Useful Laws and Dangerous Myths of Investing

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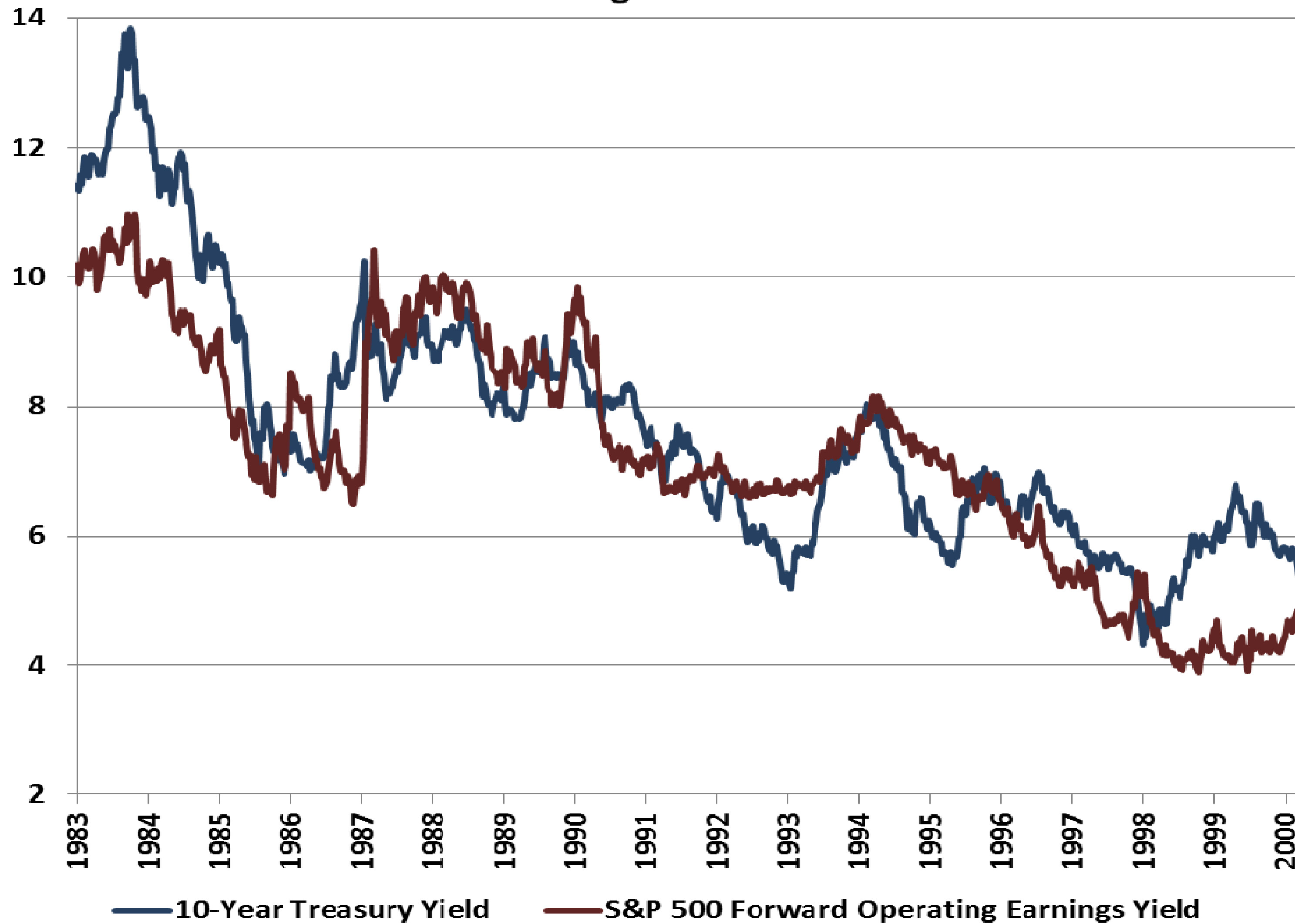
1. The Iron Law of Value

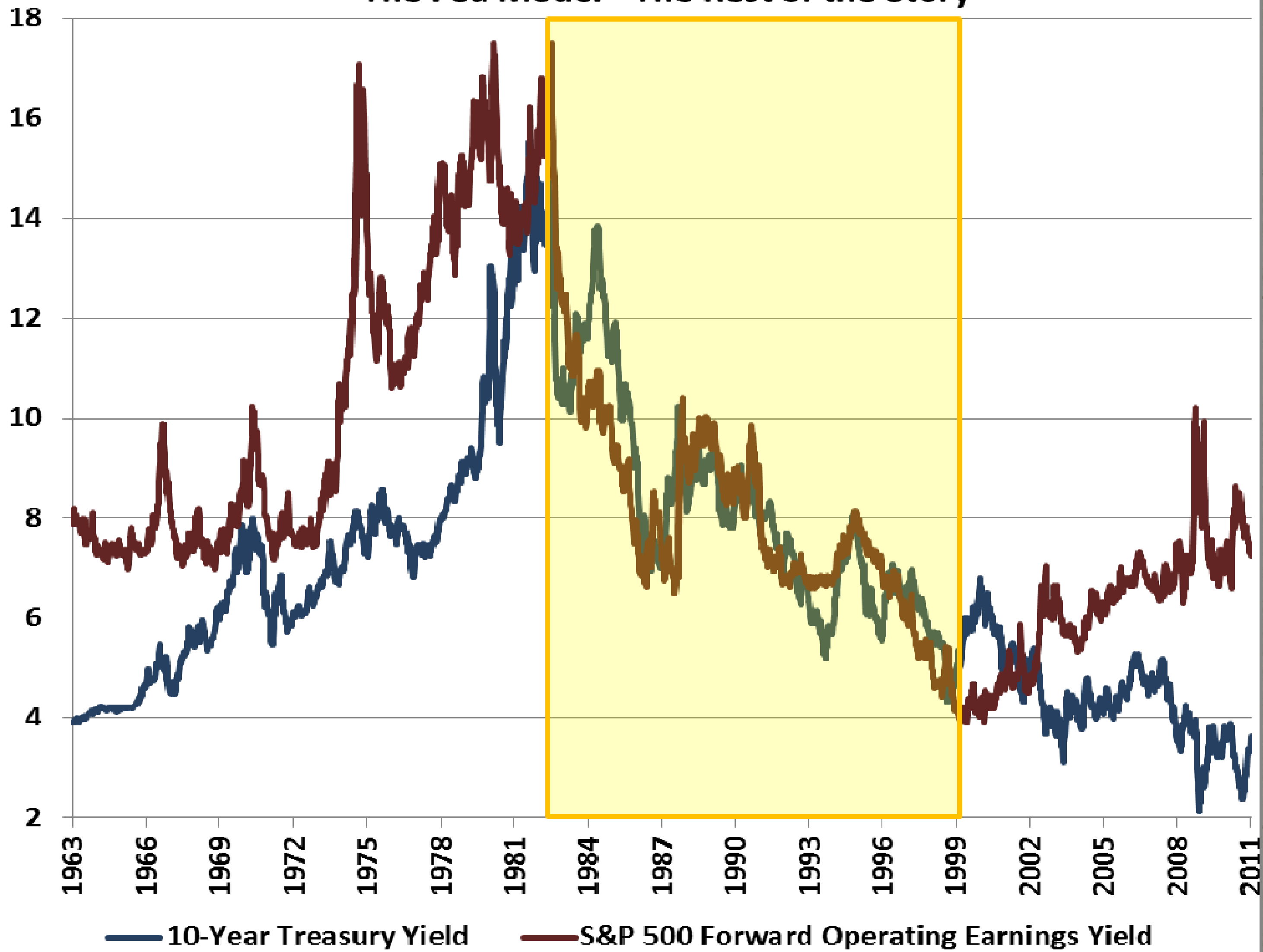
An investment security is nothing more than a claim on an expected stream of cash flows that will be delivered to investors over time.

How well do observed earnings or cash flows represent the future stream?

What is the implied rate of discount? That is, what expected long-term rate of return is the market priced to deliver, assuming the cash flows materialize?



The Fed Model - Confusing Correlation with "Fair Value"
14
12
10
8
6
4
2
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
10-Year Treasury Yield
S&P 500 Forward Operating Earnings Yield


The Fed Model - The Rest of the Story
18
16
14
12
10
8
6
4
2
1963
1966
1969
1972
1975
1978
1981
1984
1987
1990
1993
1996
1999
2002
2005
2008
2011
10-Year Treasury Yield
S&P 500 Forward Operating Earnings Yield

Valuation models can be useful or reckless depending on the assumptions we make.

Garbage in = Garbage out.

Reliable Valuation Methods are driven by the **DISCOUNTED STREAM** of cash flows that the security is expected to **DELIVER**

- Stocks: $Pt = Dt+1 / (k - g^*)$
- Bonds: $B = C/i\,[1 - 1/(1+i)^T] + F[\,1/(1+i)^T]$
- **Options:** $C = e^{-dt}S_0N(d1) - e^{-rt}KN(d2)$

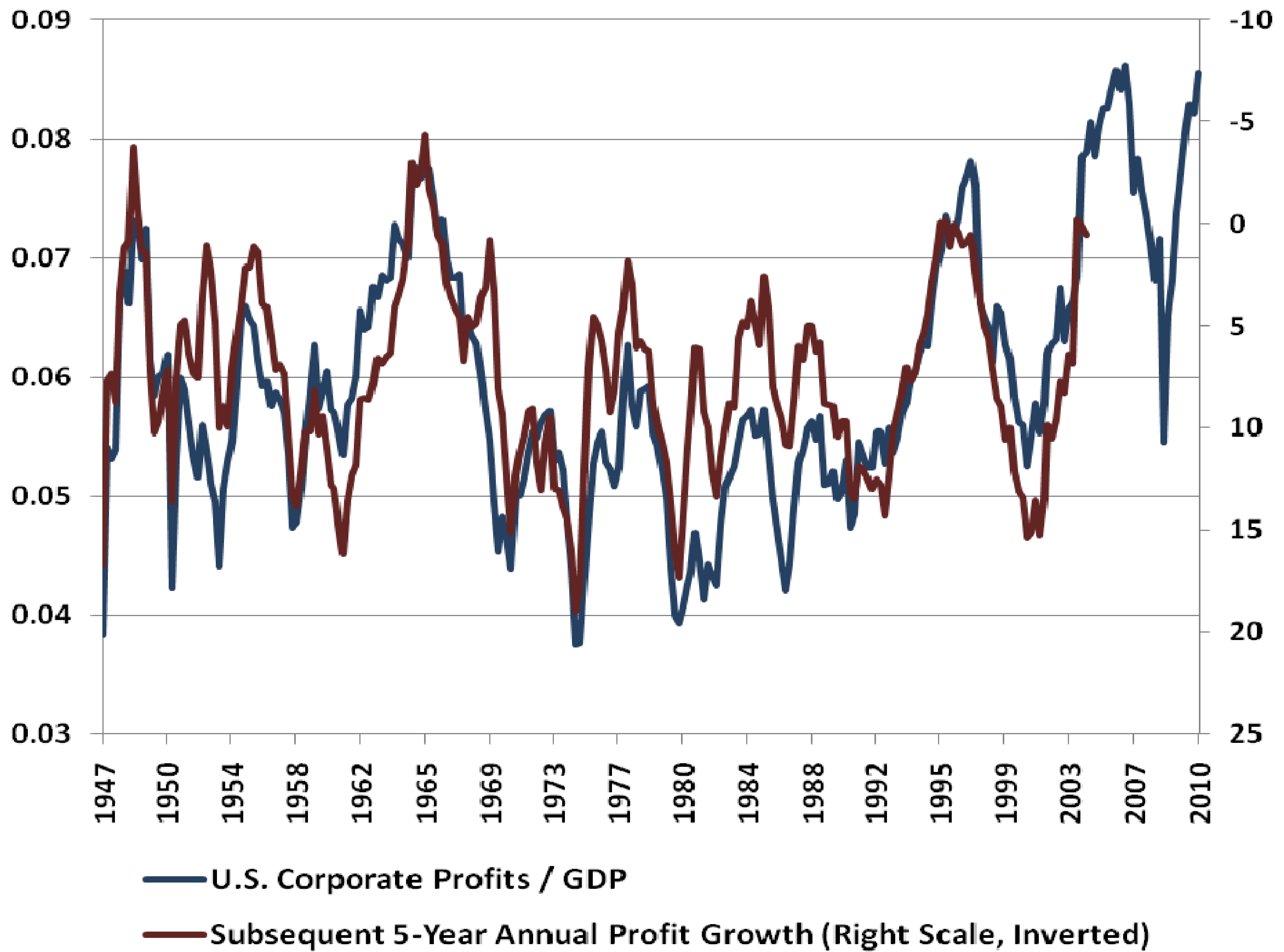
Multiple-Based Models

Expected Fundamental x “Reasonable” Multiple

Warning. Always ask two questions:

1) Is the expected fundamental actually representative of the *entire stream* of future cash flows?

2) Is the “reasonable” multiple actually reasonable? The multiple quietly incorporates assumptions about future growth and the appropriate discount rate.



0.09
0.08
0.07
0.06
0.05
0.04
0.03
-10
-5
0
5
10
15
20
25
1947
1950
1954
1958
1962
1965
1969
1973
1977
1980
1984
1988
1992
1995
1999
2003
2007
2010
U.S. Corporate Profits / GDP
Subsequent 5-Year Annual Profit Growth (Right Scale, Inverted)

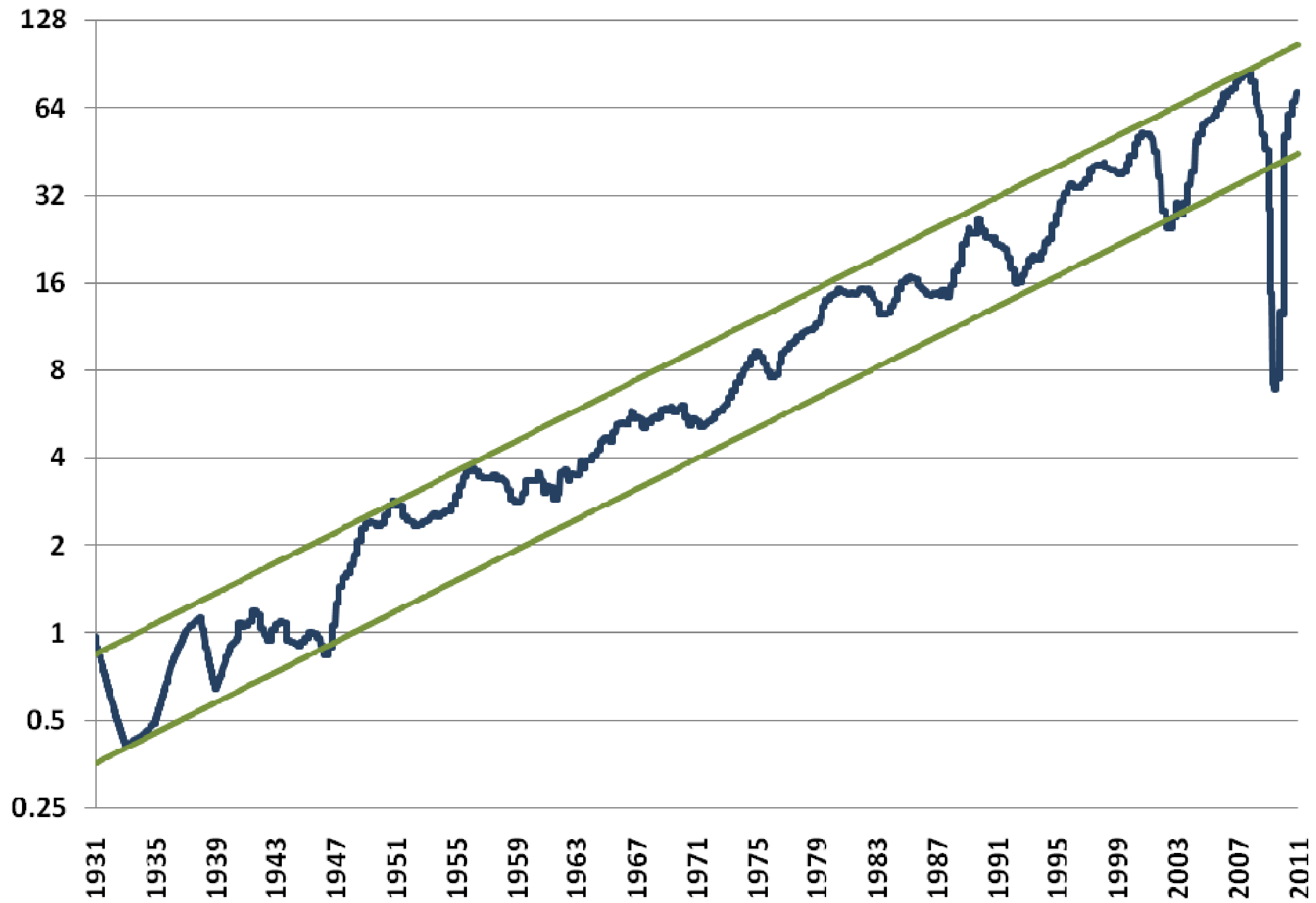
Estimating Growth & Performance

The greater the volatility a time series exhibits from point-to-point, the poorer the estimates of growth and performance will be when using point-to-point data, unless those two points reasonably reflect the long-term slope.

Arbitrary horizons (10-year, 5-year, 3-year) are particularly ineffective – may inadvertently capture trough-to-peak or peak-to trough movements.

a) More effective to measure from *peak-to-peak* or *trough-to-trough* across economic cycles

b) Alternatively, measure growth using moving averages, mid-channel values or other smoothed observations.

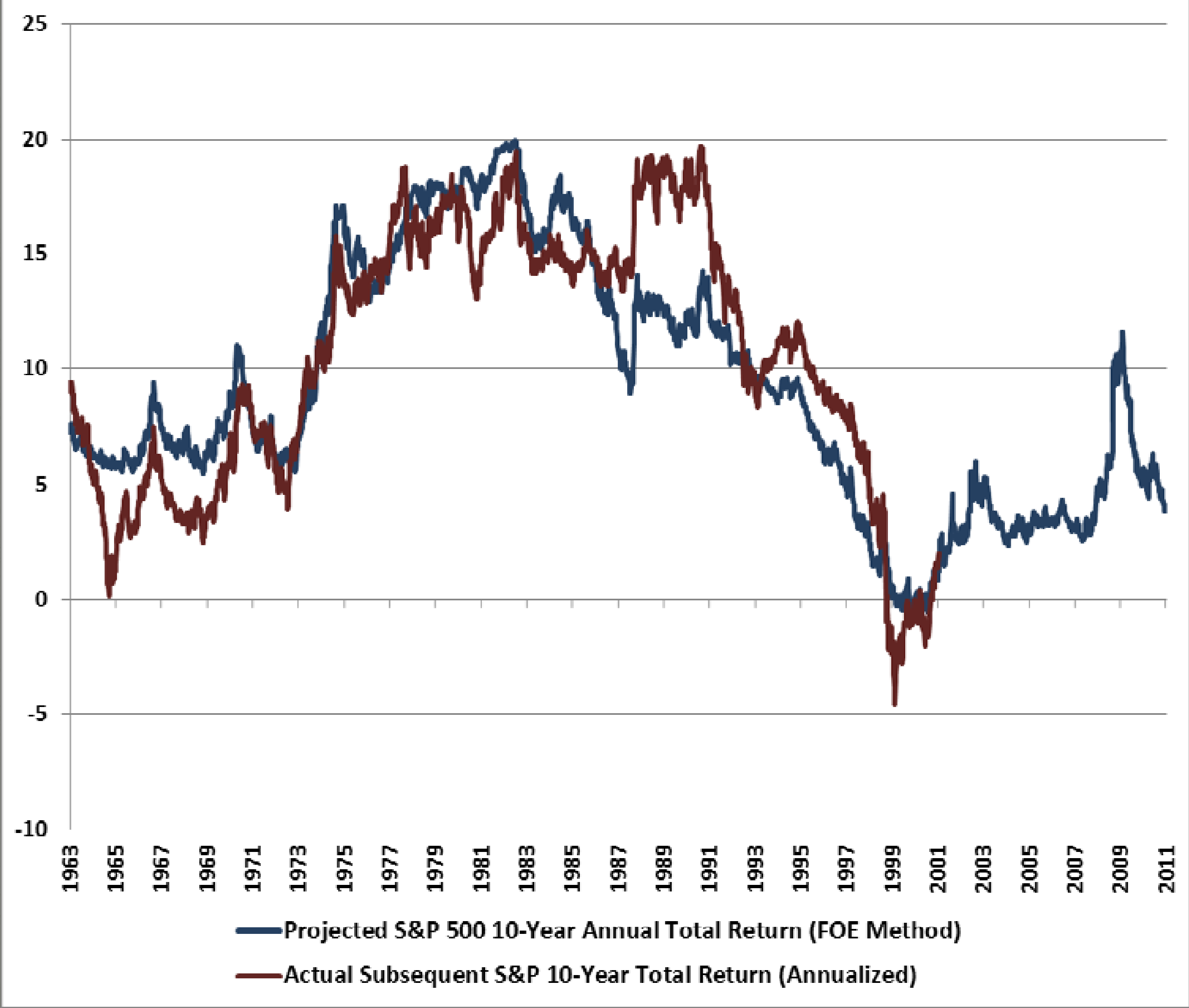

S&P 500 Earnings - 6.2% Annual Growth Channel
128
64
32
16
8
4
2
1
0.5
0.25
1931
1935
1939
1943
1947
1951
1955
1959
1963
1967
1971
1975
1979
1983
1987
1991
1995
1999
2003
2007
2011

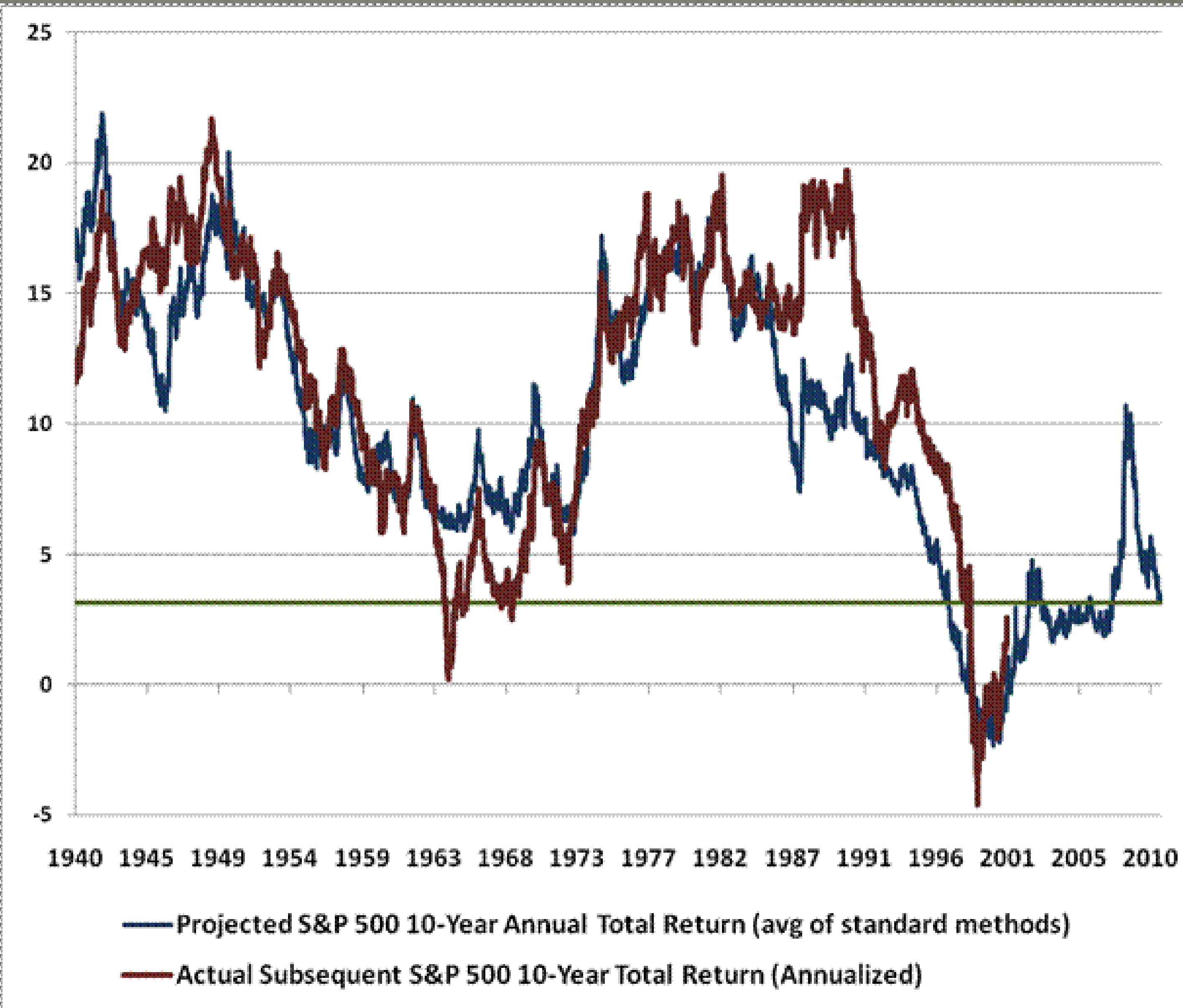
ESTIMATING LONG-TERM TOTAL RETURN

S&P 500 Long-Term Total Return =
(1+g)(future PE / current PE) ^ (1/T) – 1
+ dividend yield * (current PE / future PE + 1) / 2

Normal PE using FOE = 12.7 (not 15!)
g = 1.062 * (0.072 / (FOE/Revenue)) ^ (1/T) – 1

May also use a variety of other "smooth" fundamentals, e.g. Shiller earnings, dividends, etc, provided that the proper historical price/fundamental multiple is used, and g reflects position of the actual fundamental vs. the *normalized* fundamental.


25
20
15
10
5
0
-5
-10
1963
1965
1967
1969
1971
1973
1975
1977
1979
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
Projected S&P 500 10-Year Annual Total Return (FOE Method)
Actual Subsequent S&P 10-Year Total Return (Annualized)


25
20
15
10
5
0
-5
1940
1945
1949
1954
1959
1963
1968
1973
1977
1982
1987
1991
1996
2001
2005
2010
Projected S&P 500 10-Year Annual Total Return (avg of standard methods)
Actual Subsequent S&P 500 10-Year Total Return (Annualized)

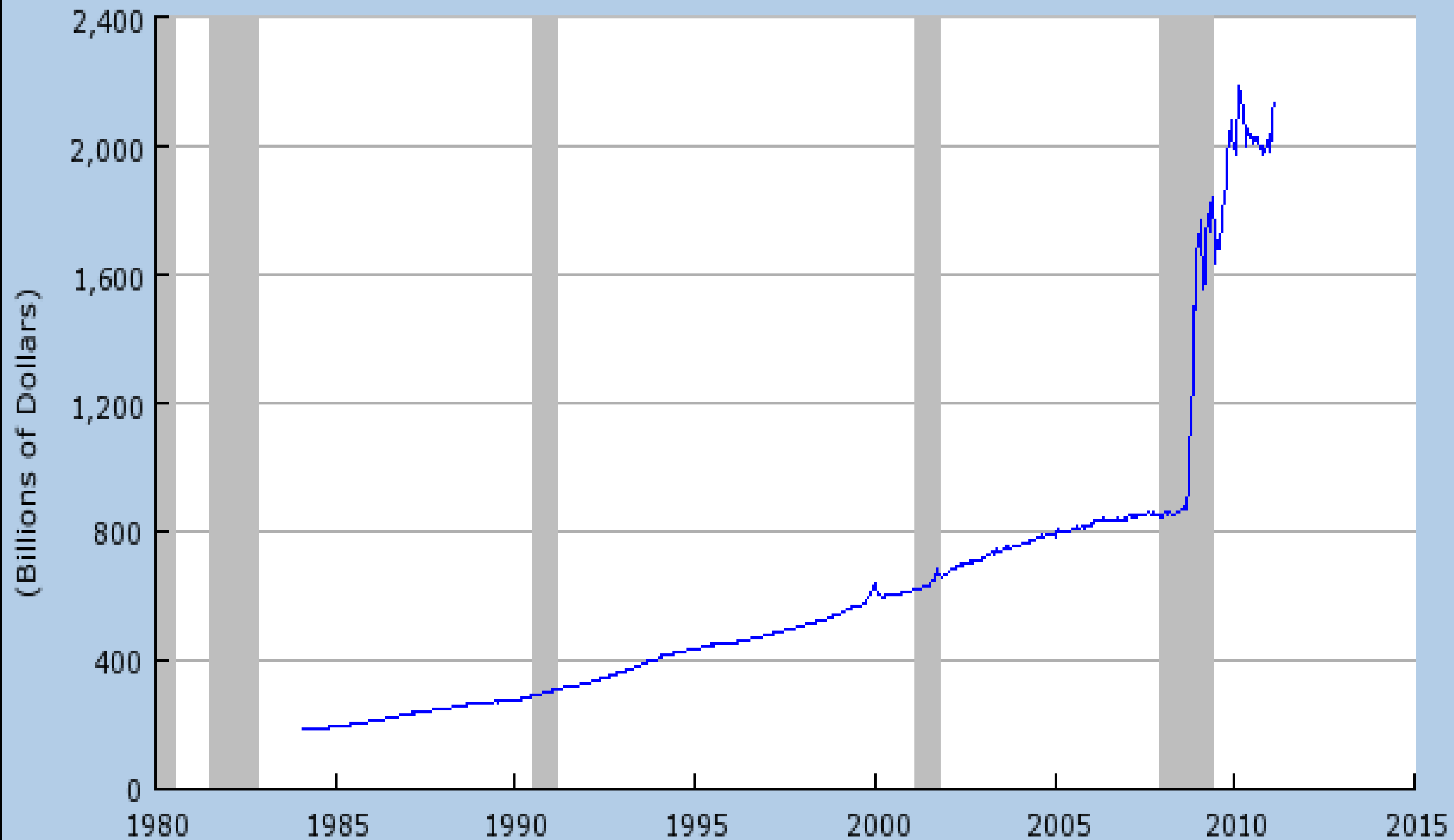
2. The Iron Law of Equilibrium

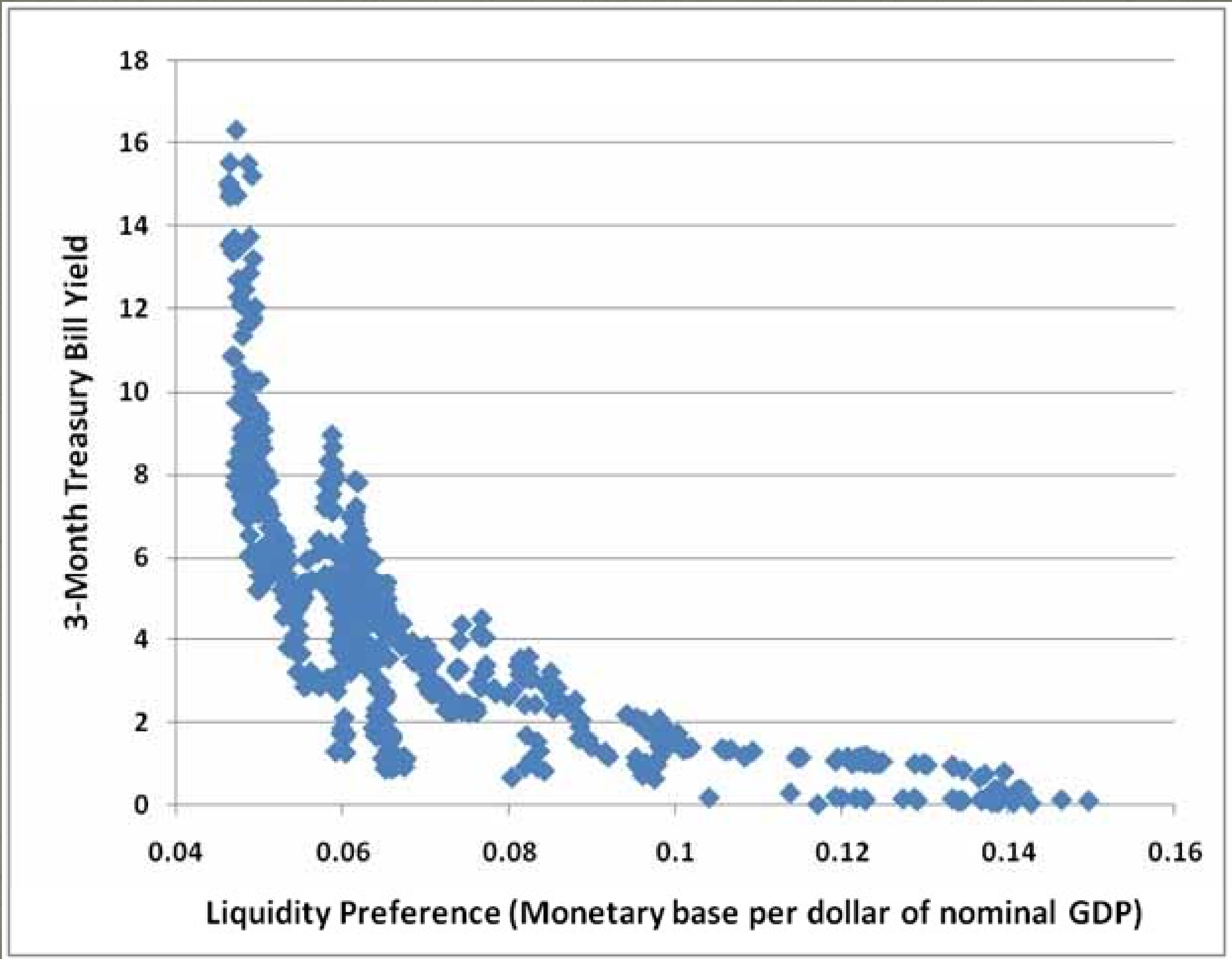
Every security that is issued must be held by *someone* until it is retired.

Corollary 1: No security can be under- or over-owned. Prices and expected returns adjust to *ensure* that the exact quantity *outstanding* is the exact quantity *held*. The investor's challenge is to ask whether those prices and expected returns are reasonable.

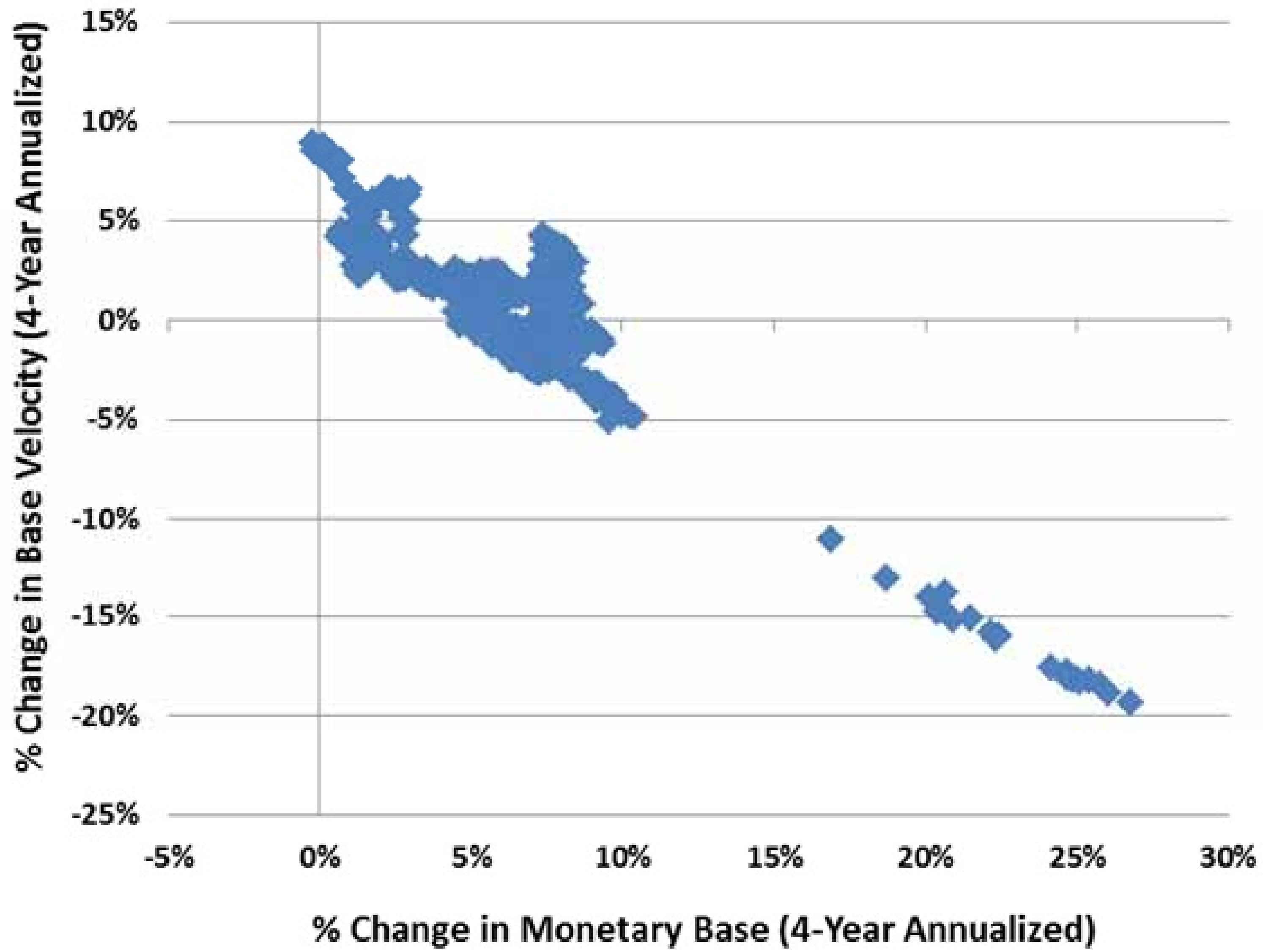
Corollary 2: The outstanding stock of issued currency and money market securities always remains effectively "on the sidelines" and held by *someone* - until the time those securities cease to exist.

Corollary 3: Money never goes "into" or comes "out of" a secondary market. It is always "home."


St. Louis Adjusted Monetary Base (BASE)
Source: Federal Reserve Bank of St. Louis
(Billions of Dollars)
2,400
2,000
1,600
1,200
800
400
0
1980
1985
1990
1995
2000
2005
2010
2015
Shaded areas indicate US recessions.
2011 research.stlouisfed.org



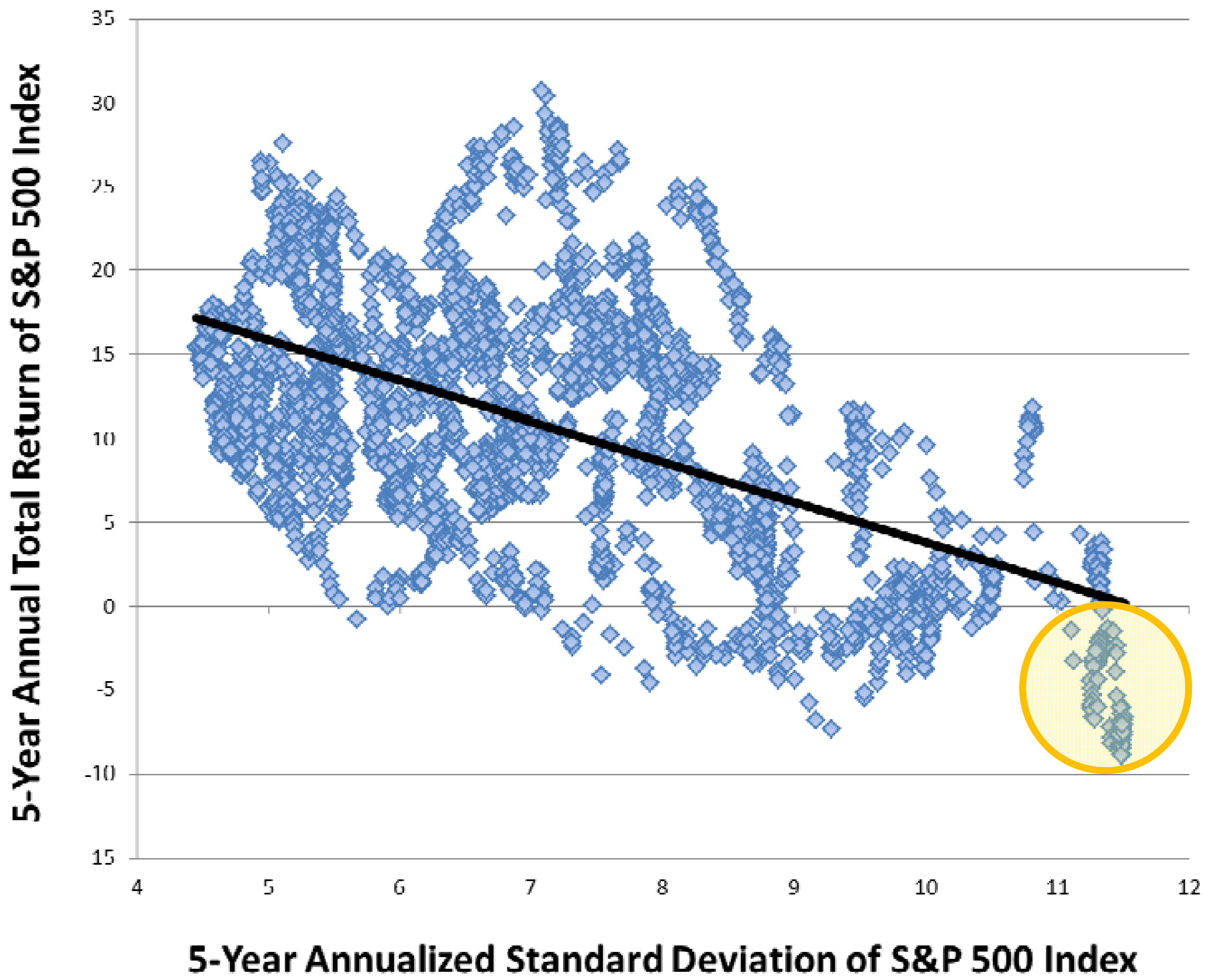
3-Month Treasury Bill Yield
18
16
14
12
10
8
6
4
2
0
0.04
0.06
0.08
0.1
0.12
0.14
0.16
Liquidity Preference (Monetary base per dollar of nominal GDP)

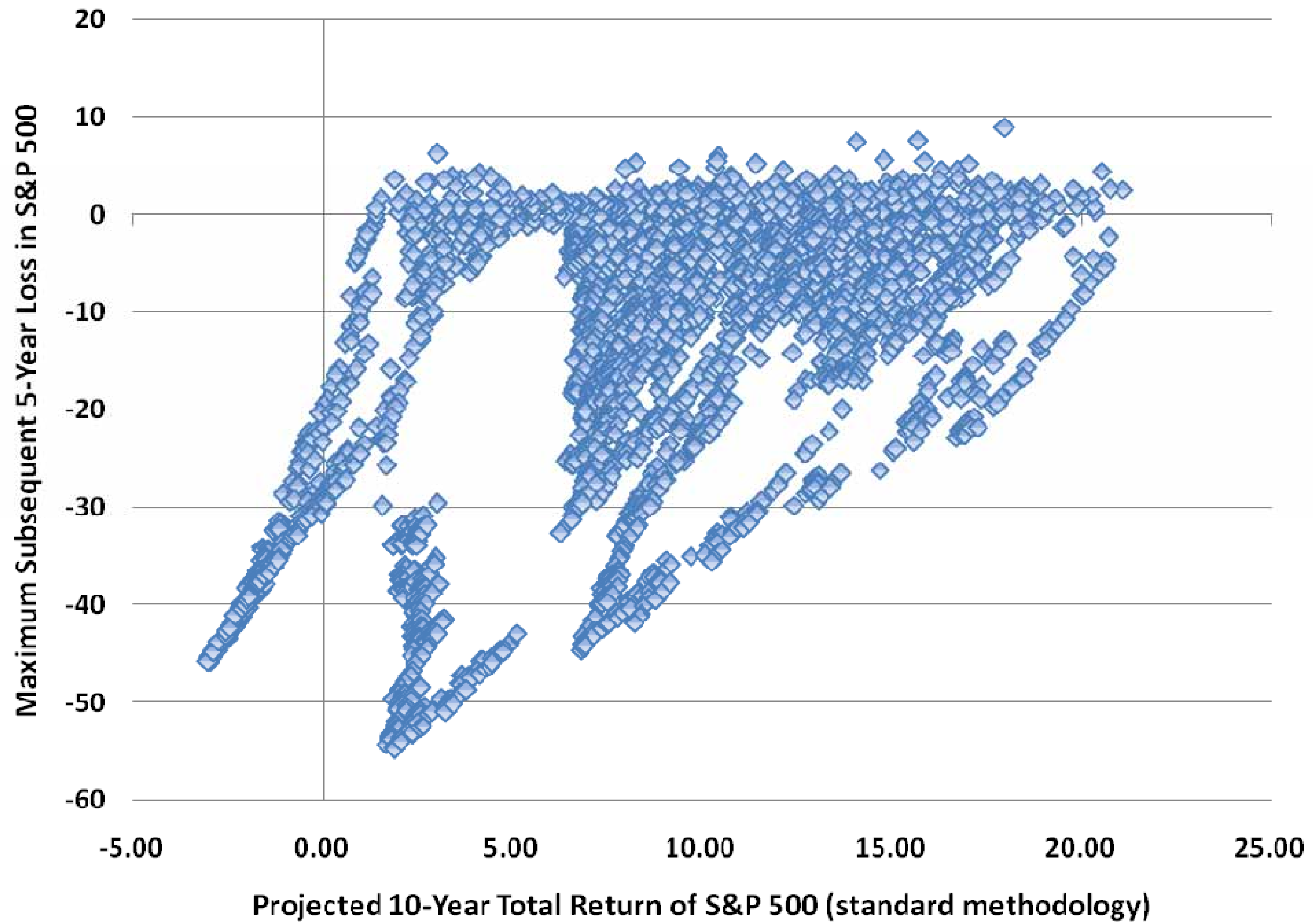

15%
10%
5%
0%
-5%
-10%
-15%
-20%
-25%
% Change in Base Velocity (4-Year Annualized)
-5%
0%
5%
10%
15%
20%
25%
30%
% Change in Monetary Base (4-Year Annualized)

3. The Iron Law of Efficient Risk

The positive association between risk and expected return only holds for portfolios in which *expected return per unit of risk* has *already* been maximized.

Corollary: Diversifiable, overvalued, and otherwise inefficient risks are not compensated over the long-term.


5-Year Annual Total Return of S&P 500 Index
35
30
25
20
15
10
5
0
-5
-10
15
4
5
6
7
8
9
10
11
12
5-Year Annualized Standard Deviation of S&P 500 Index


Lower Expected Returns, Deeper "Tail Risk"
20
10
0
-10
-20
-30
-40
-50
-60
Maximum Subsequent 5-Year Loss in S&P 500
-5.00
0.00
5.00
10.00
15.00
20.00
25.00
Projected 10-Year Total Return of S&P 500 (standard methodology)

Speculative Rules of Thumb

- "Don't Fight the Fed" is far less effective historically than "Don't Fight the Tape"
- Helps to have both
- Neither is enough when *all* of the following are observed:
- Overvaluation
- Overbought price trends
- Overbullish sentiment
- Rising market interest rates

Market outcomes are historically worst when *rich valuations* are coupled with *increasing risk aversion*, as measured by weak or increasingly divergent market internals (breadth, sector trends, credit spreads, etc).

4. The Iron Law of Reciprocity

You can have everything in life you want, if you'll just help enough other people get what they want

- Zig Ziglar

Risk management is generous: Avoiding major losses is far more helpful to clients than capturing temporary speculative gains. On average, over half the gains of the typical bull market are surrendered in the subsequent bear (152% -> 67% full cycle).

Encourage clients to focus on full-cycle measures of performance.

Encourage clients to match the risk and duration profile of their assets to the same horizon over which the funds will be needed.