Invest Better: Focus on Risk Control

Topics in Qualitative & Quantitative Investment Reasoning

AAII – Baltimore

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Where to find this Presentation

- http://alephblog.com/wp-content/uploads/2016/03/David-Merkel-AAII-Presentation-2016.pdf

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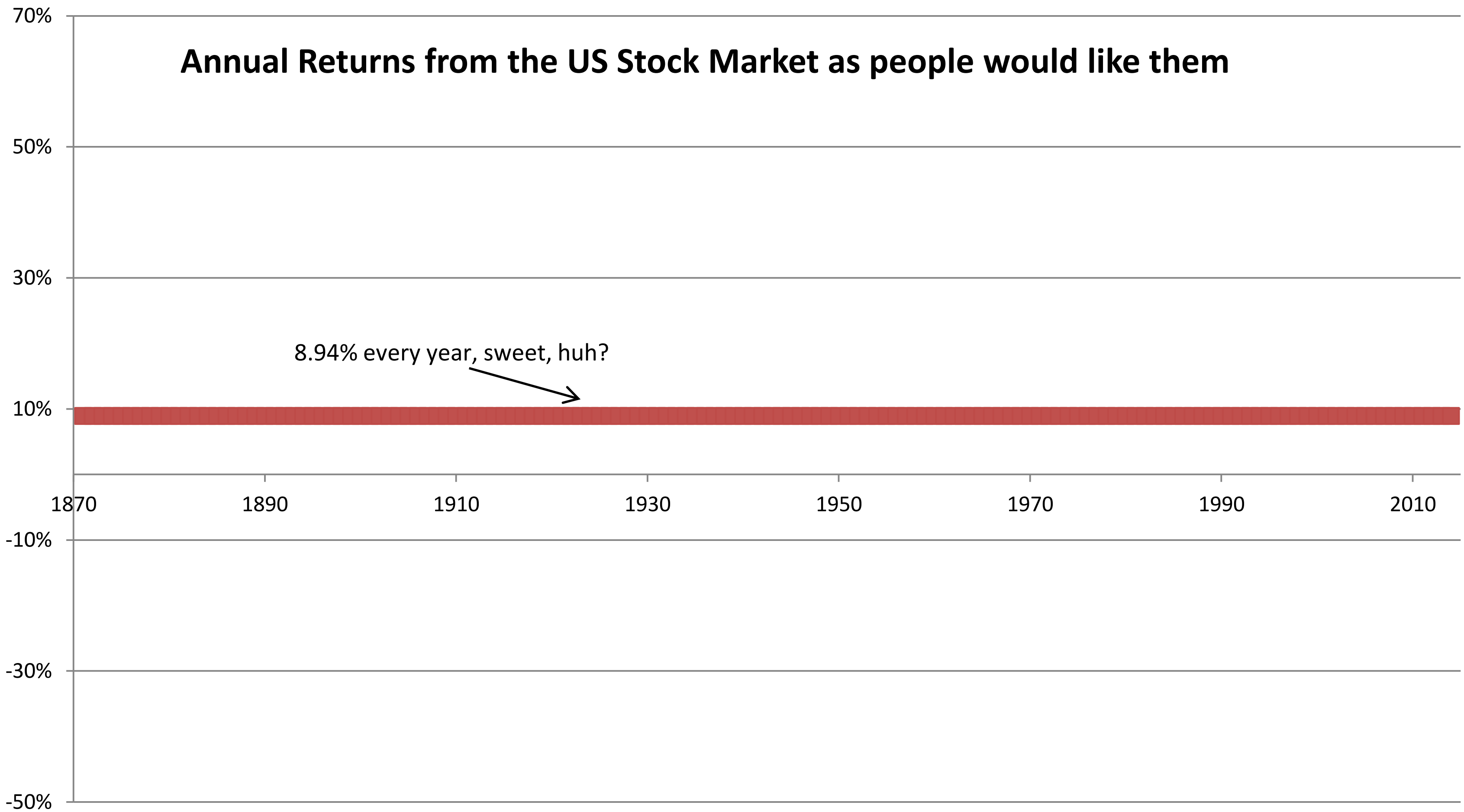
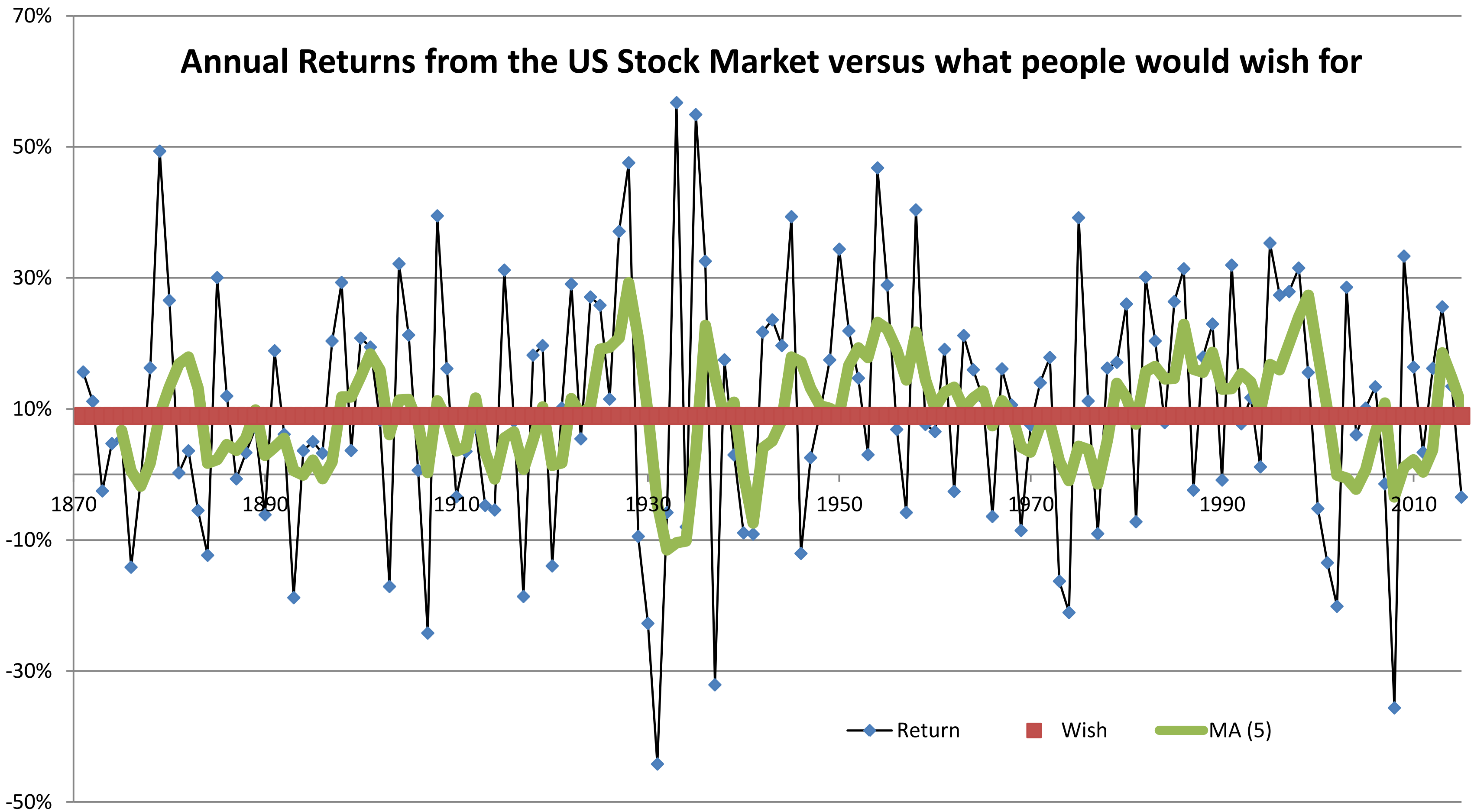
Quick History

- Actuary – Pacific Standard Life, AIG, Provident Mutual Life
- Bond Manager – St. Paul, Dwight Asset Management
- Investment Analyst – Hovde Capital, Finacorp Securities
- Writer – RealMoney.com, Alephblog.com
- Value Investor – Aleph Investments

How Do Economic Agents Want To Earn Returns?



How Do Returns Actually Arrive?



Data from Robert Shiller

Why Are Returns Lumpy?

- After all, growth in net worth is not as volatile
- Credit Cycle
- Expectation Effects – uncertainty gives way to certainty and false certainty, failure and burnout
- People Imitate, they don’t Think
- Discount rates shift
- Procyclical Economic Policy
- The Lure of Seemingly Free Money – Yield-seeking behavior

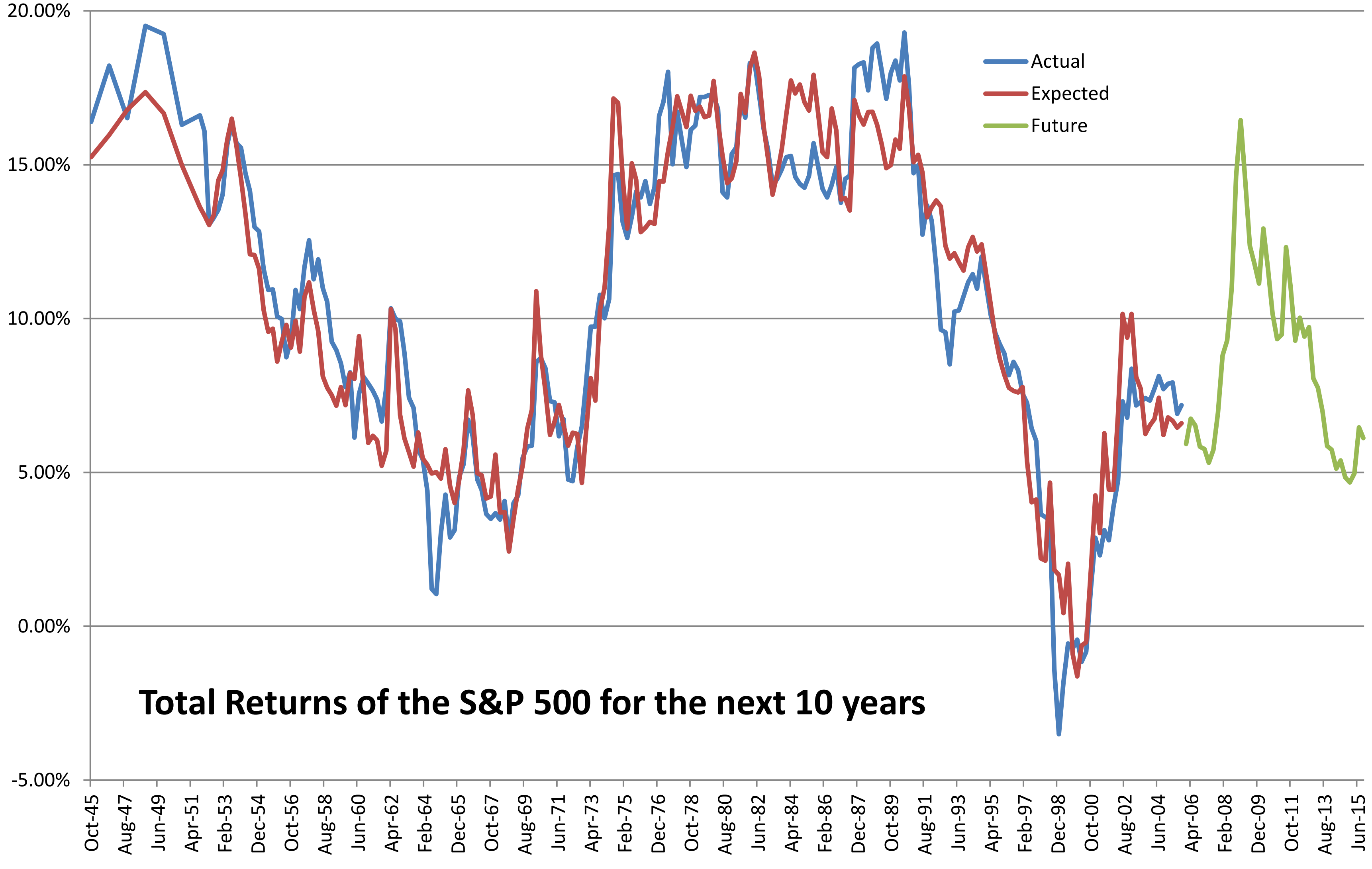
What To Do?

- Buy when you are paid to do so – there is a time to take any risk
- Measuring risks with bonds is relatively easy
- Stocks and other risky investments are more challenging.
- Also note that all risky investments are highly correlated in the present environment. There are no easy places to hide and earn returns.

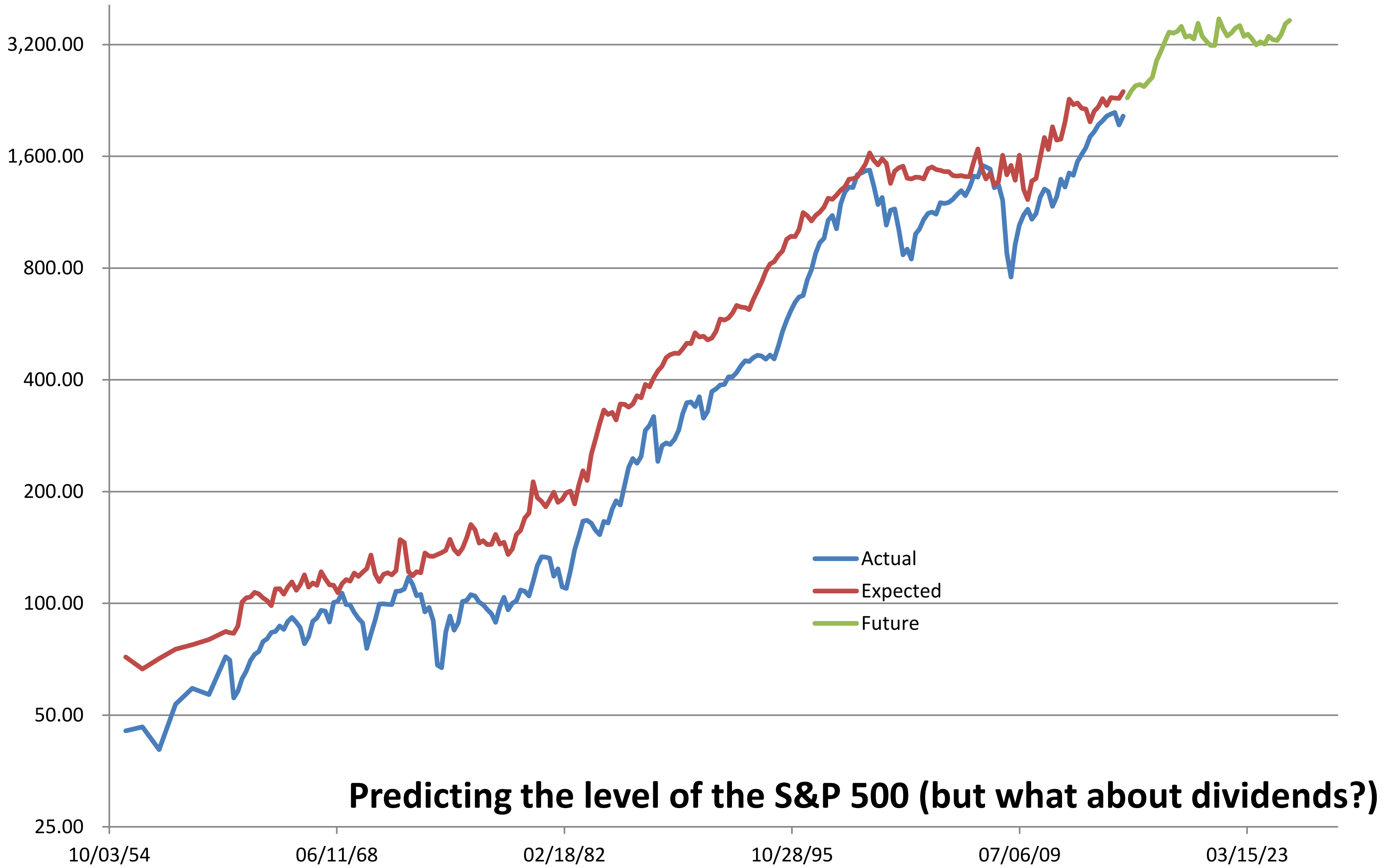
Estimating Future Stock Returns

- Many Alternative Models
  - P/Book, P/Resources
  - Mkt Cap / GDP
  - Shiller’s CAPE10 (and all modified versions)
- Better model: Philosophical Economics Blog
- Look at the proportion of US Wealth held by private investors in stocks (Fed’s Z.1 report). The higher the proportion, the lower future returns will be.

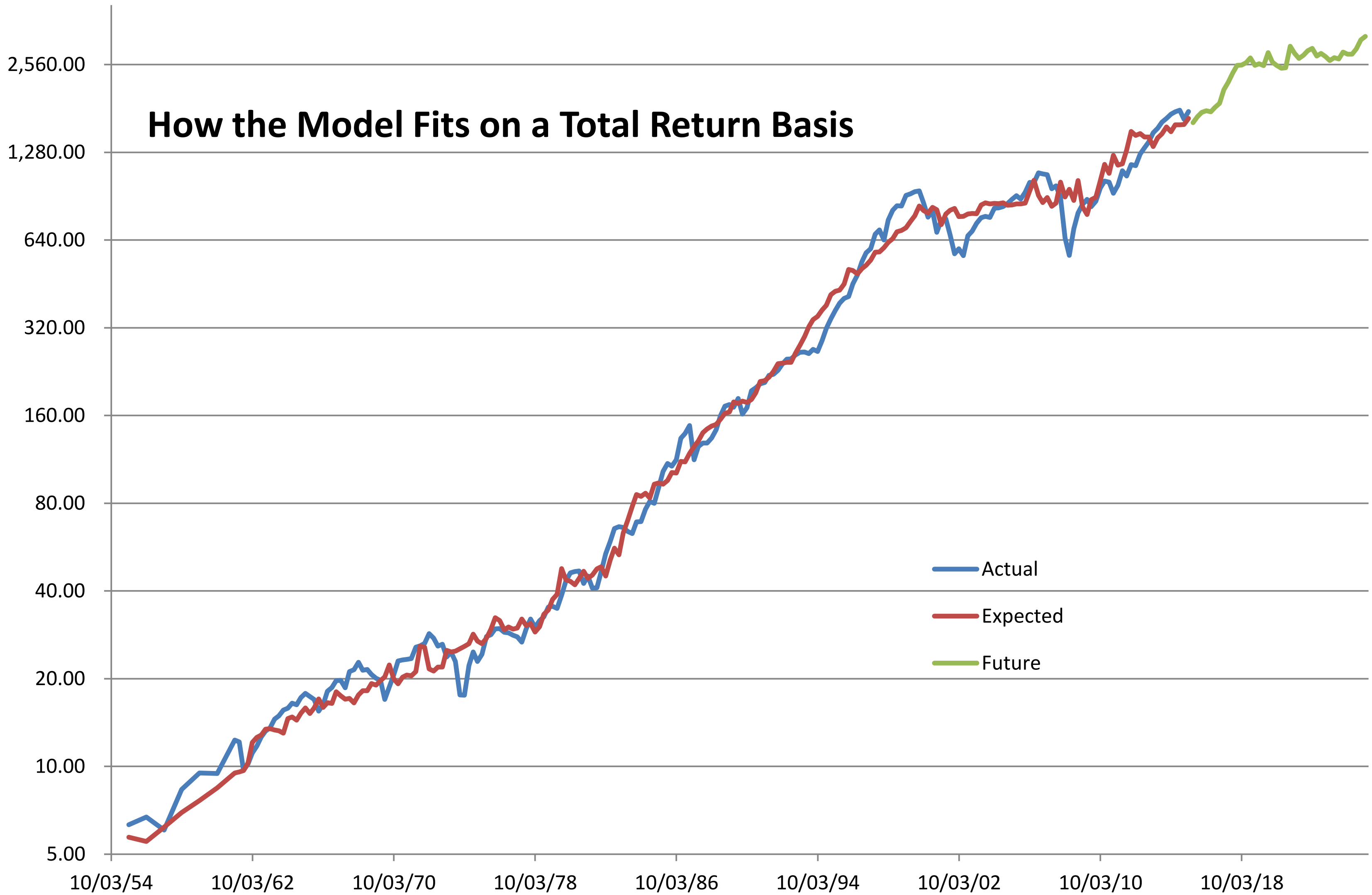
Estimating Future Stock Returns (2)



Estimating Future Stock Returns (3)



Estimating Future Stock Returns (4)



Implications

- If total returns from stocks are only likely to be 6.1%/year (w/ dividends @ 2.2%) for the next 10 years, what does that do to:
  - Pension funding / Retirement
  - Variable annuities
  - Convertible bonds
  - Employee Stock Options
- Consistent with corporate bond yields, low volatility
- Entire capital structure is low yielding; prices high
- Thanks a lot, Fed.

What Many Quantitative Equity Hedge and Mutual Funds Do

- Choose your trading time horizon – shorter-run will be more momentum-driven, longer will include more fundamental factors.
- Decide what factors or anomalies are relevant to stock pricing
- Define the universe of stocks
- Estimate expected return on the various stocks over the time horizon
- Go long stocks with expected high returns, and short those with low returns, subject to diversification constraints which might include limits on: factor exposure, industry, portfolio weight, liquidity, etc.
- Same applies to long only mutual funds

How it Failed in August 2007

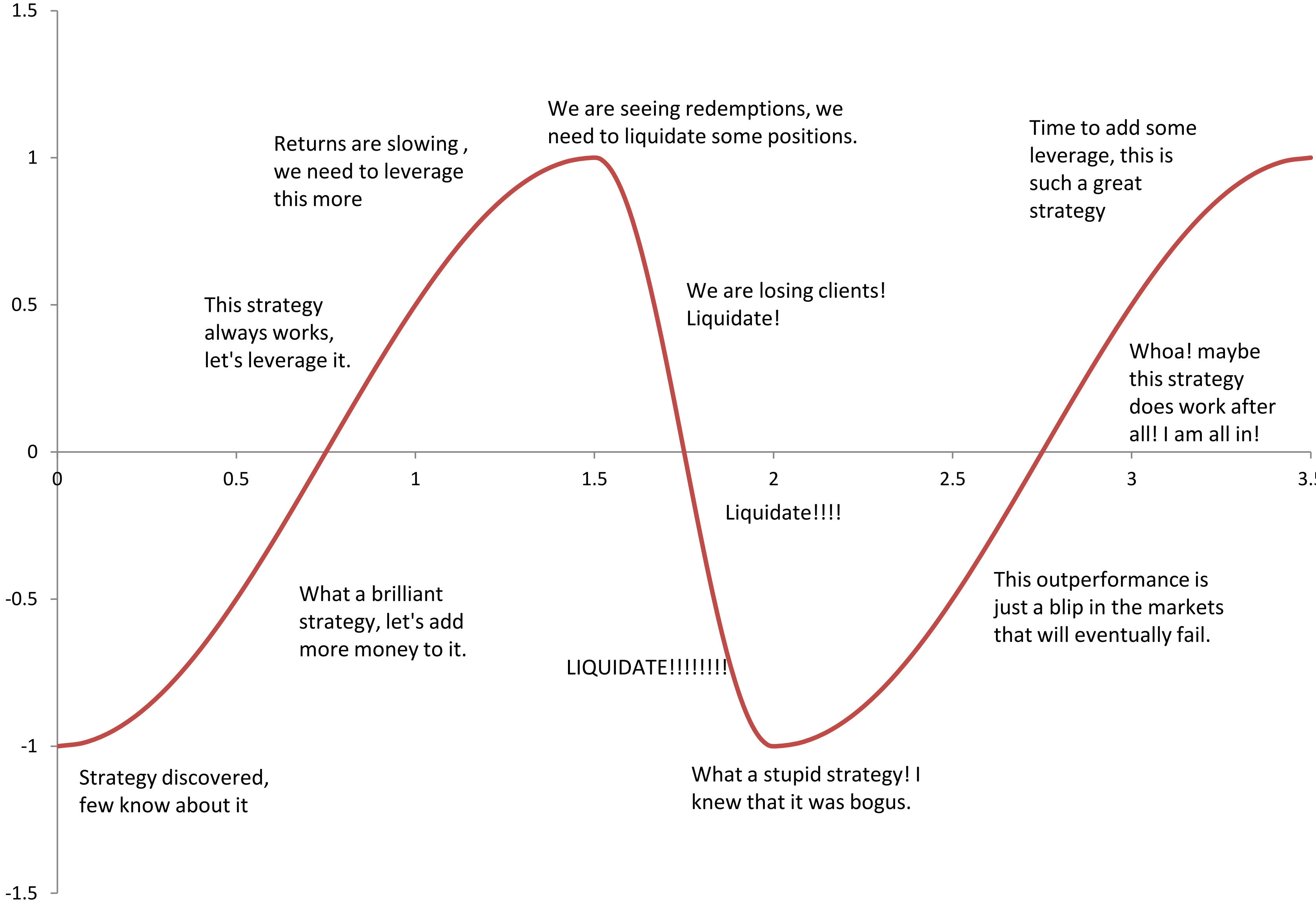
- Falling returns led to:
- Use of leverage – Up, then down
- Growth beyond the liquidity capacity of the stocks owned – who is there to take the other side of your trade?
- Crowded trade – valuation and momentum
- "Events that models only predicted would happen once in 10,000 years happened every day for three days.“
- Similar to failures like RMBS (1994), LTCM (1998), Tech stocks and momentum (2000), Correlation crisis (2005), housing/debt bubble crisis (2005-?)
- Should cut off complex trades when unlevered returns are less than what can be obtained by investing in Single-B bonds.

Industry Momentum Example

The Adaptive Markets Hypothesis

- The AMH argues that markets are like an ecology.
- Different players pursue different strategies to earn scarce excess returns.
- When one strategy gets too many players, it overshoots and crashes. Then players leave the strategy, accentuating the decline, until everyone knows that the strategy doesn't work.
- That's the best time to adopt the strategy, but few do so because of behavioral biases.

The Strategy Cycle



Lumpiness Applies to Specific Investments Also

- Buying and Selling at Wrong Times
  - Mutual funds
  - Hedge funds (paper by Dichev & Yu JFE 2011)
- Strong Hands vs. Weak Hands – Patient vs. Fast/Flexible Money
- Reliance on Capital Gains – any asset class where investors are relying on capital gains to make money is typically overvalued.

Morningstar Study in 2005

Category	Dollar-Weighted Return	Time-Weighted Return	Gap
Technology	-5.7%	7.7%	-13.4%
Communications	3.0%	8.4%	-5.4%
Health	8.5%	12.5%	-4.0%
Large growth	4.4%	7.8%	-3.4%
Small growth	5.4%	8.4%	-3.1%
Mid growth	6.3%	8.8%	-2.5%
Small blend	9.0%	11.3%	-2.4%
Natural resources	10.3%	12.4%	-2.1%
Small value	11.6%	13.6%	-2.0%
Real estate	13.4%	15.4%	-2.0%
Mid value	10.4%	12.2%	-1.7%
Large blend	7.5%	9.1%	-1.6%
Financials	12.8%	14.4%	-1.6%
Moderate allocation	7.3%	8.4%	-1.2%
Mid blend	10.6%	11.4%	-0.8%
Large value	9.6%	10.0%	-0.4%
Conservative allocation	7.2%	7.5%	-0.3%

Credit: Morningstar

Strong Hands vs. Weak Hands

Strong Hands

- Long Time Horizon
- Capital cannot leave easily
- Don’t need current returns
- Aims for absolute returns over time horizon
- Doesn’t need to invest
- Little leverage if any
- Risk control is avoiding loss of money

Weak Hands

- Short Time Horizon
- Capital can leave easily
- Need current yield
- Measured by benchmarks or against peers
- Strong need to invest fully
- Leveraged
- Risk control is avoiding underperformance

Yield-Seeking Behavior

Photo Credit: [Interested Bystandr]

Many Seek a Yield or a Spread

- Retail Investors, Financial Institutions
- Hedge Funds – arbitrage, income implies a *de facto* long position in the markets
- Constant Compounding is Impossible
- Note nontraditional yield – hybrids, dividend paying common stock, MLPs, BDCs, REITs, Preferreds, etc.
- <u>Always</u> possible to add more yield, and risk

Opposite of Yield-Seeking

- Gold
- Storage, Commodities, Real Yield TIPS
- Negative carry trades
- Long options
- Patient capital with no liability to fund (no immediate cash expenditures coming)
- Cash (in this environment)

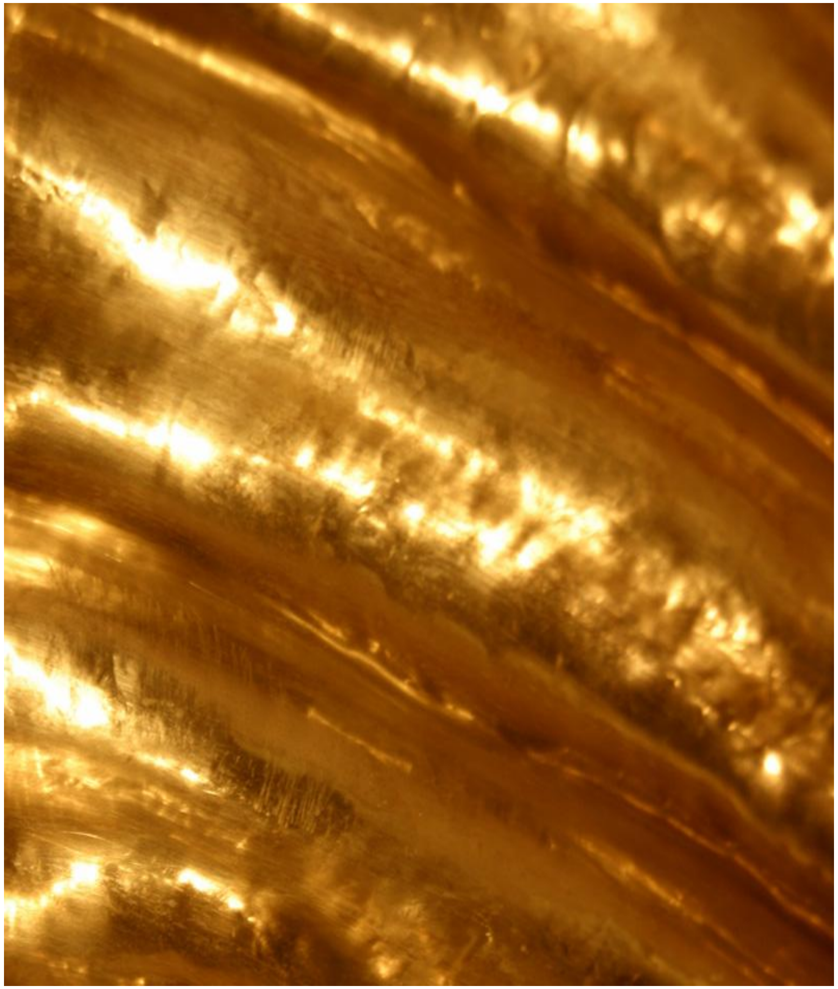


Photo Credit: **Mark van Laere**

What Can’t be Relied Upon

- Traditional Asset Allocation Models / MPT
- Diversification Across Risky Asset Classes
- “Alternative Investments”
- Macroeconomic Policy
- Static Equity Premium Models

An Aside on the Equity Premium

The concept of the equity premium, returns of equities less T-bills, is not well-thought out. Think of it as the sum of three simpler spreads:

Spreads	**Interpretation**
• T-bond – T-bill yields	• Maturity Risk
• Long BAA Corporate – T-Bond yields	• Credit Risk
• Stock Returns – Long BAA Corporate Yields (could be further disaggregated)	• Stock returns vs. cost of capital proxy – Business Risk

What Can be Relied Upon

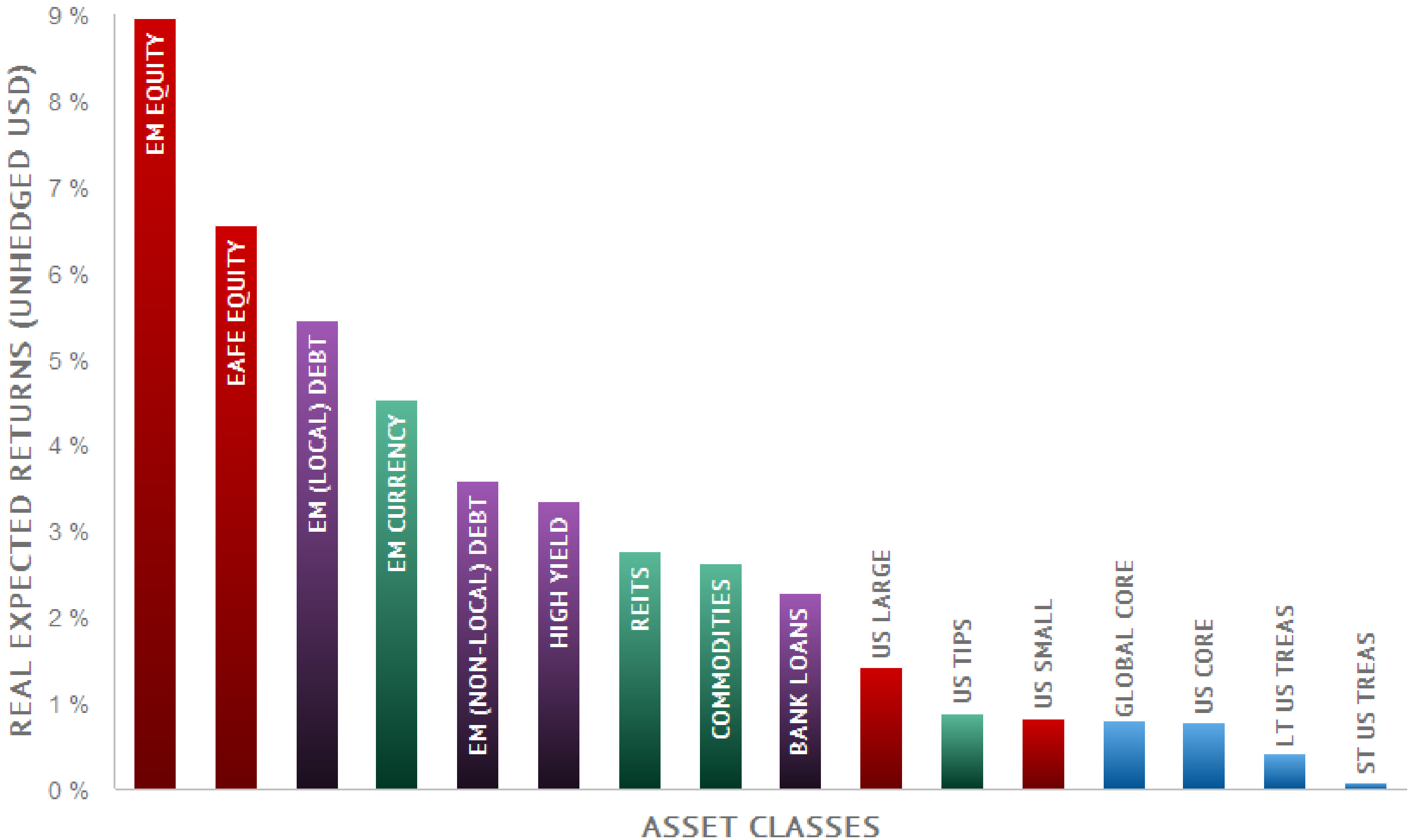
- Think in Terms of Likely Cash Flow Returns (GMO, Research Affiliates, Others)
- Even though valuations don’t always reflect improvement, keep building relative value
- Credit spreads, Volatility, Equity Valuations are related and mean-revert, sort of
- Diversification is a small help
- Momentum, maybe
- Markets go down faster than they go up

Cash Flow Return Estimate Example

REAL 10-YEAR EXPECTED RISK & RETURN

Geometric expected returns for core asset classes show mainstream stocks and bonds suffering from low real yields and anemic growth. Opportunities for return do exist for investors willing to go beyond mainstream assets.

Credit: Research Affiliates



As of 02/29/2016. Source: These expected returns are calculated by Research Affiliates LLC using data provided by MSCI Inc., Bloomberg, and Barclays.
Volatility is measured as standard deviation. These forecasts are forward-looking statements based upon the reasonable beliefs of RA and are not a guarantee of future performance. This content is not investment or tax advice or an offer, sale or any solicitation of any offer to buy any security, derivative or any other financial instrument. Any use of the above content is subject to and conditioned upon the user's agreement with all important disclosures, disclaimers and provisions found at www.researchaffiliates.com/Pages/Legal.aspx. In the event the above content is provided or modified by a third-party, Research Affiliates LLC fully disclaims any responsibility or liability for such content.

Adding in Likely Volatility

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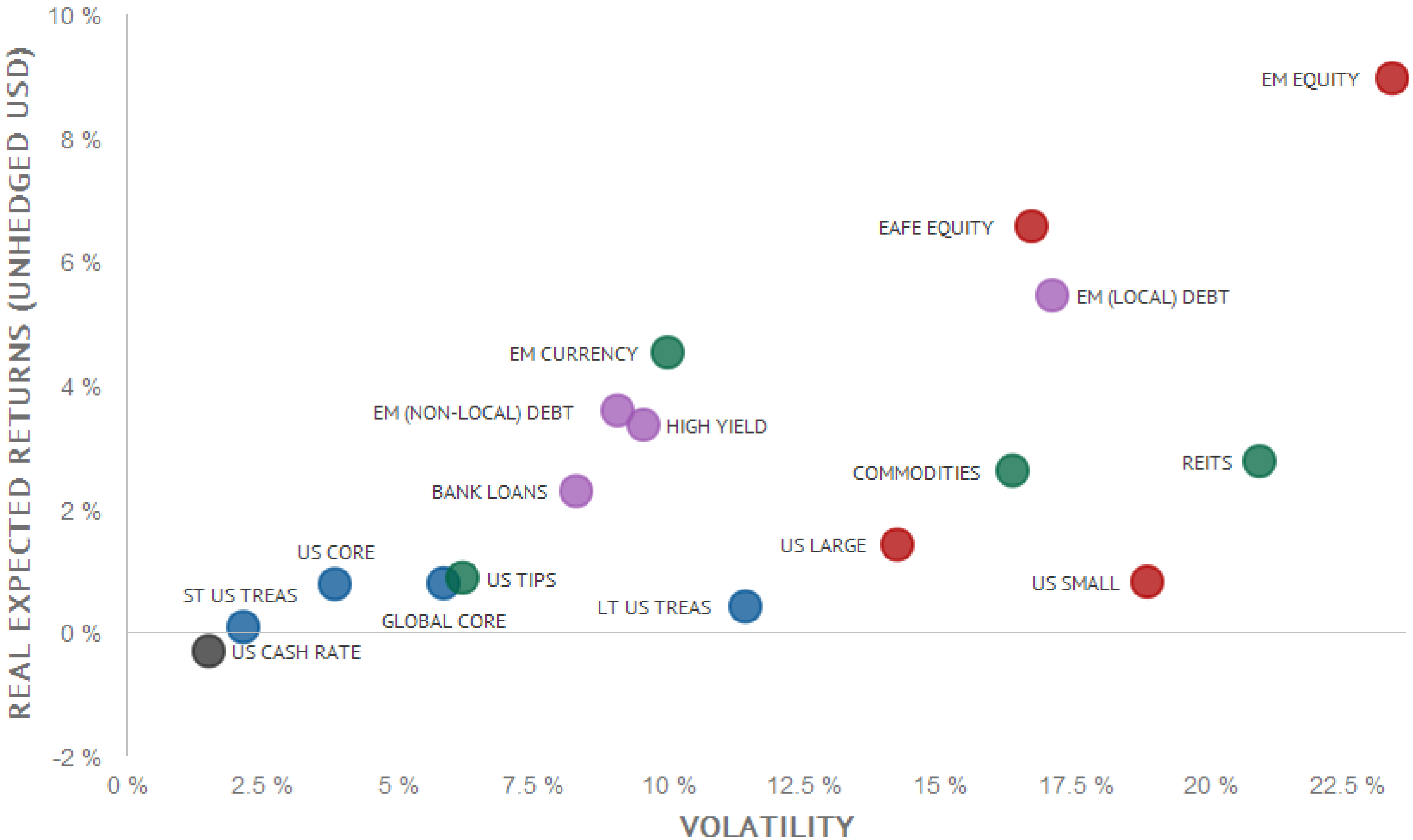

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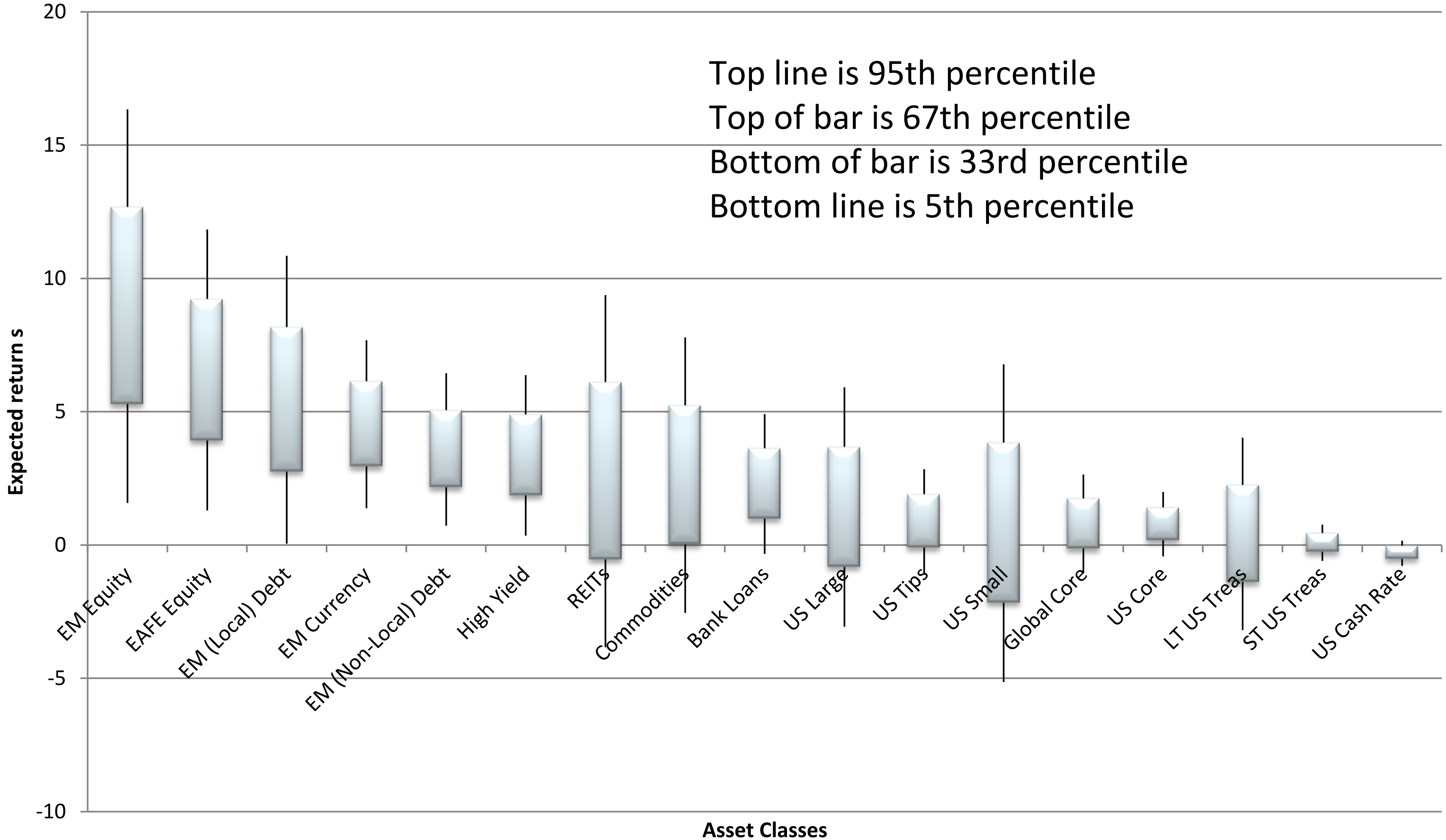
Once More, With Feeling…

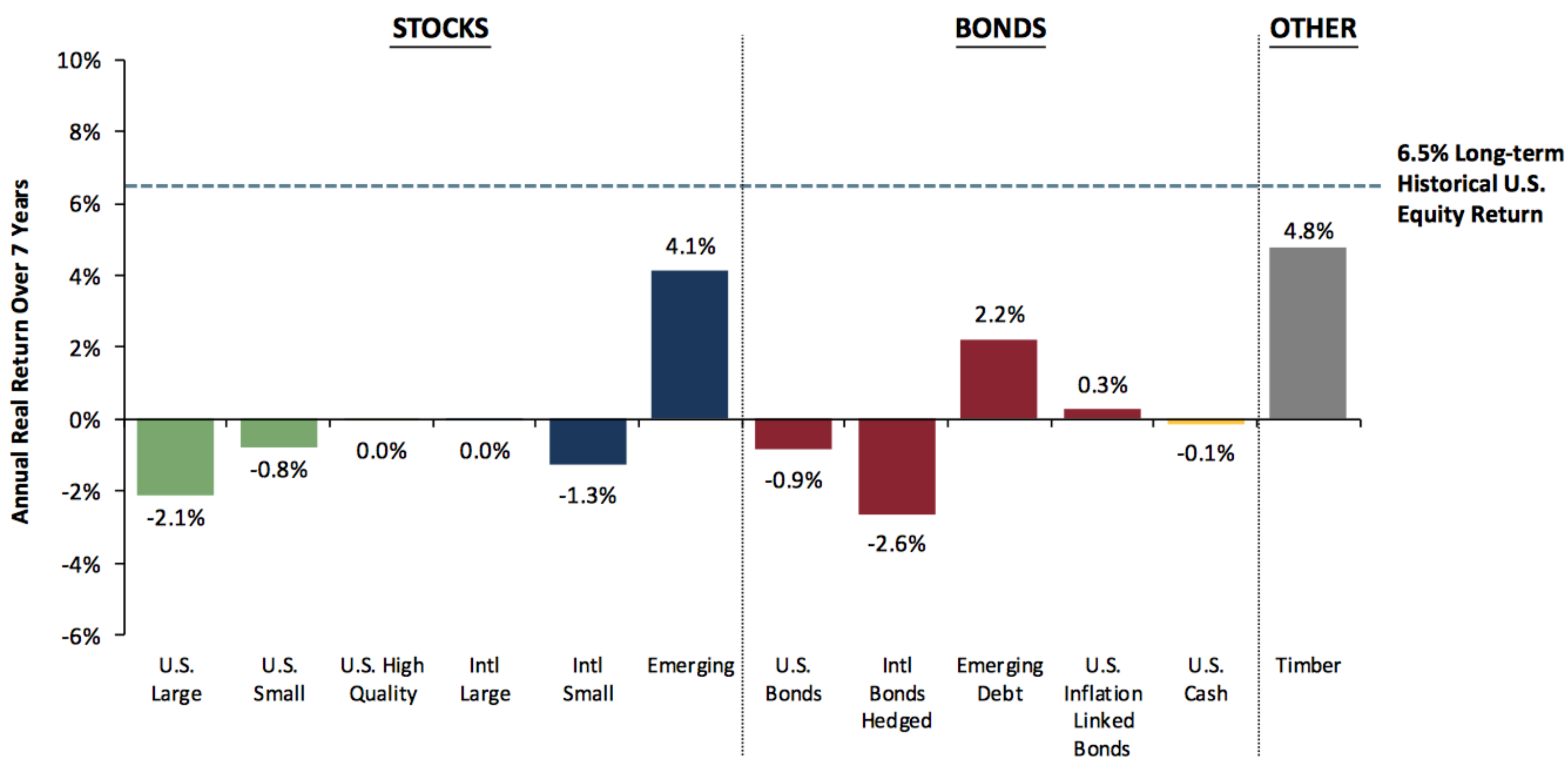


Data from Research Affiliates https://www.researchaffiliates.com/AssetAllocation/Pages/core-overview.aspx

And from GMO

7-Year Asset Class Real Return Forecasts*

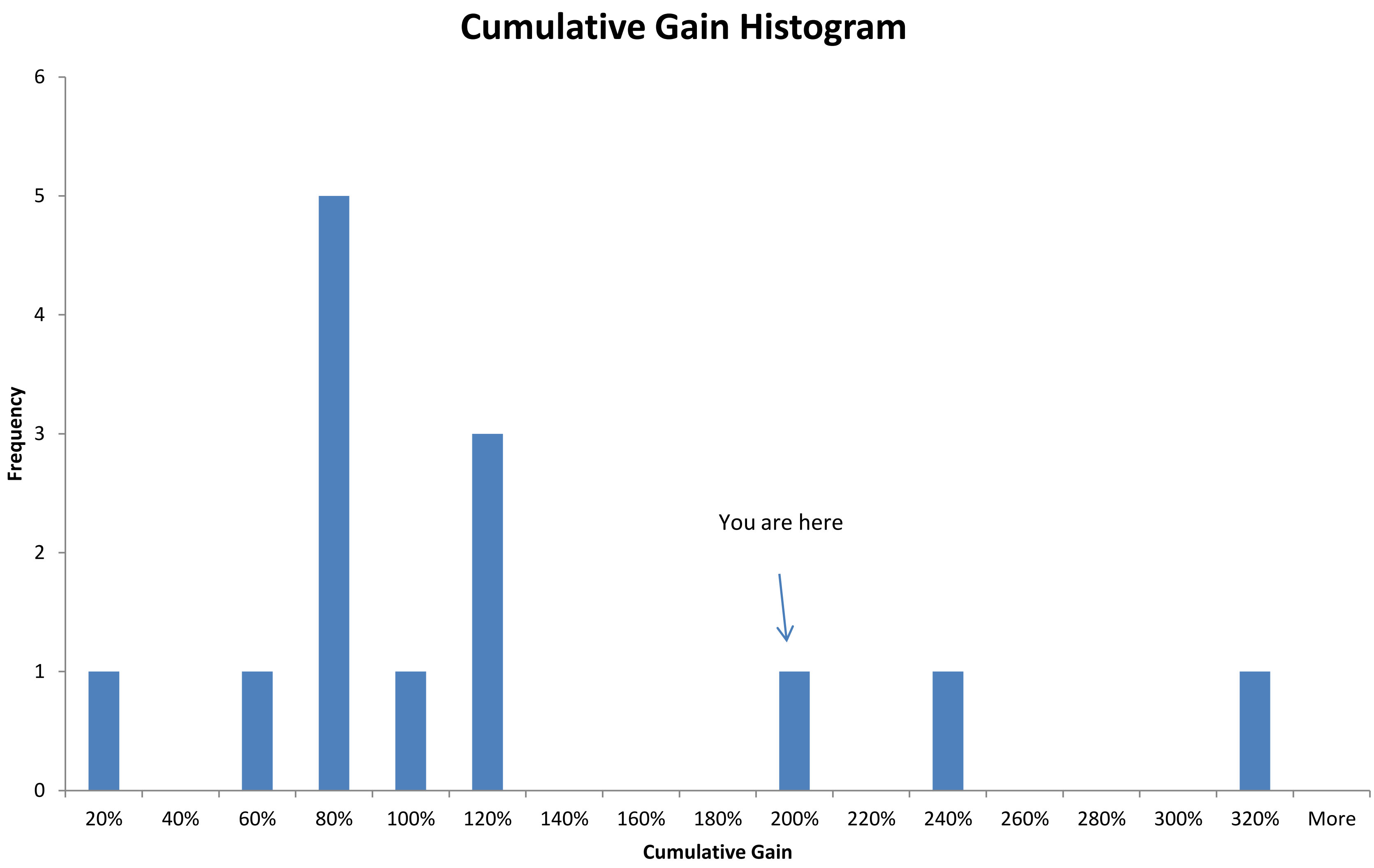
As of November 30, 2015



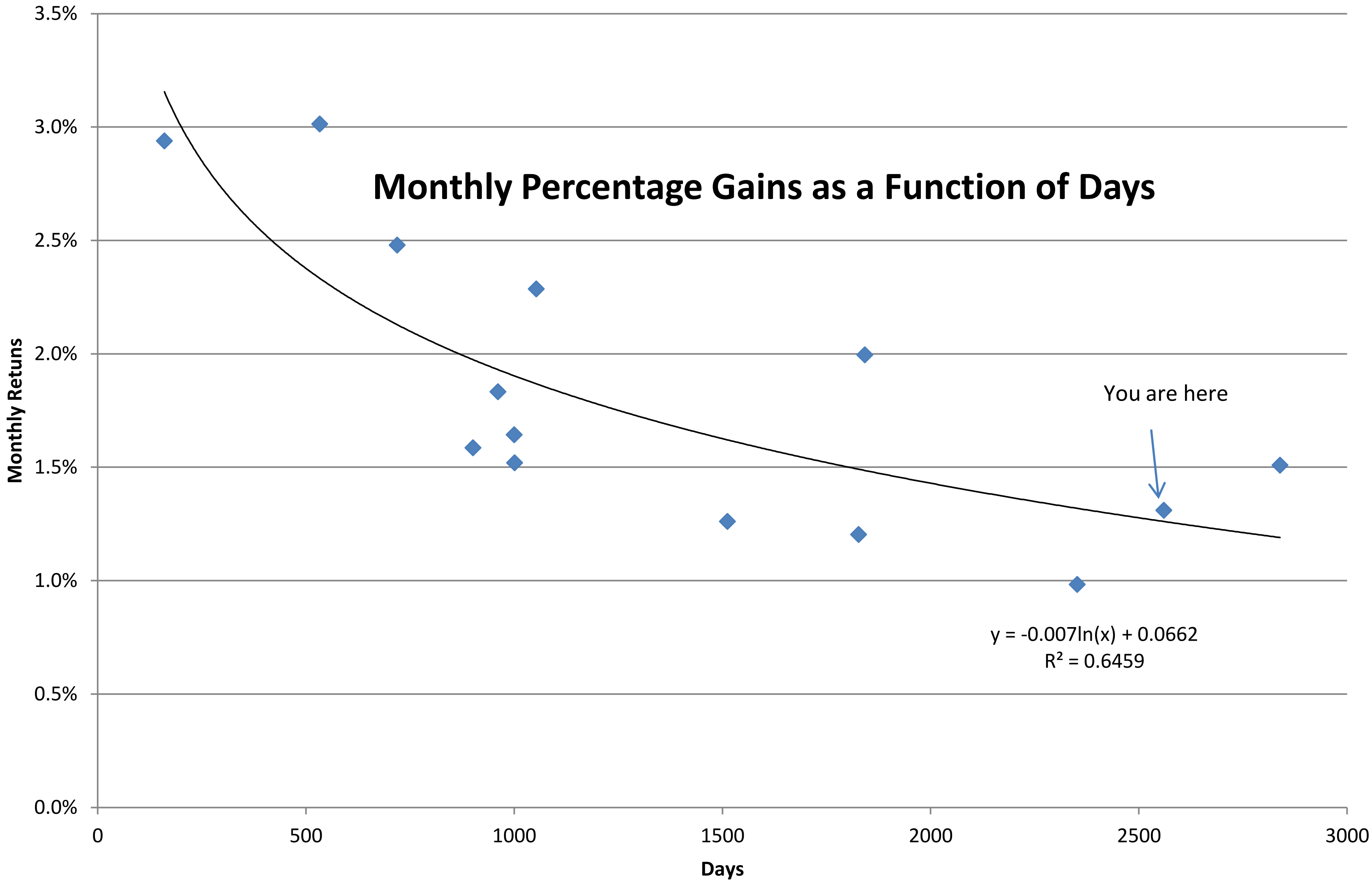
Goes Down Double-Speed

Date	Open	High	Low	Close	Volume	Adj Close	Days	RR	Days	Accrue/Shrink	M Rate
1/3/1950	16.66	16.66	16.66	16.66	1260000	16.66					
6/12/1950	19.4	19.4	19.4	19.4	1790000	19.4	160	1.16	160	1.16	2.9%
7/13/1950	16.69	16.69	16.69	16.69	2660000	16.69	31	0.86	31	0.86	-13.7%
12/30/1952	26.59	26.59	26.59	26.59	2070000	26.59	901	1.59	1061	1.86	1.6%
9/14/1953	22.71	22.71	22.71	22.71	2550000	22.71	258	0.85	289	0.73	-1.8%
8/2/1956	49.64	49.64	49.64	49.64	2530000	49.64	1053	2.19	2114	4.06	2.3%
10/22/1957	38.98	38.98	38.98	38.98	5090000	38.98	446	0.79	735	0.58	-1.6%
12/12/1961	72.64	72.64	72.64	72.64	4680000	72.64	1512	1.86	3626	7.56	1.3%
6/25/1962	52.68	52.96	51.35	52.45	7090000	52.45	195	0.71	930	0.41	-5.3%
12/2/1968	108.37	109.37	107.15	108.12	15390000	108.12	2352	2.13	5978	16.10	1.0%
5/26/1970	70.25	71.17	68.61	69.29	17030000	69.29	540	0.63	1470	0.26	-2.6%
1/11/1973	119.43	121.74	119.01	120.24	25050000	120.24	961	1.77	6939	28.56	1.8%
10/4/1974	62.28	63.23	60.96	62.34	15910000	62.34	631	0.50	2101	0.13	-3.3%
9/22/1976	107.83	108.72	106.92	107.46	32970000	107.46	719	1.78	7658	50.93	2.5%
3/1/1978	87.04	87.63	86.45	87.19	21010000	87.19	525	0.80	2626	0.10	-1.3%
11/26/1980	139.33	141.96	138.6	140.17	55340000	140.17	1001	1.64	8659	83.64	1.5%
8/9/1982	103.69	103.69	102.2	103.08	54560000	103.08	621	0.72	3247	0.07	-1.6%
8/25/1987	333.37	337.89	333.33	336.77	213500000	336.77	1842	3.31	10501	276.52	2.0%
10/20/1987	225.06	245.62	216.46	236.83	608100000	236.83	56	0.64	3303	0.05	-21.5%
7/16/1990	367.31	369.78	367.31	368.95	149430000	368.95	1000	1.71	11501	472.39	1.6%
10/11/1990	300.39	301.45	294.51	295.46	180060000	295.46	87	0.80	3390	0.04	-7.7%
7/20/1998	1186.75	1190.58	1179.19	1184.1	560580000	1184.1	2839	4.04	14340	1,909.66	1.5%
10/8/1998	970.68	970.68	923.32	959.44	1114600000	959.44	80	0.78	3470	0.03	-9.2%
3/24/2000	1527.35	1552.87	1516.83	1527.46	1052200000	1527.46	533	1.68	14873	3,211.72	3.0%
10/10/2002	776.76	806.51	768.63	803.92	2090230000	803.92	930	0.49	4400	0.014	-2.3%
10/11/2007	1564.72	1576.09	1546.72	1554.41	3911260000	1554.41	1827	2.05	16700	6,585.70	1.2%
3/6/2009	684.04	699.09	666.79	683.38	7331830400	683.38	512	0.42	4912	0.006	-5.0%
3/9/2016	1981.44	1992.69	1979.84	1989.26	4038120000	1989.26	2560	2.99	19260	19,681.24	1.3%

Big Bull Market?



Long Bull Market, With Normal Returns



Think Like a Businessman

- Margin of Safety
- Am I fairly compensated to take this risk?
- How do I reduce unnecessary risk?
- Accounting Quality
- Management Quality
- Use of Free Cash Flow
- Growing value – Pricing Power, Unit Growth, New Products and Services

Risks not Risk

- Build Consistent Assumptions for Asset Allocation – decompose equity premium
- Equities, Credit, Real Estate, Yield Curve, Inflation, Foreign currency, Commodities, Volatility
- Sector and Industry Factors – the pricing cycle
- Company-specific risks

Summary – 7 Ways to Reduce Risk

1. Diversification – think of the portfolio as a whole
2. Reduce leverage in all forms
3. Analyze use of cash flow and accounting
4. Buy them cheap
5. Avoid popular assets
6. Analyze your own weaknesses
7. Match assets with what you are funding

25 Ways to Reduce Risk – I

1. Diversify by industry, country, currency, inflation-sensitivity, yield, growth-sensitivity and market capitalization
2. Diversify by asset class. Make sure you have liquid safe assets to complement risky assets. This is true whether you are young (tactical reasons) or old (strategic reasons).
3. Diversify by advisors; don't get all of your ideas from one source (and that includes me). In a multitude of counselors, there is wisdom.
4. Diversify into enough companies: better to have smaller positions in 15-20 companies, than 5 larger ones. When I began investing in single stocks 25 years ago, I started with 15 positions of $2,000 each. That made each $15 commission bite, but the added safety was worth it.
5. Avoid explicit leverage; don't use margin.

25 Ways to Reduce Risk – II

6. Avoid shorting as well, unless you've got a profound edge; few are constitutionally capable of doing it well. Are you the exception?
7. Avoid implicit leverage. How much does the company in question rely on the kindness of the financing markets in order to continue its operations? Highly indebted companies tend to underperform.
8. Avoid balance sheet complexity; it can be a cover for accounting chicanery.
9. Analyze cash flow relative to earnings; be wary of companies that produce earnings, but not cash flow from operations, or free cash flow.
10. Avoid owning popular companies; they tend to underperform.

25 Ways to Reduce Risk – III

11. Avoid serial acquirers; they tend to underperform. Instead, look at companies that do little in-fill acquisitions that they grow organically.
12. Analyze revenue recognition policies; they are the most common way that companies fuddle accounting.
13. Focus on industries that are out of favor, and look for strong players that can withstand market stress.
14. Focus on companies with valuations that are cheap relative to present fundamentals, particularly if there are low barriers against competition.
15. Take something off the table when the markets run, and edge back in when they fall.

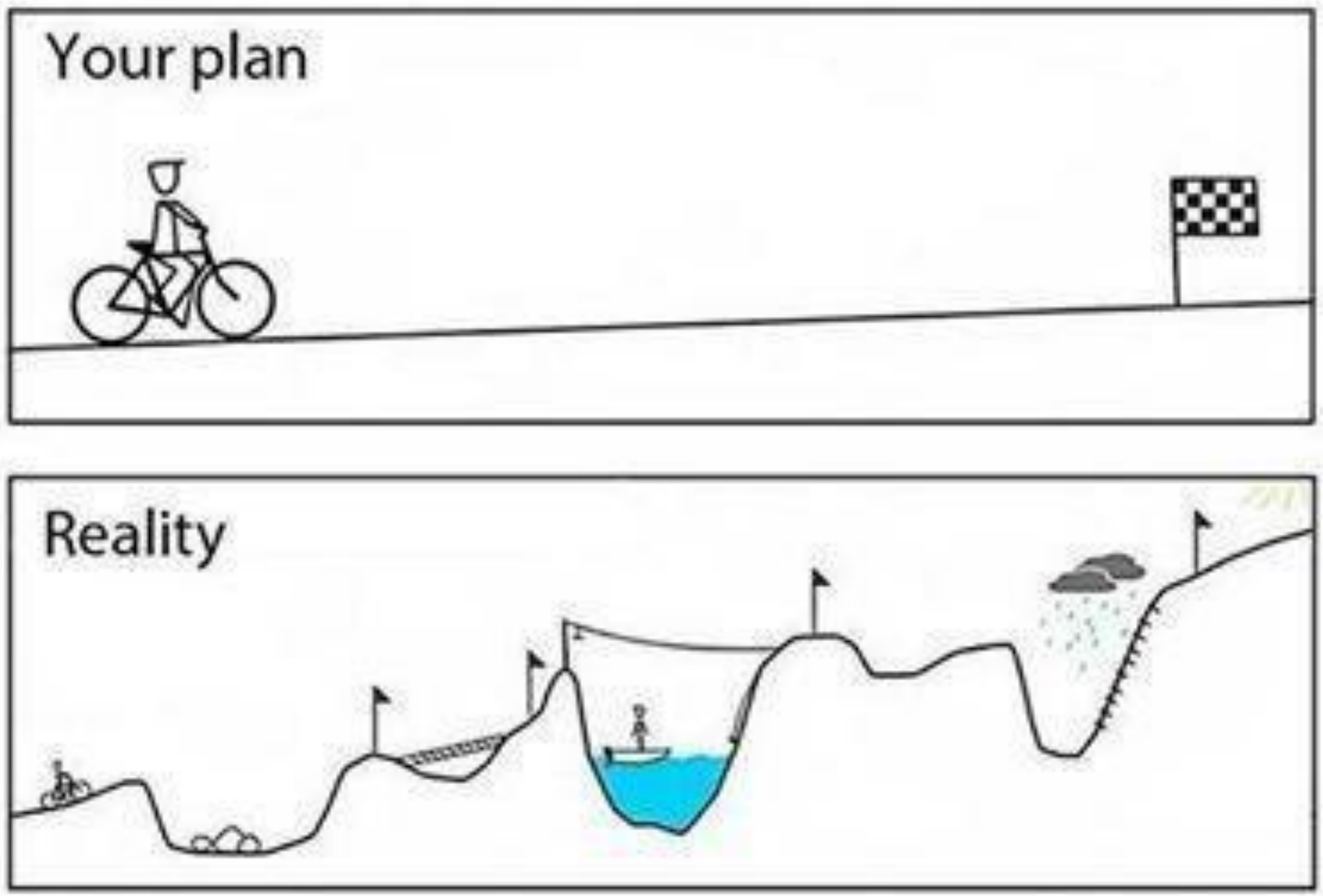
25 Ways to Reduce Risk – IV

16. Analyze how any new investment affects your total portfolio.
17. Don’t use any investment strategy that you don’t fully understand.
18. Understand where you have made errors in the past, so that you can understand your weaknesses, and avoid acting out of weakness.
19. Buy only the investments that you want to buy, and not what others want to sell you. Use only investment strategies with which you are fully comfortable.
20. Find ways to take the emotion out of buy and sell decisions; treat investing as a business.

25 Ways to Reduce Risk – V

21. Match your assets to the horizon over which you will need the proceeds. Risky assets should not get a heavy weight when the proceeds will be needed within five years.
22. When you get a new idea, and it seems like a “slam dunk,” sit on it for a month before acting on it. More often than not, if it is a good idea, you will still have time to act on it, but if it is a bad idea, you have a better chance of discovering that through waiting.
23. Prune your portfolio a few times a year. Are there new companies to swap into that are better than a few of your current holdings?
24. Size positions inversely to risk levels.
25. Finally, think about risk before you need to; make it a positive component of your strategies.

What the path to great investing or trading usually looks like



Picture Credit: Stocktwits

Conclusion

- Remember that returns are lumpy, and the problems that creates for investors.
- Drive through the windshield, not the rearview mirror.
- Strong investors owning assets is a good sign
- Be wary when many reach for yield
- Think like a businessman, not an academic
- Stocks take escalator up, and elevator down
- Focus on the risks, not mathematical measures of risk
- Seek adequate compensation for all risks taken