Investing for Sustainable Returns in our 3-D Hurricane of Deficits, Debt, and Demographics

Presentation to the FPA of the East Bay

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History of Capital Market Returns

High Prices = Low Yields
Low Yields = Low Future Returns

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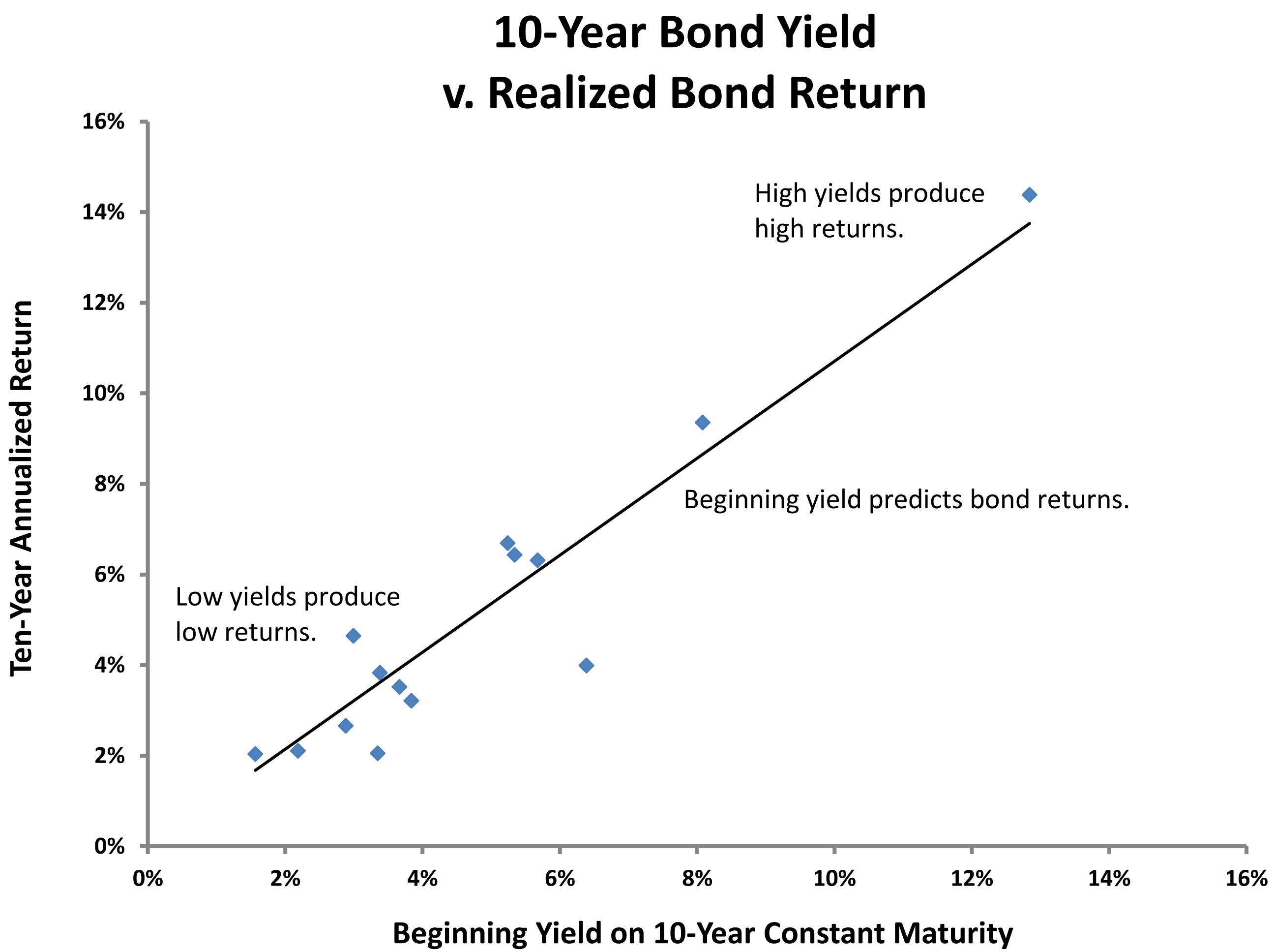
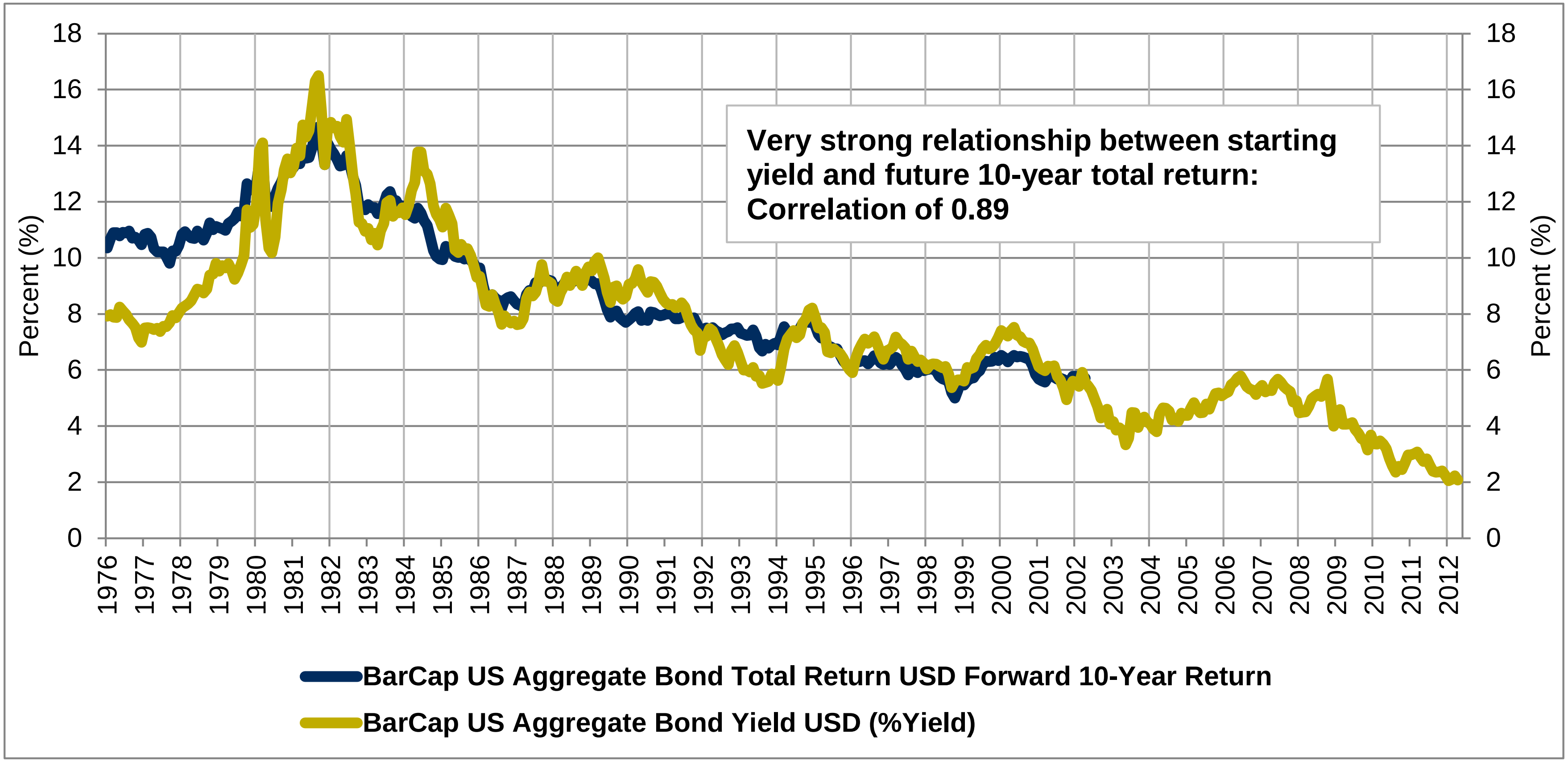
Bond Market Returns Follow Yields
Ten-Year Treasuries 1870 – 2010



Source: Research Affiliates, LLC based on data from the Federal Reserve

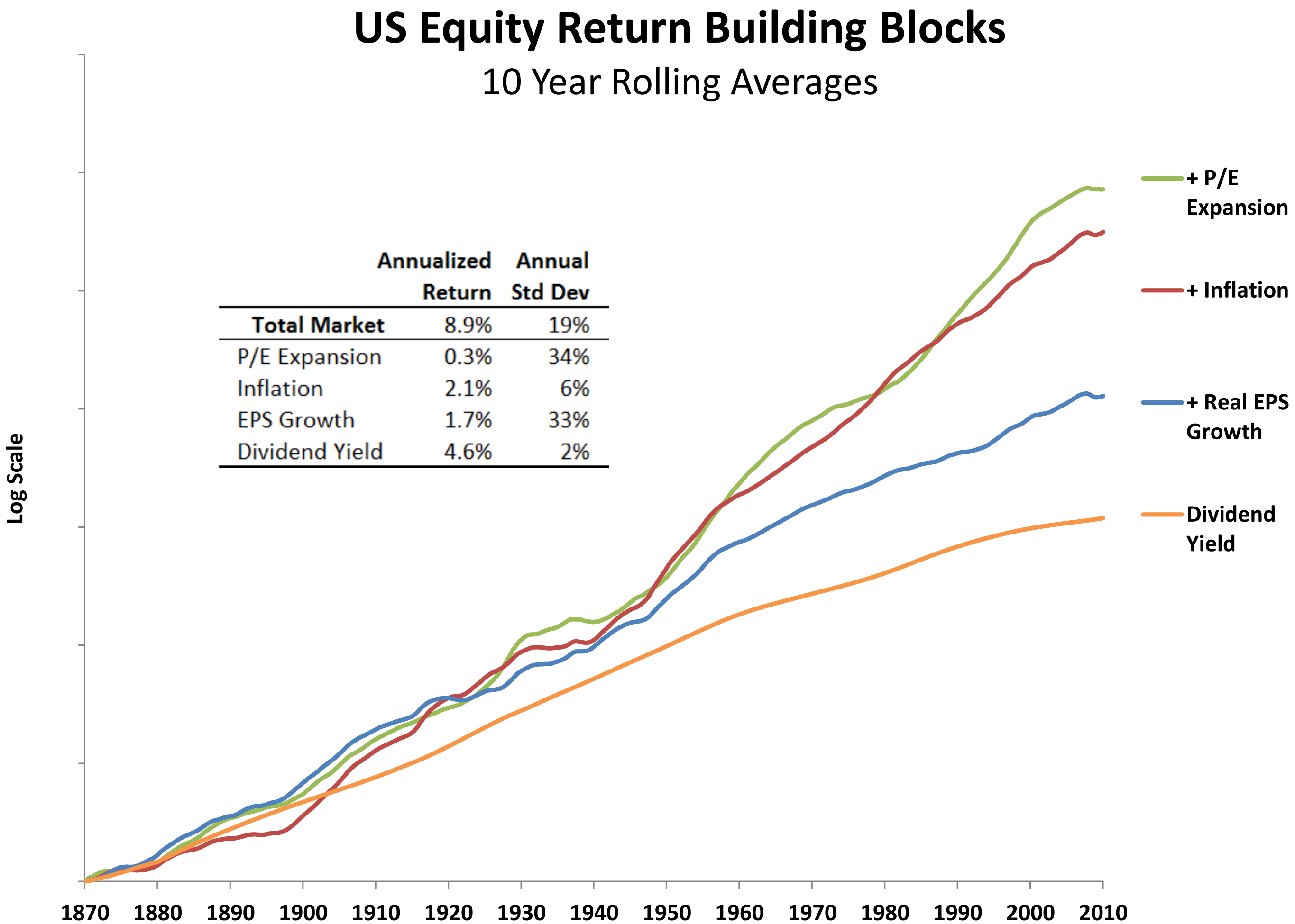
Bond Market Returns Follow Yields
Barclays Capital US Aggregate Bond Index

Future *long-term* bond returns closely follow entry yield



Source: Research Affiliates, LLC based on data from Ibbotson and Barclays Capital. As of April 30, 2012

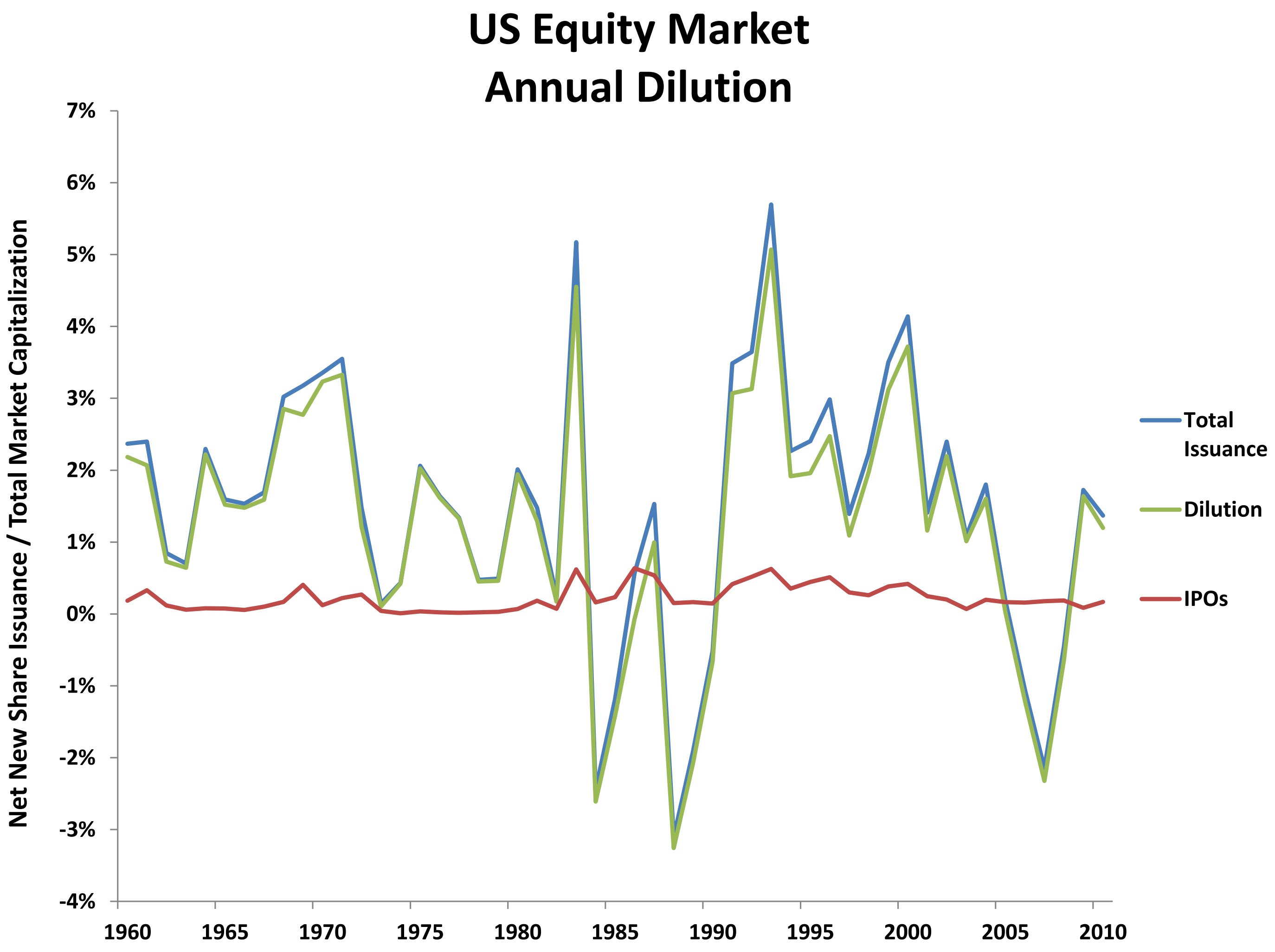
Decomposition of US Equity Market Returns 1870 – 2010



	Annualized Return	Annual Std Dev
Total Market	8.9%	19%
P/E Expansion	0.3%	34%
Inflation	2.1%	6%
EPS Growth	1.7%	33%
Dividend Yield	4.6%	2%

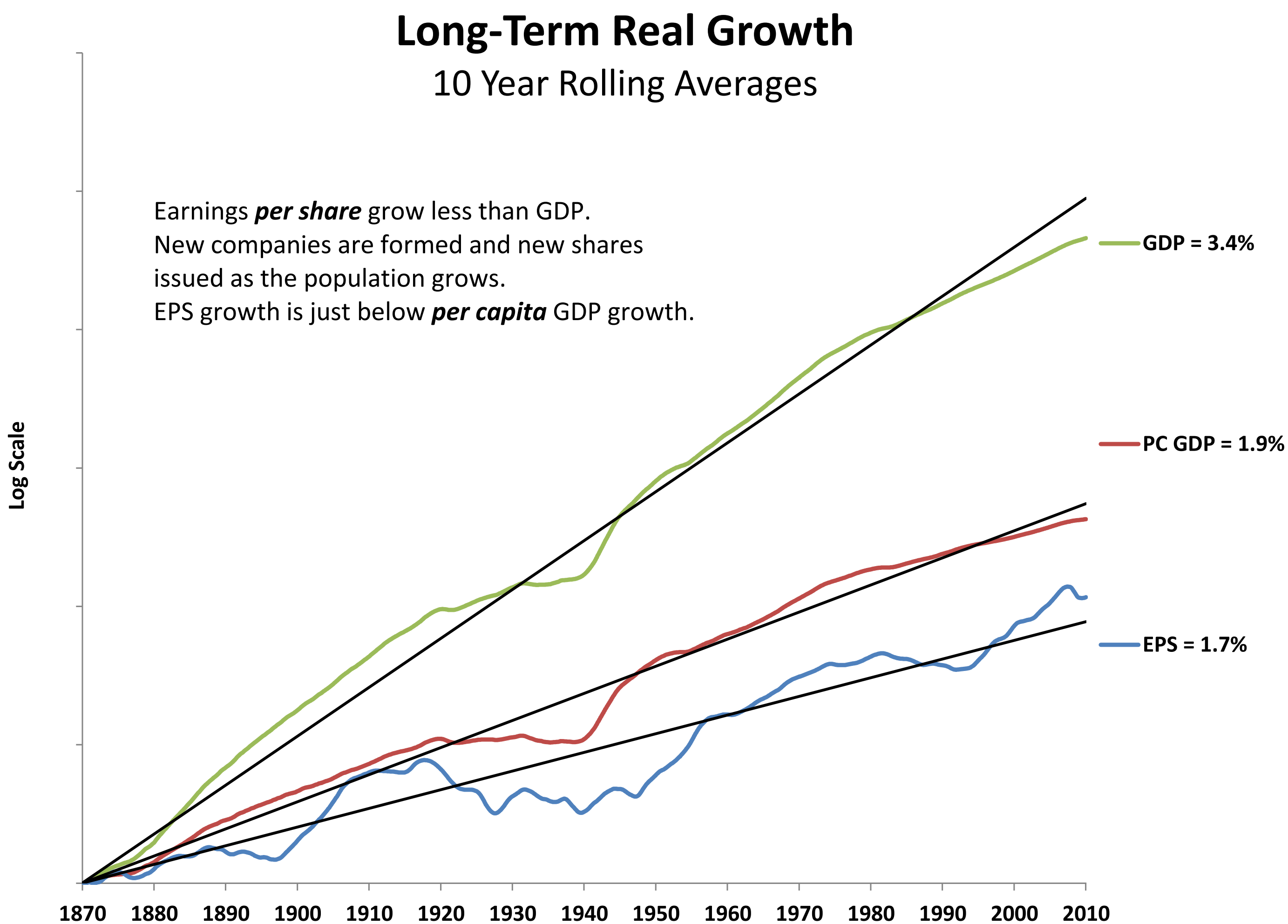
Source: Research Affiliates, LLC., based on data from Robert Shiller

Share Issuance Exceeds Buy Backs = 2% Dilution



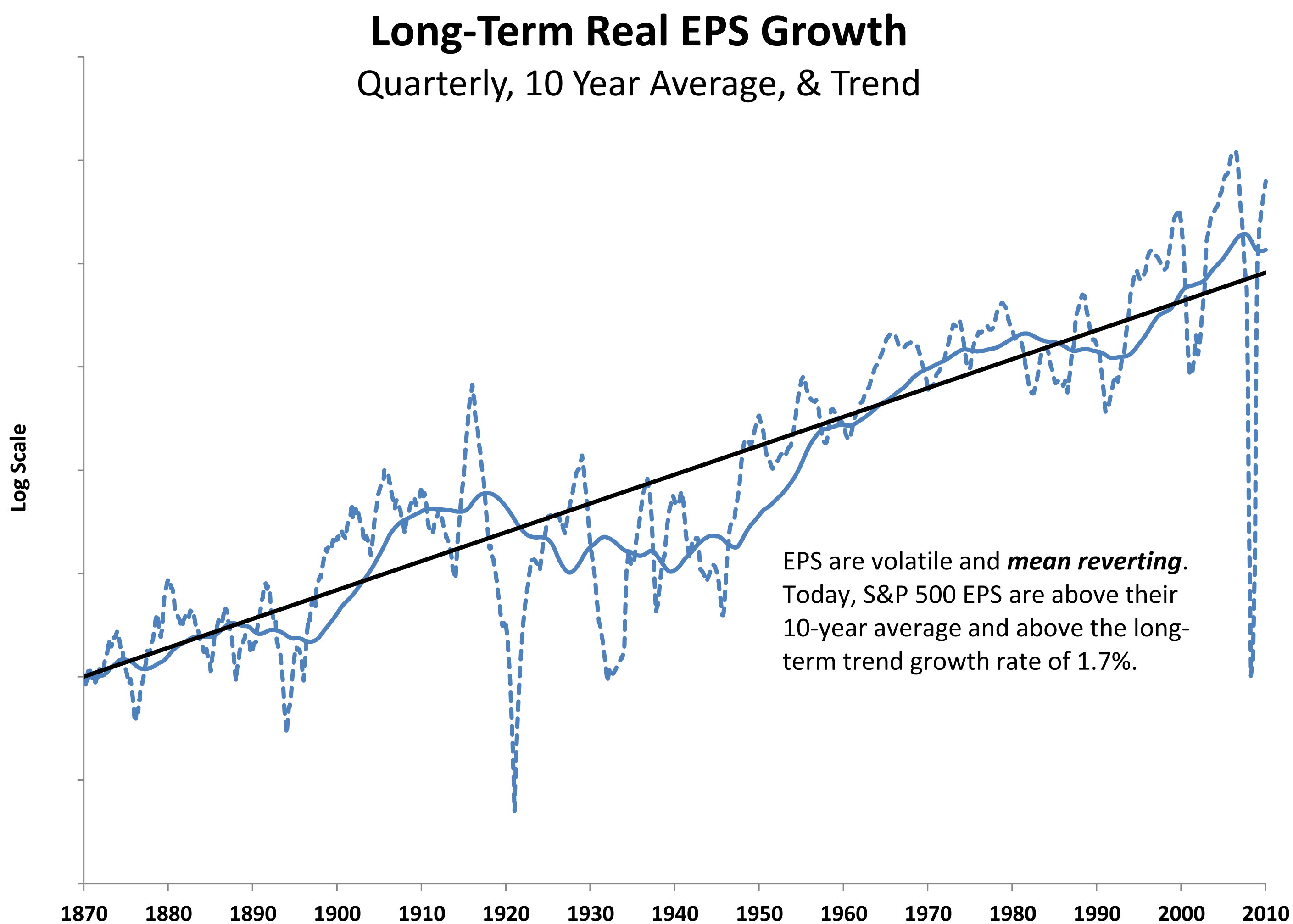
Source: Research Affiliates, LLC., based on data from Jay Ritter, University of Florida, http://bear.warrington.ufl.edu/ritter/IPOs2010Statistics060111.pdf

Long Term Real Growth in EPS Follows *Per Capita* GDP, not Headline GDP



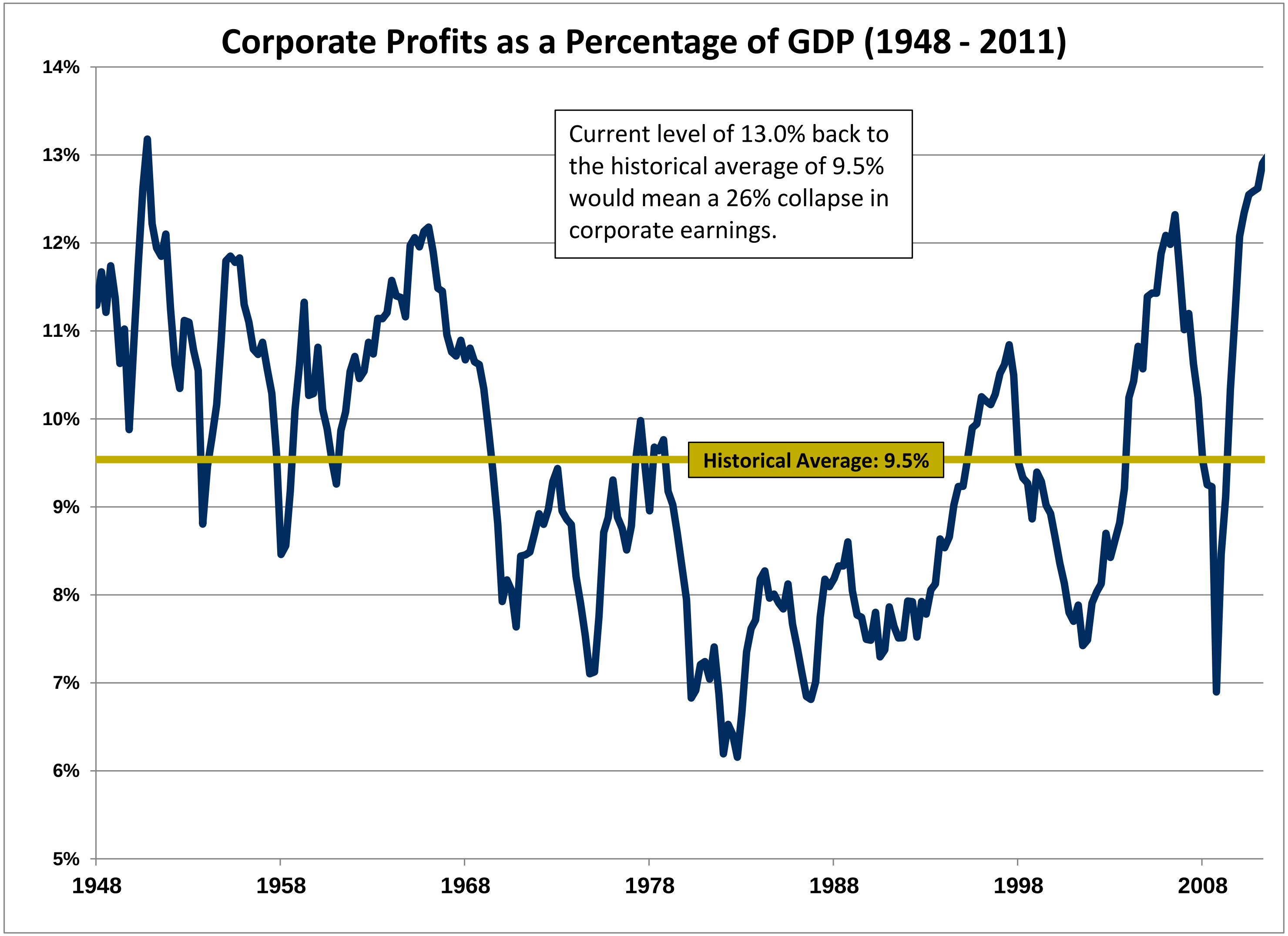
Source: Research Affiliates, LLC., based on data from Robert Shiller and the Bureau of Economic Analysis

Long Term Real Growth in EPS is Below 2% *and* The Time Series is Mean Reverting



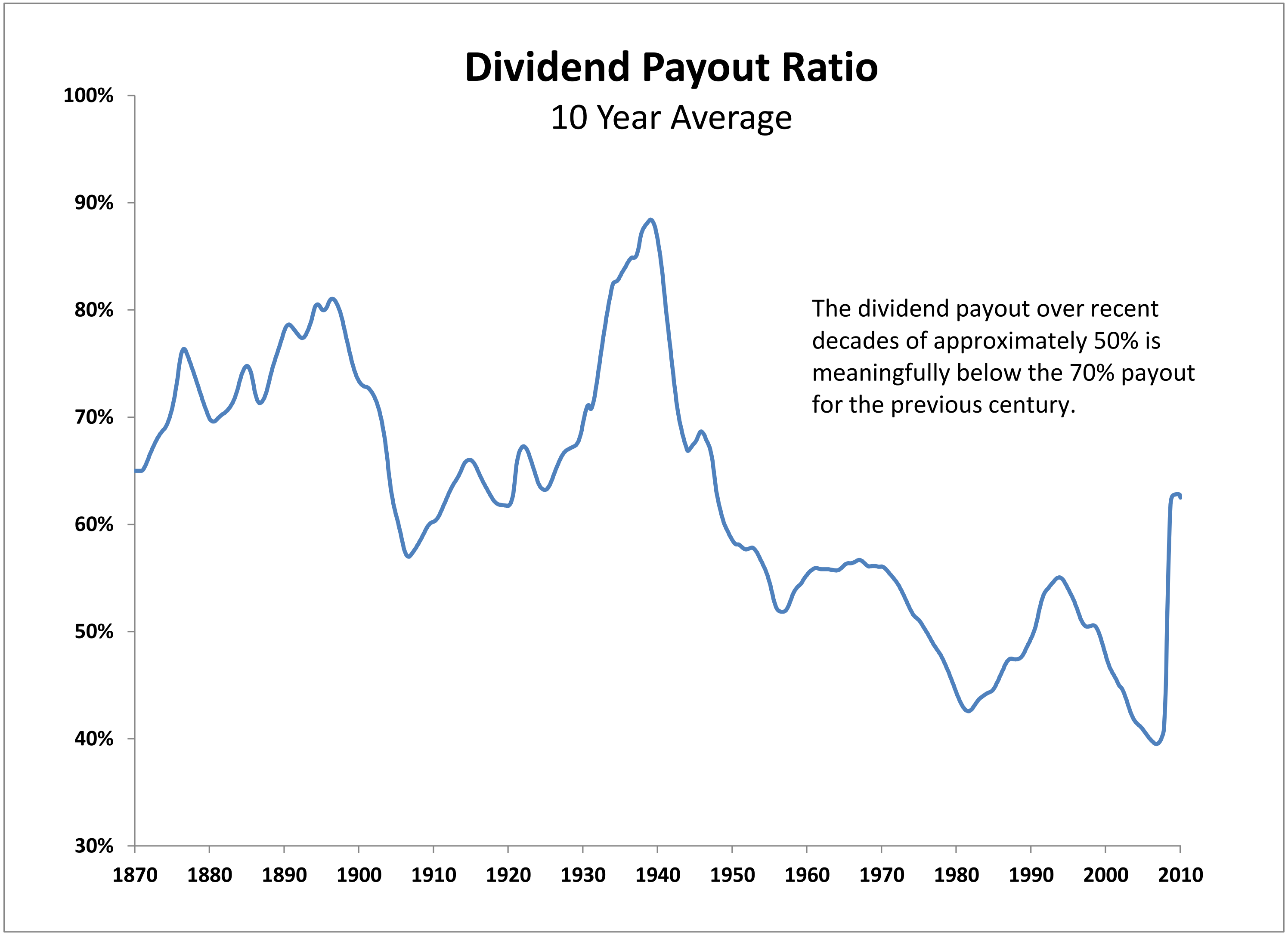
Source: Research Affiliates, LLC., based on data from Robert Shiller

Corporate Profit Margins Are Near All Time Highs



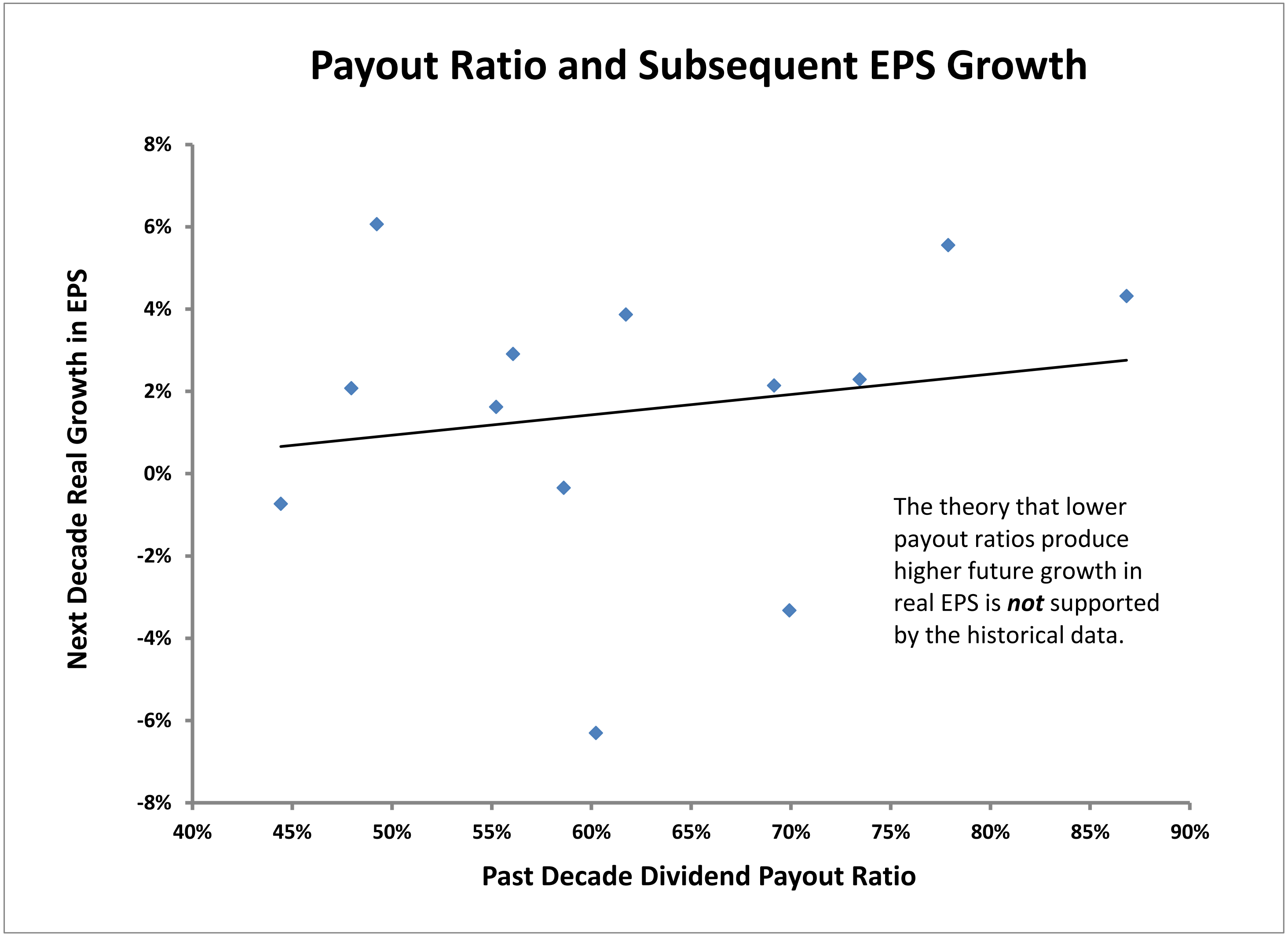
Source: Research Affiliates, LLC., based on data from the BEA

Dividend Payout Ratio is Historically Low



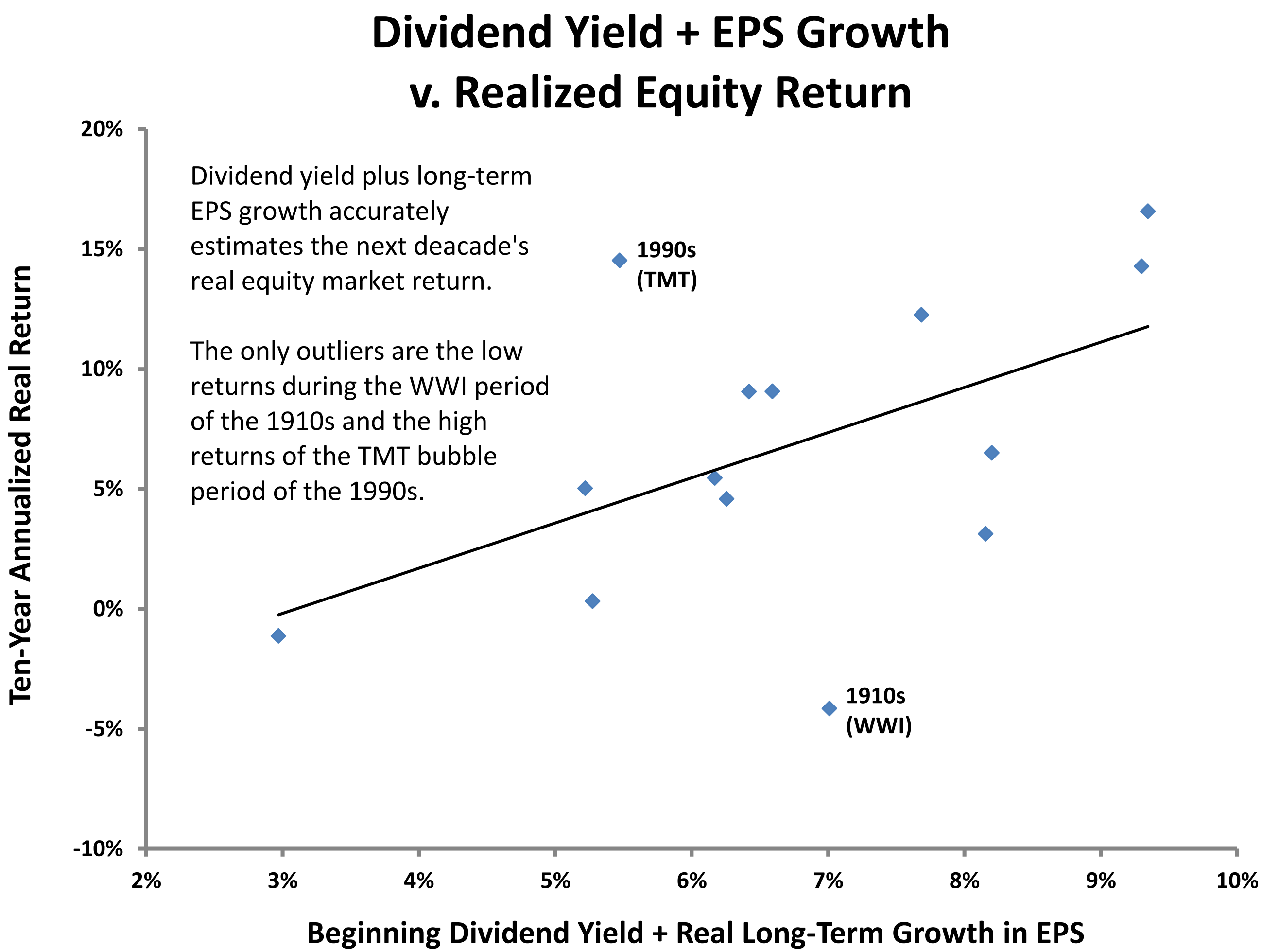
Source: Research Affiliates, LLC., based on data from Robert Shiller

Unsustainable Earnings = Low Payout Ratio
Low Dividend Payout Ratio = Low EPS Growth



Source: Research Affiliates, LLC., based on data from Robert Shiller

The Best Way to Predict Future Equity Returns? Dividend Yield + Long Term Earnings Growth



Source: Research Affiliates, LLC., based on data from Robert Shiller

Past Average Return of 60/40 Portfolio = 7.6%
Current Expected Return of 60/40 Portfolio = 4.3%

Expected Return Model for a 60% Equity / 40% Bond Portfolio

Decades	Beginning Dividend Yield	Real Long-Term EPS Growth	Implied Inflation	Expected Equity Return	Beginning Bond Yield	Expected 60/40 Return	*Realized 60/40 Return*	*Expected Minus Realized*
1871 - 1880	5.9%	1.7%	2.4%	10.3%	5.3%	8.3%	*8.3%*	*0.0%*
1881 - 1890	4.5%	1.7%	0.8%	7.1%	3.7%	5.7%	*3.1%*	*2.6%*
1891 - 1900	4.8%	1.7%	0.5%	7.1%	3.4%	5.6%	*6.9%*	*-1.3%*
1901 - 1910	4.4%	1.7%	0.0%	6.1%	2.9%	4.8%	*5.7%*	*-0.9%*
1911 - 1920	5.2%	1.7%	0.4%	7.5%	3.3%	5.8%	*2.9%*	*2.9%*
1921 - 1930	7.5%	1.7%	2.8%	12.4%	5.7%	9.7%	*11.6%*	*-1.9%*
1931 - 1940	6.3%	1.7%	0.1%	8.2%	3.0%	6.1%	*3.9%*	*2.2%*
1941 - 1950	6.4%	1.7%	-1.3%	6.7%	1.6%	4.7%	*8.6%*	*-3.9%*
1951 - 1960	7.4%	1.7%	-0.7%	8.5%	2.2%	6.0%	*10.6%*	*-4.6%*
1961 - 1970	3.4%	1.7%	0.9%	6.2%	3.8%	5.3%	*6.3%*	*-1.0%*
1971 - 1980	3.5%	1.7%	3.5%	8.9%	6.4%	7.9%	*6.9%*	*1.1%*
1981 - 1990	4.6%	1.7%	9.9%	17.0%	12.8%	15.3%	*14.3%*	*1.0%*
1991 - 2000	3.7%	1.7%	5.2%	10.9%	8.1%	9.8%	*14.4%*	*-4.6%*
2001 - 2010	1.2%	1.7%	2.3%	5.4%	5.2%	5.3%	*3.8%*	*1.6%*
Average	**4.9%**	**1.7%**	**1.9%**	**8.7%**	**4.8%**	**7.2%**	***7.6%***	***-0.5%***
Std Deviation							***3.9%***	***2.6%***
Current*	**2.0%**	**1.7%**	**2.1%**	**5.8%**	**2.0%**	**4.3%**		

Sources: Robert Shiller, Federal Reserve, BEA, Research Affiliates®

*Data as of March 31, 2012.

Looking to the Future

A 3-D Hurricane:
Our Deficit, Debt, and Demographics

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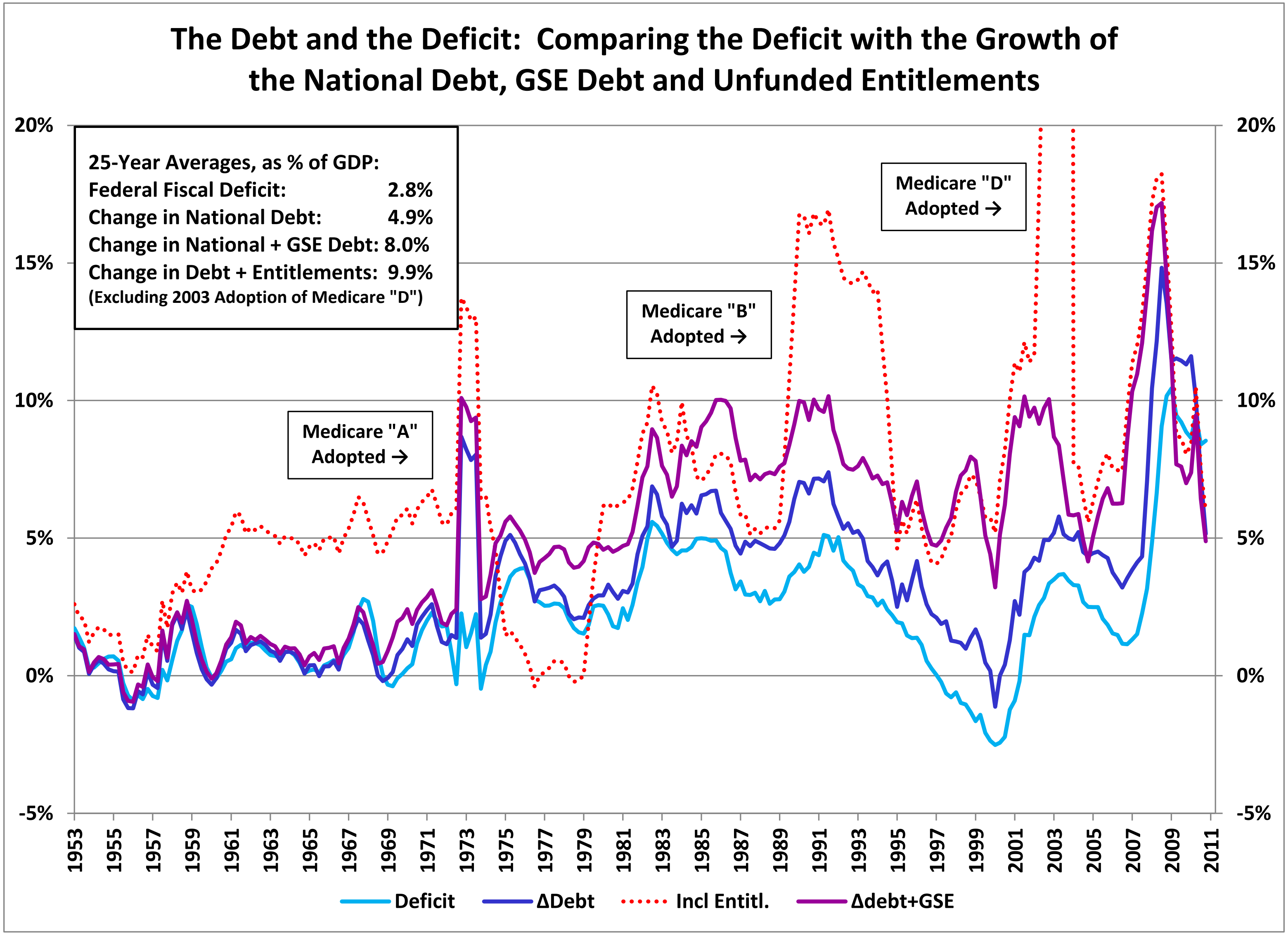
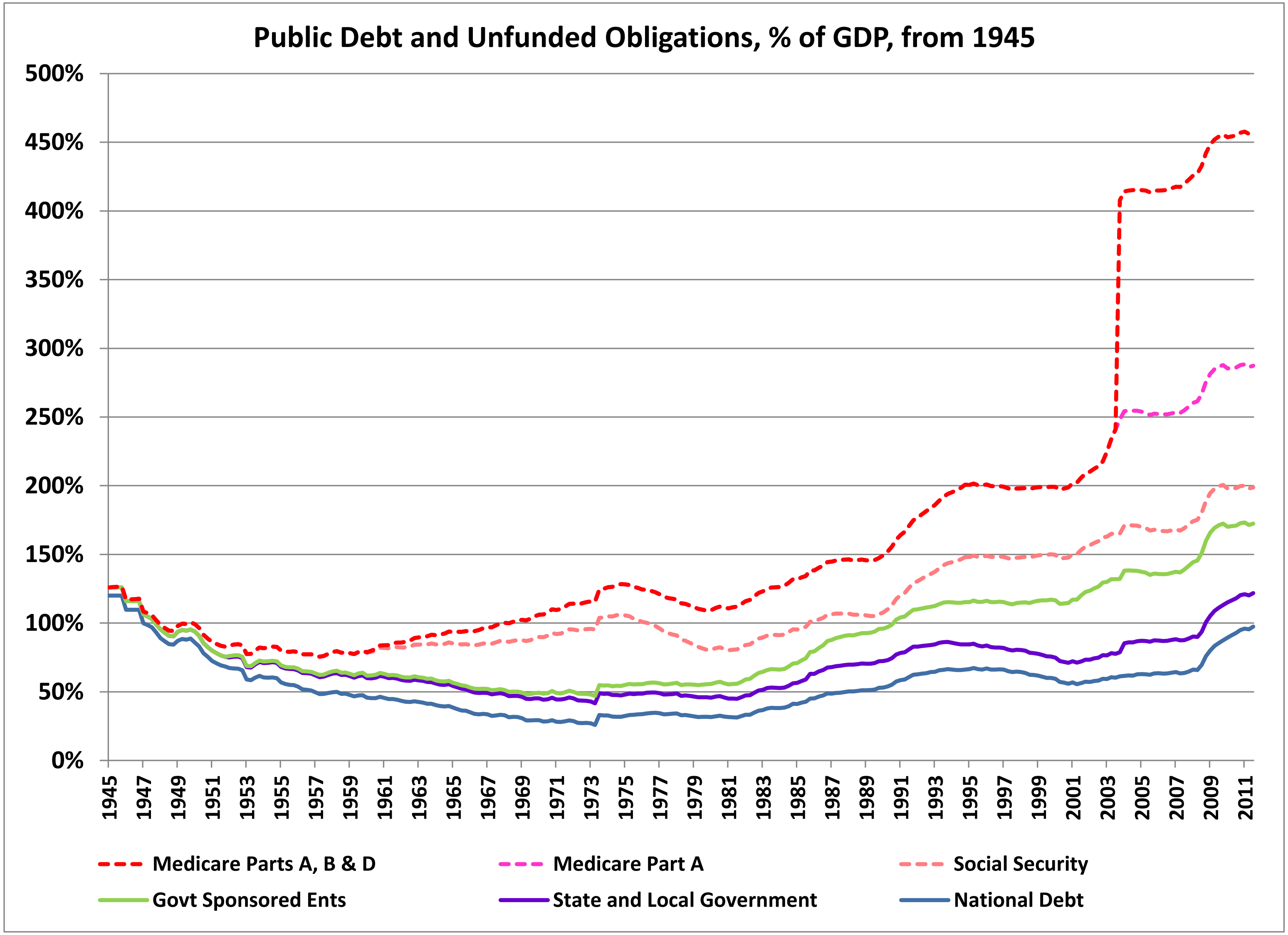
What's the True Deficit? Under GAAP Accounting, Far Higher Than Official Statistics



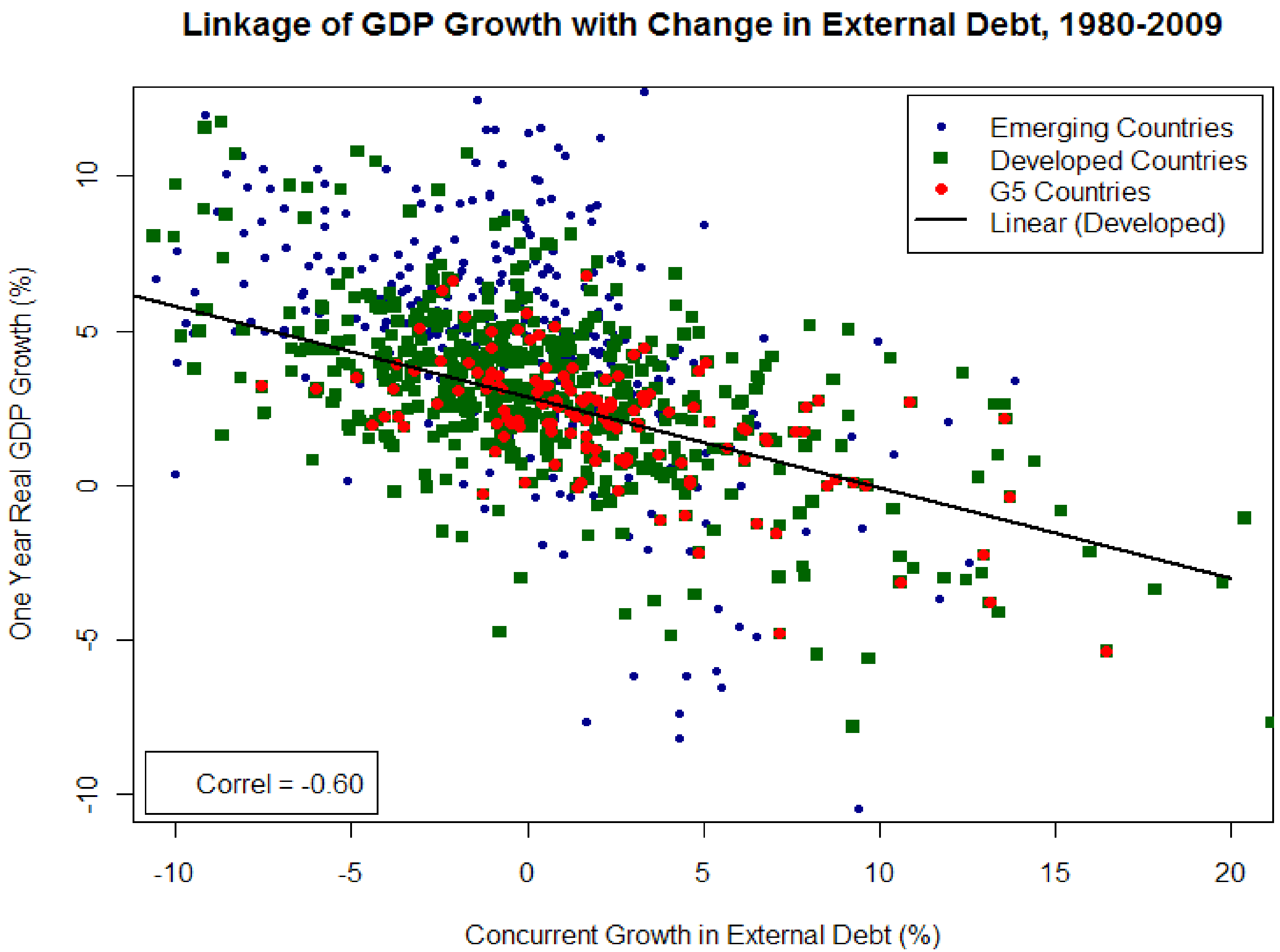
 Source: Research Affiliates, LLC, based on data and projections from the U.S. Treasury Department. Through 2011 Q3

Public Debt and Entitlement Obligations are Growing at a Frightful Pace



Source: Research Affiliates, based on data from Federal Reserve Flow of Funds, 2011 Q3 Release

Growth in Debt is Correlated with Slower Real GDP Growth



Source: Research Affiliates, LLC, based on data from CIA World Fact Book 2010, International Monetary Fund

Demography Matters…
More Than We Might Expect

Our Findings

GDP per capita growth

- Highest GDP growth associated with young adults 20–39
- Young children hurt GDP growth—a little
- Senior citizens hurt GDP growth—a lot

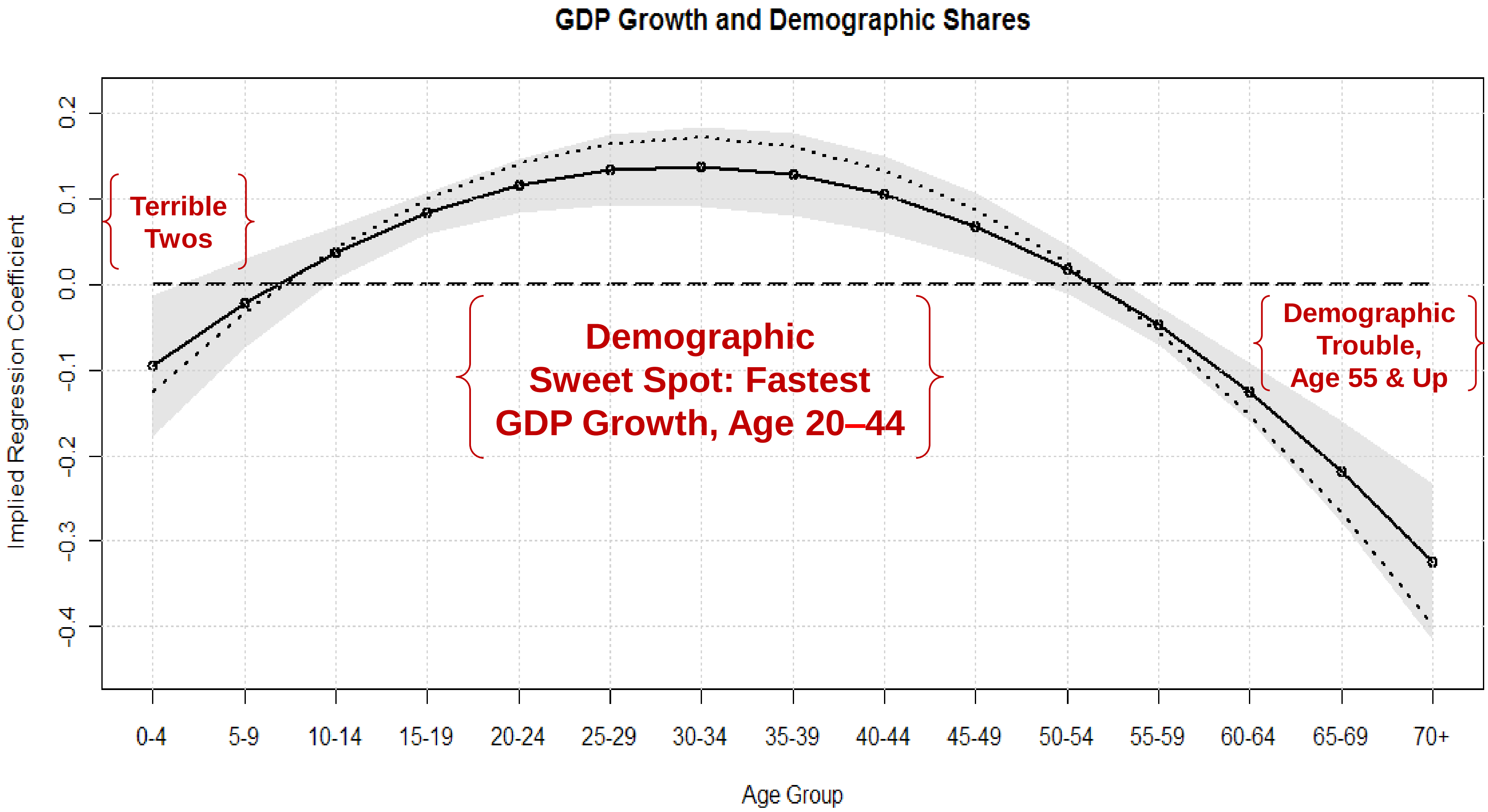
Stocks perform better

- When there are many in the 35–59 age cadres
- And, much worse, when there are many senior citizens or children
- When 45–64 age cadres are growing faster
- But, much worse, with young adult or 70+ age cadres growing fast
- Age shift for rates of demographic change

Demography affects bonds

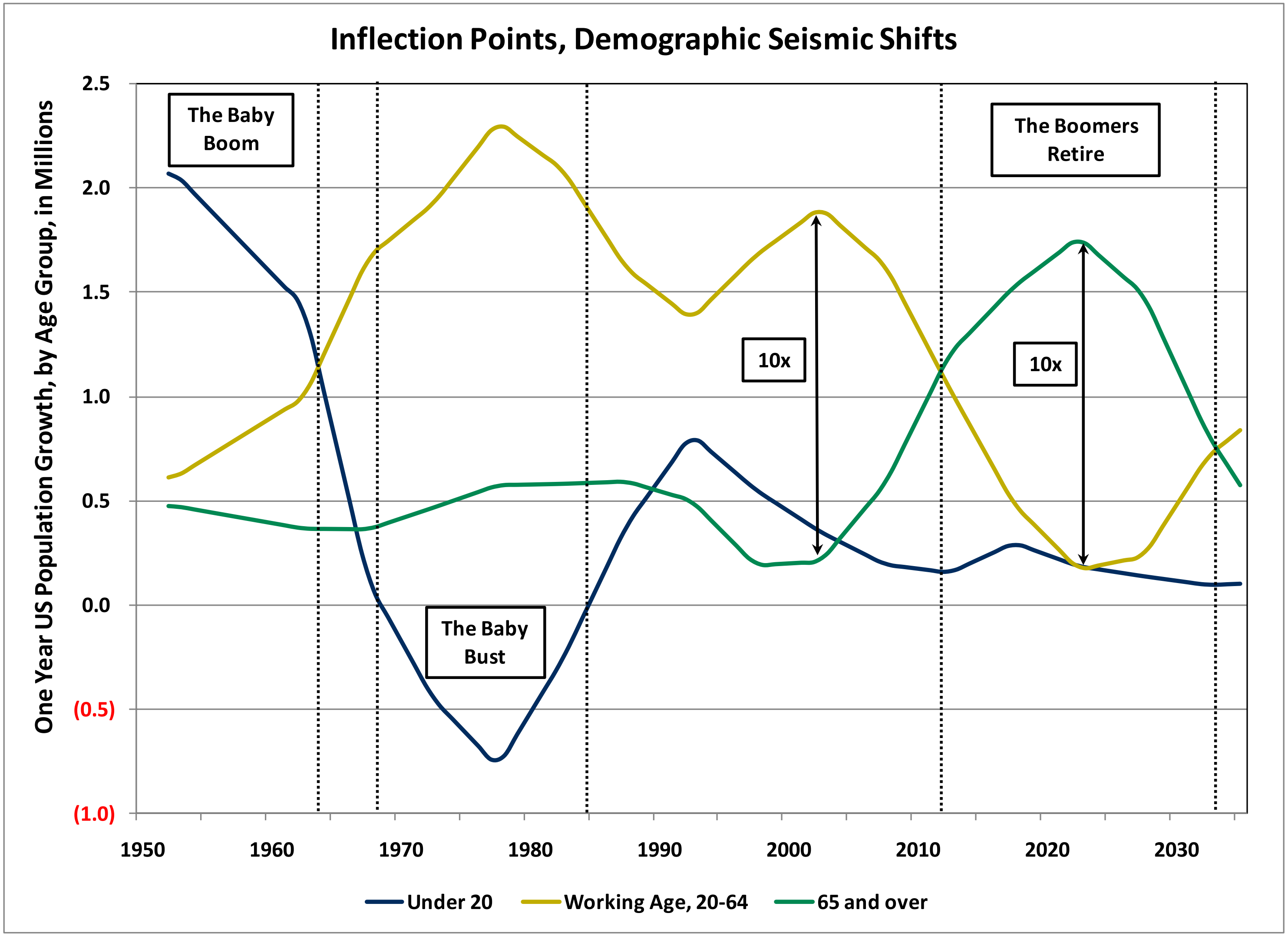
- With roughly a five-year age difference from stocks
- With greater statistical significance than stocks

Relationship between GDP Growth and Demographic Composition ($R^2 = 0.30$), Net of Valuation Effects



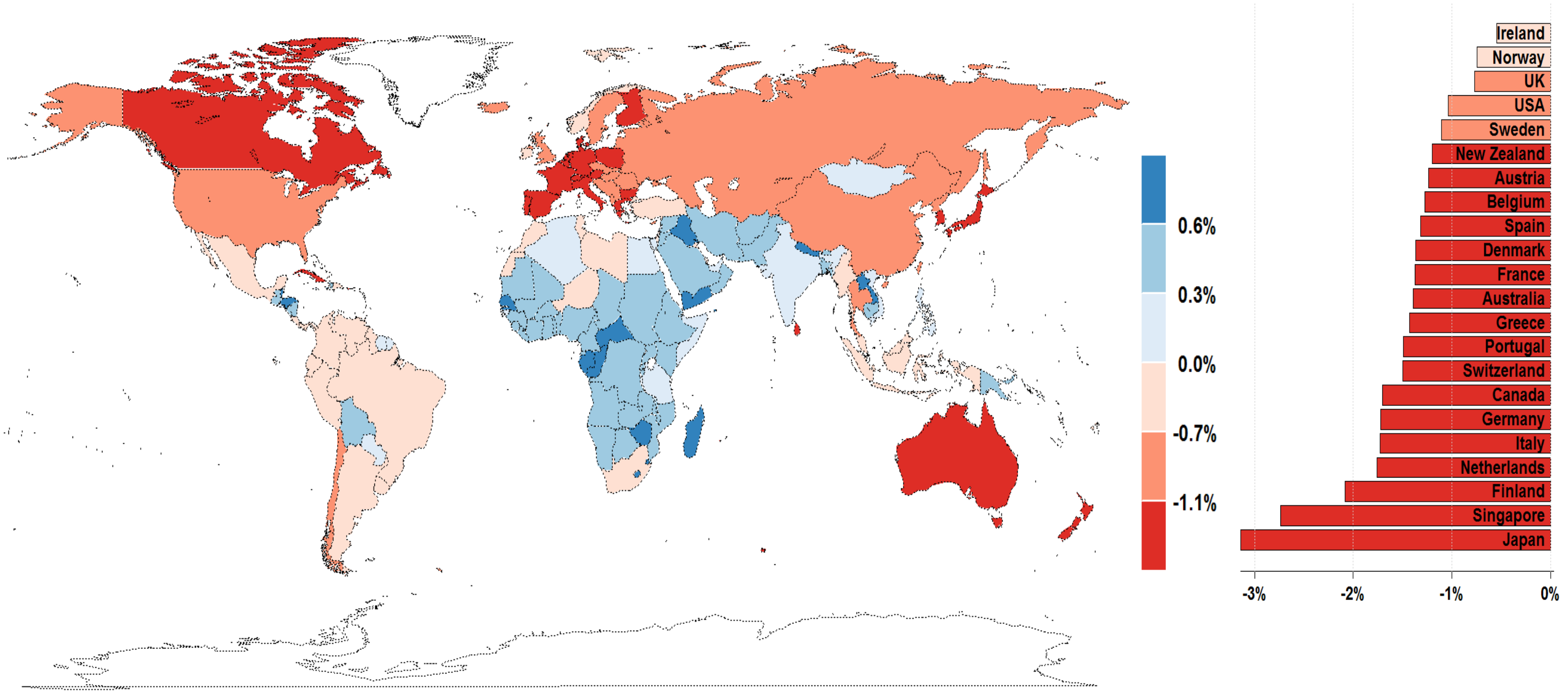
Source: Research Affiliates, based on data from United Nations, Penn World Table, and Global Financial Data

1980 to 2000 Strong Demographic Tailwind
2010 to 2030 Gail Force Demographic Headwind



Source: Research Affiliates, LLC, based on population data and projections from the U.S. Social Security Administration

Forecasts for GDP Growth, Based on Demographic Composition, 2011–2020



Source: Research Affiliates, based on data from United Nations, Penn World Table, and Global Financial Data

Recap of the Headwinds

Deficit Spending *Creates* Phony GDP

- Cutting 10% deficit to zero in 5-10 years reduces GDP growth by 1-2% per year.

Debt Incurs Debt Service Costs

- National debt up from 50% to 100% of GDP in the past 30 years implies 0.83% slower GDP growth until debt is reduced.

Demographic Aging Slows GDP Growth

- GDP growth = growth in work force + productivity growth.
- Slower work force growth costs the difference, 0.8%, in GDP.

Real GDP Growth: 2.4% past 30 years, 2.7% past 50 years

- With these headwinds, 2% GDP growth is a home run.
- 1% is far more likely. ***New Normal, Indeed!***

Investment Implications of the 3-D Hurricane

If our debt burden is too large, choices are:

- Pay the debt, abrogate, or reflate

Which will our politicians choose?

- Inflation protection will be priced at a premium
- Retirees selling assets to a proportionally smaller pool of buyers
- Equities under pressure
- Opportunities in emerging markets

The “Third Pillar” should be considered:

- The first two pillars, stocks & bonds, crater during reflation
- Diversifying into EM, alternative markets, and inflation hedges

Getting to 7–8%:
Hope is Not a Strategy

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Pollyanna Projections

Quantifying the best case scenario for three major asset classes:

	Building Block Return	Polyanna Projection	How Polyanna Projection is Calculated
Equities	5.8%	9.5%	75th Percentile of 10-Year Returns from Starting P/E Ratios of 18-22 from 1870-2011
Bonds	2.1%	2.8%	75th Percentile of 10-Year Premium Above Starting Yield of BarCap Aggregate Index from 1976-2011
Alternatives	7.0%	8.9%	75th Percentile of 10-Year Return of HFRI HFOF Composite from 1990-2011

Source: Research Affiliates, LLC., based on data from Ibbotson Encorr, Shiller, and HFRI

Getting to 7–8% on Hope

Portfolios can "get there" only by assuming top quartile results for stocks, bonds, and alternatives (simultaneously over the same span!)

	Traditional 60/40	Average Plan Allocation
Equities	60.0%	51.9%
Bonds	40.0%	30.3%
Alternatives	0.0%	17.8%
Pollyanna Expected Return	6.8%	7.4%
Building Block Expected Return	4.3%	4.9%
Standard Deviation of Pollyanna	11.5%	11.0%

Return assumption should be reduced, systematically and steadily, to a more realistic level. But…we should still *aspire* to this very aggressive return target.

Source: Research Affiliates, LLC., Average Plan Allocation based on data from SACRS Public Fund Universe Analysis Report, June 30, 2011

Achieving Sensible Returns? Yes, We Can. Three Paths to Improved Return Potential

Consider Other Asset Classes

- Stocks and bonds are not the only choices
- Unconventional assets can be priced to offer better returns

Seek Alpha

- Conservatively, focusing on avoiding negative alpha, or
- Aggressively, if you have confidence in the opportunities

Actively Manage the Asset Mix

- *Include* alternative markets in these decisions
- Seek assets which are out of favor, priced for better returns

We Believe All Three Paths Can Be Pursued in Parallel!

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