
The Advantage to Value Investing

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Value investing produces above-average returns that are enduring and available globally. Two behavioral axioms—(1) value equals anxiety and (2) reversion to the mean—underlie the performance of value investing. Empirical evidence in the United States and other developed markets attests to the veracity of the axioms and to the level of the performance.

Proponents of any investment style must base their strategies on certain essential propositions. This presentation assumes three major propositions about value investing. First, it is efficacious. Buying earnings power, dividends, and assets for a price that is low compared with the standards of the day is very likely to produce a risk-adjusted return that is well above average. Second, value anomalies are outgrowths of behavioral, as opposed to financial, phenomena. Thus, the above-average returns produced by those anomalies will prove enduring, not because they are particularly difficult to identify or to capture, but because life in the value domain is fundamentally distasteful and will be avoided by many investors. Third, and most important, the value style in the United States applies equally well to all capital markets of the developed world and for precisely the same reasons. Despite cultural differences, the behavioral factors that drive the value style in the United States are manifest globally. The presentation develops two axioms that underlie these propositions and examines empirical findings that illustrate the axioms and make the case for an advantage to value investing.

Biases about Wealth Management

Both introspection and focused observation suggest that some common biases are apparent in wealth management, and these biases work to the benefit of value investing.

■ *Overvaluation of certainty.* People seem to have an overwhelming affection for things that are or appear to be certain. They like them so much that they consistently overbuy them and overpay for them. Household financial wealth, for example, is

dominated by assets, such as money market funds, that have very low or no perceived volatility—even when volatility should not make a difference, and at the sacrifice of considerable long-term return.

■ *Overreaction to big, unlikely, but consequential events.* People are attracted to such events when the consequences of winning seem magnificent, even when they logically know the chances of winning are very small. This tendency explains the popularity of lotteries. In the financial markets, this behavioral bias fuels many financing and investing binges. Indeed, whole industries have been financed as a function of this behavioral bias; the most recent significant example is biotechnology.

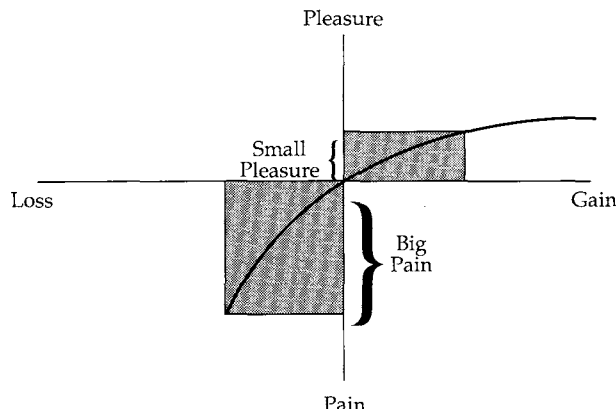
■ *Loss aversion.* In people's minds, fear of losses looms considerably larger than expectation of gains. For most, the pain of a loss significantly exceeds the pleasure of an equivalent gain.

Derived from real-world experiments performed by behavioral scientists Kahneman and Tversky, **Figure 1** depicts the value that people assign gains and losses. In the domain of potential losses, the slope of the line steepens sharply. The message is clear: People do not like losses. The only thing they dislike more than losing money is the investment managers who lose it for them.

Value = Anxiety

These behavioral biases underlie the first of the two major axioms of value investing, namely, that value equals anxiety. That is, anxiety-producing capital assets—those framed in the domain of potential losses—will be priced to offer returns that are meaningfully higher than the returns justified by the actual risks taken. Assets in this domain typically do

Figure 1. Loss Aversion



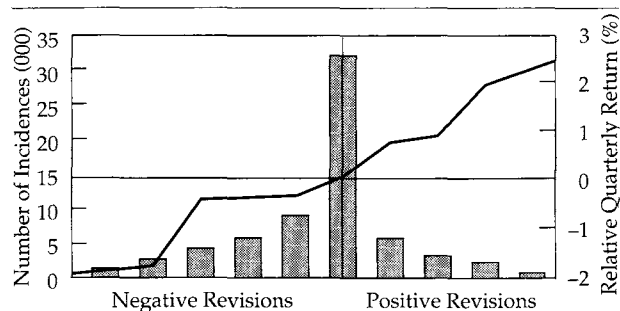
Source: Sanford C. Bernstein and Co., based on Amos Tversky and Daniel Kahneman, "Rational Choice and the Framing of Decisions," *The Journal of Business*, No. 4 (1986).

not achieve that status overnight; rather, they earn it by first persistently disappointing anyone who has been willing to invest in them. If the pattern of disappointment keeps up long enough, the reaction turns to disgust. If the pattern goes on still longer, if it attracts attention, if it becomes the subject of persistent negative media coverage, and in the extreme, if ownership carries serious risks to the owner's reputation, the disgust turns to despair and, ultimately, fear. Accordingly, value anomalies are almost always outgrowths of progressive discouragement, and given loss aversion, assets subject to this process should and do eventually provide disproportionately high returns. The behavioral basis for this phenomenon also suggests that these results should be observed in most, if not all, developed markets.

United States

The impact on U.S. stock returns of changing investor expectations substantiates that value anomalies are generated by progressive discouragement and do produce above-average returns. Figure 2 plots the return impact on stocks in the S&P 500 Index of changing expectations for near-term earnings—specifically, 12-month earnings forecasts—during the 20-year period ending in 1993. Changing expectations are reflected in either positive or negative earnings revisions, and the frequency bars indicate the number of incidences of both types of revisions, grouped by size. The leftward preponderance of frequency bars indicates more downward revisions than upward, which reflects the perennially optimistic positions that analysts take. The effects of these expectational shifts on relative returns are large, from +300 to -200 basis points (bps) versus the S&P 500, and take time to filter through to valu-

Figure 2. Impact of Expectational Shifts: S&P 500 Returns

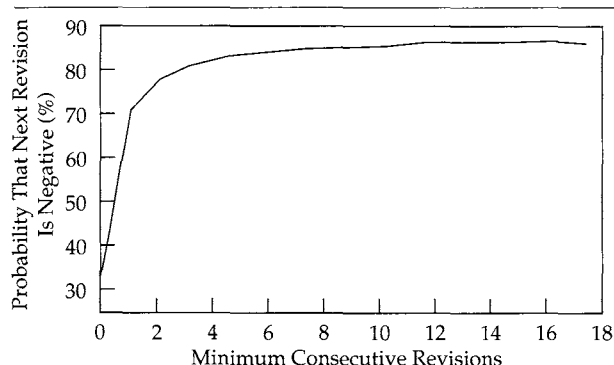


Source: Sanford C. Bernstein and Co., based on data from Institutional Broker's Estimate System (IBES).

ation. In fact, these performance premiums and penalties were measured for the period three months after the expectational shifts were observed. Stable expectations are neither rewarded nor penalized; no relative return is associated with the "no earnings revisions" frequency bar. But for upward and downward revisions, the relative performance response is basically monotonic; that is, the larger the revisions, the larger the relative performance effect.

Significantly, the downward revisions are highly serially correlated; that is, as Figure 3 reveals, the probability is very high that a stock that has already

Figure 3. Serially Correlated Negative Revisions: S&P 500 Returns

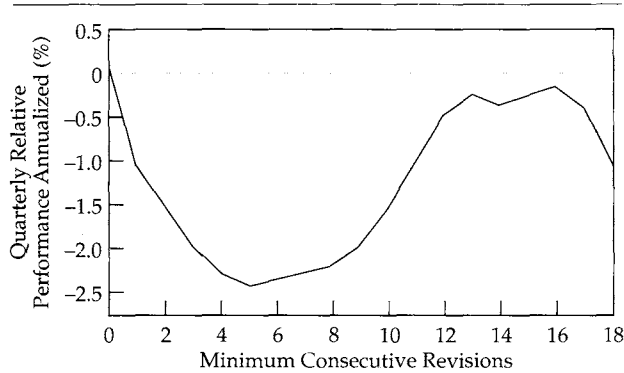


Source: Sanford C. Bernstein and Co.

experienced one or more downward revisions will experience additional downward revision. These data reinforce something investment managers know from experience: People do not adjust to events all at once. Their first reactions to deterioration are almost always inadequate, so they are likely to generate additional downward revisions. This common behavioral bias is known as "anchoring."

U.S. stock prices respond dramatically to progressive discouragement, as illustrated in Figure 4. Performance penalties increase as discouragement builds for the first six or seven of these revisions.

Figure 4. Performance Impact of Negative Revisions: S&P 500 Returns

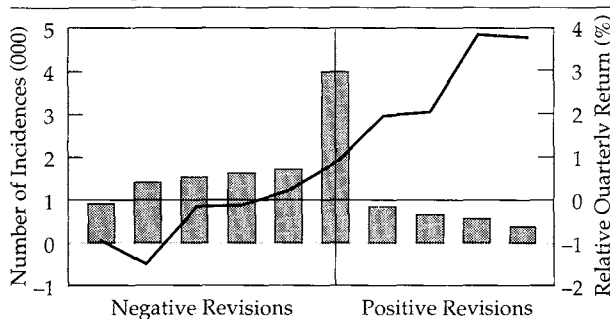


Source: Sanford C. Bernstein and Co.

After many such revisions, a curious phenomenon occurs: The incremental performance penalties begin to subside. Could a countervailing effect be surfacing? Perhaps value investors are beginning to find these stocks “cheap” and buy into the bad news, moderating its effects.

Figure 5 repeats the analysis shown in Figure 2 for a subset of stocks deemed cheap, as defined by traditional value investing metrics—price-to-book-

Figure 5. Impact of Expectational Shifts: Cheap S&P 500 Stocks



Source: Sanford C. Bernstein and Co., based on data from IBES.

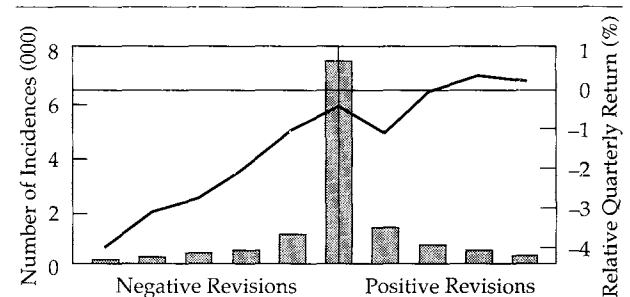
value ratios, price-to-earnings ratios, and relative dividend yield. This subset is evidently the domain of discouragement; the stocks in this subset are dominated by downward revisions. What is particularly interesting about this apparently gloomy environment is that the performance penalties associated with more disappointment diminish. Indeed, the returns in this group of stocks actually become positive (nearly 100 bps) in the mere presence of stability (no revisions) in expectations.

Figure 5 depicts a high-return domain, but the selling of these stocks can be thought of as paying the buyers to endure the stress of ownership that the sellers can no longer take. For example, consider buying housing stocks in 1982 with mortgage rates

at 17 percent, or various auto and steel stocks in the Rust Belt era of the 1980s, oil stocks in 1986 when the price crashed from \$25 to \$10 a barrel, or financial stocks in the early 1990s—a value theme involving the most extreme form of ownership stress. This use of the seller’s money is certainly fair, but it places the value manager, for all practical purposes, in a psychiatric role. The domain of discouragement is not for the timid, and value managers must be up to the challenge of pursuing what is uncomfortable. As a group, they often fail to beat benchmarks at the most critical times simply because life in this domain just before the moment of payoff can be extremely difficult to negotiate—in fact, so difficult that many managers cannot or will not stay the course.

The opposite kind of emotional state applies at the other end of the value spectrum—the subset of “expensive” stocks according to the value metrics. Figure 6 depicts the domain of presumed predictability, stability in earnings. People prize this stability; it makes them feel secure, and they are willing to

Figure 6. Impact of Expectational Shifts: Expensive S&P 500 Stocks



Source: Sanford C. Bernstein and Co., based on data from IBES.

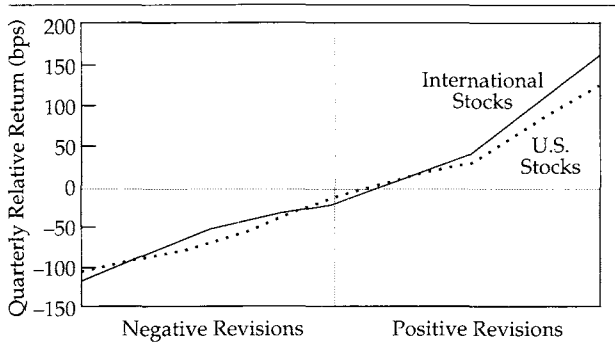
pay to feel secure. In contrast to the no-return case in Figure 2 and the positive-return case in Figure 5, stable expectations in Figure 6 actually generate a negative return—roughly 50 bps. At the same time, the penalties for any disappointment are severe indeed—a drop in returns of as much as 400 bps. Moreover, the benefits of positive revisions are surprisingly scant. After all, the price is already very high.

The contrasts between Figures 2 and 6 and Figure 5 clearly demonstrate, for the United States, the validity of the first axiom: Pain and suffering are rewarded in the capital markets.

International

Performing a similar analysis for the rest of the developed world is difficult because the available data are limited and their statistical relevance is questionable. The data that are available, however, are persuasive. Figure 7 compares the reactions in

Figure 7. International Impact of Expectational Shifts: U.S. Stocks and Stocks of Ten Non-U.S. Countries

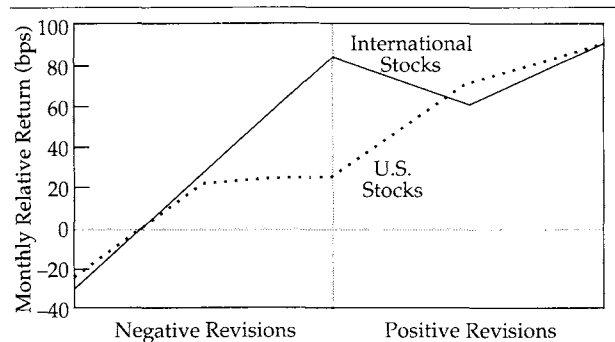


Source: Sanford C. Bernstein and Co., based on data from IBES and MSCI.

the United States with investor reactions to revisions of short-run expectations (revisions of 12-month earnings expectations measured 3 months after the fact) for ten developed countries: Australia, Canada, France, Germany, Hong Kong, Italy, Japan, the Netherlands, Switzerland, and the United Kingdom. The index was a capitalization-weighted intersection of the Institutional Broker's Estimate System (IBES) and Morgan Stanley Capital International (MSCI) universes. The figure incorporates only six to seven years (1987-93) of data for the international markets, but the lines show that investor response to changing expectations in these markets is remarkably similar to the U.S. experience, especially the absence of any return associated with stable expectations.

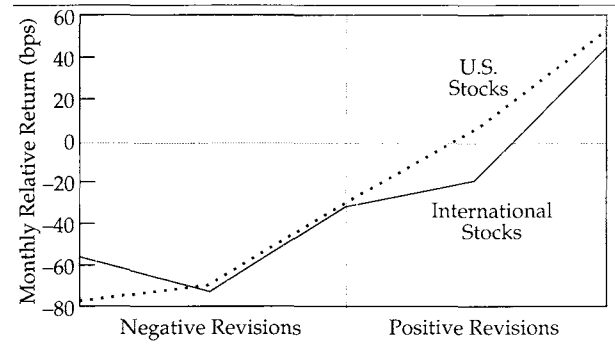
Figure 8 portrays investor response in the domain of cheap stocks from Figure 7, and Figure 9 presents the same analysis for expensive stocks, with the same value metrics applied to delineate the subsets. These figures carry the same message that held in the U.S. case: Higher returns accrue when discouragement is high, and lower returns are associated with predictability. Although not conclusive, the

Figure 8. Impact of Expectational Shifts: Cheap Stocks of International Companies and the United States



Source: Sanford C. Bernstein and Co., based on data from IBES and MSCI.

Figure 9. Impact of Expectational Shifts: Expensive Stocks of International Companies and the United States



Source: Sanford C. Bernstein and Co., based on data from IBES and MSCI.

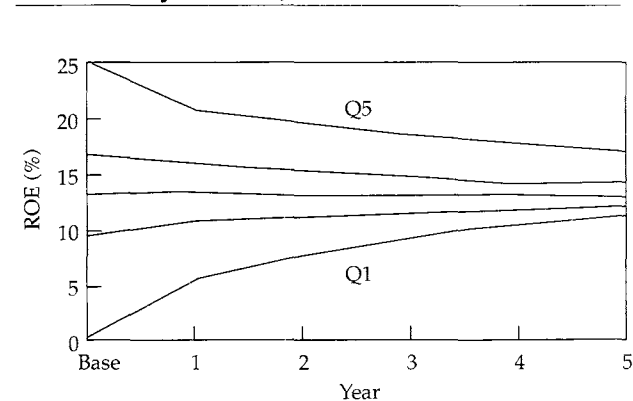
data strongly suggest that non-U.S. investors are moved by short-run earnings disappointments in a manner analogous to the behavior of U.S. investors. If anything, the relative rewards and penalties are even more pronounced internationally.

Mean Reversion

The behavioral loop is not yet closed. Identifying the process by which value anomalies are generated—progressive discouragement—does not address how those anomalies are ultimately resolved. The second axiom of value investing addresses this issue and is popularly known as mean reversion: Good things get worse; bad things get better.

Figure 10 shows quintiles ranked from highest to lowest based on corporate return on equity (ROE) for approximately 1,000 U.S. companies within ± 2 bps of market capitalization for the 1963-92 period. The initial rankings reflect how well the companies were doing at the beginning of the period, not the prices of the stocks. The graph traces the quintile ROEs during the next five years. What the lines

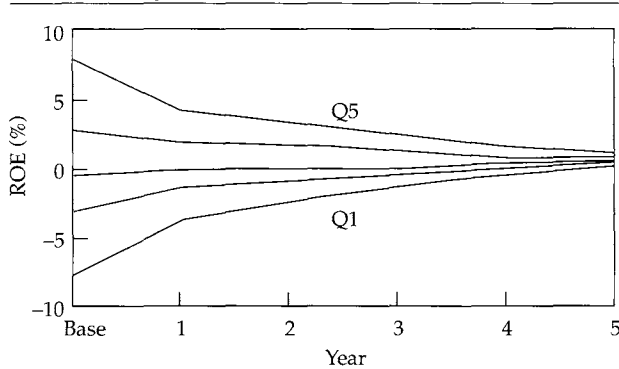
Figure 10. Return on Equity: 1,000 U.S. Companies by Quintiles, 1963-92



Source: Sanford C. Bernstein and Co., based on data from Compustat.

reveal is the strong tendency for ROEs to regress to the mean from both directions. **Figure 11**, for a subset of 800 companies in the MSCI universe from 1975 through 1992, suggests that mean reversion is a global phenomenon; the same tendency for ROEs to converge is evident in non-U.S. companies. **Figure 12**

Figure 11. Return on Equity: Non-U.S. Companies by Quintiles, 1975–93



Source: Sanford C. Bernstein and Co., based on data from MSCI.

provides market-specific evidence of mean reversion for four developed markets. That value-oriented strategies produce superior returns in these markets as well as in the U.S. market should be no surprise.

These results reflect another facet of human behavior: Success has a strong tendency to attract emulators and, sometimes, to breed complacency and

conservatism on the part of the successful. This phenomenon leaves the high-return companies vulnerable to erosion in profitability. Tough times cause the opposite kind of response; capital tends to flee, and corporate managers rise to the occasion with initiatives to turn the tide. If they do not, new managers will. In time, therefore, more often than not, the tide does turn.

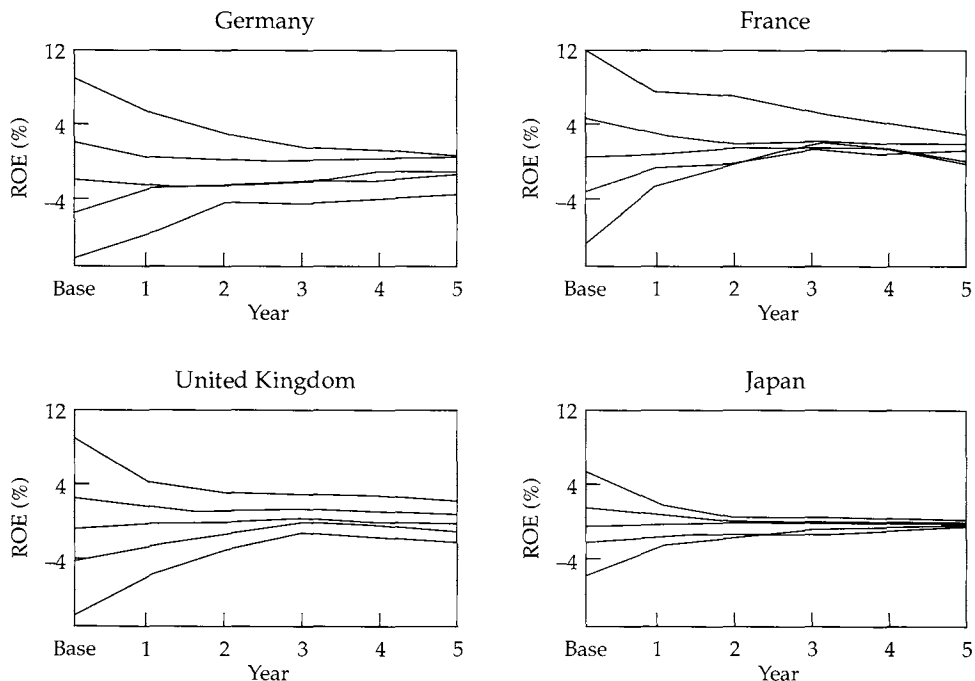
The Global Value Investor's Advantage

Because the behavioral biases for return differences seem to hold across developed markets, value investors should have an advantage across markets. **Figure 13** suggests that they do. Figure 13 shows the relative performance (premium or deficit) of value investing to the GDP-weighted benchmark for the ten developed non-U.S. markets shown in Figures 7–9 for the past 20 years. Value investing earned a premium relative to the benchmark about 75 percent of the time, and the premiums were often quite high.

Figure 14 summarizes 14 years of value stock performance, relative to the appropriate MSCI country benchmark, for five of the major countries of the ten shown in Figure 13 plus the United States. In every case, value outperformed the benchmark—in some cases, by as much as 500 bps.

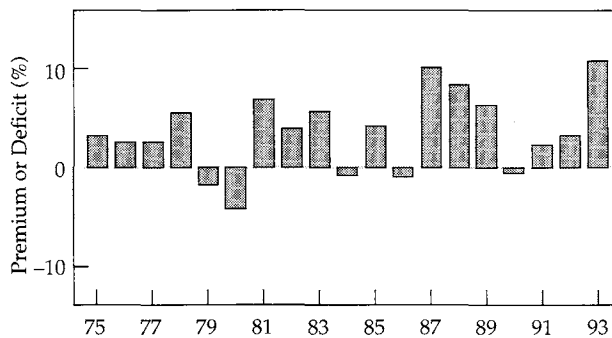
The evidence strongly suggests that the pain of uncertainty, the difficulty of living in the domain of discouragement, and the inevitability of mean rever-

Figure 12. Return on Equity: Four Largest Non-U.S. Developed Economies



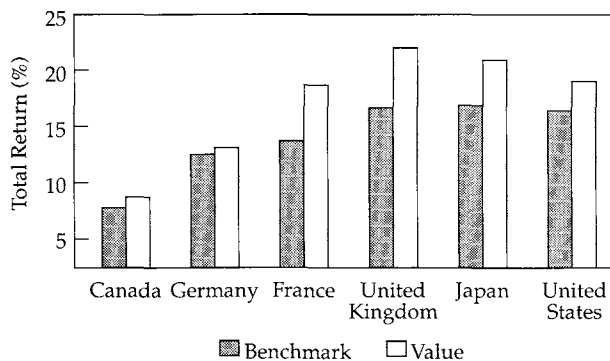
Source: Sanford C. Bernstein and Co., based on data from MSCI.

Figure 13. Value Performance: Ten Non-U.S. Developed Countries



Source: Sanford C. Bernstein and Co., based on data from MSCI.

Figure 14. Annualized Returns for Value Investing versus Country Benchmarks: Six Developed Countries, 1980-93



Note: Return defined as total return in local currency, net dividends.

Source: Sanford C. Bernstein and Co., based on data from MSCI.

sion are as profitable in developed world countries as they are in the United States. The behavioral basis for this phenomenon is more or less universal.

The returns to value are not well correlated geo-

graphically, however, which is significant. In fact, the correlations between countries, shown in Table 1, are approximately zero. Value anomalies occur in different intensities, in different industries, and at different times in these countries. The underlying lack of synchronization of the world economies means that the anomalies pay off asynchronously. Today, for instance, the United States is booming—in terms of both growth and corporate profitability. Japan, which has hardly emerged from recession, has a richly priced currency that puts tremendous pressure on its corporate sector and has extremely depressed profitability. One would expect the profiles of investor stress to be different in the two countries, and the value anomalies are, indeed, different.

The lack of country correlations confers an important diversification benefit, as shown in Table 2. The volatility of returns to a value strategy concurrently used in ten countries—in this case, GDP weighted—is far less than that of any single country in the same group. The need for style diversification is typically thought of as combining value and growth styles in a single geography to dampen the volatility of returns to active management. Table 2

Table 2. Returns to Non-U.S. Value Investing, 1980-93

	Total Relative Return ^a	Best Year	Worst Year	Standard Deviation
Ten-country strategy	3.3%	11.1%	-4.5%	4.0%
Japan	6.1	16.8	-7.0	5.5
Germany	2.8	17.8	-4.7	5.4
France	4.0	19.0	-10.8	6.7
United Kingdom	2.3	21.0	-14.4	9.2

^aTotal relative return versus local benchmark.

Source: Sanford C. Bernstein and Co., based on data from MSCI.

Table 1. Correlations of Value Returns: Six Largest Developed Non-U.S. Economies, 1975-93

Country	Canada	France	Germany	Italy	Japan	United Kingdom
Canada	1.0	0.2	0.2	0.0	0.1	0.2
France		1.0	0.2	-0.1	-0.1	0.4
Germany			1.0	0.1	0.2	0.0
Italy				1.0	0.1	-0.1
Japan					1.0	0.0
United Kingdom						1.0

Note: Correlations are dollar based.

Source: Sanford C. Bernstein and Co., based on data from MSCI.

suggests that an equally efficacious, although not mutually exclusive, approach is to diversify the value style geographically.

Conclusion

The principal dynamics in the world's capital markets revolve around a tug-of-war between feeling secure and making money. In the end, the feelings generally win out. A substantial amount of money

can thus be made if a value investment manager is willing to spend the bulk of his or her professional life feeling depressed, isolated, and afraid, waiting for the forces of mean reversion to relieve the stress, at which point the manager will sell and use the proceeds to rebuild anxiety. Is it worth it? This question, of course, is philosophical, but the money on the table is considerable, and the question deserves serious thought.

Question and Answer Session: Value

Stanford Calderwood
William C. Fletcher, CFA
Edward C. Mitchell, Jr., CFA
Lewis A. Sanders, CFA

Question: Please describe your sell discipline.

Sanders: Most value managers approach security selection with some kind of scoring system, some rank ordering of the universe of securities from which they select. If, by definition, high-ranked securities are purchase candidates and low-ranked securities are noncandidates, a natural sell discipline evolves as securities fall to the middle of the universe rankings or below. A scoring system implies a natural migration as securities progress through the value or investment cycle and rise and fall in rank, ultimately being replaced as they change from being undervalued to being fairly valued.

Mitchell: The only hard-and-fast rule in our firm is to sell stocks that are statistically overvalued, although doing so sometimes means leaving money on the table. When a stock becomes overvalued according to our statistical approach, one (or both) of two things, neither good, has happened—the stock’s price relative to other stocks in the universe has risen dramatically, or the company’s absolute profitability has declined precipitously.

Beyond this strict rule, we also control the portfolio by weighting all the stocks in the portfolio by their respective ranks in the universe and selling whenever the portfolio’s overall rank falls below the 30th percentile. This practice creates continual refreshing as stocks fall in rank, are

sold, and are replaced by stocks whose rankings have risen.

Fletcher: Our ranking system is not symmetrical; the lowest ranked stocks underperform by a larger margin than the highest ranked stocks outperform. As at least a partial consequence of this observation, the only time we trade a portfolio is if a stock needs to be sold; we never trade because we want to buy a stock. If we did nothing other than own the S&P 500 Index and avoid the bottom-ranked stocks, we would achieve our clients’ performance objectives. Obviously, we spend a lot of time identifying attractively priced stocks that maintain the risk profile of the portfolio, but we believe we have more skill in avoiding the losers than in making the big bets.

Calderwood: Using eight valuation models, we rank a universe of stocks and create a composite scoring system in which a stock is a mandatory “sell” the moment it reaches the eighth or lower decile. Very few stocks are actually sold by this rule, however, because stocks that are bought as “buy” ranked (the top three deciles) generally don’t suddenly become sell ranked. They tend to drift down through the “hold” deciles (fourth through seventh) and to be sold off and replaced by a buy-ranked stock before they reach the sell zone.

We also have a statistical model that seems to be especially prescient in identifying tenth decile stocks. When that model

gives a sell signal, we tend to believe it regardless of what our other disciplines are telling us.

Question: What is your intended and actual turnover?

Calderwood: Our turnover is a function of our stock rankings. For the last decade, turnover has averaged 50–60 percent, but it can vary. In some market conditions, the market takes longer to recognize what our models have identified as undervalued stocks and our turnover drops. In other conditions, the market recognizes undervalued stocks quickly, prices go up, and stocks on the buy list are replaced by other stocks, which increases turnover. Turnover is generally low when the value style is out of favor and the market’s attention is primarily on growth stocks.

Question: What is your view on holding cash?

Mitchell: We do not emphasize market timing. We do a modest amount of cash allocation, however, primarily to control risk. We establish the allocation based on a proven set of relationships between the expected return from stocks and current interest rates. The last time we had any material amounts of cash would have been during pre-crash 1987, a time of both rapidly rising stock prices and interest rates. The risk–reward relationship between stocks and their alternatives was not very promising, and we had a 20–25 percent cash allocation.

Question: If value investing is so good, why are there so few value managers?

Sanders: That question gets at the very essence of value investing. Value investing at its most extreme is intensely distasteful. What defines value is highly correlated with unpopularity, and by that definition, return premiums derive from distasteful commitments and positions. One way to think about the capital markets is that risk premiums are distributed across various assets in various geographies, with the highest risk premiums and returns located where the anxiety and tension are highest. So, why would we expect to find a multitude of true value managers? Many managers wear the value label, but not many truly practice the disci-

pline; it is very difficult to stay in the kitchen when the heat is turned up.

Question: In a style-neutral context, how do you avoid being all things to all people?

Fletcher: First, the manager has to separate in his or her mind the commodity part of return, the part available through a style benchmark, from the value that can be added, which is available through whatever skills the manager brings to the process. Consequently, the question of managing two such very different benchmarks as value and growth becomes a question of having a value-adding "engine," a skill set that can be applied in either setting.

Personally, I would not want an organization that did two com-

pletely different things—with totally different philosophies, research departments, and portfolios. We have one research group following the same stock universe using the same valuation ranking system; the only separation comes when we engineer a portfolio structure that has either value or growth characteristics. The active positions in those portfolios are identical. In one portfolio, we may have 40 percent in financial institutions' stocks versus a benchmark of 35 percent, and in another portfolio, 10 percent in financials versus a 5 percent benchmark. In either case, the active bet is driven by the same skill set and simply overlaid on the underlying commodity portfolio characteristics.