreasing earnings are often coupled with poor performance relative to the benchmark. In fact, Brown and Caylor (2005, 429, fn 17) report that only 32 percent of their sample of 111,485 firm-quarters
display a mismatch in these earnings attributes. Thus, while a reasonable percentage of firms do have mismatches in these two earnings features, it is more difficult to parse out the effects of the two earnings attributes with naturally occurring data.

Our study contributes to the existing literature in several ways. First, our study provides systematic evidence regarding how investors evaluate firms in light of multi-period information about both earnings trends and benchmark performance. As noted earlier, market participants regularly evaluate firms and features of their earnings over multiple time periods, but the existing research has not capitalized on this institutional feature. Investigating investor reaction to both features over time is important to strengthen our understanding of this important setting.

Second, our study adds to the existing literature by identifying and testing an important moderator variable regarding how investors react to these combinations. In particular, we investigate whether various combinations of the consistency of earnings trend and benchmark information influence the way in which investors bring together these two pieces of information. Because of the numerous combinations of earnings trend and benchmark data that can occur over time, identifying and testing how investors react to different combinations of these features enhances our ability to generalize our findings.

Our study also adds to psychology theory. In particular, our study shows that the judgment strategies employed by individuals depend on characteristics of the data – specifically, their consistency across time. Most of the existing research explores how characteristics of the person or the environment influence the strategies that are followed (Payne, et al., 1993; Bonner, 2008). For example, high time pressure (an environmental characteristic) can change the manner in which individuals incorporate information into their judgments (McDaniel, 1990). By documenting how the information being evaluated can change the evaluator’s judgment strategy,
we add to psychology research and expand our understanding of how people adapt their evaluation strategies across problem situations.

Our study also has practical implications. In particular, our paper can help firm managers understand how investors react to their financial information over time and in light of multiple earnings features. Managers are often accused of having a preoccupation with meeting or beating analysts’ forecasts for the current period (Levitt, 1998). Firm managers should find it informative that investors also care about the earnings trend over time and that their reaction is not dominated by concerns about benchmark performance.

In the following section, we review the extant literature on earnings trends and benchmark performance. Section three presents our arguments regarding the types of judgment strategies investors might use when faced with earnings trend and benchmark data over multiple time periods, as well as our predictions. Section four describes the experiments, and section five contains a discussion of the results of our four experiments. Section six presents conclusions.

2. Background Literature

Prior research in accounting indicates that investor decisions are affected by firms’ earnings trends and their ability to meet or beat analysts’ earnings forecasts. Research related to these two areas, along with relevant psychology theory, is briefly reviewed next.

2.1 EARNINGS TREND RESEARCH

Several prior studies in accounting have shown that earnings trends are important to firm valuation. Specifically, Barth, Elliott, and Finn (1999) investigate the effect of consistent annual earnings increases on stock prices and returns. They find evidence that firms with consistently increasing earnings have significantly larger earnings multiples than other firms and that this relation persists after controlling for growth and risk. Interestingly, they also document that
firms must continue this trend in earnings to sustain the enhancement of the price-earnings multiple; a single year of decreased earnings reduces the multiple, and two decreasing years eliminates the prior five years of increment. In a similar vein, Myers, Myers, and Skinner (2006) indicate that firms reporting strings of quarterly earnings increases (twenty quarters or more) have abnormal returns of twenty percent per year during the duration of the string. ²

Research results in psychology are consistent with these findings. Specifically, Loewenstein and Prelec (1993) show that people have strong preferences for improving sequences of outcomes. Indeed, they demonstrate that people have a desire to “save the best for last.” This preference is quite strong and occurs even when economically rational behavior suggests that valuable outcomes should be desired sooner, rather than later. In sum, individuals pay attention to multi-period trends.

2.2 EARNINGS BENCHMARKS RESEARCH

While prior research shows that earnings trends are significant to firm valuation, other research reveals the importance of meeting or beating analysts’ forecasts (i.e., benchmark performance). Specifically, Burgstahler and Dichev (1997) were the first to note the striking paucity of firms missing analysts’ forecasts and other earnings benchmarks by small amounts. They posit that firms manage earnings to avoid just missing benchmarks, suggesting that managers believe their stakeholders value the ability to meet these benchmarks. Lopez and Rees (2002) confirm this idea by demonstrating that the market penalty for missing forecasts is significantly greater in absolute terms than the response for beating forecasts. Brown and Caylor (2005) show that meeting or beating analysts’ quarterly earnings forecasts leads to higher abnormal returns than avoiding losses (i.e., where the benchmark is $0 earnings) or earnings decreases (where the benchmark is last period’s earnings). ³ They also indicate that performance
relative to the analysts’ forecast benchmark has become increasingly important to capital market participants in more-recent time periods. Bartov, Givoly, and Hayn (2002) find that the positive market return for firms that meet or beat current analysts’ earnings expectations occur even in situations where the benchmark performance was likely achieved through earnings or expectation management.

Most relevant to our study, some research has explored the importance of performance relative to benchmarks for more than one time period. Kasznik and McNichols (2002) investigate the impact of meeting (versus missing) the analysts’ forecast benchmark for one, two, or three consecutive years. They find that firms that meet (or beat) the benchmark receive a market premium in each year this occurs. However, it is only in the third consecutive meet/beat year that the premium is greater than that which can be explained by the firms’ fundamentals. Several studies also show that investors value the unexpected earnings of firms who consistently beat the forecast benchmark more than those who beat the benchmark sporadically (Lopez and Rees 2002; Bartov, et al., 2002).

The consideration of performance relative to benchmarks is not unique to accounting. In psychology, research indicates that people routinely evaluate outcomes or performance relative to reference or comparison points (Kahneman and Tversky, 1979; Kulik and Ambrose, 1992). Such reference points can be zero, or can be other points such as one’s expectation or a base rate. Performance above such reference points is coded as a gain, while performance below them is coded as a loss. The coding of outcomes into gain and loss categories is particularly powerful, as people react more strongly to losses than they do to gains even when the magnitude of the gains and losses is identical (Kahneman and Tversky, 1979). Consequently, people prefer consistent sequences of favorable outcomes (i.e., gains) over time to inconsistent sequences of gains and
losses, even when the total outcome is held constant (Thaler, 1985). In sum, the literature indicates that people pay attention to outcomes relative to benchmarks for multiple time periods (Tan, Libby, and Hunton 2002).

2.3 THE JOINT EFFECT OF EARNINGS TREND AND BENCHMARK PERFORMANCE

Although there is a great deal of literature regarding either earnings trends or benchmark performance, there is less research investigating the effects of the two in combination, particularly where both are examined over multiple time periods. Three papers consider both earnings features. However, in two of these studies, only one (not both) earnings feature is examined through time. In the third, the analysis is not a central element of the paper and consequently, few details are provided.

We turn first to the two studies that consider both earnings features, but investigate only one of them over multiple time periods. Specifically, Lopez and Rees (2002) test whether an increasing earnings string for five quarters explains the positive returns accruing to firms who beat analysts’ forecasts in the current period. They find that the returns to beating analysts’ forecasts are not merely due to the reaction to increasing earnings; in fact, it appears from their analysis (Table 6, 178) that positive benchmark performance has a larger effect on returns than does earnings trend. Similarly, Brown and Caylor (2005) use quarterly data and show that since the mid-1990’s there is greater reaction to meeting/beating analysts’ forecasts than to avoiding earnings declines, suggesting that analyst benchmark performance may overshadow the impact of earnings trend.

The only study (to our knowledge) that considers both earnings factors over time actually does so only in a sensitivity analysis (i.e., is not the primary point of the paper). Specifically, Kasznik and McNichols (2002) study whether the market’s reaction to meeting analyst forecasts
is due to implications about future earnings. In the sensitivity analysis in this paper, the authors examine the effects of both earnings features over three years. They use annual data and document that there are incremental market rewards to both meeting analysts’ forecast benchmarks and to increasing earnings but that there is a greater market premium for increasing earnings. Thus, their study suggests a different conclusion about the relative importance of the two earnings features than do the Lopez and Rees (2002) and Brown and Caylor (2005) studies. Because none of these studies has the objective of studying these two earnings features over time and because they offer different conclusions about the relative importance of these two features, it is difficult to draw firm conclusions from them.

3. Possible Investor Reaction Strategies and Predictions

In this section of the paper, we first draw on both archival research and psychology theory to describe possible judgment strategies that investors may use as they jointly consider earnings trend and benchmark performance over time. Judgment strategy refers to the manner in which individuals combine information about a firm’s earnings trend and benchmark performance to form judgments about firm valuation, desirability as an investment, etc. (Ashton, 1982). A judgment strategy may be deliberately chosen or may be used automatically without deliberate thought (Payne, et al., 1993, 14). Next, we develop predictions about how the consistency of the earnings benchmark and trend information in a multi-period environment may influence the judgment strategy employed by investors.

3.1 JUDGMENT STRATEGIES

First turning to the issue of how investors may react to multi-period information about earnings trends and benchmark behavior, we identify three possible judgment strategies. These strategies originate from basic research done in psychology (Hammond, 1955; Meehl 1954) as
well as many applied fields, including medicine (Hoffman, Slovic, and Rorer, 1968; Doyle and Thomas, 1995), law (Pennington and Hastie, 1981), meteorology (Lusk and Hammond, 1991) and accounting and auditing (Ashton, 1982; Libby, 1975; Bonner, 1990).

One possible strategy is a dominance strategy. Here, either earnings trend or benchmark performance will dominate investor judgments, with the other factor playing an insignificant role. There are several reasons why this strategy could be employed. For example, it might be used if investors consider one earnings feature to be more important than the other. The recent, increased focus on analysts’ forecasts benchmarks (Brown and Caylor, 2005) suggests that investors may rely solely on benchmark performance rather than considering the earnings trend. Alternatively, investors may rely on only one of the two earnings features if the other does not provide clear information about the firm. For example, if the earnings trend information is inconsistent in its implications for the firm (i.e., alternating between earnings increases and decreases) while benchmark performance is consistent across time (e.g., all beats), investors may rely exclusively on the benchmark information. Finally, because earnings trend and benchmark data are often correlated (i.e., increasing trends often are accompanied by meet/beat performance) (Brown and Caylor 2005), investors may learn to focus on only one of the two factors to simplify their judgment task (Payne, Bettman and Johnson, 1993). This strategy is summarized below.

**Dominance Judgment Strategy**: Either earnings trend or benchmark performance will dominate investors’ judgments, with the other factor having an insignificant effect.

Another possible judgment strategy is an additive strategy. Much judgment research shows that information often is used in a manner that is well described by such a strategy (e.g., Dawes and Corrigan 1974; Wright, 1979). That is, the judgment effect of each piece of informa-
tion is significant and, importantly, is independent of the effect of the other information. This strategy could be descriptive if both earnings trend and benchmark performance are influential in investors’ evaluation of a firm. This additive approach is not inconsistent with (but also cannot be definitively inferred from) the empirical research which shows that there is an incremental effect of benchmark performance above and beyond that provided by increasing earnings (Lopez and Rees 2002). In an additive strategy, individuals can place equal or unequal weight on the factors that they are considering; the only requirement of this strategy is that the effect of each factor is significant and independent of the other. This strategy is summarized below.

**Additive Judgment Strategy:** Earnings trend and benchmark performance will both independently affect investor judgments.

A third judgment strategy is a non-additive or *interactive* strategy. Here, the effect of either earnings trend or benchmark performance is not the same at both levels of the other factor. For example, an interactive strategy exists if an increasing earnings trend is only important when benchmark performance exhibits consistent beats (or meets) over time. This situation could occur if favorable benchmark performance is a necessary condition for investors to consider other features of earnings, such as trend (cf. Han and Tan 2007). Thus, an interactive strategy occurs if the joint effect of earnings trend and benchmark performance signals something different to investors from their separate effects. This strategy is summarized below.

**Interactive Judgment Strategy:** The effect of either earnings trend or benchmark performance is not the same at both levels of the other factor.

In sum, we posit that there are three plausible, but competing judgment strategies regarding how investors will evaluate earnings trend and benchmark performance. The dominance strategy suggests that either earnings trend or benchmark performance will dominate investors’ evaluations. The additive strategy suggests that both earnings trend and benchmark
performance have significant independent effects on investor judgment. The interactive strategy indicates that the effect of either earnings trend or benchmark performance is not the same at both levels of the other factor.

3.2 PREDICTIONS

Which of these strategies will be used by investors observing earnings trend and benchmark performance for multiple periods? Drawing on psychology research, we argue that the judgment strategies used by investors will vary depending on the intertemporal consistency of the earnings trend and benchmark data (Payne, et al., 1993). Consistency arguably affects the informativeness of those two earnings features. The basic logic is that consistent performance for an earnings feature is constant in its implications across time. As a result, such information is clearer about the state of the firm than is inconsistent information (Camerer and Weber, 1992). Clearer information increases the investors’ knowledge and confidence about the process that generates the outcomes and, thus, is more likely to be used (Einhorn and Hogarth, 1985). Consequently, we posit that the judgment strategy to be used by an investor will differ for situations involving consistent versus inconsistent information.

We hypothesize that when either earnings trend or benchmark performance is not consistent across time, investors will concentrate on the consistent earnings feature (i.e., employ a dominance strategy). That is, if it is difficult for investors to ascertain the implications of an earnings feature, they are not likely to rely on it in their evaluation of the firm. Rather, the consistent earnings feature will dominate their judgments.

In contrast, when both of the earnings features provide consistent information, we hypothesize that investors are likely to rely on both when forming judgments. In doing so, they may rely on either an additive or interactive judgment strategy. Because prior archival research
and psychology theory can be used to support arguments for either strategy, we cannot a priori specify which strategy will be used. For example, because separate studies have shown that earnings trends and benchmark performance are used by market participants, it is certainly arguable that investors will consider both in an additive fashion when evaluating a company. Alternatively, investors may consider the joint effect of both factors, particularly when they convey favorable information (i.e., increasing earnings over time and consistent beat behavior), to be greater than the sum of each effect individually. Thus, although we can predict that investors will use both earnings trend and benchmark information when both features are consistent across time, we do not specify whether this use will be in an additive or interactive fashion.

4. Experiments

4.1 DESIGN AND PARTICIPANTS

To investigate the effect of multi-period earnings trend and benchmark performance on investors’ judgment strategies, we conduct four experiments. Multiple experiments are necessary to show that how investors react to these two earnings features depends on their consistency. An overview of the four experiments is provided in Exhibit 1. Each of the studies follows a similar structure, employing a $2 \times 2$ within-participants design, and each contains the same dependent variable questions. General information is provided below and further details are provided with the results in the next section.

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Insert Exhibit 1 about here.
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One hundred MBA students in a top-twenty business school volunteered to participate in the studies in return for a small fixed payment. After arriving at the research room, the partici-
pants were randomly assigned to one of the four experiments (which were conducted simultaneously). The participants had an average of 5.0 years of work experience. Seventy-two percent of participants had previously made investments in common stocks and 97 percent either had invested or planned to invest in common stocks in the future. Participants had taken an average of 4.7 finance and 3.0 accounting classes.

We used MBA students as proxies for reasonably informed investors for two reasons. First, non-professional, individual investors are an important group, with 33.8 million individuals investing directly in the stock markets (NYSE [2002]) and owning nearly 34 percent of all shares outstanding (Bogle [2005]). Due to special interest in aiding this group, the Securities and Exchange Commission passed Reg FD so that non-professional investors would be on an “even playing field” with analysts and other professional investors. Thus, this is an important group to study because of its size and its importance to the market and its regulators.

Second, following the guidance set forth in Libby, Bloomfield, and Nelson (2002, 802), we matched participants to the goals of the experiment and did not use more sophisticated participants than was necessary to achieve those goals. As noted by Libby, Bloomfield, and Nelson (2002), sophisticated participants are in short supply and should be used only when the research question necessitates it. Ex ante, we judged that MBA students’ general knowledge of accounting, business finance, and financial markets is sufficient for completing our experimental task (Elliott, Hodge, Kennedy, and Pronk, 2007).

4.2 MATERIALS, MANIPULATIONS, AND QUESTIONS

Each of the four experiments began with instructions for participants to assume the role of a potential stock investor reviewing the earnings of four otherwise identical companies (Companies A, B, C, and D). Next, participants were given information about the earnings trend
and the benchmark performance for each of the four companies. The information for the four companies was provided on one page, thereby allowing easy comparisons among them. The trend and benchmark performance represents the two independent variables which are each at two levels. For each of the experiments, the trend information was communicated in the form of numerical earnings per share, and was described as the actual earnings per share reported in the company’s 10-K report. A key design feature of our experiments is that we held constant the sum of the actual earnings over the five years; this aspect of our design rules out differential historical economics as a possible alternative explanation for our results. For each of the experiments, we described the benchmark performance in qualitative terms (e.g., beat benchmark, missed benchmark, met benchmark). This approach was necessary as it is not possible to simultaneously describe the earnings and benchmark performance in quantitative terms without also varying the numerical benchmark. Thus, to avoid this confound, we described the benchmark in qualitative terms. The benchmark was noted to be a “comparison of actual earnings to the consensus (i.e., average) earnings forecasted for the company by Wall Street analysts.”

In the first two experiments, we test the effects of earnings trend and benchmark performance when only one of the two is consistent across time. In experiment one, earnings trend is consistently increasing or flat across the five-year time horizon. In contrast, benchmark performance is inconsistent as it alternates between beats and misses. In experiment two, we “reverse” the design. Specifically, benchmark performance is consistently beating or consistently missing. Earnings trend, on the other hand, is inconsistent as it alternates between earnings increases and decreases.
The third and fourth experiments vary both earnings trend and benchmark performance such that both are consistent across time. Specifically, the third experiment manipulates the earnings trend as increasing versus flat and manipulates benchmark performance as consistently beating versus missing the benchmark. This experiment allows us to investigate how investors react to the two earnings features in combination when both provide informative cues about the firm. The fourth experiment tests the generality of the third experiment’s findings (and also provides a stronger test) by substituting meeting the benchmark for missing the benchmark. It tests whether benchmark performance has important judgment effects when the firm beats versus just meets the forecasts, rather than missing the forecast. Exhibit 1 provides a summary of the four experiments.

In each experiment, after participants reviewed the trend and benchmark performance information for each of the four companies, they were asked the dependent variable questions for each of the four firms. We used 101-point response scales with appropriately labeled endpoints (where 0 corresponded to low or weak and 100 corresponded to high or strong). The first question asks for an assessment of firm value (low to high) and relates to the price (and return) measures commonly used in this line of research (e.g., Barth, et al., 1999). A second question asks participants to evaluate how desirable a potential investor would consider each of the firms as an investment. In addition, in light of research by Bartov, et al. (2002) and Kasznik and McNichols (2002) showing that benchmark performance is related to future earnings, we asked participants how they would evaluate the firms’ future prospects. While these questions are used to address our research questions, we also asked the participants to evaluate the firms’ riskiness and predictability of earnings and we report those results in footnotes.
We also asked participants two questions to quantify their own assessment of the importance of trend and benchmark performance. Specifically, using a 101-point scale with 0 representing “not at all important” and 100 representing “highly important,” we asked them to indicate the importance they placed on the trend in actual earnings and also the company’s ability to meet/beat the earnings benchmark when they were doing the experimental task. These questions, which were asked last, provide insight into participants’ perceived importance of the two earnings attributes.

Below we discuss each experiment in turn. First, we describe the specific types or levels of earnings trend and benchmark performance used in the experiment. Following this, we present the results for the experiment.

5. Results

5.1 EXPERIMENT ONE

In the first experiment, the earnings trend was consistent and the earnings benchmark performance was inconsistent. Specifically, we varied earnings trend at two levels: consistently increasing or consistently flat. The increasing trend showed EPS over the prior five years as $1.01, $1.02, $1.06, $1.07, and $1.09, in that order, while the flat trend showed five years of EPS of $1.05 per year. The increasing trend is likely to be viewed more favorably than the flat trend, even though the sum of both sequences equals $5.25. We varied benchmark performance at two inconsistent levels. Specifically, the benchmark performance involves three years of beating the benchmark forecast and two years of missing it (i.e., beat/miss/beat/miss/beat – hereafter ‘inconsistent-three beats’) or two years of beating the benchmark forecast and three years of missing it (i.e., miss/beat/miss/beat/miss – ‘inconsistent-three misses’). While benchmark performance is inconsistent in both conditions, the two conditions do vary in terms of the number
of beats or misses relative to the benchmark and also in terms of the current year benchmark performance. Specifically, the inconsistent-three beats situation is more favorable than the inconsistent-two beats situation, as the former has a greater number of periods (i.e., three versus two) in which the company beat its benchmark. Further, in the inconsistent-three beats condition, the current-period performance involves beat (versus miss) performance. Exhibit 2 illustrates how the information was displayed for participants in experiment one.

The experiment one results are shown in Table 1. Specifically, Panel A shows the means and standard deviations by condition for the three dependent measures. Panel B summarizes the results of the repeated measures analysis of variance (ANOVA) estimated for each of these dependent measures. As predicted, an increasing earnings trend has statistically significant positive effects on the firms’ value ($F = 13.60, p < 0.01$), desirability as an investment ($F = 28.13, p < 0.01$), and future prospects ($F = 37.62, p < 0.01$). Although we anticipated that investors would rely solely on the consistent earnings feature (i.e., earnings trend), our results show that the inconsistent feature, benchmark performance, also has an influence on some investor judgments. That is, benchmark performance influenced investors’ judgments of firms’ value ($F = 11.71, p < 0.01$) and investment desirability ($F = 5.41, p < 0.05$), such that the firm in the inconsistent-three beats condition was judged more positively than the firm in the inconsistent-three misses condition. Thus, while we anticipated a dominance strategy would be employed in this situation, our results are also suggestive of an additive approach. That is, with the exception of the future prospects dependent measure, both earnings features appear to
influence investor judgments, contrary to our expectation. Certainly, there is no evidence of interactive effects in this experiment.

5.2 EXPERIMENT TWO

Experiment two is essentially the reverse of experiment one. That is, benchmark performance provided consistent information: the firm either missed the benchmark or beat the benchmark in all five periods. In contrast, earnings trend was inconsistent. Specifically, earnings either shows a pattern of $1.09, $1.02, $1.07, $1.01, and $1.06 (which we call “inconsistent-down”) or a pattern of $1.01, $1.09, $1.02, $1.07, and $1.06 (“inconsistent-up”). These two series sum to the same total earnings ($5.25). Although neither level of this variable is consistent across time, the inconsistent-up series does end higher than it started, while inconsistent-down does the opposite.

The results for this experiment are shown in Table 2, with Panel A showing descriptive statistics and Panel B presenting the inferential statistics. The results of experiment two are supportive of our expectation that a dominance strategy would emerge. As expected, positive benchmark performance has a statistically significant positive effect on investors’ judgments of firm value ($F = 39.06, p < 0.01$), desirability as an investment ($F = 25.68, p < 0.01$), and the firms’ future prospects ($F = 18.04, p < 0.01$). Earnings trend does not affect these judgments and the two factors do not interact.
5.3 EXPERIMENT THREE

Experiment three addresses the question of how investors react to earnings features when each is consistent over time. In this experiment, we combine the earnings trend conditions of experiment one with the benchmark performance conditions of experiment two. Thus, earnings trend is varied at two levels: increasing (i.e., EPS of $1.01, $1.02, $1.06, $1.07, and $1.09) or flat (five years of EPS at $1.05 per year). Again, the sum of both sequences equals $5.25. The second factor, benchmark performance, is at two levels: consistently missing the benchmark or consistently beating the benchmark for the five years.

The results for this experiment are shown in Table 3, with Panel A showing descriptive statistics and Panel B presenting the inferential statistics. As shown in Panel B, earnings trend and benchmark performance each show significant main effects for firm value, investment desirability, and future prospects (all \( p \)-values < 0.05). That is, companies with increasing trends in earnings are valued more highly than are those with flat earnings per share, and companies that consistently beat their benchmarks are valued more highly than those that miss their benchmarks.

For the common stock valuation and potential investment desirability judgments, the results show no significant interactions (both \( p \)-values \( \geq 0.15 \)). Thus, for these measures, our results support an additive judgment strategy. A slightly different pattern of results emerges for the future prospects measure, however. Although that measure shows two significant main effects, suggesting an additive judgment strategy, we also see a significant interaction (\( F = 4.31, p = 0.05 \)). That is, the future prospects of the company increase by a larger amount for increasing earnings when the company has consistently beaten the benchmark than when they
have consistently missed the benchmark. However, these two earnings features do not interact in their effect on investors’ valuation or investment desirability.

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Insert Table 3 about here.
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5.4 EXPERIMENT FOUR

Experiment four is the same as experiment three, with one exception. We substituted meet benchmark for miss benchmark. Thus, two factors were manipulated on a within-participants’ basis: earnings trend (upward or flat) and benchmark performance (beat or meet benchmark). Prior research (Bhojraj, et al., 2003) suggests that the market distinguishes between meeting versus beating analyst forecasts, placing less of a premium on merely meeting relative to beating the benchmark. While they test this idea in a single-period setting, our experiment four extends it to a multi-period situation.

The results for this experiment are shown in Table 4, with Panel A showing descriptive statistics and Panel B presenting the inferential statistics. The results of experiment four are similar to those of the third experiment. That is, companies with increasing trends in earnings are valued more highly than are those with flat earnings per share, and companies that consistently beat their benchmarks are valued more highly than those that just meet their benchmarks. This additive pattern holds for the value, investment desirability, and future prospects judgments. In sum, investors use an additive judgment strategy.

------------------------------------------
Insert Table 4 about here.
------------------------------------------
5.5 ADDITIONAL ANALYSES

After participants completed the experiment, we asked them to respond to two self-insight questions. Specifically, they were asked to indicate the importance they placed (during the experiment) on the trend in actual earnings and the firms’ performance relative to the earnings benchmark. They rated these on a scale of 0-100 with high ratings indicating more importance. In the first two experiments, the participants provided higher importance ratings for the earnings feature that was consistent over time. For experiment one where earnings trend was consistent or flat but benchmark performance was inconsistent, mean importance responses were 76.72 for earnings trend and 60.84 for benchmark performance ($t = 2.79, p = 0.01$). For experiment two (with the “reverse” design), earnings trend was inconsistent but benchmark was consistent and the mean responses were 56.88 and 78.12, respectively ($t = 3.42, p < 0.01$). Thus, participants did weight the two cues differently (and in the direction one would expect given the consistency manipulation). For experiments three and four where both earnings features provided consistent clear signals about the firm, participants rated the two features as similar in importance (experiment three: 77.92 for trend and 75.04 for benchmark performance, $t = 0.53, p = 0.60$; experiment four: 74.6 and 75.88, $t = 0.29, p = 0.78$). Overall, our participants appear to have relatively good self-insight into how they responded to the two earnings features.

6. Conclusions

Overall, our results support the idea that investors change their judgment strategies depending on the consistency of the signals provided by earnings trend and benchmark performance over multiple periods. While most of the results were as expected, not all were. For example, we found, as expected, that in the situation where earnings trend was inconsistent across time but benchmark performance was consistent, investors relied solely on benchmark
performance to make their judgments—that is, they used a dominance strategy, as we anticipated. However, in the converse situation when earnings trend was consistent and benchmark performance was inconsistent across time, investors considered both factors in their evaluative judgments about companies—they used an additive strategy rather than the dominance strategy that we anticipated. Although these results might indicate that benchmark performance dominates investors’ evaluations of companies, the results from the final two experiments suggest otherwise. Specifically, the last two experiments demonstrate that when the earnings trend and benchmark performance each provide consistent signals across time, investors incorporate both factors into their judgments, as we hypothesized. The two experiments showed that the manner in which investors consider both factors is largely additive, meaning that both earnings features exert independent effects on investor judgment. We found no evidence that earnings benchmark data dominate information about earnings trends.

Our study has limitations which suggest directions for future research. First, our experimental participants saw all five years of earnings information at once rather than experiencing them over time. In addition, they saw information for all four firms simultaneously. While it is possible for investors to search out and organize information in a similar fashion (e.g., using the internet and spreadsheets), they may not do so and therefore may not have such easy access to information regarding the consistency of firms’ earnings trend and benchmark performance. In this case, current performance may be the only usable cue. Archival research showing a market reaction to earnings trend and multi-period benchmark information provides evidence against this view, however.

A second limitation is that we cannot unambiguously identify why participants responded to the two levels of the inconsistent benchmark data in experiment one. Recall that in this
experiment, we presented participants with consistent earnings trend information but inconsistent benchmark performance. We expected they would follow a dominance strategy such that earnings trend would have a significant effect while benchmark performance would not. Instead, we observed that both variables showed significant main effects (i.e., the additive strategy was employed). The effect for the benchmark performance variable (i.e., inconsistent-three beats versus inconsistent-three misses) could be driven by either (1) the number of beats in the five years of data, or (2) benchmark performance in the current year. Because inconsistent-three beats (inconsistent-three misses) was always paired with beating (missing) the benchmark in the current year, these two explanations for the benchmark performance effect cannot be disentangled. As noted above, some archival research focuses on and finds important effects for current-period benchmark performance while other work suggests multi-period benchmark information is used. Thus, both explanations are plausible and this limitation to our design provides an opportunity for future work to further disentangle the effects of benchmark performance consistency and current year performance.

Market reaction to features of earnings is a popular area of investigation for accounting researchers. Currently, there is a particularly strong interest in the effect of earnings performance relative to analysts’ forecasts. Our study shows that the effect of analyst forecast benchmark performance does not take place in a vacuum but rather is only one of the earnings features that affects investors’ judgments. Further, we show that reaction to benchmark performance is contingent on its consistency across time and on the information other earnings features provide about firm value. Thus, we encourage researchers to study earnings features (e.g., trends and benchmark performance) in combination to get a more complete understanding of the effects of each feature.
ENDNOTES

1 We define consistency as “constancy in implications across time.” Thus, a firm that always beats analyst forecasts is consistent. A firm that only sometimes beats analyst forecasts (and misses the rest of the time) is inconsistent.

2 Other research investigates whether these valuation increases occur even when the quality of earnings is questionable. Specifically, Francis, LaFond, Olsson, and Schipper (2003) test the price effects of increasing earnings in conjunction with the quality of the earnings. They find that patterns of annual earnings increases are priced positively in situations of both high and low quality earnings. Thus, an increasing earnings trend is valued by market participants, even if earnings may require strategic management intervention to continue the trend.

3 A similar finding is reported by Jiang (2008) in the bond market. Specifically, he shows that beating a benchmark, including analysts’ forecasts, increases (decreases) the probability of a bond rating upgrade (downgrade).

4 Lopez and Rees defined the habitual beaters as those beating analysts’ forecasts five or more consecutive quarters, while Bartov, et al. define them as those that beat analysts’ forecasts in 75% of the previous twelve quarters.

5 Some refer to this strategy as a disjunctive strategy (Ashton, 1982).

6 This argument is similar to Tucker and Zarowin’s (2006) idea and finding that smooth (consistent) income provides more information about the firm than does a volatile (inconsistent) income stream, leading to greater price effects.

7 Participants completed an unrelated study before participating in the current study. All conditions of the previous study were counterbalanced with those of these studies, thereby alleviating the potential for carryover effects. Further, statistics tests reveal no systematic carryover effects.

8 We also asked two questions regarding the participants’ beliefs about the credibility of the firms’ managers’ financial reporting (Mercer, 2005): How do you think the potential investor would evaluate the competence of the management of each firm? How do you think the potential investor would evaluate the trustworthiness of the management of each firm? Results for these questions are very similar to those for the valuation question and for brevity are not discussed in detail.

9 It also has a positive effect on judged riskiness ($F = 17.25, p < 0.01$) and a negative effect on earnings predictability ($F = 14.06, p < 0.01$).

10 It also has a negative effect on judged riskiness ($F = 4.80, p < 0.05$) and a positive effect on earnings predictability ($F = 7.83, p < 0.01$).
This is also true for the predictability of future earnings but earnings trend has no effect on judged riskiness \((F = 2.33, p = 0.14)\).

Simple main effects tests indicate that earnings trend has a significant effect regardless of whether the firm beats or misses the forecast (both \(p\)-values < 0.01), and benchmark performance has a significant effect regardless of whether the trend is increasing or flat (both \(p\)-values < 0.01).

Results for predictability of future earnings mirror the others. However, for the riskiness judgments, earnings trend does not reach statistical significance \((F = 2.96, p = 0.10)\) and the trend and benchmark instead have interactive effects \((F = 4.57, p < 0.05)\).

The similar designs of experiments three and four allow us to also combine data from the two experiments and test whether investors additively combine earnings trend and benchmark information when earnings trend is increasing versus flat and benchmark is missing versus meeting. To conduct this test, we use the missed benchmark conditions from experiment three (for both increasing and flat earnings trend) and the met benchmark conditions from experiment four (for increasing and flat earnings trend). Thus, earnings trend is varied within-participants at two levels and benchmark performance is varied between-participants at two levels. For the three dependent variables (i.e., valuation, investment desirability, future prospects), we find that both earnings trend and benchmark performance have significant main effects (all \(p\)-values < 0.01) and do not interact (all \(p\)-values > 0.43), suggesting an additive strategy once again.

One exception to this is the future prospects measure in experiment three where there was an interactive effect.
References


## Exhibit 1
### Overview of Four Experiments

<table>
<thead>
<tr>
<th>Factor</th>
<th>Experiment 1</th>
<th>Experiment 2</th>
<th>Experiment 3</th>
<th>Experiment 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Earnings Trend</strong></td>
<td>Consistently Increasing or Flat</td>
<td>Inconsistent Patterns</td>
<td>Consistently Increasing or Flat</td>
<td>Consistently Increasing or Flat</td>
</tr>
<tr>
<td></td>
<td>($1.01, $1.02, $1.06, $1.07, $1.09</td>
<td>($1.01, $1.09, $1.02, $1.07, $1.06</td>
<td>($1.01, $1.02, $1.06, $1.07, $1.09</td>
<td>($1.01, $1.02, $1.06, $1.07, $1.09</td>
</tr>
<tr>
<td></td>
<td>versus</td>
<td>versus</td>
<td>versus</td>
<td>versus</td>
</tr>
<tr>
<td></td>
<td>$1.05, $1.05, $1.05, $1.05)</td>
<td>$1.09, $1.02, $1.07, $1.01)</td>
<td>$1.05, $1.05, $1.05)</td>
<td>$1.05, $1.05, $1.05)</td>
</tr>
<tr>
<td><strong>Benchmark Performance</strong></td>
<td>Inconsistent Patterns</td>
<td>Consistently Beat or Miss</td>
<td>Consistently Beat or Miss</td>
<td>Consistently Beat or Meet</td>
</tr>
<tr>
<td></td>
<td>(Miss, Beat, Miss, Beat, Miss</td>
<td>(Beat, Beat, Beat, Beat, Beat</td>
<td>(Beat, Beat, Beat, Beat, Beat</td>
<td>(Beat, Beat, Beat, Beat, Beat</td>
</tr>
<tr>
<td></td>
<td>versus</td>
<td>versus</td>
<td>versus</td>
<td>versus</td>
</tr>
<tr>
<td></td>
<td>Beat, Miss, Beat, Miss, Beat)</td>
<td>Miss, Miss, Miss, Miss)</td>
<td>Miss, Miss, Miss, Miss)</td>
<td>Miss, Miss, Miss, Miss)</td>
</tr>
</tbody>
</table>

This exhibit illustrates the structure of the four experiments. In each experiment, two factors are varied: earnings trend (represented by a five-year time series of earnings per share) and benchmark performance (represented by whether the firm missed, met, or beat the analysts’ consensus forecast for EPS). In some experiments the earnings trend is consistently increasing or flat, as illustrated by the series of EPS numbers listed in the exhibit, and in other experiments, the trend is inconsistent (as shown in the exhibit). Similarly, in some experiments, benchmark performance shows a consistent relation to the analysts’ consensus forecast over the five years (consistently missing, meeting, or beating the consensus), while in others the performance relative to the benchmark varies year to year.
### Exhibit 2
**Example Company Stimuli for Experiment One**

<table>
<thead>
<tr>
<th>Company A</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported earnings were:</td>
<td>$1.01</td>
<td>$1.02</td>
<td>$1.06</td>
<td>$1.07</td>
<td>$1.09</td>
</tr>
<tr>
<td>Reported earnings relative to benchmark:</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company B</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported earnings were:</td>
<td>$1.01</td>
<td>$1.02</td>
<td>$1.06</td>
<td>$1.07</td>
<td>$1.09</td>
</tr>
<tr>
<td>Reported earnings relative to benchmark:</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company C</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported earnings were:</td>
<td>$1.05</td>
<td>$1.05</td>
<td>$1.05</td>
<td>$1.05</td>
<td>$1.05</td>
</tr>
<tr>
<td>Reported earnings relative to benchmark:</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Company D</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reported earnings were:</td>
<td>$1.05</td>
<td>$1.05</td>
<td>$1.05</td>
<td>$1.05</td>
<td>$1.05</td>
</tr>
<tr>
<td>Reported earnings relative to benchmark:</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
<td>Beat benchmark</td>
<td>Missed benchmark</td>
</tr>
</tbody>
</table>
### Table 1 – Experiment One Results

#### Panel A: Means (standard deviations) for all dependent measures

<table>
<thead>
<tr>
<th></th>
<th>Common Stock Valuation</th>
<th>Desirability as Potential Investment</th>
<th>Future Prospects of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consistently Flat Trend</td>
<td>Consistently Increasing Trend</td>
<td>Row Means</td>
</tr>
<tr>
<td>Inconsistent-Three Beats / Two Misses</td>
<td>48.04 (19.72)</td>
<td>66.00 (18.32)</td>
<td>57.02 (20.91)</td>
</tr>
<tr>
<td>Inconsistent-Three Misses/Two Beats</td>
<td>37.48 (15.64)</td>
<td>56.68 (19.69)</td>
<td>47.08 (20.09)</td>
</tr>
<tr>
<td>Column Means</td>
<td>42.76 (18.41)</td>
<td>61.34 (19.40)</td>
<td>36.06 (18.48)</td>
</tr>
</tbody>
</table>

#### Panel B: Analysis of Variance Results

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>Trend Variable</th>
<th>Benchmark Variable</th>
<th>Trend × Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuation</td>
<td>$F = 13.60, p &lt; 0.01$</td>
<td>$F = 11.71, p &lt; 0.01$</td>
<td>$F = 0.32, p = 0.58$</td>
</tr>
<tr>
<td>Desirability</td>
<td>$F = 28.13, p &lt; 0.01$</td>
<td>$F = 5.41, p &lt; 0.05$</td>
<td>$F = 0.61, p = 0.44$</td>
</tr>
<tr>
<td>Future Prospects</td>
<td>$F = 37.62, p &lt; 0.01$</td>
<td>$F = 0.17, p = 0.68$</td>
<td>$F = 0.29, p = 0.59$</td>
</tr>
</tbody>
</table>

Panel A shows the means and standard deviations for the responses to the three primary dependent variables used in experiment one. Panel B provides the results of the analysis of variance (ANOVA) for each of these dependent variables. In experiment one, we employed a 2 × 2 within-participants design, with consistent earnings trend and inconsistent benchmark data for independent variables. For earnings trend, we presented a five-year time series of earnings per share (EPS) that either had a consistently flat trend ($1.05, 1.05, 1.05, 1.05, 1.05$) or a consistently increasing trend ($1.01, 1.02, 1.06, 1.07, 1.09$). For benchmark performance data, we had two inconsistent patterns: Inconsistent-three beats, represented as beat/miss/beat/miss/beat over the five-year time periods. Inconsistent-three misses was represented as miss/beat/miss/beat/miss over the same time period. MBA student participants provided judgments on 0-100 scales for three questions: What common stock valuation do you think this potential investor would place on each firm? How do you think the potential investor would evaluate each of the firms in terms of their desirability as a potential investment? How do you think the potential investor would evaluate the future prospects of each of the companies?
Table 2 – Experiment Two Results

Panel A: Means (standard deviations) for all dependent measures

<table>
<thead>
<tr>
<th>Common Stock Valuation</th>
<th>Desirability as Potential Investment</th>
<th>Future Prospects of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistently Beat Benchmark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70.12 (17.89)</td>
<td>70.80 (16.52)</td>
<td>70.46 (17.05)</td>
</tr>
<tr>
<td>Consistently Miss Benchmark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33.16 (21.19)</td>
<td>32.12 (21.37)</td>
<td>32.64 (21.07)</td>
</tr>
<tr>
<td>Column Means</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51.64 (26.93)</td>
<td>51.46 (27.19)</td>
<td></td>
</tr>
</tbody>
</table>

Panel B: Analysis of Variance Results

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>Trend Variable</th>
<th>Benchmark Variable</th>
<th>Trend × Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuation</td>
<td>$F = 0.00, p = 0.96$</td>
<td>$F = 39.06, p &lt; 0.01$</td>
<td>$F = 0.53, p = 0.48$</td>
</tr>
<tr>
<td>Desirability</td>
<td>$F = 0.21, p = 0.65$</td>
<td>$F = 25.68, p &lt; 0.01$</td>
<td>$F = 0.03, p = 0.86$</td>
</tr>
<tr>
<td>Future Prospects</td>
<td>$F = 0.35, p = 0.56$</td>
<td>$F = 18.04, p &lt; 0.01$</td>
<td>$F = 0.79, p = 0.38$</td>
</tr>
</tbody>
</table>

Panel A shows the means and standard deviations for the responses to the three primary dependent variables used in experiment two. Panel B provides the results of the analysis of variance (ANOVA) for each of these dependent variables. In experiment two, we employed a 2 × 2 within-participants design, with inconsistent earnings trend and consistent benchmark data for independent variables. For earnings trend, we presented a five-year time series of earnings per share (EPS) that had one of two inconsistent patterns: Inconsistent-down was $1.09, $1.02, $1.07, $1.01 and $1.06. Inconsistent-up was $1.01, $1.09, $1.02, $1.07, and $1.06. The benchmark data were consistently beat or consistently miss for all five periods. Dependent variables are the same as those described in Table 1.
Table 3 – Experiment Three Results

**Panel A: Means (standard deviations) for all dependent measures**

<table>
<thead>
<tr>
<th></th>
<th>Common Stock Valuation</th>
<th>Desirability as Potential Investment</th>
<th>Future Prospects of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consistently Flat Trend</td>
<td>Consistently Increasing Trend</td>
<td>Row Means</td>
</tr>
<tr>
<td>Consistently Beat Benchmark</td>
<td>55.04 (28.62)</td>
<td>76.08 (21.22)</td>
<td>65.56 (27.11)</td>
</tr>
<tr>
<td>Consistently Miss Benchmark</td>
<td>27.72 (23.73)</td>
<td>43.56 (24.82)</td>
<td>35.64 (25.33)</td>
</tr>
<tr>
<td>Column Means</td>
<td>41.38 (29.45)</td>
<td>59.82 (28.14)</td>
<td></td>
</tr>
</tbody>
</table>

|                  | Row Means              | Consistently Flat Trend            | Consistently Increasing Trend |
|                  |                        | Row Means                           |                              |
| Consistently Beat Benchmark | 63.48 (25.93)   | 83.40 (13.46)                       | 73.44 (22.78)                |
| Consistently Miss Benchmark | 24.40 (18.35)   | 36.84 (22.47)                       | 30.62 (21.25)                |
| Column Means     | 43.94 (29.73)          | 60.12 (29.81)                       | 39.66 (24.06)                |

**Panel B: Analysis of Variance Results**

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>Trend Variable</th>
<th>Benchmark Variable</th>
<th>Trend × Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuation</td>
<td>$F = 15.97, p &lt; 0.01$</td>
<td>$F = 14.61, p &lt; 0.01$</td>
<td>$F = 1.52, p = 0.23$</td>
</tr>
<tr>
<td>Desirability</td>
<td>$F = 11.96, p &lt; 0.01$</td>
<td>$F = 79.19, p &lt; 0.01$</td>
<td>$F = 2.20, p = 0.15$</td>
</tr>
<tr>
<td>Future Prospects</td>
<td>$F = 25.61, p &lt; 0.01$</td>
<td>$F = 30.24, p &lt; 0.01$</td>
<td>$F = 4.31, p = 0.05$</td>
</tr>
</tbody>
</table>

Panel A shows the means and standard deviations for the responses to the three primary dependent variables used in experiment three. Panel B provides the results of the analysis of variance (ANOVA) for each of these dependent variables. In experiment three, we employed a 2 × 2 within-participants design, with consistent earnings trend and consistent benchmark data for independent variables. For earnings trend, we presented a five-year time series of earnings per share (EPS) that either had a consistently flat trend ($1.05, 1.05, 1.05, 1.05, 1.05$) or a consistently increasing trend ($1.01, 1.02, 1.06, 1.07, 1.09$). The benchmark data were consistently beat or consistently miss for all five periods. Dependent variables are the same as those described in Table 1.
Table 4 – Experiment Four Results

Panel A: Means (standard deviations) for all dependent measures

<table>
<thead>
<tr>
<th>Common Stock Valuation</th>
<th>Desirability as Potential Investment</th>
<th>Future Prospects of Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistently Flat Trend</td>
<td>Consistently Increasing Trend</td>
<td>Consistently Flat Trend</td>
</tr>
<tr>
<td><strong>Row Means</strong></td>
<td><strong>Row Means</strong></td>
<td><strong>Row Means</strong></td>
</tr>
<tr>
<td>Consistently Beat Benchmark</td>
<td>60.28 (22.26)</td>
<td>74.92 (18.18)</td>
</tr>
<tr>
<td>Consistently Meet Benchmark</td>
<td>46.32 (14.90)</td>
<td>57.84 (12.25)</td>
</tr>
<tr>
<td>Column Means</td>
<td>53.30 (20.03)</td>
<td>66.38 (17.60)</td>
</tr>
</tbody>
</table>

Panel B: Analysis of Variance Results

<table>
<thead>
<tr>
<th>Dependent Measure</th>
<th>Trend Variable</th>
<th>Benchmark Variable</th>
<th>Trend × Benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valuation</td>
<td>$F = 17.17, p &lt; 0.01$</td>
<td>$F = 16.07, p &lt; 0.01$</td>
<td>$F = 1.25, p = 0.28$</td>
</tr>
<tr>
<td>Desirability</td>
<td>$F = 27.34, p &lt; 0.01$</td>
<td>$F = 38.61, p &lt; 0.01$</td>
<td>$F = 1.16, p = 0.29$</td>
</tr>
<tr>
<td>Future Prospects</td>
<td>$F = 30.60, p &lt; 0.01$</td>
<td>$F = 10.72, p &lt; 0.01$</td>
<td>$F = 0.00, p = 0.95$</td>
</tr>
</tbody>
</table>

Panel A shows the means and standard deviations for the responses to the three primary dependent variables used in experiment four. Panel B provides the results of the analysis of variance (ANOVA) for each of these dependent variables. In experiment four, we employed a 2 × 2 within-participants design, with consistent earnings trend and consistent benchmark data for independent variables. For earnings trend, we presented a five-year time series of earnings per share (EPS) that either had a consistently flat trend ($1.05, 1.05, 1.05, 1.05, 1.05) or a consistently increasing trend ($1.01, 1.02, 1.06, 1.07, 1.09). The benchmark data were consistently beat or consistently meet for all five periods. Dependent variables are the same as those described in Table 1.