

Irrational Exuberance Revisited

Robert J. Shiller
Yale University
Baltic Investors Forum, Vilnius
June 4, 2015

Family with President Grybauskaitė December 2013



Grandparents (Radvila-Šerytė Wedding 1910, fresh from Lithuania)

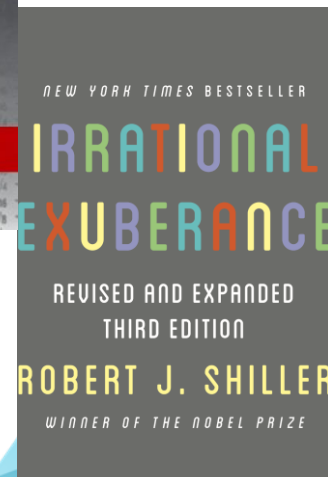
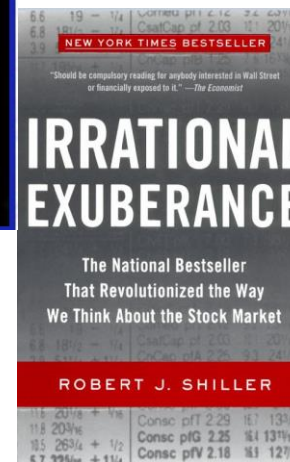
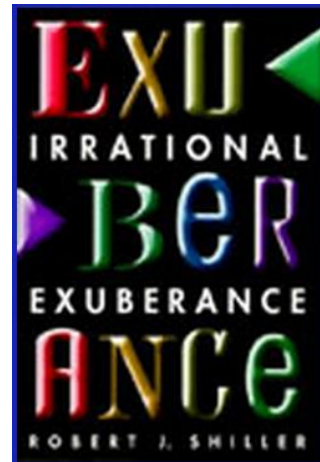


Jurgis Šileris, Connie Puida, Bronuk, Amelia Šilerienė, 1918

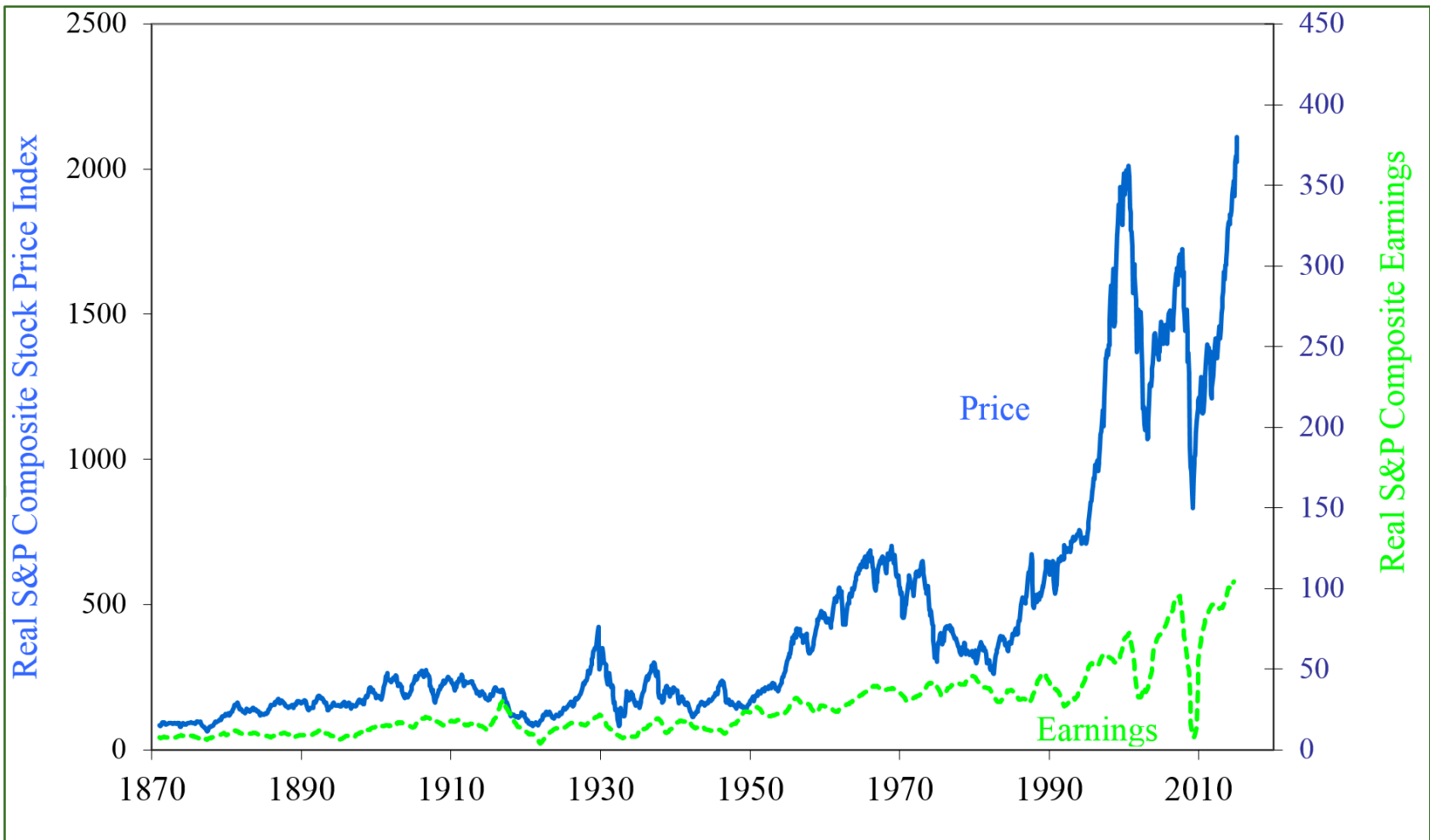


Shiller Irrational Exuberance Three Editions

- First Edition: 2000
at end of what I call the
“Millennium Boom”
- Second Edition: 2005
near end of what I call
“Ownership Society
Boom,” 2003-2007
- Third Edition: 2015
during the time of what
I call the “New Normal
Boom” 2009-2015



Real U.S. Stock Prices and Real Earnings 1871-2015



Event Studies:

Eugene Fama, Lawrence Fisher,
Michael Jensen, Richard Roll

International Economic Review 1969

1470

THE AMERICAN ECONOMIC REVIEW

JUNE 2014

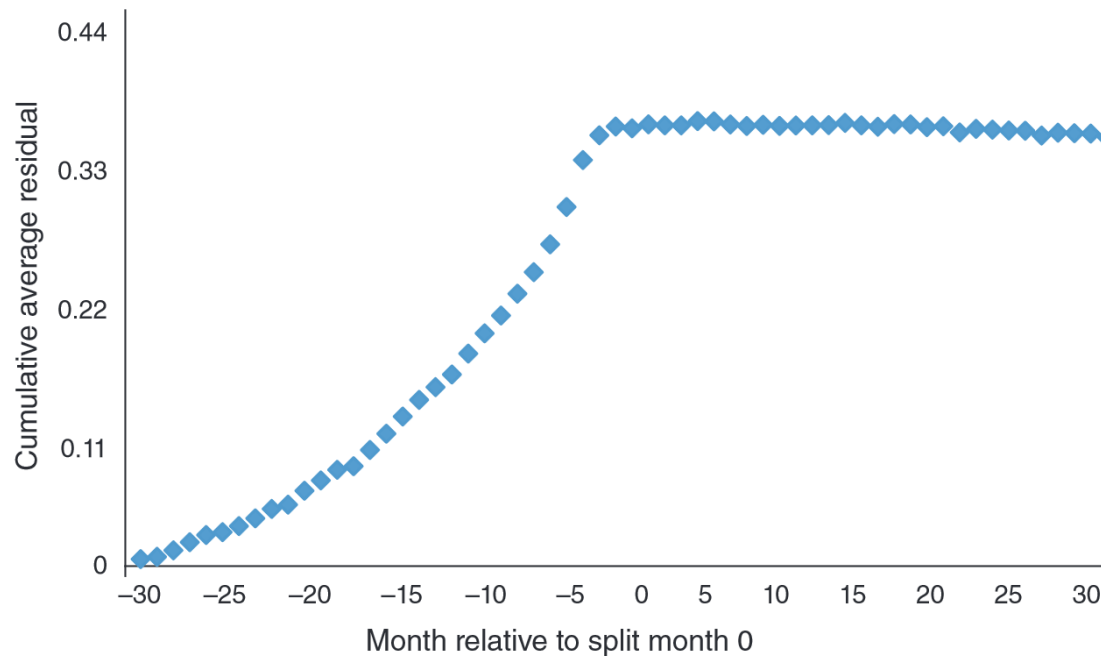


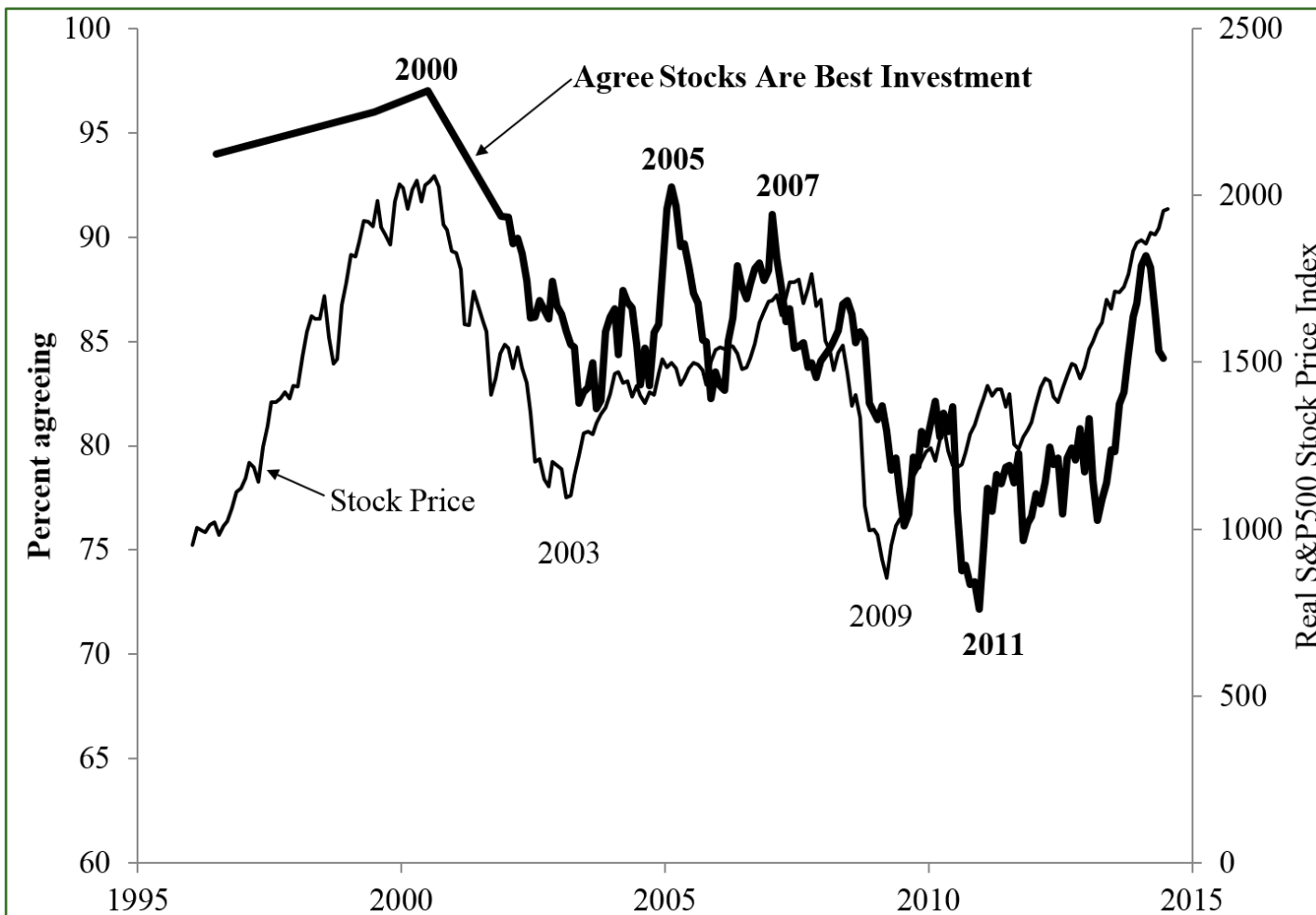
FIGURE 1. CUMULATIVE AVERAGE RESIDUALS IN THE MONTHS SURROUNDING A SPLIT

Source: Fama et al. (1969).

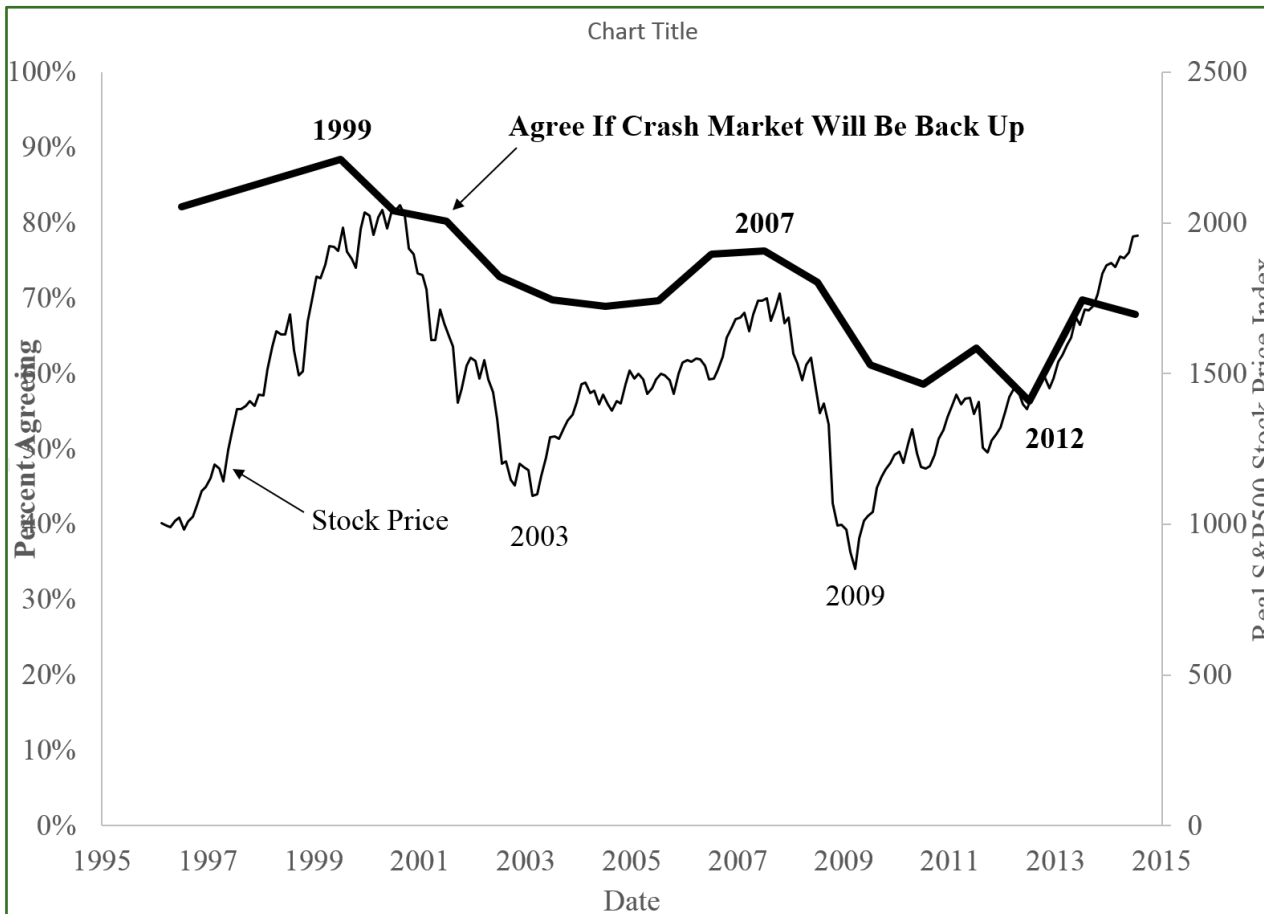
The Basic Theory of Speculative Bubbles

- Bubbles are driven initially by an unusual confluence of an array of precipitating factors
 - Many of these factors are stories, often human interest stories (narrative basis for human thinking)
 - Some of these factors are naïve theories
- Bubbles reach epidemic proportions with amplification mechanisms
 - Price-to-price feedback
 - Price-to-GDP-to-price feedback
 - Price-to-corporate-earnings-to-price feedback
 - Naturally Occurring Ponzi Scheme (Pyramid Scheme, Money Circulation Scheme, Pilotenspiel)

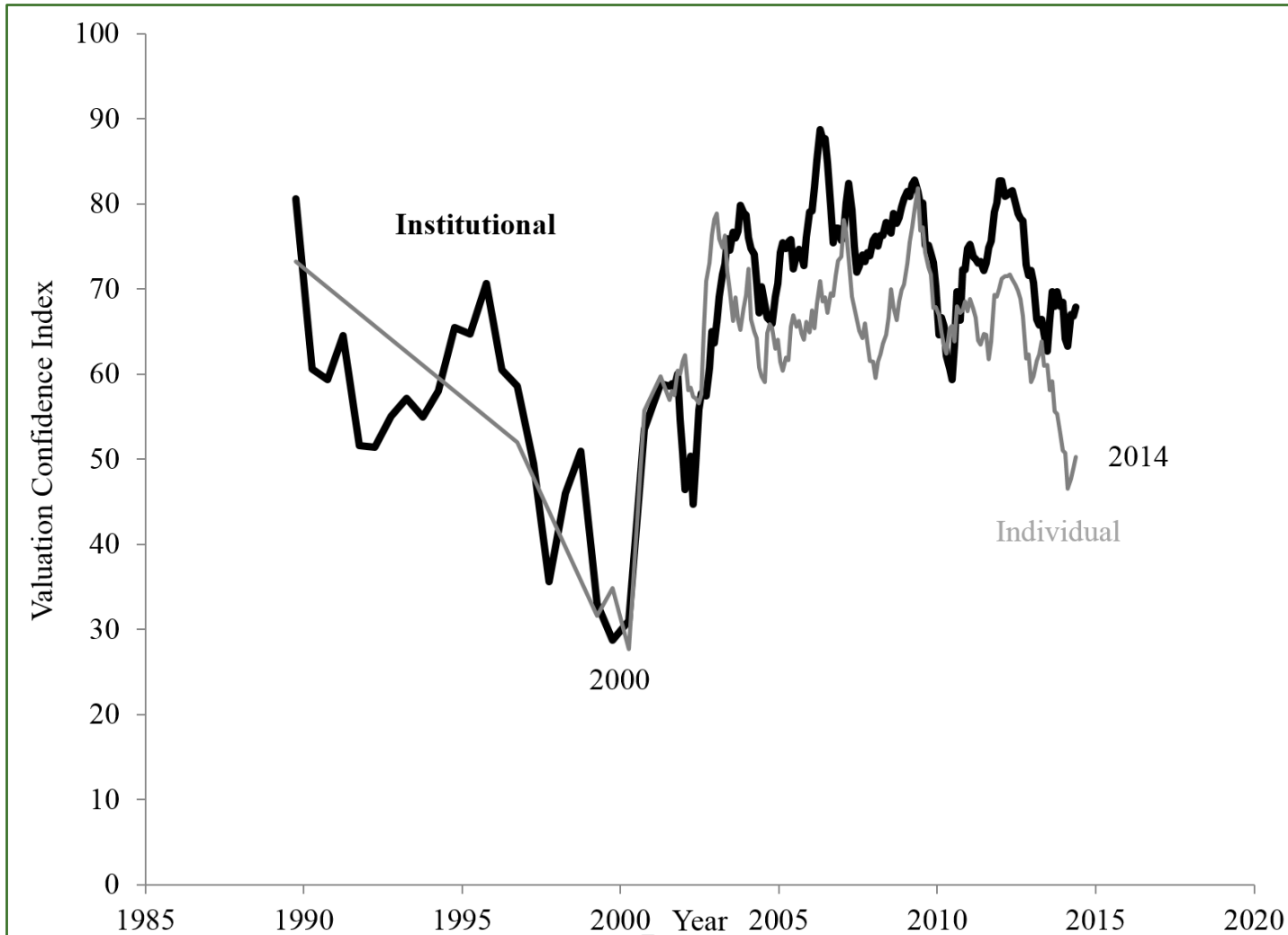
Evidence of Feedback Mechanism: Results of Individual Investor Survey: Stocks Are the Best Investment



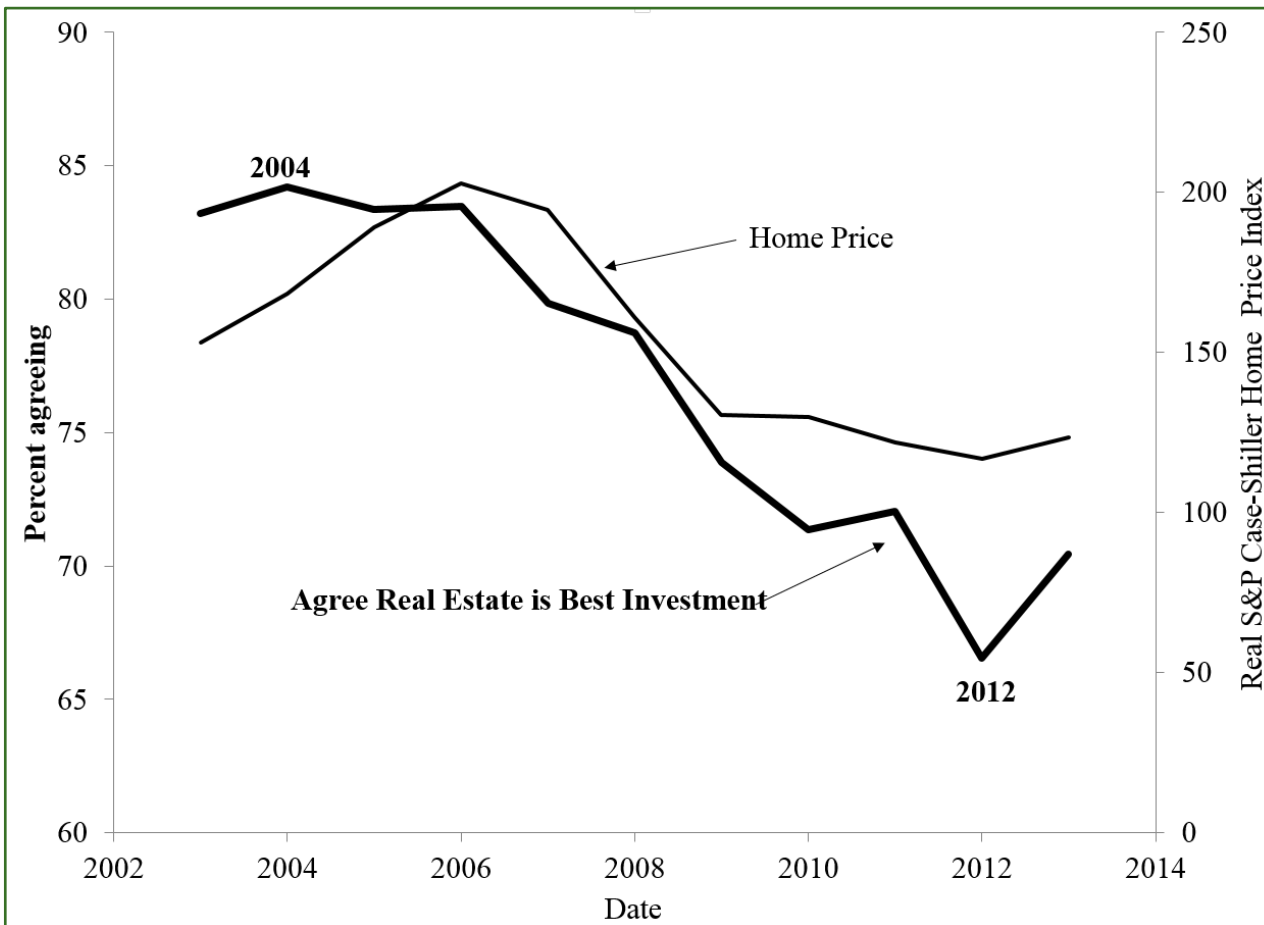
Evidence of Feedback Mechanism: Results of Individual Investor Surveys: Buy-on-Dips Confidence Correlates with Stock Market Level



Individual and Institutional Investor Survey: Valuation Confidence



Evidence of Feedback Mechanism: Results of Home Buyer Survey: Real Estate Is the Best Investment



The Behavioral Finance Revolution After 1990

- Sociology: Collective consciousness Durkheim (1893), collective memory Halbwachs (1925)
- Social psychology: *Groupthink* , Janis (1971)
- Selective attention: William James 1890, (“rational inattention” Sims 2003)
- News media, Internet, as amplifier of social epidemics
- Even population biology, epidemiology, and neuroeconomics are coming into play

Precipitating Factors for Millennium Bubble 1982-2000

- The World Wide Web
- Triumphalism
- Culture Favoring Business Success
- Republican Congress & Capital Gains Taxes
- Baby Boom
- Media Expansion

- Optimistic Analysts
- 401(k) Plans
- Rise of Mutual Funds
- Decline of Inflation
- Expanding Volume of Trade
- Rise of Gambling Opportunities

Additions and Deletions to Precipitating Factors for the Ownership Society Boom 2003-7

Additions:

- Ownership Society Theory
- Greenspan put

Deletions:

- The World Wide Web after Dot-Com burst
- Republican Congress (Senate tied in 2000 elections, both houses went Democratic in 2006 election)
- Triumphalism faded with memories of Deng Xiaoping (d. 1997) and Boris Yeltsin (d. 2007)

Rather Different Precipitating Factors for the New Normal Boom 2009-15

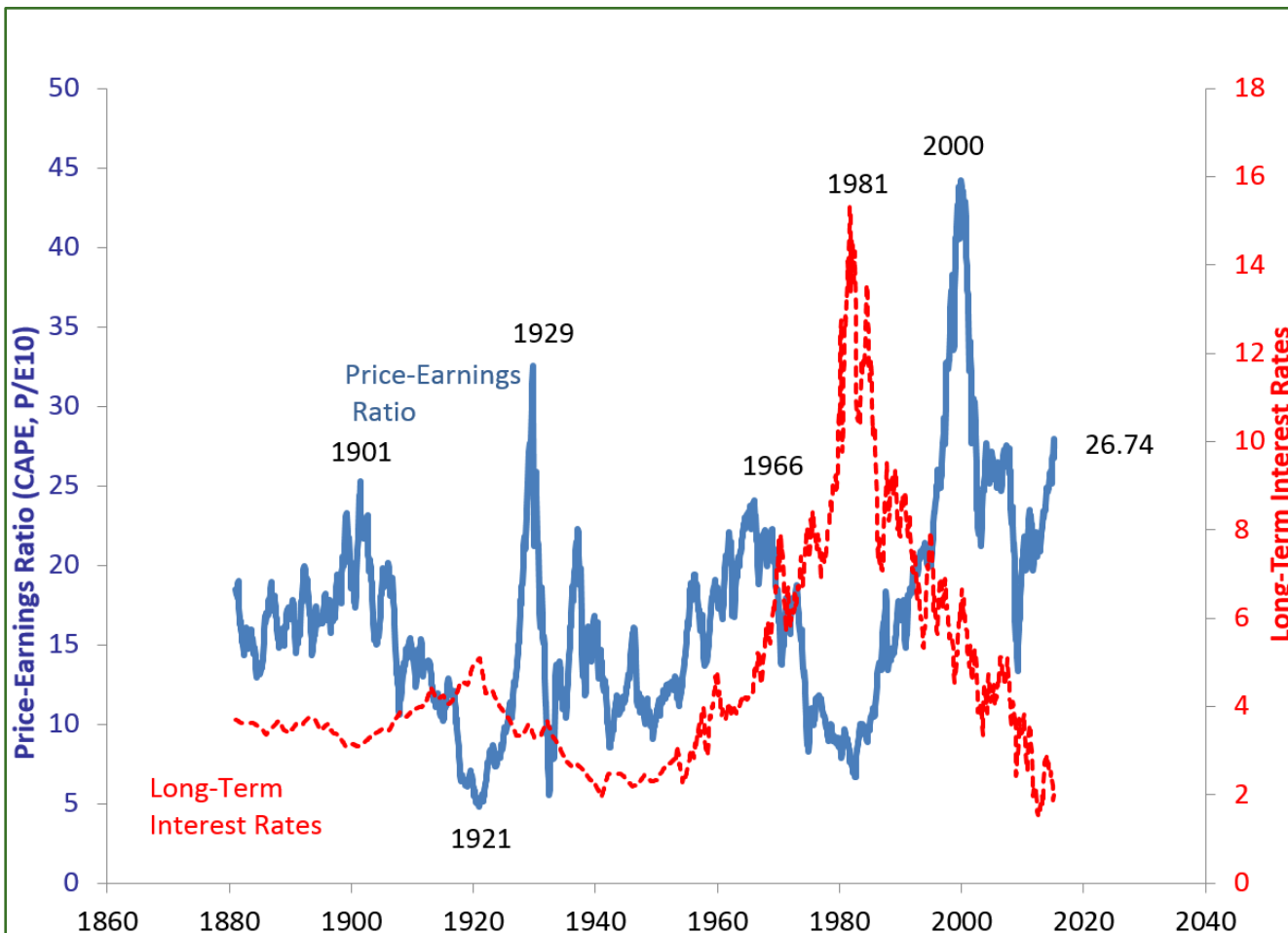
Additions:

- End of depression scare
- Extremely loose monetary policy and QE1, QE2, QE3
- New end-of-career anxieties with stellar advance in information technology
- Public attention drawn to income inequality

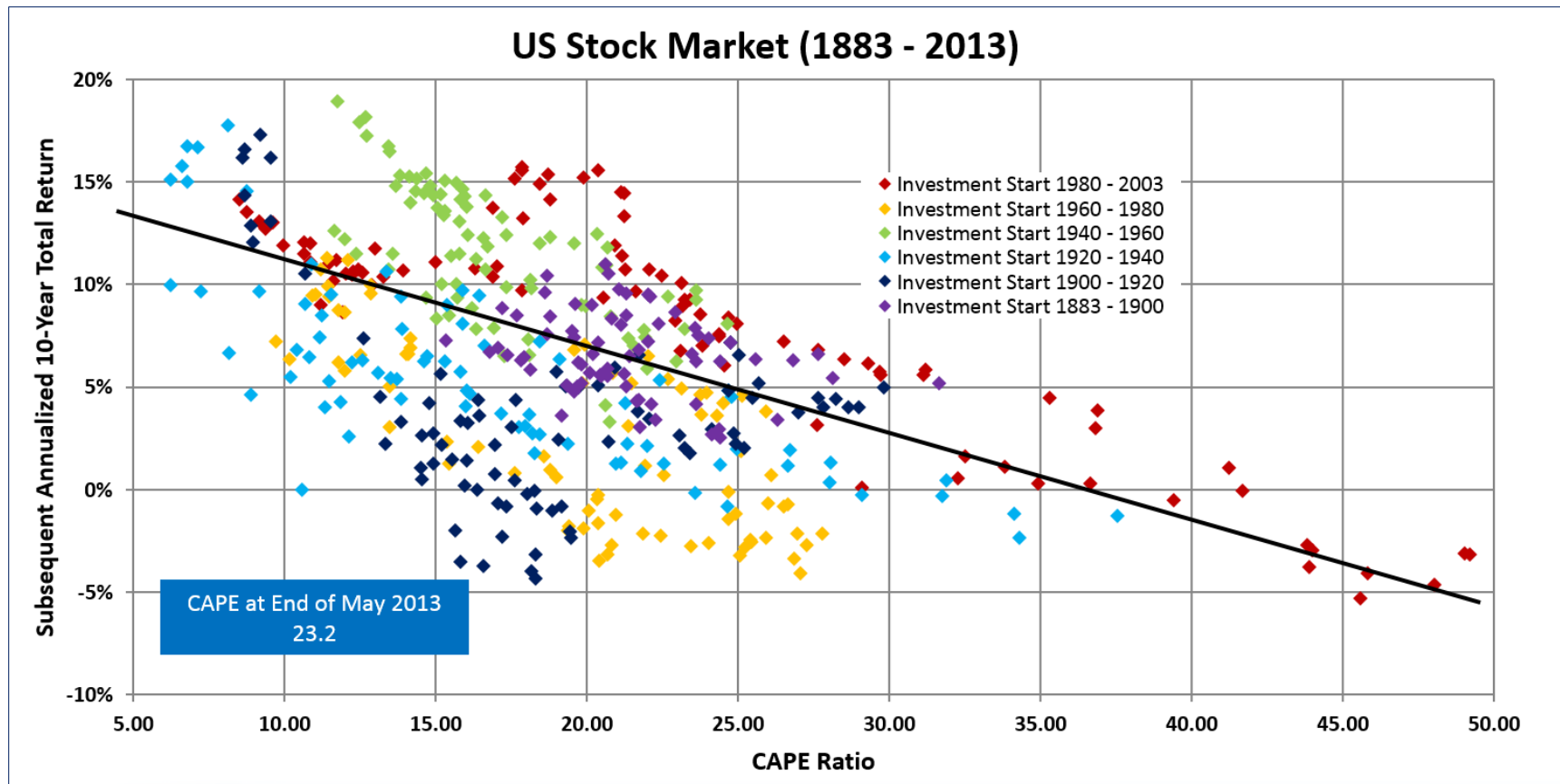
Deletions:

- Democratic Congress disappears: Republicans take House 2008 in and Senate in 2014

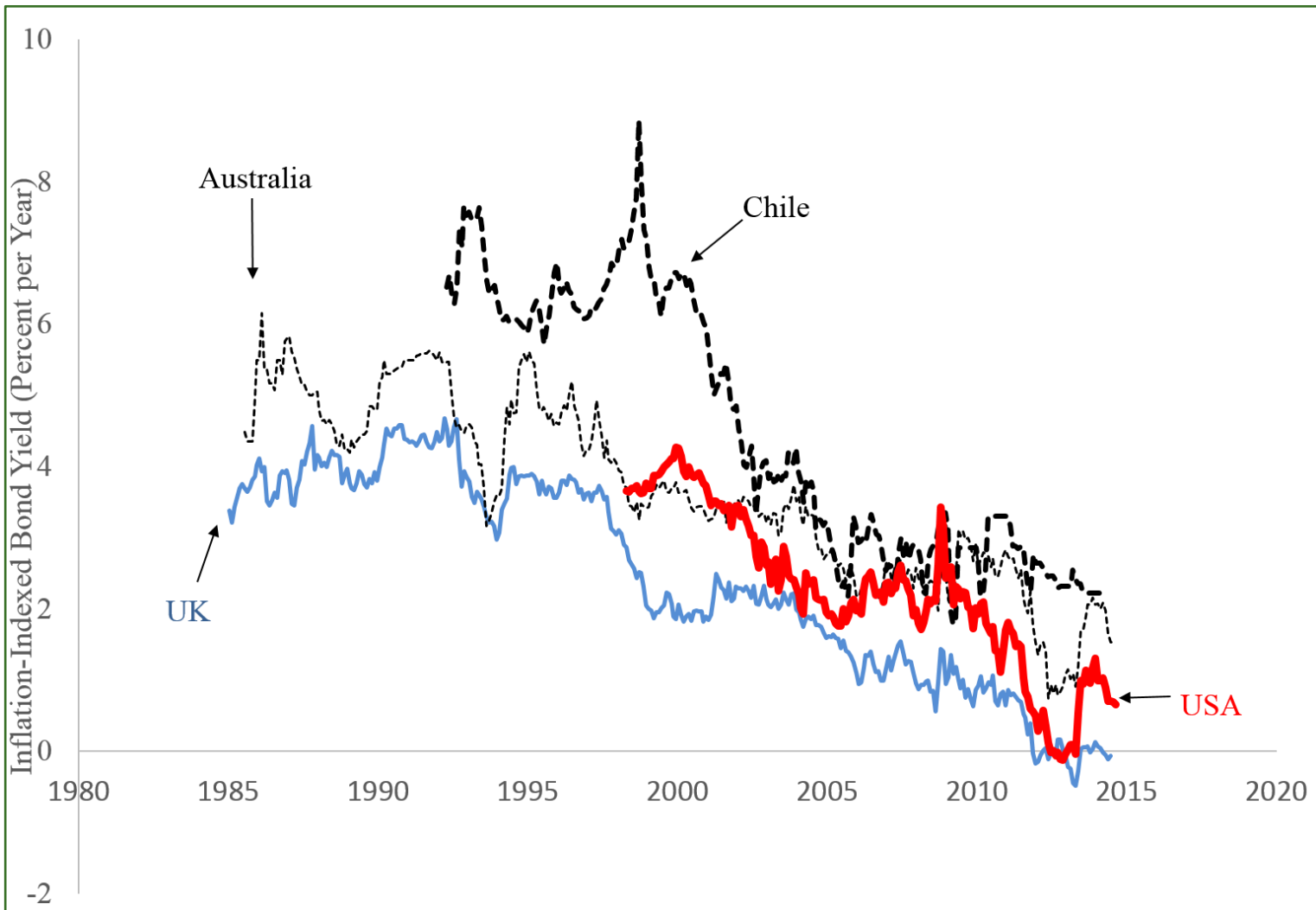
Cyclically Adjusted Price Earnings Ratio 1881 - March 12, 2015



Campbell-Shiller Cyclically-Adjusted Price Earnings Ratio Predicts U.S. Stock Market Annualized Ten-Year Return



Inflation-Indexed Long-Term Bond Yields for Four Countries



Lead Story on Front Page of NY Times (Neil Irwin) July 8, 2014

The New York Times

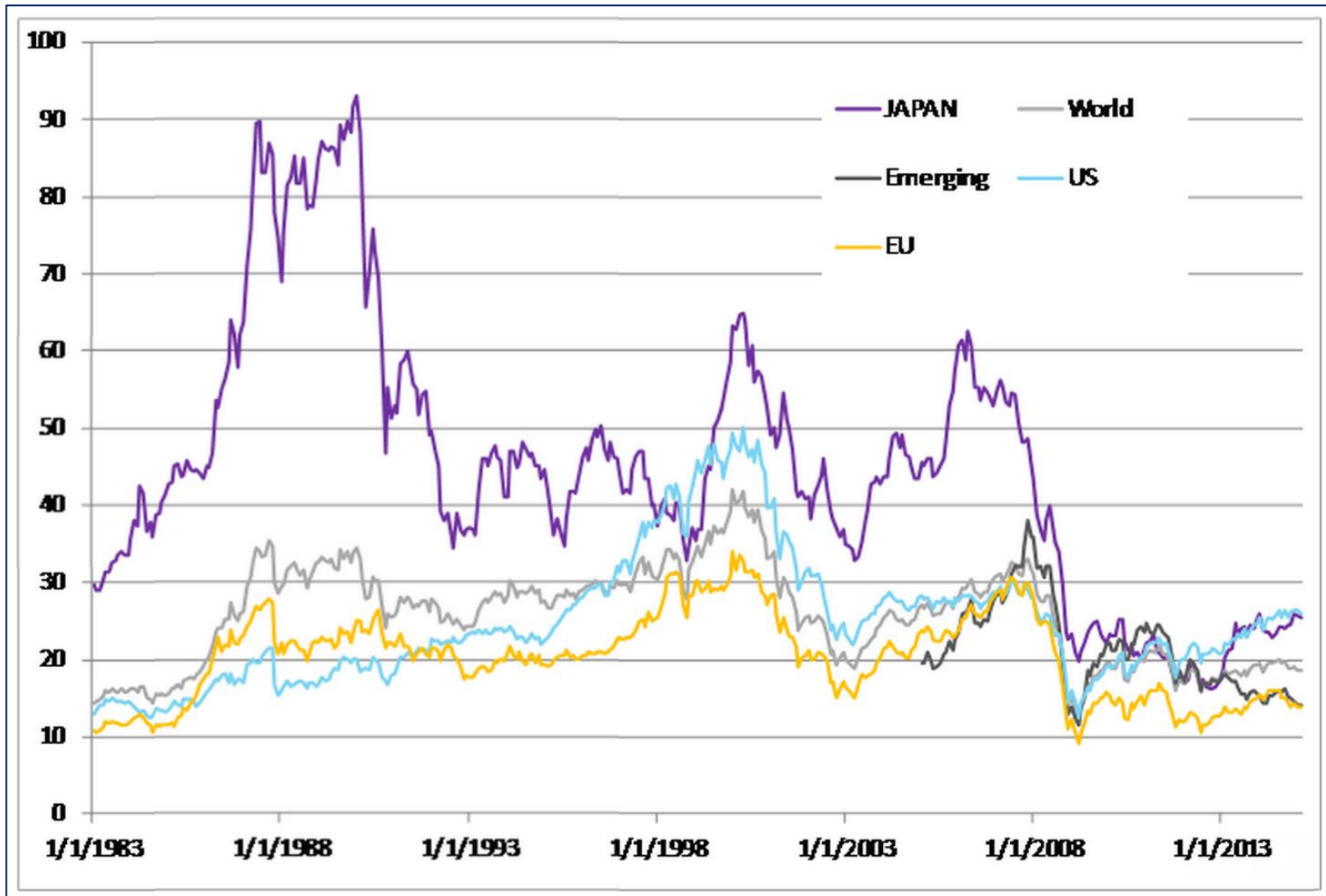
From Stocks to Farmland, All's Booming, or Bubbling: [Business/Financial Desk]

Irwin, Neil. **New York Times, Late Edition (East Coast)** [New York, N.Y.] 08 July 2014: A.1.

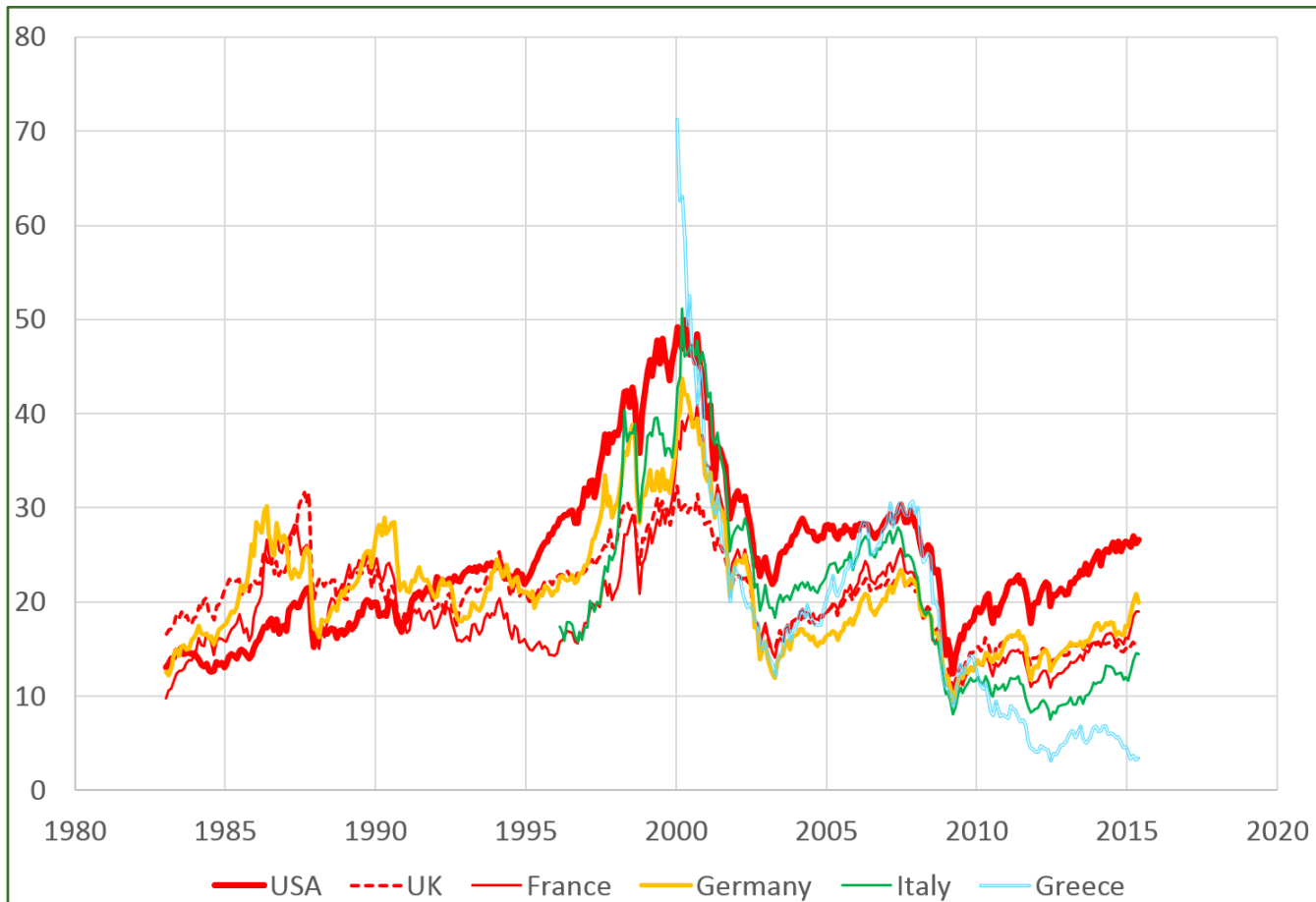
[Show highlight](#)

The phenomenon is rooted in two interrelated forces. Worldwide, more money is piling into savings than businesses believe they can use to make productive investments. At the same time, the world's major central banks have been on a six-year campaign of holding down interest rates and creating more money from thin air to try to stimulate stronger growth in the wake of the financial crisis.

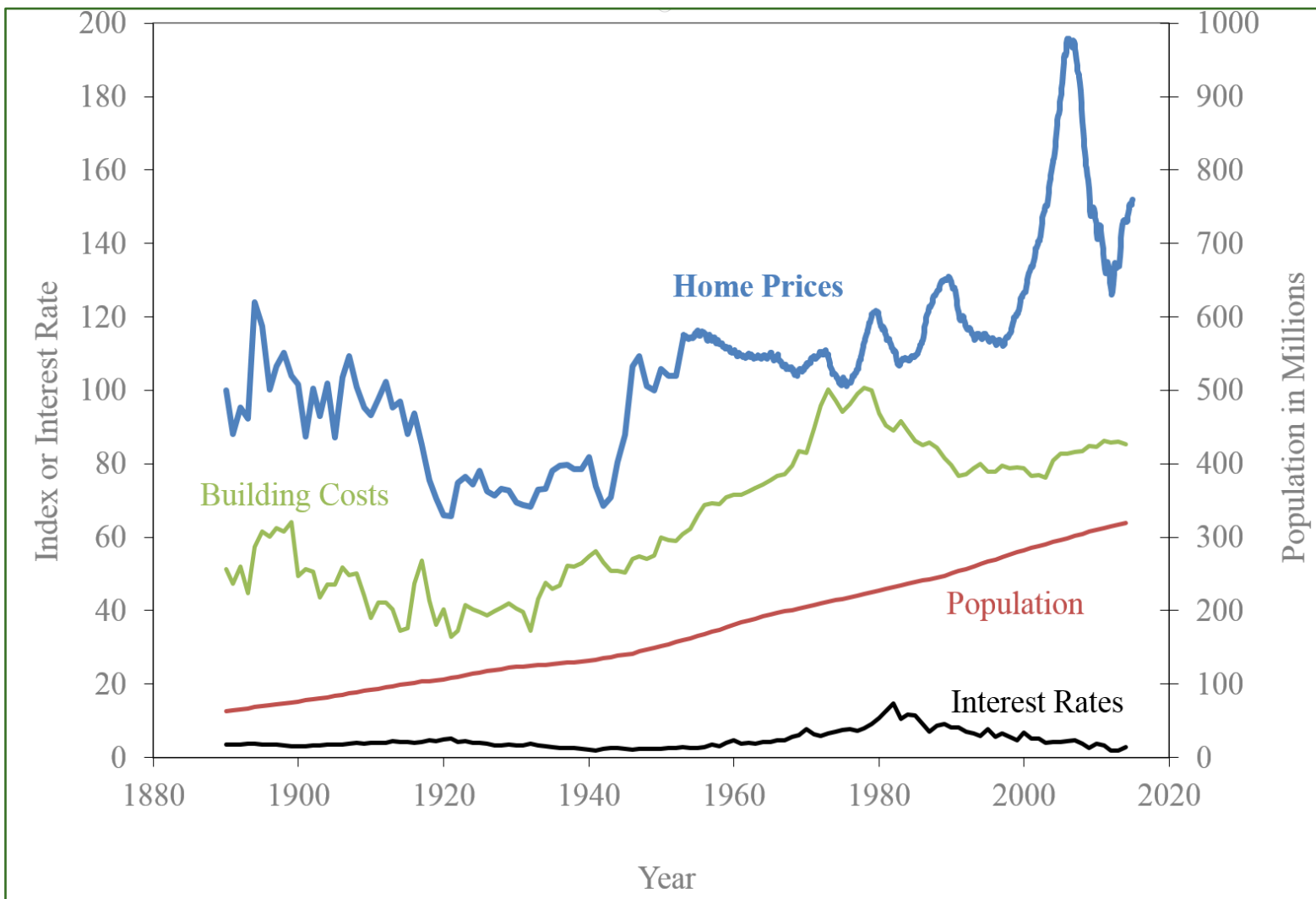
CAPE Is Not Everywhere So Overpriced: 1983-2015



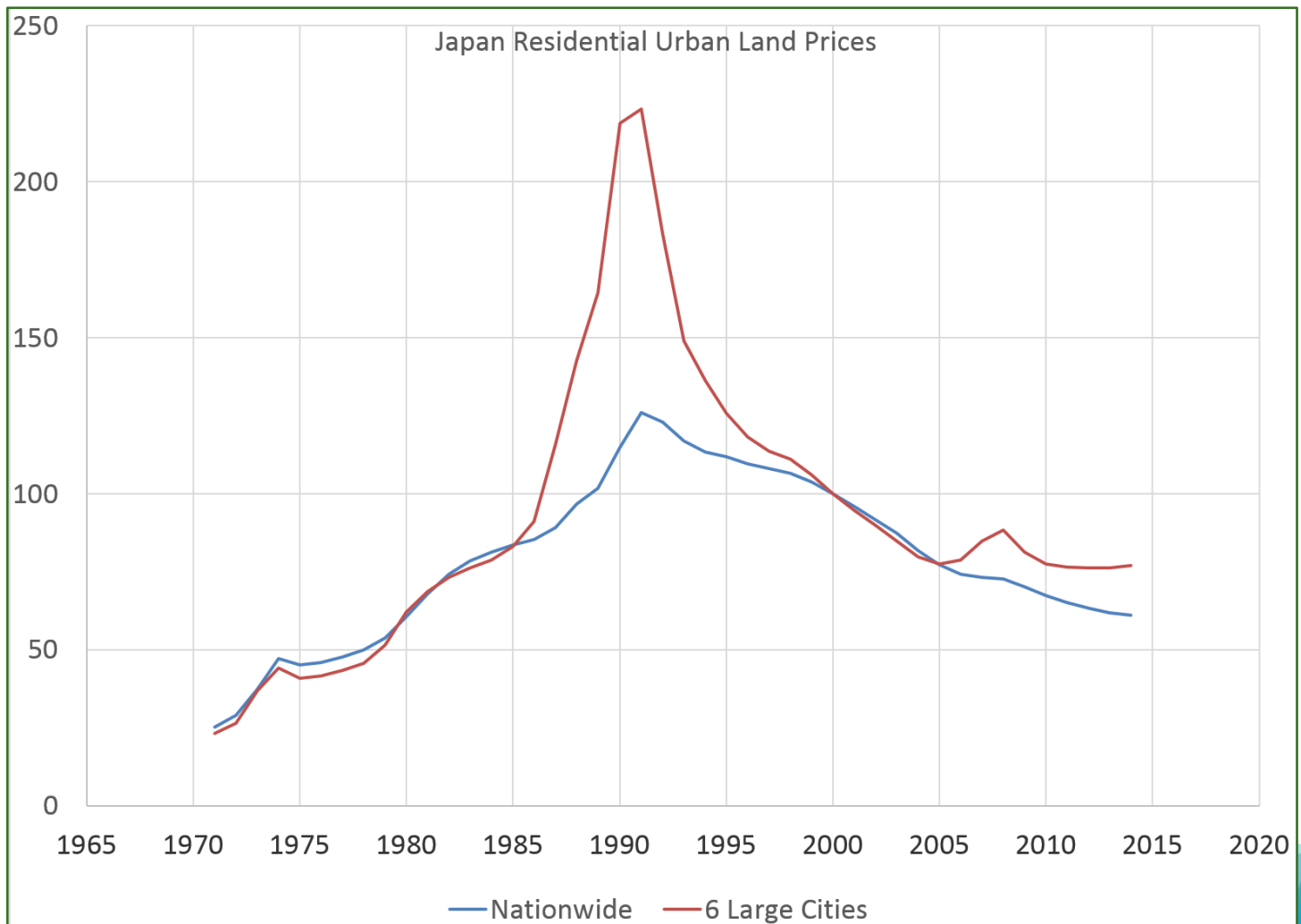
CAPE: U.S. and European Countries Compared: Jan 1983 - May 2015



U.S. Home Prices and Fundamentals 1890-2014



In Japan, Despite Extremely Low Long Rates, Home Prices Stay Low



Example of Fear-Mongering about a Bond Market Crash: zerohedge.com on Tuesday, March 10, 2015

Six Days Until Bond Market Crash Begins



Submitted by EconMatters on 03/10/2015 17:17 -0400

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By [EconMatters](#)



Run for the Exits

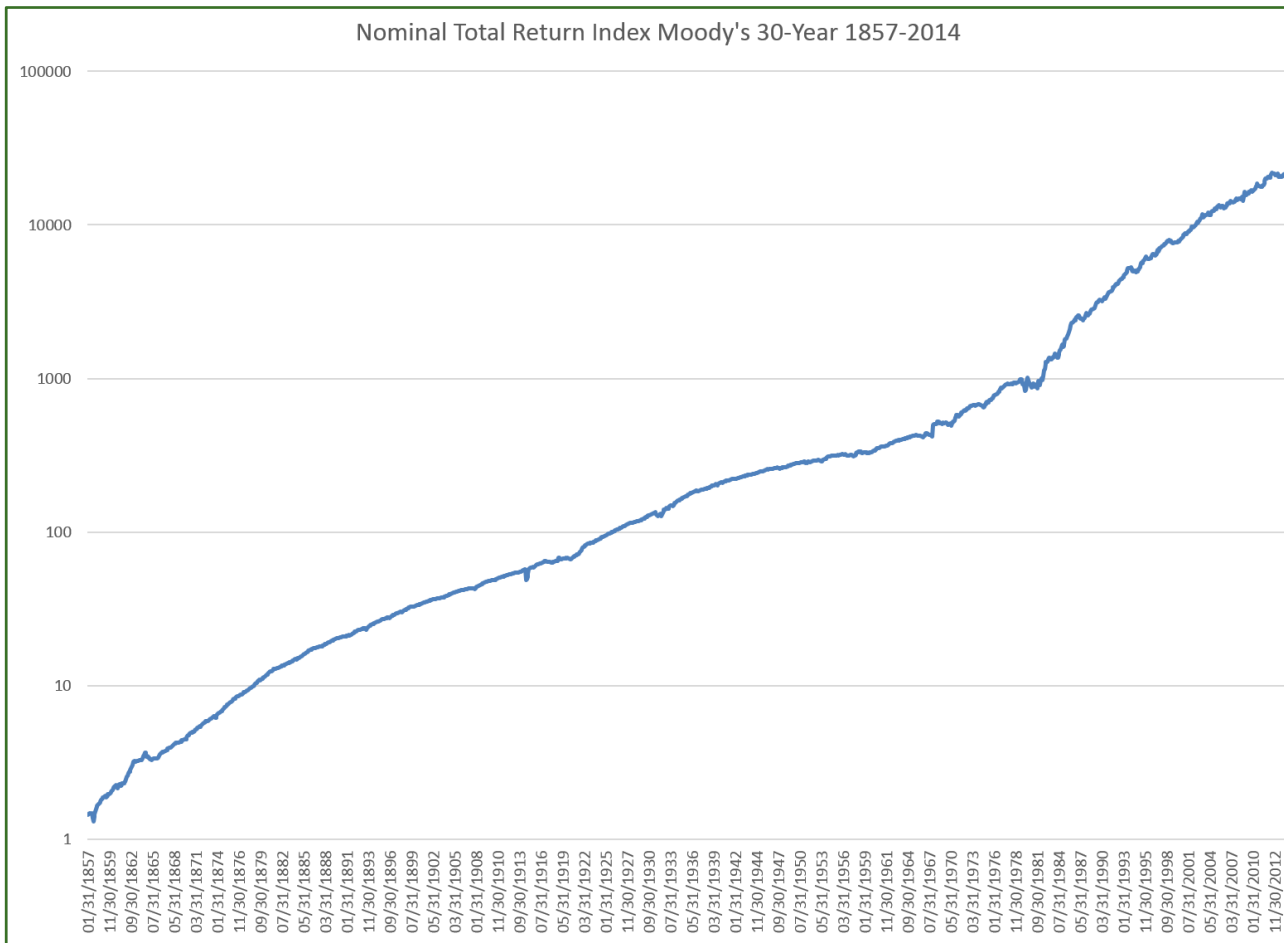
Today early in the morning, realizing this was going to be a robust selloff in equities, the 'smart money', i.e., the big banks, investments banks, hedge funds and the like, ran to the old staple of buying bonds hand over fist with little regard for the yield they are getting paid for stepping in front of the freight train of rate rises coming down the tracks.

FOMC Meeting & Press Conference

Just six days away from the most important FOMC meeting in the last seven years, and another 300k employment report in the rear view mirror, this looks like an excellent place to hide for nervous investors who have far more money than they have grains of common sense. Newsflash for these investors, yes markets are over-valued, and you need to get out of Apple, and about 100 other high flying overpriced momentum stocks, but you can't hide out in bonds this time. That party is over, and next Wednesday's FOMC meeting is going to make this point abundantly clear.

[Read More >> The Bond Market Has Reached Tulip Bubble Proportions](#)

There Has Never Been a Sharp Bond Market Crash in the U.S. Moody's Long-Term Bond Total Return Index



Is the Term “Irrational Exuberance” Still as Apt in Describing New Normal Boom?

Pro:

- Excitement about price growth in the bond market, stock market, housing market, must play a role
- The phrase “irrational exuberance,” coined on Wall Street nearly a century ago, is a description of basic human nature
- The precipitating factors change but the feedback mechanism is enduring.

Con:

- There is an atmosphere of fear, brought on by inequality, high technology, instead of euphoria (Like an LSD high rather than an Ecstasy high)
- Could some investors be so naïve as to think that bond market capital gains will continue indefinitely?