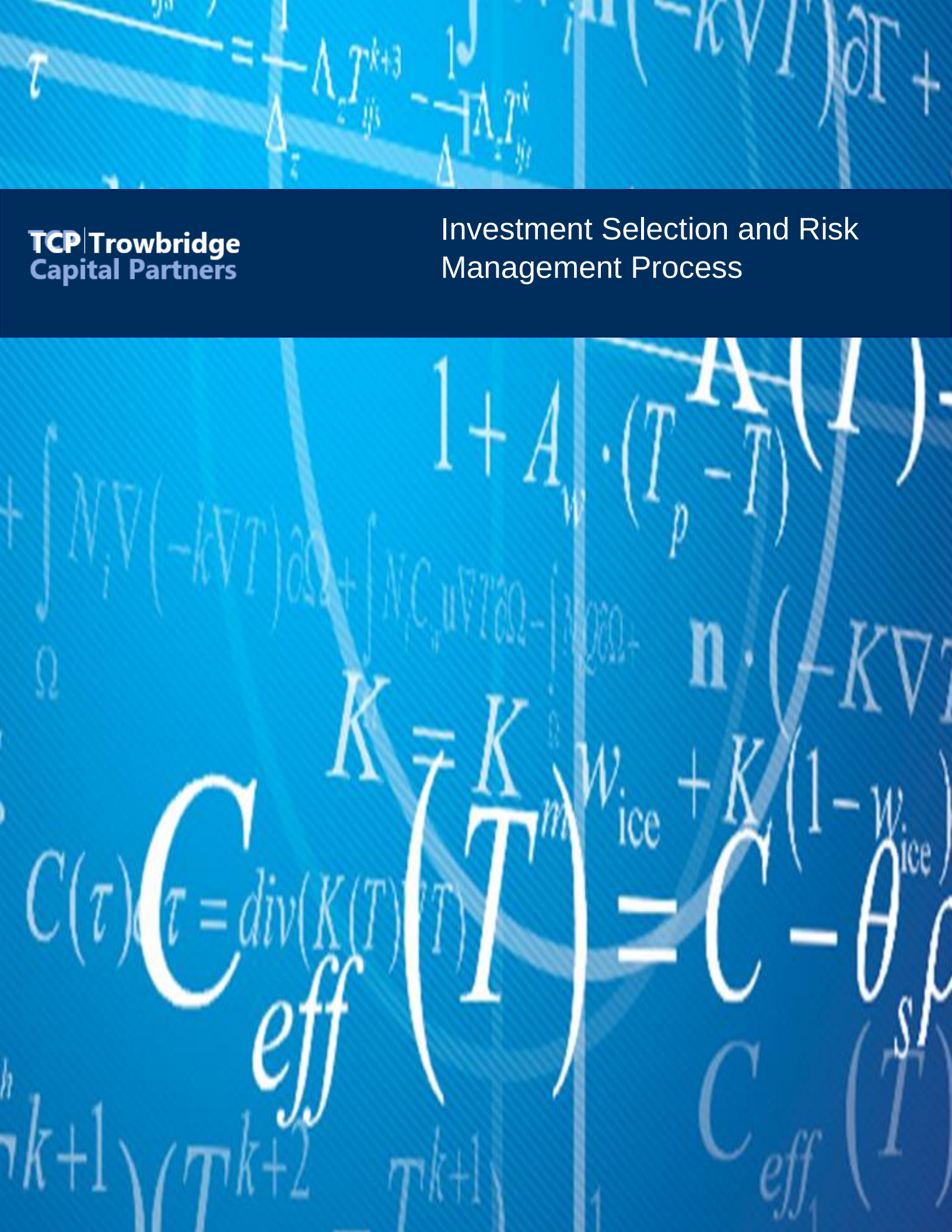
TCP | Trowbridge
Capital Partners

Investment Selection and Risk Management Process



Idea Generation Overview

Idea generation is based on the methodology of quantitative price series models and not fundamentals that uses the entire S&P 500 complex. Our models are reactionary, meaning we only measure all known information that is currently priced into the securities price, thus not forecasting a long-term view of economic or fundamental conditions. Secondly, because we don't forecast price moves we equally weight each security. If the portfolio needs to buy or replace an existing security, the model will look at several proprietary price series factors as follows:

1. The first factor used to determine a new entry into the portfolio is called our Tr1 model. This model measures the trend coupled with volatility. This Tr1 model is a composite of multiple periods of time to avoid whipsawed price behavior for the greatest confirmation of positive price characteristics. (This can be seen in exhibit A. on page 3.)
    a. The Tr1 incorporates many variations of open, high low close pricing to gauge volatility over several periods. The volatility metric as well uses multiple volatility periods, so it doesn't suppress the current real volatility as greatly. The Tr1 model then uses a momentum smoothing methodology as a longer-term price indicator. While we all know the empirical evidence favorably suggests momentum is a very good forecasting mechanism going out 6 to 12-months, its lagging effect however, is not ideal for entry of new positions and presents several risks.
    b. Our proprietary TR1 combines trend, momentum, and volatility that are graded for a composite forecast. What makes our models unique and what also has been an issue for other momentum-based strategies is how our model's reduce price noise and momentum volatility. This allows for the greatest confirmation to increase the probability of further price appreciation.
    c. The trend models are more efficient in establishing the initial buy entry point as they are using short duration price series coupled with volatility expansion. Using momentum for entry during a monthly, quarterly or semi-annual rebalance presents greater entry risk as it takes a longer-term lookback period that does not provide the best entry.
    d. Momentum additionally can also be dangerous if used alone for entry. Buying stocks with the greatest momentum leaves the portfolio with stocks that have the greatest returns over a 6 to 12-month look-back period. This can increase the chances that the portfolio is tilted heavily to one side, sector or higher beta stocks and could be subject to momentum crashes and large drawdowns as investors unwind their biggest market winners. While both momentum and trend have been used for over a century with significant empirical data showing these factors do provide excess market return. We believe our models do provide an enhanced methodology to avoid the common issues associated with these factors.

2. The next phase of the buying process is used for both entry of new positions, as well as risk management. We use our mean reversion model that measures exhaustion of intermediate-term trends typically over a 100 to 300-day period. These models are also used for both risk management on the entry of existing positions. As for the entry, the quant engine looks for securities that are showing some characteristics of buyer behavior but does not present the risk of price exhaustion that causes crowded trade behavior that run the risk for large mean reversion in price. This helps avoid having a portfolio that is highly correlated to the commonly followed "group think stocks". While there will certainly be the periods the portfolios are overweight the top 20 S&P 500 stocks, the portfolio's objective is to have a lower correlation in terms of widely followed or weighted S&P 500 stocks. Therefore, all our strategies have a low R2 and greater tracking error as we do diversify away from the S&P 500.

3. Once the model finds the best candidate using the Tr1 model coupled with the mean reversion model, the next step will be to determine what sector is most optimal for the portfolio, if it does not already have a full sector weight.

4. Top-down risk management: This is the first step in the buying process and although not necessarily idea generation, it is an important component of risk management. If our S&P 500 composite model is fully exhausted of buyers, the portfolio will not allow new positions to enter the portfolio. Based on our historical statistical work on our S&P 500 composite model, if the S&P 500 index is fully exhausted the risk of the index mean reverting is very high. We can discuss the probability of reversion in our findings if necessary. Before allocating new capital, the S&P 500 model must mean revert working off the excesses. As a result, the portfolio can have high levels of cash if the S&P 500 is at an extreme reading on our S&P 500 model and we have been reducing equity risk. There will be a high likelihood that the portfolio could be selling during periods of exhaustion, as buyers are exhausted, and our countertrend model starts to weaken. This weakening of the model will sell the most overbought stock in the portfolio, to reduce crowded trades. Conversely, if the S&P 500 model reaches a -89, meaning the S&P 500 is under duress and has continued selling pressure the portfolio cannot allocate new capital. This reading statistically has proven to show that adding new positions to the portfolio is not warranted even at the highest risk incurring investing.

5. Lastly, above is the process for our Dynamic Alpha portfolio. Although all our strategies follow the same process, each uses different governors to manage risk & return.

Research Process Overview

The research process is systematic. The firms CIO developed our underlying quant models 20 years ago and since has enhanced them. Our CIO has used these models for his Global Macro CTA managing several asset classes; commodities, currencies, futures and Fixed income. Back in 2011, Brett Golden Trowbridge's Present teamed up with Luis Lukac the firms CIO to provide a technology platform. The platform provides institutional investors, hedge funds and Wealth Managers the ability to do security selection, risk management and portfolio construction utilizing these quant models.

After 2 years of our research business, we decided that the models were exceptional at reducing price noise and very robust for price discovery. In our development phase we spent over 12 months and $220,000 with our team of engineers to design 5 long only large-cap portfolios. Our research was on the initial hypothesis on how can the Sortino ratio be maximized in a long-only concentrated equity portfolio without overaction bias of raising too much cash. The development process started with 4 components that we tried to solve for:

1. **Portfolio optimization:** How to optimize a concentrated portfolio with less downside deviation and less correlated to the S&P 500.
2. **Drawdowns:** How to build robust portfolios that minimize drawdowns without being whipsawed in and out of the portfolio by overreaction bias that is accompanied by market and individual securities sell offs.
3. **Security selection:** How do we locate potentially high-quality stocks that are not overly crowded U.S. large cap equities that are followed by other institutional managers.
4. **Portfolio liquidity, tax sensitivity and risk:** How to manage risk first but optimize the effects of liquidity/ scalability and portfolio turnover for tax sensitivity.

The process of our development

Our initial process started out with using 35 years of out of sample data with 5 brackets of 7 years each. Once we ran each bracket, we ran a Monte Carlo simulation to determine if the returns were random or highly probable dude to the underlying construction and models. While the underlying quant models' empirical evidence has been used in real world investing for 2 decades with our CIO, they need to be tested to run these specific strategies.

After favorable evidence on each tranche using the Monte Carlo simulation, we ran the entire 35 years. To this day we run the hypothetical model along with the live portfolios with almost no variance between the two. Once we hardcoded the 4 models, we decide to risk $10 million of partner capital. As the models held up to our expectations in terms of risk management and returns, we decide to invest another $10 million of partner capital. Total partner committed capital is roughly $35 million today.

Ideal Investment Environment Overview

Ideally, a strong trending environment with low volatility works very well, but that will work well for any investor. While strong periods of momentum work well, it is not necessary for our strategies, this is because our models can work in a period that momentum is not found in the market. This is a result of using trend, which can shorten the duration of what is an alpha-generating trade. This evidence can be found if you compare our strategy against the iShares MSCI momentum index (MTUM) ETF in 2016. Momentum struggled in 2016 as the ETF was up only 4.98% vs. our AG product of 16.51%. Additionally, a period of exuberance could suppress the performance like 2017.

In 2017 our AG strategy was up net 19.21% vs the S&P 21.83%. While 2017 had exceptionally strong trends and robust pricing in our models, the broad market had parabolic moves that presented risk. Strong trending periods do give our portfolio holdings the ability to capture parabolic moves and generate excess returns. However, our risk management may not allow us to own those securities that are experiencing the most price appreciation as they may present the unwarranted risk in terms of price exhaustion. Towards the end of 2017 our models were not allocated to the most crowded overly owned names. However, the portfolios did not in our opinion present as much risk in an event of a pullback that was statistically like based on our S&P 500 model. Because of this under allocation, in January and February of 2018 our portfolios significantly outperformed the S&P on the downside. Also, since our portfolios are concentrated with only 35 stocks, it allowed the portfolios to seek out the best stocks, sectors, regardless of being value or growth without diluting the portfolio. Using momentum alone will make it very challenging to change to a value favored market because typically momentum is buying the greatest relative strength returns.

Risk Management

Even though we are long only, our priority is risk management, rather than the management of returns. We believe the compounding effect is significantly better utilizing a risk management process in a long-only portfolio than passive or traditional long only. We use several risk management techniques as follows: 1. Top-down risk management - Entry of New Positions: The entry of new positions can only take effect if the S&P 500 model is not exhausted and doesn't present a historically high level of mean reverting. Additionally, the model cannot add new positions if the S&P 500 is under duress and experiencing extreme downside pressure. This helps ensure the portfolios are buying new positions in a healthy market period. 2. Entry of New Positions: To avoid overcrowded positions and the potential of mean reverting we use our countertrend model to avoid equities that statistically have characteristics of a limited upside appreciation before correcting. 3. Sale of existing positions: We use our countertrend model for potential mean reverting stocks. We use multiple brackets for this system. The more exhausted a security is the greater potential risk of holding that position. We have defined 6 brackets or levels of exhaustion. This is a laddered approach, the more exhausted a stock, the mean reversion will give the stock less time as the model weakens. So, to reiterate the most exhausted securities have less time to weaken as they have the further to mean revert and the portfolios have already a significant gain in them. 4. Lastly, if volatility weakens the trend over a given period the model will exit the position.

Exhibit A. of Trend Following Robustness

Disclaimer: This illustration is an example of models and not an actual live trade that represents buying or selling. The purpose of the demonstration is to show how our models (rating value and countertrend) remove noise or price volatility relative to standard commonly used technical indicators such as RSI & MACD.

1. This reduction of price volatility increases robustness and confirmation.
2. It also diversifies away from crowded indicators to look at markets differently.