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# Overview

- ✓ Atorus utilizes a systematic methodology for investing across a global universe of highly liquid securities
- ✓ The target return objective is gross average annualized returns of 24% with a Sharpe Ratio of 1.2X
- ✓ The investment strategy is scalable, highly liquid, and transparent which aims to minimize downside volatility and generate consistent returns
- ✓ The founders Michael Fowler and Joshua Levy have worked together for 7 years, developing and employing a risk-conscious and proprietary dynamic trading methodology
- ✓ Atorus is headquartered in Weston, MA as a Registered Investment Advisor in the state of Massachusetts
- ✓ Atorus is in its pre-launch phase, targeting an initial capital raise of \$100m for a launch date of Q4 2014

# Founding Partners

The Founding Partners of Atorus met in 2006, when they began collaborating on research and development of what are now the underlying insights of the Atorus trading methodology.

Diverse backgrounds and experience combined with complementary skill sets is the foundation for creating, developing, and growing the Atorus trading methodology into a global, leadership-driven asset management business.

**Michael J. Fowler** – Partner & Chief Investment Officer  
*(trading, position level analysis and quantitative systems development, risk management)*

Michael's career has been focused on understanding the nuances of complex financial systems and other markets. In 2007 Michael was the Co-Founder and Senior Portfolio Manager at Red Dot Trading, LLC, where in cooperation with Joshua, he was responsible for the day to day trading of a sector specific core listed-equity book. Prior to this, he was the Director of Structured Products & Finance at The Geneva Group in New York where he was responsible for developing financial structures to provide bank-regulatory capital relief solutions given Basel II risk re-weightings. Michael also focused on project and acquisition financings primarily in the infrastructure, real estate and energy industries, including the acquisition of London City Airport by various European banks. He began his financial career at the age of 14 as a runner for the American Stock Exchange and at the age of 16 was hired by the hedge fund MHG Capital as an equity and equity derivatives trader. Michael is an avid ultra marathoner who runs 50 and 100 mile+ races.

**Joshua L. Levy** – Partner & Chief Executive Officer *(quantitative systems development and implementation, operations and trading)*. Joshua has largely focused on understanding what makes companies grow and prosper and bringing simplicity and systematic thinking to complex processes. Since 2002 Joshua has been instrumental in directing and supporting the growth of Round Hill Capital a European investment / asset management company that has invested more than \$6B USD in capital. In 2007, Joshua co-founded Red Dot Trading, LLC with partner Michael Fowler.. Joshua was also the Director of Private Investments at MUUS Asset Management, a Connecticut-based private equity firm, where he was responsible for the operational restructuring and management of portfolio companies in the real estate, automotive, and energy industries. Prior to MUUS Asset Management, Joshua worked at Alvarez & Marsal Europe where he focused on advising distressed international companies and their debt restructurings. In 1996, he founded Creative Ideas International, a consumer goods distribution and marketing firm in Eastern Europe, which he then sold to a NYSE listed company in 2001. Recognized as a global operations and turnaround expert, he holds an MBA from the MIT Sloan School of Management and a BA from Vanderbilt University. Joshua is an enthusiastic ice hockey goalie and has played for teams in the USA, Poland and Norway.

# Investment Strategy

*Atorus is a global multi-strategy fund with a systematic bias that hinges on Price Movement and Volatility.*

## HOW?

- In any one time, the Fund invests in 400+ highly liquid positions globally across multiple asset classes
- Each position is systematically chosen to **minimize** risk by taking into account **volatility, randomness, low correlation** and **asset class diversification** to deliver profits for investors in up and down markets
- The effective diversification of the portfolio dampens the downside volatility of returns while minimizing negative impact on profitability
- *Within* the portfolio, directional bets are taken on individual positions via systematic trade management
- Atorus cuts beta on losing positions and lets winners run
- Atorus targets a Profit Factor\* of 2.5X and a Win Ratio\*\* of > 40%. *The magnitude of winners more than offsets losers*
- *Systematic Trade Management* on individual long and short positions is driven by analysis of TIME and VOLATILITY
- Historical 20-year backtest of 23.66% gross IRRs, a Sharpe ratio of 1.2, and with 88% positive rolling yearly returns (See *Track Record* for details)

\* Profit Factor: The ratio of the avg. realized gain on a profitable trade divided by the average realized loss on a losing trade

\*\* Win/Loss Ratio: The percentage of profitable trades

# Investment Methodology

The Atorus investment methodology utilizes 3 discrete investment modules.



**Portfolio Construction**



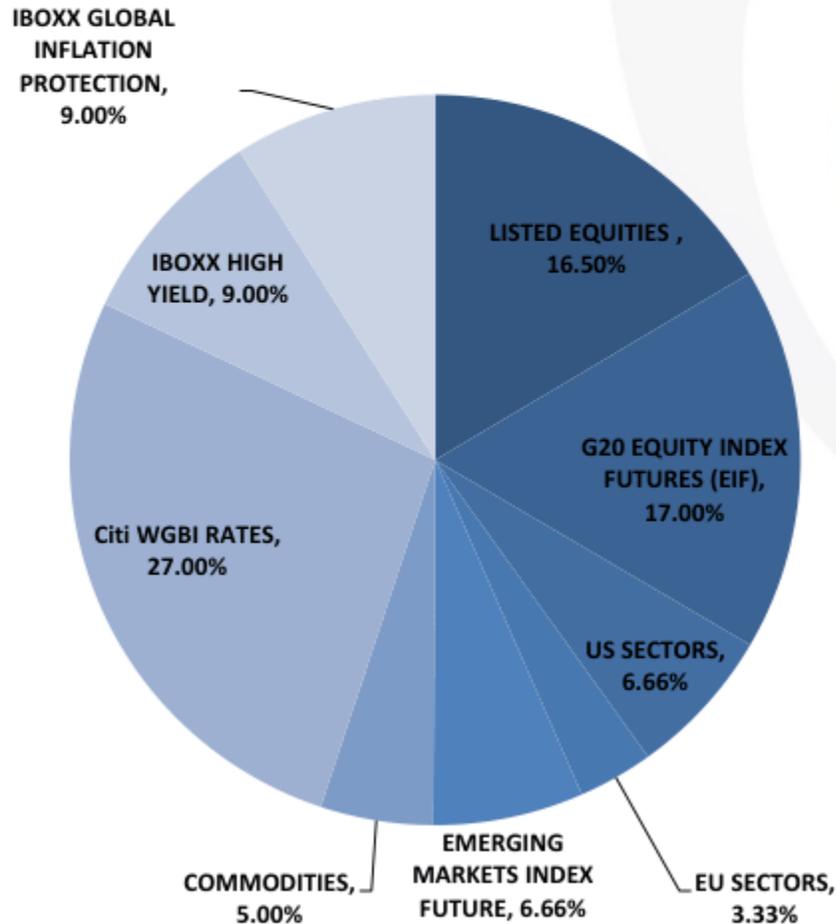
**Directional Bias of Individual Positions & Timing**



**Risk Control**

# Investment Methodology

## Portfolio Construction



- Portfolio construction is both systematic and dynamic
- The goal is to *maximize randomness*, *minimize basis and attribution risk*, and construct a portfolio to *mitigate correlation*
- We define 'risk' not as notional dollars of exposure, but rather based upon the continuously updated realized volatility. High volatility assets receive lower dollars of exposure versus lower volatility assets
- We target an annualized portfolio volatility, and then allocate the risk among the following categories

# Investment Methodology

## Directional Bias of Individual Positions & Timing

- Determining the directional bias and profiting from 'large' movements, whether long or short, is the foundation of the strategy
- Subjective factors are removed in favour of Atorus' disciplined, systematic approach
- Proprietary calculations of changes in realized volatility and price movement alter the **timing** of entry and exit.
  - Volatility scales. *As volatility increases our perspective is tightened, allowing for a quick reaction on the directionality of an individual position*
  - This protects the Atorus portfolio against a common event where profits which took 6 months to achieve are not lost in 30 days
  - *In simple terms, if realized volatility is not changing, portfolio positions are maintained so as not to sell at the bottom and buy at the top of mini trends*

# Investment Methodology

## Directional Bias of Individual Positions & Timing (cont.)

- Atorus does not establish any arbitrary targeted net directional bias for the portfolio or for any subsector of the portfolio. Atorus does not generally short rates or other credit instruments
- Portfolio bias is generated by the aggregate of our individual position bias rather than any defined targets – if Atorus is expressing a particular net-directional bias, it is likely we are experiencing *outsized profits* across multiple positions
- Key Points:
  - ✓ Mean reversion is against the ethos of our strategy given average trade duration of 100 periods
  - ✓ No moving averages or technical analysis
  - ✓ Keep losers small and winners big
  - ✓ Time is always a variable
  - ✓ No 'trend' following
  - ✓ Low turnover of positions.

### Atorus Proprietary Research

**“Volatility Scales.” Changes in realized volatility alter the speed at which the price of a security can change.**

*In 14,363 daily observations of the S&P500, which includes The Cuban Missile Crisis, Inflation of the 1970s, S&L Crisis, LTCM, 9/11, Tech Crash, and the Financial Crisis, our predicted max volatility in the next period is only exceeded 177 times or 1.23% of the time, with no clustering of these outcomes. When exceeded, the average error is only 26% more than the prediction.*

# Investment Methodology

## Risk Control

Risk control is achieved by systematically managing:

- *Position Entry/ Exit Points:*
  - Minimum of 10 days entry and exit - 'smoothing the noise'
- *Portfolio Leverage:*
  - Anticipated average gross leverage (notional risk exposure / NAV) of 3.8 X (can be tailored for each investor)
- *Position Sizing:*
  - Designed to limit downside risk
  - No human discretion
  - Realized volatility of security determines the size of an allocation
  - Calculated for potential maximum targeted impact loss and a balanced positive impact from winners to NAV
  - Position sizing increases as winners are leveraged in declining notional amounts at target price levels informed by realized volatility
- *Rebalancing:*
  - The portfolio is rebalanced as realized volatility of the individual positions change. The goal is to keep a consistent targeted annualized volatility, irrespective of the volatility environment of the broader markets

# Investment Methodology

## Risk Control (cont.)

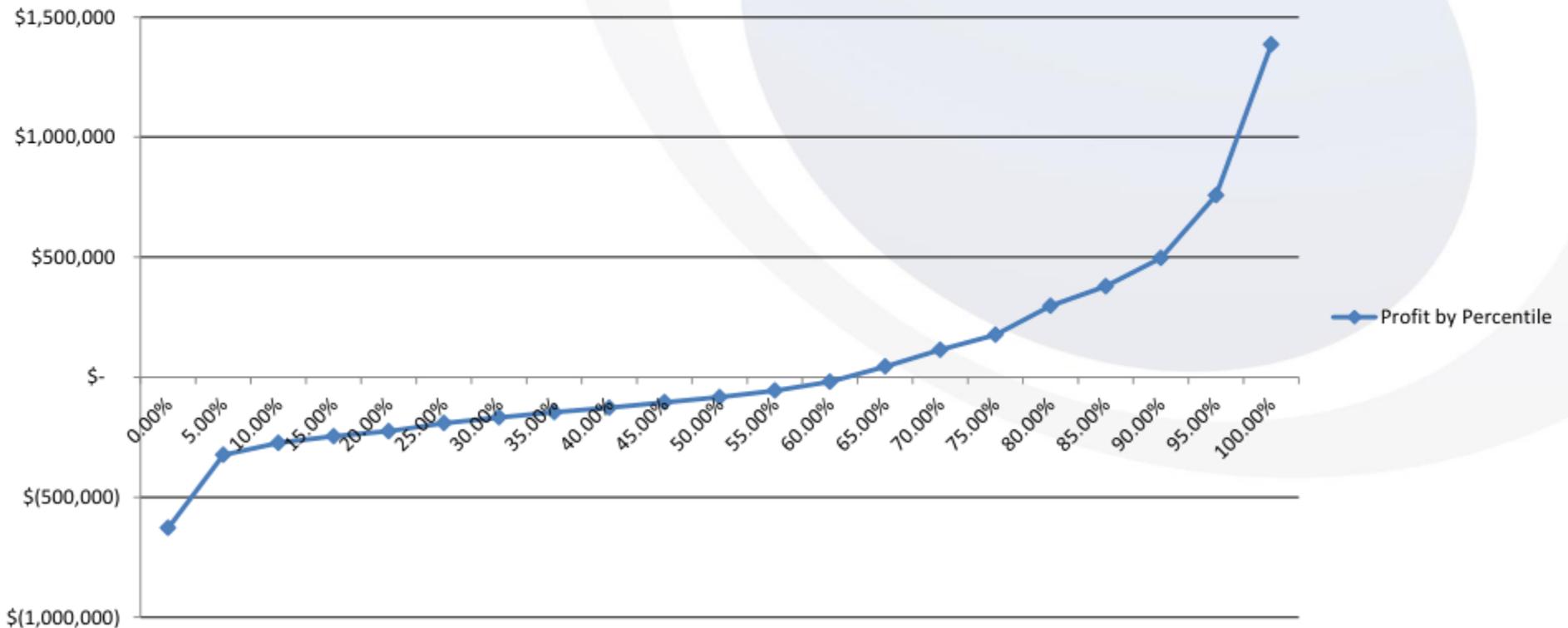
- *Portfolio Drawdown Risk Reduction:*
  - If the portfolio experiences certain decreases from peak NAV, subsequent new positions are systematically 'penalized' in terms of the amount of notional dollars of risk
- *Portfolio Excess Directionality Risk Reduction:*
  - If the portfolio begins to experience predefined 'excess' directionality in either the Rates or Non-Rates portion of the portfolio, subsequent new positions are systematically 'penalized' in terms of the amount of notional dollars of risk
- *Turnover & Average Hold Period:*
  - Portfolio turnover is estimated to be 3.5 X per year
  - Average hold period for positions is 100 days. Alpha is generated on moves of 20-30 X average realized vol, which generally does not occur over short time intervals
- *Stop Outs & No Dollar Cost Averaging:*
  - All positions have stop-outs, which are recalculated daily and relative to the realized volatility of the position
  - Never dollar cost averaging. Keep losers small and winners big

# Key Differentiating Factors

- ✓ Cohesiveness; The Partners have worked and traded together since 2007. Their backgrounds, experiences and strengths are different & complimentary
- ✓ The managers have a deep understandings of complex systems and trading. They have both respect for market forces and dedication to discipline, order, and operational excellence
- ✓ A unique investment approach combines three discrete investment modules; portfolio construction, the directional bias of individual positions and timing, and strict and methodical risk control
- ✓ Measurement of return is on an absolute basis.
- ✓ No risk of style drift
- ✓ Our focus is on achieving high absolute returns, with proportionally low downside volatility
- ✓ Strategy can be tailored to specific investor's annualized volatility targets
- ✓ Daily exposure, MTM and profit data are available for each security for each day of our 20 year simulation upon request

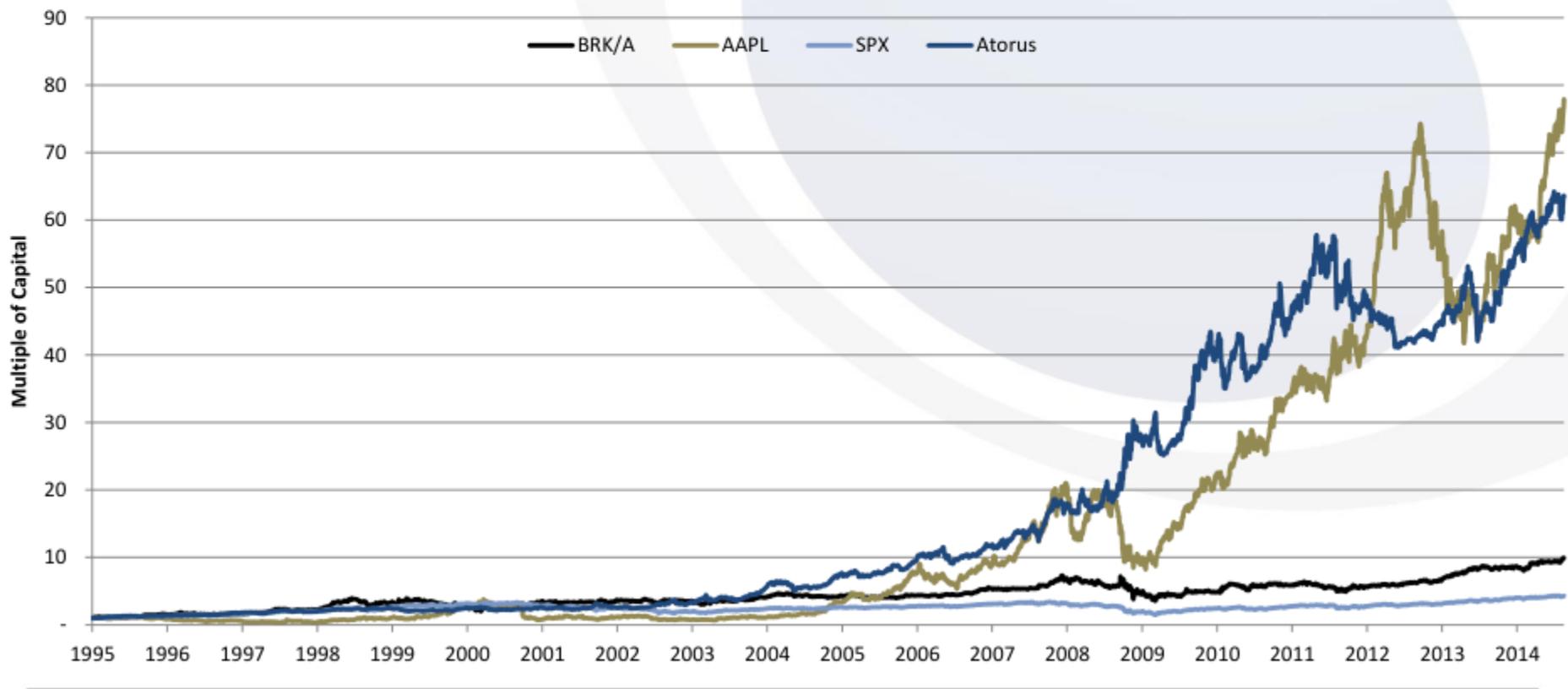
# Previous Track Record

- The team managed a \$50million (avg. notional risk of \$100MM) portfolio for a European Bank from September 2011 to June 2013.
  - ✓ Sector specific mandate experienced low correlation to broader markets even during market declines.
  - ✓ Track record is non-portable as it is derived from a managed account and part of a broader portfolio.
  - ✓ Win ratio of 38% achieved.
  - ✓ Realized profit factor of 2.25X
  - ✓ Generated positive returns on months with large market draw downs (September 2011, May 2012)
  - ✓ Below is the percentile distribution of realized gains and losses on a per trade basis, showing how losses were kept small relative to winners.



# 20 Year Simulation

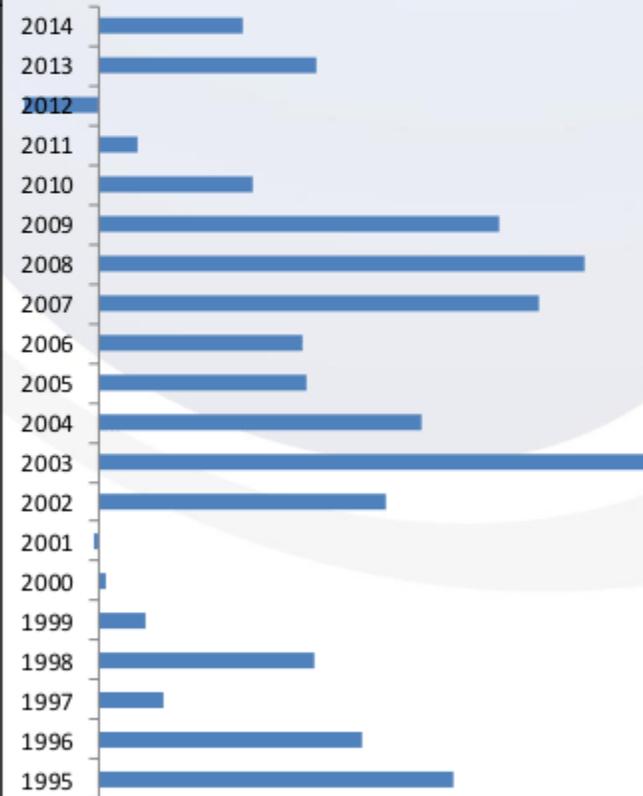
- 20 year simulation encompassing nearly 1,200 securities (see/request *Simulation Assumptions* regarding transaction & slippage costs, etc. or to see position level exposures and underlying formulas)
- Gross IRRs of **23.66%** with Sharpe Ratio (daily) of **1.2X**
- Outperforms SPX Index by **60X** over period
- Low turnover with average trade signal duration of 100 days
- No in-sample optimization , Machine Learning techniques, Genetic Algos, or Feed Forward Neural Networks



# 20 Year Simulation (cont.)

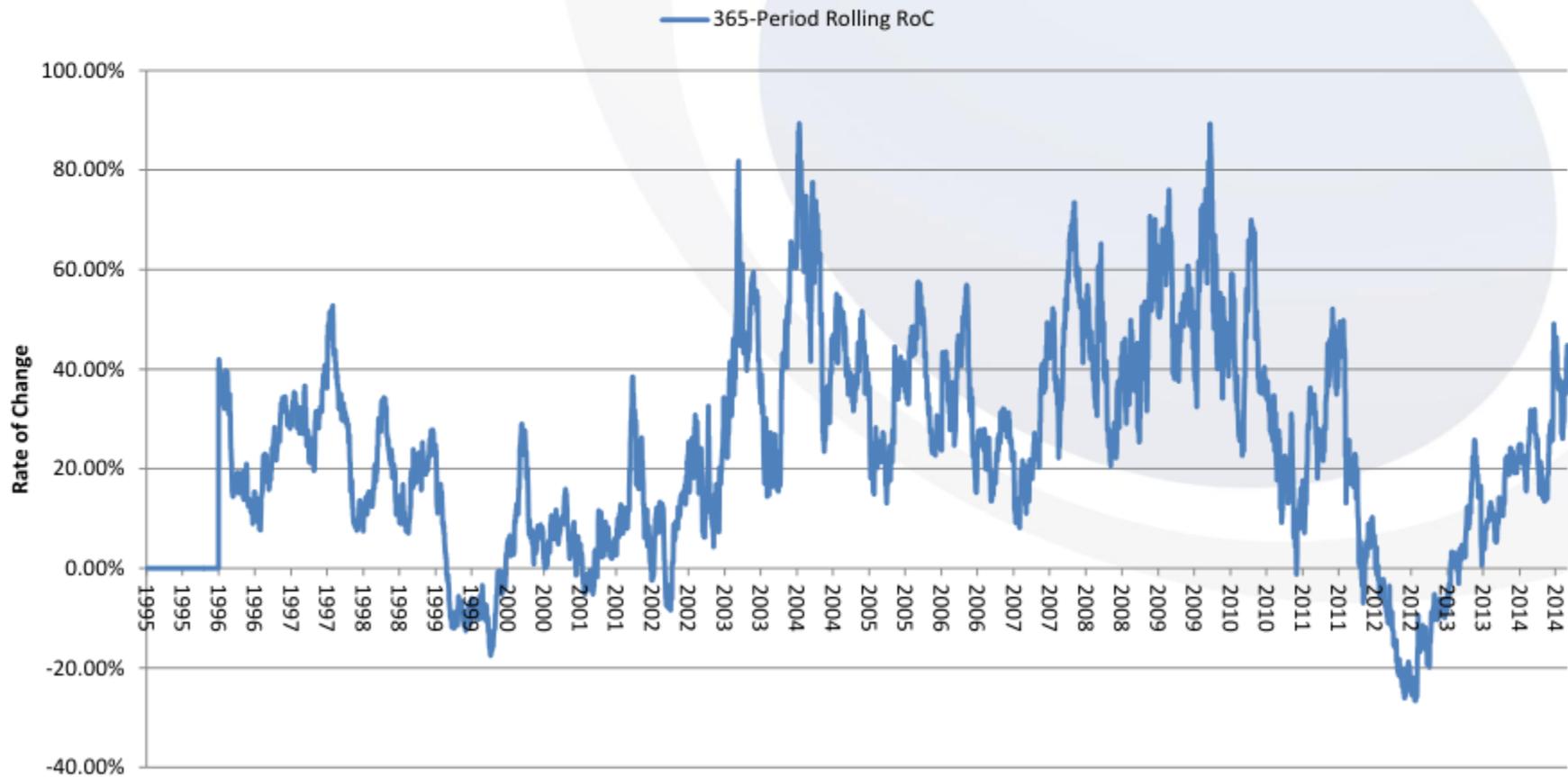
- 54 of 78 positive quarters, with best quarter 2X magnitude of worst quarter
- Best calendar year of 63.5% , two down calendar years, and worst down 8.47%

<i>Descriptive Statistics</i>					
Historical Daily Sharpe	1.19		Positive Years	18	
Positive Quarters	54		Negative Years	2	
Negative Quarters	24				
	Q1	Q2	Q3	Q4	Year
2014	6.04%	8.28%			16.50%
2013	4.47%	-5.68%	11.04%	14.16%	24.91%
2012	-7.34%	-7.99%	3.26%	3.98%	-8.47%
2011	10.71%	6.29%	-6.29%	-5.19%	4.55%
2010	2.87%	-7.12%	17.14%	5.13%	17.66%
2009	-3.85%	7.39%	30.82%	7.78%	45.60%
2008	2.33%	8.73%	10.70%	26.01%	55.21%
2007	5.99%	10.08%	21.54%	5.80%	50.03%
2006	9.93%	-7.98%	7.92%	12.96%	23.32%
2005	-4.10%	4.90%	14.60%	7.28%	23.68%
2004	13.82%	-12.33%	5.12%	30.47%	36.86%
2003	13.54%	-0.88%	11.27%	30.59%	63.54%
2002	-5.54%	16.67%	24.54%	-3.21%	32.84%
2001	-0.29%	-11.01%	35.04%	-16.96%	-0.50%
2000	-2.01%	-10.95%	4.68%	10.43%	0.87%
1999	-16.41%	6.61%	-1.50%	20.02%	5.36%
1998	15.88%	2.92%	9.10%	-4.20%	24.65%
1997	-4.92%	19.02%	1.33%	-6.26%	7.48%
1996	0.41%	6.53%	5.37%	15.29%	29.95%
1995	19.97%	8.09%	-0.22%	8.55%	40.46%



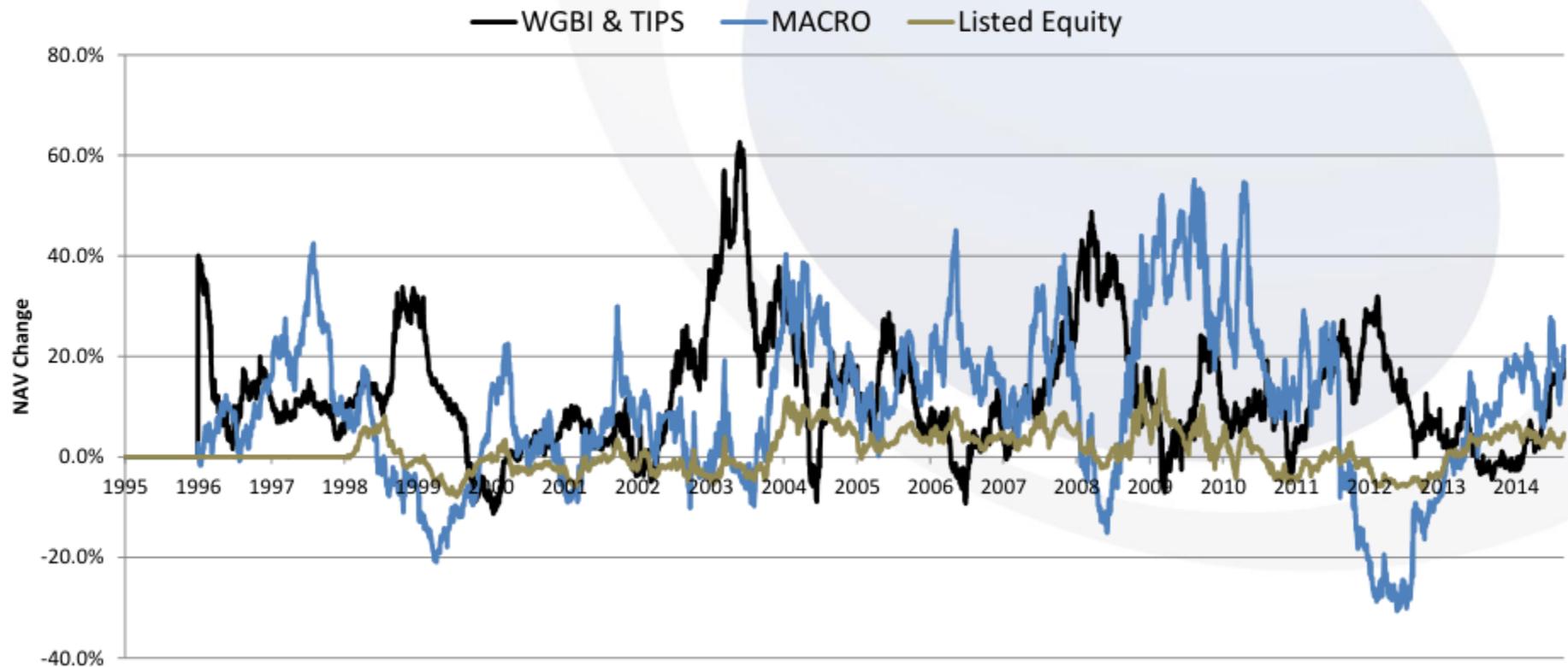
# 20 Year Simulation (cont.)

- 88% positive rolling 365-period returns.



# 20 Year Simulation (cont.)

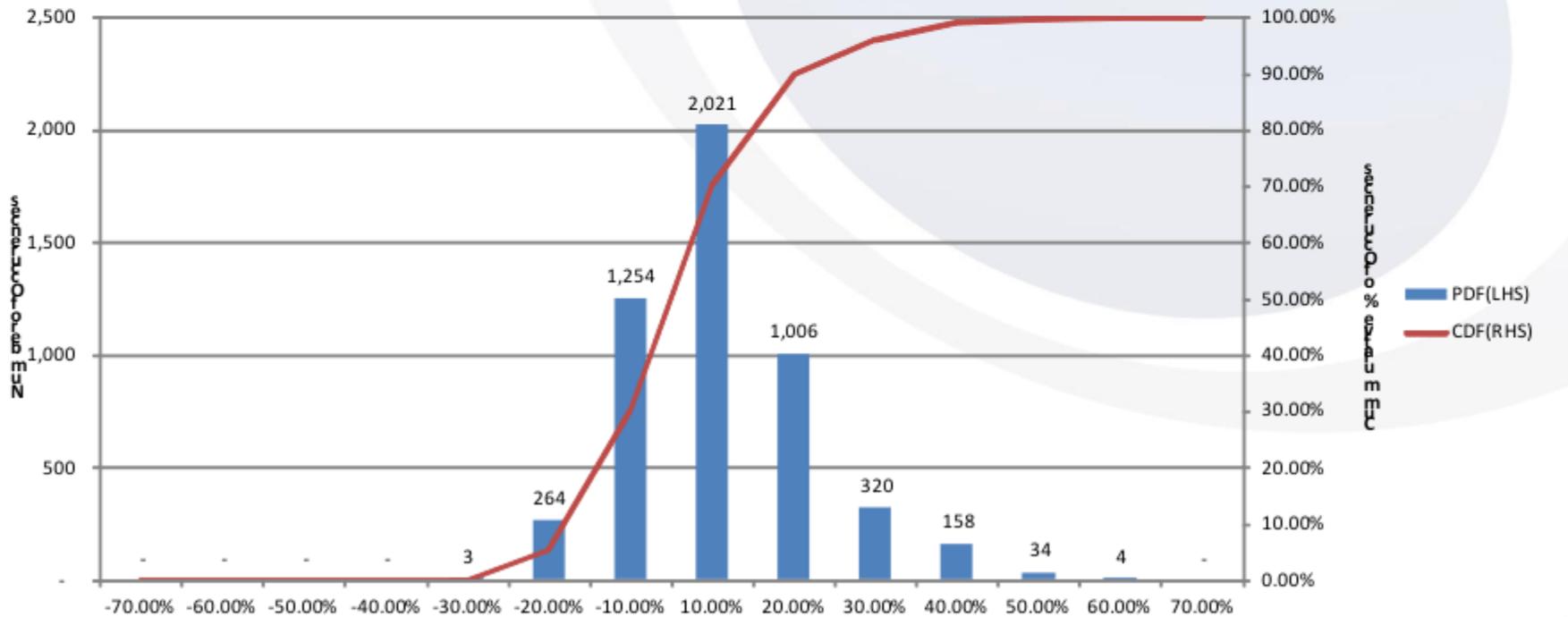
- *Impact in NAV percentage points by category over previous 365days* – Shows multiple and constantly shifting sources of alpha, validating robustness of methodology



# 20 Year Simulation (cont.)

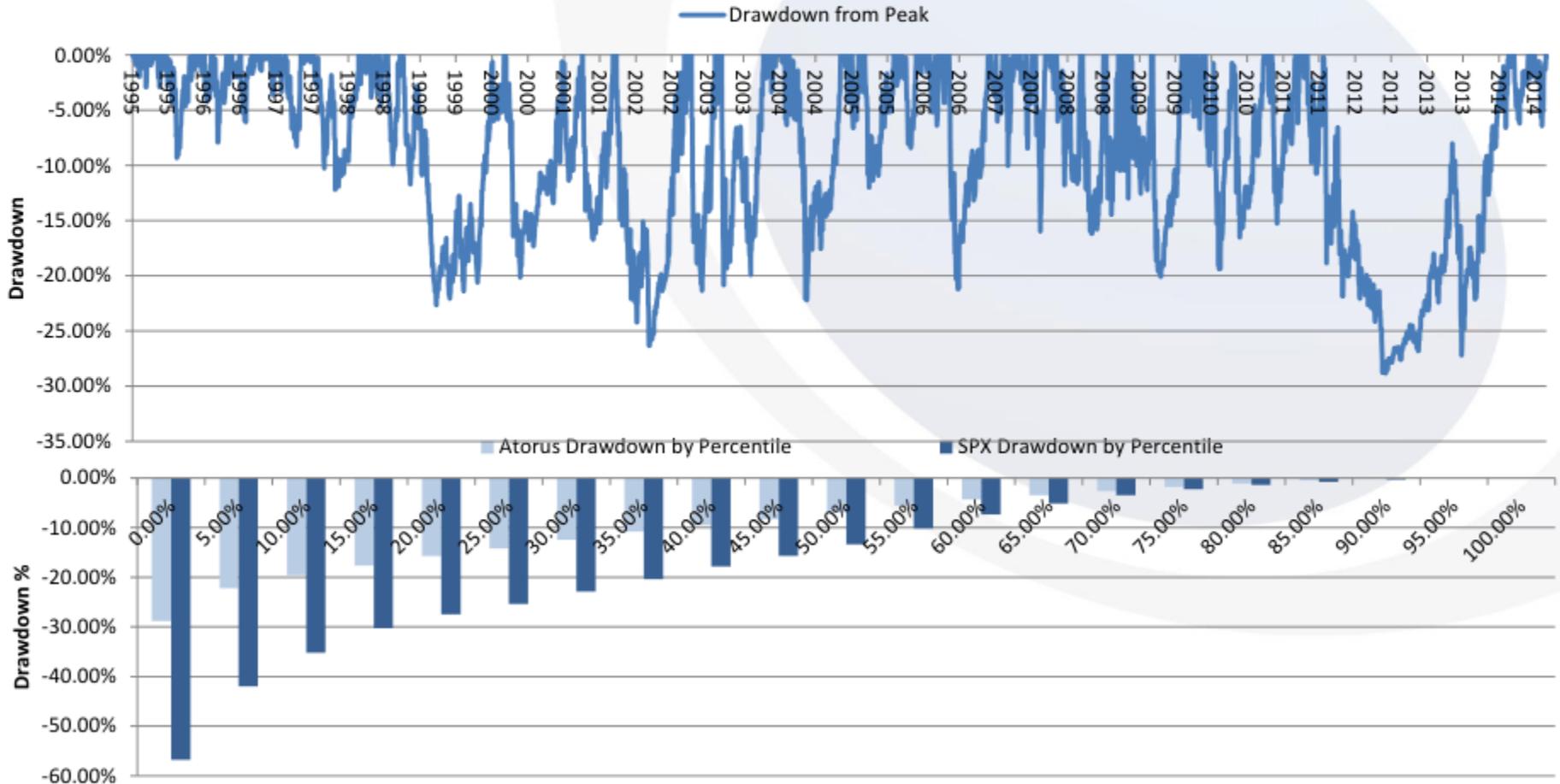
- 90 Period Return Probability Distribution - Given risk management systems and general trading strategy, positive returns show increasing autocorrelation with an increase in the time interval

Descriptive Statistics					
Avg. 90 Period Positive RoC	11%	% Positive RoC	70%	Excess Kurtosis	0.9355234
Avg. 90 Period Negative RoC	-6%	% Negative RoC	30%	No. of Observations	5,064
Avg. Positive/Avg. Negative	1.82	Skew	0.72		



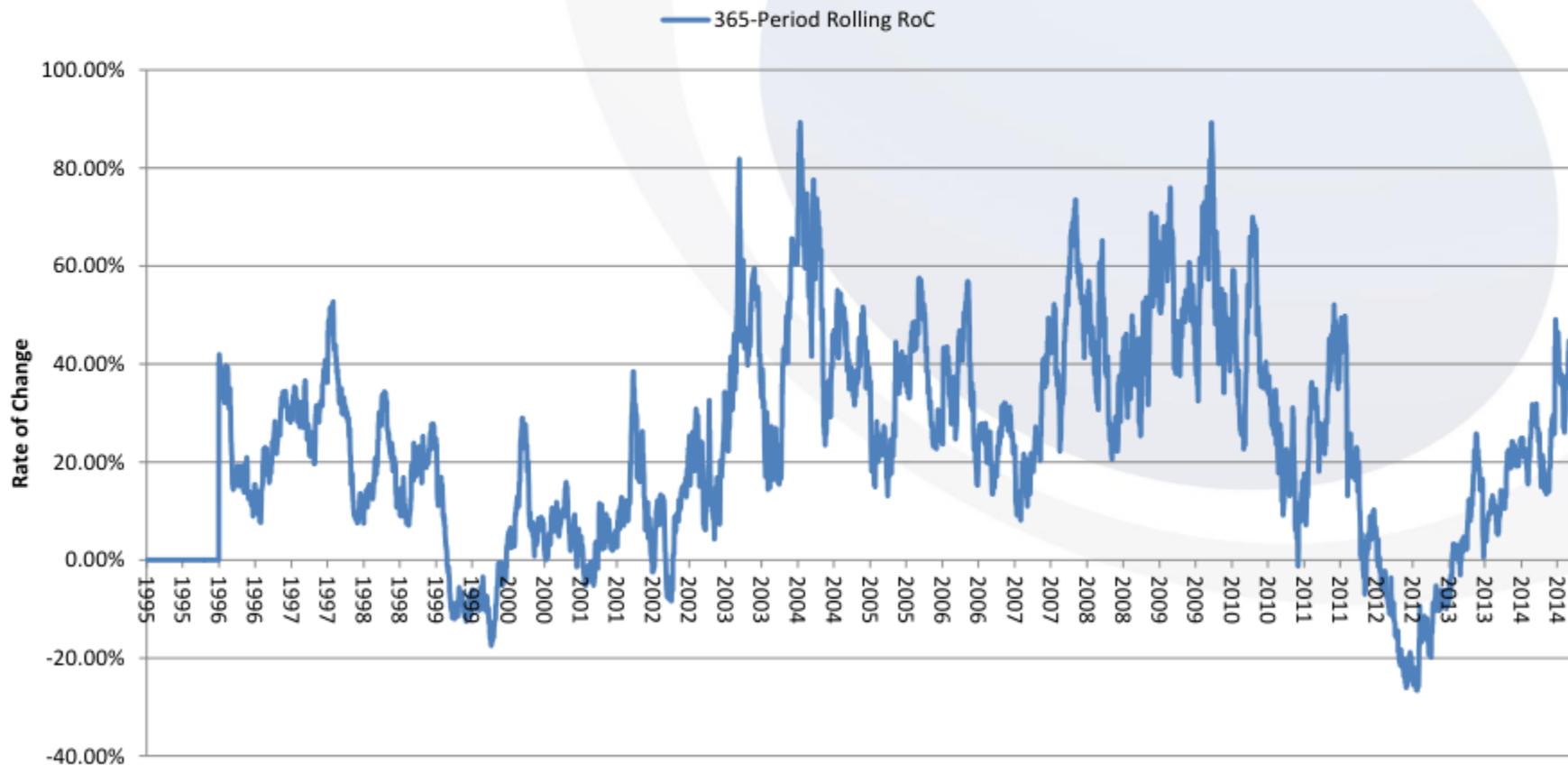
# 20 Year Simulation (cont.)

- Draw downs do not persist. No drawdown has exceeded targeted worst.
- Unlevered-SPX draw downs and downside volatility nearly 2X worse than Atorus.



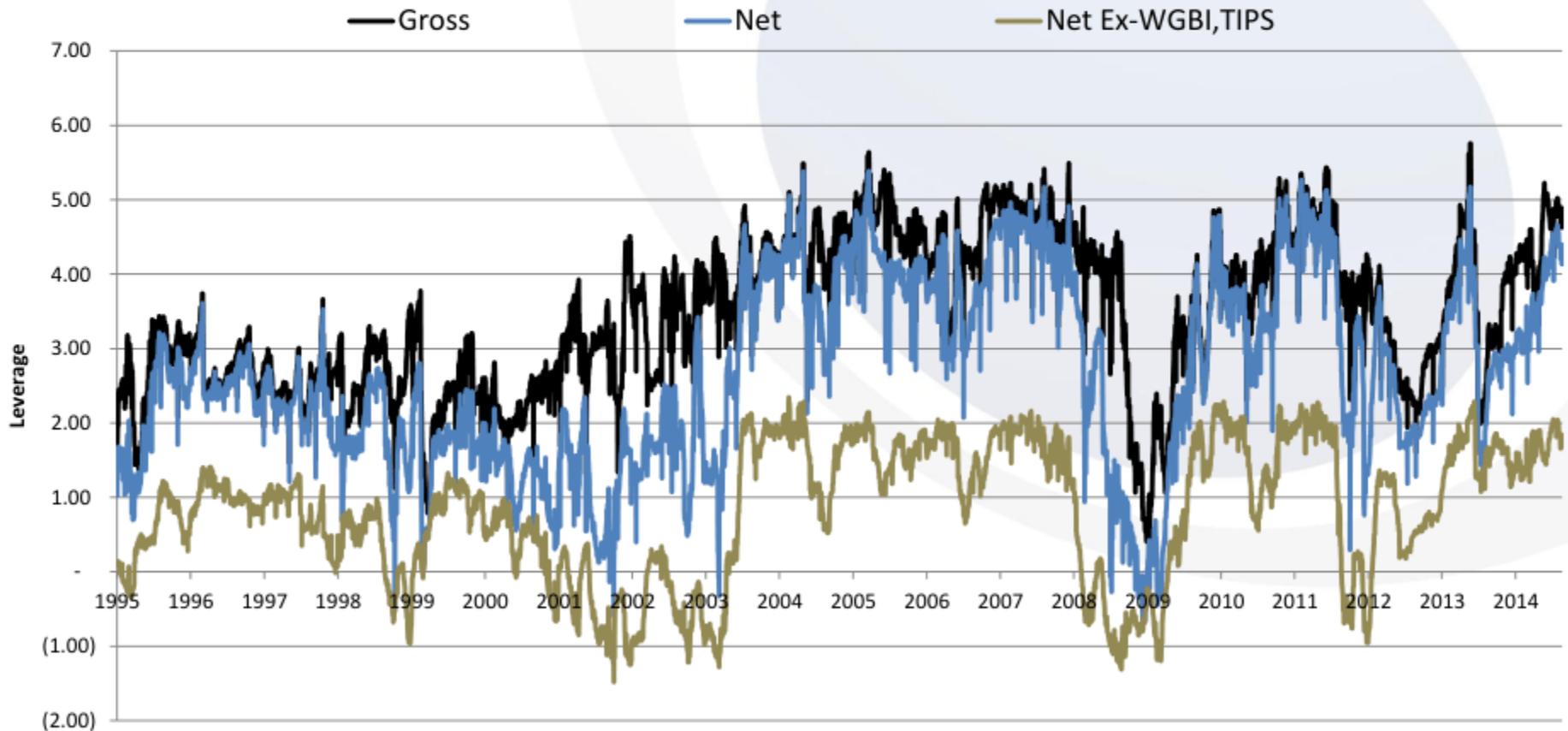
# 20 Year Simulation (cont.)

- The volatility of the Fund mean reverts much faster than broader markets. By design, when realized volatility increases, the portfolio rebalances individual positions to bring the annualized volatility closer to the target.



# 20 Year Simulation (cont.)

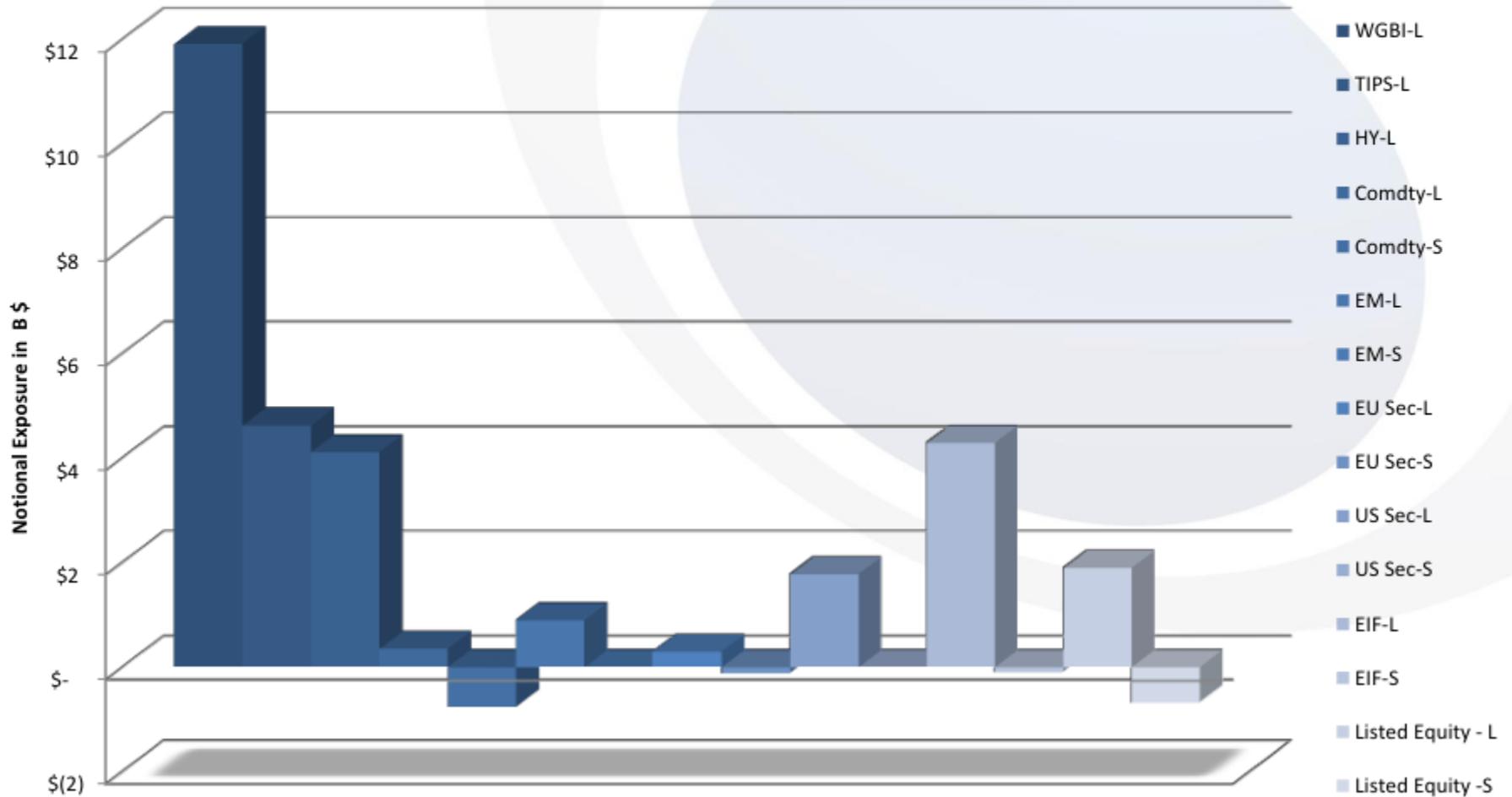
- Leverage changes are driven by either (i) increases or decreases in realized volatility, (ii) decreases due to excess directional exposure, and/or (iii) decreases due to NAV drawdowns
- For example, in our second best calendar year, 2008, an increase in volatility triggered systematic rebalances that resulted in gross exposure reductions without manager intervention



# 20 Year Simulation (cont.)

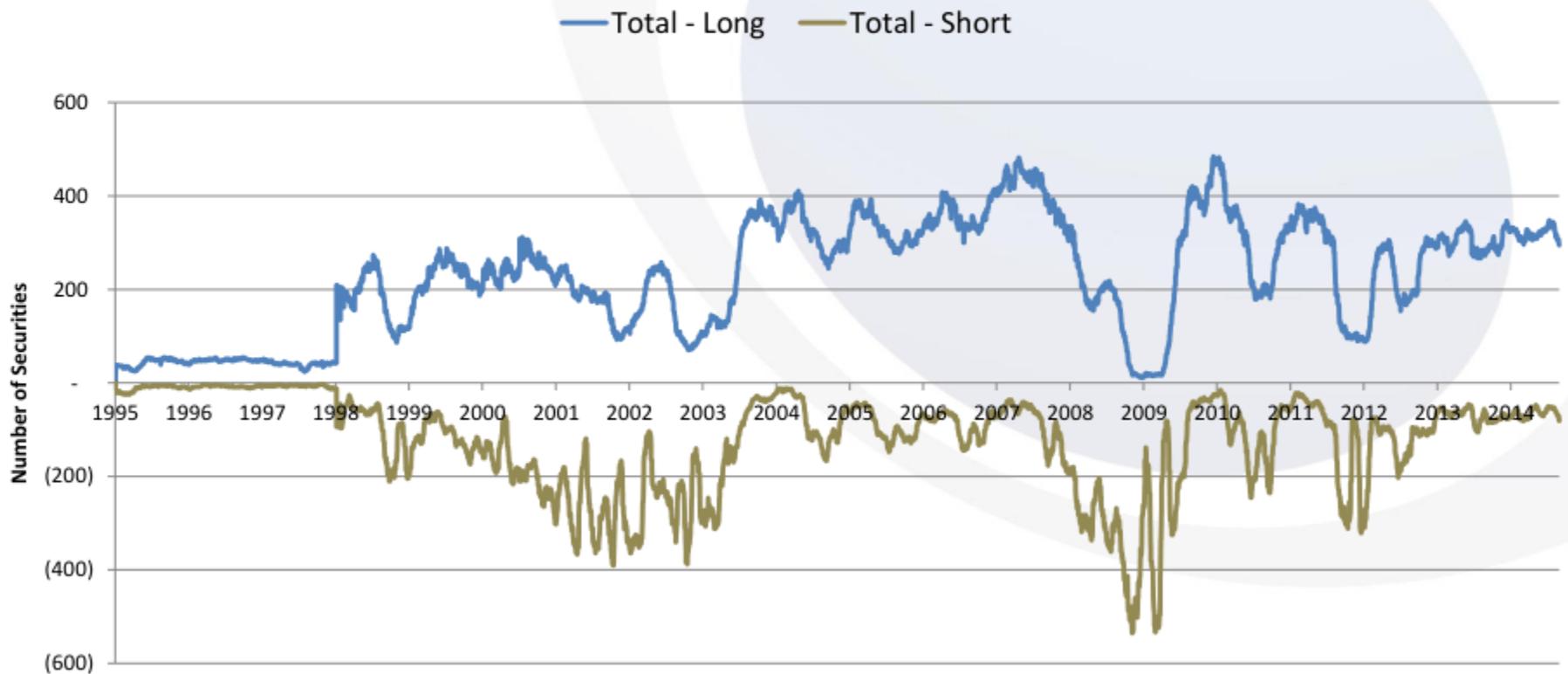


- Historical Decomposition of Exposures* – the following is a snapshot of the portfolio composition by category as of August 29, 2014. Atorus is willing to provide full data series of daily exposures.



# 20 Year Simulation (cont.)

- *Historical Number of Positions Long & Short*



## 20 Year Simulation (cont.)

- By adjusting *Portfolio Drawdown*, *Portfolio Excess Directionality* and *Targeted Max Drawdown* risk parameters we can offer investors their preferred levels of absolute volatility and returns without changing our systematic methodology

	As Shown	Unconstrained	Constrained
<b>Average Annualized Return</b>	24%	34%	12%
<b>Average Annualized Volatility over 20 years</b>	18%	27%	9 %

# Contact Information



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