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Investment Newsletter – December 2013

It has been a challenging year for many value investors - including Berkeley Investment Advisors. Responding to the comments we've heard from clients, we plan to diversify our strategy offerings by adding a quantitative equity strategy in 2014. In order to explain the why and how of choosing an investment strategy, we'll provide a quick tour of the major approaches to equity investing, comparing and contrasting them. But first, to motivate what follows, we'll start the newsletter off with a few comments on the market action in 2013. After that we'll provide some background on market efficiency and liquidity concepts which underlie investors' choices of stock investing strategies. At the end of the newsletter you will find the next installment of our ongoing performance reporting project, including future expectations for our Short Term Income portfolio.

Market Action in 2013

It was a great year for stock speculators - but difficult for more cautious investors. Emotionally it's not unlike 2006 when everyone was getting rich flipping houses as I sat on the sidelines wondering when the bubble would pop. The Fed's talk of reducing bond purchases sent income securities and gold downward - especially gold. This year ended its 13 year winning streak with a huge drop. Gold mining stocks lost even more. Holding gold provides protection against a crash in the buying power of the dollar in case inflation takes off and/or the world loses confidence that the U.S. can repay its debts. Market reactions to government policies this year indicate that such a crisis is still quite a few years away. This lack of urgency has led to an exodus of investors out of gold (including us). Instead, money has rushed into the stock market as investor psychology has created a feedback loop whereby higher prices lead to more buying. Corporate cash flows are not growing nearly so fast. Rather, what's happening is that investors are accepting higher and higher valuations - i.e. lower and lower future expected returns. It has been painful to lag the market in this powerful rally! But it brings to mind a Warren Buffet adage:

"It's only when the tide goes out that you learn who's been swimming naked".

Stock Investing Basics - Market Efficiency and Liquidity Effects

Before diving in to the various approaches to stock investing, some background on market structure can set the stage. Academic researchers define market efficiency as each stock's price reflecting its expected discounted value based on all available information at each instant in time. If this ideal were true then there would be no additional profits to be made by analyzing stocks. But if there were no analysis then how would prices be determined? In reality we can expect the extra returns earned by doing good analysis to exceed the costs. Another implication of this efficiency ideal would be that stock prices should not change in the absence of new information. That would mean that no matter how large a buy or sell order you put in the market, enough buyers or sellers would step forward to trade with you at the current price. In reality, prices move based on instantaneous supply and demand unrelated to new information (assuming the orders themselves are not considered information). In fact, academic studies show that the market is not strictly efficient. There is money to be made from analyzing information about stocks – though not all analysis is worthwhile. Excess returns can also be earned by taking advantage of temporary supply versus demand imbalances when they are not driven by information. Liquidity providers make money by buying or selling as required by those who need to transact. Thus strategies that provide liquidity and or use analysis to push prices towards "efficient prices" can provide value in addition to the compensation available for bearing economic and business risks.

A Quick Tour of Different Approaches to Stock Market Trading/Investing

In order to provide some context to our current strategy and the new quantitative strategy under development, we will look at five categories of investment strategies for the equity market. They are:

1. Market making and high frequency trading
2. Passive index investing
3. Trading using technical analysis
4. Concentrated stock picking using fundamental analysis
5. Quantitative rules driven investing

The goal is to explain what is required for these different methods to be successful and the risks and returns associated with each.

Market Making and High Frequency Trading

The market has always had market makers that profit from the spread between bid and ask prices. These participants are helping to balance supply and demand across time. High frequency trading in its modern form became possible when the exchanges switched to electronic form in 1999. These are computers trading using algorithms to earn small amounts on a very large volume of trades. Since the advent of electronic markets, the market making function has moved from the broker dealer desks to the high frequency firms. In some cases brokers have established their own high frequency trading algorithms. High frequency traders also use more complex tactics to predict when large investors are trying to trade a large amount of stock via smaller orders. An even easier target for them is

to trade in advance of changes in market indices. They buy stocks about to be added to an index and sell those about to be deleted. The trade is then reversed when the index funds rebalance to match the index.

High frequency trading is a very competitive market with each firm racing to increase its speed and the efficiency of its algorithms in setting prices. As a result it has become very capital intensive to create the infrastructure to implement such a strategy. These firms can earn very good returns but must constantly improve to stay ahead of competitors. It is also an inherently risky strategy from a technology standpoint. In 2012, a high frequency trader called Knight Capital lost \$440 million in a few hours when some new software malfunctioned.

Passive Strategies Using Index Funds

The opposite extreme from high frequency trading is investing using market index funds. This strategy relies on infrequent trading to keep costs low and relies on other market participants to insure securities prices are efficient enough to provide a fair return for general market risk. Investing in an index fund does not require any analysis or understanding of underlying values but it requires extreme patience to stick with the strategy through downturns so as capture recoveries (along with downtrends). The biggest advantage of this strategy is that it is very low cost. In a rapidly rising market, such a strategy is difficult to beat since it does not incorporate reduction of risk exposure in an expensive market. In general index strategies are price insensitive; because they are capitalization weighted they purposely hold larger amounts in companies that have run up in price. The low costs and the wide diversification of index investing is a good alternative to picking stocks if you don't have the time or expertise to identify better opportunities on your own. By piggy-backing on active investors you won't be able to avoid the risks of investing in over-priced stocks but you can guarantee you'll be compensated over time for taking general market and economic risks – provided you are disciplined enough to avoid selling into down markets. If you can't stick it out emotionally, then this will end up being a buy high, sell low, strategy which will bring very poor returns over the long run.

Technical Analysis Trading

Technical analysis uses historical stock price and volume data to forecast future prices and thereby provide signals for when to buy and sell securities. Trading systems based purely on technical analysis lead to frequent trading and thus higher trading costs than buy and hold strategies such as index investing. The idea behind technical analysis is that there is information in the data that can predict other market participants' future trading behavior. In simple terms they predict when a price trend will continue or when it will reverse. Because many traders are competing to find such patterns, these signals stop working at some point. Academic research does show that there is momentum in prices – though it may be difficult to exploit after accounting for trading costs and risks. Risk is managed by setting maximum loss limits and selling when losses hit that amount – after the loss occurs. Successful technicians earn returns by exploiting other participants' behavioral errors. The challenge here is finding something that works and then recognizing when it stops working before losing back any gains.

Fundamental Analysis with a Concentrated Portfolio

Fundamental analysis means valuing securities based on the underlying cash flows and the businesses that generate them. This involves reading financial statements, understanding industry economics, assessing management, and understanding other factors that could impact the company's value going forward. The investor estimates intrinsic value based on these fundamentals, in combination with the returns required for the risks of the business, and either buys or sells depending on the market price in relation to this value. When market price is below intrinsic value we want to buy. If price is above value we don't buy; if it is already owned, we sell it. When new information relevant to valuing a stock is changing slowly, investors who use fundamental value will want to buy more as prices decline and sell as prices go up. In this way demand and supply of a security in the market is linked to its price. Such intrinsic value investors are liquidity providers for price insensitive investors (e.g. index funds, technical traders) wishing to buy or sell a stock.

Fundamental analysis is time consuming and costly but it provides a basis for buy and sell decisions that gives an investor a counterweight to their emotions – our natural tendency to run with the herd (off the cliff). It also serves an economic purpose in that the resulting securities prices cause capital to be allocated to the most productive uses – assuming fundamental investors' trading is large enough to influence prices. This may sometimes take a long time because a large part of the market involves strategies unconcerned with intrinsic value. (Hence our emphasis on the long term nature of the strategy).

When we estimate values this way, there is always uncertainty about how the business will actually perform in the future. If the investor buys a stock at its intrinsic value and things go as expected, he will earn the rate of return used in valuing the stock. Given the level of randomness in the world, paying full intrinsic value leads to a high probability he will get a lower return than expected. The lower the purchase price relative to intrinsic value the lower this risk of not earning the required return and the higher the chance of earning extra returns. The accuracy of the analysis also plays a role in the likelihood of earning higher or lower returns than planned. These factors lead fundamental investors to increase the portfolio weighting of stocks that they know well and that are trading at bigger discounts to estimated value. It's better to take larger positions in fewer stocks where you have high conviction of buying at a discount. Buying well also serves to manage downside risks. Most of the benefits of diversifying across many stocks come from spreading the portfolio over the first 30 positions. Beyond that, the diversification benefits are likely to be outweighed by the costs of moving down the rankings of the best investments and the difficulty of maintaining sufficient knowledge of more positions. In other words the investor's expertise dilution eventually outweighs the diversification benefits. Hence the tendency for thorough fundamental investors to choose relatively concentrated portfolios of less than 50 stocks.

With a well understood portfolio of fewer than 50 stocks, trading will be far less than a technically driven strategy and possibly not much more than an index tracking strategy. For a fundamental investor with a stable required return, intrinsic values change slowly as new information arrives. Therefore trading is only

necessary when market prices move enough to offer significant advantages to buying or selling. Therefore trading costs for such investors will tend to be low.

Our Long Term Value strategy is a fundamental value concentrated portfolio strategy. While this is the optimal strategy for my expertise and temperament, I must emphasize that it may not be the best strategy for everyone. If you are implementing it yourself, you must put in a lot of time and effort to understand the companies you invest in and you must resist the temptation to let your emotions guide you. If you don't have time to do your homework, hire a professional or buy an index. The main problem for most people who try to pursue an active strategy is highlighted by this quote from Warren Buffet:

"Investing is not a game where the guy with the 160 IQ beats the guy with the 130 IQ...Once you have ordinary intelligence, what you need is the temperament to control the urges that get other people into trouble in investing."

If you do have the temperament, the time, and the expertise, you can earn better than average returns through deeper understanding of the long term value of companies. You will be taking on market and economic risk as in other strategies but with the added protection of buying at a discount to true value.

Quantitative Driven Investing

Like technical analysis, quantitative methods set up rules to determine buy and sell decisions. Quantitative systems may use both fundamental data and price and volume data (as in technical analysis). These cover a very wide range of strategies with the commonality being that they try to use statistical methods to enable faster portfolio changes and to eliminate emotional biases inherent in human investors. Rather than using in depth (human) analysis of a few very good companies, the idea is to use the statistical relationships of variables to increase the probability of meeting performance targets in repeated periods.

The possibilities are virtually limitless. A good quantitative system incorporates empirically proven trading signals and requires expertise in its design to combine various findings from research. Even after implementation it requires updating along the way as old market inefficiencies disappear and as new research becomes available.

In a quantitative system we scan the entire universe of traded stocks and shift our investments to those stocks offering the best returns given our risk limits. Even if we have identified a good set of signals we still must consider the costs of frequent trading. The system must be optimized by comparing the marginal benefits of the new opportunities versus the costs of trading out of existing positions and into the new ones. The overall design of the system will determine the frequency of trading. In general, these strategies require frequent trading to maximize returns. This frequency is what enables smaller expected advantages identified statistically to converge to high probability of excess returns – thanks to the law of large numbers (a statistical fact which says your average winning percentage will converge to your probability of winning if you try a large number of times). Such systems can be designed to be more consistent than concentrated fundamental strategies. This can be an advantage in that it may be easier to stick

with such a strategy than with a strategy with more variation relative to comparison market benchmarks (i.e. tracking error in industry jargon). Thus it may be worth giving up some long run return advantage to reduce the regret of performing significantly under the market in a particular year.

Berkeley Investment Advisors Quantitative Strategy Research

As long time clients know, our Long Term Value strategy has far outperformed the S&P 500 since inception. Our advantage was about 52% over the first 8 years. Our calculations are not up to date, but clearly we have lagged the market in this 9th year by a large margin (because of emphasis on defensive positions such as gold and real estate investment trusts). While I continue to believe that this strategy will produce superior returns over the long run, I understand that many clients would prefer to beat the market while being more consistent relative to market returns. In industry jargon – people prefer less tracking error relative to the index. Given the discomfort of years such as this, it seems reasonable to pursue lower volatility of returns relative to the market even if that means giving up some of our long term return advantage. Therefore we are developing a quantitative value investment strategy that we expect to reduce tracking error while still delivering index beating returns. Our quantitative strategy will apply lessons provided by academic research to allocate capital to companies according to relative value indicators while screening out companies whose financial statements include red flags that show increased probability of fraud or financial distress. By using a probabilistic relative value approach, our returns should exceed index returns but with less under or over performance in any one year.

Once we have completed our research, we can use this as a complement to our existing strategy and thereby provide strategy diversification by shifting a portion of our equity allocations to the new strategy – no more than 40%. This should reduce volatility of returns while maintaining our edge. Because the quantitative strategy will require more frequent turnover of stocks it is better suited for non-taxable retirement accounts. Taxable accounts will not be allocated into this strategy unless the client requests it.

Short Term Income Portfolio Strategy and Performance

Berkeley Investment Advisors uses several different strategy portfolios to manage client assets. The Short Term Income portfolio is a fixed income portfolio that focuses on short to intermediate term rate maturity loans and bonds. Typically shorter maturity bonds offer lower interest rates (yields) than longer maturity bonds and are less sensitive to changes in interest rates. This category of fixed income includes securities with floating interest rates that can reset periodically depending on market conditions. For example the rate paid could be set based on the 3-month London Interbank Offer Rate (3-month LIBOR).

We measure interest rate sensitivity risk as duration. This tells us how big a change in price we can expect when interest rates change. Typically a short term bond fund strategy would own bonds with durations below 3. If we held a bond with duration of 3 when rates went up 1% we would expect the bond's price to decline by 3%. In the current environment where interest rates are historically low, we have chosen to keep portfolio duration to an even lower level – currently 1.5.

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Besides interest rate risk there is also credit risk in our bond portfolio – the risk that borrowers may default and not pay all that is due. Lower rated bonds, known as high yield or junk bonds have a higher probability of default than higher rated bonds but compensate by paying higher interest rates. In a sense, default risk is similar to equity market risk as it is correlated with the performance of the economy. Individual credit risk is managed by diversifying across a large number of issuers. In this way we insure that the extra premiums earned will not get wiped out by a few companies defaulting. Given that the weakest credits defaulted during the last recession and the overall low level of interest rates, the return versus risk trade off has been very favorable in lower rated bonds. Our strategy is to accept these credit risks to earn those extra returns.

Another source of incremental yield comes from buying closed end funds that have lower trading volumes than typical exchange traded funds. These securities can be bought at a discount to the underlying bond values (and sometimes sold at a premium). In addition these funds can enhance returns through embedded leverage at very low cost of funds - thereby enabling us to capture some of the rate subsidy targeted at banks by the Federal Reserve. In holding these securities we must endure more price volatility in down markets as retail investors tend to want to sell more at lows. Current market conditions are providing about .70% higher yield on our portfolio than if we held the underlying bonds directly.

The portfolio is diversified across virtually all sectors of the fixed income market, including government bonds and mortgage backed securities. A good comparison index is the "Barclays U.S. 1-5 year Government/Credit Float Adjusted Bond Index" as represented by the Vanguard Short-Term Bond exchange traded fund (ticker BSV). This is meant to represent the short maturity U.S. bond market.

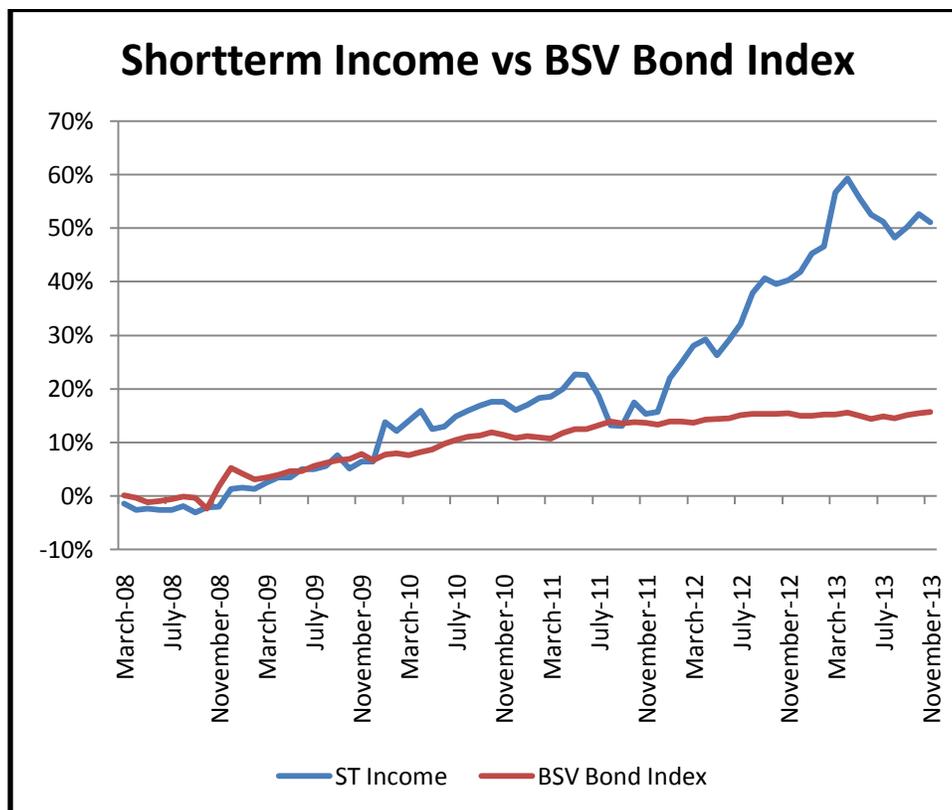
At least some clients have had money invested in this portfolio since it was created in February 2008. The graph and table below show total returns including price and interest payments in comparison to the bond index mentioned above as implemented in the exchange traded fund (ticker BSV). Our portfolio returns calculated here are based on a particular client's account and have been reduced by annual fees of 1.25% which would apply to new accounts above \$500,000 but below \$1 million. Calculations are from 2/29/2008 to 11/30/2013.

Returns by Year					
Year	Short term Income	BSV Bond Index	Difference		
1	1.4%	3.1%	-1.7%		
2	10.6%	4.8%	5.8%		
3	5.5%	2.7%	2.8%		
4	5.5%	2.7%	2.8%		
5	17.5%	1.1%	16.4%		
6 (9 months)	3.1%	0.4%	2.7%		

5.75 year compounded total return **51.1%** **15.7%** **35.4%**

Thus the annualized rate of return since inception (5.75 years ago) has been 7.45% despite the pullback from the high hit in April this year. The table above and

the chart below makes it clear that although the strategy exhibits some volatility in returns, there is much lower risk of principal loss over a year's time than in other strategies - such as stocks or long term bonds. This is the reason that many of our



clients have large allocations to this strategy: we are being cautious in what appears to be a speculation driven market. The stock market looks particularly risky using historical norms. We want to avoid large losses and have funds available to buy when the market returns to a lower level.

Future Returns Expectations

My expectation is that current yields and prices are at sustainable levels – at least for the economic environment over the next 3 to 4 years. Therefore I don't expect to see the high returns we had in years 2 and 5. It seems reasonable to expect annual returns in the range of 5.0% to 6.0% (net of fees).

In contrast, long term forecasting models, which have been validated with historical data, project forward 10 year returns near 2.3% for the S&P 500 stocks. This is because of the high valuation levels we're at now. This may be an artifact of profit margins that are far above normal. Currently corporate profits as a percent of Gross Domestic Product are at an all time high – more than 80% above the historic normal. Profit margins tend to be mean reverting over time. So, unless the world has really changed this time, slow earnings growth lies ahead. This will surprise short term traders, leading to lower prices and opportunities for rebalancing into cheaper stocks from our boring Short Term bond positions.

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