

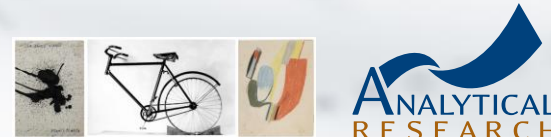


Investing in Hedge Funds Questioning the Status Quo

The current dynamic global economic and societal landscape and its implications for investing.

Why stress absorbing hedge fund strategies need to be considered within an overall institutional strategic asset allocation.

Overview



Today, Hedge Fund investors feel like contrarians

Another contrarian movement, Dadaism, originally an art and literary movement originated in Zürich, Switzerland as a reaction to the onset of the First World War. The artists that led the movement saw the war as a result of degradation of social values that made violence acceptable. It was also an offshoot of unquestioning conformity to culture and thought created and shaped by corrupt nationalist politics and the propagation of oppressive social values. ***Art was used to show disgust towards what is conventional and normative. Subversive and revolutionary ideals reflected in the works of a small group of artists in Zürich, Switzerland*** created new forms of visual and performance art, poetry and images of the world eventually spilled over different parts of Europe

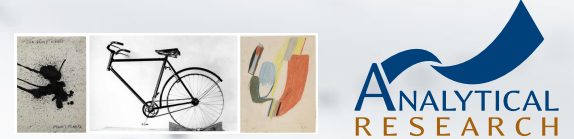
Part 1: Secular Opportunities and Challenges

Part 2: Status Quo

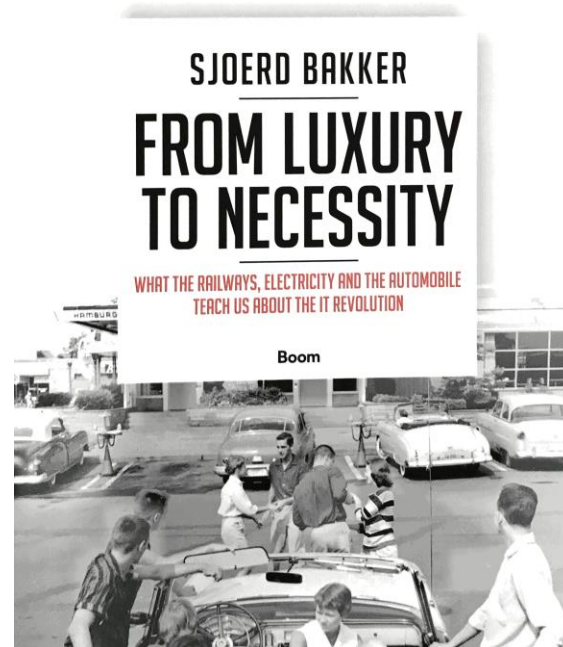
Part 3: Stress Absorbing Hedge Fund Strategies

Secular Opportunities and Challenges

The Big Picture

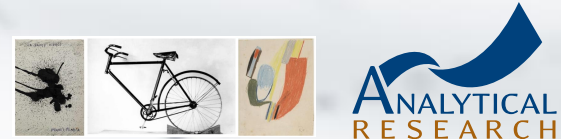


- Strauss and Howe argue that we are living in a world akin to the 1930s with similarities in the rise of authoritarianism (China, Russia, Turkey) and decreased confidence in institutions (education, social security, politics, banks)
- The 1930s was set to the backdrop of the Industrial Revolution while today we are living through an IT revolution.

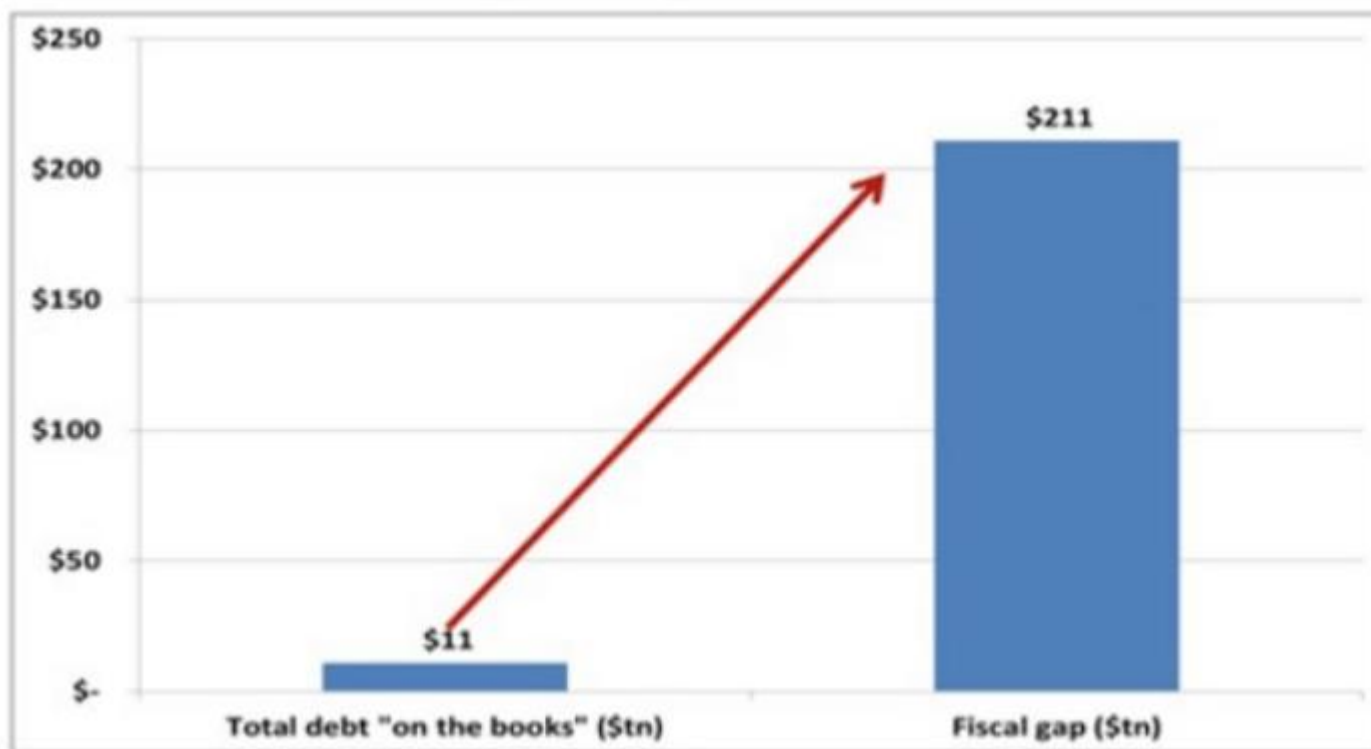


Secular Opportunities and Challenges

US Finances: This looks promising



- The True "Fiscal Gap": If tax rates and the level of generosity entitlement programs remain the same, we have a massive problem ahead. Either taxes need to increase or entitlements need to be pared back.



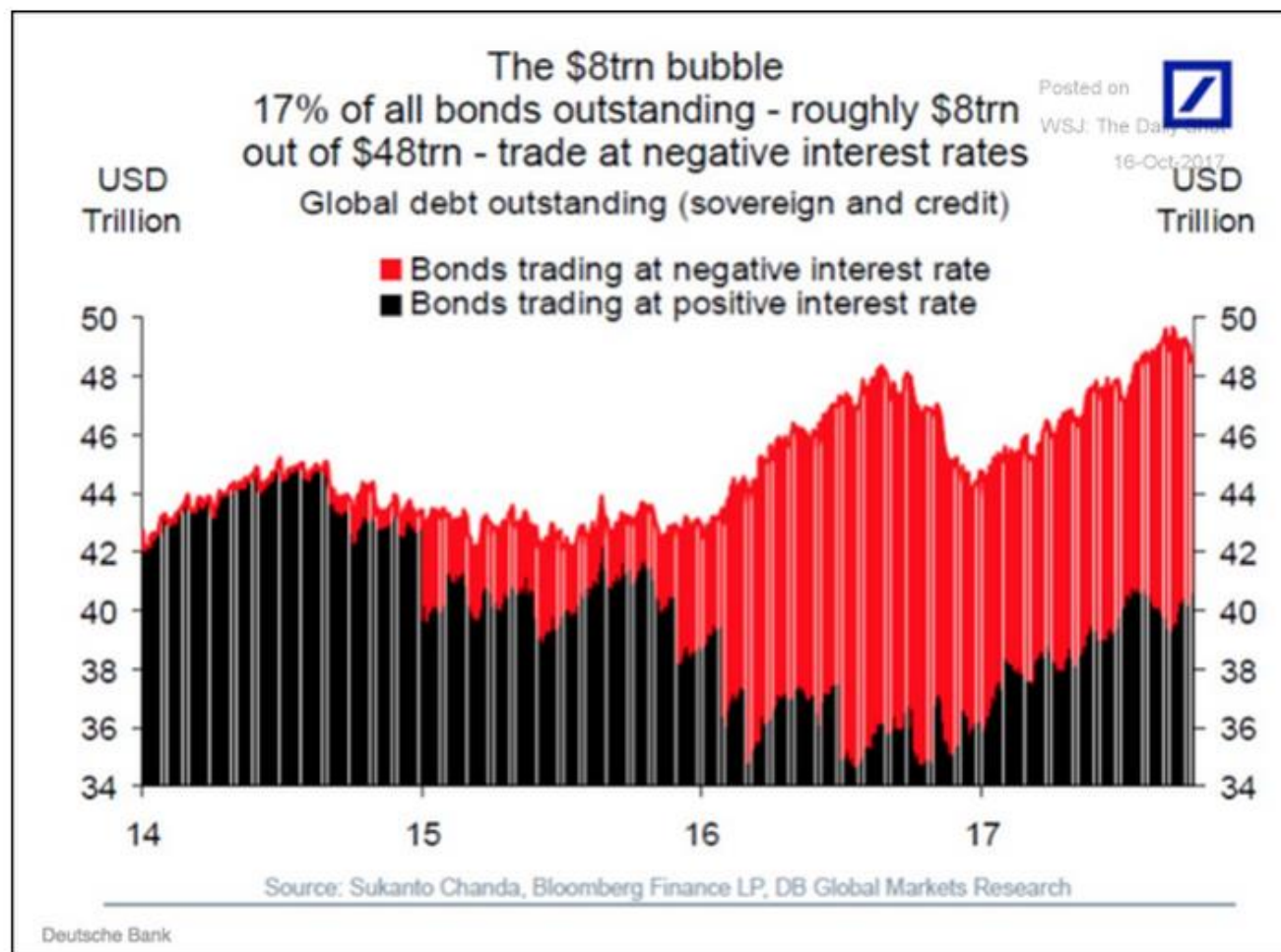
Source: Kotlikoff, 2012

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*The current debt level is \$20T

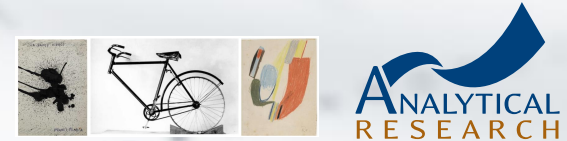
Secular Opportunities and Challenges

Global Fixed Income Markets Make Sense

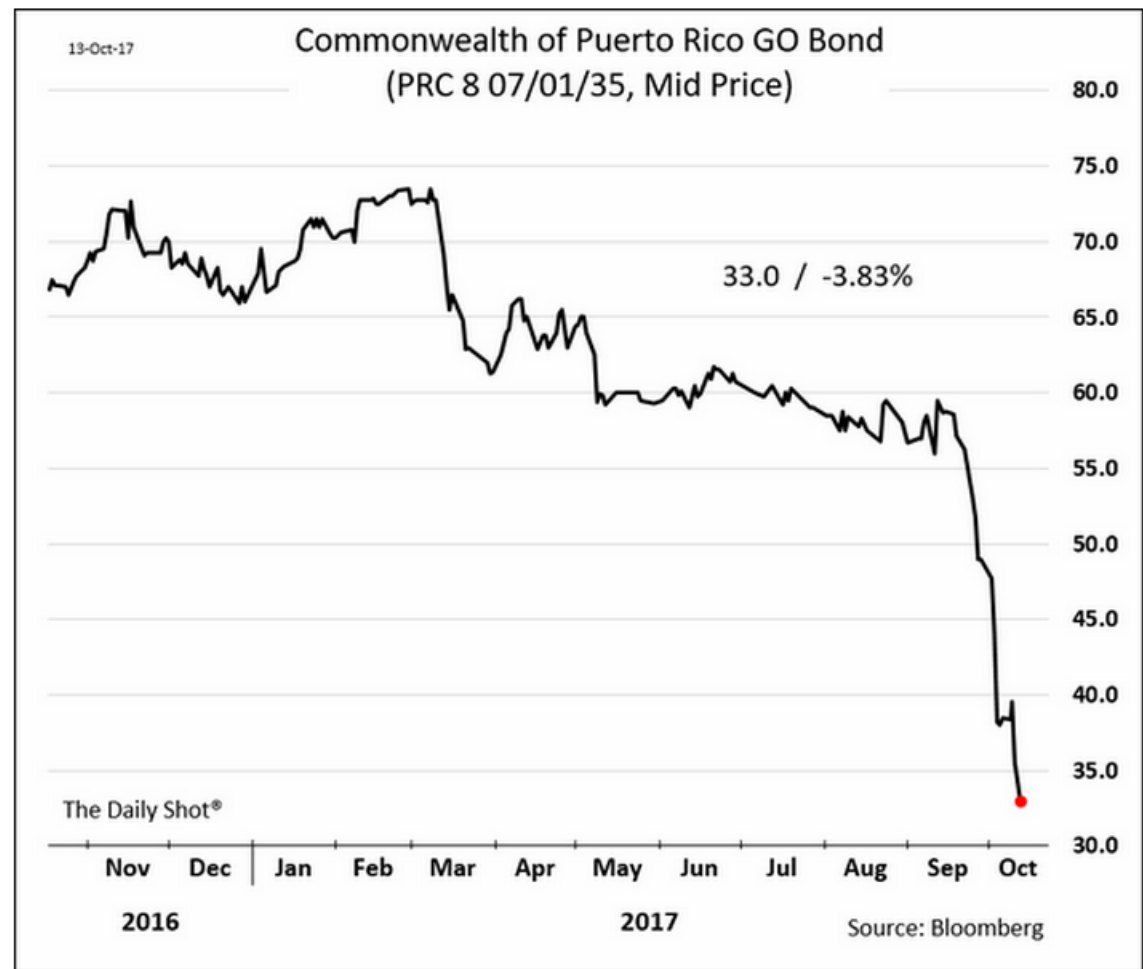


Secular Opportunities and Challenges

Puerto Rico Case Study

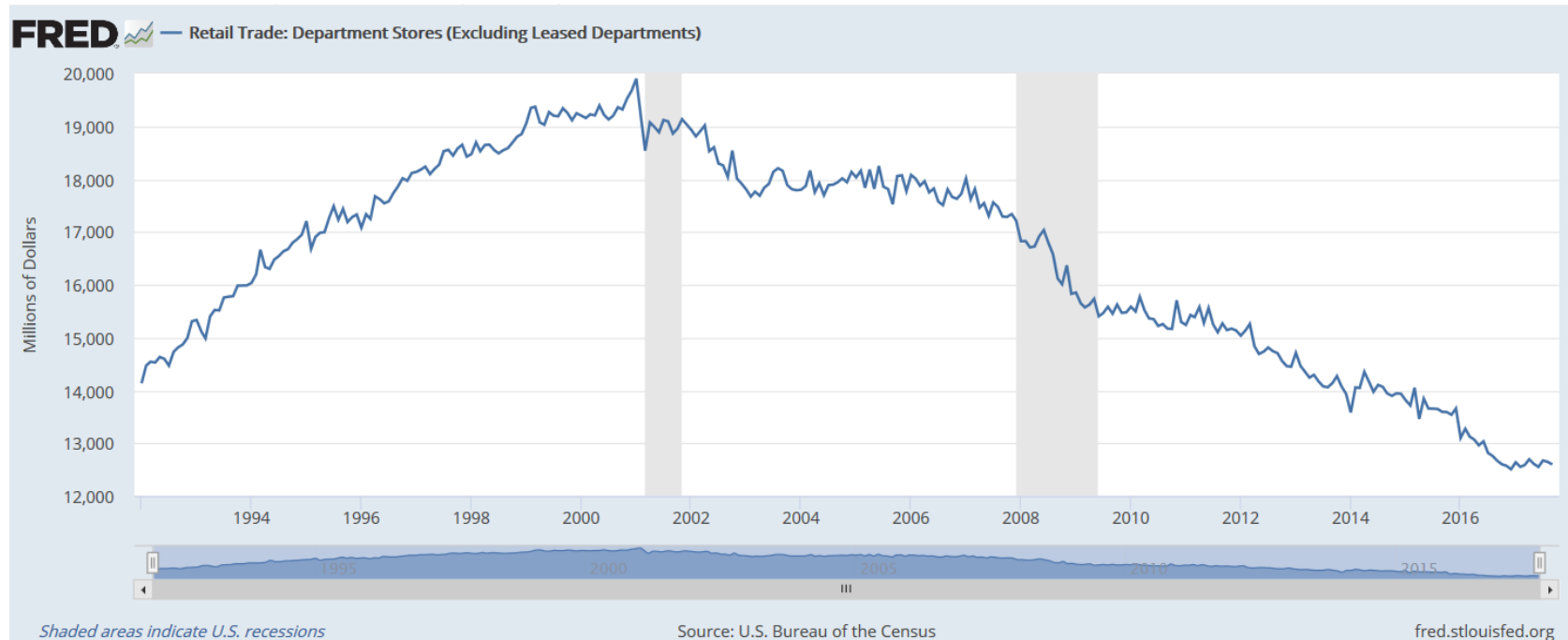
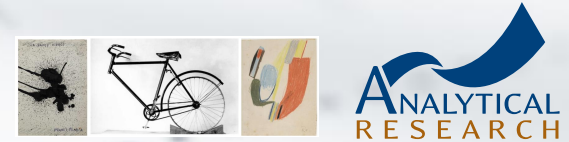


- Implications for sovereign debt
- Pricing the unknown-unknown



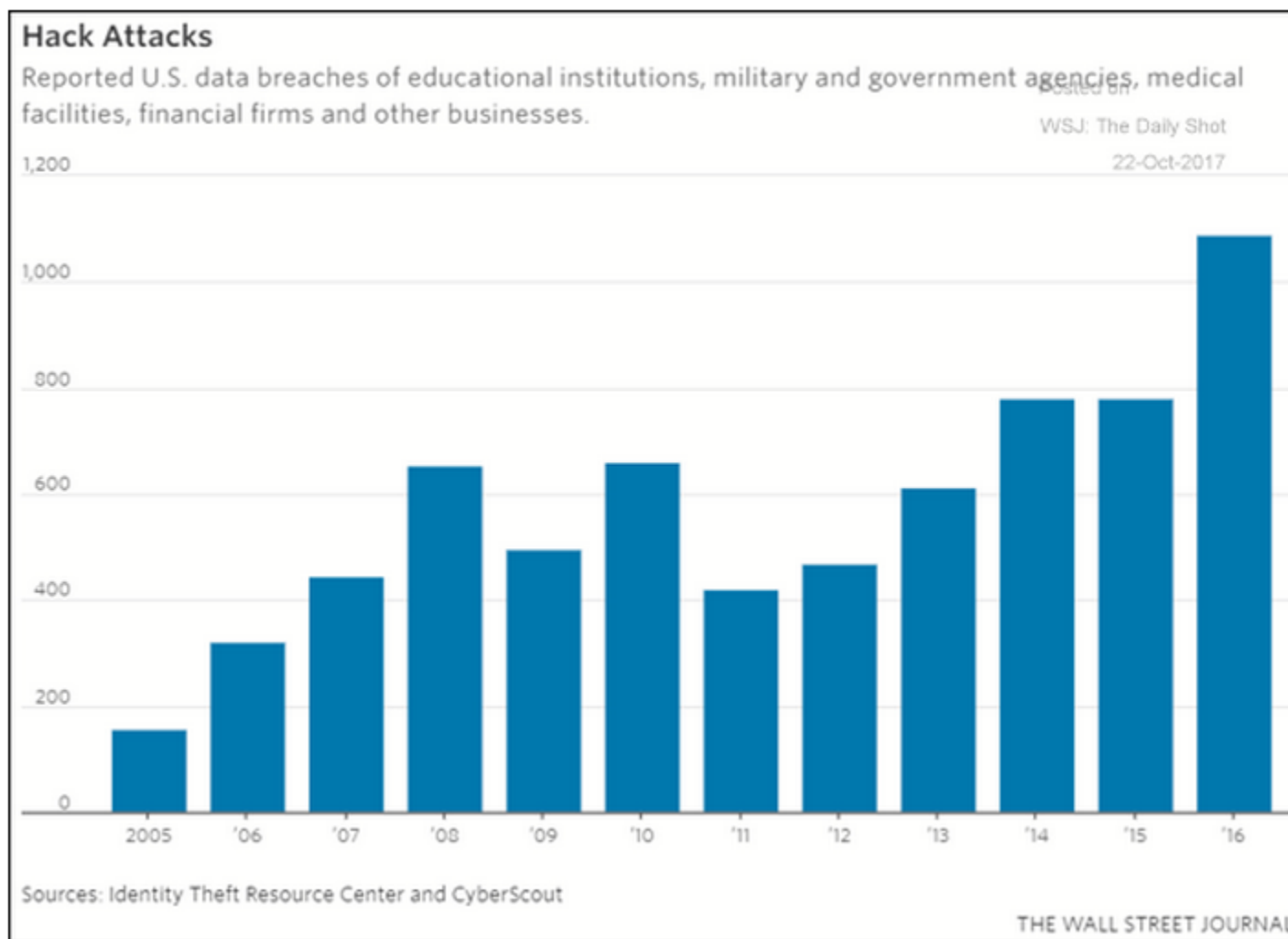
Secular Opportunities and Challenges

Retail Disintermediation is REAL



Secular Opportunities and Challenges

Cyber Warfare

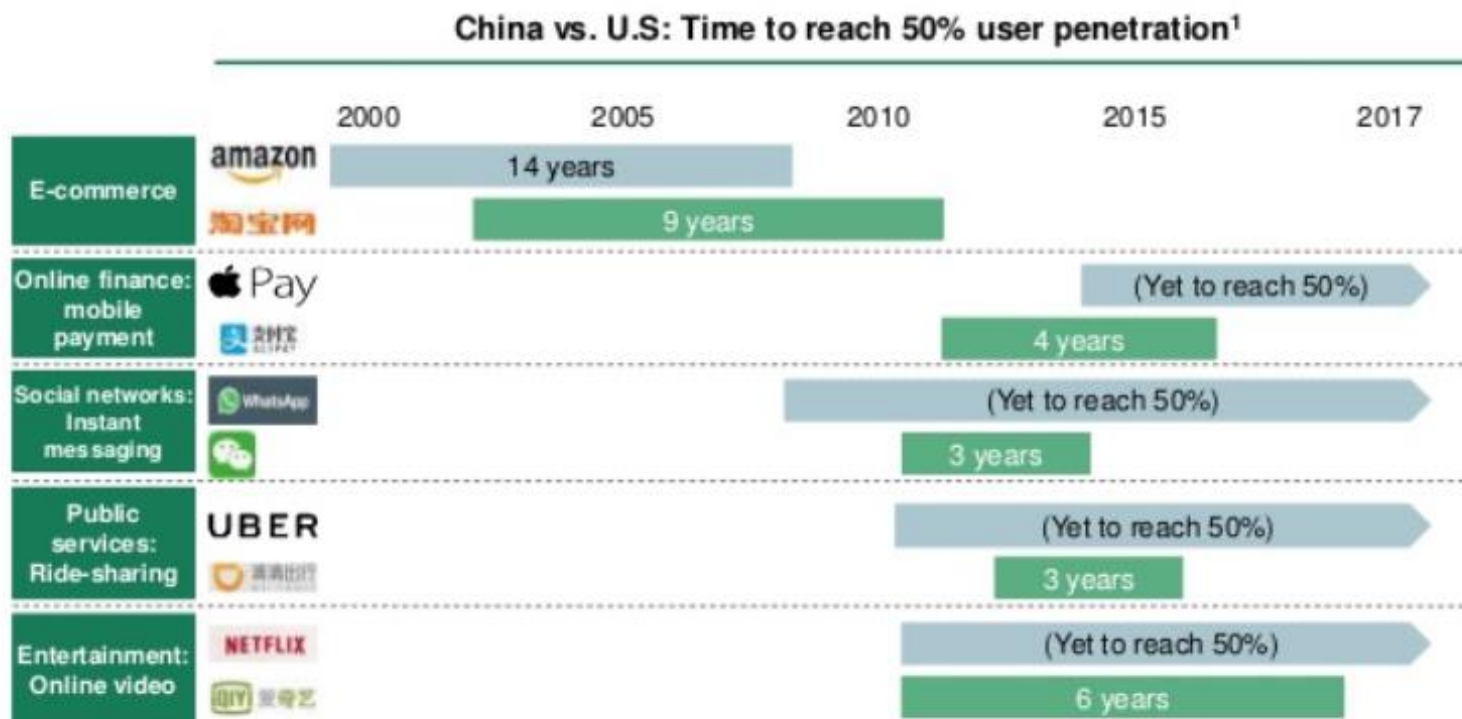


Secular Opportunities and Challenges

IT Revolution in EM



- Industrialization enabled the US to leapfrog colonial powers in global dominance 100 years ago
- Will the IT revolution propel the rise of China?



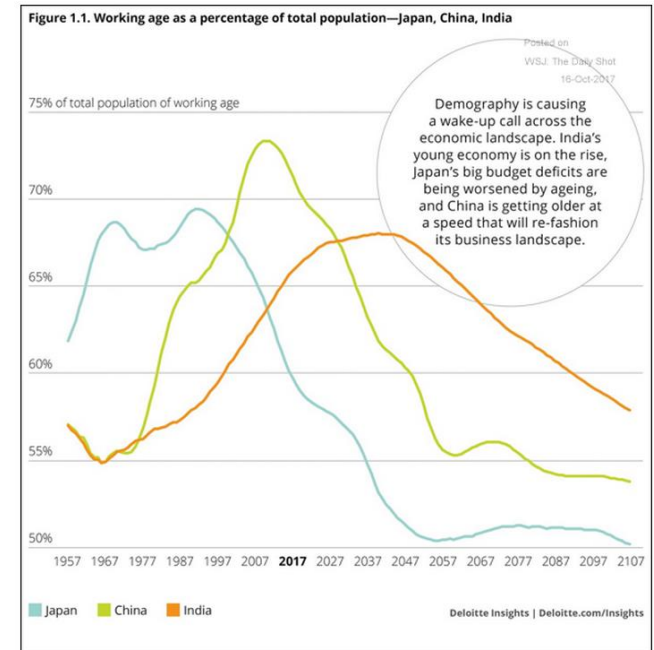
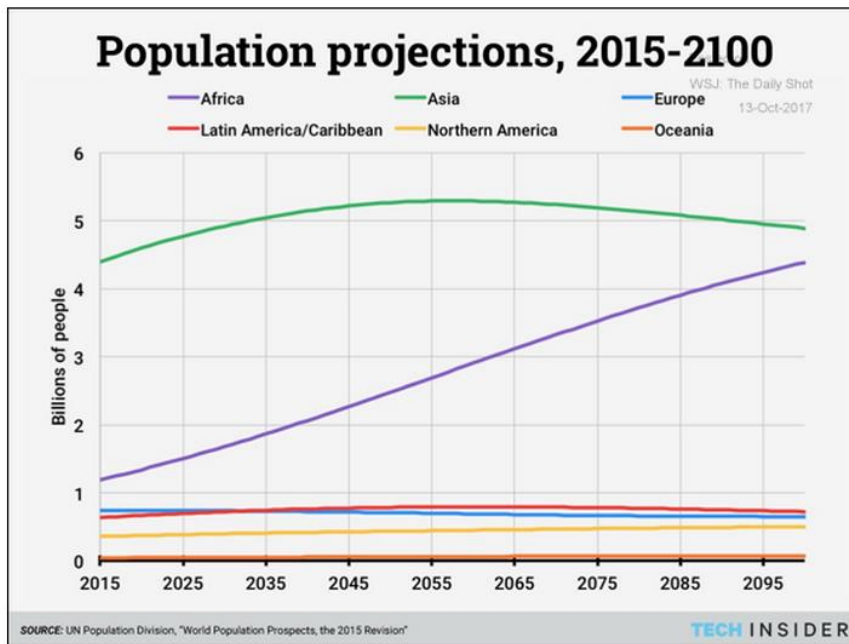
Source: Boston Consulting Group

Secular Opportunities and Challenges

Demographics

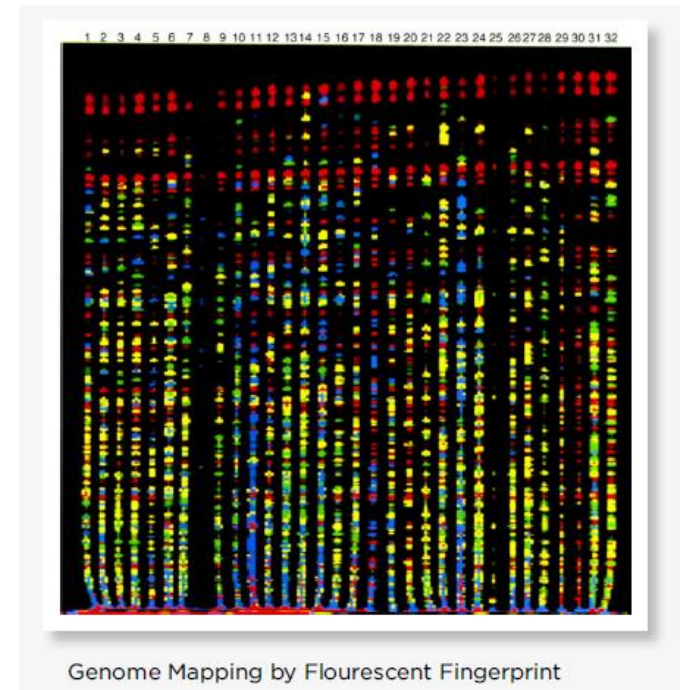
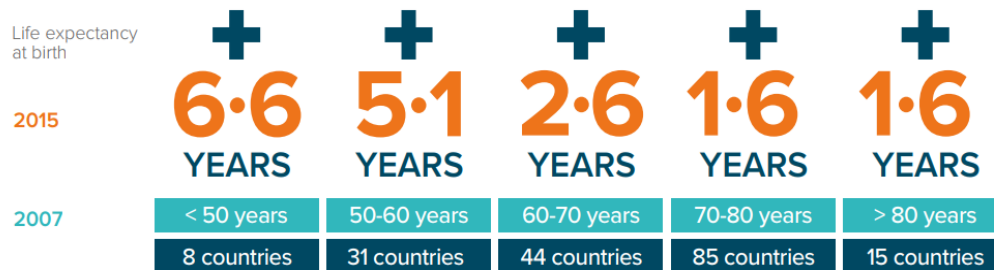
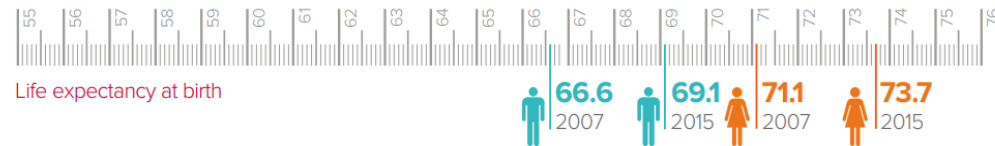
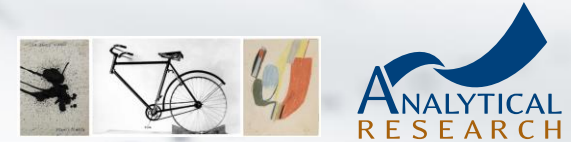


- There will be 1.3 billion more Africans by 2050



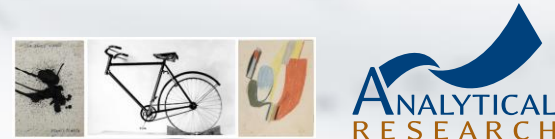
Secular Opportunities and Challenges

Opportunities in Healthcare



Secular Opportunities and Challenges

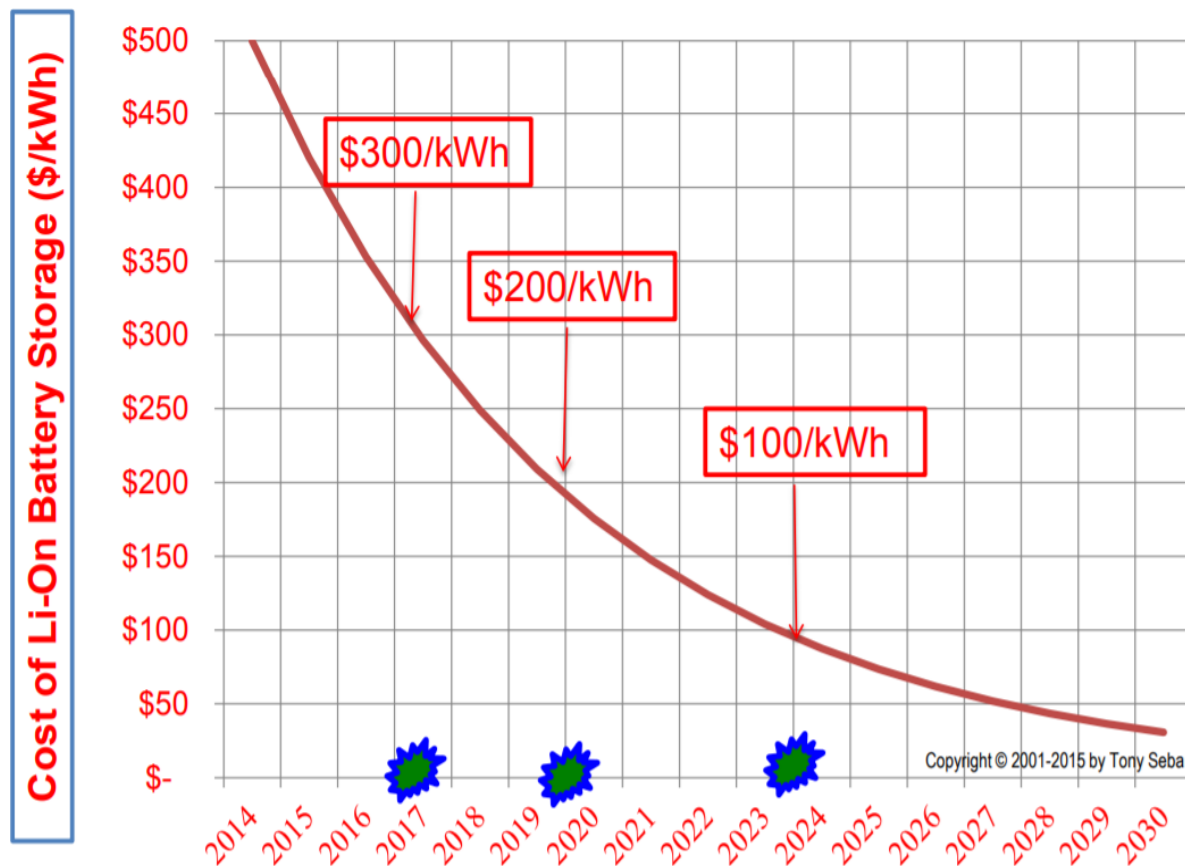
Battery Power



Projected Cost of Li-On Battery \$/kWh

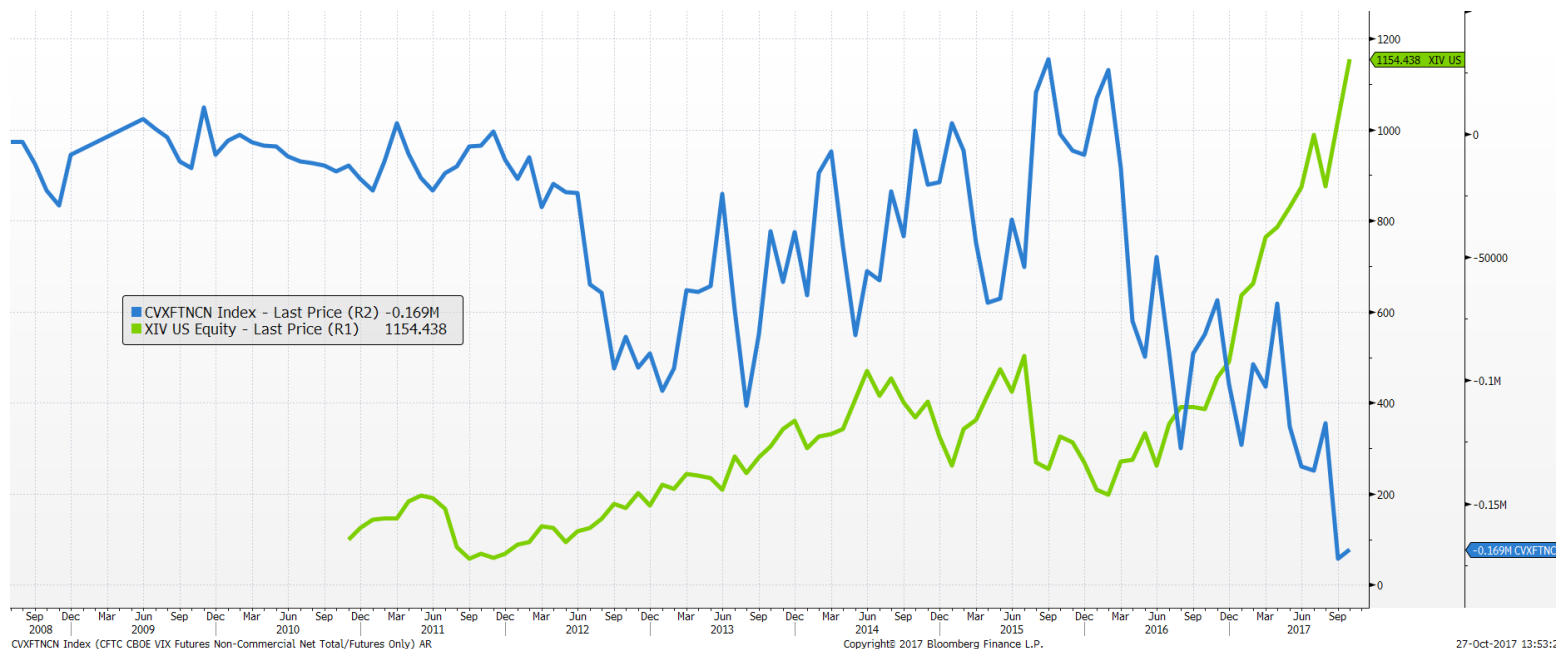
Impact on:

- Transportation
- Power Generation
- Commodity Supply/Demand



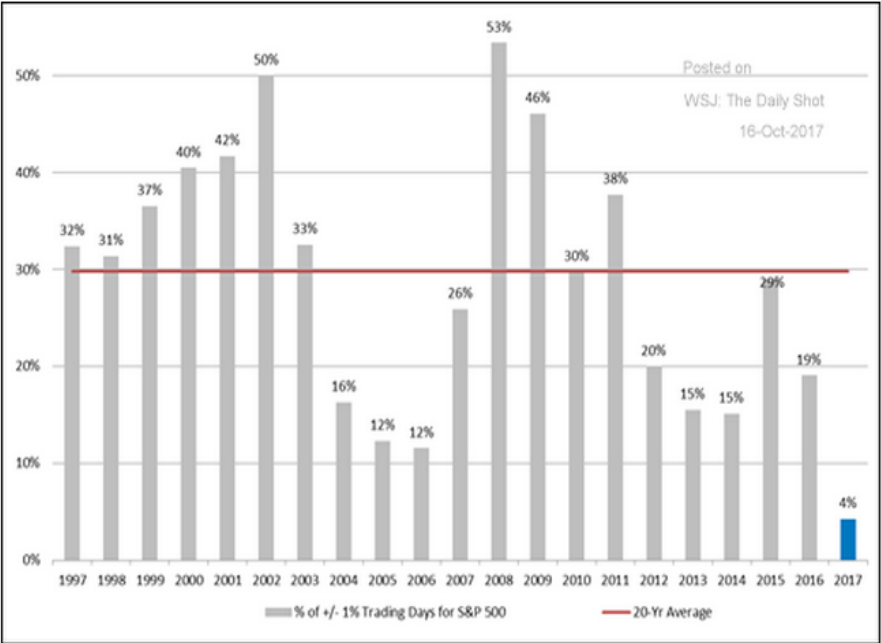
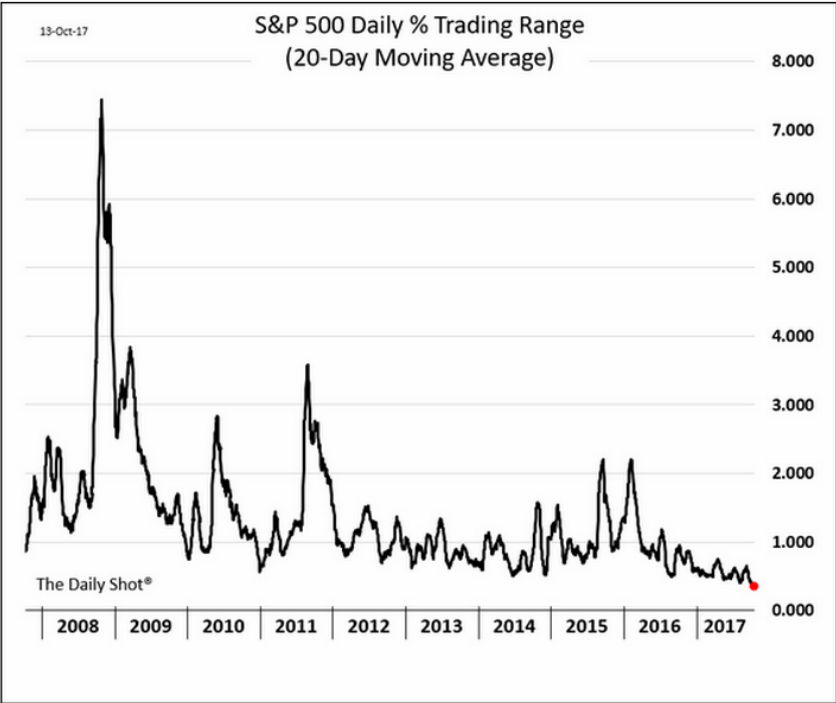
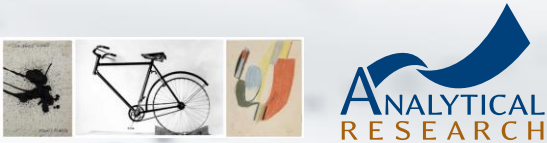
Status Quo

Short Volatility Strategies: Winning



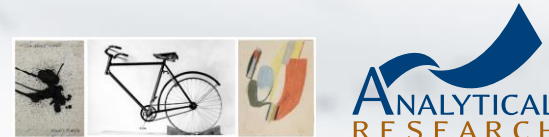
Status Quo

Market Behavior: This is normal



Source: BMO Global Asset Management U.S.

Status Quo Capitulation

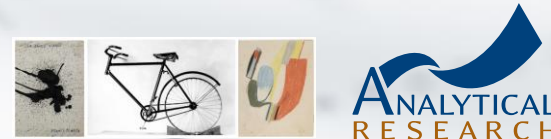


A weekly survey by the National Association of Active Investment Managers, which found them to be more than 90 percent long the market. They typically have a net short position averaging 93 percent, according to data going back to 2006.



Status Quo

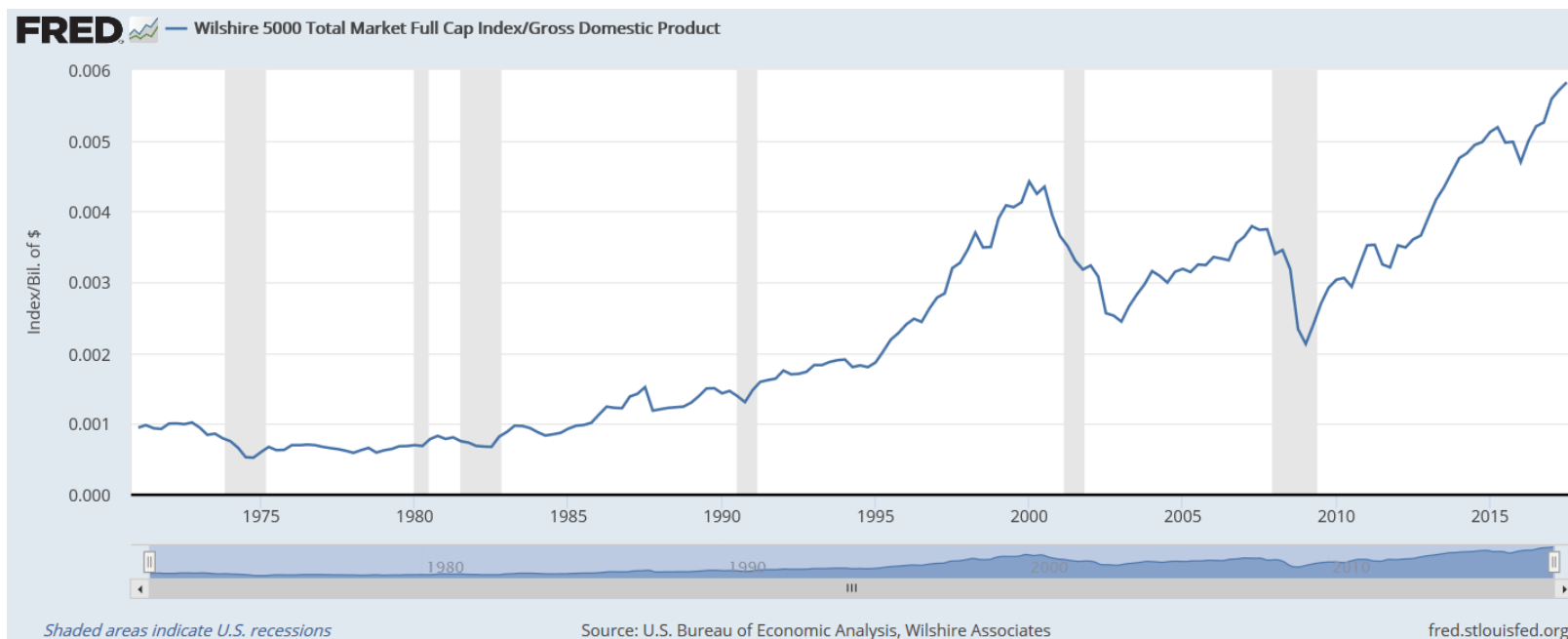
High Equity Valuations



'If you believe the way we look at it, much more realistically I think, the P/E is relatively high,'

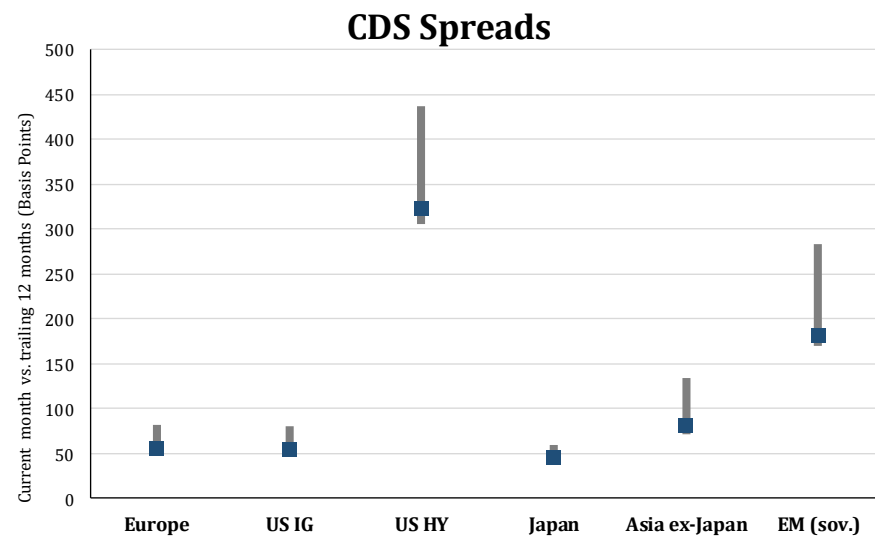
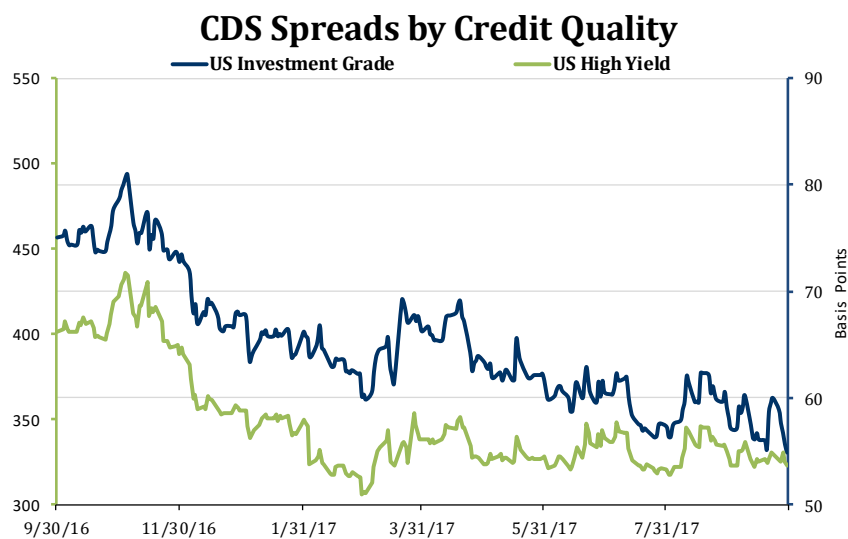
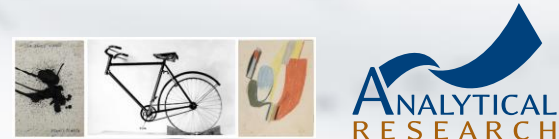
'I believe strongly that [investors] should be realizing valuations are fairly full, and if they are nervous they could easily sell off a portion of their stocks.'

-John "Jack" Bogle, founder of the Vanguard Group



Status Quo

There is a bid in credit markets

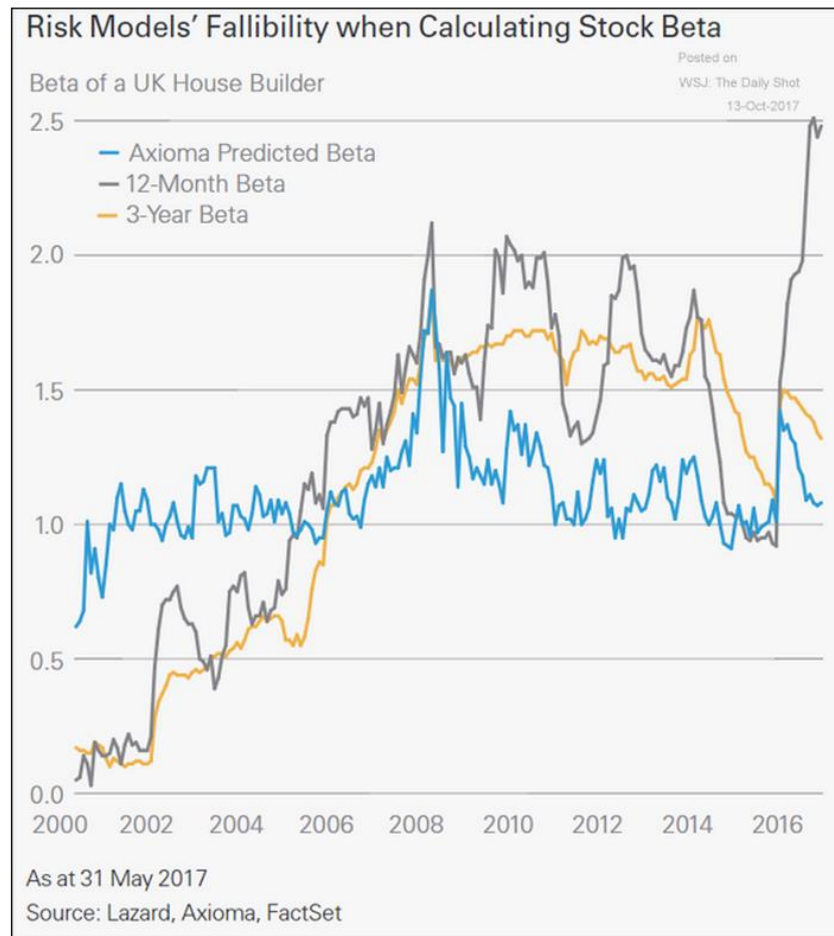


Status Quo

Inherent Flaws in Risk Models

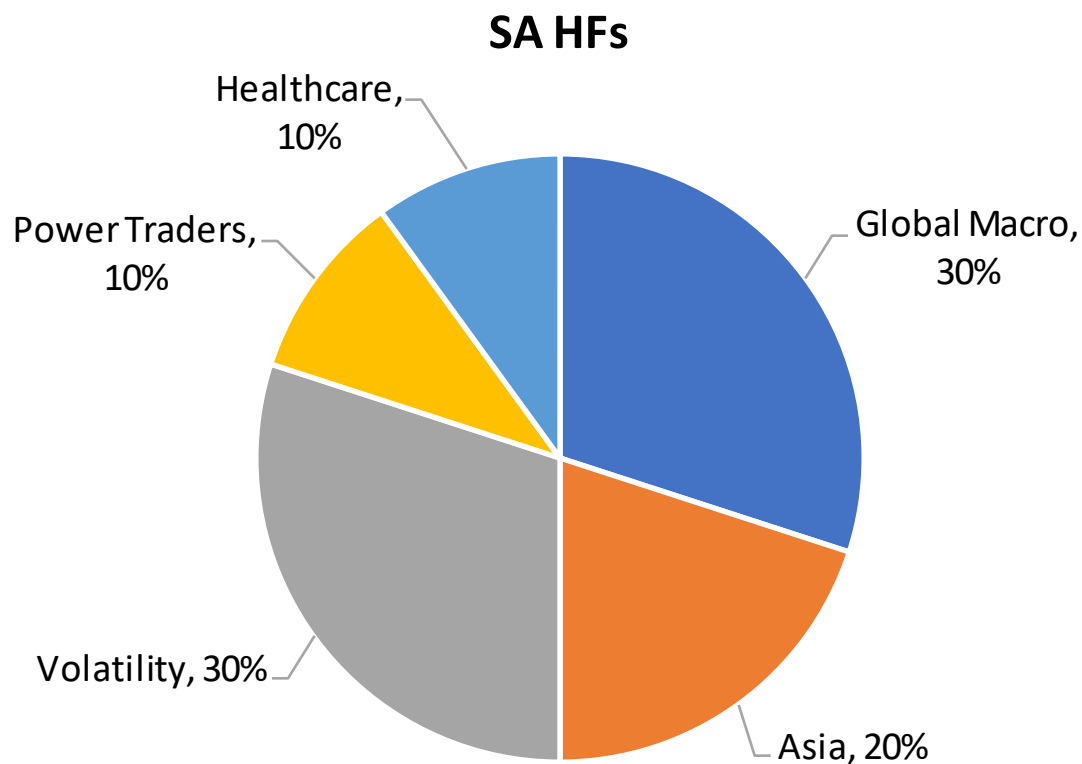
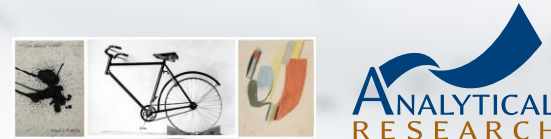


- Quantitative models are based on historical relationships that are highly likely to be challenged in the future



Stress Absorbing Hedge Fund Strategies

Portfolio Composition



Stress Absorbing Hedge Fund Strategies

Risk/Return Profile



Return Summary vs Benchmarks

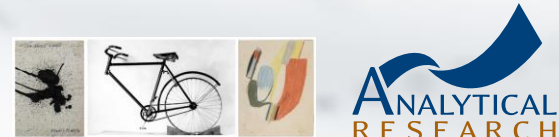
	Returns (Data longer than a year are annualized unless otherwise stated)								Standard Deviation	
	Sep 2017	Last 3 Months	Year To Date	1 Year	Last 36 Months	Last 60 Months	Since 2007-09-30	Total Since 2007-09-30	Last 12 Months	Since 2007-09-30
SA HFs	0.26%	1.13%	2.72%	4.31%	3.90%	4.62%	6.76%	92.27%	1.19%	3.33%
HFRX Global Hedge Fund Index	0.60%	1.83%	4.43%	5.64%	0.45%	1.98%	-0.54%	-5.30%	1.62%	5.78%
MSCI World Index	2.28%	4.96%	16.53%	18.83%	8.30%	11.62%	4.81%	60.00%	4.68%	16.42%
MSCI Emerging Markets (Gross TR)	0.47%	7.72%	23.88%	22.20%	8.90%	8.30%	4.21%	51.01%	6.36%	17.14%
Bloomberg Barclays Global High Yield Index	0.68%	2.84%	9.48%	9.28%	5.87%	6.44%	7.95%	114.84%	3.57%	11.32%
Bloomberg Barclays Global Aggregate Index	-0.90%	1.76%	6.25%	-1.26%	1.30%	0.48%	3.31%	38.51%	6.04%	5.84%
Bloomberg Commodity Index TR	-0.15%	2.52%	-2.87%	-0.29%	-10.41%	-10.47%	-6.83%	-50.69%	4.87%	17.71%
Dollar Index	0.44%	-2.67%	-8.94%	-2.50%	2.70%	3.09%	1.82%	19.76%	7.10%	8.75%

Fund Statistics

	SA HFs	SA HFs (w/o Vol HFs)	HFRX Global Hedge Fund Index	MSCI World Index	Bloomberg Barclays Global Aggregate Index
Sharpe Ratio (Risk-free rate = US 1m LIBOR)	1.85	1.78	-0.21	0.25	0.45
Largest Drawdown	-2.74%	-3.44%	-25.21%	-53.65%	-10.08%
% Positive Months	75.00%	71.67%	59.17%	60.00%	60.83%
Best Month	3.24%	3.75%	3.15%	11.32%	6.21%
Worst Month	-1.59%	-2.94%	-9.35%	-18.93%	-3.97%
Avg. Positive Month	0.91%	1.03%	0.93%	3.39%	1.31%
Avg. Negative Month	-0.53%	-0.60%	-1.42%	-3.82%	-1.31%
Skewness	0.56	-0.04	-2.17	-0.75	-0.14
Excess Kurtosis	0.82	1.33	9.20	2.02	0.98

Stress Absorbing Hedge Fund Strategies

SAA Portfolios



Asset Class	Benchmark	SAA Portfolio: 0% HF	SAA Portfolio: 15% HF	SAA Portfolio: 30% HF	SAA Portfolio: 10Y Optimized	SAA Portfolio: 5Y Optimized
Equities	MSCI World Index	54%	46%	38%	0%	10%
Fixed Income	Bloomberg Barclays Global Aggregate Index	36%	31%	25%	40%	30%
Private Equity	Preqin Private Equity Index	10%	9%	7%	10%	10%
Hedge Fund	AR SA HFs	0%	15%	30%	50%	50%
Total		100%	100%	100%	100%	100%

Stress Absorbing Hedge Fund Strategies

SAA Risk/Return Summary



Return Summary

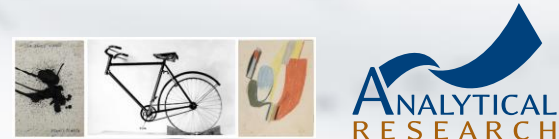
	Returns (Data longer than a year are annualized unless otherwise stated)								Standard Deviation	
	Sep 2017	Last 3 Months	Year To Date	1 Year	Last 36 Months	Last 60 Months	Since 2007-09-30	Total Since 2007-09-30	Last 12 Months	Since 2007-09-30
SAA Portfolio: 0% HF	1.07%	3.72%	12.34%	10.96%	6.16%	7.88%	5.20%	65.97%	4.05%	9.90%
SAA Portfolio: 15% HF	0.96%	3.36%	10.90%	9.96%	5.86%	7.41%	5.60%	72.36%	3.42%	8.30%
SAA Portfolio: 30% HF	0.84%	2.98%	9.46%	8.96%	5.54%	6.94%	5.93%	77.85%	2.79%	6.78%
SAA Portfolio: Optimized 10Y	-0.11%	1.65%	5.03%	2.99%	3.70%	3.89%	5.68%	73.74%	2.37%	2.77%
SAA Portfolio: Optimized 5Y	0.23%	1.99%	6.06%	5.00%	4.42%	5.03%	6.03%	79.63%	2.02%	3.22%
HFRX Global Hedge Fund Index	0.60%	1.83%	4.43%	5.64%	0.45%	1.98%	-0.54%	-5.30%	1.62%	5.78%
MSCI World Index	2.28%	4.96%	16.53%	18.83%	8.30%	11.62%	4.81%	60.00%	4.68%	16.42%
Bloomberg Barclays Global Aggregate Index	-0.90%	1.76%	6.25%	-1.26%	1.30%	0.48%	3.31%	38.51%	6.04%	5.84%

Fund Statistics

	SAA Portfolio: 0% HF	SAA Portfolio: 15% HF	SAA Portfolio: 30% HF	SAA Portfolio: Optimized 10Y	SAA Portfolio: Optimized 5Y	HFRX Global Hedge Fund Index	MSCI World Index	Bloomberg Barclays Global Aggregate Index
Sharpe Ratio (Risk-free rate = US 1m LIBOR)	0.45	0.58	0.76	1.81	1.64	-0.21	0.25	0.45
Largest Drawdown	-33.10%	-25.80%	-18.68%	-2.19%	-4.16%	-25.21%	-53.65%	-10.08%
% Positive Months	59.17%	61.67%	61.67%	74.17%	74.17%	59.17%	60.00%	60.83%
Best Month	6.32%	5.66%	5.01%	3.65%	3.38%	3.15%	11.32%	6.21%
Worst Month	-11.14%	-8.49%	-6.05%	-1.37%	-2.18%	-9.35%	-18.93%	-3.97%
Avg. Positive Month	2.22%	1.90%	1.67%	0.78%	0.89%	0.93%	3.39%	1.31%
Avg. Negative Month	-2.09%	-1.79%	-1.38%	-0.45%	-0.65%	-1.42%	-3.82%	-1.31%
Skewness	-0.74	-0.60	-0.45	0.60	0.19	-2.17	-0.75	-0.14
Excess Kurtosis	2.00	1.38	0.80	1.82	0.83	9.20	2.02	0.98

Stress Absorbing Hedge Fund Strategies

Correlation Matrix



Correlation Matrix (Oct 2007 through Sep 2017)

	SA HFs	SAA Portfolio: 0% HF	SAA Portfolio: 15% HF	SAA Portfolio: 30% HF	HFRX Global Hedge Fund Index	MSCI World Index	MSCI Emerging Markets (Gross TR)	Bloomberg Barclays Global Aggregate Index	Bloomberg Barclays Global High Yield Index	Bloomberg Commodity Index TR	Dollar Index
SA HFs	1.00										
SAA Portfolio: 0% HF	-0.08	1.00									
SAA Portfolio: 15% HF	-0.01	1.00	1.00								
SAA Portfolio: 30% HF	0.08	0.99	1.00	1.00							
HFRX Global Hedge Fund Index	0.06	0.78	0.78	0.77	1.00						
MSCI World Index	-0.08	0.98	0.98	0.97	0.80	1.00					
MSCI Emerging Markets (Gross TR)	-0.09	0.85	0.85	0.83	0.80	0.86	1.00				
Bloomberg Barclays Global Aggregate Index	-0.07	0.57	0.57	0.57	0.25	0.41	0.40	1.00			
Bloomberg Barclays Global High Yield Index	-0.14	0.83	0.82	0.79	0.79	0.82	0.82	0.49	1.00		
Bloomberg Commodity Index TR	0.02	0.61	0.61	0.61	0.65	0.58	0.60	0.42	0.60	1.00	
Dollar Index	0.04	-0.71	-0.72	-0.71	-0.42	-0.61	-0.56	-0.79	-0.61	-0.64	1.00

High correlation >0.75
Moderate correlation between 0.35 and 0.75
Low correlation < 0.35

Stress Absorbing Hedge Fund Strategies

SAA Stress Periods Analysis



Stress Periods

Event	Date	SAA Portfolio: 0% HF	SAA Portfolio: 15% HF	SAA Portfolio: 30% HF	MSCI World Index
Subprime Mortgage Crisis deepens	31 May 2007 - 31 Aug 2007	-0.11%	0.61%	1.34%	-2.95%
Fear of US recession	31 Oct 2007 - 30 Jun 2008	-6.49%	-3.96%	-1.42%	-14.96%
Fear of US recession	31 Dec 2007 - 31 Jan 2008	-3.16%	-2.49%	-1.81%	-7.62%
Skyrocketing food and energy prices, inflation fears	31 May 2008 - 30 Jun 2008	-4.19%	-3.08%	-1.99%	-7.94%
Lehman's collapse, Financial Crisis takes hold	31 Aug 2008 - 28 Feb 2009	-26.23%	-20.57%	-14.94%	-43.38%
Sovereign Debt fear of Greek contagion, slow US recovery	30 Apr 2010 - 30 Jun 2010	-6.80%	-6.16%	-5.51%	-12.55%
Weak economic data, slow US recovery	31 Jul 2010 - 31 Aug 2010	-1.24%	-0.81%	-0.38%	-3.69%
European debt crisis, recession danger in US, US downgrade fear	30 Apr 2011 - 30 Sep 2011	-10.46%	-8.55%	-6.60%	-19.43%
Violent growth to value equity market rotation	31 Mar 2014 - 30 Apr 2014	1.13%	0.87%	0.61%	1.08%
US fixed income "flash crash"	30 Sep 2014 - 31 Oct 2014	0.47%	0.39%	0.30%	0.67%
Greek referendum and international creditor negotiations	30 Jun 2015 - 31 Jul 2015	1.06%	1.09%	1.13%	1.83%
China slowdown fears	31 Jul 2015 - 31 Aug 2015	-3.62%	-3.02%	-2.42%	-6.58%
US Interest Rate Hike Market Rebuttal	31 Dec 2015 - 31 Jan 2016	-2.87%	-2.58%	-2.29%	-5.96%

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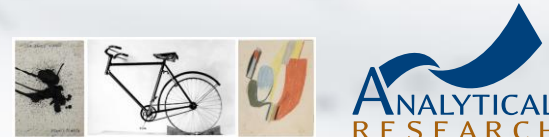


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