

A PRACTICE MANAGEMENT DISCUSSION

REDEFINING HOW ADVISORS ALLOCATE TO
ALTERNATIVE INVESTMENTS

JANUARY 2017



ASPEN PARTNERS
ASPEN PORTFOLIO STRATEGY

A Thoughtful Approach to Investor Portfolio Diversification

Overview

Aspen's mission is to provide investors and their advisors with investment strategies designed to respond to ever changing market conditions. We believe that diversified market exposure assists in reaching long-term performance objectives in today's challenging investment environment, while reducing the overall portfolio risk. We believe our commitment to provide robust, liquid, low-cost products, along with ongoing education on alternatives and unmatched client support positions us as an industry leader in the liquid alternatives space.

EXECUTIVE SUMMARY

Firm:	Based in Richmond, Virginia, Aspen has been in the alternatives space for over 20 years, is independently owned and registered with the SEC and CFTC.
Strategy:	Aspen employs a robust, fully systematic, trend following model across 4 sectors and up to 23 markets along with equal exposure to long U.S. equity beta.
Value Proposition:	Pairing long-only equity exposure with a diversified, trend-following managed futures portfolio generates an attractive risk adjusted return. Access to this combination in a mutual fund structure will assist advisors in building holistic solutions for clients across the spectrum of sophistication.
Experience:	The executive team has nearly 9 decades of combined experience in alternatives, through numerous economic cycles and global crises.

Benefits and Risks of Equity Investing

- **Benefits:**
 - High long-run returns historically
 - Participation in the growth of the economy
 - Dividends and capital gains
- **Risks:**
 - Volatile return profile: Can be hard to stay invested
 - Occasional large drawdowns: Sequence of returns risk

Historical Benefits of Trend Following as a Diversifier

- Non-correlation

	Stocks	Bonds	Commodities	Currencies
Correlation	-0.04	0.20	0.07	0.12
R-Squared	0.2%	4.0%	0.5%	1.4%

- Convexity

	Stocks	Bonds	Commodities	Currencies
Up-Correlation	0.11	0.19	0.21	0.39
Down-Correlation	-0.23	-0.05	0.03	-0.15
Up-Beta	0.12	0.69	0.15	0.84
Down-Beta	-0.20	-0.22	0.02	-0.22

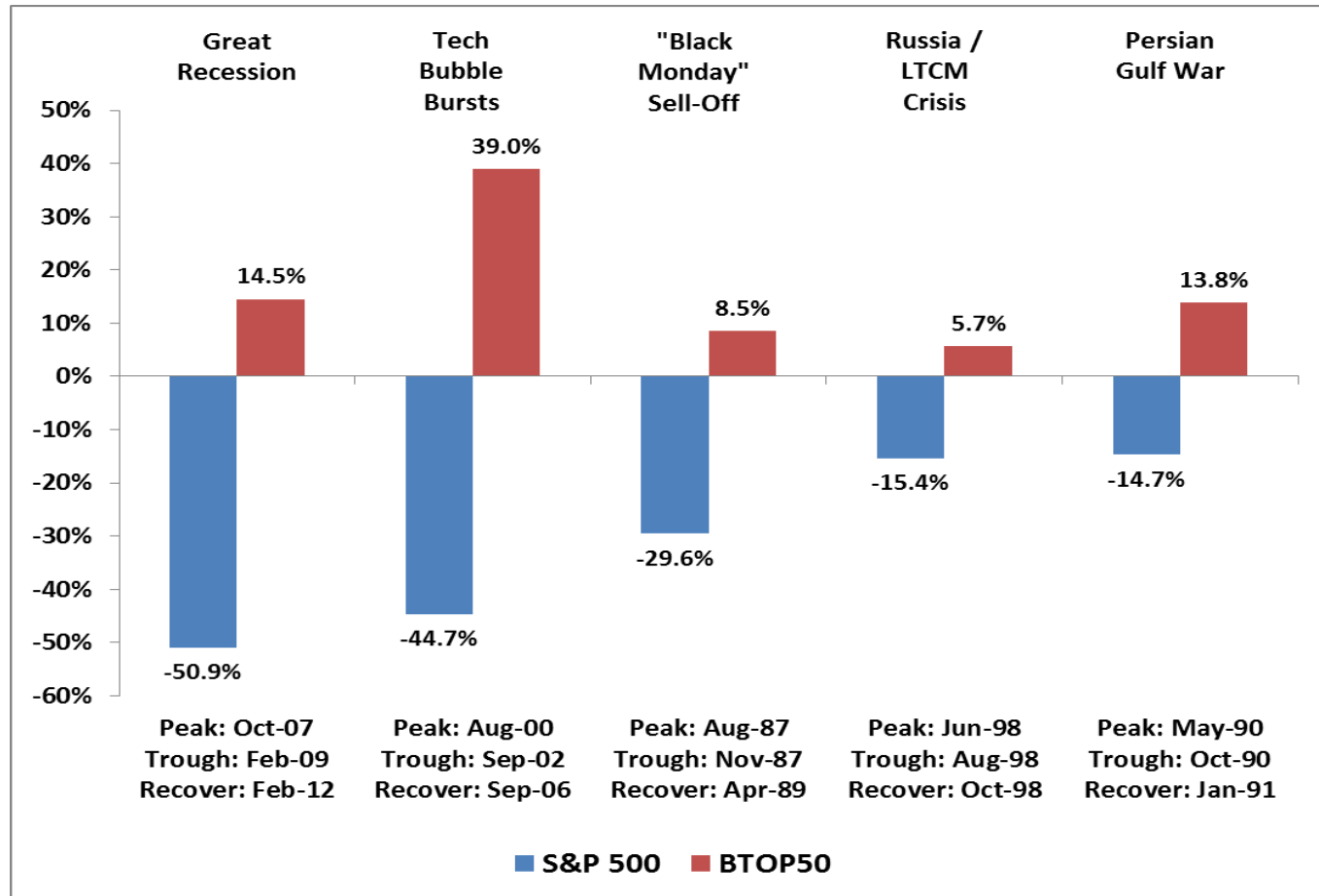
- Positive Skew

	Managed Futures	Stocks	Bonds	Commodities	Currencies
Skew	1.04	-0.81	-0.15	-0.20	-0.35

(Managed Futures: BTOP50; Stocks: S&P 500; Bonds: Barclays Aggregate Bond Index; Commodities: S&P GSCI; Currencies: Inverse return of the Dollar Index; Data since 1987. Source: Bloomberg)

Benefits of Trend Following as an Equity Diversifier

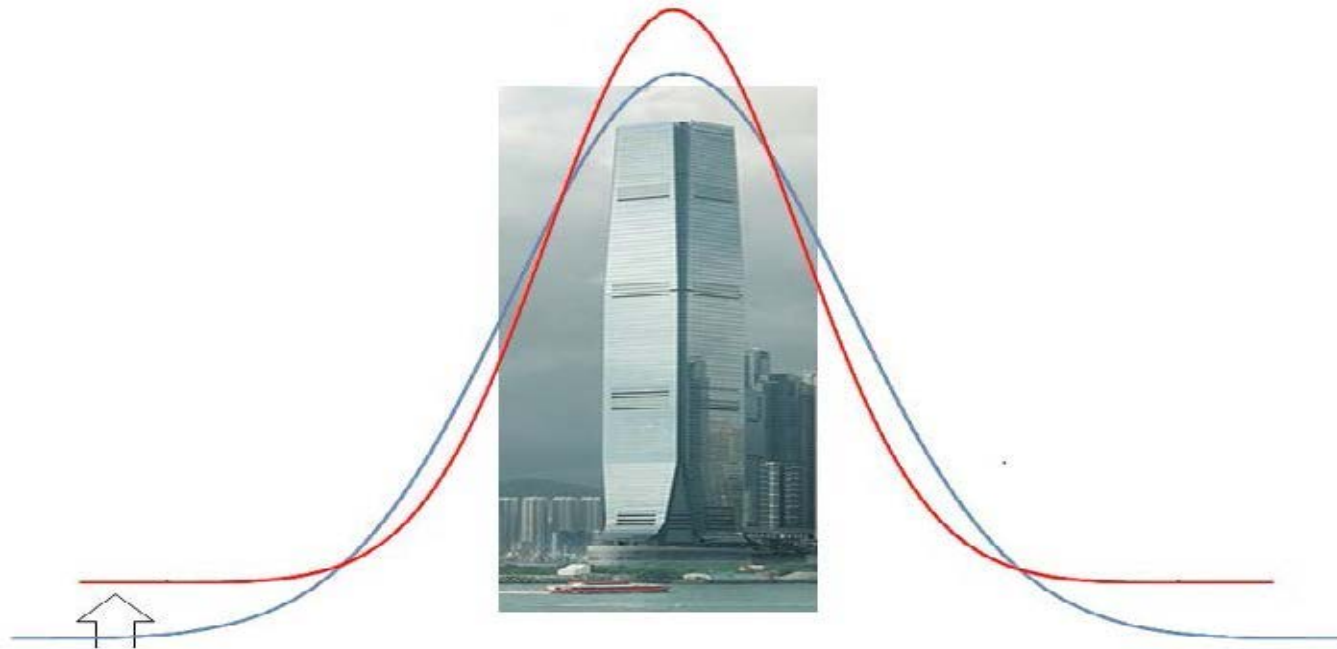
- “Crisis Alpha”



Downsides to Systematic Trend Following

- Though diversifiable, still a risky asset class stand-alone
- Can have prolonged stretches of unexciting performance
- Can be difficult to stay invested when underperforming traditionals, and in the absence of a crisis
- Can be very difficult to size a trend following investment to a mathematically optimal level

Volatility to Kurtosis – Impact of Government Intervention



- Volatility has been low, but does that mean the underlying risk is gone?
- Low *ex post* volatility can be indicative of a “high peak”—which implies increased risk of catastrophic “fat tail” observations.
- Systematic Trend Following can *increase risk capacity* via tail risk mitigation.

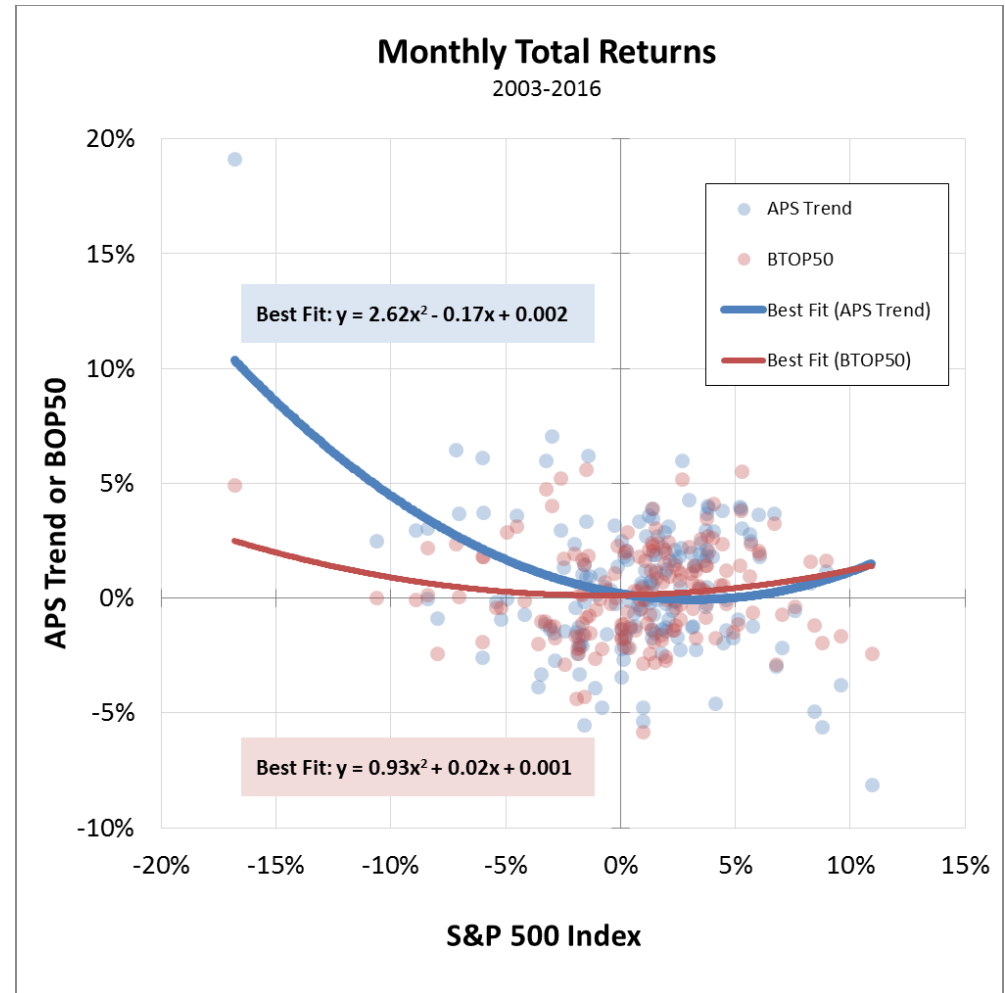
Methods Employed by Many CTAs to Improve Performance

- Volatility Targeting
 - Increases stand-alone expected return
 - Gives a smoother stand-alone ride
 - *Adds cliff risk in low-vol backdrops*
 - *Reduces crisis alpha potential*
- Long Equity and Long Fixed Income Biases
 - Increases expected return (by adding beta)
 - *Decreases portfolio diversification*
 - *“Taper Tantrum” and 2016 post-election examples*

Aspen Trend Model Emphasizes Equity Diversification/Convexity

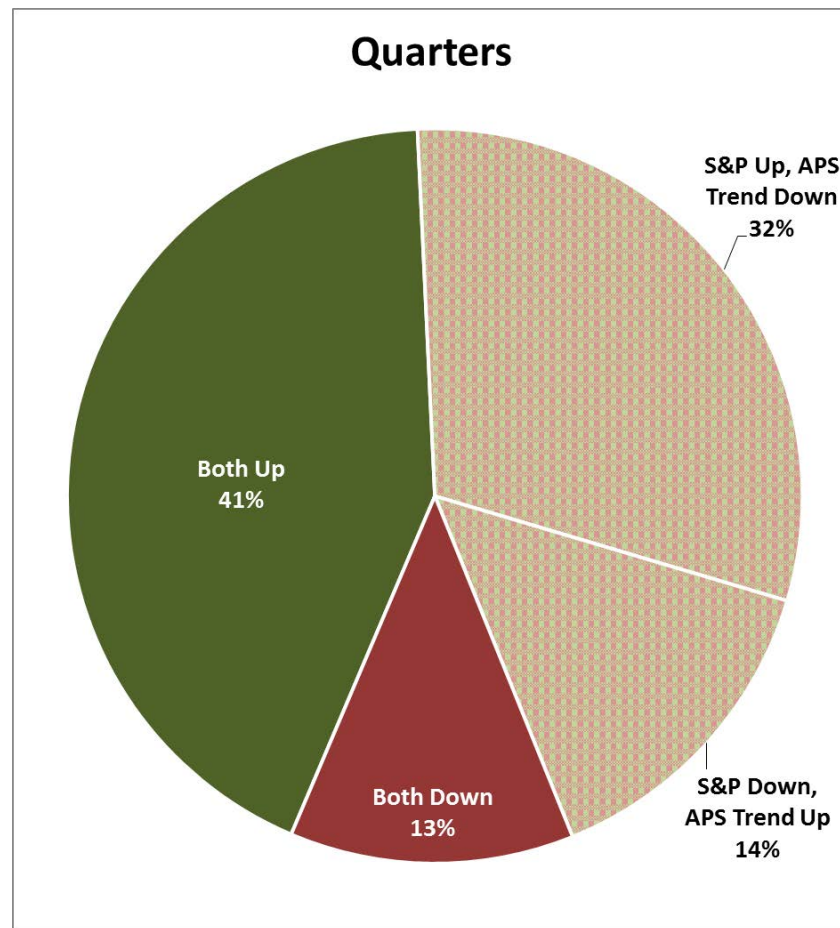
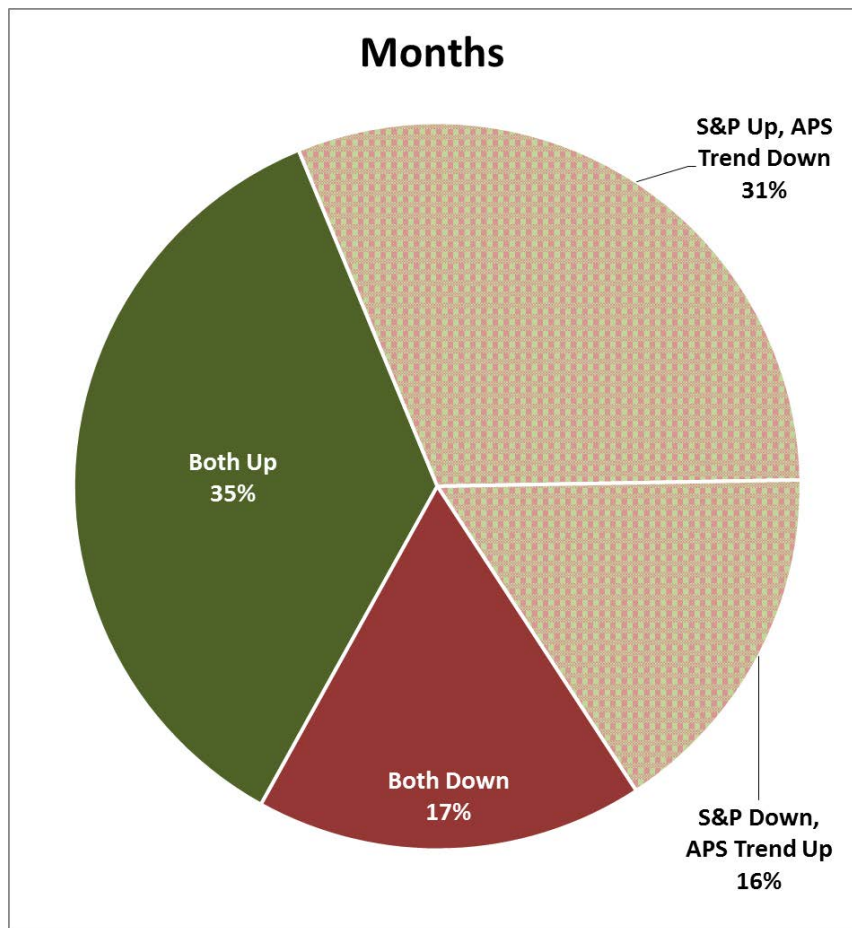
- Low Correlation + Positive Convexity:

S&P 500 Correlation	0.01	-0.26
S&P 500 Up-Correlation	0.10	-0.12
S&P 500 Down-Correlation	-0.26	-0.56
S&P 500 Beta	0.00	-0.20
S&P 500 Up-Beta	0.08	-0.13
S&P 500 Down-Beta	-0.19	-0.69



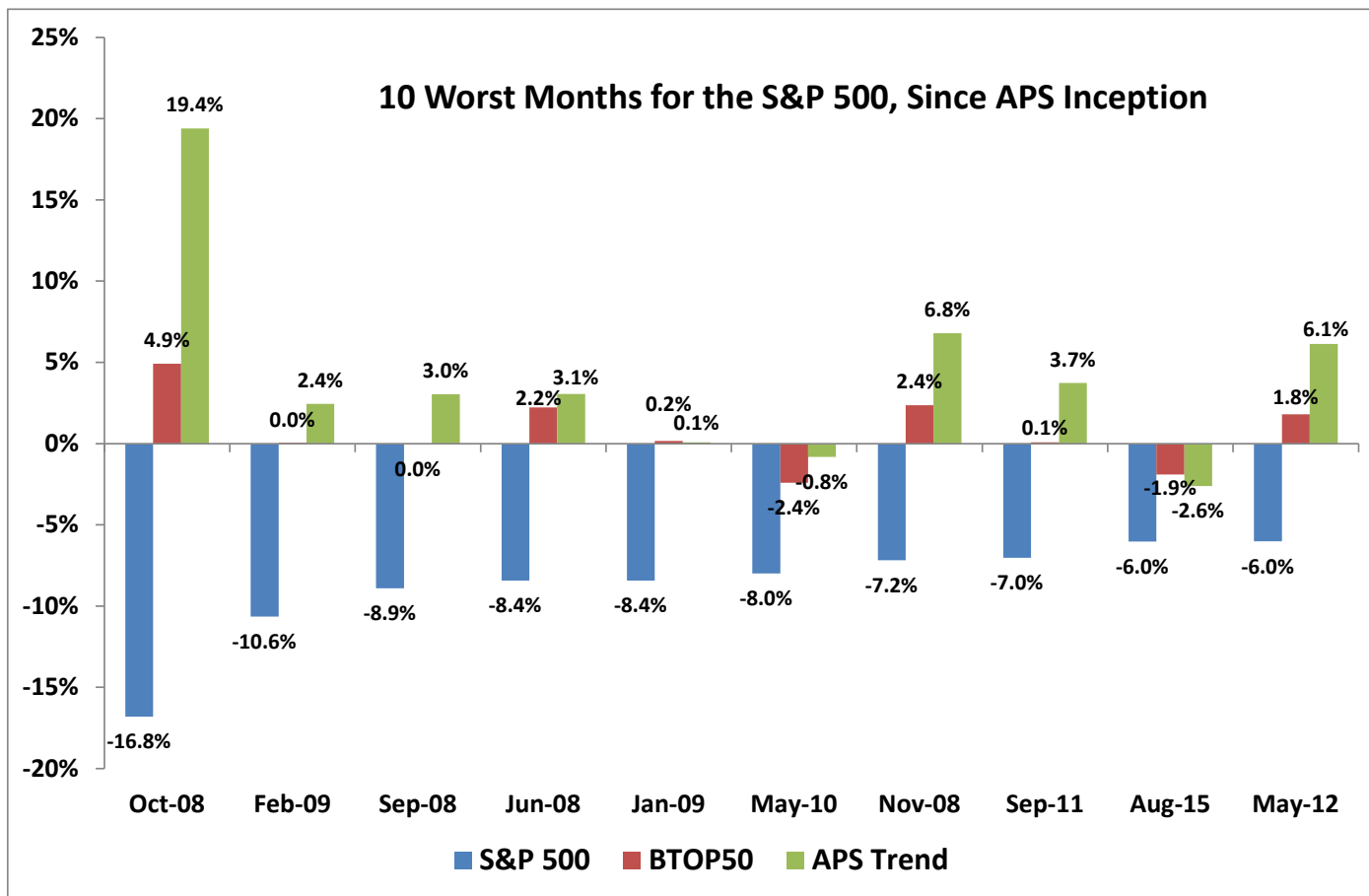
Aspen Trend Model Emphasizes Equity Diversification/Convexity

- S&P and Trend Model Rarely Down Simultaneously:



Aspen Trend Model Emphasizes Equity Diversification/Convexity

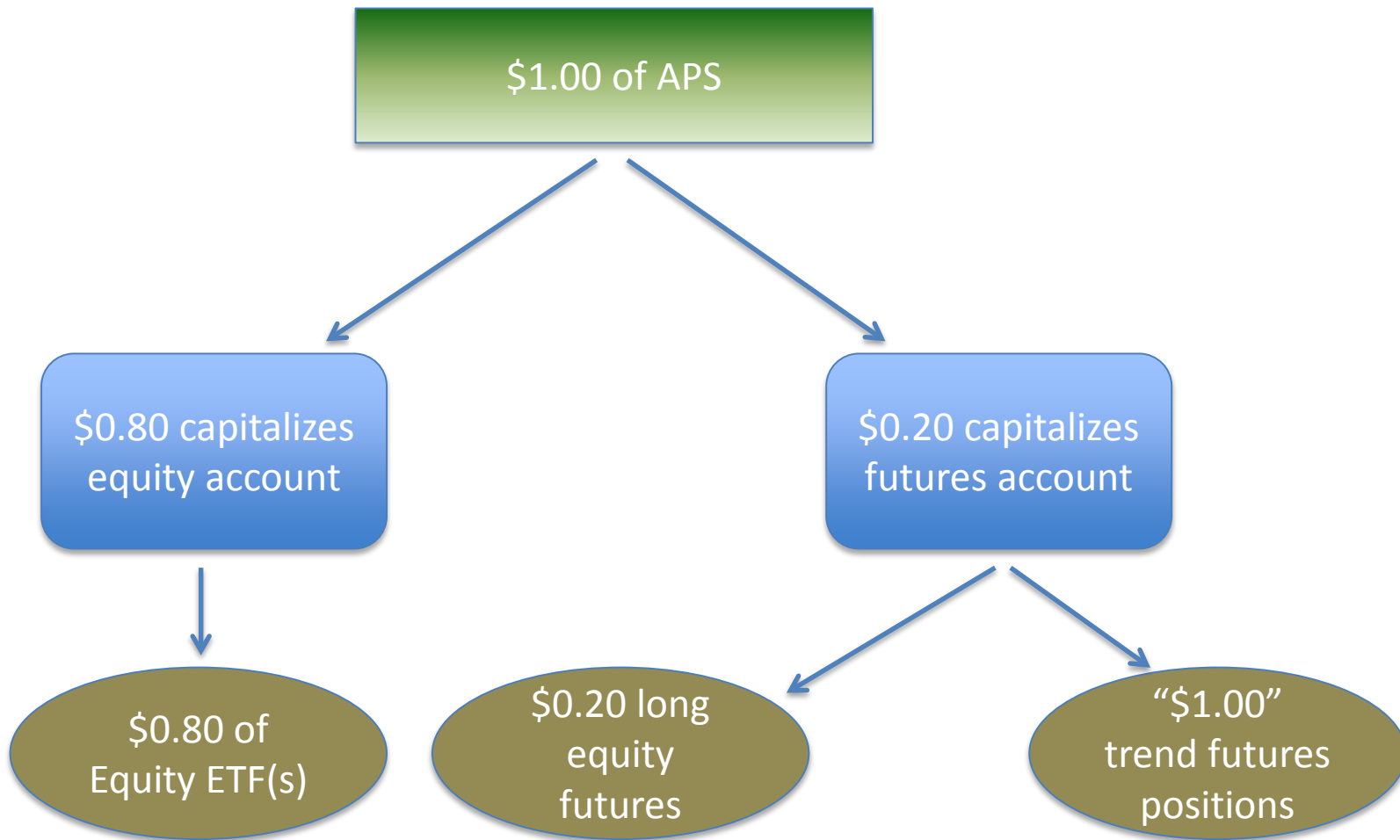
- “Crisis Alpha”:



Introducing the Aspen Portfolio Strategy (APS)

- 100% Long Equities + 100% Trend Following
 - Designed for attractive absolute & risk-adjusted return
 - Full equity exposure
 - Primary return driver
 - Full trend following exposure
 - Secondary return driver
 - Diversifier and crisis hedge
 - Cash-efficient
 - No need to carve out capital for a trend following allocation
 - Practice management tool
 - Helps investors stay invested in both equity and trend following

100% Equity + 100% Trend: How is it Possible?



Summary Statistics

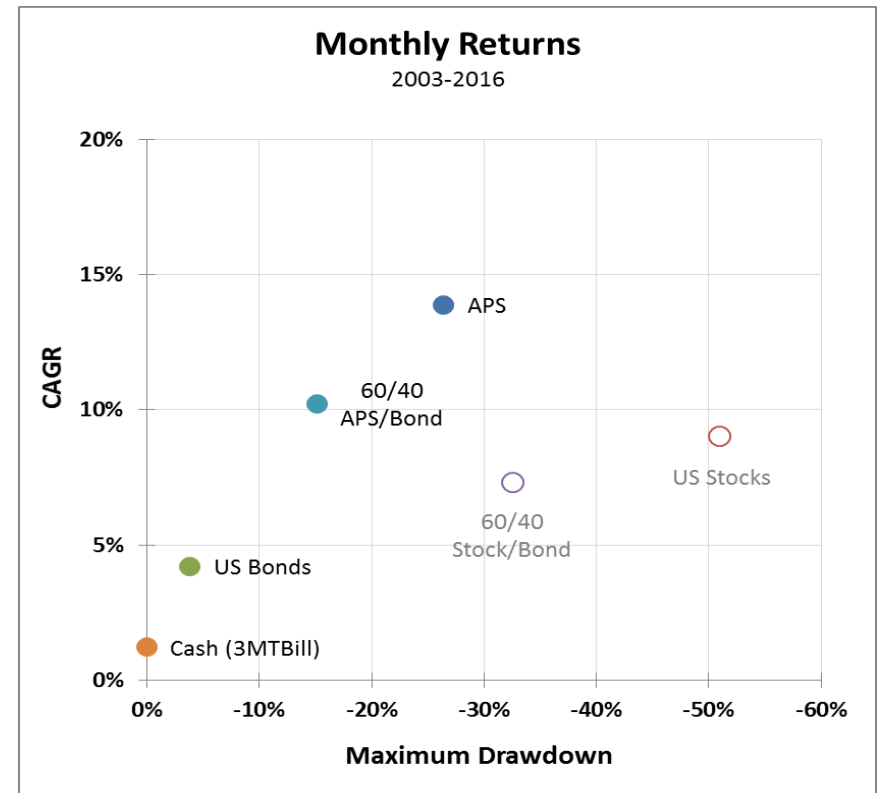
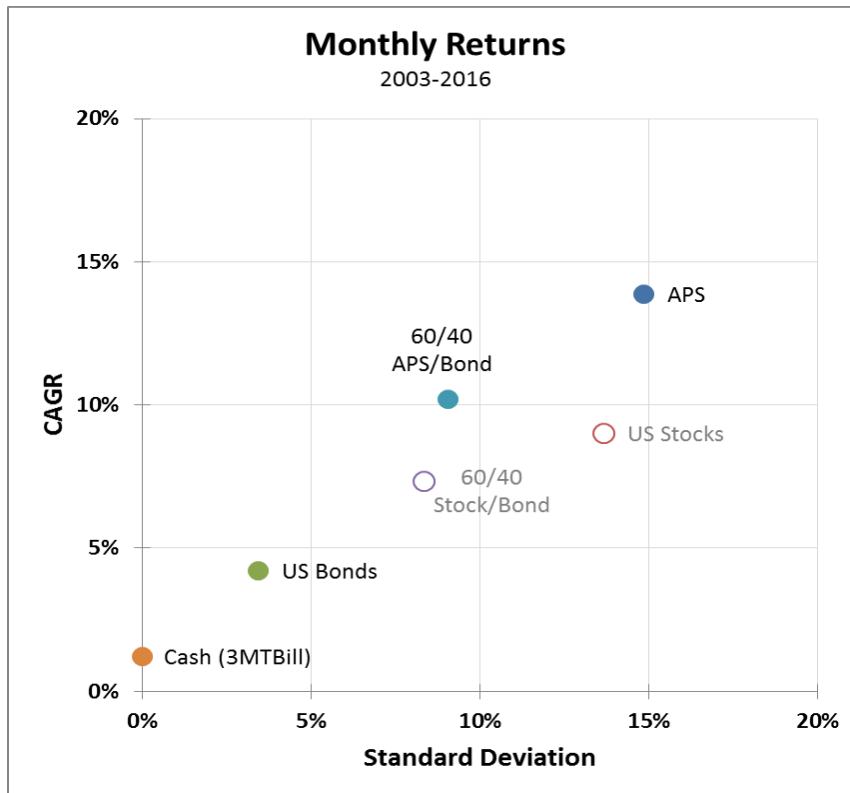
	Aspen Portfolio Strategy	S&P 500	APS Trend Model
Compound Annual Growth Rate	14.05%	9.12%	5.43%
Annualized Standard Deviation	14.83%	13.63%	10.34%
Sharpe Ratio(T-Bill)	0.87	0.58	0.41
Max Drawdown	-26.35%	-50.95%	-15.12%
Max Runup	544.81%	259.90%	136.81%
US Equities Correlation	0.73	1.00	-0.26
APS Trend Correlation	0.46	-0.26	1.00
Alpha to US Equities	6.52%	0.00%	5.79%
US Equity Up-Beta	0.89	1.00	-0.13
US Equity Down-Beta	0.29	1.00	-0.69
Difference, Up- vs. Down-Beta	+0.60	0.00	+0.57

APS Monthly/Annual Returns

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	S&P 500
2016	-4.7%	1.5%	3.7%	0.3%	-0.8%	2.4%	3.3%	-1.7%	-1.5%	-5.0%	6.6%	3.3%	7.0%	12.0%
2015	3.9%	4.4%	-0.1%	-3.9%	1.9%	-3.5%	5.5%	-8.4%	-1.2%	3.4%	2.1%	-1.9%	1.2%	1.4%
2014	-6.8%	3.1%	0.3%	0.4%	2.2%	1.1%	-0.9%	5.8%	4.8%	0.7%	8.8%	2.9%	23.9%	13.7%
2013	9.2%	-0.1%	4.2%	3.0%	4.5%	-0.4%	4.2%	-4.5%	1.9%	4.5%	5.0%	4.3%	41.6%	32.4%
2012	2.6%	4.6%	0.9%	-2.2%	-0.2%	-0.6%	3.1%	1.9%	0.2%	-3.1%	-0.1%	1.4%	8.6%	16.0%
2011	2.2%	5.4%	-3.6%	7.3%	-5.0%	-3.7%	0.3%	-5.2%	-3.5%	2.4%	-0.3%	1.0%	-3.6%	2.1%
2010	-7.5%	1.8%	8.0%	1.5%	-8.7%	-5.8%	4.7%	-1.1%	10.2%	7.9%	-2.5%	10.6%	18.0%	15.1%
2009	-7.6%	-8.4%	3.0%	5.7%	8.7%	-1.7%	6.8%	5.3%	5.4%	-4.1%	9.9%	0.6%	24.0%	26.5%
2008	-2.8%	3.0%	-0.5%	3.0%	2.1%	-5.7%	-5.5%	0.7%	-6.3%	2.0%	0.3%	2.3%	-7.9%	-37.0%
2007	2.3%	-2.8%	0.6%	7.9%	5.5%	-0.9%	-5.0%	-0.7%	7.3%	3.7%	-4.7%	-0.9%	11.9%	5.5%
2006	4.3%	-2.0%	4.8%	4.8%	-6.3%	-2.9%	-1.1%	3.4%	2.8%	4.2%	4.5%	1.5%	18.6%	15.8%
2005	-3.9%	3.5%	-4.1%	-4.5%	4.4%	1.7%	5.7%	-0.2%	3.9%	-4.1%	8.1%	2.0%	12.1%	4.9%
2004	4.0%	4.7%	-0.5%	-7.4%	-0.1%	1.5%	-4.5%	-1.2%	3.6%	3.1%	7.2%	3.3%	13.6%	10.9%
2003	0.5%	1.9%	-4.4%	9.0%	8.6%	0.7%	0.3%	0.5%	-1.1%	8.0%	1.6%	9.0%	39.1%	28.7%

Improve Risk-Adjusted Portfolio Returns with APS

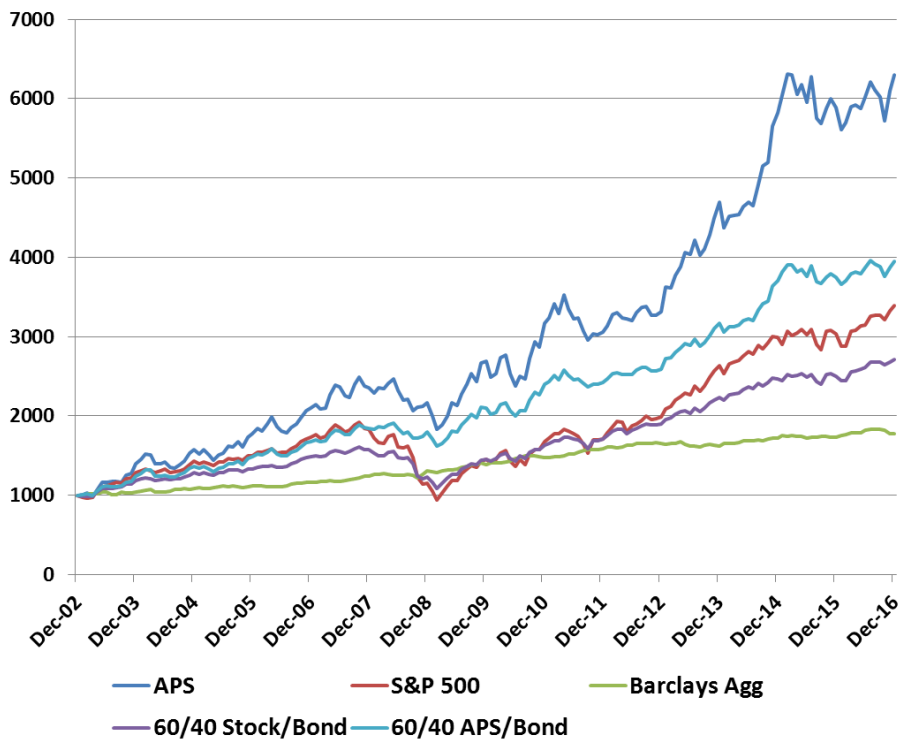
- What definition(s) of “risk” are most important to investors?
 - APS improves volatility-adjusted return (e.g., Sharpe Ratio)
 - Benefits are even clearer on a drawdown-adjusted basis (e.g., MAR Ratio)



Improve Long-Run Absolute Returns with APS

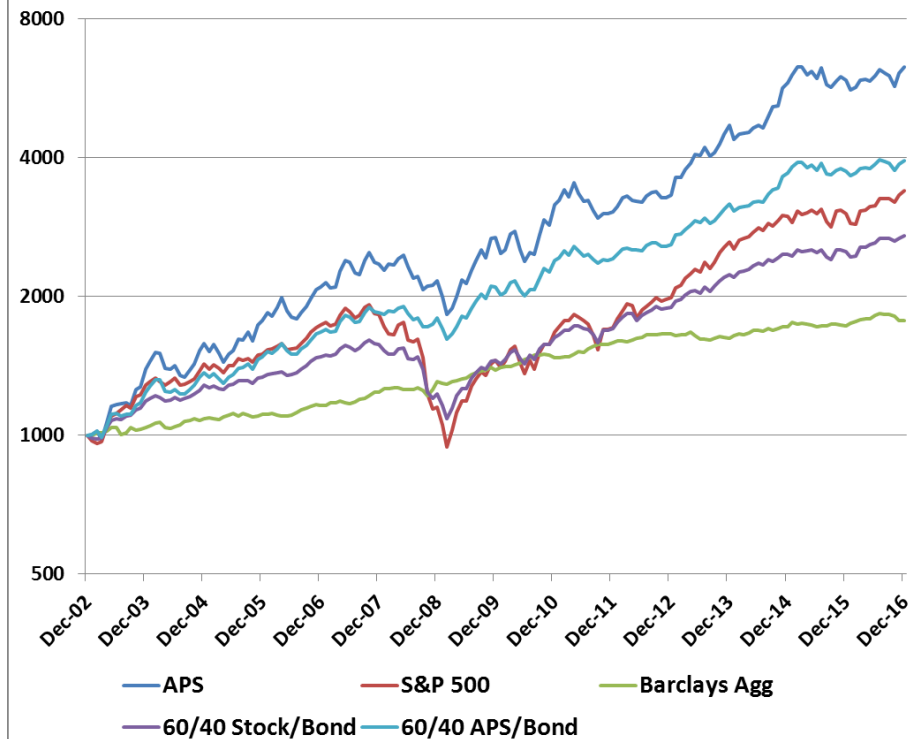
Growth of 1000

Monthlies from 2003
(Linear Scale)



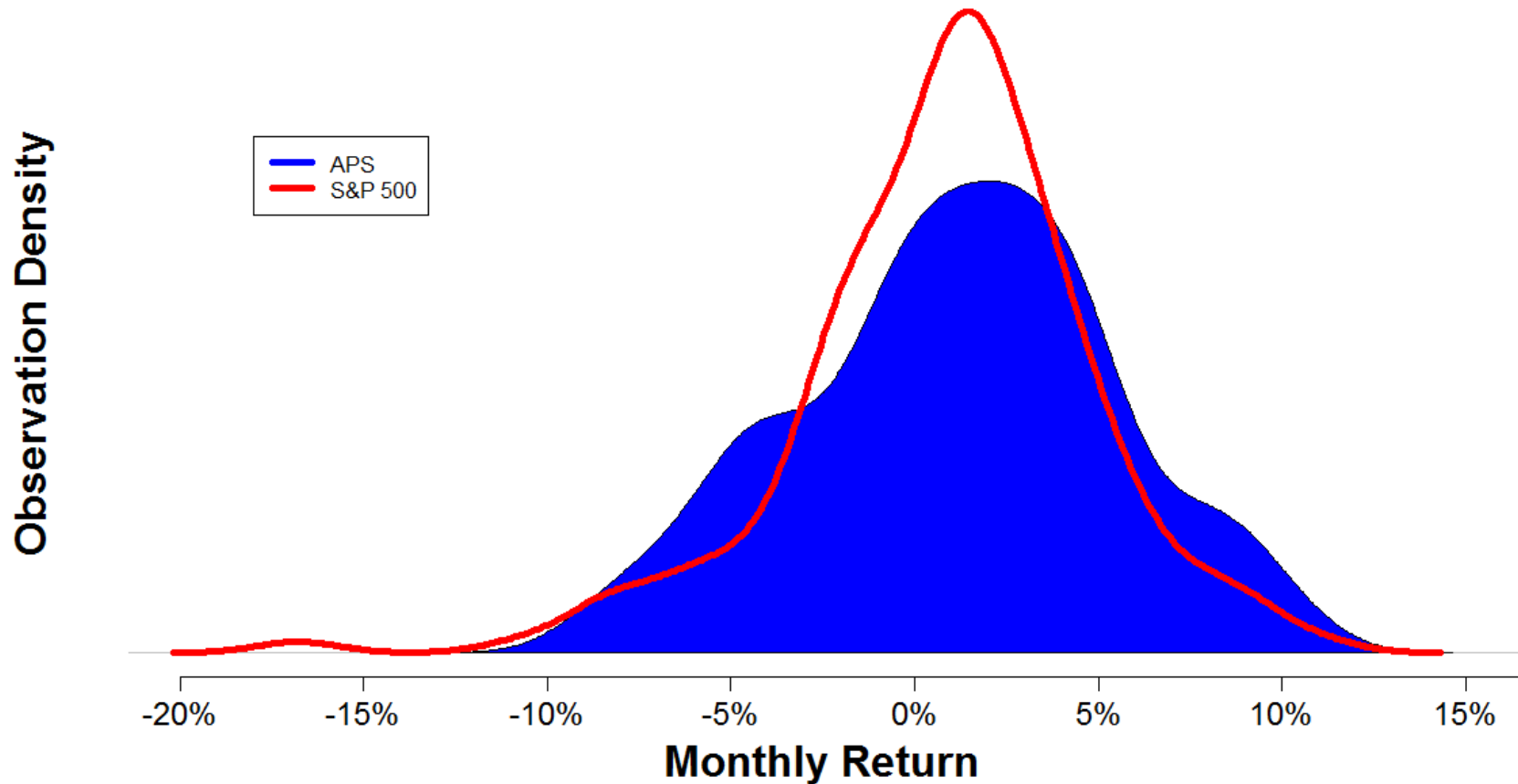
Growth of 1000

Monthlies from 2003
(Log Scale)



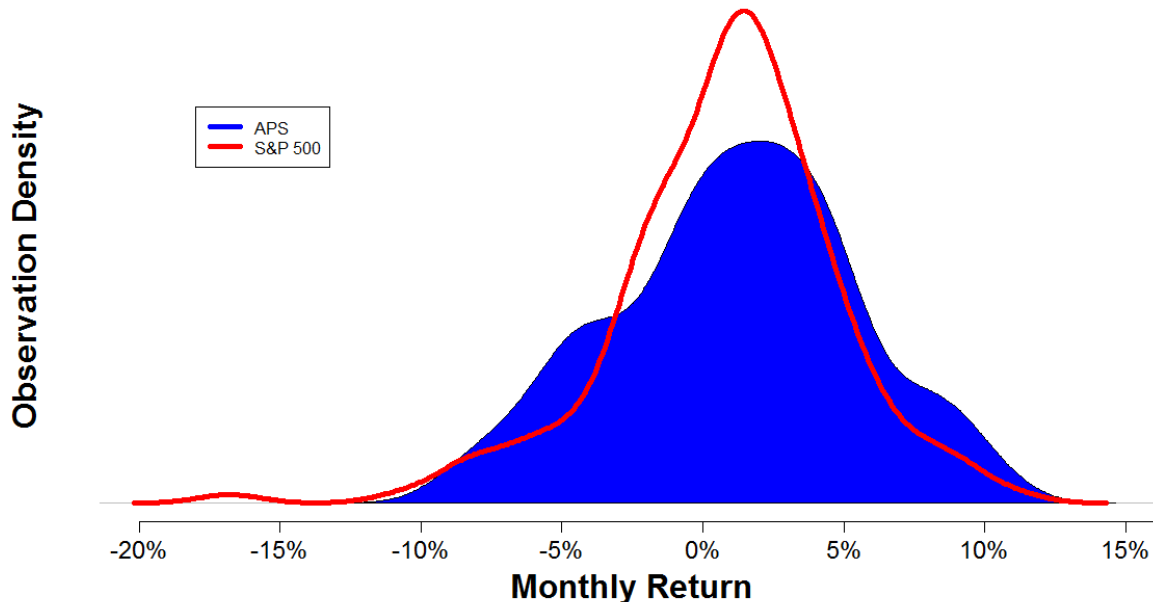
APS “Normalizes” the Return Distribution of Equities

Distributions: APS vs. S&P 500



APS “Normalizes” the Return Distribution of Equities

Distributions: APS vs. S&P 500



- Higher return,
- Lower kurtosis,
- Less negative skew:

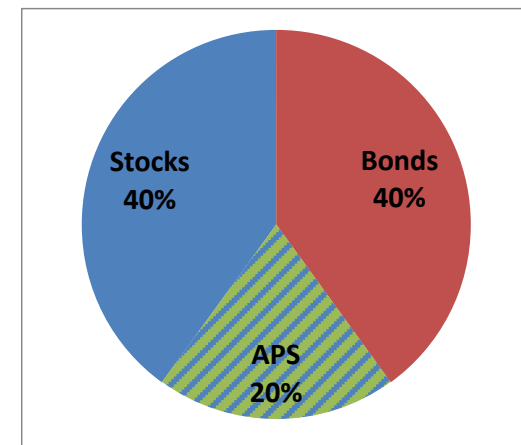
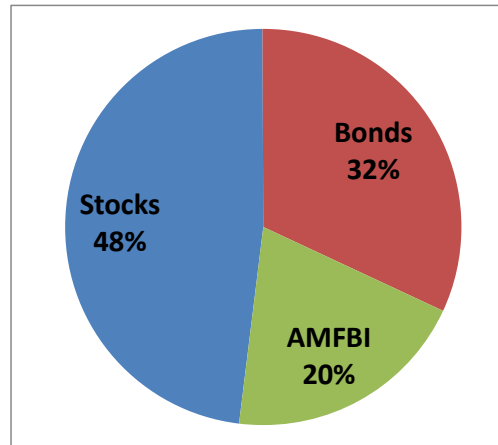
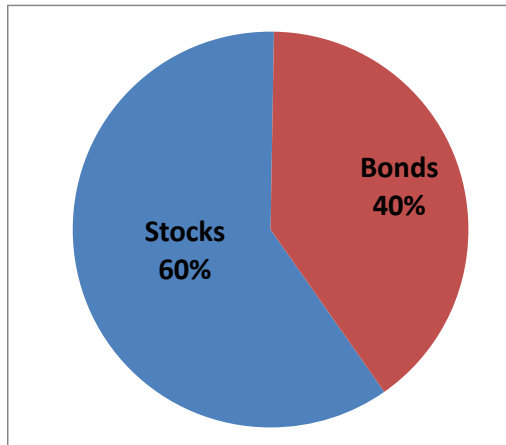
	APS	S&P 500
Mean Monthly Return	1.19%	0.81%
Median Monthly Return	1.54%	1.28%
Monthly Volatility	4.28%	3.93%
Excess Kurtosis	-0.42	2.33
Skewness	-0.14	-0.75

- Slightly fewer “ups” vs “downs”
- But significantly bigger ups and smaller downs:

	APS	S&P 500
% Up Months	63%	67%
Avg. Up Month	3.85%	2.90%
% Down Months	38%	33%
Avg. Down Month	-3.24%	-3.38%

	APS	S&P 500
% Months Above Mean	52%	57%
Avg Month Above Mean	4.49%	3.34%
% Months Below Mean	48%	43%
Avg Month Below Mean	-2.43%	-2.57%

AMFBI and APS: Two Methods of Trend Allocation



- Portfolio 1: 60% S&P 500, 40% Barclays Agg
 - Standard-practice portfolio utilizes well understood diversification benefits of bonds
- Portfolio 2: 80% Portfolio 1, 20% AMFBI (results in 48/32/20 mix)
 - Diversifying allocation to systematic trend following alongside traditional mix
 - Improves risk-adjusted return
 - Less equity, so benefit primarily accrues to risk denominator
- Portfolio 3: 40% S&P 500, 40% Barclays Agg, 20% APS
 - Cash efficiency: Gets back to 60/40 stock/bond allocation, *plus* 20% trend following
 - Also improves risk-adjusted return
 - Equity piece intact, so benefit accrues primarily to return numerator

AMFBI and APS: Two Methods of Trend Allocation

- Substantial benefits from AMFBI/APS inception, including Great Financial Crisis:

Portfolio Statistics, 1/2003 through 12/2016

	60% Stocks / 40% Bonds	48% Stocks / 32% Bonds / 20% AMFBI	40% Stocks / 40% Bonds / 20% APS
Compound Annual Growth Rate	7.38%	7.47%	8.39%
Annualized Standard Deviation	8.31%	6.61%	8.03%
Sharpe Ratio(T-Bill**)	0.74	0.95	0.89
Max Drawdown	-32.54%	-20.95%	-26.81%
Max Runup	176.08%	175.42%	212.56%
Alpha to US Equities	1.41%	2.63%	2.74%

- Allocation is still beneficial during AMFBI live track record, despite historically difficult trend following backdrop (i.e., “free insurance”):

Portfolio Statistics, 1/2011 through 12/2016

	60% Stocks / 40% Bonds	48% Stocks / 32% Bonds / 20% AMFBI	40% Stocks / 40% Bonds / 20% APS
Compound Annual Growth Rate	8.84%	7.07%	8.82%
Annualized Standard Deviation	6.70%	5.37%	6.44%
Sharpe Ratio(T-Bill**)	1.31	1.30	1.36
Max Drawdown	-8.23%	-6.91%	-8.17%
Max Runup	70.76%	53.39%	69.76%
Alpha to US Equities	1.53%	1.48%	2.12%

Where Does APS Fit in a Model Portfolio?

- Equity-Related Options:
 - Equity Sleeve
 - Pro:
 - Includes full exposure to a core equity position
 - 0.7+ correlation to S&P 500
 - Con:
 - Expensive for an equity allocation
 - Potentially confusing for investors accustomed to equity-only investment vehicles
 - Hedged Equity
 - Pro:
 - Higher expected return (due to positive expected return “hedge” overlay)
 - Potentially more crisis protection (e.g., vs. static short beta models)
 - Con:
 - Higher expected standard deviation
 - Trend overlay doesn’t fit the standard definition for the “hedge”

Where Does APS Fit in a Model Portfolio?

- Alternatives Options:
 - Core Alternative
 - Pro:
 - Not unusual for alternatives to correlate with equities
 - Inexpensive for an alts allocation
 - Con:
 - Equity correlation comes from vanilla equities, not from alts with equity beta
 - Doesn't fit cleanly into standard alts categories
 - Managed Futures
 - Pro:
 - Trend piece fits squarely in the managed futures category
 - Inexpensive for a managed futures allocation
 - Con:
 - Diverges significantly from the category: Equity is the larger driver of return and volatility
 - Diversification, convexity, crisis alpha mainly protect *within* APS, vs. protecting the rest of the portfolio

APS Trend Model: Strategy Development Notes

- Market selection process emphasized:
 - Liquidity: Only deep, liquid markets allowed
 - Diversification
 - Financials diversified by geography
 - Commodities diversified by sector
 - Operational effectiveness
 - Supports low-turnover weekly rebalance

APS Trend Model: Strategy Development Notes

- **APS Trend Model markets:**

- Commodities:

- Copper
- Corn
- Crude Oil
- Gold
- Heating Oil
- Silver
- Soybeans
- Sugar

- Equities:

- S&P 500
- Nikkei (USD)
- Euro Stoxx
- FTSE

- Currencies:

- AUD
- CAD
- EUR
- JPY

- Fixed Income:

- 10-Yr Treasury
- Canadian Bond
- German Bund
- UK Gilt

APS Trend Model: Strategy Development Notes

- Strategy design process emphases:
 - Robust
 - Utilize well-understood, time-tested, basic strategies
 - Parameter testing to demonstrate robustness, *not to curve-fit results to “best” parametric input*
 - Straightforward
 - As straightforward as possible: Transparent trend model, same model for all markets, no optimization, few parameters, etc.
 - Complexity only where needed: 5 trend lengths, equal risk-weighting, dynamic convexity overlay

The Aspen Team

Bryan Fisher, *Managing Director*

Mr. Fisher joined Aspen Partners in 2000, became a Director in 2007 and was promoted to Managing Director in September 2012. Mr. Fisher is responsible for overseeing and managing all aspects of Aspen's day to day business as well as setting the future direction of the firm. Mr. Fisher has been registered with the NFA as an associated person of Aspen Partners since December 2001, listed as a principal since September 2007, and was registered as a Branch Office Manager from December 2001 until June 2014. Mr. Fisher holds a Bachelor of Arts degree from Virginia Polytechnic Institute and State University.

Wm. Ware Bush, *Director*

Mr. Bush joined Aspen Partners, Ltd. in 1998 and has almost 30 years of experience in the financial services industry. Mr. Bush became a Director in 2007 and with his partner, Bryan Fisher, shares in all aspects of Aspen Partners' direction, strategy and investment. Mr. Bush has been registered with the NFA as an associated person of Aspen Partners since January 2000 and listed as a principal of Aspen Partners since September 2007. Mr. Bush received an undergraduate degree in History and International Political Science from Vanderbilt University and an M.B.A. in International Business from Georgia State University in Atlanta.

Ben Warwick, *Director*

Mr. Warwick has been in the investment management industry for 20 years, has held positions in trading, research for a number of alternative investment firms and is the author of several books on the futures markets. Mr. Warwick earned an M.B.A. from the University of North Carolina, a B.S. in Chemical Engineering from the University of Florida, and additional undergraduate degrees in Physics and Chemistry.

Nathan Dutzmann, *Senior Financial Engineer*

Mr. Dutzmann has extensive experience in financial services having previously worked as a consultant for a global macro hedge fund known for its work in managed futures. Mr. Dutzmann also was previously employed in the Analytics unit of a derivatives consultancy and as a project manager for a private banking/wealth management firm. Mr. Dutzmann's responsibilities for Aspen include daily oversight of trading models and conducting ongoing research for the Index. Mr. Dutzmann received a Bachelor's degree in Mathematical and Computer Sciences and a Master's degree in International Political Economy of Resources from the Colorado School of Mines and an M.B.A. from the Harvard Business School.

Brian Broadway, *Chief Operating Officer*

Mr. Broadway joined Aspen in 2014 as Chief Operating Officer and has over 20 years of experience in the financial services industry. Mr. Broadway's duties include overseeing Aspen's daily operations, compliance efforts and finance operations. Mr. Broadway has been listed with the NFA as a principal of Aspen Partners since August 2014 and registered as an associated person of Aspen Partners since September 2014. Mr. Broadway received his Bachelor of Science degree, with an emphasis in Accounting, from the University of Virginia and an M.B.A., with an emphasis in Finance, from the University of North Carolina – Chapel Hill.

Pat Kelly, *Director of Trading*

Mr. Kelly joined Aspen Partners in 2016 where his responsibilities include oversight of the firm's trading activities as well as development of financial technology to enhance Aspen Partners' investment and operational activities. Mr. Kelly was employed for ten years by Tremont Capital Management, a global alternative investment management firm, where he held several senior positions including supervision of the firm's Risk Management, Research and Product Development efforts. Prior to his employment by Tremont, Mr. Kelly worked for several investment firms including Kidder Peabody, Ferrell Capital and Parker Global Strategies. Mr. Kelly received a B.S. and an MBA from Hofstra University. Mr. Kelly is a Chartered Financial Analyst (CFA) and holds a Certificate in Investment Performance Measurement (CIPM).

Endnotes

BENCHMARKS & INDICES

“**Bonds**” represents the Barclays Aggregate Bond Index, a market capitalization-weighted index, meaning the securities in the index are weighted according to the market size of each bond type. Data Source: Bloomberg, LP (LBSTRUU INDEX)

“**Cash**” represents short-term debt obligations backed by the U.S. government with a maturity of 90 days or less.

“**Managed Futures**” represents the Barclay BTOP50 Index, an index of the largest investable CTA programs, as measured by assets under management.

“**US Equities**” and “**Stocks**” represents the S&P 500 Total Return Index, a widely recognized index of 500 large-cap US stocks. Data Source: Bloomberg, LP (SPTR INDEX)

The Barclays Aggregate Bond Index, Barclay BTOP50, and S&P Total Return Index are unmanaged and do not represent the attempt of any manager to generate returns on an investment. These benchmark indices do not include transaction costs and other expenses. An investor cannot invest directly in an index.

The Aspen MFBI (“AMFBI”) is constructed using a quantitative, rules-based model designed to replicate the trend-following and counter-trend exposure of futures markets by allocating assets to liquid futures contracts of certain financial and commodities futures markets. The index therefore seeks to reflect the performance of strategies and exposures common to a broad universe of futures markets, i.e., managed futures beta.

DEFINITIONS

Annualized Return: The average amount of money earned by an investment each year over a given time period.

Beta: A measure of an investment’s sensitivity to market movements.

Compound Annual Growth Rate: The year-over-year growth rate of an investment over a specified period of time.

Convexity: Convexity of a series to a benchmark can be measured in any of three ways: 1. The differential between the correlation of the series to the benchmark across up periods for the benchmark vs. down periods. 2. The differential between the beta of the series to the benchmark across up periods for the benchmark vs. down periods. 3. The x-squared coefficient in a quadratic regression of the series against the benchmark.

Correlation: A statistical measure of how an index moves in relation to another index or model portfolio.

Kurtosis: A statistical measure used to describe the distribution (often “peaked” or “flat”) of observed data around the mean.

Maximum Drawdown: The greatest peak-to-trough decline during a specific period of an investment.

Maximum Runup: The greatest trough-peak increase during a specific period of an investment.

R-Squared: A measurement of the relationship between a portfolio and its benchmark.

Sharpe Ratio: A measurement of risk-adjusted performance which subtracts the “risk-free” rate of return from an investment’s performance.

Skewness, or “Skew”: An asymmetry distribution, in which the curve appears distorted or skewed either to the left or to the right. Skewness can be quantified to define the extent to which a distribution differs from a normal distribution.

Standard Deviation: A measurement of the annual rate of return’s dispersion from its mean, indicating an investment’s volatility.

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