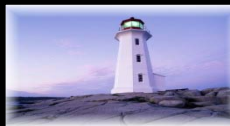


SHARPER ♦ GRANITE



Optimal Portfolio Management

WINTER
2003

IN THIS ISSUE

- **Financial Markets Summary**
- **Portfolio Construction II: Asset Allocation within Stocks**
- **Fourth Quarter 2003 Economy Review**

The U.S. economy continued on track with 3rd quarter annualized GDP growth of 8.2%, the largest in nearly twenty years. Accordingly, stocks delivered their first calendar year advance since 1999.

At Sharper ♦ Granite we are both thankful for the economic events of 2003 and optimistic about 2004. While our statistical models predict that our portfolios should beat the S&P 500 Index on a risk-adjusted basis over time, our returns this year were significantly greater than we would expect on average.

As we move into 2004 the political world is in a highly volatile state. Iraq remains dangerous even after Saddam Hussein's capture. We have seen recent bombings in Turkey and Afghanistan, punctuated by the November 22nd missile explosion just outside a major Kabul hotel. Georgia President Eduard Shevardnadze was ousted after opposition members stormed parliament, leaving that nation unstable. But amidst this violence, there are also hopeful events. India and Pakistan are under ceasefire. Israel and Palestine are making another attempt to reduce violence. North Korea is willing to negotiate an end its nuclear weapons program.

In 1963 the world also appeared volatile. Beyond the initial shock of President John F. Kennedy's assassination, the U.S. and the Soviet Union were decades into a Cold War punctuated by the Cuban Missile Crisis. Geopolitical fear reigned, but people continued to work, free markets remained opened, and economic life continued. The S&P 500 Index rose more than 23% in the year after JFK's death. In fact, over the last forty years, the stock market has advanced over 1,400%. In the midst of world danger, life continues.

While unforeseen events are sure to appear in 2004, we showed in "Historical Impact of War on Investments" (Spring, 2003) that stock market performance is much more tied to the economy than to events which impact war, terror and politics. Thus, we maintain optimism in the face of a volatile world based on our strong economic outlook presented in the "Fourth Quarter 2003 Economy Review" of this issue. Please take a look at the review; it helps explain why the year was so successful for the equity markets and more importantly, why strength should continue into 2004.

Financial Markets Summary



The S&P 500 gained 25.9% for the year 2003. The Lehman Aggregate Bond Index lost 0.7% on the year. The average of all Sharper ♦ Granite portfolios, adjusted to the same risk as the S&P 500, gained 38.3%.

In the 4th quarter, 2003 the S&P 500 Index improved 9.0%, while the Lehman Aggregate Bond Index fell another 1.0%.

The average of all Sharper ♦ Granite client portfolios increased 5.9% (net of fees) and maintained a risk level 26% less than the S&P 500 Index.¹ At this risk level, one would expect to gain 6.7% in a fair efficient market. Thus, this marks the first quarter of the year whereby the average of all Sharper ♦ Granite portfolios did not outperform the S&P 500 Index on a risk-adjusted basis. Please refer to the personal letter from your portfolio manager for a report on your performance this quarter.

Portfolio Construction II: Asset Allocation within Stocks

Last quarter, we shared some of the Sharper ♦ Granite research that helps determine the optimal percentage of stocks vs. bonds for each client. This quarter we discuss the next layer of our investment process, selecting the *right* stock investments.

As discussed in Part I, the objective, generally, is to achieve high returns (relative to a benchmark index) while maintaining low risk. One method of portfolio construction relies on the stock picking of an equity mutual fund manager. Mutual funds are good in that they build baskets of stocks to diversify away company-specific risk. However, they come with three significant disadvantages: performance, cost, and customization.

- **Poor Performance:** Only 20% outperform the S&P 500 Index over time.² The average equity mutual fund trailed the S&P 500 Index by 1.5% over the last ten years and by 3.0% over the last twenty years.³
- **High Cost:** The average no-load actively managed equity mutual fund costs 2.9% annually in management fees, taxes (mutual funds are subject to several unfavorable tax laws), and transaction costs.²
- **Low Customization:** Funds cannot be customized around an individual's time horizon, risk tolerance, upcoming life events, other assets (e.g. home or stock options), and tax strategy. Mutual funds seek to maximize return within their style guidelines, but alignment of asset allocation and overall balance with an individual's financial goals is still left to the individual. Furthermore, funds could be weighted in cash or a particular industry one day then shift the next, making it hard to ensure that a portfolio of mutual funds is well balanced at any given time.

Thus, Sharper ♦ Granite rarely uses actively managed mutual funds as building blocks for its portfolios. To avoid company-specific risk, individual stocks are also sparingly used, and usually only in larger portfolios or specialty hedging portfolios. Instead, we prefer Exchange Traded Funds (ETFs), which are extremely low cost *index-based* fund products. Hundreds of ETFs are available, each representing a particular industry, geography, or company size.

ETFs prove to be excellent building blocks for portfolios because of their low cost and tax efficiency. Additionally, they represent pure-form basic building blocks, ideal for customized portfolio construction.

Which ETFs are then selected? Building an optimal portfolio is similar to building a baseball team. The key is not necessarily to identify the best players, but rather to find the set of players who perform best together. That is, investment strategies should be optimized at the *portfolio* level, rather than simply focusing on individual holdings.

Why isn't the best portfolio the one with all the best individual securities? For the same reason that the baseball team with all the best individual players doesn't always win the championship. The best teams include relief pitchers and pinch hitters who may not play every day but can keep a team in the game on a day when the stars struggle.

The 2003 best selling novel and Oscar nominated movie, *Seabiscuit*, featured an all-star horse that did not run well in the rain. If you paid a high price to fill your stable with Seabiscuit's, and the economy "rained", your portfolio could get crushed. This is what happened to many investors in the last three years who filled their portfolio with tech stocks. When optimizing return *and* risk, you are better off with a team of several Seabiscuit's, mixed with a couple "mudders".



The laws of statistics and Modern Portfolio Theory prove that the best portfolios include built-in hedges, that is, securities that tend to step up just when the historically best performers are having their rainiest day. By combining high potential securities with a few solid “hedge” players in just the right combination, risk can be reduced without sacrificing return.

We find the right combination by looking at hundreds of candidate investments across different industries, geographies, company sizes, company risk levels, etc. We look at not only how these investments perform over time, at different points in the economic cycle, but also, *how they perform relative to each other*.

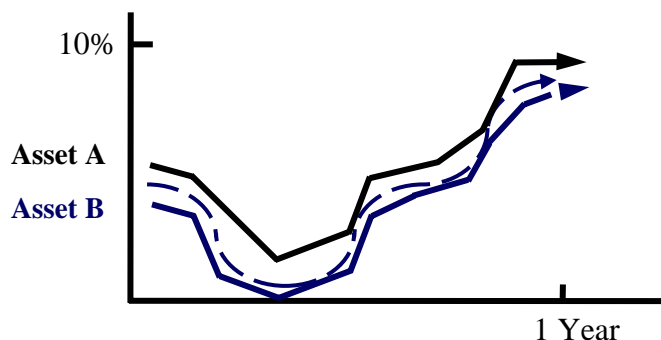
Typical Historical Performance for Hypothetical Assets, A, B, and C

The example below shows how sophisticated risk management can benefit a portfolio. Assets A, B, and C all historically return 10%. But which pair would you rather have together in a portfolio?

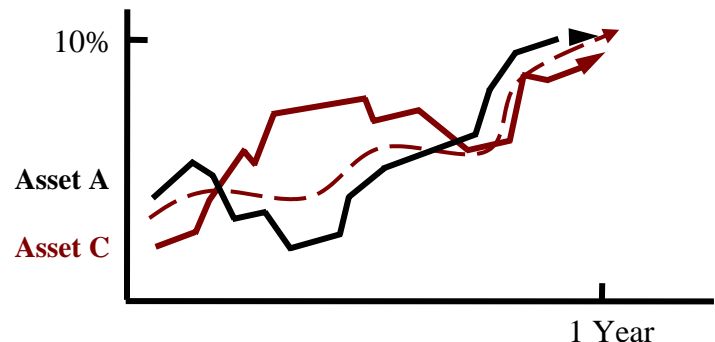
Assets A and B tend to move together (perhaps they are in similar industries), while Assets A and C tend to move in somewhat different directions. Assets A and C are the preferred pair because they result in lower risk, or variability, when together. The dashed lines represent the resultant portfolio. Note the dashed line on the right takes a smoother path upwards to its 10% gain.

Sharper ♦ Granite’s RiskPoint Software looks at these interactions across hundreds of diverse securities in order to help construct optimal portfolios with minimum risk for a given target return. It then recommends portfolio rebalances at ideal times.

Higher Risk Portfolio (Up & Down)



Lower Risk Portfolio (Preferred)



When different events occur within the global economy, some industries or geographies will do well relative to others. For example, an oil refinery fire in the Middle East could impact oil supply, raising oil prices and thus helping oil exploration stocks while hurting airline and trucking stocks who rely on fuel.

It is impossible to predict what unexpected world events may occur in the short-term, so balance among assets in a portfolio is critical to reducing risk. Ideally, we want to find assets which not only grow significantly on their own, but also are uncorrelated with other assets in the portfolio. These assets in the right combination will form the best portfolio “team”. ●

Fourth Quarter 2003 Economy Review

The indicators we track accelerated in strength throughout the 4th quarter, indicating gathering momentum of the recovery. The standout economic reports this quarter were 1) a huge 3rd quarter Gross Domestic Product (GDP) increase, the largest in nearly twenty years and 2) a core CPI inflation indicator falling to its lowest level in forty years. These reports left no doubt that the economy is swinging upward in a low inflation environment. This is 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 reasonably long time frames.

GDP looks at the recent past and shows a pattern of increasing economic strength. But what do the forward-looking indicators look like? The key leading economic indicators we track are highlighted below in the Leading Economic Indicator Summary section each quarter for our clients. These factors are currently flashing positively.

Other respected objective economic studies are reading positively as well. The Economic Cycle Research Institute's leading index of economic growth hit a 20-year high in October. The ECRI correctly forecast each of the last two American recessions.⁴






Optimism among U.S. executive leadership is also growing. The Business Roundtable's economic outlook index rose in the 4th quarter to the highest level since the index initiated in November 2002.⁵


These positive leading indicators are underpinned by key macroeconomic factors in the system that should facilitate growth:

1. **Fiscal Stimulus:** Tax cuts, which have already helped consumers, are scheduled to increase in 2004.
2. **Monetary stimulus:** We believe interest rates will stay low through the year. Price pressure is low enough that we expect the Fed to keep short-term rates unchanged into fall, 2004. Moreover, many (including George Bush Sr.) attribute the defeat of senior Bush in the 1992 election to Alan Greenspan's decision to raise rates in the year of the election. There may be subtle political rationale for leaving rates little changed until the election.
3. **Increasing global free trade:** Declining international trade barriers are key to graceful depressurizations of geographical economic "bubbles".
4. **High productivity:** U.S. worker productivity in the 3rd quarter had its highest growth rate in twenty years (since the 2nd quarter, 1983).⁶ Low rates and strong U.S. productivity should help keep the U.S. dollar weak. This makes American produced goods more attractive overseas and gives multinational U.S. corporations a favorable currency rate adjustment.



Leading Economic Indicator Summary


	Strong
	Mildly Strong
	Neutral
	Mildly Weak
	Weak

 **Market Cycle:** The S&P 500 Index gained 25.9 % for the year.


Looking forward, the 1st quarter of each year tends to be strong, powered by January which has been the third strongest of the months for the S&P 500 since World War II.


January has been particularly strong for small caps and international stocks. Small caps have averaged 4.8% return in the month of January since 1925. And in foreign countries, January returns account for 30% of the total annual return on average.⁷

Also note that the initial public offering (IPO) pipeline is reheating. This 4th quarter saw the most IPO's in two years.⁸


 **Political Cycle:** We are moving into the 4th year of President George W. Bush's term. Traditionally, the 3rd year in the presidential cycle is the strongest, but the 4th year is second best. Since World War II, the 4th year of the presidential cycle has seen the S&P 500 post an average gain of 8.6%. Eleven of the 14 post-WW II 4th years have been positive.


On average, the 2nd and 4th quarters of a president's 4th year have been best, averaging 3.2% and 3.1% respectively.⁹

 **GDP Growth:** Gross Domestic Product (GDP) is the official economic measure of the U.S. economy. It is a measure of all goods and services produced by labor and capital in the United States. In the 3rd quarter of 2003 the economy surged 8.2%, the highest rate since the first quarter, 1984.¹⁰ It was the ninth consecutive quarter of expansion, or positive economic growth, since the official recession of 2001.

 **Purchasing and Manufacturing:** This indicator has been one of the weakest in recent quarters, but exploded upward this quarter.

The Institute of Supply Management (ISM) Index, the key manufacturing indicator, accelerated through October, November and December, rising to its highest level since December 1983.¹¹ Factory capacity utilization increased but remains below long term averages.

 **Inflation Control:** The most widely accepted measurement of inflation is the Consumer Price Index (CPI). The core CPI fell to the lowest level in 40 years. The Federal Reserve Board left interest rates unchanged this quarter. More importantly the Board and Chairman Alan Greenspan stated that they expect inflation to remain low for "the next year or two."¹²

 **Consumer Spending:** Consumer spending over the holiday season was acceptable, but not flashy, fueled by a solid 4th quarter increase in personal income.¹³ Some of the retail numbers may have been muted by the growing popularity of gift cards, which push some of the purchase accounting into the next year.

Consumer confidence is an important leading indicator of economic behavior. The IBD/TIPP Economic Optimism Poll surged through the 4th quarter to its highest level since June 2002.¹⁴ The University of Michigan Consumer Confidence poll showed strength through October, November and December.¹⁵

↑ **Capital Spending:** Business' capital spending had been trending well until November plunges in durable goods orders and capital goods orders of 3.1% and 5.9% respectively. Information technology orders fell 10.8%, the biggest drop since July 2000, mainly due to a 40% drop in telecommunications equipment.¹⁶ Sharper ♦ Granite continues to tilt portfolios away from telecommunication investment as significant overcapacity still exists in the industry.

Despite this November news, we believe business spending will continue to advance based on strong months prior.

↓ **Investor Sentiment:** Investor sentiment is an important contrarian indicator. Market conditions are actually more favorable when "expert" newsletters are more bearish. This is true for two reasons. First, studies show that "experts" seeking to time the market are consistently wrong more often than they are right. Second, short term investors place their bets first, then tout their directional picks. For example, when investors are overly bullish, they have likely already employed their capital, leaving less money to be pushed into the market to generate demand.

According to *Investors Intelligence*, bullish readings sat at extreme levels throughout the 4th quarter, suggesting investors are far more exuberant than we would like to see.¹⁷

↓ **Insider Trading:** Insider trading measures continued in the 4th quarter at record bearish levels. The insider sell to buy ratio as tracked by Thompson Financial hit its highest level in ten years.¹⁸ Another significant measure is the Vickers Insider Report by Argus. They report a 6.8 sell to buy ratio, where the historical average is 2.25. This is the highest since 1971 when they began tracking this measure.¹⁹

However, note that while insider selling is bearish if it occurs when the market's declining, it's not particularly bearish if it occurs in the wake of a market rise. This research at Sharper ♦ Granite has recently been backed by Professor Nejat Seyhun at the University of Michigan.²⁰ Also, historical comparisons to current insider selling may be partially impacted by the larger number of options that have been granted to insiders in recent years. ●

Questions?
Contact us at:
questions@sharpergranite.com

Notes and Acknowledgements:

1. Arithmetic average used for return measurement. Asset weighted average beta used for risk-adjustment to market risk level. 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.
2. Five-year period from 1997 – 2001. Lipper, Inc.
3. Lipper Inc. reports 1.5% annual underperformance over past ten years, December 2002. Vanguard Group: 3.0% annually from 1983 -2002. Wall Street Journal study, "Stock Funds Just Don't Measure Up," October 5, 1999: 1.4% annually. University of Chicago study led by Mark Cahart: 1.8% annually from 1961 – 1993. Blake, Elton and Gruber study: 1.6% annually from 1965 – 1984.
4. Economic Cycle Research Institute (ECRI), December, 2004.
5. Hank McKennell, chairman of the Business Roundtable and CEO of Pfizer Inc.
6. *Wall Street Journal*, December 3, 2003.
7. Jeremy J. Siegel, Professor of Finance, Wharton School of Business at Penn University. Sharper ♦ Granite Research.
8. Renaissance Capital.
9. TD Waterhouse database.
10. U.S. Commerce Dept.
11. Institute for Supply Management(ISM) – Chicago, January 2, 2004.
12. Federal Open Markets Committee (FOMC) minutes from October 28 meeting, released December 11, 2003.
13. U.S. Labor Department.
14. IBD/TIPP Economic Optimism Poll, *Investor's Business Daily*, December 24, 2003.
15. University of Michigan, December 24, 2003.
16. *Wall Street Journal*, December 23, 2003.
17. *Investors Intelligence*, December 24, 2003.
18. Thomson Financial.
19. Argus/Vickers Insider Report , January 5, 2004.
20. Nejat Seyhun, Professor of Finance, University of Michigan.