

# SURVEY EXPECTATIONS IN FINANCE AND MACROECONOMICS

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# Survey Expectations

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- ▣ Survey expectations used to be central to analyzing the macroeconomy.
- 1940s—1960s: Extensive effort to measure and understand actual expectations. NBER publications: e.g. *The Quality and Economic Significance of Anticipations Data* (1960)
- ▣ But lost central role after the Rational Expectations Revolution:
  - Models dictate what expectations rational agents should hold, so anticipations data are redundant.
  - Prescott (1977): “***Like utility, expectations are not observed, and surveys cannot be used to test the rational expectations hypothesis.***”

# Our Perspective

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- ▣ Expectations data provide economists with valuable information for understanding decisions and for distinguishing alternative models (Manski, 2004).
- ▣ Whether survey expectations predict behavior is an empirical question.
- ▣ Whether actual expectations are rational is testable and informative about models people use.
  - Testing theories of stock price formation
  - Testing macroeconomic models
- ▣ Also of huge policy significance
  - Debates about 2008: firefighters vs. policy makers

# Views of the Crash

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- ▣ Unanticipated shock (Bernanke, Geithner, Paulson)
  - Policy makers did their best
  - Bernanke: Diamond-Dybvig model describes the crisis well
- ▣ Excessive credit expansions predictably lead to a crash
  - Kindleberger, Minsky
  - Policy makers failed. Should have started interventions in spring 2008 or earlier.

# Today

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- ▣ Survey expectations provide highly consistent information
- ▣ Expectations errors are predictable
- ▣ Many standard models are rejected, e.g. consumption-based asset pricing, Diamond-Dybvig.
- ▣ New models are suggested
- ▣ There are lessons for policy

# Plan of Talk

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- Greenwood-Shleifer: Extrapolation of Stock Returns
- Gennaioli-Ma-Shleifer: Expectations and Investment
- Bordalo-Gennaioli-Shleifer: Diagnostic Expectations



# Expectations and Stock Returns

# The Usefulness of Expectations Data: Greenwood & Shleifer (2014)

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- Fact 1: Expectations of future stock returns are highly correlated across different surveys, and with equity mutual fund flows.

	Gallup	CFO Survey	AAll	Investor Intelligence	Shiller	Michigan
CFO Survey	0.77					
	[0.000]					
AAll	0.64	0.56				
	[0.000]	[0.000]				
Investor Intelligence	0.60	0.64	0.55			
	[0.000]	[0.000]	[0.000]			
Shiller	0.39	0.66	0.51	0.43		
	[0.000]	[0.000]	[0.000]	[0.000]		
Michigan	0.61	-0.12	0.60	0.19	-0.56	
	[0.003]	[0.922]	[0.003]	[0.395]	[0.020]	
Equity Fund Flows	0.70	0.71	0.41	0.20	0.33	0.40
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]	[0.068]

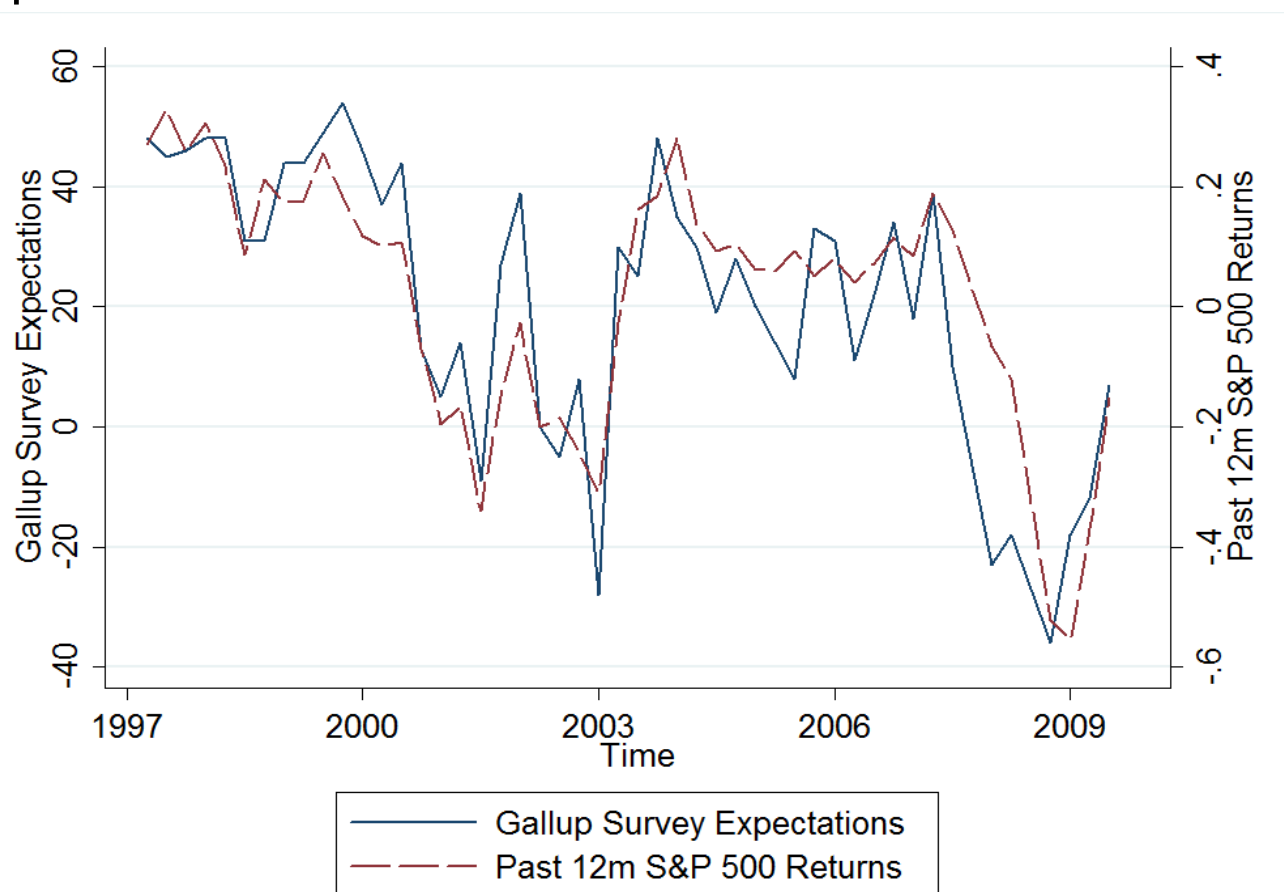
*p*-value in brackets.



# The Usefulness of Expectations Data: Greenwood & Shleifer (2014)

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- Fact 2: Expectations of future stock returns are highly correlated with past returns.

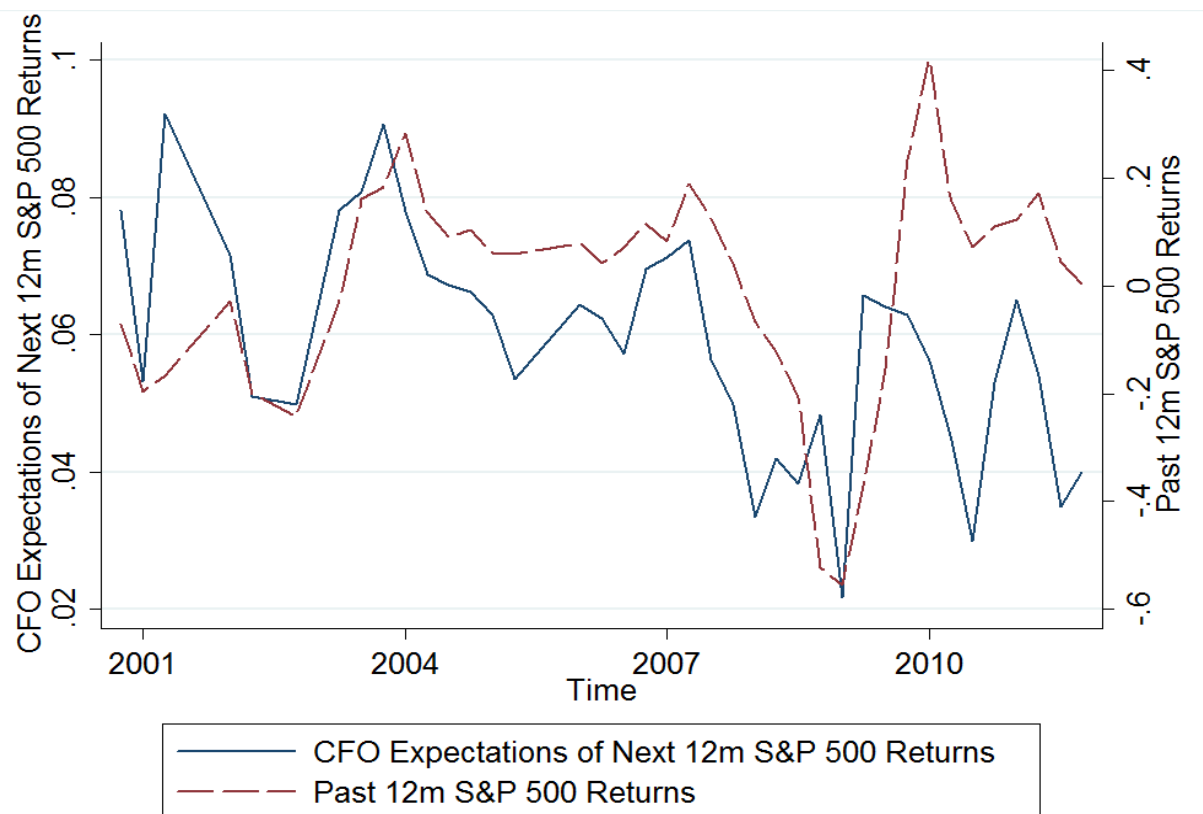


Gallup: % optimistic - % pessimistic about next 12m aggregate stock market performance.

# The Usefulness of Expectations Data: Greenwood & Shleifer (2014)

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- Fact 2: Expectations of future stock returns are highly correlated with past returns.



CFO survey: “Over the next year, I expect the average annual S&P 500 return will be: \_\_\_\_.”

# The Usefulness of Expectations Data: Greenwood & Shleifer (2014)

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- Fact 3: Expectations of future stock returns are strongly negatively correlated with model-based measures of expected returns (ER).

	Gallup	CFO Survey	AAll	Investor Intelligence	Shiller	Michigan
<b>Log(D/P)</b>	-0.33	-0.44	-0.31	-0.19	-0.55	-0.57
<b>Campbell-Shiller (1988)</b>	[0.000]	[0.003]	[0.000]	[0.000]	[0.000]	[0.006]
<b>cay</b>	0.02	0.14	-0.02	-0.19	0.37	0.00
<b>Lettau-Ludvigson (2001)</b>	[0.776]	[0.380]	[0.788]	[0.000]	[0.000]	[0.988]
<b>-Surplus Consumption</b>	-0.48	-0.53	-0.28	-0.05	-0.67	-0.74
<b>Campbell-Cochrane (1999)</b>	[0.000]	[0.000]	[0.000]	[0.191]	[0.000]	[0.000]

*p*-value in brackets.

# The Usefulness of Expectations Data: Greenwood & Shleifer (2014)

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- Fact 4: When expectations of returns are high, and ER is low, actual returns going forward are low.

[illegible]

# The Usefulness of Expectations Data: Greenwood & Shleifer (2014)

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- Survey expectations are informative:
  - Consistent across different surveys of different types of investors
  - Predict investor behavior
  - Have a clear extrapolative structure
- Survey expectations reject rational expectations models of asset prices. The trouble seems to be with the models, not with expectations data.



# Expectations and Corporate Investment

# Data on Expectations and Investment

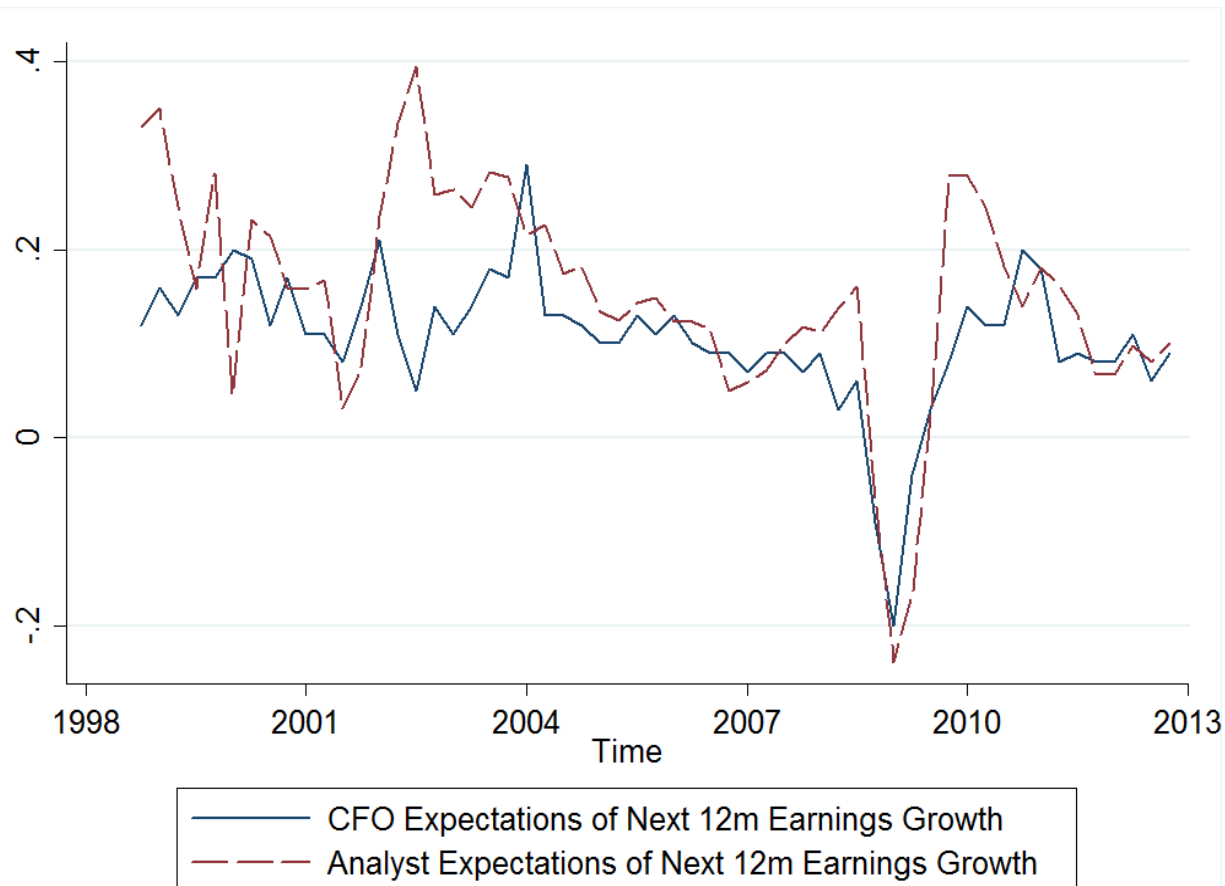
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- CFO Expectations: Duke/CFO Magazine Business Outlook Survey
  - Since 1998, in every quarter's CFO survey, respondents are asked about, among other things:
    - Expectations of next 12 month earnings growth
    - Planned next 12 month investment growth
  - Answers are numerical
- Analyst Expectations: IBES
  - Supplement CFO expectations of future earnings with analyst forecasts of future earnings.
  - Since early 1980s, IBES provides analyst forecasts of quarterly earnings for up to 12 quarters in the future. Longer time span and larger sample.

# Data on Expectations and Investment

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- CFO and analyst expectations of future earnings growth are highly correlated.

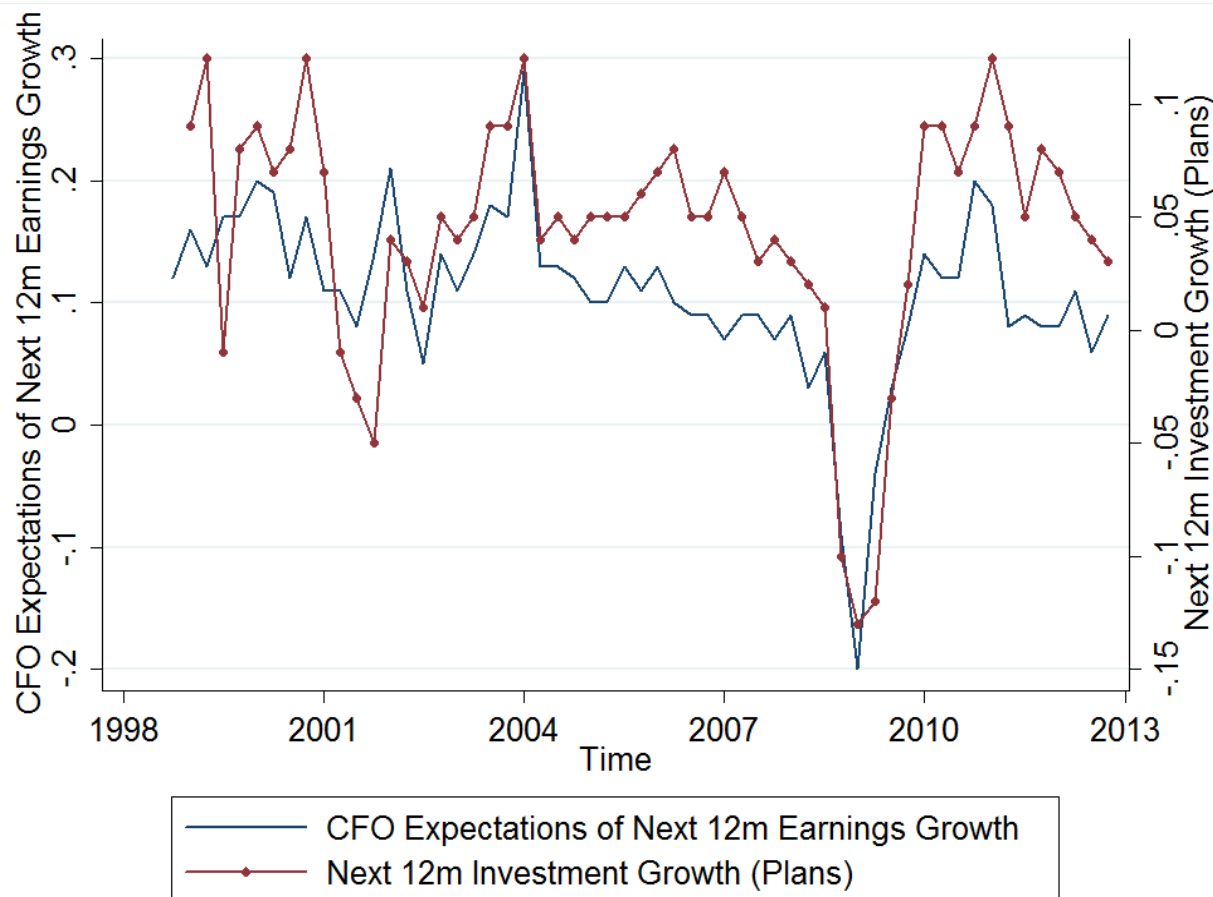




# Expectations and Investment: Aggregate Evidence

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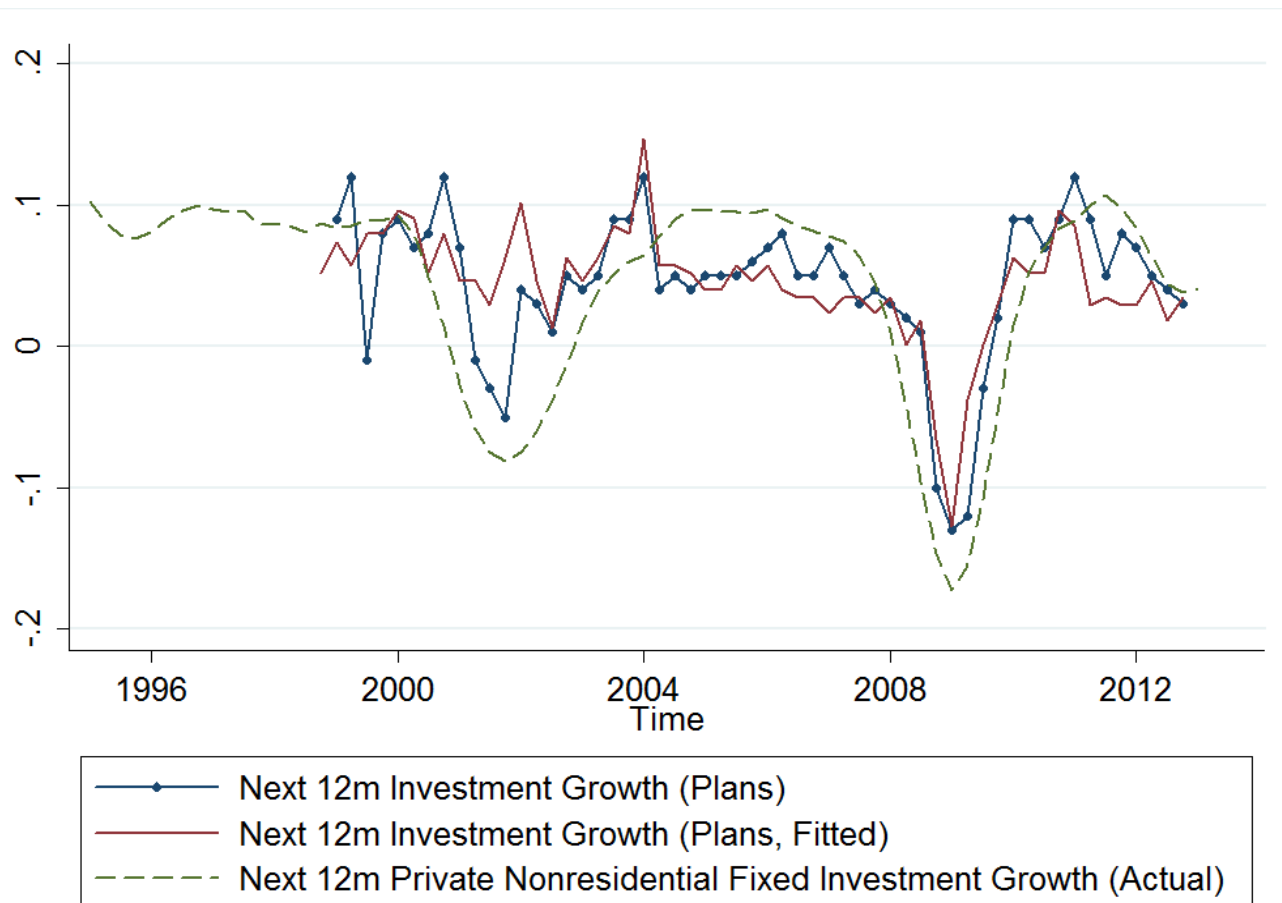
- CFO earnings growth expectations and investment plans



# Expectations and Investment: Aggregate Evidence

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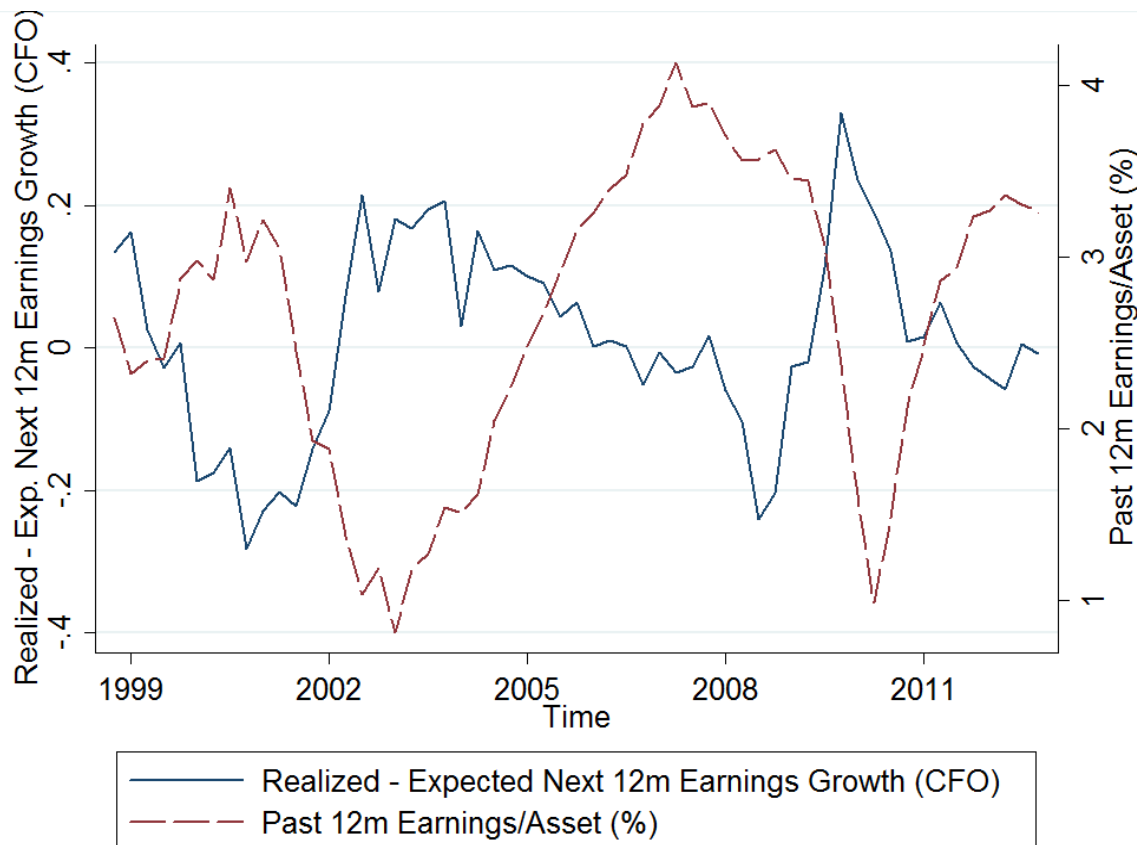
- CFO earnings growth expectations, investment plans, and realized investment



# Errors in Earnings Growth Expectations: CFOs

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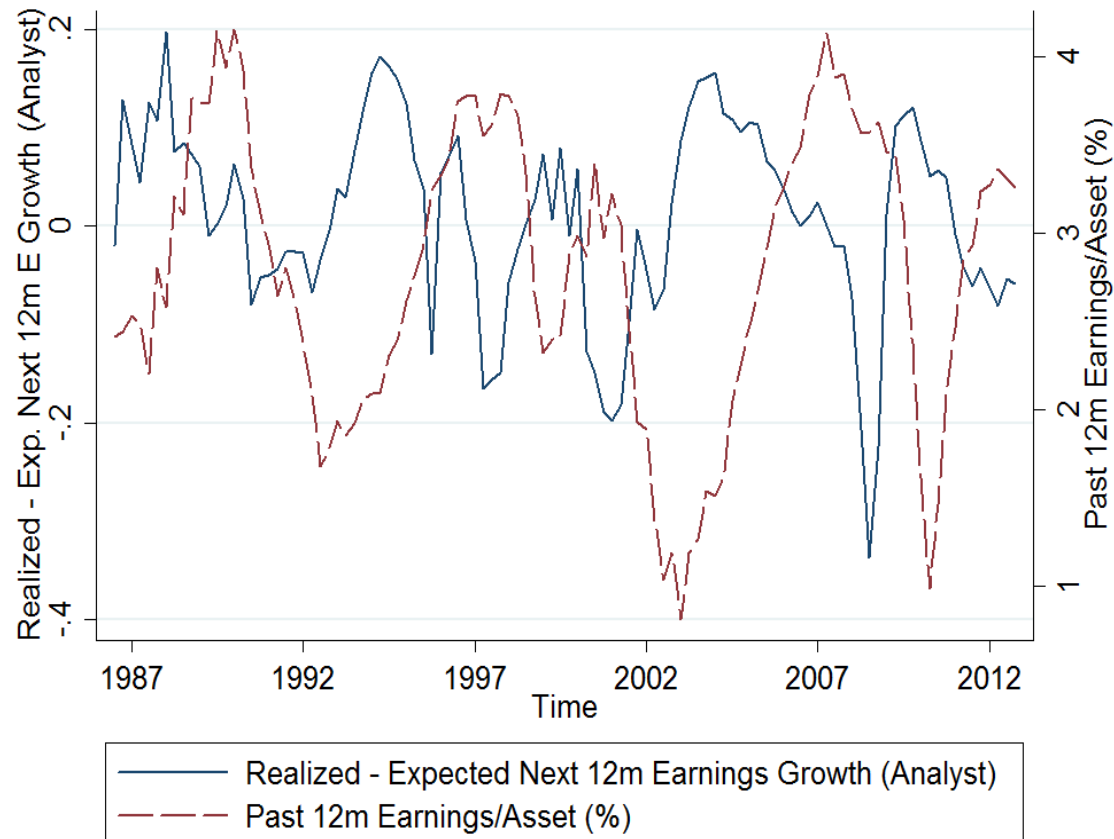
- Realized – CFO Expected Next 12m Earnings Growth.
- Errors appear systematic and recurring: over-optimism in good times and over-pessimism in bad times.



# Errors in Earnings Growth Expectations: Analysts

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- Realized – Analyst Expected Next 12m Earnings Growth.
- Errors appear systematic and recurring: over-optimism in good times and over-pessimism in bad times.





# Expectations and the Credit Market

# Stylized Facts in Bond Markets

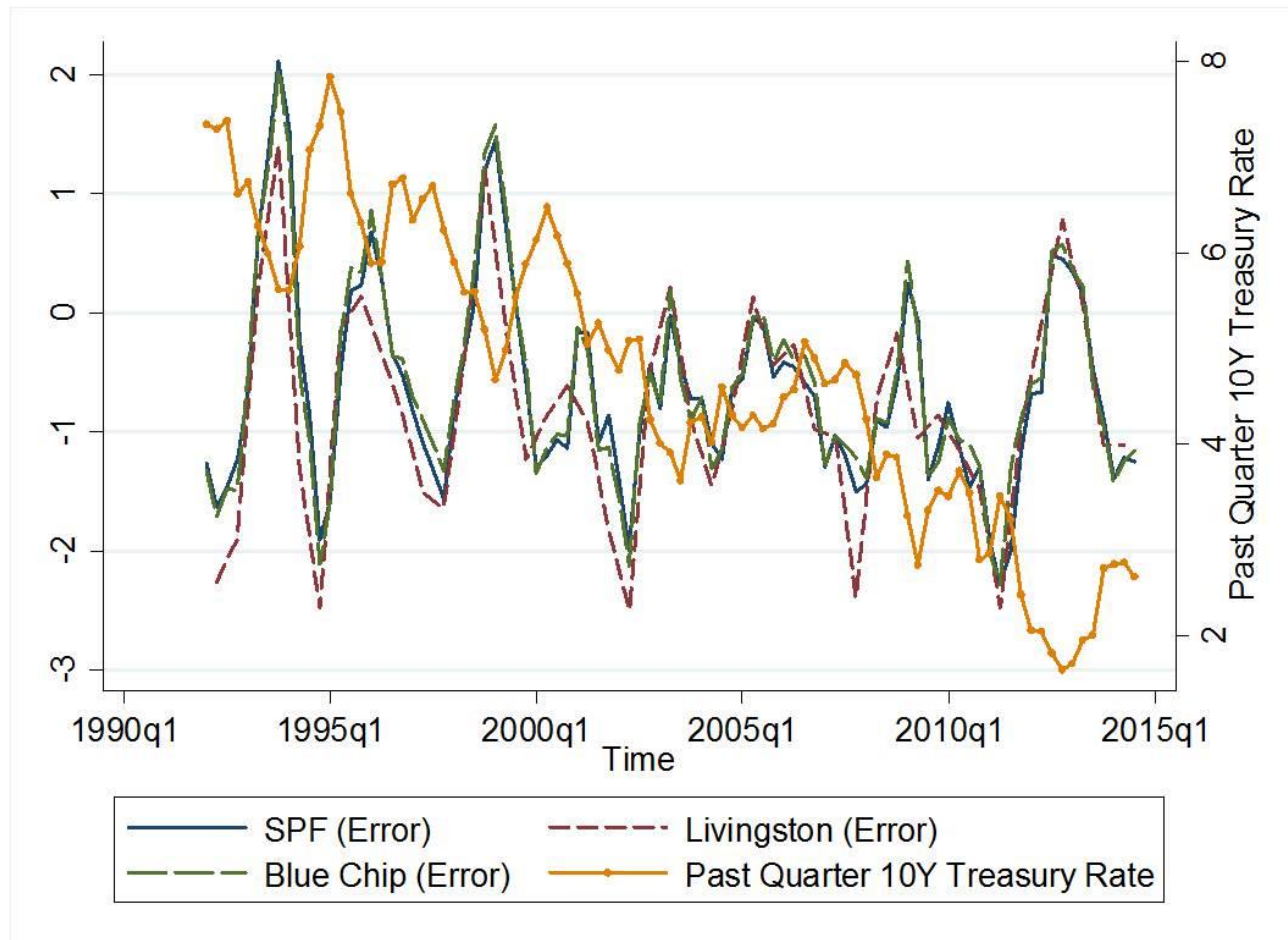
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- High (low) Treasury yield and term spread predict high (low) excess returns on long-term Treasuries.
- High (low) credit spread (Baa yield – 10Y Treasury yield) predicts high (low) excess returns on corporate bonds.
- High fraction of debt issuance by low quality firms predicts low excess returns on corporate bonds.
- How to account for these facts?

# Predictable Errors in Treasury Yield Forecast

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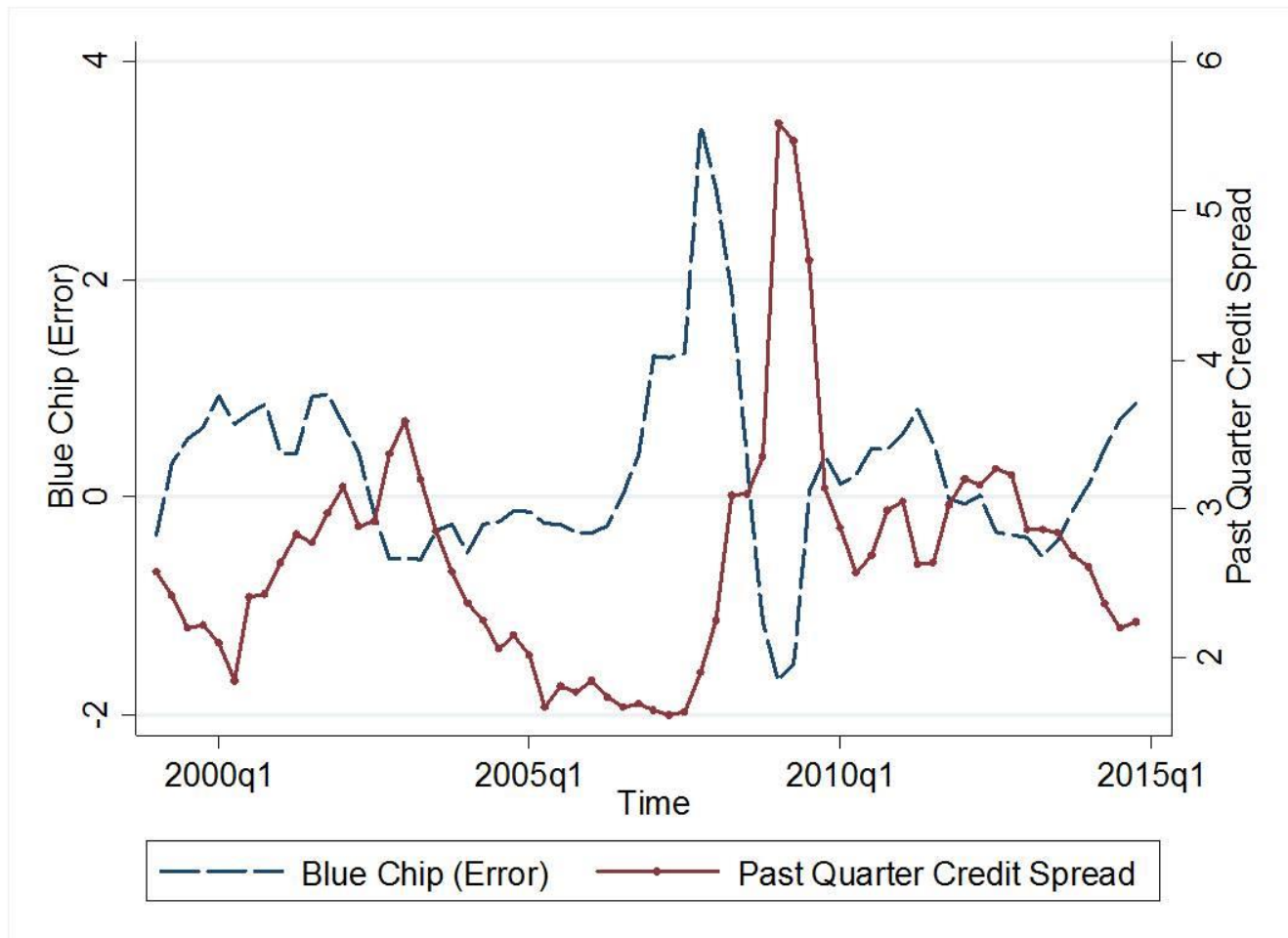
- Realized – Expected 10Y Treasury Yield in 12 Months



# Predictable Errors in Credit Spread Forecast

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- Realized – Expected Credit Spread in 12 Months.





# Diagnostic Expectations

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- We build a new model of expectation formation based on Gennaioli and Shleifer's (2010) formalization of Kahneman and Tversky's "representativeness" heuristic.
- Inserted into a simple macroeconomic model (no financial frictions), yields many of the previous facts
- KT (1983): "an attribute is representative of a class if it is very diagnostic; that is, the relative frequency of this attribute is much higher in that class than in a relevant reference class."
- The model is psychologically founded and forward looking, but expectations exhibit predictable biases in response to news. Given news, agents inflate future states of the world whose objective probability goes up the most, relative to no news.

# Diagnostic Expectations

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- The model yields
  - extrapolation + neglect of tail risk in a single setup
  - reversals in the absence of news
  - excess volatility
  - immunity to Lucas critique, RE as a special case
  - no learning, rather beliefs distort true process
  - model is portable: unify explanation of lab experiments, social stereotypes, macroeconomic predictions

# Summary and Implications

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- Expectations data appear to be extremely helpful in understanding economic decisions.
- Expectations about important macro and financial variables appear to exhibit systematic extrapolative errors.
- What are plausible models of actual expectations?
- Open question of how much errors in expectations can account for economic fluctuations; the role of over-optimism and over-pessimism in aggregate overbuilding and prolonged economic recessions.
- Implications for macroeconomic and regulatory policies.