Risk Factor Investing
Caisse de Dépôt / CFA Asset Allocation Forum

Mark Carhart, CIO, Kepos Capital LP
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An investment in the Fund is not suitable for all investors. Investors must meet certain eligibility requirements and have the financial ability, sophistication, experience and willingness to bear the risks of an investment in the Fund for an extended period of time. An investment in the Fund would be speculative and entails a high degree of risk; no assurance can be given that the Fund’s investment objective will be achieved or that investors will receive a return of their capital. Investment losses may occur. Nothing herein is intended to imply that a Fund’s investment methodology may be considered “conservative,” “safe,” “risk free” or “risk averse.” The Fund employs leverage and other investment techniques that may increase the volatility of the Fund’s performance and increase the Fund’s risk of loss. An investment in the Fund will be illiquid as there are significant restrictions on an investor’s ability to withdraw, redeem, or transfer interests or shares in the Fund. The Fund involves a complex tax structure, which should be reviewed carefully.

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Our Broader Objective is to Build Better Policy Portfolios

Challenge:
Allocation decisions reflect unintended factor exposures

Proposed Solution:
Purposeful and explicit allocation to risk premia
Better knowledge of return sources

Conventional Approach
Capital-Based Allocations

Risk Factor Approach
Multiple Risk Premia within Asset Classes
Sources of Excess Returns

We believe a useful conceptual framework for classifying return sources is a continuum between beta and alpha.

**CAPM Beta**
Example: Global Equity Risk Premium

**Alternative Risk Factors**
Example: FX Carry

**Factors in equity portfolios**
- Style Tilts (value, momentum...)
- Fundamental Indexing
- Smart Beta

**Risk parity factors**
- Asset Classes

**General alternative risk factors**
- Systematic Beta
- Dynamic Beta
- Strategy Replication
- Exotic Beta

**Alpha**
Example: Renaissance Medallion Fund
1. Defining the Factors

2. Building a Portfolio of Factors

3. Performance in Various Environments

4. Implementation Issues
We believe there are four risk premia themes across the major asset classes.

<table>
<thead>
<tr>
<th>RISK PREMIA THEME</th>
<th>ASSET CLASS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>Equities</td>
</tr>
<tr>
<td></td>
<td>Bonds</td>
</tr>
<tr>
<td></td>
<td>Currencies</td>
</tr>
<tr>
<td>Income</td>
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<tr>
<td>Insurance</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Momentum</td>
<td></td>
</tr>
</tbody>
</table>

- **Value**: Cheap assets tend to outperform expensive assets
- **Income**: Investor bias results in excess demand for low yield/high volatility assets
- **Insurance**: Risk averse investors pay a premium to insure against extreme events
- **Momentum**: Asset performance can be persistent
Illustration: Building an Equity-Beta-Hedged Risk Factor for Developed FX Carry

**1. Choose a carry measure**

Choose a carry measure based on factors such as 3-Month LIBOR.

- **Australia**
- **Canada**
- **Euro**
- **Japan**
- **New Zealand**
- **Norway**
- **Sweden**
- **United Kingdom**
- **United States**

**2. Construct a dollar-neutral FX portfolio on carry rank**

Construct a dollar-neutral FX portfolio on carry rank.

- **New Zealand**
- **Australia**
- **Norway**
- **Canada**
- **Sweden**
- **United Kingdom**
- **United States**

**3. Hedge away ACWI beta using liquid equity index futures**

Hedge away ACWI beta using liquid equity index futures.

- **New Zealand**
- **Australia**
- **Norway**
- **Canada**
- **Sweden**

MSCI ACWI Hedge

- **Euro**
- **Japan**
- **Switzerland**
- **United Kingdom**
- **United States**

ACWI

- **ACWI - Hong Kong**
- **ACWI - Japan**
- **ACWI - Eurostoxx 50**
- **ACWI - United Kingdom**
- **ACWI - United States**
How Do You Know That It’s Truly a Compensated Factor?

**The Goal**
- Factors that perform well in the future

**Where Do Factors Live?**
- Where there is risk transfer or persistent behavioral biases
- Theory does not identify the individual factors

**Framework for Factor Selection**
1. Economically intuitive (necessary, but not sufficient)
2. Demonstrated historical premium in excess of global equity beta
3. Institutional liquidity and capacity
4. Empirically robust
   - Testable on other markets, asset classes, time periods
   - Holds up when specific time periods and markets are excluded (jackknifing)
   - Insensitive to factor definition
Examples of Out-of-Sample Factor Performance

Value Strategy in US Stocks, 1925-2014

Cumulative Performance

Global Macro Trend-Following Strategy

Cumulative Performance

Fama-French (1993) original period

Period since financial futures existed

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Risk Factor Investing Outline

1. Defining the Factors

2. Building a Portfolio of Factors

3. Performance in Various Environments

4. Implementation Issues
The primary benefit will come from diversified exposures to factors

- Equal risk is a reasonable starting point

- Strategic tilts away from equal-risk may reflect relative confidence as well as forecasted correlation

- Slow-moving, modest, dynamic reallocations may also be warranted:
  - structural changes can occur
  - shocks can ‘spill over’ from one set of markets to another
  - **valuation matters**: risk premia can become relatively expensive or cheap due to variation in supply and demand
Forecasting expected factor returns is difficult

- You can control the degree of cross-sectional and time-series variation in return forecasts
  - It’s not all or none
  - Traditional 60/40 asset allocations already reflect a high degree of confidence in forecasts

- We propose a Bayesian forecasting approach that weights individual forecasts by their confidence
  - The “prior” reflects an equal expected return for all factors
  - Both long-term and nearer-term forecasts can be incorporated to build a single overall forecast

Illustration: Simulated Forecasts for FX Carry Factor (at 2% Volatility)

1The graph shows historic performance of backtested FX carry risk premia that include real-world trading constraints, estimated t-costs and a hedge to the MSCI ACWI. Prospective investors should exercise caution in using or relying on any hypothetical or backtested results as being indicative of future performance. **THESE RESULTS ARE BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS THAT HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL, ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THESE BEING SHOWN. You are urged to read all of the additional disclosures provided at the end of this presentation.**
The graph shows historic performance above 1-month US T-bills of backtested risk premia that include real-world trading constraints, estimated t-costs and a hedge to the MSCI ACWI, from January 1990 to June 2014. Prospective investors should exercise caution in using or relying on any hypothetical or backtested results as being indicative of future performance. THESE RESULTS ARE BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS THAT HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THESE BEING SHOWN. You are urged to read all of the additional disclosures provided at the end of this presentation. Please see important disclosures at the end of this presentation that define “humbled.”
Risk Factor Investing Strategies Have Been Lowly Correlated

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Lowest</th>
<th>Average</th>
<th>Highest</th>
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</thead>
<tbody>
<tr>
<td>Correlation to MSCI ACWI</td>
<td>(0.02)</td>
<td>0.33</td>
<td>0.83</td>
</tr>
<tr>
<td>Correlation to Barclays Global Agg Bond Index</td>
<td>(0.26)</td>
<td>(0.03)</td>
<td>0.23</td>
</tr>
<tr>
<td>Correlation to HFRX Composite Index</td>
<td>0.06</td>
<td>0.35</td>
<td>0.81</td>
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<tr>
<td>Average Cross-Correlation</td>
<td>(0.07)</td>
<td>0.21</td>
<td>0.62</td>
</tr>
</tbody>
</table>

Alternative Beta Funds\(^1\)

\(^1\) The correlation statistics are estimated using publicly available daily data on mutual funds domiciled in various countries in addition to research from Kepos Capital LP. We believe the products included in this analysis are representative of risk premia investment products, but the analysis does not include all investable risk premia products. Correlations are estimated over the period April 2012 through June 2015.
Risk Factor Investing Outline

1. Defining the Factors
2. Building a Portfolio of Factors
3. Performance in Various Environments
4. Implementation Issues
This slide presents the hypothetical, backtested results of a composite simulated portfolio (as further described on the "Backtest Disclosures" page), which is being provided to share additional color on Kepos' portfolio structuring and not as any prediction of future returns or performance. In fact, prospective investors should exercise caution in using or relying on any hypothetical or backtested results as being indicative of future performance. Please see important disclosures at the end of this presentation that define "humbled backtest." THESE RESULTS ARE BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS THAT HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THESE BEING SHOWN. You are urged to read all of the additional disclosures provided at the end of this presentation.
Difficult Periods in Risk Factors

Can they have bad drawdowns? Yes, but no worse than equity drawdowns …

All Returns Standardized to 10% Volatility

This slide presents the hypothetical, backtested results of a composite simulated portfolio (as further described on the "Backtest Disclosures" page), which is being provided to share additional color on Kepos’ portfolio structuring and not as any prediction of future returns or performance. In fact, prospective investors should exercise caution in using or relying on any hypothetical or backtested results as being indicative of future performance. THESE RESULTS ARE BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS THAT HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THESE BEING SHOWN. You are urged to read all of the additional disclosures provided at the end of this presentation.
This table presents the attractiveness of each of the 16 Exotic Beta premia types as of June 30, 2015. Gross performance for June 2015 is compared to monthly historical performance since 1985 by calculating the percentile ranking. Backtested performance is used. This chart shows a 12 month rolling average of the average monthly percent rank of performance by Exotic Beta theme through June 2015. This slide presents the hypothetical, backtested results of a composite simulated portfolio (as further described on the "Backtest Disclosures" page), which is being provided to share additional color on Kepos' portfolio structuring and not as any prediction of future returns or performance. In fact, prospective investors should exercise caution in using or relying on any hypothetical or backtested results as being indicative of future performance. These results are based on simulated or hypothetical performance results that have certain inherent limitations. Unlike the results shown in an actual performance record, these results do not represent actual trading. Also, because the trades have not actually been executed, the results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated or hypothetical trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. No representation is being made that any account will or is likely to achieve profits or losses similar to these being shown. You are urged to read all of the additional disclosures provided at the end of this presentation.
Our proprietary spillover models are forward-looking measures of the market environment and are z-scores with a mean of 0 and a standard deviation of 1. The General Spillover Model is designed to capture broad market disruption. A positive level indicates that markets are more disrupted and therefore it is more likely for stress in one area to spill over into another. In the above chart, we show a 21-day moving average for the ex-ante risk. Data is presented from April 4, 2012 through June 30, 2015.

Risk Allocation represents the volatility in each theme divided by the sum of volatilities across all themes using the same risk forecasts from RiskMetrics. Current risk allocation is as of June 30, 2015.
Risk Factor Investing Outline

1. Defining the Factors

2. Building a Portfolio of Factors

3. Performance in Various Environments

4. Implementation Issues
The typical institutional portfolio is dominated by equity risk – an allocation to a risk factor portfolio can help to reduce the imbalance…

**Total Portfolio Risk**

**Representative 60 / 40 portfolio**
- Fixed Income, 10%
- Equity, 90%

**Volatility: 9.87%**

**With 25% of capital reallocated from equities to a risk factor portfolio**
- Fixed Income, 25%
- Risk Factor Portfolio, 3%
- Equity, 72%

**Volatility: 7.31%**

The representative 60/40 portfolio is calculated as a weighted sum of equities (MSCI World USD Net Index is used from January 1990 through May 1994. MSCI ACWI IMI Net Total Return Index (USD) is used thereafter) and bonds (Barclays Global Aggregate). These charts show the marginal contribution to risk (“MCR”) of each portfolio component. The MCR represents the percentage of overall portfolio risk attributable to each underlying component and is calculated as the variance attributable to each component (including covariances with other components) divided by the total variance in the portfolio. Mathematically, the MCR for a given component \(i\) can be represented as: 

\[
\text{MCR}(i) = \frac{\text{sum over } j = 1 \text{ to } N \left( \text{std}(i) \times \text{corr}(i,j) \times \text{std}(j) \right)}{\text{var}(p)}
\]

where \(N\) is the number of underlying components, \(\text{std}(i)\) is the standard deviation of component \(i\), \(\text{corr}(i,j)\) is the correlation between component \(i\) and component \(j\), and \(\text{var}(p)\) is the variance of the portfolio. The standard deviation of each component is calculated over the period January 1990 through December 2014. Note that the representative risk factor portfolio uses humbled backtested returns. Please see important disclosures at the end of this presentation that define “humbled.” Prospective investors should exercise caution in using or relying on any hypothetical or backtested results as being indicative of future performance.

**THESE RESULTS ARE BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS THAT HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINSDIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE BEING SHOWN. You are urged to read all of the additional disclosures provided at the end of this presentation.**
… while enhancing returns and reducing overall portfolio risk

<table>
<thead>
<tr>
<th></th>
<th>Representative Portfolio (60/40)</th>
<th>Rep. Portfolio + 25% Risk Factors</th>
<th>Performance Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Excess Return</td>
<td>6.99%</td>
<td>7.50%</td>
<td>+0.52%</td>
</tr>
<tr>
<td>Volatility</td>
<td>9.87%</td>
<td>7.31%</td>
<td>-2.56%</td>
</tr>
<tr>
<td>IR</td>
<td>0.71</td>
<td>1.03</td>
<td>+0.32</td>
</tr>
</tbody>
</table>

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Implementation Issues

Factor Selection
- We are awash in a zoo of proposed factors
- A framework is critical
- Stories are great, but statistical robustness is even better
- To hedge or not to hedge?

Sizing and Location
- Where does this fit in my portfolio?
- How much risk should I budget?
- How should we benchmark this?

Sourcing
- Bank products or external managers?

Other
- How should investors use their limited capital efficiently?
- How much leverage and risk is appropriate?
- How much liquidity and transparency do you need?
- Will investment committees maintain conviction when the strategy underperforms equities?
APPENDIX A

Backtest Returns During Stress Periods (Humbled)

ACWI and Risk-Factor Total Returns Standardized to 10% Volatility

Russian - LTCM Crisis
(Jul ’98 - Oct ’98)*

Internet Bubble Collapse
(Sep ’00 - Sep ’02)*

GLOBAL FINANCIAL CRISIS
(Aug ’07 - Feb ’09)

US Debt Downgrade / Greek Bailout
(Jul ’11 - Sep ’11)

* Catastrophe Bond Exotic Risk Premia not available during this period. This slide presents the hypothetical, backtested results of a composite simulated portfolio (as further described on the “Backtest Disclosures” page), which is being provided to share additional color on Kepos’ portfolio structuring and not as any prediction of future returns or performance. In fact, prospective investors should exercise caution in using or relying on any hypothetical or backtested results as being indicative of future performance. Please see important disclosures at the end of this presentation that define “humbled backtest” in addition to the indices used above. THESE RESULTS ARE BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS THAT HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THESE BEING SHOWN. You are urged to read all of the additional disclosures provided at the end of this presentation.

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Although the hedge fund industry has grown in size and complexity, they seem to be decreasing their exposure to macro factors.
This slide presents the realized information ratios (gross of transaction costs)—for various time periods—for the equity index dividend-price-ratio relative-value exotic beta factor on each day following initial factor formation. It is intended to show how quickly the information of the dividend-price ratio is reflected in relative global equity index pricing.
At Kepos, we currently implement about 30 exotic beta factors across all major asset classes and risk premia types.
Disclosures and Additional Notes

In connection with any consideration of an investment in the Fund, prospective investors should be aware of a number of additional general and specific risks (many of which are described in the Fund's private placement memorandum and Kepos Capital's Form ADV), including the following:

**Conflicts of Interest.** The investment manager will be subject to a number of conflicts of interest from time to time, some of which are described in the Fund's private placement memorandum.

**Financing Arrangements.** The use of leverage is integral to many of the Fund's strategies, and the Fund depends on the availability of credit in order to finance its portfolio. The purchase of options, futures, forward contracts, repurchase agreements, reverse repurchase agreements and equity swaps generally involves little or no margin deposit and, therefore, provides substantial leverage. Accordingly, relatively small price movements in these financial instruments may result in immediate and substantial losses to the Fund.

**Model and Data Risk.** Given the complexity of the investments and strategies we manage, we must rely heavily on quantitative models (both proprietary models developed by our personnel, and those supplied by third parties) and information and data supplied by third parties. When these models and data prove to be incorrect, misleading or incomplete, any decisions made in reliance on them expose investors to potential risks. Also, the research and modeling process we engage in is extremely complex and involves financial, economic, econometric and statistical theories, research and modeling; the results of that process must then be translated into computer code. Although we seek to hire individuals skilled in each of these functions and endeavor to provide appropriate levels of oversight, this complexity raises the chances that the finished model may contain one or more errors that could adversely affect performance.

**Obsolescence Risk.** We are unlikely to be successful in managing client accounts unless the assumptions underlying our models are realistic and either remain realistic and relevant in the future or are adjusted to account for changes in the overall market environment. If such assumptions are inaccurate or become inaccurate and are not promptly adjusted, it is likely that profitable trading signals will not be generated.

**Crowding/Convergence.** There is significant competition among quantitatively-focused managers, and our ability to deliver returns for investors that have a low correlation with global aggregate equity markets and other hedge funds is dependent on our ability to employ models that are simultaneously profitable and differentiated from those employed by other managers. To the extent that we are not able to develop sufficiently differentiated models, investors’ investment objectives may not be met, irrespective of whether the models are profitable in an absolute sense.

**Market Indices Used in Presentation:**
- MSCI ACWI is an index designed to measure the broad equity market performance of developed and emerging markets.
- Barclays Global Aggregate provides a broad-based measure of the global investment grade fixed-rate debt markets.
- Bloomberg Commodity Index is a broadly diversified index that allows investors to track commodity futures through a single, simple measure; it is composed of futures contracts on physical commodities.
- VIX is a measure of market expectations of near-term volatility conveyed by S&P 500 stock index option prices.

**Hedge Fund Indices Used in Presentation:**
- HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe; it is comprised of all eligible hedge fund strategies, including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage and relative value arbitrage; index includes performance net of fees.
- HFRI Global Fund Weighted Composite Index is an equal-weighted index of over 2,000 single-manager funds with at least $50 million under management or a 12-month track record.
- Barclays XARP seeks diversified exposure to a variety of risk premia that span a range of asset classes and investment styles.
- AQR Delta Fund provides exposure to a portfolio containing a diversified group of hedge fund risk premia constructed based on capturing the systematic components of dynamic trading strategies traditionally pursued by hedge funds.

References to indices, benchmarks or other measures of relative market performance over a specified period of time are provided for your information only and do not imply that the actual Fund portfolio will achieve similar results. The index composition does not reflect the manner in which a portfolio is constructed; unlike these indices and benchmarks, the Fund's portfolio may contain options (including covered and uncovered puts and calls) and other derivative securities, futures and other commodity interests and currencies, and may include short sales of securities, margin trading, securities of smaller capitalization companies and types of securities that are different than those reflected in these indices and benchmarks, and is not as diversified as these indices and benchmarks. While an adviser seeks to design a portfolio which reflects appropriate risk and return features, portfolio characteristics may deviate from those of the benchmark. Indices are unmanaged and investors cannot invest directly in most indices. The figures for the indices may reflect the reinvestment of dividends but do not reflect the deduction of any fees or expenses which would reduce returns.
Backtest Disclosures

To the extent simulations, hypothetical returns and/or backtests were used to prepare this presentation:

THESE RESULTS ARE BASED ON SIMULATED OR HYPOTHETICAL PERFORMANCE RESULTS THAT HAVE CERTAIN INHERENT LIMITATIONS. UNLIKE THE RESULTS SHOWN IN AN ACTUAL PERFORMANCE RECORD, THESE RESULTS DO NOT REPRESENT ACTUAL TRADING. ALSO, BECAUSE THE TRADES HAVE NOT ACTUALLY BEEN EXECUTED, THE RESULTS MAY HAVE UNDER- OR OVER-COMPENSATED FOR THE IMPACT, IF ANY, OF CERTAIN MARKET FACTORS, SUCH AS LACK OF LIQUIDITY. SIMULATED OR HYPOTHETICAL TRADING PROGRAMS IN GENERAL ARE ALSO SUBJECT TO THE FACT THAT THEY ARE DESIGNED WITH THE BENEFIT OF HINDSIGHT. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THESE BEING SHOWN.

How the Simulations were Compiled:

- **Multiple Concurrent Models.** For the exotic beta strategy, we employed many trading models that we utilize in a product offering. The models were used to construct the individual exotic betas. Further, a model was employed that varied, based on systematic criteria, the amount of risk allocated to each exotic beta throughout the simulation.

- **Hypothetical Returns.** The results presented were achieved by retroactively applying the trading models to market data for various time periods, depending on a discretionary decision by us as to the reliability of the market data for use in backtesting for each strategy. The inception dates for each strategy may differ based on availability of data. The inception dates are: Jan-03 for catastrophe bonds; Jan-90 for commodities, equities, fixed income, currencies and real assets; Oct-93 for indexed credit; and Sep-98 for volatility markets.

- **Calculation of Returns.** Returns are based on excess return above the respective financing rate that would have been experienced by the applicable tradable instrument utilized, inclusive of mark to market gains and losses and all cash flows (including cash flows that were related to dividends or other distributions) that would have been realized. The simulated performance is presented gross of any management and incentive fees but net of estimated transaction costs.

- **Transaction Costs Estimate.** Transaction costs are imputed in all values presented and are calculated through the application of an overall algorithm for each strategy created using historical data for the entire period surveyed that computes – for each given hypothetical transaction – a bid/ask spread and expected market impact for such transaction, which may not equal the actual spread and market impact that would have applied in any given case.

- **Sizing Individual Exotic Betas to Form the Exotic Beta Strategy.** The amount of risk allocated to individual exotic betas has varied throughout the simulation. The target risk allocated to each exotic beta was determined frequently (e.g., monthly) during the time span of the applicable simulation using only backward-looking information from a variety of sources, including strategy backtests, prior beliefs, expected diversification benefits, and forecasts of relative attractiveness.

- **Other Constraints.** The simulated underlying portfolios may also include a number of additional constraints. These were imposed at the discretion of Kepos personnel and are meant to represent (but may not accurately forecast) what may happen in actual trading, e.g., volume limitations in certain securities. For any portfolio/strategy that you consider to be material or of interest, we can provide additional information on any such constraints.

Humbled returns are total discounted backtested returns estimated by applying a constant haircut to the total returns of the original undiscounted backtested returns. This haircut is attributed to the underlying asset classes/strategies in proportion to their average contribution to the original undiscounted backtest. The haircut used in this simulation corresponds to a two-thirds discount on the average gross return of each exotic beta’s original backtest. By shrinking the simulated returns by a fraction of the gross simulated return, estimated transaction costs are not discounted.
Backtest Disclosures

 Certain Limitations and Shortcomings that Prospective Investors Should Carefully Consider:

• Different Criteria for Backtesting. The backtesting approaches, data sets, and time periods may not be consistent from model to model. For each portfolio/strategy that you consider to be material or of interest, we can provide additional information on any such criteria.

• Presentation of Gross Performance Figures. The simulated performance is presented gross of any management and incentive fees.

• Not a Proxy for Prior Portfolios Managed. Prospective investors should not misinterpret the hypothetical results presented as being a proxy for any portfolio that was previously managed by any Kepos personnel. This means that any positive performance in any such prior portfolio should not be seen as validating the simulated portfolio. In addition, prospective investors should understand that the strategy differs markedly from the funds previously co-managed by Mr. Carhart and other Kepos personnel.

• Individual Model Behavior May Diverge. In actual trading, the performance of different models may diverge, leading to a situation where the gains in one model are erased by the losses in another, and potentially at a higher frequency than occurred in the simulation. In the simulation, in general, most of the models are profitable at any given point in time, which may not be the case in actual trading.

• Investment Process. Investors should understand that every aspect of the investment process should be viewed as being in a state of constant refinement and innovation (even after the inception of trading) and therefore subject to change. Such changes could include, but are not limited to, addition and removal of underlying models, factors, data or other related estimates.

• Textual Statements to be read as Aspirational or Forward-Looking. Textual statements regarding the portfolios/strategies may be in the present tense or otherwise be declarative statements, but all such statements should be understood to be anticipatory, aspirational, or forward-looking statements and no guarantee of future performance is implicated thereby.

• Assumption of no Interim Adjustments: Outperformance of Simulation in Market Crises. Were Kepos’ management actually managing a portfolio for the period indicated, active risk management, which will involve a number of personnel, would have been employed and therefore interim decisions to adjust weightings or to modify models would have changed the portfolio’s interim and aggregate performance measures and there can be no certainty that such changes would not have resulted in losses. For example, these models span periods of extreme market dislocation, including the 2007 liquidity crisis and the 2008 failure of Lehman Brothers, and demonstrate outperformance in these periods; in actual trading, scenarios such as these would likely be accompanied by manager intervention and there is no guarantee that such interventions would not result in losses.

• We May Employ Additional or Substitute Models. In actual trading, we may employ additional models not included in the simulation, the impact of which could adversely affect actual performance or otherwise diverge from the backtested models presented here.

Additional Disclosures and Disclaimers Regarding Simulated Performance that Prospective Investors Should Read and Understand:

• Simulations may not be Indicative of Future Performance. One danger of relying on a simulated portfolio is that the simulation may produce positive results over the backtested period, but that future application of the models employed may result in losses. In a number of cases, quantitative managers have produced impressive backtests only to see substantial losses in actual trading.

• Certain Metrics may not be Indicative of Future Portfolio Characteristics. Metrics of performance for the hypothetical portfolio including, but not limited to, the Sharpe Ratio and correlation coefficients have been inferred or calculated from the simulation and are therefore hypothetical and not necessarily indicative of future model behavior, which may differ significantly.

• No Representation as to Actual Performance. No representation is made as to the accuracy, completeness, or effectiveness of the models or the composite simulated portfolio, nor to the results of running such models under actual trading conditions.

In connection with any consideration of an investment in the Fund, prospective investors should be aware of a number of additional general and specific risks (many of which are described in the Fund’s private placement memorandum and Kepos Capital's Form ADV).