

“The first step to becoming is to will it.”

Mother Teresa

# Asset SPA

Sophisticated Predictive Analytics for Asset Managers and Institutions



## How We Can Help?

- User-customizable extreme market scenarios, assembled by a recognized market research team synthesizing consensus views from published economic and market research
- Ability to estimate whether asset sponsors will have sufficient assets to meet investment goals and/or potential liabilities, at statistical confidence as high as 99.93% as demanded by certain jurisdictions
- Combine upside forward-looking economic with low-probability “black swan” scenarios, and rebalance asset weights to optimize betting ratios
- Reduce portfolio drawdowns by as much as 75% ahead of global market storms, or choose the most promising assets to improve betting ratios from the 50s to as much as 68% in a recovering market
- Break down forward-looking scenarios into breakeven or required return for each asset or each asset class, as one way to document and monitor the reasonableness of investment decisions
- Model and include higher-alpha illiquid investments in any multi-asset, multi-frequency portfolio
- Monitor and adjust temporary market exposures with (fundamental or statistical) factors and hedging tools until the next rebalancing cycle

## Who Are We?

AssetSPA provides a cloud-based investment analytics platform that protects asset managers and large institutions against severe portfolio drawdowns, recommends asset allocations under reasonable market scenarios, and helps select the most likely winning assets in recovering markets.

## How We Differentiate?

AssetSPA employs far more advanced analytics as compared to from those used by other platforms to provide accurate, robust predictions.

As illustration, most platforms handle extreme risk by using Monte-Carlo simulation to capture the non-linearity of complex instruments that are no longer in vogue among institutional investors. Monte-Carlo simulation relies on the Cholesky decomposition of variance-covariance matrix of key market factors; however, the resulting simulations produce normal markets because factor non-normality is not captured by the inputs (i.e. the variance-covariance matrix) in the first place. The best ‘fat tail’ simulation technology available today can calibrate to a variance-gamma distribution with pre-defined uniform ‘fat tail’ distributions, which is helpful to describe certain high-extreme-risk markets such as energy, but will not work well for most multi-asset portfolios in post-crisis markets, where crashes are driven by messy, non-uniform ‘fat-tail’ behavior.

Hence, other analytics platforms may produce predictions that are ‘off’ by an order of magnitude; by comparison, AssetSPA’s award-winning methodologies can help professional investors harness the power of massive computing and the internet and outperform in ways never thought possible.

## Where We Stand in the Playing Field?

### Faster

- Algorithms with real-time performance and battle-tested parameters and heuristics, as opposed to overnight batch jobs and rigid parameters

### More Affordable

- Virtualized deployment with flexible subscription and integration by stages vs. on-site deployment with benefits that are hard to realize before massive integration
- Easy to maintain Software-as-a-Service, as opposed to high-maintenance support from headcount-heavy technology teams

### Better

- Native support for multi-asset, multi-frequency portfolios instead of making up data or worse deleting useful data to enforce uniform data frequency

### More Sophisticated

- Ready-for-deployment extreme risk models supported by our architecture vs. retrofitting them into clumsy legacy architectures as an ‘after thought’
- Asset selection driven by forward-looking scenarios and factors vs. backward-looking asset selection models stating the obvious

As Featured By:  
venturescanner.com

As Mentioned By:  
Forbes



# Step by Step Guide

## 1. Define the year-ahead market scenarios:

- User-customizable scenarios based on consensus research compiled by our recognized research team, providing detailed justifications
- Mix of 'Bullish' and 'Bearish' economic growth scenarios
- Users do not need to be experts in every region and asset class
- Assign confidence to each scenario for further analysis

Type	Index	Current	New	Change	Change %
Equity	S&P 500 Index	1917.83	1821.94	-95.89	-5.00
	SS Financial	290.55	290.55	0	0.00%
	SS Health Care	761.76	761.76	0	0.00%
	SS Consumer	519.91	519.91	0	0.00%
	SS Industrials	446.80	446.8	0	0.00%
	SS Telecom Serv	162.34	162.34	0	0.00%
Bond	Ishare International Treasury Bt	93.920	92.042	-1.878	-2.00
Forex	-NONE-	0.0000	0	0	0.00
Commodity	Gold	1228.23	1105.41	-122.82	-10.00

## 2. Calculate and verify that asset sponsors have sufficient assets to meet investment objectives and/or potential liabilities:

- Switch from absolute return view to relative return view (i.e., long assets, short benchmark)
- For planning purposes, find the specific scenarios under which your assets no longer leave a sufficient surplus under a pre-defined statistical confidence

Benchmark Name	Index Name	Weight
Multi Asset Benchmark	iShares MSCI AC World Index Fund	50.00%
Simple Bond Benchmark	HFRX Global Hedge Fund Index	25.00%
Equity and Bond Benchmark	iShares Barclays 1-3 Year Treasury Bond ETF	25.00%
Developed Market Benchmark	<b>Total</b>	<b>100.00%</b>
65-35 Equities-Bond Benchmark		
MSCI Singapore		
Equities Asia Benchmark		
Multi Asset Benchmark HedgeSPA		
Equity Benchmark		
Fixed Income Benchmark		
Commodity Benchmark		

- Able to specify statistical confidence as high as 99.93%, as required by certain insurance and pension regulators

Name	Value
Confidence Interval (%)	99.93
Risk Free Rate (%)	2

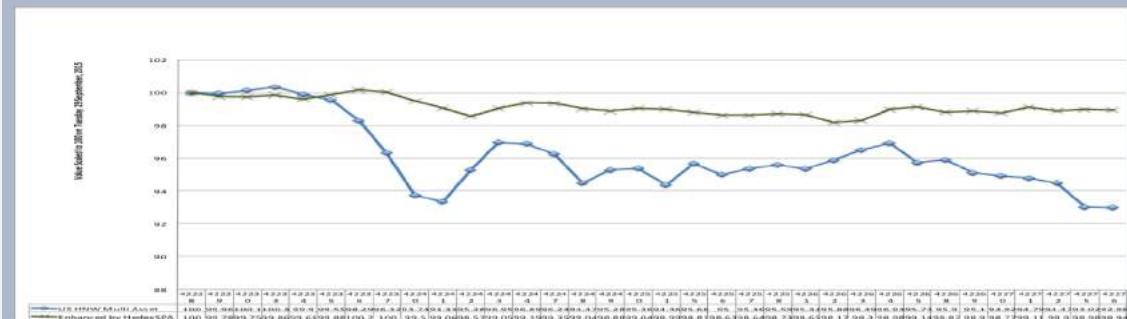
## 3. Combine upside forward-looking economic with low-probability 'black swan' scenarios, and rebalance asset weights to optimize betting ratios, for example:

- 60% US Economic Recovery
- 10% each for other 'black swan' scenarios

Factor	Middle East Improves	Middle East Deteriorates	Oil Prices Tank	Oil Prices Recover	US Economic Recovery
<b>Confidence Level (%)</b>	10	10	10	10	<b>60</b>
iShares MSCI AC World Index Fund	6	-10			
SPDR Barclays International Treasur...	2	-3			
DXY		-10	3	-5	
S&P 500 Index			-10	10	8
CBOE Interest Rate 10-Year T-Note			0	0	4.5
Brent Crude			-15	20	

## 4. Reduce 'peak to trough' drawdowns on assets by as much as 75%

- In addition, the platform will help insurers and pensions choose the most promising assets in a recovering market to improve betting ratios to 68%, when typical fundamental managers can bet in the 55% to 60% range



5. Analyze breakeven returns by asset or asset classes:

- Sample scenario: US Economic Recovery
- Recommendations: Increase allocation to commodity, equities, hedge funds and private equity, decrease allocation to bonds and foreign exchange
- Can be used to monitor the reasonableness of investment decisions, with certain volatile investments such as Google going from almost 3-digit required return to the low-tens in a matter of months
- Can be used to test out and document the suitability of new potential investments for this portfolio under reasonable forward-looking market views

Return Attribution	Scenario				
	Un ScenRet	Un ScenImplRet	Scen vs Impl	Scenario Comparison	
Total	4.38%	4.38%	-	-10%	0%
Commodity	-2.83%	5.38%	↓		
Developed Markets	-2.24%	6.52%	↓		
Goldman Sachs Commodity Strate	-2.24%	6.52%	↓		
Global	-5.49%	0.15%	↓		
SPDR Gold Shares	-5.49%	0.15%	↓		
Equity	7.53%	6.60%	↑		
Developed Markets	7.53%	6.60%	↑		
iShares Dow Jones US Real Estate	5.25%	5.82%	↓		
SPDR MSCI ACWI ex-US ETF	4.51%	7.32%	↓		
American Funds Growth Fund of A	8.78%	6.85%	↑		
SPDR Russell Small Cap Complete	9.24%	7.05%	↑		
SPDR S&P 500 ETF Trust	7.97%	6.34%	↑		
Fixed Income	-0.28%	-0.15%	↓		
Developed Markets	-0.28%	-0.15%	↓		
DoubleLine Total Return Bond Fun	0.28%	-0.20%	↑		
iShares Core Total US Bond Marke	0.15%	-0.09%	↑		
PIMCO Total Return A	0.43%	0.58%	↓		
T. Rowe Price US Treasury Long-T	-1.44%	-0.72%	↓		
Foreign Exchange	0.05%	1.81%	↓		
Developed Markets	0.05%	1.81%	↓		
Franklin Templeton Hard Currency	0.05%	1.81%	↓		
Hedge Funds	29.10%	7.22%	↑		
Developed Markets	29.10%	7.22%	↑		
Fortress Investment Group LLC	29.10%	7.22%	↑		
Private Equity	10.27%	7.38%	↑		
Developed Markets	10.27%	7.38%	↑		
PowerShares Global Listed Private	10.27%	7.38%	↑		

6. Model lower-frequency, higher-alpha illiquid assets that are increasingly popular among institutional investors:

- Oil fields at marginal cost of production at \$40 and \$50 as examples

Product Name	System Factor Universe	EPCA1	EPCA2	EPCA3	EPCA4	EPCA5
Brent Crude Oil Spot	Energy PCA	-42.69	-21.24	-139.20	4.17	-12.51
Crude Oil - Structured, Marginal Cost of Production=\$40	Energy PCA	60.35	1.87	38.94	8.37	-4.53
Crude Oil - Structured, Marginal Cost of Production=\$50	Energy PCA	52.22	1.61	32.82	5.41	-5.80
<b>User</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>System</b>		<b>69.88</b>	<b>-17.76</b>	<b>-67.44</b>	<b>17.95</b>	<b>-22.84</b>
<b>Portfolio</b>		<b>69.88</b>	<b>-17.76</b>	<b>-67.44</b>	<b>17.95</b>	<b>-22.84</b>

7. Monitor and adjust temporary market exposures with fundamental or principal component factor models and advanced hedging tools until the next rebalancing cycle

- View exposures and scenarios by using principal components or fundamental factors

Product Name	System Factor Universe	Scenario
BofA Merrill Lynch US High Yield Master II Optio...	Unit	None
Fidelity Inflation-Protected Bond	Unit	Current Scenarios
Goldman Sachs Inflation-Protected Bond	Unit	Archived Scenarios
HFRX Absolute Return Index	Unit	Historical Scenarios
iPath S&P GSCI Total Return Index ETN	Unit	User Scenarios

- Entirely flexible choices of a multi-instrument hedging palette
- Practitioner-designed, award-nominated advanced hedging algorithms

Product	Asset Class	Contract	Position	Weight
iShares Barclays 1-3 Year Treasury Bond ETF	Fixed Income	-6744.83	-573108	-0.57%
iShares Barclays 10-20 Year Treasury Bond ETF	Fixed Income	-4055.45	-573157	-0.57%
iShares Barclays 20+ Year Treasury Bond ETF	Fixed Income	-4377.25	-573157	-0.57%
iShares Barclays 3-7 Year Treasury Bond ETF	Fixed Income	-4558.57	-573057	-0.57%
iShares Barclays 7-10 Year Treasury Bond ETF	Fixed Income	-5192.58	-573157	-0.57%

Portfolio	Historical Return	Volatility	VaR	cVaR	MaxDD	Beta	SR	ASR	Skewness	Kurtosis	Treynor Ratio	Jensen's Measure
Actual Portfolio	-3.64%	4.33%	7.05%	9.79%	3.78%	-0.03	-1.3018	-1.2350	-0.05	4.57	-1.6843	-0.0549
Hypothetical Portfolio	-3.61%	4.32%	7.04%	9.84%	3.75%	-0.04	-1.3005	-1.2331	-0.07	4.65	-3.9000	-0.0555