

## Strategy Spotlight

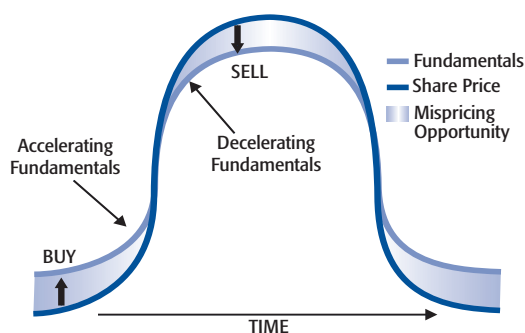
# Behavioral Finance & Nicholas-Applegate's Systematic Investment Process

Nicholas-Applegate believes that investing in companies undergoing positive change, with sustainable growth characteristics and timely market recognition, will result in consistent investment performance. This investment approach is supported by a foundation of academic research in behavioral finance. Behavioral finance posits that investors have a natural tendency to act emotionally rather than objectively in an environment where information is rapidly changing. Studies have revealed quantifiable patterns in investor behavior that create real market inefficiencies. Such market inefficiencies present mispricing opportunities upon which the firm seeks to capitalize to earn excess return. Nicholas-Applegate's systematic investment process and understanding of behavioral finance are applied across the firm's portfolios.

### Q: What is the aim of Nicholas-Applegate's systematic investment process?

A: Investors and managers have biases that can affect their decisions and, in turn, the market value of individual securities. Fundamentally, the firm tries to exploit market inefficiencies, based on the belief that investors react inefficiently to changing information.

### Investor Behaviors Create Opportunity



Source: Nicholas-Applegate Capital Management.  
This chart is not indicative of the past or future performance of any Allianz Global Investors product.

### Q: How does investor behavior come into play?

A: All markets experience growth and contraction cycles of differing lengths. Nicholas-Applegate sees uncertainty when markets or sectors or securities reach inflection points in those cycles. This often leads investors to oversimplified analysis and an over-reliance and over-confidence in recently acquired information. The result is mispricings in the market and, ultimately, investment opportunities.

### Q: Does Nicholas-Applegate's analysis of investor behavior act as an overlay to the model's calculations?

A: Ultimately, the model is looking for bias. In fact, one often hears behavioral finance referred to as "bias research." That is the root of the firm's philosophy, and it's built into the model. Research suggests that analysts' ratings are biased by past events. Take earnings estimates as an example. An analyst covering a company—who has seen a succession of earnings increases quarter after quarter, with the company continually guiding earnings forecasts higher—is likely anchored to the old trend. He or she probably expects that earnings will increase again next quarter and the company will again guide higher. Therefore, he or she may be slow to react if the company begins guiding estimates lower and may underestimate the effects of the changing information on the stock price going forward.

The analyst may lower estimates but, chances are, not by much. That is exactly the type of bias Nicholas-Applegate's strategy tries to exploit. Early indicators of negative change and deteriorating fundamentals are viewed as harbingers of bigger news to come. The bias in such cases historically indicates that there is usually much more to the change than originally thought. That is a signal that the stock is a candidate to consider selling in order to exit the position comparatively early. Past experience suggests there is almost always a better name that can be rotated into the portfolio.

**Q: Does Nicholas-Applegate see inefficiencies in the other direction, where investors overreact to change and drive a stock's price down too far?**

A: Yes. Often the prices of stocks with strong fundamentals are driven down by over-reaction in the market to some macro-level news or event. A good example is the pricing in 2004 of steel companies and shipping companies tied to growth in China. When the Chinese government stepped in to slow the country's growth rate, the stocks of these companies reacted as if earnings growth was going to go from double-digit positive growth rates to negative growth. In reality, earnings were going to decrease, perhaps from double-digit rates to high-single-digit rates, but would remain strong. These companies were still doing incredibly well from an earnings standpoint, but the stock prices had pulled back based on the expectations and the misinterpretation of the information.

That is the best of both worlds—an absolute buying opportunity. If the firm owns the stocks, it will typically add to the position, and if it doesn't, it would typically buy into them.

**Q: What about when different factors deliver conflicting signals on the same stock, sector, country or industry?**

A: Sometimes different factors of the model deliver entirely different signals, often when a significant run-up or pull-back has occurred. This is often the result of analysts' and/or investors' shifting sentiment not being in line with fundamentals. For example, the recent run-up in oil prices has led many of the oil drillers to operate at capacity for some time. Many analysts have begun to ratchet down their ratings on those stocks—from Strong Buy or Buy, to Neutral or even Sell, in some cases—based on the assumption that after such a run drillers are due to pull back. At the same time, they are maintaining their favorable earnings estimates for those same companies in light of increasing oil prices. Analysts are maintaining ratings and sending investment signals that are at odds with one another. The model tries to recognize those contradictions and the investment team goes back and looks at them to determine if mispricing opportunities exist.

**Q: How does Nicholas-Applegate use the factors in the model to evaluate stocks?**

A: Positive change, sustainability and timeliness are considered through a series of well-defined factors that are built into the model. In terms of positive change, measures such as improving fundamentals, early instances of improving estimates or analysts' ratings changes are examined.

This is coupled with measures to determine if positive-change-driven growth is sustainable over time. From a model perspective, those measures typically involve valuation. The investment team then looks at a group of different valuation measures that give a well-rounded perspective of whether a stock is attractively valued.

Timeliness is also a consideration to confirm that these changes are being recognized by the market through rising stock prices. Specifically, the team looks at more sentiment-driven measurements such as price and currency momentum, which help determine whether the positive change is already priced into a stock or whether it's an attractive time to buy.

All factors in the model are equally weighted, and the model is well-balanced between growth-based, or positive change factors and value-oriented, or sustainability factors. There is also an aggregate score for currency momentum and interest rate differentials applied at the individual stock level.

**Q: Does the model change over time?**

A: Yes. The bulk of the firm's time is spent refining the process and model to improve them. The factors that are earning excess returns today are not expected to do so in the next few years. The usefulness of the factors used today will most probably be arbitrated away within five years. Ongoing research exploits new sources of investment insight and capitalizes on new sources of information, such as data that's available now that wasn't available in the past or wasn't relevant to consider in the model previously.

## Quantitative Model Integrates Stock, Sector, Country and Currency Selection Decisions

	FACTOR	INTUITION	Stock	Sector	Country	Currency
CHANGE	Estimate Revisions	<ul style="list-style-type: none"> <li>Changes in analysts' consensus estimates</li> <li>Number of analysts revising up / down</li> </ul>	●	●	●	
	Analyst Rating Change	<ul style="list-style-type: none"> <li>Changes in analysts' recommendation level</li> <li>Number of analysts upgrading / downgrading</li> </ul>	●	●	●	
	Currency Competitiveness	<ul style="list-style-type: none"> <li>Favors companies with high percentage of foreign sales and depreciating currency</li> <li>Market-based signal</li> </ul>	●	●	●	
SUSTAINABILITY	Residual Income	<ul style="list-style-type: none"> <li>Sophisticated accounting-based valuation signal</li> <li>Measures earnings above the economic cost of capital</li> <li>Comparable across countries</li> </ul>	●		●	
	Relative Value	<ul style="list-style-type: none"> <li>Uses market-implied capitalization periods of earnings</li> <li>Country/Sector relative</li> </ul>	●			
	Interest Rate Differential	<ul style="list-style-type: none"> <li>Favors currencies in countries with higher short-term interest rates</li> </ul>				●
TIMELINESS	Price Momentum	<ul style="list-style-type: none"> <li>Favors stocks with strong long-term momentum and short-term pull-backs</li> <li>Captures interaction between short term and long term</li> </ul>	●			
	Currency Momentum	<ul style="list-style-type: none"> <li>Favors currencies that have recently appreciated, especially as a departure from their long-term trend</li> </ul>				●

Source: Nicholas-Applegate Capital Management

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### Q: What happens after the model is run?

A: The investment team runs the model using quantitative tools to make stock, sector, country and currency selection recommendations, which are evaluated based on the model's calculation of their potential contribution to excess return. The team then uses traditional stock-level research to validate the model's results. This process confirms model recommendations and incorporates a qualitative assessment to make sure the numbers make sense. Also examined: late-breaking news, price movement and extenuating circumstances that might not be in the model's forecast. If the team finds a particular stock would compromise the model's forecast, that stock is removed and the model re-run.

### Q: How does portfolio construction and risk management add value?

A: The portfolio optimization process considers the model's alpha, or outperformance, forecast for each stock in an attempt to build a portfolio designed to maximize excess return potential given the underlying amount of risk.

In risk management, our goal is to maximize stock-specific risk and minimize any style-based risk. We believe our investment insight on individual stocks is our value-added element. Therefore, we want to take risk only where we expect to be compensated, which is primarily in the stock-specific area.

## Q: How does the firm evaluate that stock-specific risk?

A: By using a statistically-based, global risk model that is very adept at capturing emerging sources of risk in the market. The model looks at how stocks trade in relation to each other. It can identify that a natural resources company in Australia, a steel company in Japan and a shipping company in the Netherlands are all trading similarly from a risk perspective and have similar risk characteristics due to their shared dependence on forward growth prospects in China. It then signals that the firm should diversify away from those risks and not be too heavily invested in areas that will likely trade the same way. And it does that without placing additional country, sector or currency constraints on the portfolio. The goal is to control risk relative to the benchmark with the least amount of constraints on the portfolio as possible, so as not to limit investment breadth.

## How to Access This Strategy

### NACM International Fund

NACM International Fund seeks maximum long-term capital appreciation by combining a disciplined quantitative stock-selection model with fundamental research. This unemotional, systematic investment approach is designed to consistently drive the portfolio toward stronger investment opportunities in stocks of developed overseas markets.

The manager applies a quantitative stock selection approach to identify the most attractive investment opportunities within a universe of approximately 2,000 international stocks traded in the 21 developed countries represented in the MSCI EAFE Index. The Fund's investment universe encompasses the MSCI EAFE universe as well as stocks in the FTSE Developed Europe, Asia and Pacific Index.

*Nicholas-Applegate Capital Management (NACM) is an Allianz-owned investment firm managing more than \$14 billion in assets (as of March 31, 2006). Since its founding in 1984, the firm has grown to be a recognized leader in equity management. Horacio Valeiras, CFA, is Managing Director and CIO of Nicholas-Applegate. He is responsible for daily management of all investment and trading functions.*

*Investors should consider the investment objectives, risks, charges and expenses of this Fund carefully before investing. This and other information is contained in the Fund's prospectus, which may be obtained by contacting your financial advisor, by visiting [www.allianzinvestors.com](http://www.allianzinvestors.com) or by calling 888-877-4626. Please read this prospectus carefully before you invest or send money.*

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Alpha measures a portfolio's risk-adjusted performance, which is the difference between a portfolio's actual and expected returns, given the level of market risk as measured by beta. The Morgan Stanley Capital International (MSCI) Europe, Australasia, Far East Index (EAFE) is an unmanaged index of over 900 companies, and is a generally accepted benchmark for major overseas markets. Index weightings represent the relative capitalizations of those markets included in the index on a U.S. dollar adjusted basis. The FTSE Developed Europe, Asia, Pacific Index is a free float-adjusted index of companies representing the stock markets of Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.

NACM International Fund may invest its assets in the securities of companies located in developed countries outside the U.S. Investing in non-U.S. securities may entail risk due to foreign economic and political developments. The Fund may invest a percentage of its assets in U.S. companies. This Fund may use derivative instruments for hedging purposes or as part of its investment strategy. Use of these instruments may involve certain costs and risks such as liquidity risk, interest rate risk, market risk, credit risk, management risk and the risk that a fund could not close out a position when it would be most advantageous to do so. Portfolios investing in derivatives could lose more than the principal amount invested in those instruments. Allianz Global Investors Distributors LLC, 2187 Atlantic Street, Stamford, CT, 06902, [www.allianzinvestors.com](http://www.allianzinvestors.com), 1-888-877-4626. AQ667\_14892