INTUITION Learning Insights

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BEHAVIOURAL FINANCE: KNOWING ME, KNOWING YOU

ATHLETES AND SPORTS PSYCHOLOGISTS have known for a long time that success requires as much mental and emotional fitness as it does physical ability. Yet, despite published research going back over 20 years, it is a relatively recent thing for the broader financial community to accept that the same is true of investing. This acceptance has already led to the growth of performance coaching for traders. However, as the financial industry has changed over the last seven years and banks are placing greater emphasis on private wealth management, the importance of understanding the psychology of clients requires greater emphasis as well.

Traditional finance tells us that market participants are assumed to be rational, that they are efficient and unbiased processors of information, and make decisions consistent with maximizing utility. The advantage of such a theory is that it is simple. However, decades of information about the market and individual trading behaviors, or in fact anyone familiar with the concept of the "greater fool," suggest that the world simply cannot be explained using this traditional framework.

With its origins in cognitive psychology, behavioral finance is based on the notion that some, if not all, investors are subject to behavioral biases that lead them to make decisions that could be described as less than fully rational and that place a drag on returns. Although there are many identified behavioral biases, they are all the result of cognitive errors, either in information processing or belief persistence, or emotional biases.

EXAMPLES OF COGNITIVE ERRORS:

CONSERVATISM & CONFIRMATION BIAS: A tendency to overweight existing knowledge or new information that supports existing beliefs and underweight or discount new information that contradicts those beliefs. This causes individuals to be slow to react to new information, often missing out on opportunities or changes in paradigm.

REPRESENTATIVENESS: A tendency to make assessments based on superficial details or stereotypes. This leads to placing too much emphasis on the categorization, possibly erroneous, of new information and may result in misinterpretation.

AVAILABILITY: A tendency to rely on the most recent information or that which comes to mind more readily. This leads to concentrated portfolios as the same few investments keep coming to mind, or an overestimation of the probability of certain occurrences that resonate in one's memory.

FRAMING: A tendency to be influenced in one's decisionmaking by the way in which problems are defined or presented. This leads to trading based on gains and losses rather than expected returns and risk, leading to the premature selling of winners and excessive retention of losers.

ANCHORING: A tendency to see things relative to some initial value or estimate. Why do car salesmen always start off with an inflated list price? To anchor that number in the buyer's mind so the actual selling price seems like a good deal.

MENTAL ACCOUNTING: A tendency to allocating assets into separate, non-transferable compartments with different levels of utility, ignoring fungibility and correlation. This leads to portfolios that look like layered pyramids, where the true allocation has diverged from the plan.

EXAMPLES OF EMOTIONAL BIASES:

LOSS AVERSION: A tendency to strongly prefer to avoid losses rather than acquire gains. As with framing, this leads to a myopic focus on existing gains and losses, resulting in the individual selling his winners to realize current gains and holding on to losers in the hope of breaking even.

OVERCONFIDENCE & OVEROPTIMISM: A tendency to overestimate one's abilities or the accuracy of one's information. This tends to lead to excessive positioning, concentrated portfolios, underestimating the downside whilst overestimating the upside, and excessive trading.

REGRET AVERSION: A tendency to make decisions so as to avoid feeling emotional pain in case of an adverse outcome. This leads to low-risk investments with limited upside, unchanging portfolios that hold on to investments for familiarity and comfort, or follow-the-herd mentality where the individual can't feel bad if everyone is suffering.

KNOW-HOW

The **Intuition Know-How library** contains several tutorials related to this article:

Introduction to Asset Management

- Investment An Introduction
 - Asset Management An Introduction
 - Asset Allocation An Introduction

Portfolio Theory

- Market Efficiency The Concept
- Market Efficiency The Evidence

Understanding the Private Wealth Management Business

Private Wealth Management - Behavioral Finance

SMART BETA: NOT JUST FLAVOR OF THE MONTH

EVEN THOUGH VEHICLES enabling small investors to participate easily in index, or beta, strategies have been around since the 1970s, the trend away from active management toward indexed investing has been accelerating over the last few years, particularly in the United States, with the increased marketing of alternative or "smart" beta funds.

Charging as little as one-tenth as much as the cheapest active funds, index funds now account for nearly 40% of the equity allocation and almost 25% of the fixed income allocation in the United States, and saw net inflows of nearly USD600 billion globally in 2015.



FLOWS FOR INDEX AND NON-INDEX FUNDS BY CATEGORY









Source: Morningstar Direct Asset Flows.

FLOWS FOR INDEX AND NON-INDEX FUNDS IN MAJOR REGIONS BY ASSET CLASS



Source: Morningstar Direct Asset Flows.

PERCENTAGE OF ASSETS IN PASSIVE FUNDS, FIXED INCOME

SMART BETA: NOT JUST FLAVOR OF THE MONTH

VERY RECENTLY, IN A SURVEY OF INSTITUTIONAL INVESTORS representing over USD900 billion in combined assets under management, 86% of respondents replied that they intend to increase their allocation to risk-factor/smart beta strategies in the next three years.

To understand the fundamental appeal of indexing, consider a market that has both index investors and active investors. Arithmetic tells us that at the end of any given year, the index investors naturally get the same return as the market, while the universe of active investors must also achieve that same performance. That is to say, any one active investor may significantly outperform or underperform the market before fees. But, if management fees can eat up 10-20% of the expected returns in a typical year, an investor might decide that the possibility of outperformance is outweighed by the certainty of paying fees.

That decision would be supported by research from firms such as Morningstar, which continues to show that active funds tend to underperform passive ones, particularly over the long term, in a way that is highly correlated with fees – going so far as to conclude that a fund's fees are "one of the only reliable predictors of success."

Cue the rise of smart beta. If beta is defined as systematic or market risk and the market is measured by a reference index such as the S&P 500, FTSE 100, or Nikkei 225, then a traditional beta fund aims to replicate the index. Smart beta funds, however, are hybrid passive-active vehicles that aim to combine the transparent, rules-based approach and low overhead of traditional index strategies with excess returns by constructing alternative reference indices based on criteria other than, say, market capitalization.

These alternative indices fall into two categories: heuristicbased and optimization-based. Heuristic-based strategies are ad hoc schemes based on relatively simple rules, such as equal weighting where every name in the index is given an equal allocation, risk cluster equal weighting where groups of correlated names are given equal allocations, diversity weighting that blends equal- and market capweighting on a sliding scale, and fundamental weighting based on accounting measures such as book value and P/E ratio.

Optimization-based strategies, on the other hand, seek to maximize their ex ante risk-adjusted returns. Using techniques such as Bayesian shrinkage or principal component analysis to estimate covariance matrices, these strategies create minimum-variance, maximumdiversification, or risk-efficient (a.k.a. maximum Sharpe) portfolios in an attempt to improve returns without increasing risk. Historical analysis suggests these are all valid means to better returns, but will the market eventually arbitrage away their sources of value? Bill Sharpe, the Stanford economist and Nobel laureate for his work in defining the concept of beta, asserts that smart beta strategies are effectively factor bets that will not last if widely followed. In contrast, smart beta managers have produced research to show that persistent outperformance comes not from factors such as value, which dwindle over time, but rather through consistent portfolio rebalancing.

Is there merit to the trend towards alternative beta strategies? The data in support of at least some degree of indexing is difficult to ignore and even Bill Sharpe concedes that it may be too early to tell if all such strategies will fail the test of time. Either way, the flow of money suggests

KNOW-HOW

The **Intuition Know-How library** contains several tutorials related to this article:

Portfolio Theory

- Portfolio Theory The Markowitz Model
- Portfolio Theory Single-Index & Multi-Index Models
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- Portfolio Theory Arbitrage Pricing Theory (APT)
- Portfolio Theory Performance Measurement Models
- Portfolio Management Passive & Active Strategies

Exchange-Traded Funds (ETFs)

- Exchange-Traded Funds (ETFs) An Introduction
- Exchange-Traded Funds (ETFs) Types
- Primer Smart Beta

Investment Companies (US)

- Mutual Funds (US) An Introduction
- Mutual Funds (US) Investing

Collective Investment Schemes (UK)

Collective Investment Schemes (UK)

COMMODITIES: LOW ENERGY PRICES AND THE IMPACT ON CREDIT

ALTHOUGH CRUDE OIL PRICES have been in sharp decline since 2014, the story came to a head in Q1, when equity markets started trading in lockstep with crude. On the one hand (and hand-in-hand with the China story), falling energy prices can be seen as an indicator of weak economic activity or, more importantly, an expectation of even weaker economic activity in the future. On the other hand, logic might tell us that cheaper energy is in the long run a good thing, since any reduction in input costs should be good for the bottom line. Both observations are valid. However, it is worth considering the extent of the short-term impact.

During the rise in oil prices up until mid-2014, oil exploration and production (E&P) companies borrowed heavily to increase production and add to reserves. In fact, the aggregate net debt of just the US oil companies nearly doubled from roughly USD80 billion at the end of 2010 to nearly USD140 billion by the end of 2014. So, as energy prices dropped, many companies found themselves in a liquidity crisis. In the first half of last year alone, US shale producers' capital expenditure exceeded cash flow from operations by over USD30 billion. The hardest hit were smaller, independent firms, who were already highly leveraged and falling into the trap of negative free cash flow (i.e. having to borrow more money and/or sell assets just to service their existing debt). According to the US Energy Information Administration, in 2015, 83% of the operating cash flow for 44 US oil and gas companies was spent servicing debt repayments.

Then, as the market lowered its energy price assumptions for oil and gas E&P loans, severely reducing borrowing bases, many firms found that they could no longer buy time by raising more debt capital, exchanging distressed debt, or selling off assets. By January 2016, investment grade commodity firms were being downgraded. By February, banks with the largest energy loan portfolios (as either a percentage of total loan book or Tier 1 capital) were downgraded as loan- loss expectations rose. Even the sovereigns were not immune as over a dozen of the world's producer nations found themselves either having been downgraded or placed on review for downgrade.

In credit as in health, morbidity sometimes leads to mortality, and earlier this month, the default rate for high-yield energy debt reached 13%. Unfortunately, this landed investors with a dreaded double whammy. Since recovery rates depend upon being able to liquidate assets at reasonable prices, which for energy companies depends on the price of oil, energy sector investors have been suffering with recovery rates averaging roughly 15% of total debt exposure, including both secured and unsecured debt. Final recovery rates for some names have even been in the single digits.

Of course, not everyone is in the same boat. Some of the "fallen angels,", companies that have been downgraded from investment grade to high yield, who have had cash on hand or available credit facilities have taken the opportunity to buy back some of their outstanding debt and reduce their net leverage.



Source: U.S. Energy Information Administration, based on Evaluate Energy Note: Each quarter represents a rolling four-quarter sum.

However, this does not mean that they are not also at risk. Despite the rebound since the lows early this year, industry experts estimate that smaller companies still need crude at least above USD50/barrel to break even and USD70-80/ barrel to survive in the longer term. In fact, Fitch Ratings still expect the trailing 12-month energy sector default rate to finish the year around 20%. This represents a significant improvement over previous expectations that a third of E&P and as much as 60% of coal companies would default this year, but acknowledges the disappearance of over one-fifth of available bank loan credit following the spring borrowing base redeterminations, which puts at risk a number of oil and gas producers who have not yet fully drawn down their credit lines.

COMMODITIES: LOW ENERGY PRICES AND THE IMPACT ON CREDIT

Now, how much will available credit collapse, putting energy companies at risk of bankruptcy? How much of the unfunded loans will be drawn down, increasing the banking industry's exposure to the oil and gas sector? Fitch already estimates that nearly 60% of unrated and speculative grade energy companies are likely to have loans in danger of default. Anticash-hoarding provisions might be one answer, but for companies with a high burn rate, as well as the banks and investors exposed to them, the future remains very uncertain.

U.S. oil, gas reserve-based loan cuts grow to 21 percent

Companies that have so far disclosed results of spring redeterminations have reported a \$3.5 billion drop in borrowing bases.

3 4
Before After

KNOW-HOW

The Intuition Know-How library contains several tutorials related to this article:

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- Corporate Banking Products -Term Finance

Bank Lending

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- Commodities An Introduction
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- Commodities Oil
 - Commodities Natural Gas



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