



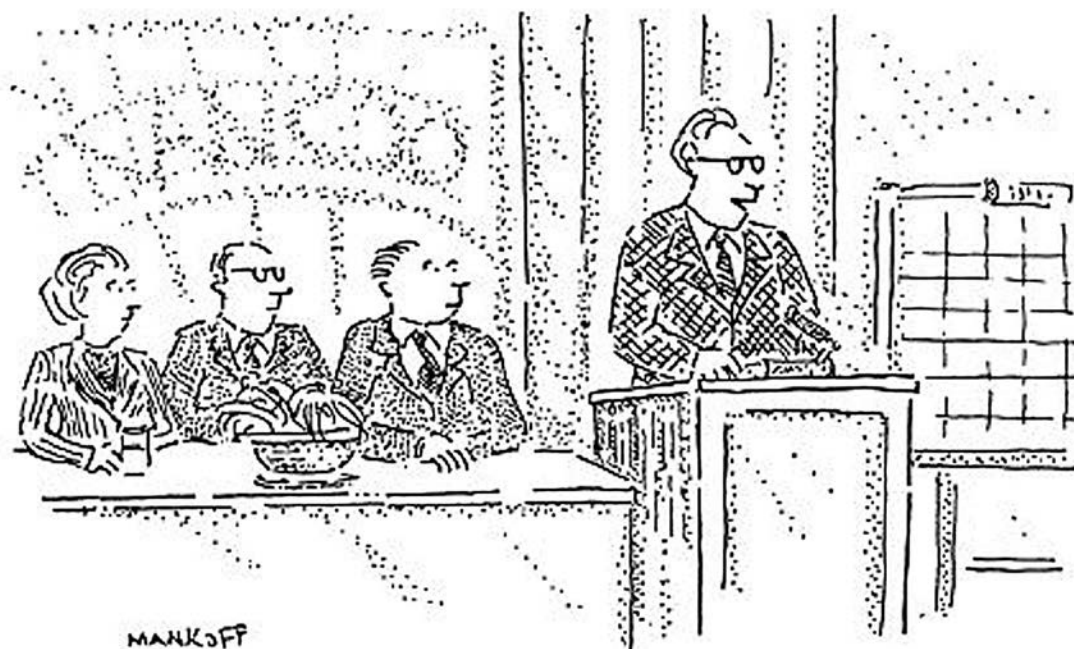
**ACTIVE VALUE MANAGERS, STAY THE COURSE!**  
**THE GREAT INDEXATION BUBBLE IS SHOWING DEFINABLE LIMITS**

Updated in May 2018  
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# Setting the Stage

The *New Yorker* behavioral analyst Bob Mankoff, who apparently understood the ETF industry before it even existed.



*“And so, while the end-of-the-world scenario will be rife with unimaginable horrors, we believe that the pre-end period will be filled with unprecedented opportunities for profit.”*

# The Alpha Producers

## Are Active Managers the Anomaly, or is the Market?

Were these active managers the anomaly for underperforming? And is it reasonable to believe that they all lost their touch at the same time?

Or was it the S&P 500 that was the anomaly for outperforming? That always sounds nonsensical until after the fact.

All one can say is that if a school consistently gave exams that 98% of the students would fail, at least some attention would be paid to the teachers.

Fund or Holding Company	Relative Performance in % Points (net)			
	2017	2016	2015	2014
Fairholme <sup>1</sup>	-21.89	13.72	-12.88	-16.39
Gabelli Value <sup>1</sup>	-12.75	-0.36	-10.88	-12.09
Wintergreen <sup>1</sup>	-7.83	-5.29	-8.32	-15.37
Longleaf Partners <sup>1</sup>	-6.32	8.76	-20.18	-8.77
Berkshire Hathaway <sup>2</sup>	0.07	11.44	-13.88	13.31
Pershing Square Hldgs <sup>3</sup>	-25.83	-25.46	-21.88	26.71
Icahn Enterprises <sup>3</sup>	18.03	-23.59	-26.01	-21.87
Greenlight Reinsurance <sup>3</sup>	-20.33	-4.76	-21.58	-4.99
Royce Micro-Cap <sup>1</sup>	4.50	-0.70	-8.10	-7.70

<sup>1</sup> Fairholme (FAIRX), Gabelli Value 25 A (GABVX), Wintergreen (WGRNX), LongLeaf Partners (LLPFX), Royce Micro-Cap (RMT)

<sup>2</sup> Share price return

<sup>3</sup> NAV per share change

Benchmark is S&P 500 Index except for Royce Micro-Cap which is relative to the Russell MicroCap Index

Source: Company Reports, Manager websites, Horizon Kinetics Research

# 2nd Best Gauge of Stock Market Valuation

P/E Based on Avg. Historical Earnings (Cyclically Adjusted P/E)

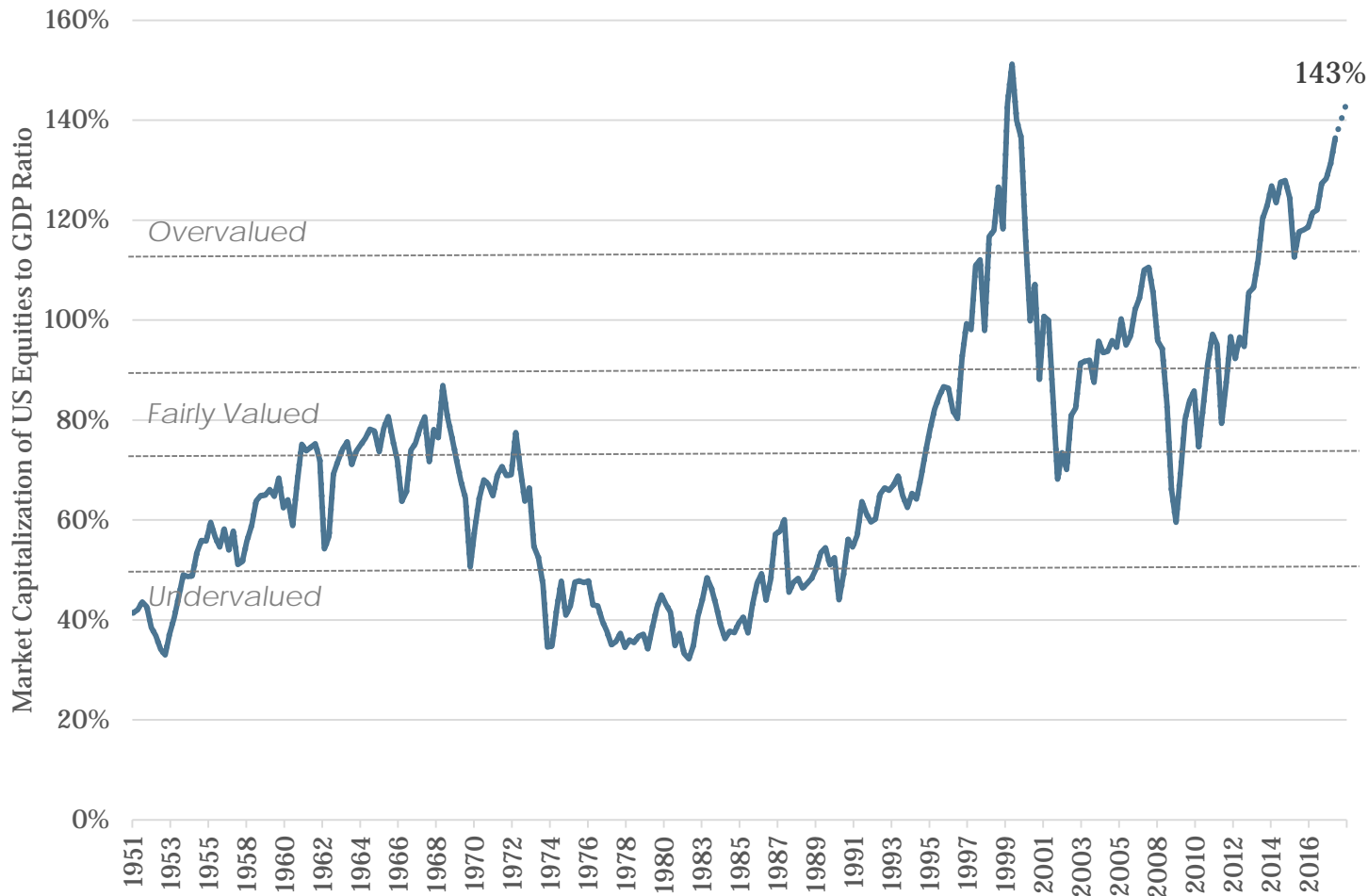


There is a great deal of 'noise' in year-to-year earnings figures. Using an average of the prior several years strips out the momentary impact of write-downs, gains, tax changes, etc., along with the necessity for subtle explanations therefor.

By the 10-Year Avg. Earnings measure, the S&P 500 trades at 33x earnings, which has been exceeded only once before: in 2000, the Internet Bubble Peak. By the 5-Year Avg. Earnings measure, 1937 joins the club.

# Better Gauge of Stock Market Valuation

## A Simpler Measure: Total Market Capitalization-to-GDP Ratio



Even purer, more understandable and less debatable than P/E is this measure: the combined market value of all U.S. stocks relative to the U.S. GDP. That's how much we pay for all stocks relative to the economic productive capacity of the U.S.

That ratio is just shy of 1.5x\*, which nearly matches the Internet Bubble peak. No other period in almost the past 70 years has even approached this level.

Source: Federal Reserve Bank of St. Louis, Bloomberg.

Market Capitalization as measured by the Corporate Equities Level (field NCBEILQ027S), last update available as of 10/1/2017. This figure is very close to the market value of all the stocks in the Wilshire 5000. Since then, the Wilshire 5000 returned 6% from September 30, 2017 through April 30, 2018.

A ratio of less than 0.5x is considered to be very undervalued, a ratio of 0.75x to 0.9x is considered to be fairly valued, and ratio of 1.15 is considered to be overvalued.

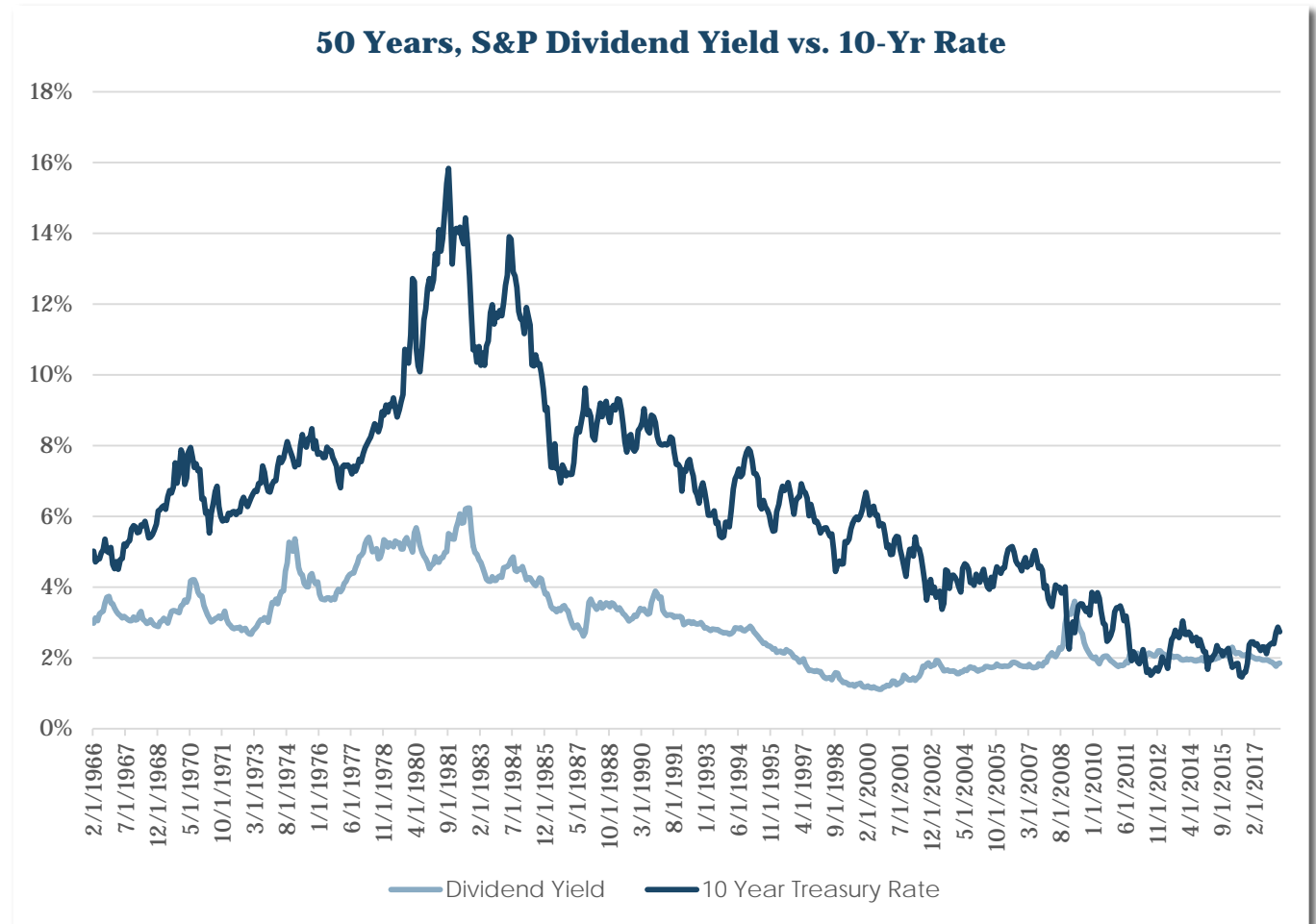
# The Yield Crisis Forces Money Into Higher Risk Choices

## When Cheap Becomes Dear

For the first time in over 50 years, stock and bond yields have converged.

Artificially low interest rates are pushing money toward yield at any cost – yet, it comes at a cost. If the exclusive focus is on the yield benchmark, that obscures other valuation measures, and one does not see that a 3% yield on a REIT index is really equivalent to  $1/0.03$ , or a P/E of 33x.

The one seems reasonable to the desperate; the other seems foolhardy to the objective.



Source: Market Volatility, R. Shiller, MIT Press, 1989, and Irrational Exuberance, Princeton 2015.  
<http://www.econ.yale.edu/~shiller/data.htm>  
<https://fred.stlouisfed.org/series/DGS10#0>

# A Valuation Sobriety Test



## Major holdings in the iShares Emerging Markets High Yield Bond ETF

**Question:** What price for the extra risk?

Benchmark Yield	YTM	Sobriety Test Yield	YTM
U.S. Treasury 10-Year Note	3.0%	Russian Federation, BB+, 12-year bond	??
JPMorgan Chase, A3, 10-Year Note	4.1%	KazMunayGaz, Kazakhstan, BB-, 9-year note	??
Netflix, B1, 9-Year Note	5.3%	Lebanese Republic, B-, 5-year note	??
iShares High Yield Corp. Bond ETF (HYG)	6.0%	iShares Emerging Mkts High Yield Bond ETF (EMHY)	??

*Data as of 4/27/18, except ETF data as of 4/26/18*  
*Source: Bloomberg, iShares*

# A Valuation Sobriety Test



## Why Netflix should reincorporate and refinance in Kazakhstan

Benchmark Yield	YTM	Sobriety Test Yield	YTM
U.S. Treasury 10-Year Note	3.0%	Russian Federation, BB+, 12-year bond	3.4%
JPMorgan Chase, A3, 10-Year Note	4.1%	Develop Bk Kazakhstan, BB-, 4.5-year note	4.1%
		KazMunayGaz, Kazakhstan, 9-year note	5.0%
Netflix, B1, 9-Year Note	5.3%	Lebanese Republic, B-, 5-year note	7.5%
iShares High Yield Corp. Bond ETF (HYG)	6.0%	iShares Emerging Mkts High Yield Bond ETF (EMHY)	5.9%

*Data as of 4/27/18, except ETF data as of 4/26/18*

*Source: Bloomberg, iShares*

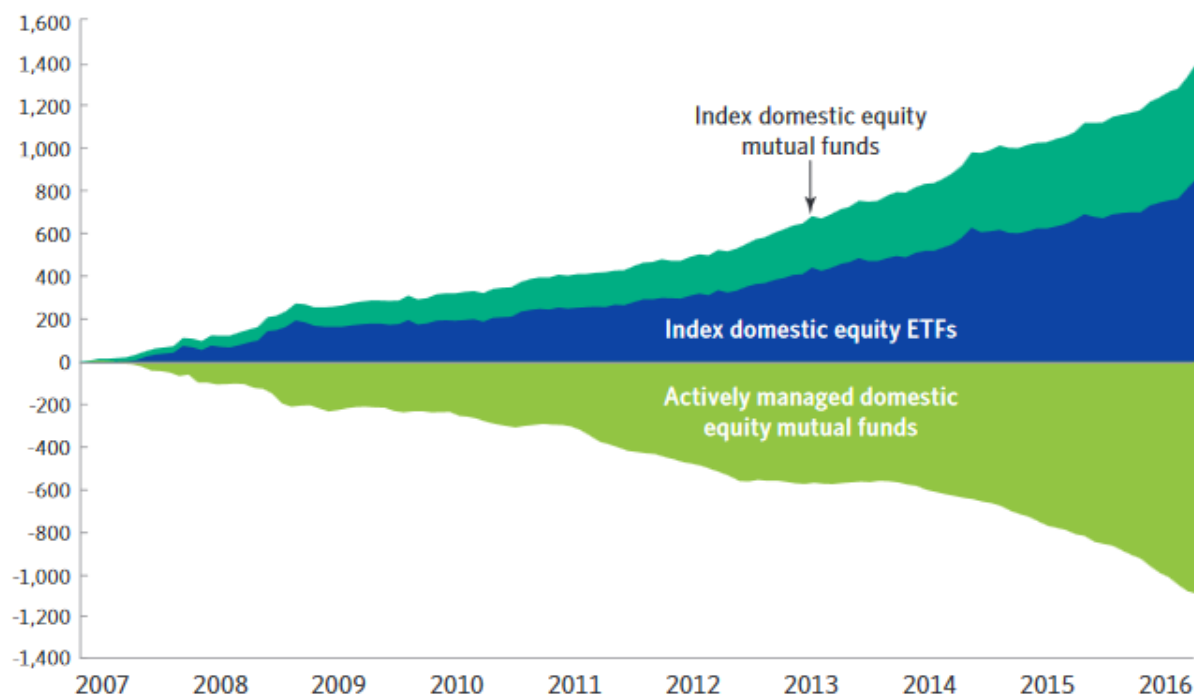


# The Long Road to the Great Mismatch

## And its unintended distortions

### Annual Net Fund Flows and Volatility Phobia (\$B)

Year	Index domestic equity mutual funds	Index domestic equity ETFs	Actively Managed Domestic Equity Mutual Funds
2007	28	79	-96
2008	31	118	-180
2009	25	2	-52
2010	14	39	-95
2011	18	152	-151
2012	15	72	-174
2013	52	134	-34
2014	61	143	-121
2015	47	63	-217
2016	85	168	-320
Cumulative	\$376	\$970	(\$1,443)



**The Exodus:** \$1.4 trillion into indexed equities, \$1.4 trillion out of active management, and probably close to \$2 trillion once 2017 is tallied.\*

*In 2005 there were 204 ETFs in the U.S.; in 2016, 1,716 – even as the number of listed stocks declined.*

Source: Investment Company Institute. Prior to October 2009, index domestic equity ETF data include a small number of actively managed domestic equity ETFs.

\* These equity mutual fund data include net new cash flow and reinvested dividends. Data exclude funds that invest primarily in other funds. Flows shown in the table at left do not include reinvested dividends.

# Semantic Mis-Investing #1: Security Diversification. (Not.)



Market-cap weighted indexes 'undiversify' pretty quickly

**Formulaic investing creates new forms of idiosyncratic risk.**

Do investors in the iShares U.S. Energy ETF, who presume to be buying a diversified portfolio – who were fleeing idiosyncratic risk – know that **roughly** 50% of the fund is held in 4 holdings, that they are actually buying idiosyncratic risk?

The same top-heaviness problem exists in the iShares MSCI Spain Index ETF (EWP). The top 10 companies are over 70% weight.

IShares US. Energy ETF (IYE)	MV%
EXXON MOBIL CORP	22.6
CHEVRON CORP	14.9
SCHLUMBERGER NV	6.4
CONOCOPHILLIPS	4.6
<b>Total Weight of Largest 4 Holdings</b>	<b>48.5%</b>

IShares MSCI Spain Index ETF (EWP)	MV%
BANCO SANTANDER SA	21.0
BANCO BILBAO VIZCAYA ARGENTARIA OR	9.8
TELEFONICA SA	7.5
IBERDROLA SA	6.9
REPSOL SA	4.7
AMADEUS IT GROUP SA	4.6
CAIXABANK SA	4.4
ABERTIS INFRAESTRUCTURAS SA	4.2
INDUSTRIA DE DISEÑO TEXTIL INDITEX	4.2
AENA SME SA	3.7
<b>Weight of Largest 10 Holdings</b>	<b>71.0%</b>

# Semantic Mis-Investing #2: Foreign Equity Exposure

## How to Avoid Investing in a Foreign Market? Through Your Foreign Markets ETF

Does an asset allocation program or robo-advisor seeking foreign market exposure know that **7 of the top 10 holdings get an average of 78% of their revenues from outside Spain!**

Then there's valuation. There is great demand for the few companies of sufficient market cap, simply as raw material for index inclusion. Might these mega-cap global stocks out-perform truly local Spanish stocks just due to their automatic bid? Do global multi-nationals pose their own particular systemic risk?

So what does manager relative performance measure? What does country allocation measure?

IShares Italy ETF (EWI)	% Weight	% of Revenue NOT in Italy
INTESA SANPAOLO	12.5	24
ENEL	11.6	46
UNICREDIT	10.2	53
ENI	10.2	62
ASSICURAZIONI GENERALI	4.5	63
FERRARI NV	4.4	83
FIAT CHRYSLER AUTOMOBILES NV	4.4	80
CNH INDUSTRIAL NV	4.4	89
ATLANTIA	4.2	13
SNAM	3.5	n.m.
Top 10 Total	69.9%	

IShares Spain ETF (EWP)	% Weight	% of Revenue NOT in Spain
BANCO SANTANDER SA	21.0	88
BANCO BILBAO VIZCAYA ARGENTARIA OR	9.8	76
TELEFONICA SA	7.5	76
IBERDROLA SA	6.9	55
REPSOL SA	4.7	9
AMADEUS IT GROUP SA	4.6	93
CAIXABANK SA	4.4	23
ABERTIS INFRAESTRUCTURAS SA	4.2	73
INDUSTRIA DE DISEÑO TEXTIL INDITEX	4.2	84
AENA SME SA	3.7	6
Weight of Largest 10 Holdings	71.0%	

# Indexation is NOT Dependent on Individual Securities. *Really?*



## The Exxon Levitation Conundrum – Or, The Problem of the Automatic Bid

ExxonMobil is one of the most liquid stocks. Ergo, it will be found almost anywhere one can imagine that it can be placed. It is a member of 206 ETFs.

It's Momentum, It's Value, It's a Bird, It's a Plane...

### It's Exxon, a Stock for Every Strategy:

QUAL	iShares Edge MSCI USA <b>Quality</b> Factor ETF
HDV	iShares Core High <b>Dividend</b> ETF
IWD	iShares Russell 1000 <b>Value</b> ETF
MMTM	SPDR S&P 1500 <b>Momentum</b> Tilt ETF
PBP	PowerShares S&P 500 <b>BuyWrite</b> ETF
TILT	FlexShares Morningstar US Market <b>Factors Tilt</b> ETF
FTLB	First Trust <b>Low Beta</b> Income ETF
QWLD	SPDR MSCI World <b>Strategic Factors</b> ETF
TOK	iShares MSCI Kokusai ETF
ACWI	iShares MSCI ACWI ETF
SPLV	Powershares S&P 500 <b>Low Volatility</b> Portfolio
VIXH	First Trust CBOE S&P 500 VIX <b>Tail Hedge</b> Fund

As of 8/21/17. Source: Morningstar.

### ExxonMobil: An Exercise in Levitation

	<u>2012</u>	<u>2017</u>	<u>Change</u>
Revenue/share	\$104.21	\$57.65	-45%
EPS	\$9.70	\$3.23*	-67%
Payout Ratio	22%	94.7%	330%
Long Term Debt (\$ bill)	\$7.9	\$42.3	435%
	12/31/11	12/31/17	
WTI Price	\$98.57	\$68.57	-30%
Share price	\$85.04	\$83.64	-2%

\*Excluding tax reform benefit of \$1.40/sh.

As of 12/31/2017. Source: Company reports.

# Semantic Mis-Investing #3: Correlation Diversification

## Self-defeating paradox: The failed search for diversification in ETFs

### Have a Hunch, Buy a Bunch!

The popular side of the ETF Divide, witnessed in the ExxonMobil phenomenon, can be seen in almost any large S&P 500 constituent. Money has been structurally channeled into the most liquid securities.

It alters correlation statistics, risk statistics.

They all have more or less the same rate of return. The differences in rates of return are more attributable to differences in inception date than to the fundamental attributes of the companies in the funds. The companies in question have sufficiently liquid shares that they are subject to excess demand as raw material for indexation's needs.

Even Mexico and Japan are now more correlated with the S&P 500 than the top S&P 500 companies were 20 years ago!

The result of indexation over the long term is that large cap liquid shares, and even small cap liquid shares, especially those that pay substantive dividends, primarily reflect central bank policies, rather than fundamental business conditions, even over the long term.

### Where's the price discovery?

Since Inception Performance (as of March 2018)			Inc. Date
IVV	iShares Core S&P 500 ETF	5.37	5/15/2000
IYW	iShares US Technology	2.70	5/15/2000
BJK	Market Vectors Gaming	5.01	1/22/2008
IYH	iShares US Health Care	7.42	6/12/2000
IYE	iShares US Energy	6.21	6/12/2000
IYT	iShares Transportation Avg	10.71	10/06/2003
IDU	iShares US Utilities	6.86	6/12/2000
EWV	iShares MSCI Mexico Capped	9.58	3/12/1996
EWJ	iShares MSCI Japan	1.07	3/12/1996
EWY	iShares MSCI South Korea	8.63	5/09/2000

Correlation with S&P 500 (1/1/2008-12/31/2017)*		
IYW	iShares US Technology	0.91
BJK	Market Vectors Gaming	0.62
IYH	iShares US Health Care	0.85
IYE	iShares US Energy	0.81
ITB	iShares US Home Construction	0.74
IYT	iShares Transportation Avg	0.85
IDU	iShares US Utilities	0.74
<b>EWV</b>	<b>iShares Mexico Capped</b>	<b>0.82</b>
<b>EWJ</b>	<b>iShares MSCI Japan</b>	<b>0.78</b>
<b>EWY</b>	<b>iShares MSCI South Korea</b>	<b>0.78</b>

# Above the ETF Divide



Endless examples of the 'automatic bid' in basket-based investing

## Which Coca-Cola is More Expensive?

<u>1970s</u>			<u>Present</u>			
	P/E	EPS Growth		P/E	EPS Growth	Rev. Growth
<b>1969</b>	36.0x	--	<b>2013</b>	21.23x	-3.00%	-2.42%
<b>1970</b>	30.5x	16.98%	<b>2014</b>	20.63x	-1.92%	-1.96%
<b>1971</b>	36.7x	13.71%	<b>2015</b>	20.98x	-1.96%	-3.81%
<b>1972</b>	41.1x	13.48%	<b>2016</b>	21.02x	-10.65%	-5.49%
<b>1973</b>	36.9x	12.50%	<b>2017</b>	24.02x	-80.79%	-15.41%
<b>1974</b>	26.3x	-8.89%				
<b>1975</b>	18.3x	21.95%				
<b>1976</b>	17.7X	19.00%				
<b>1977</b>	14.3X	12.18%				
<b>1978</b>	13.6X	13.48%				

## McDonald's, Another Case of Automatic Daily Bid

(\$ in billions)	<u>2008</u>	<u>2017</u>	<u>Change</u>
<b>Revenue</b>	\$23.52	\$22.82	(2.97%)
<b>Net Income</b>	\$4.31	\$5.19	20.47%
<b>Long Term Debt</b>	\$10.19	\$29.54	189.86%
<b>Equity</b>	\$13.38	(\$3.27)	(124.42%)
<b>Weighted Avg. Shares</b>	1.146	0.816	(28.84%)
<b>Share price, end of yr.</b>	\$62.19	\$171.04	175.02%
<b>P/E ratio, yr-end px</b>	16.9x	25.7x	52.07%

Source: Historical data from Moody's Handbook of Common Stocks;  
2014-2017 data from Bloomberg

# The Pursuit and Myth of Low Beta (*and the accumulation of systemic risk*)

## The misuse & abuse of historical statistics in the ETF creation process

**A reality:** A new ETF cannot be launched without a low Beta.

**A result:** These largest-in-class ETFs can legitimately be characterized as low volatility, since the financial sector has not been volatile lately. And the high sector weighting enables the ETF to attain its advertised low beta.

**A rhetorical question:** Is low volatility an inherent attribute of the financial sector? Or is it perhaps simply that the central banks of the world have maintained an artificially low-rate environment for a very long time?

Would anyone legitimately assert that these ETFs will remain non-volatile if rates rise? The ETFs can't trade out of a low-Beta security; but they can once the Beta rises.

**Another rhetorical question:** Would an active manager of a low-risk strategy be permitted the risk of a 35% or 45% weighting in financials?

What is  
This  
Column?

Beta

### Sample Low Volatility, Low Beta, and Factor ETFs

EEMV	iShares MSCI Emerging Mkts Min Vol ETF	0.81	23.6%
TUR	iShares MSCI Turkey ETF	0.81	26.9%
QAT	iShares MSCI Qatar ETF	0.56	38.5%
RUS	iShares MSCI Russia ETF	0.88	36.1%
FM	iShares MSCI Frontier 100 ETF	0.64	43.7%

### Sample Value Factor ETFs

IWD	iShares Russell 1000 Value ETF	0.97	26.6%
IWN	iShares Russell 2000 Value ETF	0.95	30.2%
IVE	iShares S&P 500 Value ETF	0.97	24.4%
IVV	Reference: iShares Core S&P 500 ETF	1.00	23.7%

As of 12/31/2017 other than FM (as of 2/28/2018)

Answer: Percentage Weight in Financials

Source: Various ETF Factsheets.

Source: iShares. iShares calculates Beta vs. the S&P 500

# Central Banks, Equities and, Of Course, Indexation



Still believe in price discovery?

*Q: Which Index Fund Would Be the 4<sup>th</sup> Largest ETF in the U.S.?\**

	Q2 2015	Q2 2016	Q2 2017	Q4 2017
Market value of holdings	<b>\$38.6 B</b>	<b>\$61.8 B</b>	<b>\$85.0 B</b>	<b>\$92.6 B</b>
Number of positions	2,581	2,581	<b>2,643</b>	<b>2,514</b>
Top 10% by weight, # of positions	258	258	<b>264</b>	<b>251</b>
Largest 10% as share of portfolio	74%	76%	<b>76.5%</b>	<b>76.4%</b>
Average market cap of position of largest 10% (billions)	\$60.4	\$62.7	\$70.0	\$80.3

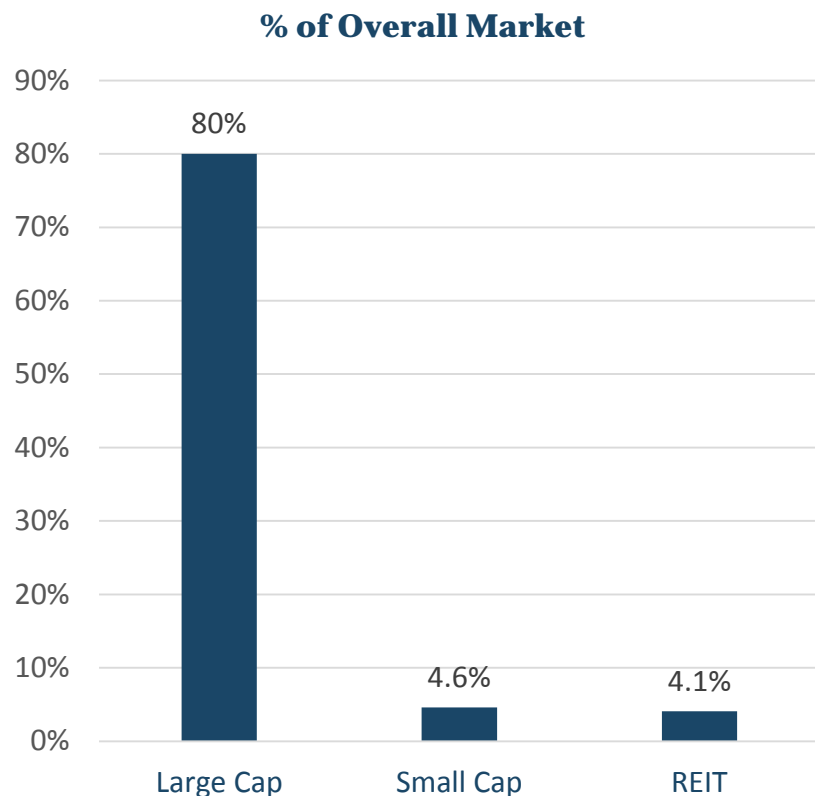
*Source: sec.gov 13F Filings, Bloomberg*

*\* From the Swiss National Bank: "The SNB does not engage in equity selection; it only invests passively. It first decides in which markets it wants to invest, and then replicates appropriate broad equity indices. If the equity portfolio were managed actively, this could send undesirable signals to the market, and might also lead to the politicization of investment decisions."*



# The Trap: Nowhere to Go

## The Unavailability of Alternative Asset Classes/Sectors



CRSP U.S. Total Market Index, as of 3/31/17, comprising over 3,500 companies and \$26.9 trillion.

Small-capitalization stocks (less than \$2 billion), a traditional alternative to over-valued large-cap stocks, are no longer a practical option.

At only 4.6% of the total market, they cannot absorb a sufficient portion of the equity pool; they cannot be a functional alternative.

Real estate, perhaps the largest industry in the U.S., should be an alternative. Yet, publicly traded real estate is only 4.1% of the stock market, so is not a practical option either. Moreover, publicly traded real estate likewise trades near all-time high valuations.

Accordingly, **investing must now take place outside of the indexation sphere of focus. While that can't take place for the majority of investors, it can for a small minority.**

# Beneath the ETF Divide

## The New Division: Between Liquid (Index Filler) and Less Liquid

For the first time, trading liquidity – not, say, earnings or valuation, competition or management, or other financial factors – now drives the security selection process.

One can observe a direct correlation between liquidity and demand (and, consequently, valuation).

If you're willing to take a touch of illiquidity risk, your degrees of valuation and optionality opportunity widen dramatically.

### Real Estate / Land

	Simon Property Group	Howard Hughes Corp.	Gladstone Land	Dream Unlimited
Market Cap (\$ bill.)	\$53.39	\$5.68	\$0.18	\$0.67
Inside Ownership	8.4%	20.7%	21.9%	85%*
30-Day Avg Vol. (000)	35,187	3,252	857	326
Price/Book Value	14.7x	1.9x	1.7x	1.0x
# of ETPs	92	28	8	0

\*Voting control, per March 2017 Annual Information Form

Source: Company reports, Bloomberg, Morningstar Direct. Data as of December 2017 or most recent company report

### Shipping

	AP Moller-Maersk	Subsea 7	Stolt-Nielsen	Siem Industries
Market Cap (\$ bill.)	\$219.65	\$40.30	\$0.8	\$0.96
Inside Ownership	53.5%	21.3%	52.0%*	79.4%
30-Day Avg Vol. (000)	540	363	42	2.3
Price/Book Value	1.1x	0.8x	0.7x	0.5x

\*Voting rights

Source: Company reports, Bloomberg, Morningstar Direct. Data as of December 2017 or most recent company report. ETP data from Fidelity as of 3/20/2018.

# Subsea 7

## An Entirely Different Animal

### **Thing One**

**Δ since 2012**

Revenue	↓ 37%
Worldwide Offshore Rig Count	↓ 40%
WTI Crude Oil Price	↓ 33%
Share Price	↓ 40%

### **Thing Two**

Current Assets	\$2.2 billion
Of which Cash	\$1.1 billion
Short-term liabilities	\$1.3 billion
Non-current debt & other liabilities	\$0.5 billion
Free cash flow, net of taxes and capital expenditures	\$730 million
Price to Free Cash Flow	6.6x
Share repurchases in 2017	3.8% of shares outstanding (17% since 2012)
Book value per share growth in 2017	7%
Held by ETPs	No

Source: Company reports, Baker Hughes

# Sample Classes of Non-Indexed Income Securities



## Closed-End MLP Funds

### Example: ClearBridge Energy MLP ("CTR")

- Total Assets: \$590M
- Distribution Rate: 11.8%
- Discount to NAV: -4.7%

Top 5 Holdings (as of 3/31/2018)	% MV	Market Cap (\$B)
Enterprise Products Partners LP	9.55	57.7
Williams Partners LP	6.09	35.6
Oneok Inc	6.05	26.1
Energy Transfer Partners LP	5.73	22.1
Magellan Midstream Partners LP	5.16	15.5

As of March 31, 2018. Source: CEF Connect, [www.leggmason.com](http://www.leggmason.com), Morningstar Direct. MLP sector is represented by the Energy Limited Partnership Morningstar Peer Group.

### Index Ineligibility Characteristics

- "Illiquid" – typical AUM range of \$250 mill. to \$1,200 mill.
- Poor Performance – e.g.:
  - MLP sector 3-year price annualized rate of return -12.4%
  - MLP sector 5-year price annualized rate of return -6.5%
- Structure – Most MLP Funds issue K-1 tax documents

### Rationally Desirable Attributes

- Valuation opportunity – price declined ~50% from peak 3 years ago.
- Fee offset – discount to NAV.
- Premium Relative and Absolute Yields.
- Structure: A small number of such funds structured as C-Corps, which issue 1099s, not K-1s.
- Liquidity: Paradoxically, the Fund holdings are large cap, liquid companies.
- Purchasing Power Protection: Pipeline and related infrastructure business should be able to generate some modest degree of growth over time.

# Asset Class #1: Cryptocurrencies

So, what is cryptocurrency? In some ways, not unique. Put it all together, unique in human history.

Bitcoin, the first and largest cryptocurrency:

***Is digital currency.*** That is not unique. Buy a Treasury Bill at [www.treasurydirect.gov](http://www.treasurydirect.gov), and what do you own: a digital entry on a digital ledger on a U.S. Treasury computer. No certificate, no letter.

***Is not fiat or government issued currency.*** Not unique, either. Before the National Bank Act, banks issued their own currency, and there were thousands of them. It didn't work so well.

***It can neither be counterfeited nor confiscated,*** a universal challenge of physical money, because each owner possesses a unique cryptographic password to their own account, like a Swiss bank account. Which is also why it can't be confiscated. This security frees the holder from bank safekeeping. It is borderless and can be transferred anywhere, instantaneously and in any amount.

***Is fixed-supply and non-inflatable.*** This is defined by its software code: only 21 million units will ever be issued<sup>1</sup>. That makes it humankind's first currency to escape government power to dilute and debase the holder's purchasing power.

Nor is the desire for a form of money not hostage to government dilution or confiscation in any way unique. It has been the subject of previous scholarly work.<sup>2</sup> Bitcoin appears now only because advances in technology have finally made it feasible. In this sense, it is a very old idea, the desire for which is 5,000 years old, whose time has, perhaps, finally come.

<sup>1</sup> That number will be reached in the year 2140, versus 16.6 million as of 10/14/2017.

<sup>2</sup> The Denationalization of Money by F.A. Hayek Nobel Laureate, 1974

# Consensus Money and Blockchain

## How Can Bitcoin Really Still Go Up 1,000x?

If Bitcoin comes to be accepted as a parallel currency, it will no longer be volatile because it will have reached some mature market value in the scores of trillions of dollars.

- There is about \$97.5 trillion of M2 money supply in the world<sup>1</sup>.
- There is \$85 trillion of assets on the balance sheets of the world's largest 100 banks<sup>2</sup>.
- There is \$38 trillion developed market sovereign debt and it pretty much all earns a negative real rate of return<sup>3</sup>.
- There is **\$0.164 trillion of bitcoin as of May 4, 2018**<sup>4</sup>.

	<b>USD (trill.)</b>	<b>Potential Expansion</b>
Bitcoin	\$0.164	

Money Supply – Worldwide <sup>1</sup>	\$97.531	594x
Money Supply – Developed	\$56.313	343x
Money Supply - Emerging	\$37.816	230x
Money Supply - Frontier	\$3.403	21x

Developed Market Sovereign Debt <sup>2</sup>	\$38	231x
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<b>(\$T)</b>	<b>Gross Dollar Volume (\$ trill.)</b>	<b>Estimated Charges* (\$ bill.)</b>
Visa	\$10.2	\$342
Mastercard	\$5.241	\$176

*\*Estimated based on a 3.35% fee*

<sup>1</sup> Source: CIA World Factbook; <sup>2</sup> Source: Bloomberg. Most recent balance sheet as of December 21, 2017; <sup>3</sup> Source: Bloomberg World Countries Debt Monitor, Developed Markets, as of December 21, 2017; <sup>4</sup> Source: [www.coinmarketcap.com](http://www.coinmarketcap.com)

# Asset Class #1: Cryptocurrencies



Let's Re-frame Your Definition of Retirement and Estate Risk.

Would You Prefer: Near-term Volatility or Long-term Money Debasement?

Academics and mainstream investment businesses do not accept cryptocurrency as a legitimate investment largely because modern portfolio theory defines risk as price volatility. Clearly, cryptocurrency has been far more volatile than even the most volatile equity class.

Yet, in a historical, rather than day to day or year to year context, *the great investment issue has never been control of volatility. It has been retention of purchasing power or, stated differently, defense against erosion of purchasing power.*

***Pent-up demand for a stable currency pre-dates the Roman Empire.*** Over anyone's lifetime, this can be devastating to a society's savers and the solvent.

- The Roman Empire was a serial debaser of its coinage for 2,000 years. As one example, during the 73 years between Marcus Aurelius's reign ended in 180 CE and the beginning of the reign of Emperor Gallienus, the denarius silver coin was debased from 75% silver to only 5%, by which time it was just a surface coating that would wear off. That is 93% depreciation, or about 3.6% per year.
- Ancient history?, During the 73 years from 1944 to 2017, the U.S. dollar also lost 93% of its purchasing power, based on an annualized inflation rate of just over 3.6%. For most of that period, though, U.S. citizens could earn a comparable yield on their bank deposits or treasury bills, so that purchasing power could be maintained. That has not been the case over the past ten years, though, since short-term interest rates have been kept near zero; today, money really does earn a negative return.

Hopefully, if nothing else, a vigorous discussion of the merits of cryptocurrency or lack thereof will restore the focus of the investment debate from a study of volatility to a study of purchasing power.

# What Makes You (Horizon Kinetics) Think Cryptocurrency



## Has Any Intrinsic Value? (Facts.)

Just as for debasement, monetary history reveals plenty of examples of how certain items of fixed supply – that is, which were reliably scarce – have provided a remarkable degree of investment return.



- The Liberty Dime, not been minted since 1945, is worth about \$72. That's a 72-year rate of return of 9.7%. If silver coins were an asset class, they would compare quite favorably with any type of fixed income instrument and most forms of equity. And this is despite the fact that the supply of silver is constantly increasing and is now priced at \$17 an ounce<sup>1</sup>, whereas it traded at almost \$50 in 1980.



- Or, there is the 1909-S Indian Head penny. Rare coin website CoinTrackers.com estimates its value, even if only in average condition, at \$600. That represents a compound annual rate of return of 11.6%. In any case, it is far superior to \$1 from 1909. It is astonishing that an average-condition 1909-S Indian Head penny, collecting no interest, could dramatically outperform every bond index or fixed income index within reason, as well as the S&P 500.

These coins only escaped the debasement power of government because they stopped being issued. In an operation of Gresham's Law – that bad money drives out good – individuals withdrew these coins from circulation and saved them for their scarcity value.

One can see that the investment return of the Liberty Dime or the Indian Head Penny was not only a matter of appreciation per se, but also a matter of retaining value relative to the depreciating currency in which those fixed-supply items were denominated.

<sup>1</sup> As of 10/18/2017  
Source <http://www.cointrackers.com>



# Reframing What Constitutes Portfolio Position Risk



## Which Risk Would You Take?

If and as investors place money into a bitcoin, they necessarily withdraw money from bank deposits. In Sweden, rapidly moving to a cashless society even without cryptocurrency, fewer than half the banks store cash, the amount of currency in circulation has declined by 60% since 2009, and much of the population no longer carries cash.

If a cryptocurrency like bitcoin has the possibility of being accepted as a store of value, it has the possibility of demonetizing a portion of the banking system, and threatens other financial sector business models, too.

**A Safe Investment:** The S&P 500 has a 14% weight in Financials. The iShares S&P 500 Value ETF (ticker IVE) has a 28% weighting in Financials and Real Estate<sup>1</sup>, 25% higher<sup>2</sup> than the highest level ever achieved within the S&P 500, which was year-end 2006, which was the eve of the great Credit Crisis.

If the financial sector 'corrects' by 10%, hardly a crisis, but perhaps a touch worrisome, and if the rest of the IVE holdings do not decline, IVE would decline by 2.8% points. Alternatively, if you wish to hedge your IVE holding, the annual cost of an at-the-money put option will be about 6% of the value of your IVE.

**A Risky Investment:** A 0.5% weight in bitcoin as a hedge/store of value in a \$100,000 portfolio, is \$500. The cost of a night at the theater, dinner and parking. That's the risk.

As a form of basic insurance against the persistent collapse, whether fast or slow, of the world's fiat currencies, we incorporate consensus digital money, those with non-inflationary monetary policies – appropriately sized to account for the risk – in client portfolios. As viewed from the historical perspective, the **ultimate conservative investment**.

<sup>1</sup> Until September 2016, Standard & Poor's included the real estate stocks in the financial sector, since these also share the characteristic of leveraged balance sheets. But, Standard & Poor's wanted to reduce the apparent size of the sector, for whatever good reasons they might have had. So as of September 2016, real estate is shown separately.

<sup>2</sup> At the end of 2006, the S&P Financials weight was 22.27%.

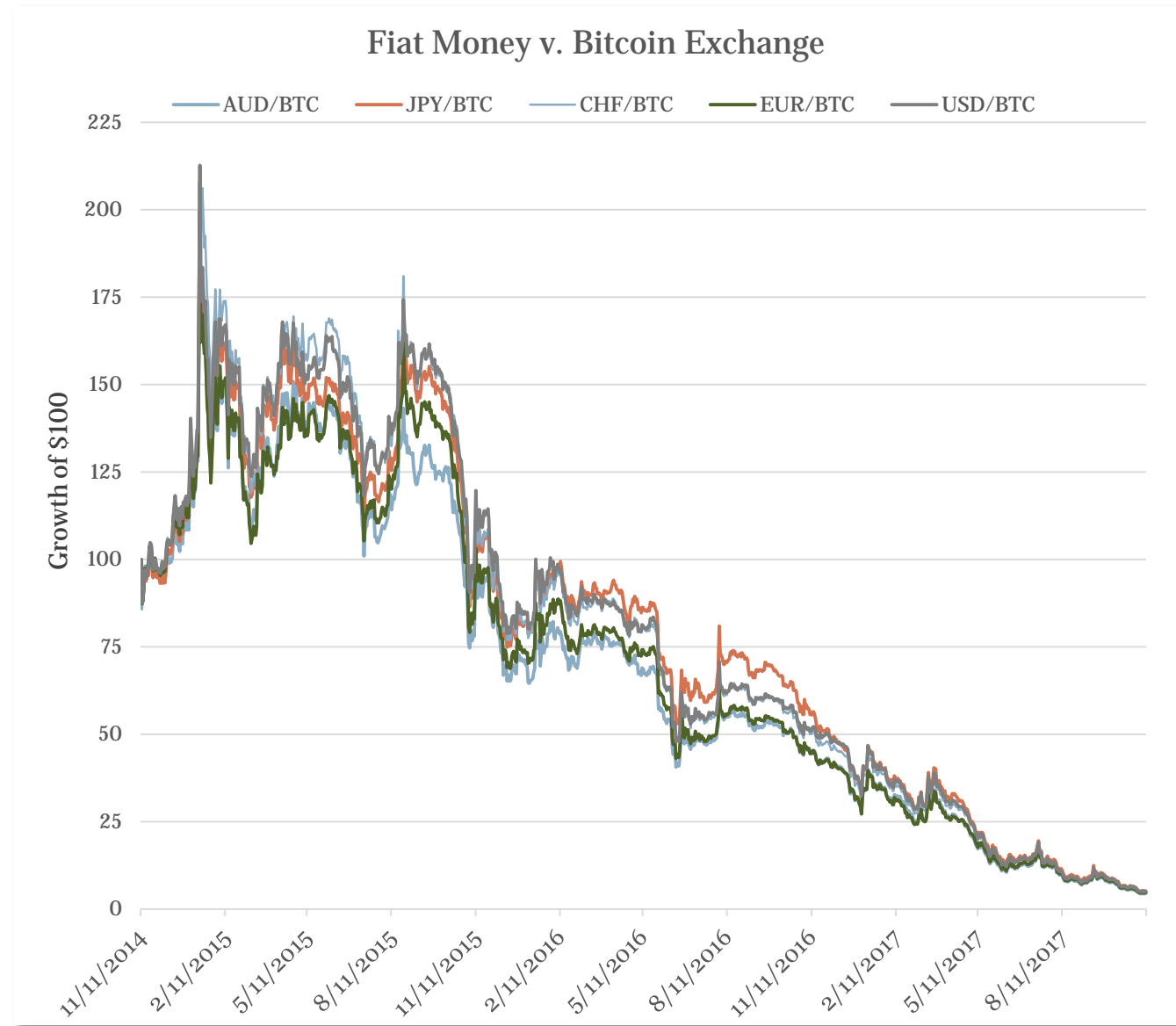
## Bubble, or No Bubble?

Many people find the notion that the world's major currencies are depreciating against bitcoin, as the following chart suggests, to not be credible, that this is a bit of legerdemain with charts.

They are comfortable with the inverse of this chart, which shows bitcoin's mountain-like and appreciation and roller-coaster volatility.

This relates, perhaps, to a misunderstanding of the bitcoin volatility. Missing from that understanding, in algebraic fashion, would be the relative weight to apply to each side of the equation.

*Is bitcoin Appreciating, or is 'Money' Depreciating?*



## What the Government *Really* Thinks

The question, or presumption, really, of an existential threat to bitcoin or other consensus money by governmental suppression is a particularly popular theme. Set forth below are some statements that can only be considered to be a fact-based, far more reliable account of the U.S. government attitude toward bitcoin, consensus money and blockchain than one is otherwise likely to hear, since it is, in fact, a statement from the government.

*Written Testimony of Chairman J. Christopher Giancarlo before the Senate Banking Committee, Washington, D.C. (February 6, 2018)*

"Do no harm" was unquestionably the right approach to development of the Internet. Similarly, I believe that "do no harm" is the right overarching approach for distributed ledger technology.

SEC Chairman Clayton and I recently stated in a joint op-ed, that:

***"Our task, as market regulators, is to set and enforce rules that foster innovation while promoting market integrity and confidence..."***

We are entering a new digital era in world financial markets. As we saw with the development of the Internet, we cannot put the technology genie back in the bottle. Virtual currencies mark a paradigm shift in how we think about payments, traditional financial processes, and engaging in economic activity. Ignoring these developments will not make them go away, nor is it a responsible regulatory response. The evolution of these assets, their volatility, and the interest they attract from a rising global millennial population demand serious examination.

With the proper balance of sound policy, regulatory oversight and private sector innovation, new technologies will allow American markets to evolve in responsible ways and continue to grow our economy and increase prosperity. This hearing is an important part of finding that balance.

# Asset Class #2: Blockchain

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Blockchain supports the coin, and mining supports the blockchain

Asset Class #1, referring to cryptocurrencies, and to Bitcoin in particular, has investment characteristics with enormous potential return, but with enormous volatility.

The precise opposite profile can be found in Asset Class #2, it is actually an asset class that answers another long-sought investment dream: *virtually no NAV volatility, coupled with a very high yield – high meaning never before observable in any publicly traded security*. ‘Mining’ bitcoin and other cryptocurrencies is an operating business. It has the highest cash flow margins and return on capital one will ever see outside of a royalty business model (which has no meaningful operating expenses).

It does not depend upon the price appreciation or success, per se, of any given cryptocurrency, since its function is to operate the blockchain that permits the cryptocurrency to be used. It represents an industrial support element of cryptocurrencies that are finding more and more practical applications in the economy.

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