

The Market's Boom/Bust Cycle: Where are we today?

Spring 2016

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Outline

A Change of Seasons

... to Business Cycles

... to Market Cycles

... to Booms and Busts

Suggestions

Early cycles are seasonal

- Among the earliest of civilizations, business cycles can be thought to be attributed to the changing of the seasons and yields at harvest time.
- Evidence for this can be found in irrigation efforts in agrarian societies of Egypt and China as well as crop rotation techniques pioneered in medieval Europe.



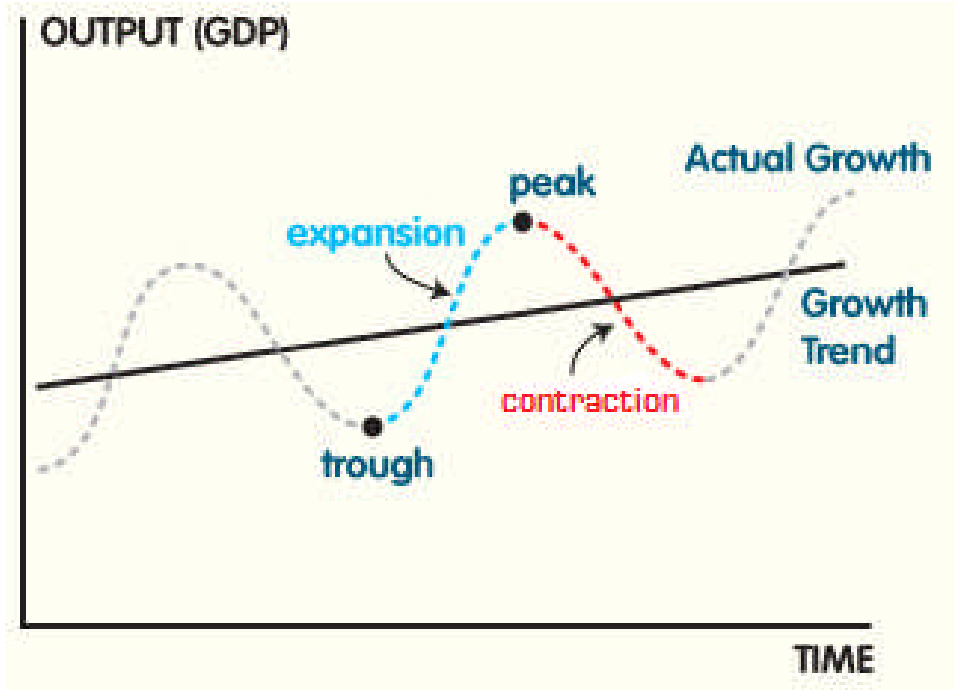
... seasons to business cycles

- As civilizations matured and expanded, industry and trade advanced.
- New products and methods amplified agricultural output.
- Banking was not all that sophisticated.
- Geographic and localized growth rate differences emerged.

... business cycles to market cycles

- As commerce and banking became more sophisticated, differences in market could be more easily observed and serve as a base for profits themselves.
- Initially, these three cycles reinforced each other. As time progressed, these three cycles would be in and out of phase for a host of reasons and an even wider range of impact.

Phases of the Real Business Cycle (RBC)



- Expansion, Peak, Contraction, Trough
- Q: When do recessions happen?
- A: 2 quarterly declines in GDP. *Wrong!*
- “The Committee applies its judgment based on the above definitions of recessions and expansions and has no fixed rule to determine whether a contraction is only a short interruption of an expansion, or an expansion is only a short interruption of a contraction.” *

* <http://www.nber.org/cycles/recessions.html>

Can the RBC be tamed?



- **Fiscal Policy** – adjust taxation and government spending to counterbalance the RBC (Keynes)
- **Monetary Policy** – adjust the price of money through changes to interest rates (Freidman)
- **Regulation** – Marx, Stalin, Lenin, Mao, Castro, Peron, Chavez
- Communism's sole contribution – the 17 year Kondratiev cycle

Market Cycles

- The “market cycle” is a catch all phrase that covers the interplay between the prices of assets and the phase of the RBC.
- A few rhetorical questions, albeit rhetorical ones:
 - Do changes in the market values of assets reflect or direct business cycles?
 - Does the wealth effect lead business cycles or does it follow?
 - If so, how strongly?
 - If so, how quickly?

Booms and Busts in popular culture

- “Margin Call,” movie from 2011 – a depiction of the final days of a brokerage house caught up the bubble of sub-prime housing bonds. Jeremy Irons character’s rant is telling.



Booms and Busts in popular culture

- “Margin Call,” movie from 2011 – a depiction of the final days of a brokerage house caught up the bubble of sub-prime housing bonds. Jeremy Irons character’s rant is below:

“Its just money; its made up. Pieces of paper with pictures on it so we don't have to kill each other just to get something to eat. It's not wrong. And it's certainly no different today than its ever been. 1637, 1797, 1819, 37, 57, 84, 1901, 07, 29, 1937, 1974, 1987-Jesus, didn't that [sic] me up good-92, 97, 2000 and whatever we want to call this. It's all just the same thing over and over; we can't help ourselves. And you and I can't control it, or stop it, or even slow it. Or even ever-so-slightly alter it.”

Source – Internet Movie Database (IMDb)

What was that rant all about? A Bubble Chronology

1637 – Tulip mania

1797 – British bank restriction act, prevented B of E from converting UK currency into gold

1819 – end of post war of 1812 boom, first depression in US

1837 – bank panic spurred on by 1836 Banking Act which caused speculative RE deals to fail

1857 – bank panic spurred by rumors of inadequate gold reserves in U.S. banks resulting from sinking of a ship laden with CA gold

1884 – bank panic, European gold reserves exhausted, bank runs in the Europe spread to US

1901 – U.S. railroad stocks bubble bursts

1907 – an attempt to corner United Copper failed and unwinding the trades spiraled out of control exacerbated by overlapping investment “Trusts”, J Pierpont Morgan and U.S. gov’t bailed out others

1929 – Great Depression

1974 – OPEC oil embargo

1987 – derivatives imbalance with spot market

1992 – Gulf War I

1997 – Asian Contagion and LTCM

2000 – Tech bubble, NASDAQ peaks

2008 – housing bubble leads MBS weakness, AIG, FNM, FRE, LEH all go bankrupt

But he didn’t mention the South Sea Bubble (1720)

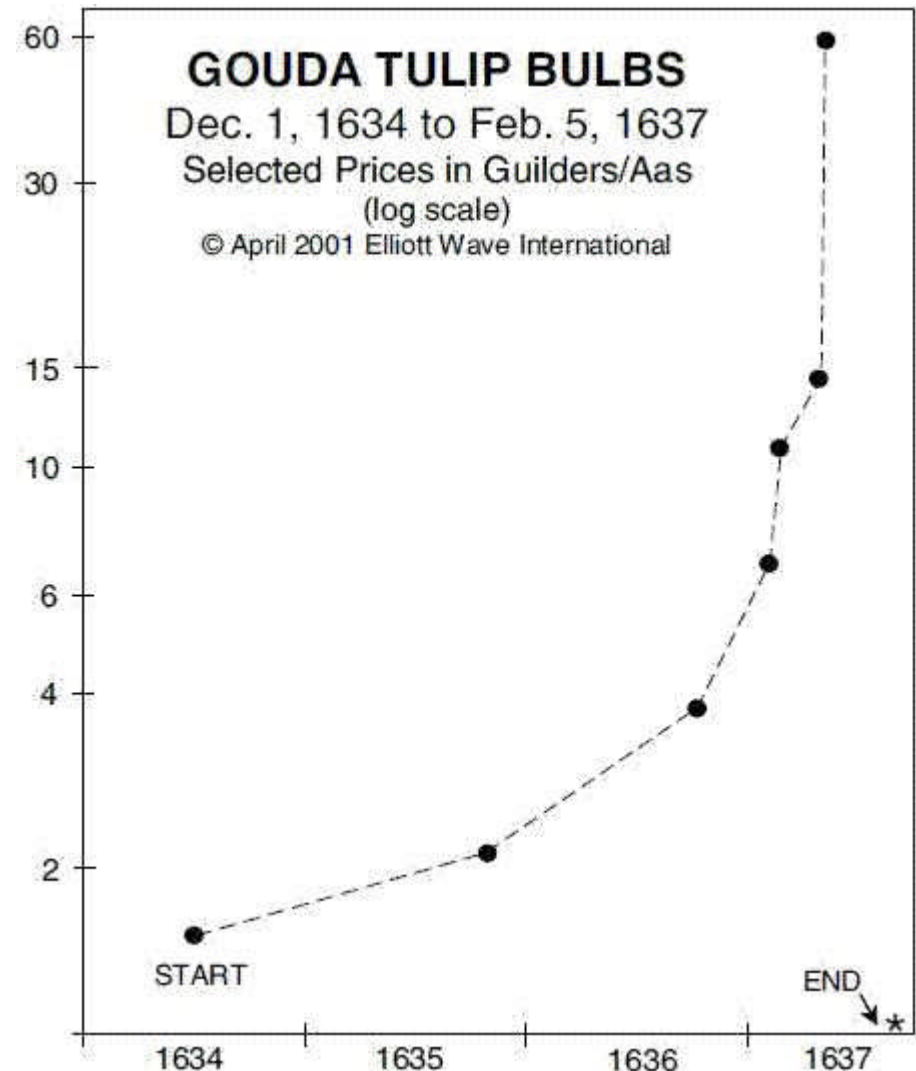
Tulipmania- Netherlands 17th Century

- Considered the first speculative financial bubble.
- The Netherlands had an ideal terrain to grow Tulips, but only limited land.
- Tulips were classified and ranked with military titles:
 - Semper Augustus
 - Viceroys
 - Admirals
 - General



The Guessing Game

- The tulip market occurred in summer months when flowers bloomed
- Based on Dutch traders expertise as merchants, a market for future delivery of tulips developed
- Careful breeding and visual inspection were needed for grading of higher quality bulbs – later discovered to be a randomly occurring plant virus
- In 1624, a Semper Augustus was traded for 1200 florins, roughly the price of a small house
- By the peak in 1637, with average annual salary of 300 guilders, a bulb of the semper Augustus traded for 6000 guilders



Tulip Mania, continued

- Prices peaked during the winter of 1636-1637
- No tulip bulbs actually were exchanged, only futures contracts
- Prices were extremely high and the buying public was fully invested, with no additional buyers – trading halted, leading to a cascade of defaults
- Fears of the bubonic plague may have also kept buyers away (it was a physical marketplace in Haarlem)
- In 1638 to clear the marketplace, the Dutch Government agreed to buy out unexpired contracts at 3.5%



Above: "Wagon of Fools" (1637) by Hendrick Gerritsz Pot; depicts Dutch citizens abandoning their old lives to pursue the flowers. The fate of the wagon is ultimately destruction

The South Sea Company (1711-1720)

- Established in 1711 to enable funding the war of Spanish Succession (ended in 1713).
- To convince the public to buy shares, England gave the company a monopoly on gold and silver trade with the Spanish colonies of South America.
- Shareholders were able to receive a 6% yield on their investment that was guaranteed by the British Government in perpetuity.
- With proceeds from the sale of SSC stock, they purchased bonds
- In 1719, SSC issued more shares, bought more government debt
- Eventually the SSC owned over 20% of the national debt.



The SSC, continued

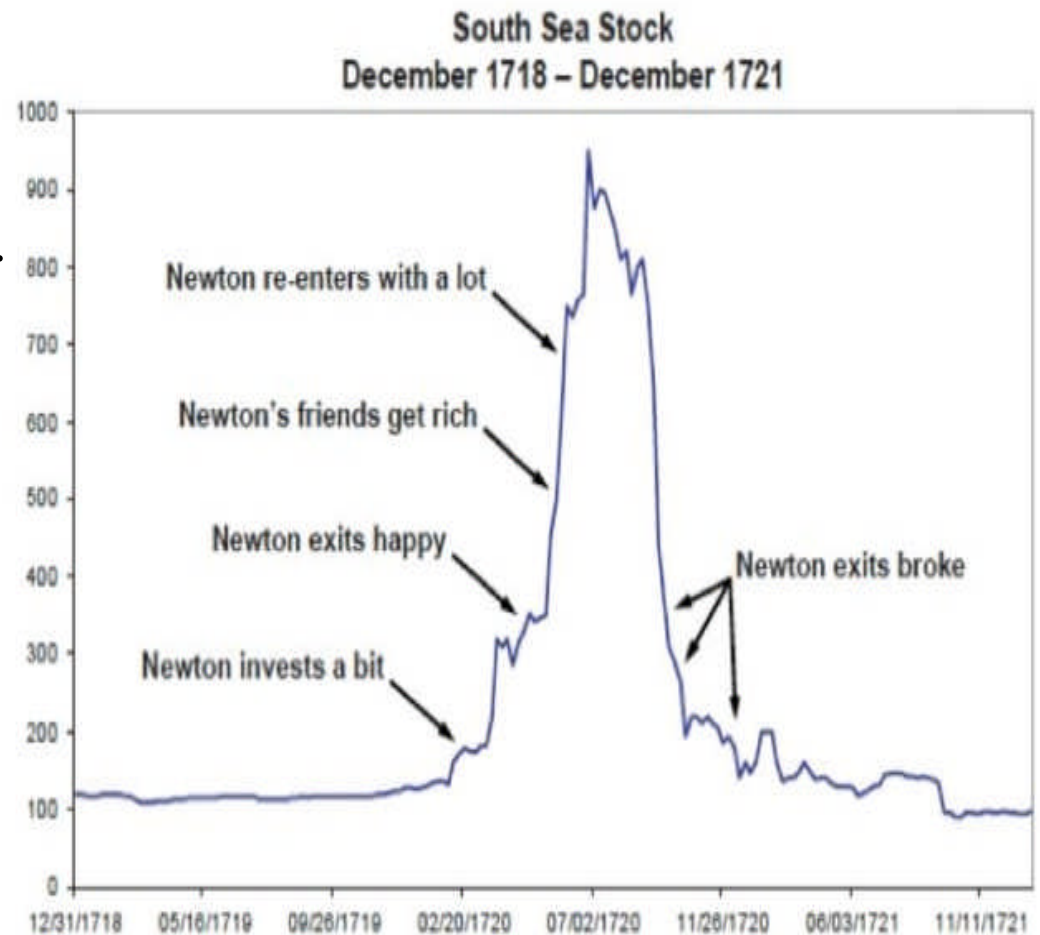
- SSC became only interested in raising its share price. They earned a bigger spread off the debt than they did with imports from the new world.
- SSC spread rumors about all plentiful gold and silver in South America
- By 1720, the public bought this story ran with it
- The rise in the share price was thought to be permanent because of the monopoly franchise and \$70 million in UK bonds.
- SSC also released lists of prominent shareholders, including Isaac Newton.
- Other firms began to issue shares of stock in companies that appeared to be very similar to the SSC. These became known as the “bubble companies.”
- SSC lobbies parliament to prevent issuance of shares by these competing companies. Known as the “Bubble Act,” it had little effect in slowing enthusiasm for the competing companies.

Rough Waters in the South Sea

- SSC colludes with politicians to prosecute three companies, when this news spreads panic selling begins, forcing holders of SSC stock who levered to buy “bubble” companies to sell their SSC stock.
- SSC announces raising their dividend to 50%, but the public doubted them.
- Realizing they are losing investor confidence, SSC board starts selling , stock begins falling
- Parliament passes a bill in late 1720 to confiscate profits of SSC board and colluding politicians.

“I can calculate the movement of the stars,
but not the madness of men.”

- Sir Isaac Newton



Source(s): Marc Faber, Jeremy Grantham, Sir Isaac Newton

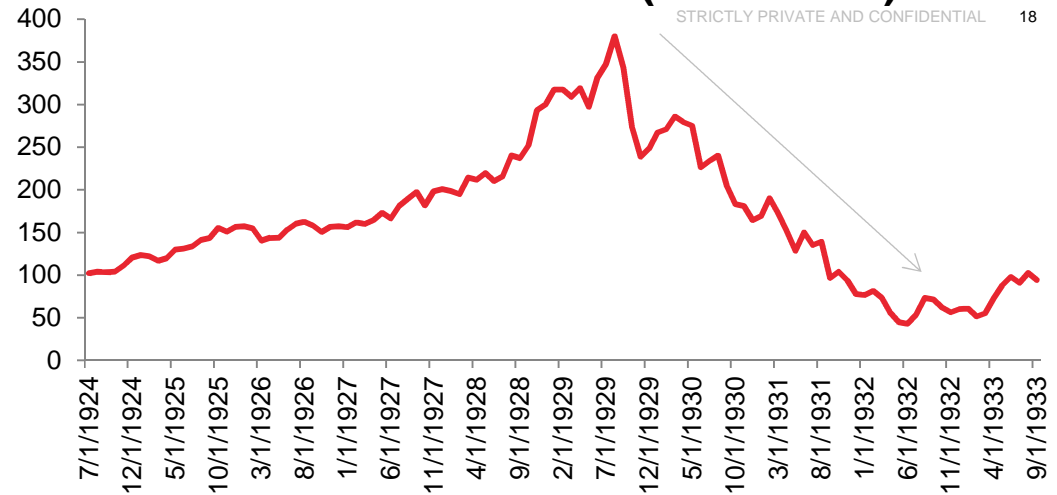
The Great Depression

- Average Americans viewed the establishment of the Federal Reserve (1913) as a safety net for markets.
- Margin loans were expanded by brokerage houses in the 1920s.
- Initial margin requirements were only 10%.
- Margin loans increased rapidly in the latter half of the 20s.
- In 1927 margin loans increased nearly 29% from the prior year.
- At the peak, the ratio of stock margin loans to GDP was nearly 12%.
- In February 1928 the Fed began raising interest rates, stopping at 6% in August 1929.

“Stocks have reached what looks like a permanently high plateau.”- Professor Irving Fisher, Yale economist (Fall, 1929)

DJIA Rise and Fall (1924-1933)

STRICTLY PRIVATE AND CONFIDENTIAL 18



Great Depression, cont'd

- The Fed raised the margin requirement to 50%, trading slows rapidly.
- More sellers than buyers → margin calls ensued, pushing the share prices down → more margin calls, and so on....
- Black Thursday (London), Black Tuesday (NY), and Black Wednesday (NY) were daily losses of about 10-12%

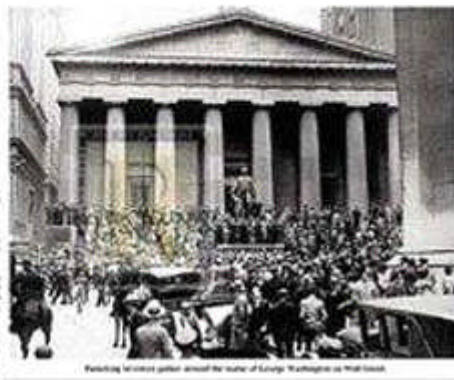


WALL STREET CRASH!

Black Thursday in America

Stocks Plunge and Eleven Commit Suicide

Five million in the New York Stock Market were...
 Main cause is the early morning...
 In the morning market...
 The hour early morning...
 Speculation also...
 The hour early morning...
 Speculation also...
 The hour early morning...
 Speculation also...



The 1980s Free Market

- 1981 Ronald Reagan elected
- 1982 Volker hiked interest rates to kill inflation.
- From 1983 on
 - Falling interest rates
 - Falling tax rates
 - “trickle down” economics
 - Increased government and military spending
 - “King Dollar”

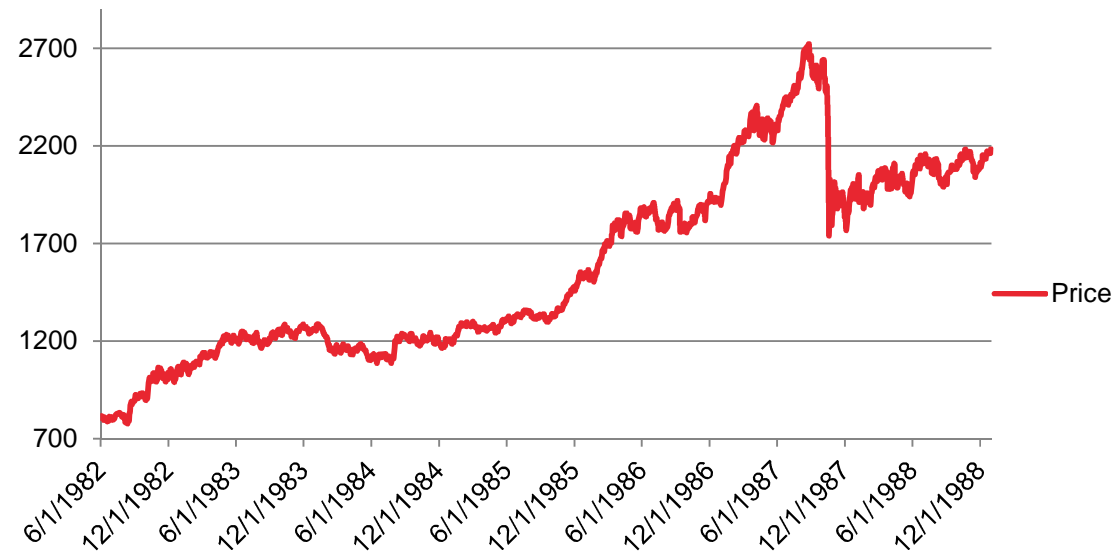
... led to phenomenal GDP growth



1980s- The Bull Market

- Genuine growth in U.S. economy reflected in stocks.
- Financial innovation rose
 - High Yield bonds
 - Leverage Buyouts
 - Derivatives
 - “Corporate Raiders”
 - Limited Partnerships
 - Portfolio Insurance
- Public fascination with stocks blossomed
- Wall St., Other People’s Money, Pretty Woman, Family Ties

Dow Jones Index (1982-1988)



“Takeovers are for the public good but that’s not why I do it. I do it for the money.”- Sir James Goldsmith

October 1987

- Continuing news reports over insider trading charges since the Spring may have put investors on edge
- Treasury yields above 10%
- Rumors that tax breaks for LBOs could be cut
- Treasury Secretary James Baker announced he would let the U.S. dollar weaken if W. Germany didn't cut interest rates
- Larger than forecasted trade deficit announced
- October 16th – in the Persian Gulf Iran's navy hit U.S. flagged oil tanker, Sea Isle City, with a missile
 - The DJIA dropped 108 points that day.
 - ... but there was something else looming

October 19, 1987

- Many theories explain “Black Monday.”
- An imbalance between futures contracts geared for portfolio insurance and the underlying spot market for stocks became out of alignment is the most widely accepted one.
- 1987 highs would be recovered the by September 1989.
- 2 years compared to 20 for the Great Depression.

"All the News That's Fit to Print"

The New York Times

Late Edition
 New York Today, increasing clouds, high 62-61. Tonight, cloudy, breezy, showers likely. Low 43-53. Tomorrow, showers ending. High 58-63. Yesterday, high 68, low 48. Details on page B6.

VOL. CXXXVII, No. 47,298
NEW YORK, THURSDAY, OCTOBER 20, 1987
50 CENTS

STOCKS PLUNGE 508 POINTS, A DROP OF 22.6%;
 604 MILLION VOLUME NEARLY DOUBLES RECORD

U.S. Ships Shell Iran Installation In Gulf Reprisal

Offshore Target Tamed a Base for Gunboats

By STEVEN V. ROBERTS

WASHINGTON, Oct. 19 — United States naval forces struck back in Iran today for attacks on American merchant vessels and other Persian Gulf shipping by shelling two suspected offshore platforms that American officials said were a base for Iranian gunboats.

A few hours later, a naval commando detachment boarded a third platform five miles away and destroyed radar and communication equipment, Pentagon officials said.

The American casualties were reported in the attack, which occurred 12 miles east of Bahrain at about 2 P.M. (T.A.M., Eastern Daylight time).

A 30-Minute Warning

American officials said the attacking force took pains to avoid killing Iranian, giving the crew on the first platform a 20-minute warning before four destroyers, stationed about three miles away, began the shelling.

At the United Nations, an Iranian delegate said "several innocent people" had been killed in the attack, but the assertion could not be confirmed.

With the bombardment, the Administration stretched to send a message to Iran: "The United States had shown its

A Huge Blow to the Five-Year Bull Market

Dow's Record Fall
Yesterday's 4,000-point drop was down 22.6 percent from Friday's close.

The Dow Jones industrial average, which has been marching up since August 1982, began a dramatic fall last week that continued through yesterday when it closed at 2,702.42. (Dow Jones Weekly Close of the Dow.)

Does 1987 Equal 1929?

By ERIC GELMAN

As stock prices soared this year, a chorus of pessimists warned that 1987 was looking more like 1929, when a stock market crash helped to usher in the Great Depression. Yesterday, after a plunge reminiscent of the previous quarter, was whether the aftermath would be as devastating to individuals and the nation.

The quick answer, many economists say, is no. The huge losses on Wall Street certainly a substantial blow to the economy at large. But there are many safeguards in place today —

Moore, director of the Center for International Business Cycle Research at Columbia University.

To be sure, there are some unsettling similarities between the current era and the post-Depression years. Like the Roaring Twenties, the 1980's have seen an astonishing boom in Wall Street. Now as then, individual and corporate debts are high, and some sectors of the economy are overcapacity. Trade relations are strained, with protectionist sentiment growing.

But today's economy is better equipped to handle financial shocks. "I don't see this decline in the stock mar-

WORLDWIDE IMPACT

Frenzied Trading Raises Fears of Recession — Tape 2 Hours Late

By LAWRENCE J. DE MARSA

Stock market prices plunged in a turbulent wave of selling yesterday, giving Wall Street its worst day in history and raising fears of a recession.

The Dow Jones industrial average, considered a benchmark of the market's health, plummeted a record 508 points, or 22.6 percent, based on preliminary calculations. That 22.6 percent decline was the worst since World War I and far greater than the 18.2 percent drop on Oct. 28, 1929, that along with the next day's 11.7 percent decline preceded the Great Depression.

Since hitting a record 2,722.42 on Aug. 13, the Dow had fallen almost 1,900 points, or 38 percent, putting the blue-chip indicator 117.2 points below the level at which it started the year. With Friday's plunge of 188.33 points, the Dow has fallen more than 20 percent in the last two sessions.

Unprecedented Trading

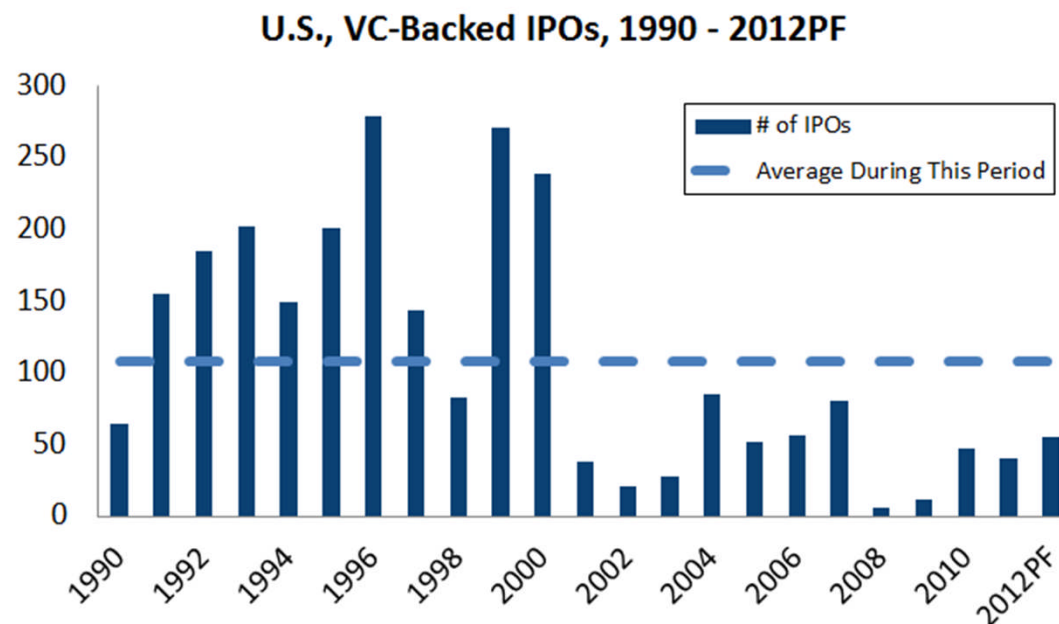
Yesterday's frenzied trading on the nation's stock exchanges that volume is unheard of levels. On the New York Stock Exchange, an estimated 604.3 million shares changed hands, almost double the previous record of 318.5 million shares set just last Friday.

With the tremendous volume, reports of "lonely" trades on the New York

The New York Times Co. 1987

The '90s and the “New Economy”

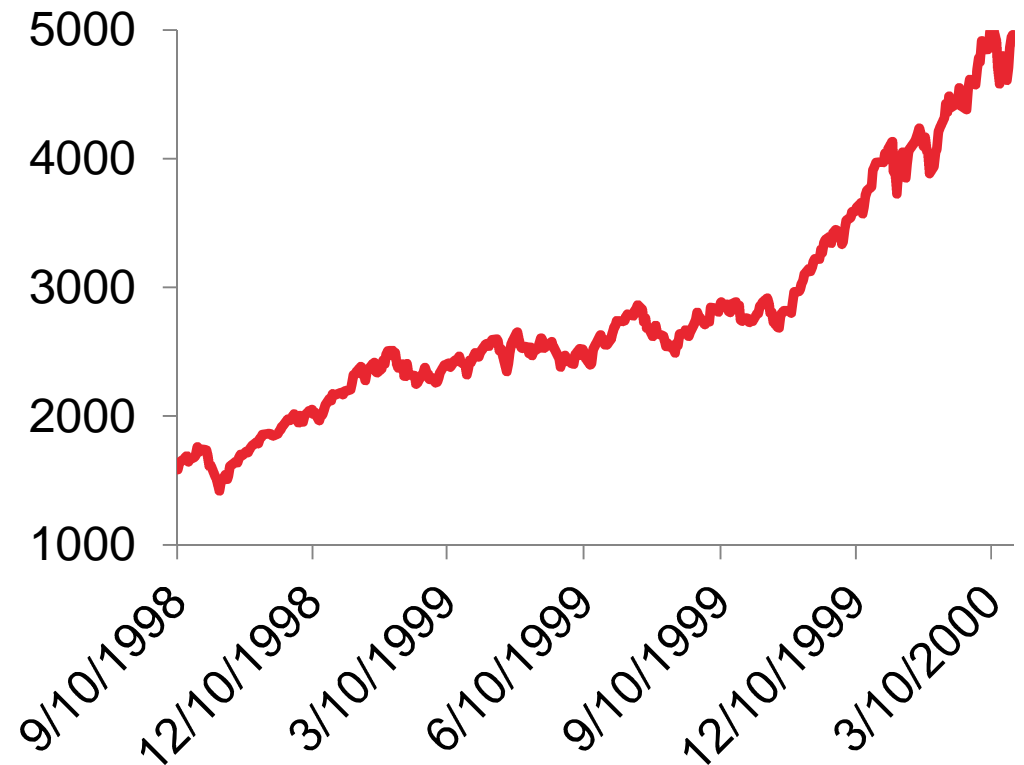
- 1994 internet becomes available to the general public (Mosaic browser, AOL, etc.)
- As demand for internet and networking “gear” exploded, Venture Capital backed went public
- The Globe.com, Pets.com, Dr. Koop.com, Iomega, etc.
- Took advantage of “Tobins’ Q”
- Tech companies often paid salaries in shares and options
- Vendor based financing in shares and options also occurred



The Tech Bubble

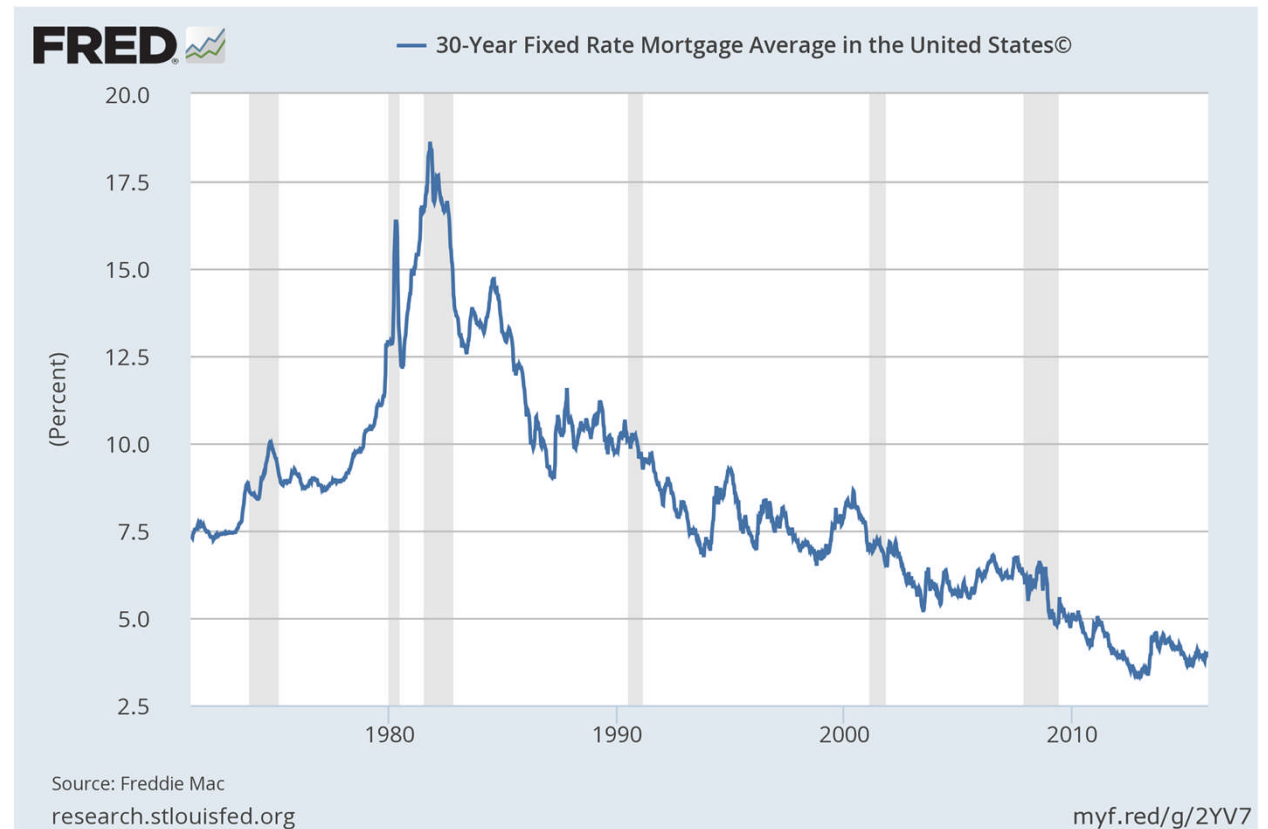
- The 1990s U.S. flourished both economically and technologically.
- Brokerage firms and high profile research analysts (Meeker, Blodgett, et al) suggested that the old economy of brick and mortar business was dead. This new economy was thought to be immune to inflation and to recessions
- Nasdaq peaked at 4,982 on March 23, 2000

Nasdaq Composite



2000s - Housing

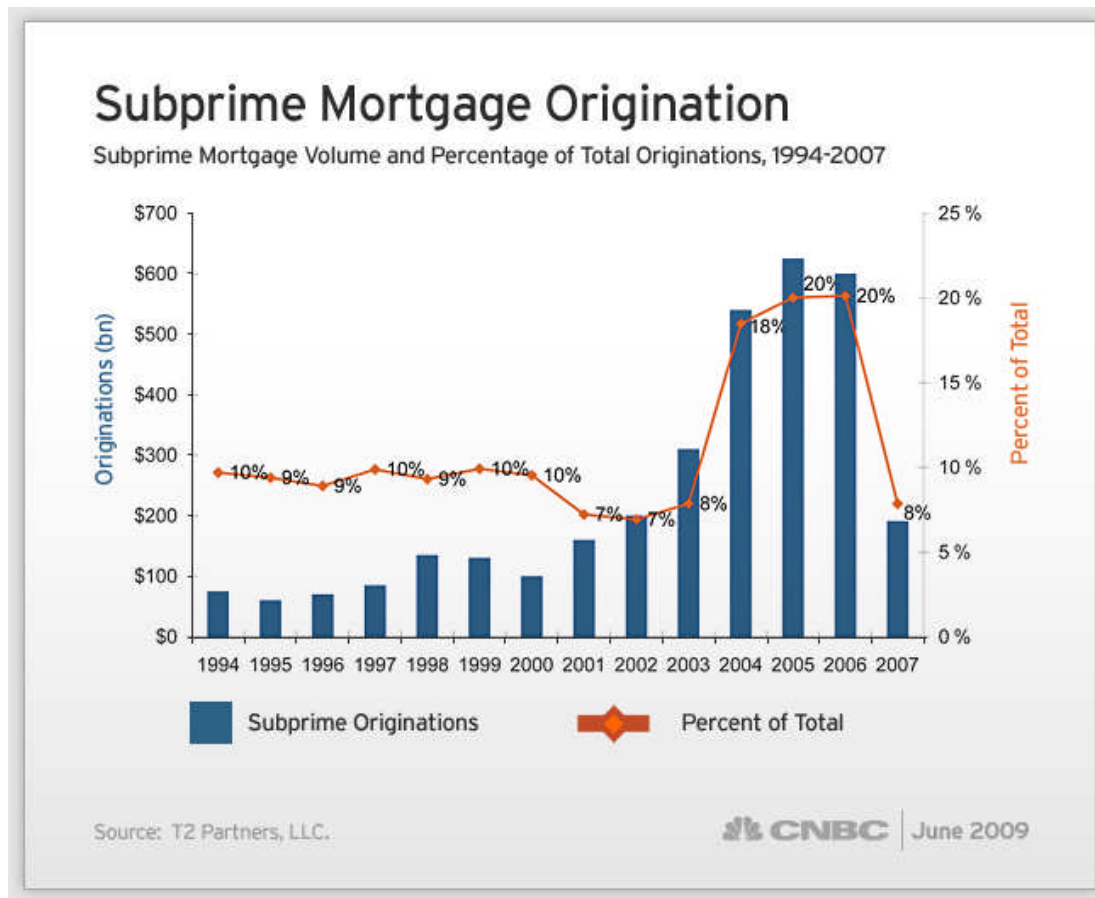
- In response to the tech wreck and 9/11 Greenspan cut interest rates quickly.
- Perhaps (in hindsight) raised them too slowly beginning June 2004.
- Regulators and Politicians encouraged expansion of home ownership.
- Mortgage interest rates fell and home ownership rose.



Freddie Mac, *30-Year Fixed Rate Mortgage Average in the United States*© [MORTGAGE30US], retrieved from FRED, Federal Reserve Bank of St. Louis <https://research.stlouisfed.org/fred2/series/MORTGAGE30US/>, December 30, 2015.

House prices always go up, and everybody got a loan.

- Everyone assumed that home prices always go up.
- Mortgage issuers bundled together loans and sold them to investors, eventually Fannie and Freddie.
- Sub-prime mortgage lending increased from 5% in the 1990s to 20% in 2006.
- Rating agencies rated MBS loans based on pools of sub-prime mortgages AAA.
 - *Since when did volume beget safety?*

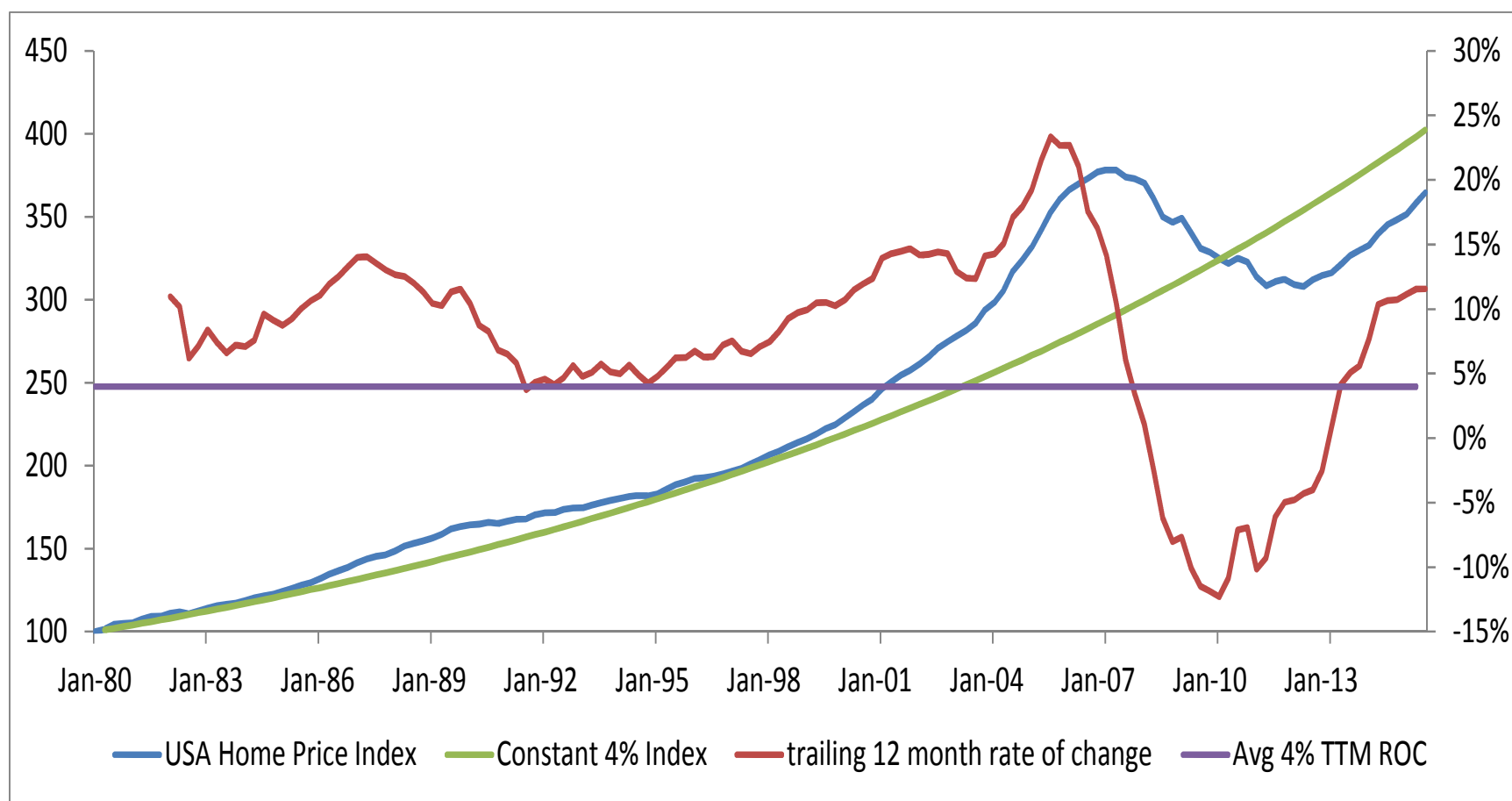


“I don’t foresee any national decline in home price values. Freddie Mac’s analysis of single family houses over the last half century hasn’t shown a single year when the national average housing price has gone down.”

-- Frank Nothaft, Chief Economist of Freddie Mac (2005)

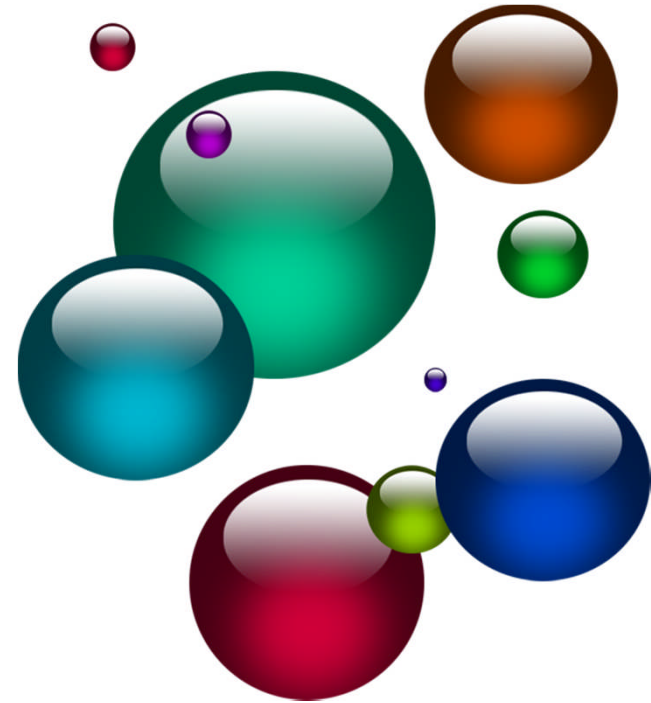
House Prices before and after the crisis

- High profile firms showed signs of stress – Bear Stearns, Lehman, Countrywide, etc. -- rising default rates caught up with them.
- “Margin Call” “The Big Short” and “The Great American Bubble Machine” are pop culture histories of the housing bubble.



Common Characteristics of Bubbles

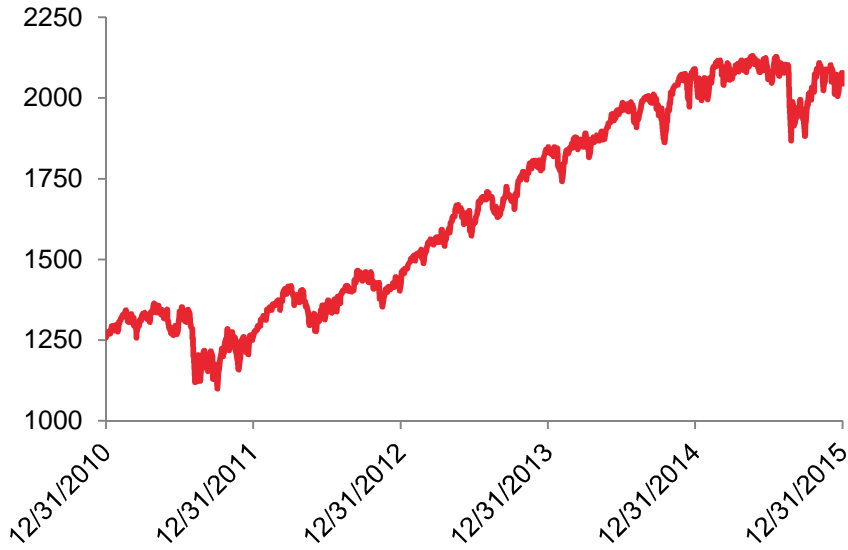
- Technological innovation
- Increase in overall country wealth
- Easy access to credit
- Hyperbolic price momentum
- Social popularity
- “Trees grow to the sky”



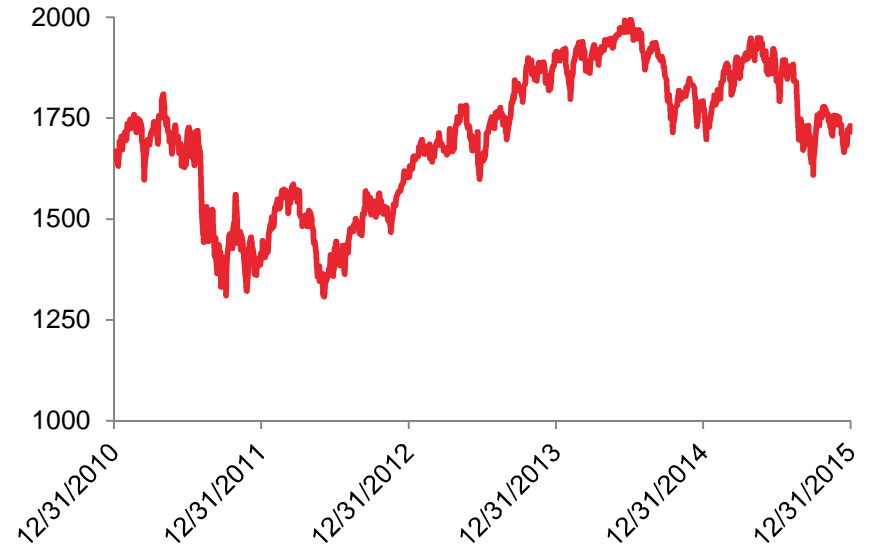
Where are we today?

- Major stock indices don't appear to have that hyperbolic price momentum.
 - S&P 500 and EAFE look ok.
- But, there's a few that look worrisome
 - China, biotechs
- Aren't commodities cheap? (The opposite of a bubble.)
- What about bonds?

S&P 500



EAFE

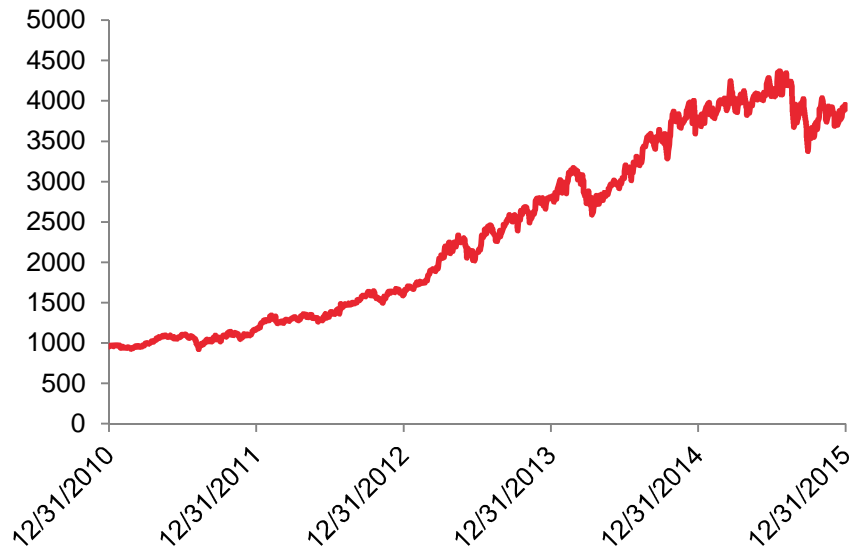


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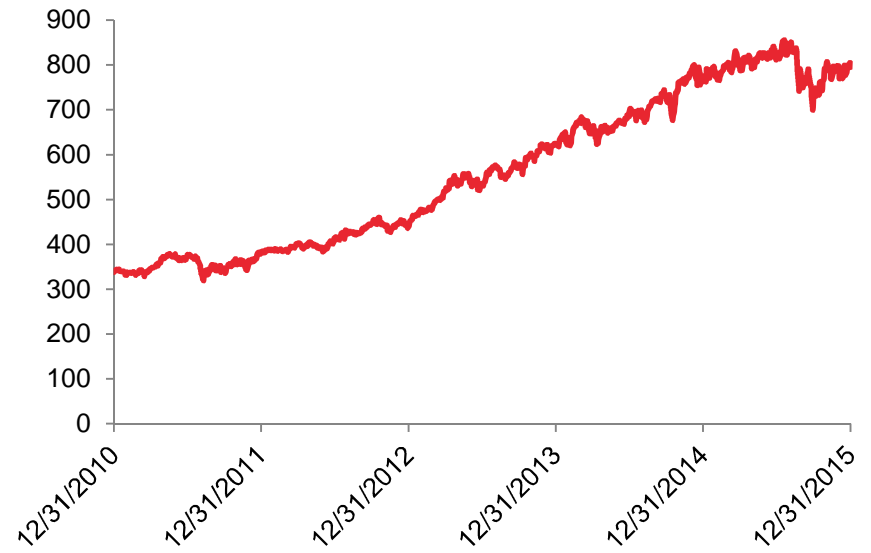


Are these getting close?

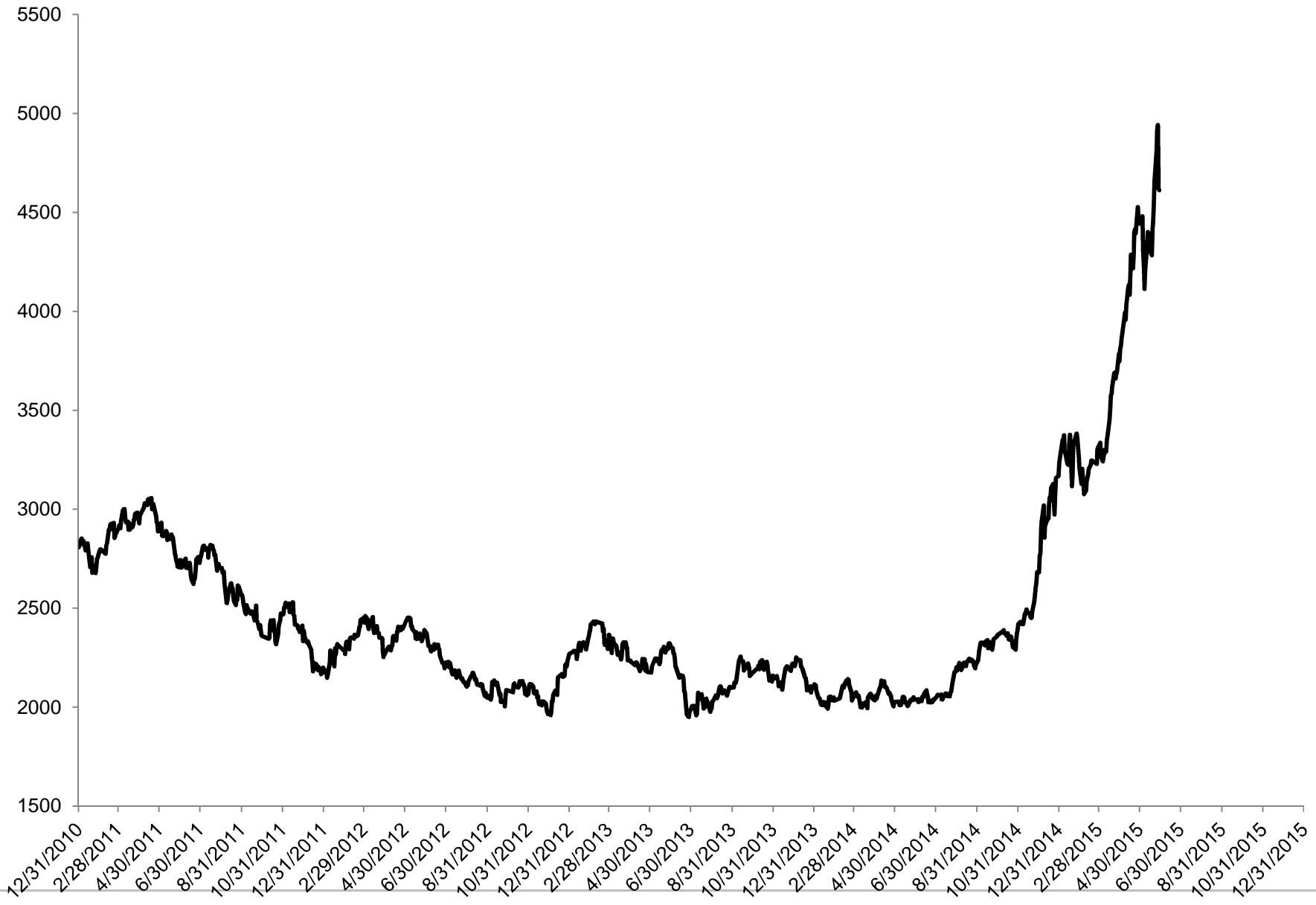
S&P500 Biotech sub-index



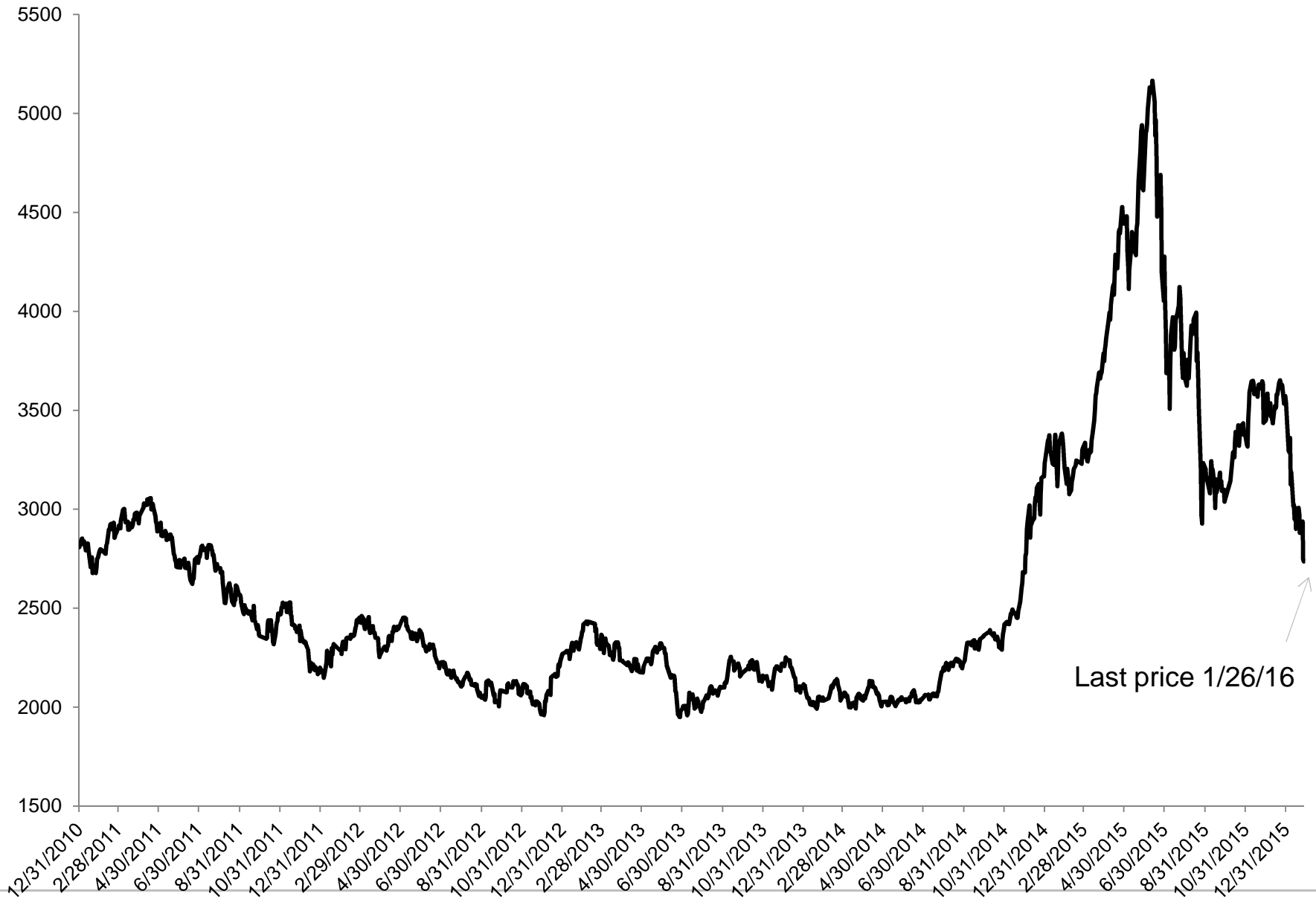
S&P 500 Healthcare



China through May 30th 2015



5 Years of the Shanghai Composite

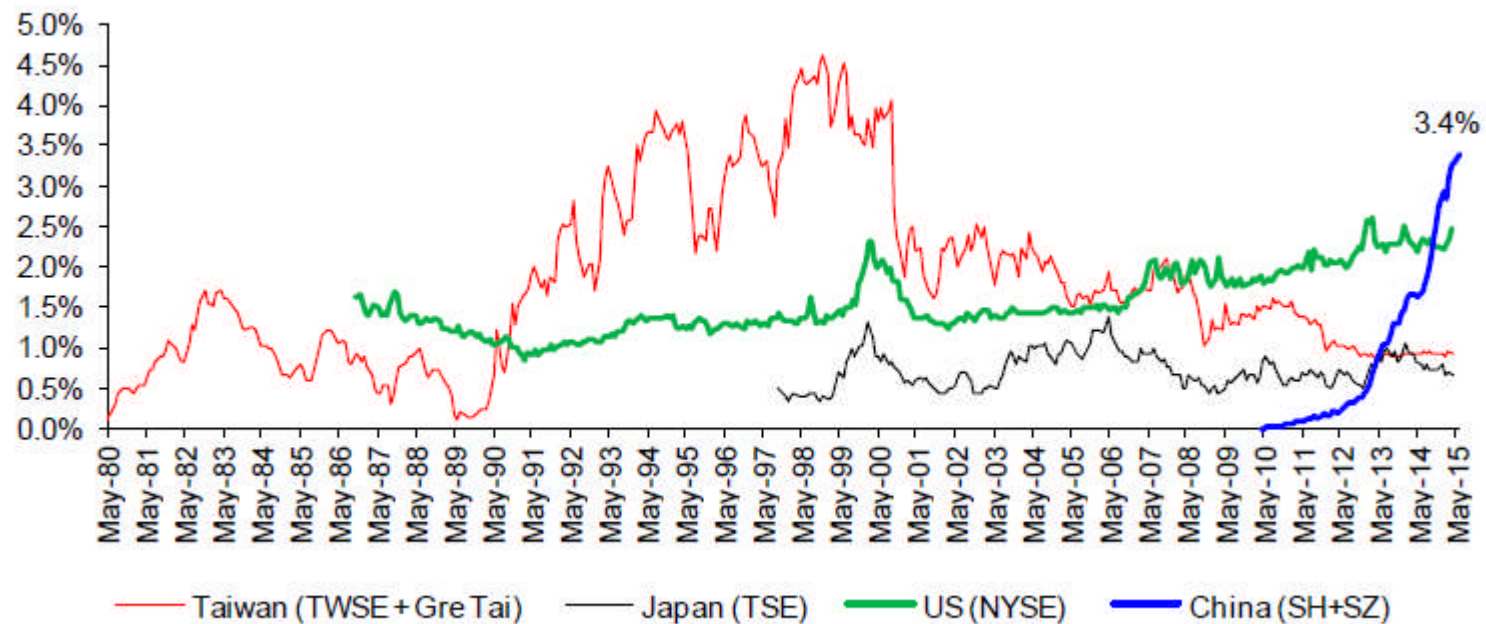


China showed the classic signs.

- Rapid growth in country wealth.
- Restrictions on investment have been relaxed
 - from real estate to common stocks.
- Margin buying introduced, and increased.
- Political and regulatory missteps.

China Stock Market Margin Debt

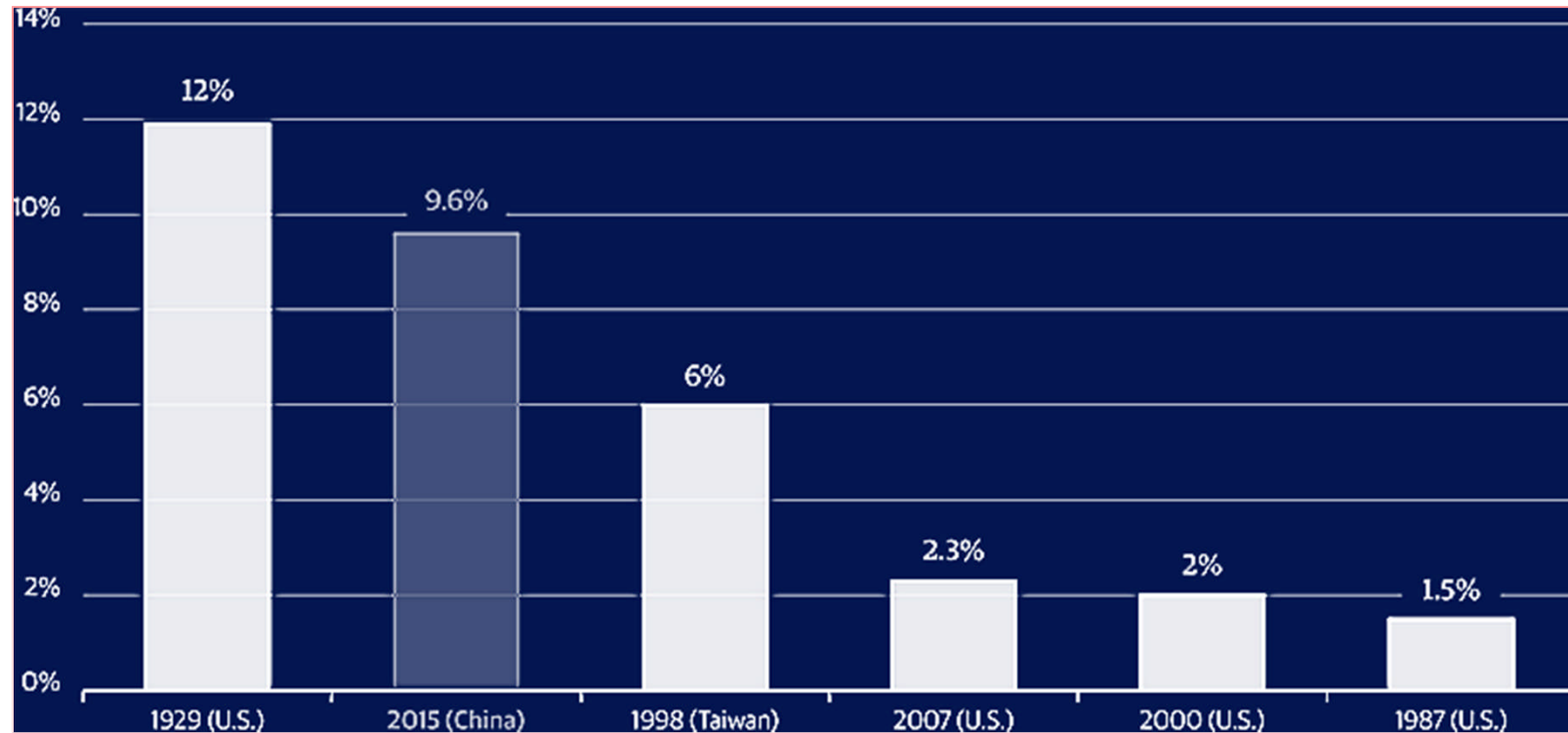
Fig 4 Margin debt as % of total mkt cap



Source: Wind, Bloomberg, Macquarie Research, June 2015

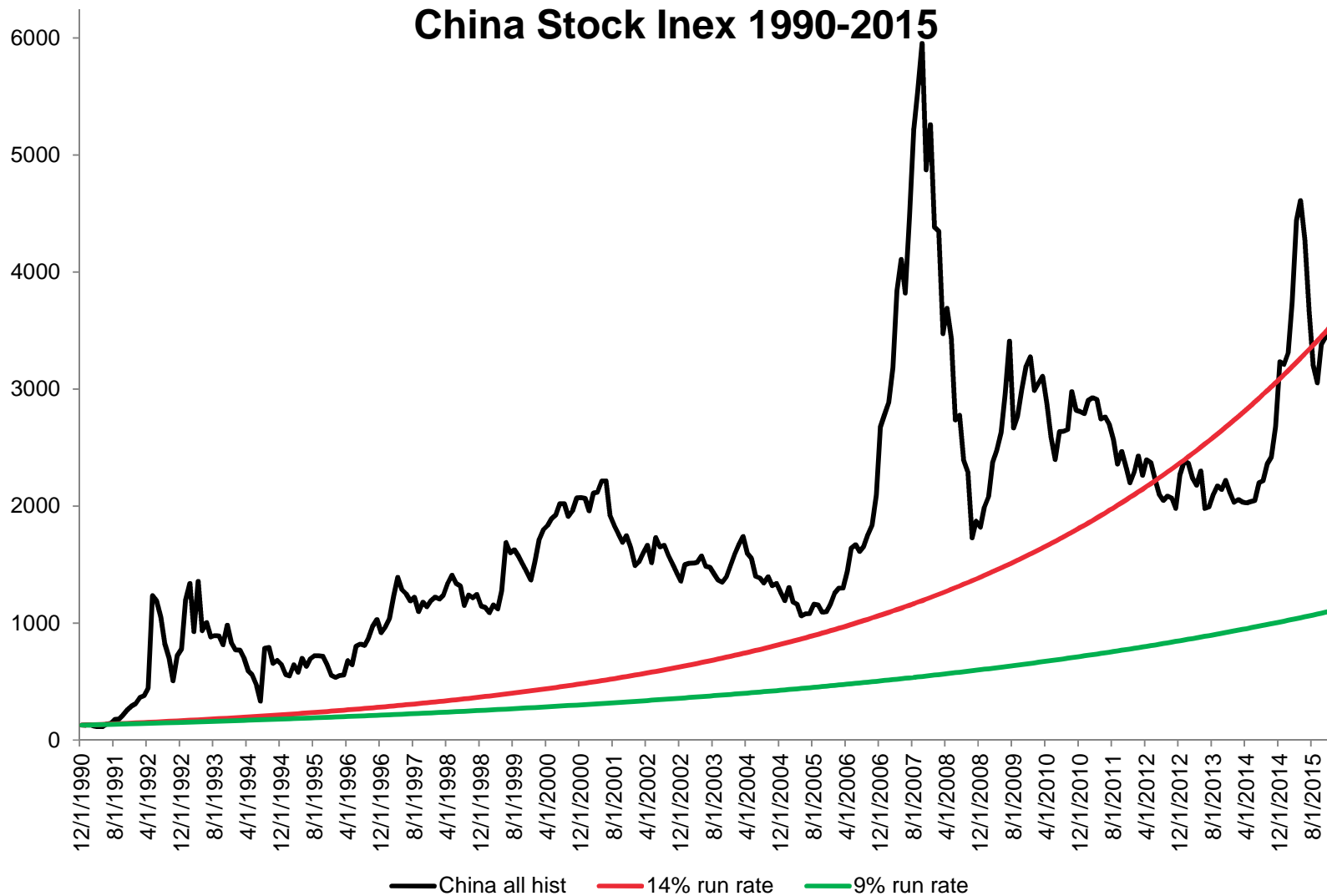
<http://www.bloomberg.com/news/articles/2015-06-24/macquarie-chinese-margin-debt-has-much-much-more-room-to-run> - web site accessed August 27, 2015

Stock Market Margin Debt as a proportion of GDP



<http://www.marketwatch.com/story/the-chart-that-shows-the-worst-may-be-yet-to-come-for-chinese-stocks-2015-08-03>,
web site accessed August 27, 2015

Where should Chinese stocks be?



Commodities?

- *You already know what's happened here.*

... but couldn't (or why wouldn't) these be cheap?

Slowing global GDP growth rates.

Slowing population growth rates.

China's done building.

Lack of inflation, some central bankers fighting deflation.

Rising U.S. interest rates, but low global interest rates.

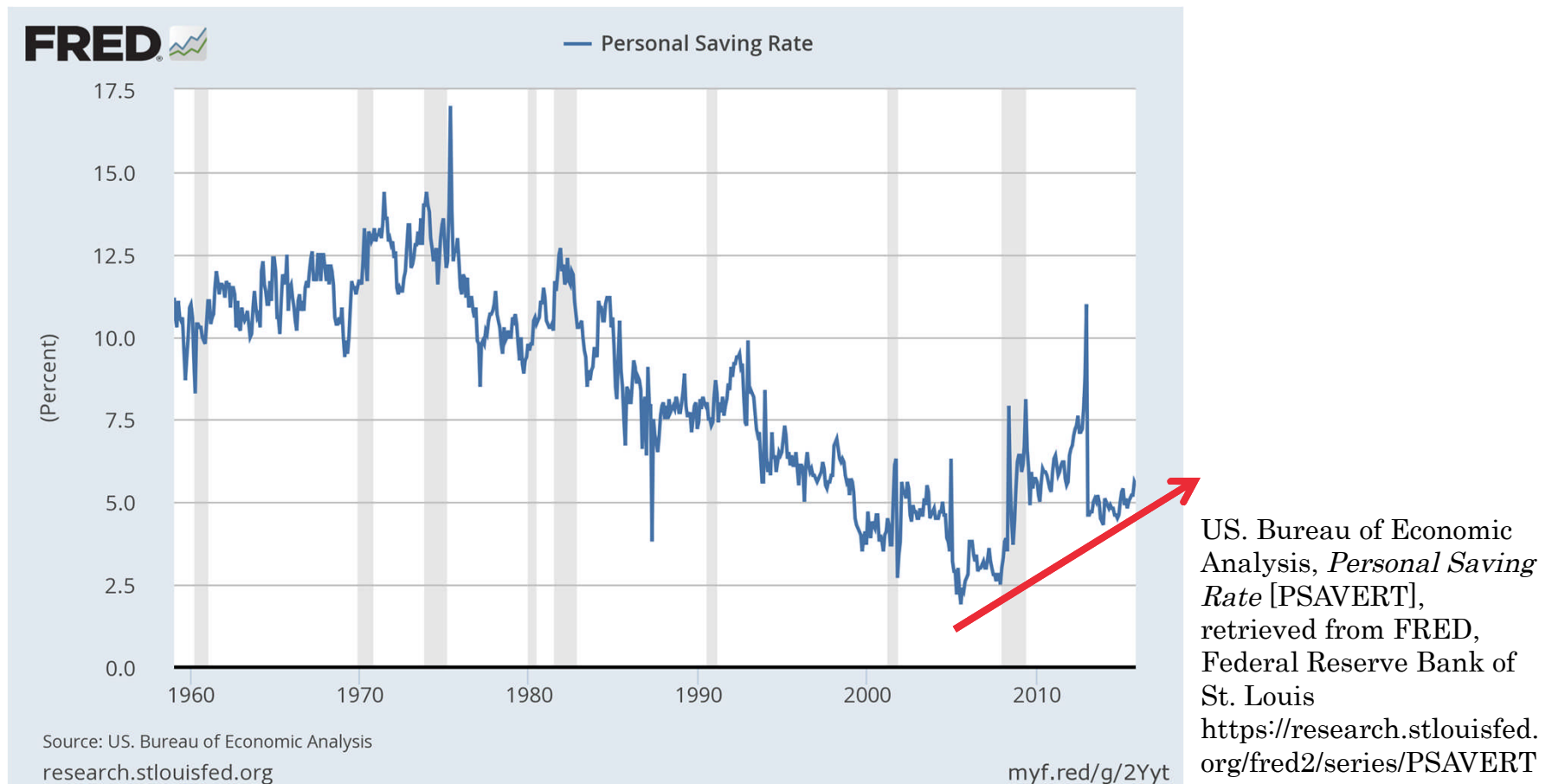
Return of King Dollar.

It could be several years before these reverse.



Interest Rates and Credit

- How can there be a boom like expansion in credit if the Personal Savings Rate has been rising for the past ten years?



A Final Point

- We know bubbles happen and despite our best efforts, bubbles can creep up on us.
- What's an investor to do?

- Suggestions
 1. Introduce lower correlated assets to a portfolio, like
 - Absolute Return Strategies
 - Infrastructure
 - Hedged Strategies
 - REITs

 2. Always have a 1-4% in cash, but no higher than 8-10%

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