



ARTEMIS CAPITAL MANAGEMENT LP

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Volatility and the Allegory of the Prisoner's Dilemma

Volatility & Tail Risk Summit – London, April 16th 2015

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"Allegory of the Prisoner's Dilemma" by Andy Diaz Hope & Laurel Roth. Reproduced with permission of artists. Unauthorized reproduction prohibited.

***“The only thing
that will redeem
mankind is
cooperation”***

Bertrand Russell



***“Peace is not the
absence of
conflict”***

***Dorothy
Thompson***

Volatility and the Allegory of the Prisoner's Dilemma

Investors are trapped in a Prisoner's Dilemma

Global central banking "arms race" to fight deflation has trapped investors in an equilibrium of excessive risk, debt, and false prosperity

Volatility is the only real asset class

Most active management strategies are short volatility in sheep's clothing

Volatility is your only escape from the Prisoner's Dilemma

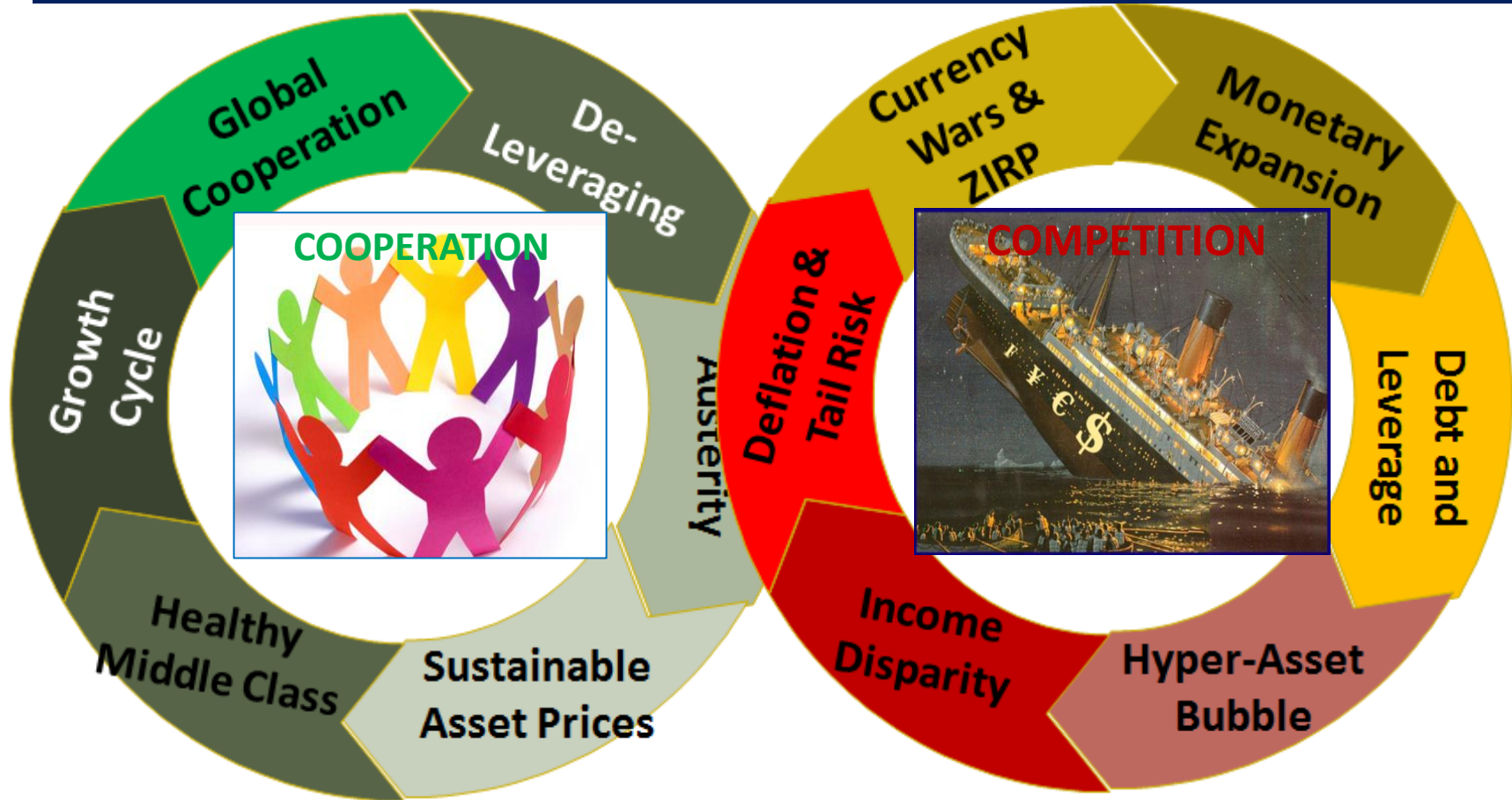
Hedge unknown unknowns and sell known unknowns

Global Macro Straddle + Asset Beta

Volatility in the Prisoner's Dilemma

two purely rational entities may not cooperate, even if it is in their best interests to do so

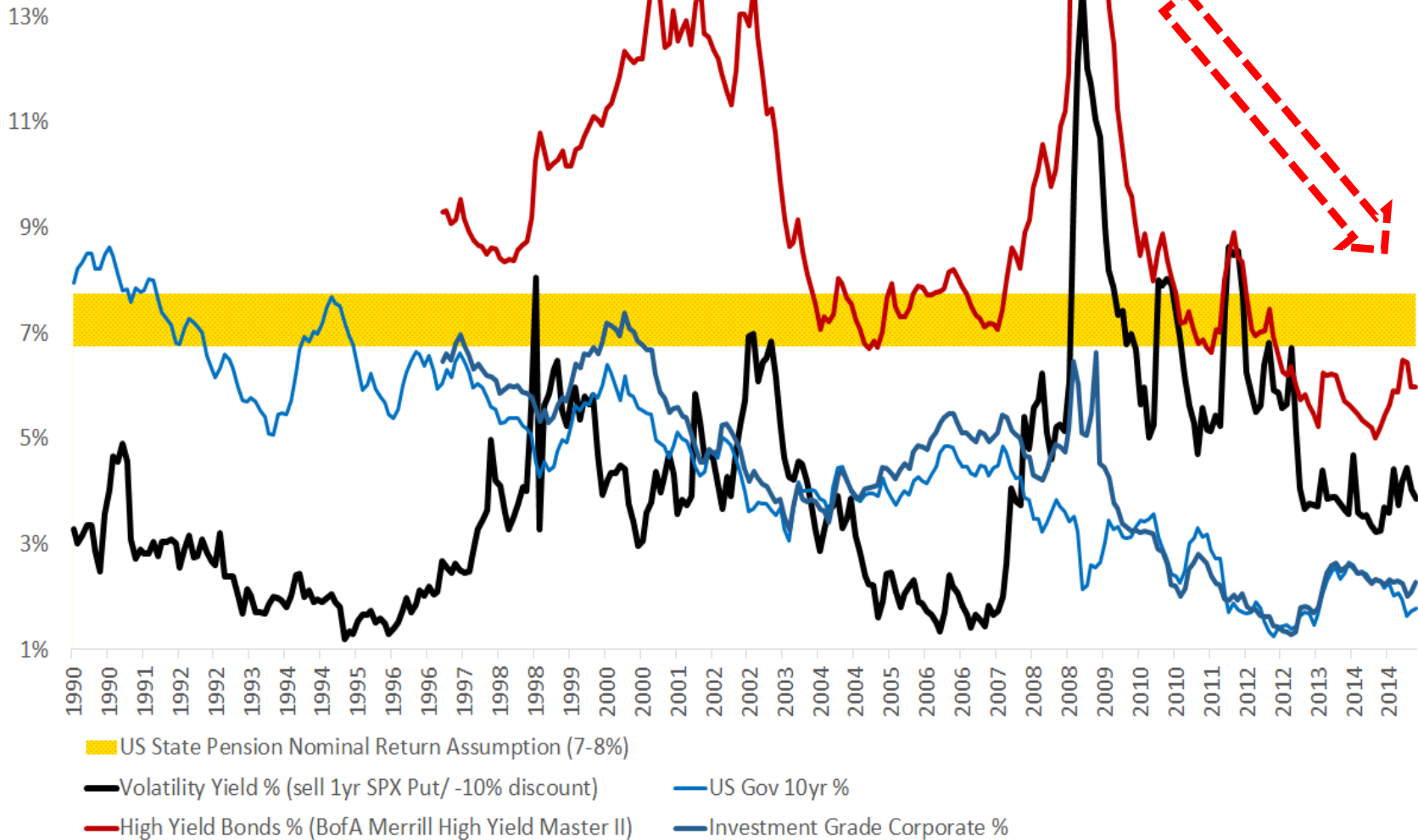
Global central banks are in an arms race of devaluation resulting in suboptimal outcomes for all parties and greater systemic risk



Volatility in the Prisoner's Dilemma

Prisoner's Dilemma - Forced to Take Excessive Risk

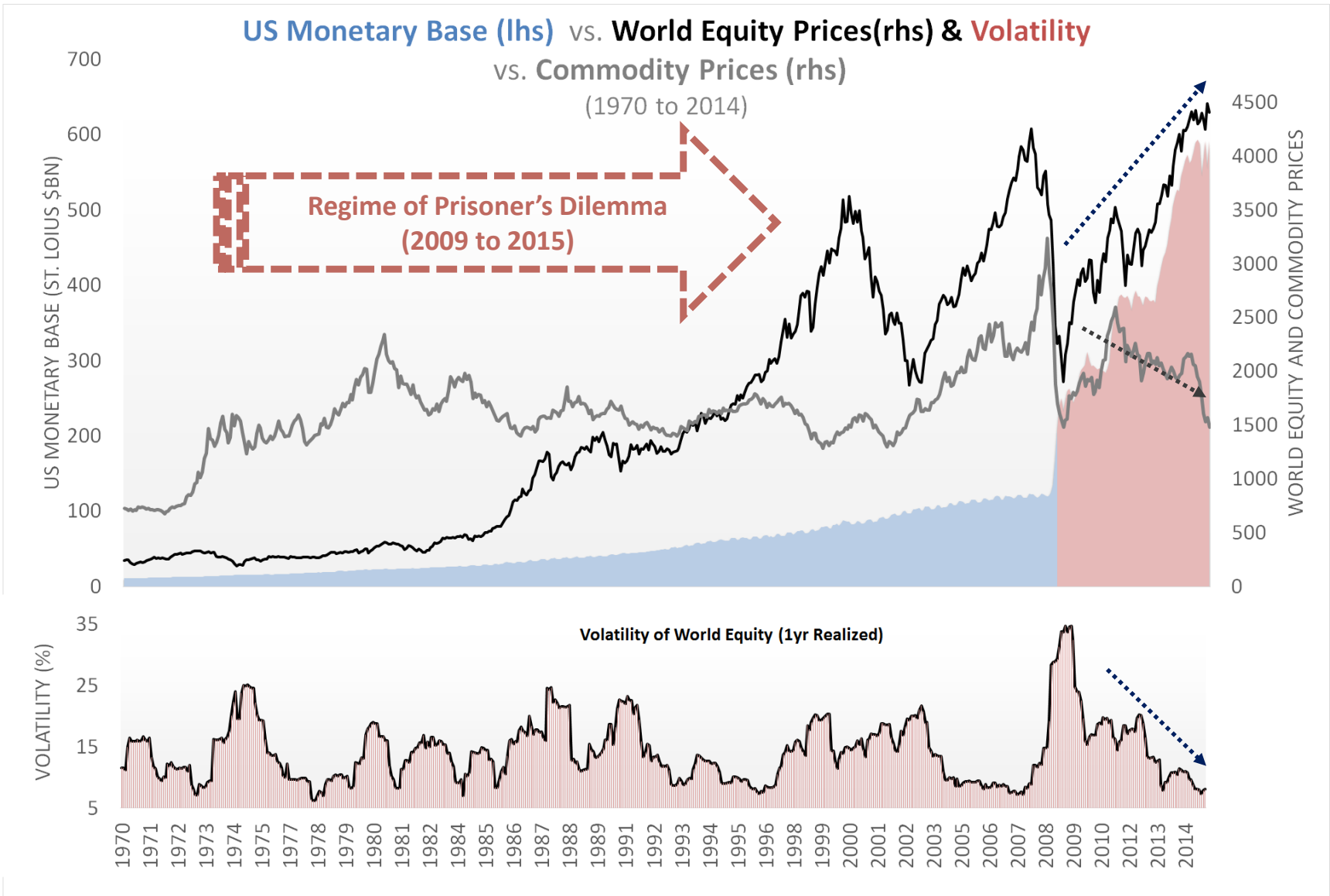
Yields on UST Bonds, Investment Grade Corporate, High Yield, and Short Volatility



Source: Artemis Capital Mgmt LP, FRED, MarketDataExpress



Volatility and Asset Prices in the Prisoner's Dilemma

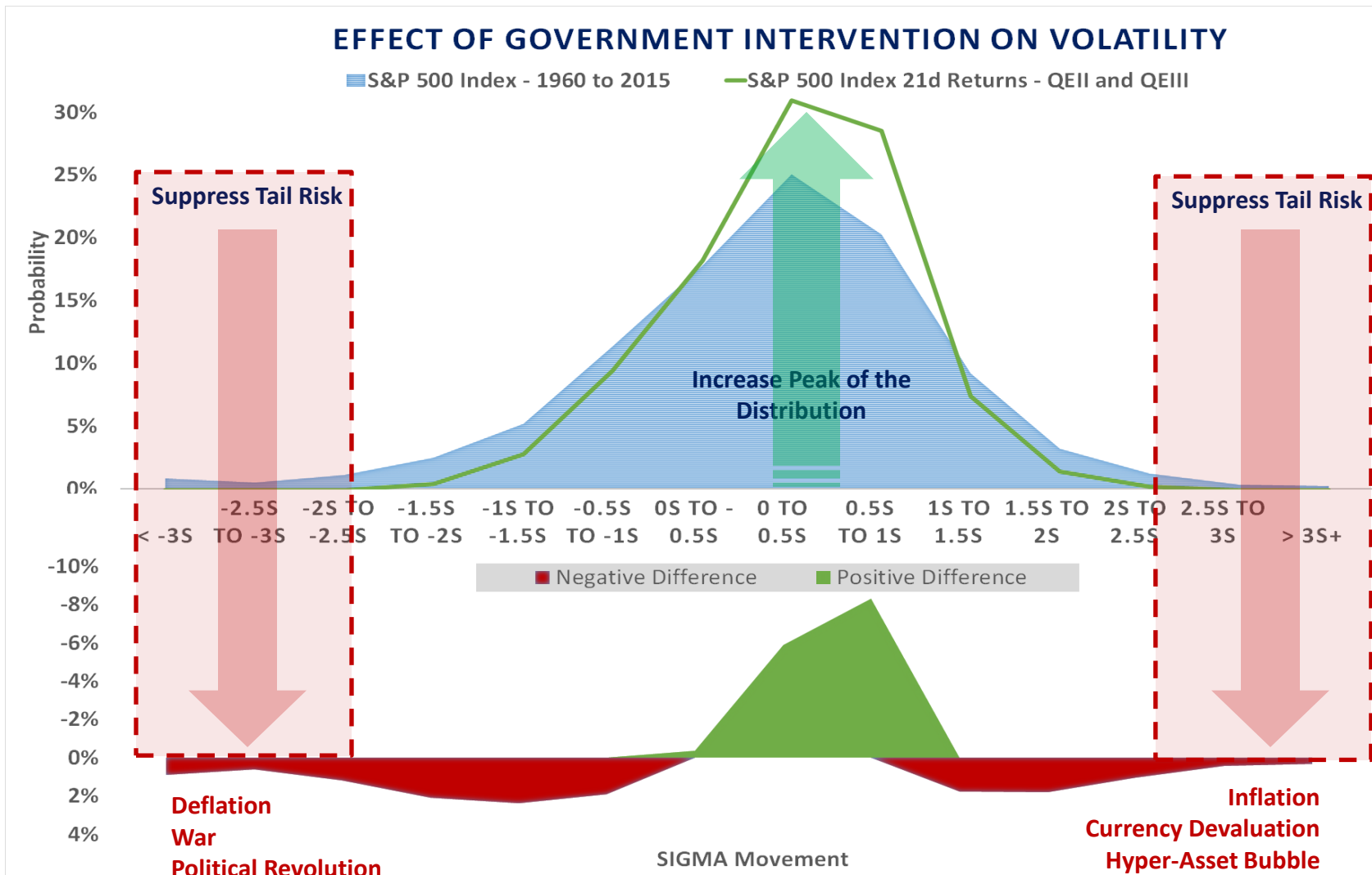


Source: Artemis Capital Mgmt LP, Global Financial Data



Volatility in the Prisoner's Dilemma

Exchanges short term equilibrium for longer term tail risk

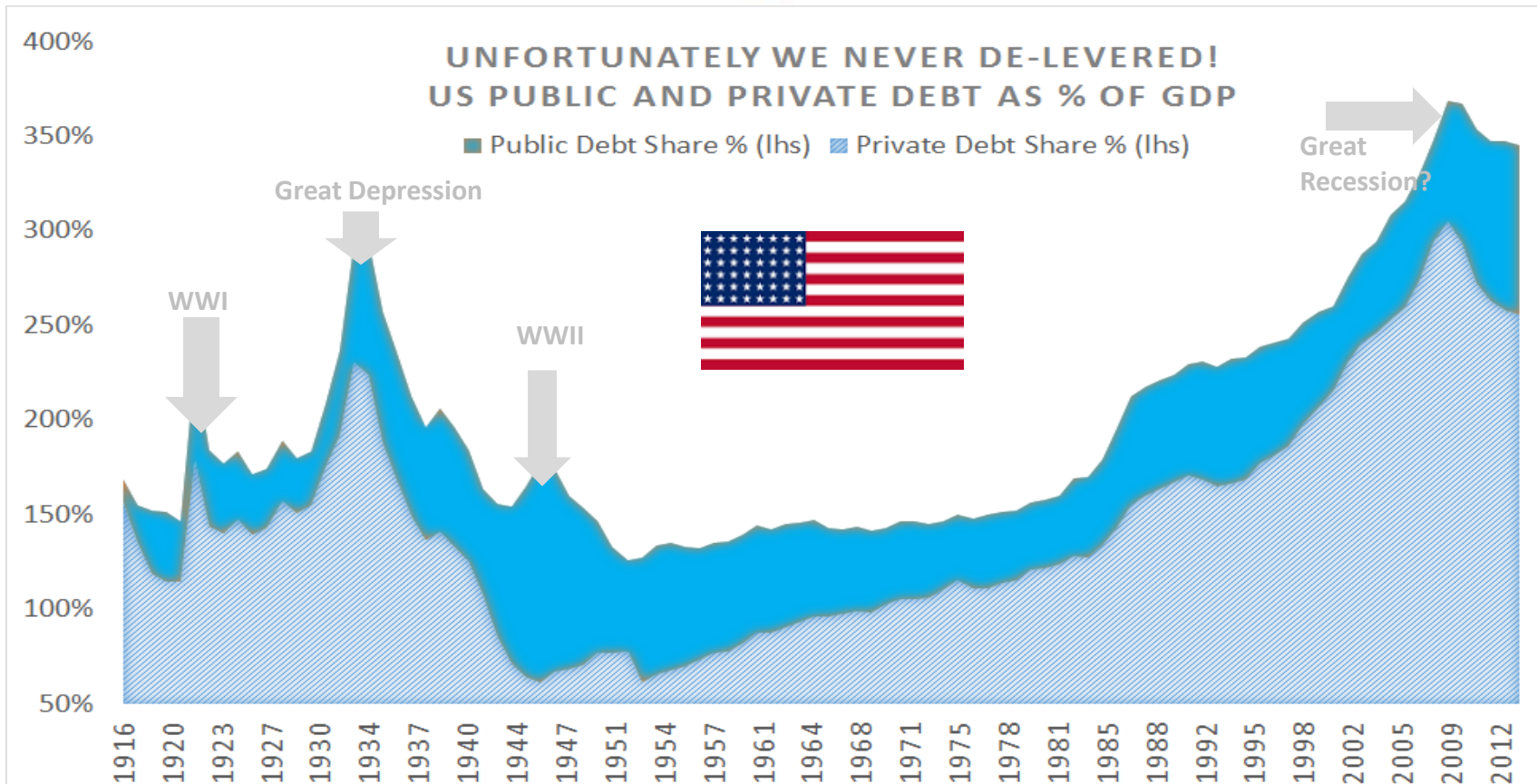
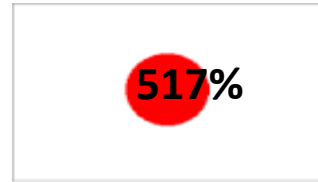
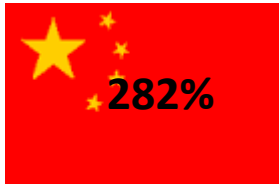


Source: Artemis Capital Mgmt LP, Bloomberg



Volatility in the Prisoner's Dilemma

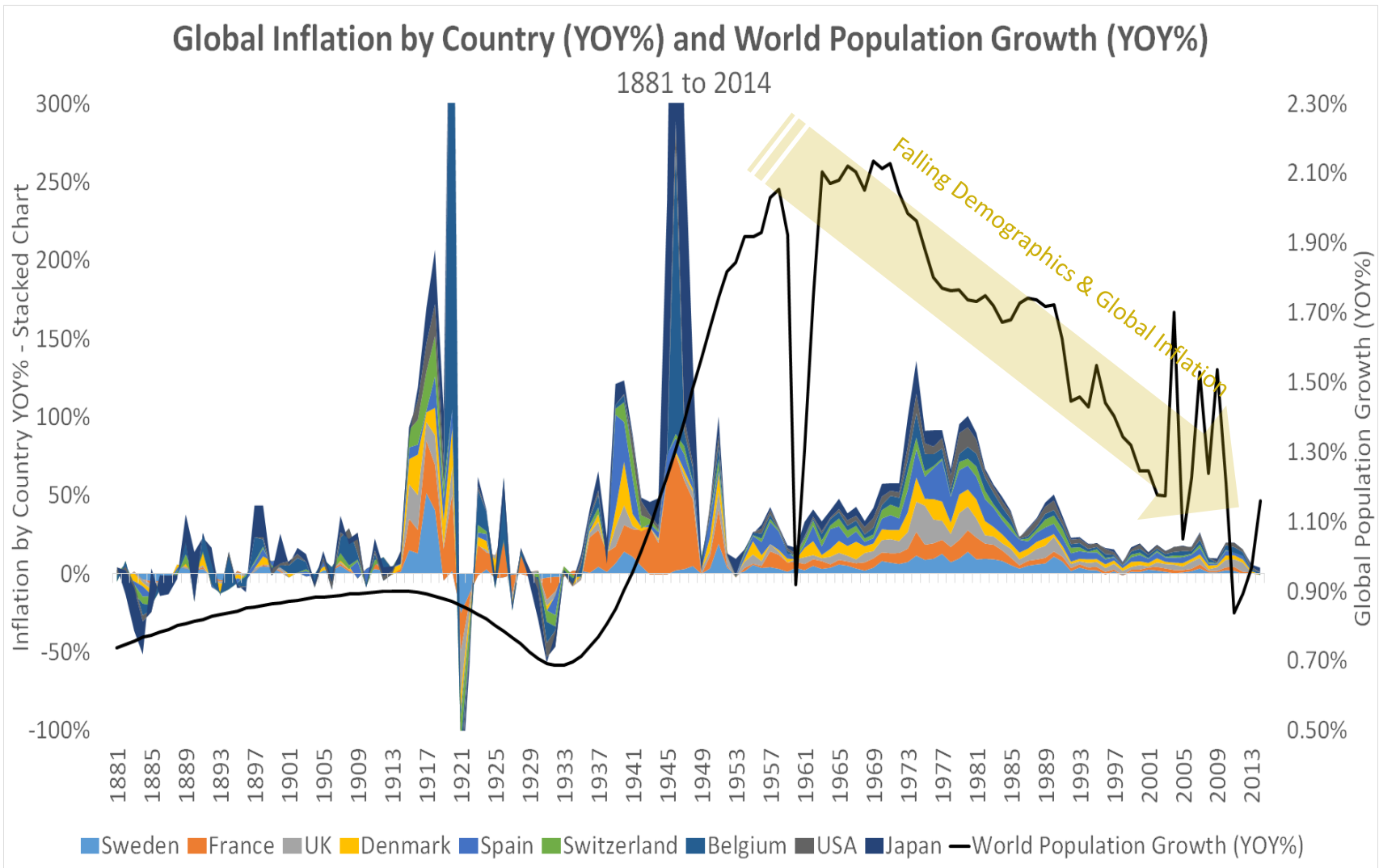
Total Debt-to-GDP by Country & World



Source: Global Financial Data, Recent Debt-to-GDP data from McKinsey Global Institute

Volatility in the Prisoner's Dilemma

Is global deflation an economic or a demographic phenomenon?



Source: Global Financial Data

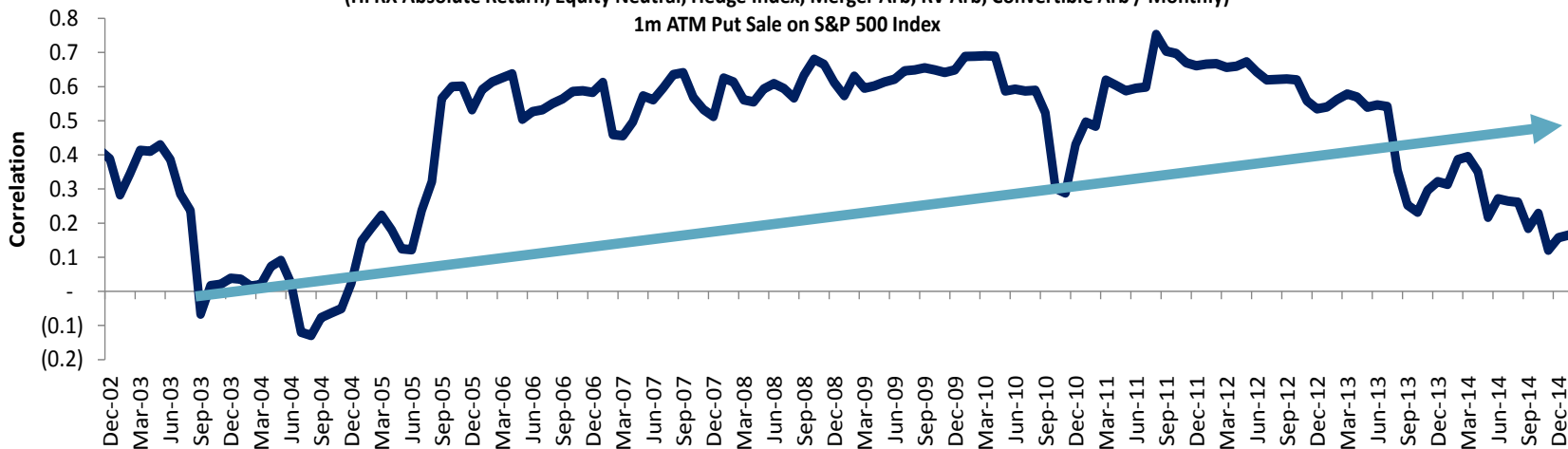


We are all volatility traders

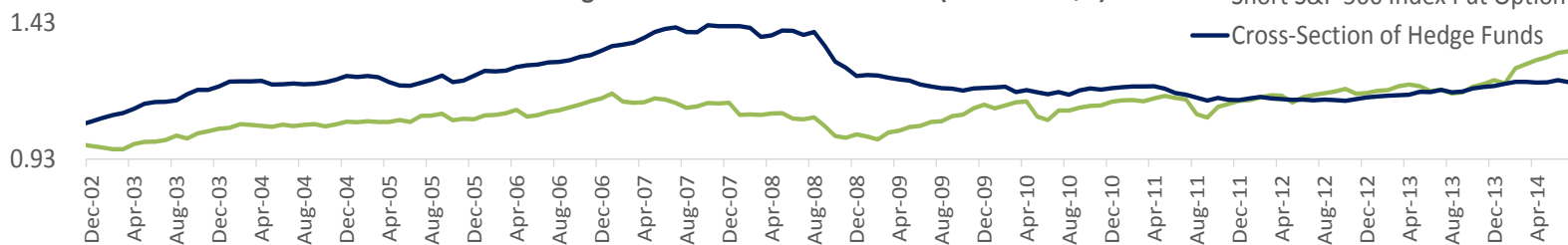
Most active management strategies produce alpha by being short volatility or correlation

Relationship between Hedge Funds and Short Volatility

3 year Rolling Correlation HFRX Hedge Composite to S&P 500 Short Put
(HFRX Absolute Return, Equity Neutral, Hedge Index, Merger Arb, RV Arb, Convertible Arb / Monthly)
1m ATM Put Sale on S&P 500 Index



Hedge Funds vs. 10% OTM SPX Put (Growth of \$1)



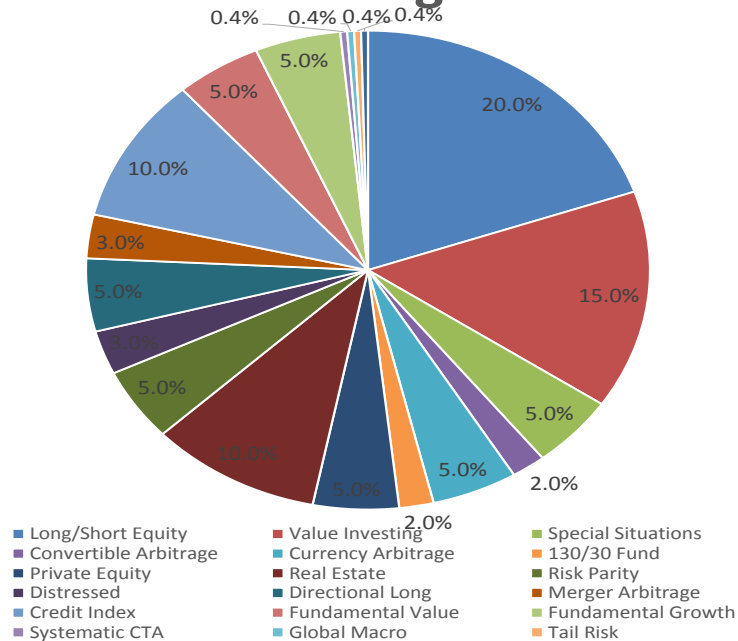
Source: Hedge fund monthly returns from HFRX, volatility returns from Artemis Capital.



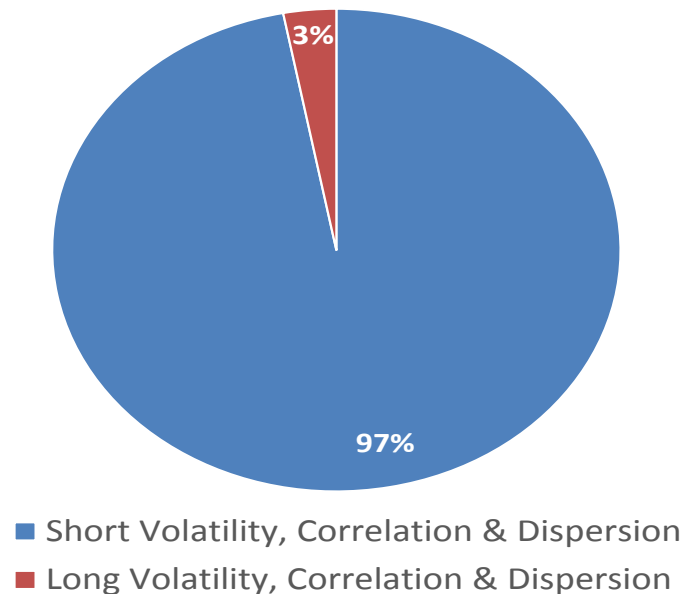
Volatility is the Only Real Asset Class

In the real world... there are two asset classes... long and short volatility

What you think you are investing in



What you actually are investing in



WHEN DOES PORTFOLIO #1 turn into PORTFOLIO #2?

1. Deflationary collapse followed by financial repression and negative real rates and/or;
2. Historical correlation (negative correlation) between equities and bonds breaks down rendering traditional diversification useless

Sources: Special thanks to Drobny Global Macro for original visual conceptualization of this idea

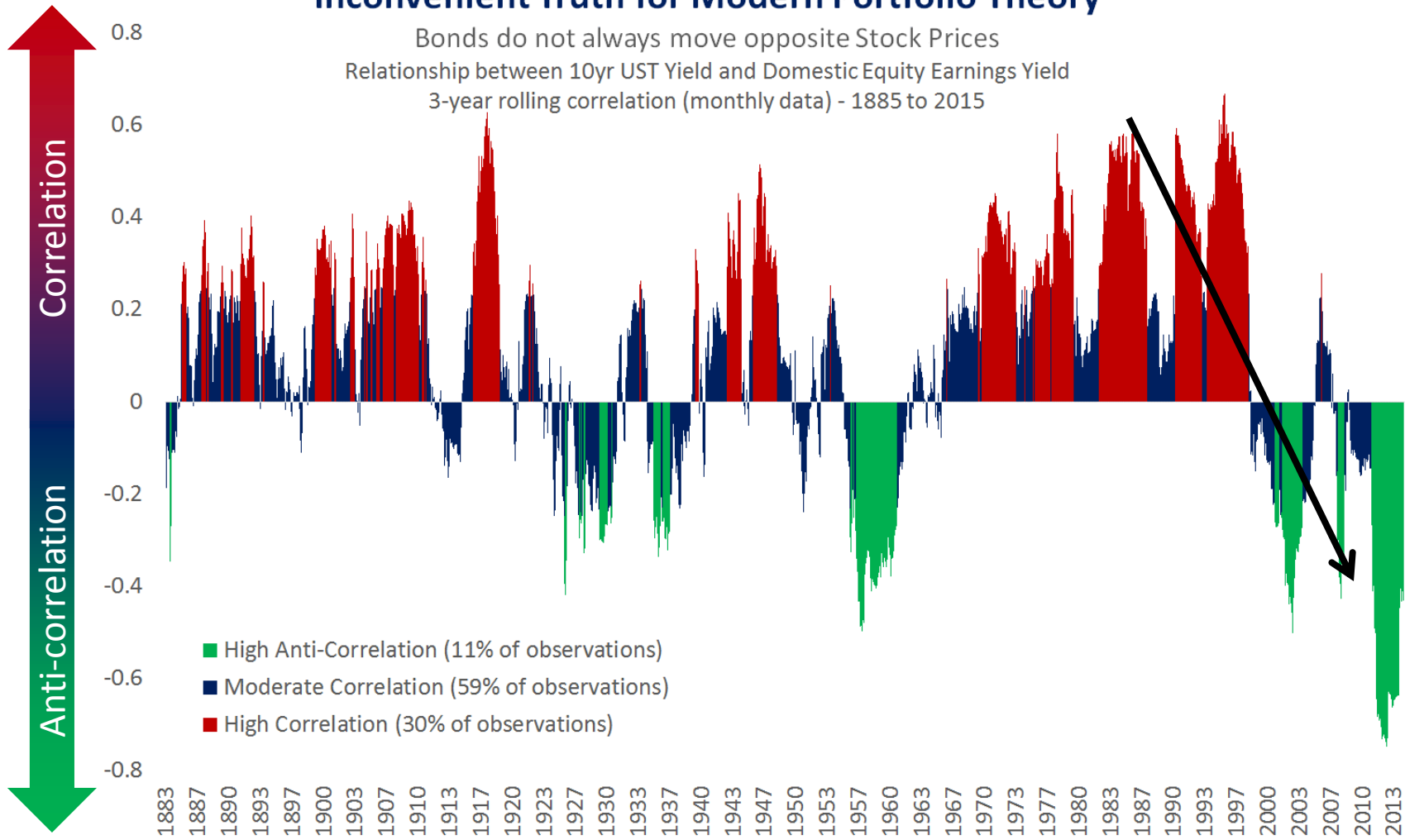


Volatility is the Only Real Asset Class

Changing Correlations Between Fixed Income and Equity Prices

Inconvenient Truth for Modern Portfolio Theory

Bonds do not always move opposite Stock Prices
Relationship between 10yr UST Yield and Domestic Equity Earnings Yield
3-year rolling correlation (monthly data) - 1885 to 2015



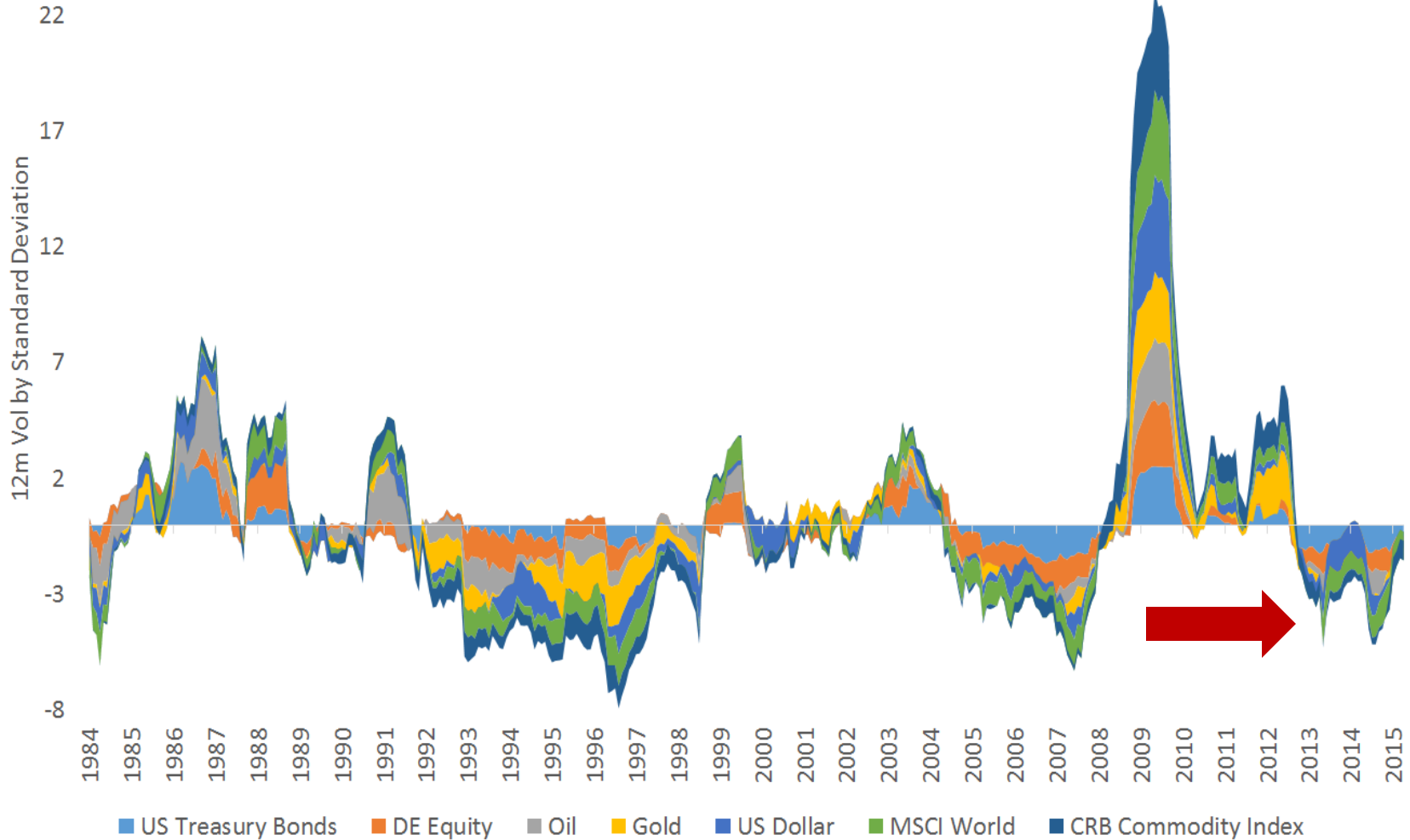
Source: Global Financial Data, Artemis Capital Management LLC



Volatility is the Only Real Asset Class

Cross-Asset Volatility

Rolling 12-month volatility adjusted by 30 year standard deviations / surface graph



Source: Global Financial Data, Artemis Capital Management LP

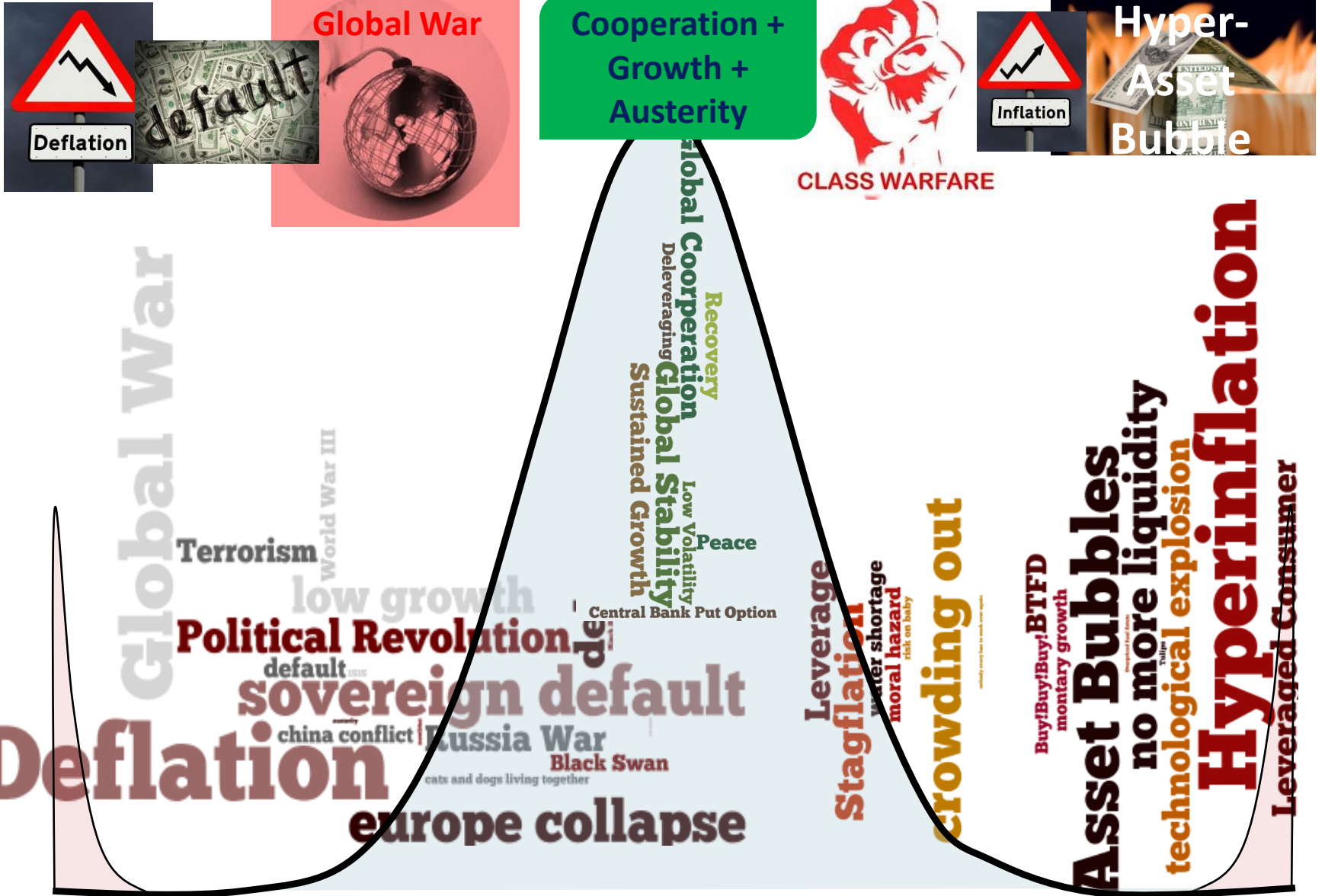


What Will be the Outcome of the Economic Prisoner's Dilemma?



Source: *The Tower of Babel* / Pieter Bruegel the Elder

What Will be the Outcome of the Economic Prisoner's Dilemma?

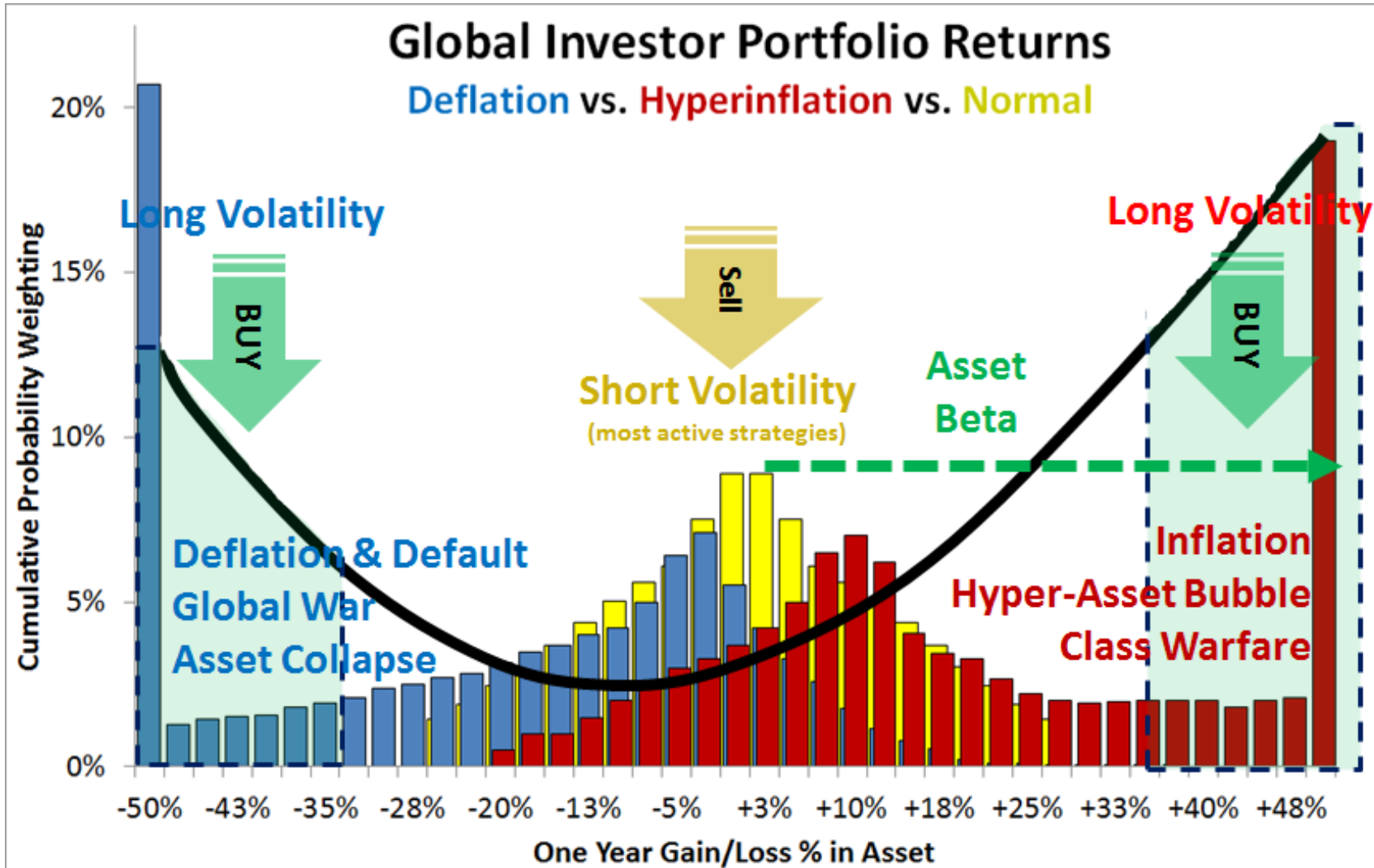


Source: istockphoto.com, worldly



Volatility is your Only Escape from the Prisoner's Dilemma

GLOBAL MACRO STRADDLE + BETA



Note: Artemis created a model to simulate the behavior of the equity returns, volatility movement, and "greek" sensitivities of options. Volatility simulations are expected to represent real potential scenarios but there is no guarantee as to accuracy of the model.



Volatility is an Instrument of Truth

Regardless of how it is measured volatility reflects the difference between the world as we imagine it to be and the world that actually exist



Illustration by Brendan Wiuff based on concept by Christopher Cole

One Last Thing...

Tea tray madness is a 'sell' signal if ever there was one

Sir, The next financial apocalypse is imminent. I know this to be true because the House & Home section in FT Weekend is now assuming the epic proportions last seen before the great crash. Twenty-four pages chock full of adverts for mansions and wicker tea trays for a \$1,000. You're all mad.

Sell everything and run for your lives.

Matt Long
Seilh, France

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Key Information/ Biography

Christopher Cole, CFA

Managing Partner & Portfolio Manager / Artemis Capital Management LP

Christopher R. Cole, CFA is the founder of Artemis Capital Management LLC. Mr. Cole's core focus is systematic, quantitative, and behavioral based trading of volatility derivatives. His decision to form a fund came after achieving proprietary returns during the 2008 financial crash trading volatility futures. Mr. Cole's research letters and volatility commentaries were influential in derivatives circles and thereafter widely referenced and quoted by the mainstream financial media, academic, and institutional asset management communities. He previously worked in capital markets and investment banking at Merrill Lynch. During his career in capital markets and pension consulting he structured over \$10 billion in derivatives and debt transactions for many high profile issuers. Mr. Cole holds the Chartered Financial Analyst designation, is an associate member of the NFA, and graduated Magna Cum Laude from the University of Southern California.



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