

SHARPER ♦ GRANITE



Optimal Portfolio Management

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Volatility punctuated the stock and bond markets again this quarter as global economic strength continued, raising global stock prices and hurting global bonds. The equity of large U.S. corporations did particularly well spurred by the most active merger and acquisition (M&A) activity on record.

The CBOE Volatility Index, now at 14, is up 21% on the year.¹ As volatility increases it becomes extremely important to focus on our long-term financial goals. While this quarter's Economy Review shows many neutral indicators turning positive, we expect volatility to continue. At this time it is important to review the way we behave in the face of financial volatility. Please read our following report on some of the recent research in behavioral finance from leading U.S. universities.

Financial Markets Summary

Global stock markets surged this quarter while the bond market fell for the first time in the last four quarters. The S&P 500 Index returned 6.5% (stock price gain + dividends). Meanwhile, the Lehman Aggregate Bond Index, which Sharper ♦ Granite uses as the benchmark for its taxable bond investment performance, returned -0.9% (bond price gain + interest payments).



The average of all Sharper ♦ Granite client portfolios gained 4.3% net of fees (18.3% annualized rate) this quarter and maintained a risk level 25% less than that of the S&P 500 Index. If normalized to the same risk level as the S&P 500 Index, Sharper ♦ Granite client portfolios would have gained 5.3% (22.9% annualized rate).²

While Sharper ♦ Granite clients performed well this quarter, they trailed the S&P 500 Index slightly on a risk-adjusted basis primarily for two reasons. First, most client accounts include some bond component for safety, and bonds, as mentioned above, actually lost money this quarter. Second, the S&P 500 Index is an index of large U.S. stocks. This quarter, large U.S. stocks beat smaller stocks and most global indexes. Again, for safety and better long-term performance Sharper ♦ Granite tilts portfolios to include small stock indexes and global indexes.

For the year Sharper ♦ Granite clients are, on average and on a risk-adjusted basis, up 7.3% (15.1% annualized rate), slightly beating the S&P 500 Index, which is up 7.1% (14.7% annualized rate).² ●

Behavioral Finance

Over the past ten years the average equity mutual fund earned 8.5% per year, yet the average mutual fund *investor* made only 7.1% per year.³ How is this possible? Over the past ten years, investors as a whole have hurt their returns by 17% through self-destructive behavior. They tend to move in and out of the market at just the



wrong times, generating excess transaction fees while buying “high” as they chase upward momentum and selling “low” as they fear losses in the short-term.

Some other examples of related recurring irrational behavior researchers see are: 1) the person who buys a burglar alarm the day after his house is robbed, 2) the person who believes he is getting a bargain because a product is marked “on sale” even when the price is the same as a similar “non-sale” product, 3) the person who feels more pain from losing \$1,000 than joy from unexpectedly receiving \$1,000, 4) the person who believes he can beat the stock market by picking “smart” stocks or buying and selling at the “right time” based on recent price trends or patterns.^{4,5} What is happening here?

Recent behavioral research sheds new light on how investors behave. Specifically, finance and economics professors are working with neuroscience and psychology professors to study why people hurt themselves with their investment decisions. We reviewed a number of studies at the following schools: the Kellogg Graduate School of Business, the University of Chicago, Princeton University, Harvard University, Cornell University, the University of Santa Clara, and the University of California at Davis.

Researchers call the behaviors exemplified above: **1) Recency Effect.** We tend to weigh most highly events that have occurred in our most recent past. This phenomenon materializes in the markets in the form of *momentum*, as when the NASDAQ climbed from 1,000 to 4,600 in four years. At the time Fed Chairman Alan Greenspan called it “irrational exuberance”. Behavioral finance theorists called it momentum.⁴

2) Anchoring. We tend to assume that an initial given price is fairly accurate even without any comparison data. One market phenomenon associated with anchoring is analyst earnings revisions. Stocks with upgraded earning expectations are more likely to improve because history suggests that all the good news has not yet been reflected in analysts’ forecasts; however, studies show that analysts tend to selectively filter new information in ways that support their initial estimates because they are anchored to their original assessments. In fact, estimates tend to lag behind actual earnings rather than anticipate them.⁴

A second example of anchoring in the investment world? Investors often want to hold a losing stock until it returns to the price originally bought so that they will not have to admit a “loss”, even though the likelihood of the stock rising or falling clearly is not affected by that individual’s original purchase price.

3) Aversion to Regret. Several recent sports psychology studies have shown that coaches tend to make irrational decisions that avert an immediate setback, even when it decreases their chances of winning a game. For example, in football coaches tend to punt or kick field goals on fourth down even when the odds say they should try for the first down.

In basketball, when down by two points in the final seconds coaches tend to go for two-pointers more than three-pointers. While there is close to a 50% chance of making a two-pointer, this only serves to send the game into overtime, where they presumably then have 50% chance of winning. The total winning percentage from the two-point shot is thus 25%, as compared to a three-point shot, which has approximately a 33% chance of winning the game in regulation. Studies show that coaches are often overly-conservative to the detriment of their teams in order to avoid being labeled “reckless”.⁶

Related studies show that investors feel more pain from losing money than they feel joy from gaining money through investment. Some psychologists estimate the negative emotional effect of a loss to be up to 2.5 times the magnitude of the positive effect of a gain.⁹

4) Overconfidence. We tend to think that we are smarter than we actually are. Specifically, we tend to “find” patterns in data where none actually exist. For our ancestors to survive, they had to be good at spotting patterns when hunting, such as wind, animal and fish tendencies.⁷ In financial markets, amateur (and professional) investors tend to believe they can buy winning stocks or mutual funds, even though prices are effectively set by Wall Street’s finance professionals with MBA’s and Ph.D.’s who do nothing but study prospects for the stock of that particular company and trade it every day.⁵

The brain is not wired to always make rational decisions. The emotional part of the brain is often at odds with the logical part of the brain. When this happens, researchers have found that the emotional side generally wins out.⁴

Professor Camelia Kuhnen of Kellogg, who double-majored at MIT in neuroscience and finance and earned a Ph.D. in finance from Stanford’s Graduate School of Business, studies this emotional side of the brain. She explains that much of our irrational behavior is generated by two distinct parts of our brain within the limbic system, which is the oldest, most primitive, and very emotional part of the brain.

The first part, nucleus accumbens (NAcc), motivates us to seek reward. It lights up when a hungry person sees chocolate cake. The second part, the anterior insula, is primarily concerned with avoiding risk, and for example, tells us to run from danger. These primitive sections of the brain are responsible for “greed” and “fear” respectively, two emotions long known to move markets irrationally in either direction. Kuhnen conducts stock-picking studies while monitoring activity in these sections of the brain. The greater the activity in these two areas, she says, the more likely we are to make mistakes. The mistakes that she observes take the form of either too much risk taking or too little, each corresponding with over-activity in one of these two respective areas of the brain.⁸

Furthermore, studies by 2002 Nobel Prize winner Daniel Kahneman show the rationality of decisions following a gain is much higher than decisions following a loss, even when they are of equal magnitude. This is because these decisions are mediated in different parts of the brain.⁹ Fight or flight decisions following losses are reactionary and do not involve conscious memory. Thus, fear-based investment sales tend to be formed more by quick emotions than by careful analysis and logic.

So what can we do if we are pre-wired by our DNA to invest sub-optimally? First, set a strategy upon which buy/sell decisions will be based, and have that strategy automatically executed by established rules with aid from automated investing programs or your investment advisor. Choose a strategy that keeps buys/sells to a minimum. Buys/sells should be made to rebalance portfolios, not to time markets. Financial objectives should determine the mix of investments, not stock reports. This approach removes much of the **Recency Effect** and prevents focus on the performance of individual stocks where **Anchoring** and **Aversion to Regret** can lead to bad decisions.

Second, utilize low-cost, tax-efficient index Exchange Traded Funds (ETFs) and index mutual funds to avoid the realm of individual stock affiliations and **Overconfidence**, where we are effectively betting against experts who likely know more than we do about the stocks.

Finally, to further minimize the **Recency Effect**, **Anchoring** and **Aversion to Regret**, avoid watching investments day-to-day (see “The Importance of Time Frames for Stock Market Volatility”, *Summer 2006*). Setting a sound long-term strategy and then monitoring progress toward financial goals quarterly allows control while preventing self-damaging behavior. ●

Second Quarter 2007 Economy Review

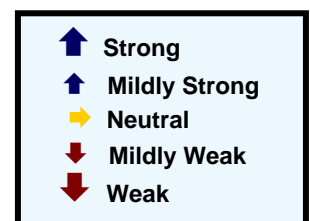
The indicators we track accelerated in strength throughout the 2nd quarter, indicating that the economy may have turned the corner from recession-free soft landing to expansion mode. The standout economic reports this quarter were: 1) surprisingly strong earnings, 2) improving manufacturing data, and 3) tame inflation data. These reports imply that the economy is swinging upward in a low-inflation environment, similar to the ideal state enjoyed for most of the 1990's.

When inflation and interest rates stay low and an improving economy is driving corporate profits higher, then stock prices *will* advance when measured over multi-year time frames.



Leading Economic Indicator Summary

↓ **Market Cycle:** Summer stock market performance, as measured by the S&P 500, trails that of every other season. While calendar Q3's (we label summers) on average do show market improvement, it is less than during other seasons. Since 1946, calendar Q3's average only 5.9% annualized total return, versus Q1's 15.0%, Q2's 10.8% and Q4's 20.7%.¹⁰ September, the final month of our upcoming quarter, is historically the worst month of the year for stocks. It is the only month that averages negative returns.¹⁰



Another point currently working against the market cycle is that we have just completed four consecutive years of gains, and five winning years in a row is rare. But thus far at mid-year the total stock market is up 6.5%.¹¹

↑ **Political Cycle:** We are in the third year of President George W. Bush's second term. Traditionally, the third year in the presidential cycle is the strongest as elected officials typically try to boost the economy to improve chances of re-election. Since 1948, the third year of the presidential cycle has seen the S&P 500 Index post an average gain of 23.3% (21.9% with Republican presidents), far in excess of other years in the cycle.¹⁰ Since 1960, every third year of a president's term has been positive, and all but one year has had a double-digit gain.¹²

Specifically looking at the third year of presidential cycles when the U.S. was at war, the stock market has also surged. The average gain of the S&P 500 Index has been 18.4%.¹⁰

↑ **GDP Growth:** Gross Domestic Product (GDP) is the official measure of the U.S. economy. It is a measure of all goods and services produced in the United States. 1Q07 GDP was revised to a 0.7% annualized rate, which is very slow, but most economists expect the GDP to bounce back to 2.5% next quarter.¹³ This quarter represents the 22nd consecutive quarter of expansion, or positive economic growth, since the official recession of 2001.

Assuming that we do get a bounce back in GDP 2Q07, this current GDP growth rate is neither high enough to fuel inflation fears nor low enough to fuel recession fears. Positive but low GDP growth may be the best result right now for the economy as higher growth rates could pressure inflation measures and force the Fed to tighten money supply, which historically hurts stock performance.

↑ **Purchasing and Manufacturing:** The Institute of Supply Management (ISM) Index, the key manufacturing indicator, surged this quarter, marking the 14th consecutive quarter of expanding manufacturing activity.^{14, 15, 16}

↑ **Inflation Control:** The most widely accepted measurement of inflation is the Consumer Price Index (CPI). The core CPI, which excludes volatile food and energy prices, continues to advance at a rate in the upward range of that targeted by the FOMC. The twelve-month core CPI growth rate moderated to 2.3% in 2Q07¹⁷ while the total CPI was 2.6%.¹⁸

A jump in long-term rates of about 0.5% at quarter-end was incorrectly attributed by some in the media to increasing inflation concerns in the market. The strength of the U.S. and global economies and the slackening of foreign demand for U.S. treasuries are other factors that can drive up interest rates.

We track a class of investment products called Treasury Inflation Protected Securities (TIPS) to help explain how much of an impact inflation is having on long-term interest rates and bonds. After comparing TIPS pricing behavior to that of 10-year U.S. treasury bonds from March 1st through June 14th, we can infer that virtually none of the recent 0.5% increase in interest rates is due to anticipated inflation increases. Further confirmation comes from declining gold prices (down 2.2% this quarter¹¹), which decrease when inflation is tame.¹⁹

However, consumer inflation expectations increased slightly to 3.5% over the next year.²⁰ This is important to note because inflation tends to be a self-fulfilling prophecy. That is, if people believe prices will be higher tomorrow, they will buy more today, thus creating demand and driving prices higher.

↓ **Oil Price Containment:** For another quarter, oil prices were volatile but ended the quarter flat. Oil prices are also nearly flat year-to-date (+2.4%).¹¹ Oil is a key input to so many business and consumer products. Its price movement can greatly affect consumers' ability to travel and purchase leisure-time products. It also impacts the profitability of corporations that produce plastic containers, fly airplanes, drive trains, build trucks, or manage hotels. Oil prices, while volatile, have such a strong influence on the overall economy that they must be watched closely.

↑ **Consumer Spending:** Retail sales remained strong through the second quarter, but the trend is one of a consistently slowing growth rate over the past twelve months.^{21, 22}

In June the University of Michigan Consumer Confidence Survey fell to its lowest level in ten months.²³ The Consumer Confidence Index also flashed a steep decline this quarter.²⁴

↑ **Business Capital Spending:** After drops in the previous two quarters, business spending appears to be rebounding. Non-defense capital-goods orders rose 2.1% in April following a 4.6% increase in March.¹⁶ Furthermore, business equipment manufacturing production recovered strongly.²⁵ These reports imply that businesses are rebuilding inventories after scaling back at the end of 2006 and beginning of 2007.

↓ **Investor Sentiment:** Institutional market confidence hit its highest level since 1990, according to a Yale School of Management study.²⁶ Additionally, the State Street Investor Confidence Index peaked in April to a level not seen in many years.²⁷ Finally, cash levels at equity mutual funds dipped to their lowest level ever, 3.7%, in May.²⁸ This indicates that professional money managers are extremely bullish, which is bad, in that it indicates much of their money, fuel for future market rallies, has already been invested.

↑ **Corporate Earnings:** Corporate earnings as a percentage of GDP are an record highs.²⁹ At the beginning of the year, 1Q07 S&P 500 company profits were anticipated to be 8.7% higher than year ago. In 1Q07, those estimates fell to 4%.³⁰ The reality, however, was not so bleak. At the 2007 mid-point S&P 500 company profits have been surprisingly strong, and analyst projections have been raised back up to 8 - 9% for the year.³¹

With 90% of the S&P 500 companies reporting earnings in 2Q07, 66% of companies beat estimates, 12% matched, and 22% missed. Historically, the averages are 60%, 20%, and 20% respectively.³² This positive surprise is one significant reason for the strong stock market performance this quarter.

↑ **Insider Trading:** Significant insider stock buying implies that managers have positive information about their company's outlook. Insider buying spiked nicely in early June. This is a good indicator of business confidence. In June the 30-day moving average of insider buying hit its highest point since September, 2006.³³ Thomson Financial data also shows high insider buy-to-sales ratio.³⁴

↑ **Merger and Acquisition Activity:** U.S. merger activity is strong. 18 of the S&P 500 companies have been bought this year for \$232 billion in market value. All but two were all-cash deals, further illustrating the availability of cash today.³⁵ In Europe M&A deals have reached \$1.25 trillion already after a strong \$1.60 trillion for all of 2006.³⁶

And the direct effects on the stock market are evident. Through May 21, 2007, there had been as least one \$5 billion-or-larger acquisition announced on 26 of this year's 95 trading days. On those 26 days, the single-day return for the S&P 500 index was more than double the average one-day return for the index this year.³⁷ ●

Notes and Acknowledgements:

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2. Arithmetic average used for return measurement. Asset-weighted average beta used for risk adjustment to market-risk level within each portfolio. Performance includes assets tracked for clients that lie outside Sharper ♦ Granite direct management, which amount to less than 10% of total assets. All client portfolios weighted equally in calculation
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4. "Profiting by Behavior", *Investment Advisor*, May, 2006
5. "Understanding Ourselves", *OnInvesting*, featuring Professor Richard Thaler of the University of Chicago and Brad Barber and Terrance Odean of the University of California at Davis
6. "Net Gains: How Watching Basketball Can Improve Your Approach to Investing", *Wall Street Journal*, March 14, 2006 featuring Professor Thomas Gilovich of Cornell University, Professor Richard Thaler of the University of Chicago, and Professor Meir Stateman of Santa Clara University
7. "Why Your 'Lizard Brain' Makes You a Bad Investor", *Wall Street Journal*, October 25, 2006 featuring Professor Robert Frank of Cornell University
8. "Braingain", *Kellogg*, Spring 2007
9. *Fooled by Randomness*, Nassim Nicholas Taleb, Random House 2005
10. *Stocks for the Long Run*, Jeremy J. Siegel, Ph.D., Professor of Finance, Wharton School of Business at Penn University
11. Vanguard Total Market Index (VTI), streetTRACKS Gold (GLD), Barclays Global Investors Oil (OIL)
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15. "Business Slowdown? Don't Count on It", *BusinessWeek*, June 4, 2007
16. U.S. Commerce Department as reported in "Business Spending Back on Track", *Wall Street Journal*, June 5, 2007
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21. "Retail Sales Fell 0.2% in April", *Wall Street Journal*, May 12, 2007
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25. "Get Ready to Exhale: The Slowdown May Be Ending", *BusinessWeek*, June 4, 2007
26. "The Big Guys Lead the Way", *Barron's*, April 30, 2007
27. State Street Investor Confidence Index as reported in *Pensions & Investments*, May 28, 2007
28. "Curbed Enthusiasm", *Barron's*, May 7, 2007
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30. "Companies Hold Line on Inflation", *Wall Street Journal*, June 16, 2007
31. "The Market's Mixed Signals", *BusinessWeek*, June 4, 2007
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35. "In the Mood for a Rousing Rally", *Barron's*, June 18, 2007
36. Bloomberg, June 28, 2007
37. "Drop dead Beautiful Shares", *Barron's*, May 21, 2007

Questions?

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