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OBJECTIVE

EXPECTATIONS OF EXECUTIVES

- Understand how top executives form expectations and whether they are overconfident
- ► Focus on miscalibration, a form of overconfidence
- Explore the distribution of expected outcomes
- All executives predict the same objects: S&P 500 returns in 1 and 10 years
- Measure executives' miscalibration directly through their predictions
- Compare to miscalibration about S&P 500 to miscalibration about firms' projects
- Study firm policies with respect to executives' miscalibration

MAIN RESULTS

- 10-year panel with 13,300 CFOs' expected S&P500 returns and 80% confidence intervals
- 1-year and 10-year forecasts
- Severe miscalibration: CFOs' probability distributions are too narrow
- ▶ Realized returns are within confidence intervals only **36**% of the time
- Confidence intervals expand downwards during times of high market uncertainty
- Executives' stock market miscalibration is correlated with miscalibration about own firm prospects
- Firms with miscalibrated executives pursue aggressive investment and debt policies

DATA

SURVEYED EXECUTIVES

- ▶ 40 quarterly surveys (2001Q2-2011Q1)
- Population: CFOs and top financial executives
- Response rate: 5-8%
- ▶ 13,346 responses (~330 responses/quarter)

FIRMS

- ▶ 32% of responses from self-identified public firms
- ▶ 3,335 matched to CRSP (1,061 unique firms)
- Large firms: 61% belong to Q5 Compustat sales; 20% belong to Q4

METHOD OF MEASURING MISCALIBRATION



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SURVEY TO ELICIT PERCEIVED DISTRIBUTION OF RETURNS

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	10. On November 10, 2006 the a	nnual yield on 10	0-yr treasury bonds was 4.6%.				
	Please complete the following:						
				1			
	a. Over the next 10 years, I expect the average annual S&P 500 return will be:						
	Worst Case: There is a 1-in-10	Best Guess:	Best Case: There is a 1-in-10				
	chance the actual average	l expect the	chance the actual average				
	return will be less than:	return to be:	return will be greater than:				
		%					
	b. During the <u>next year</u> , I expect the S&P 500 return will be:						
	Worst Case: There is a 1-in-10	Best Guess:	Best Case: There is a 1-in-10	_			
	chance the actual return will	return to be:	chance the actual return will				
	be less than.	return to be.	be greater than.				
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RESULTS: PERCEIVED VS REALIZED RETURN VOLATILITY

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Imputed volatility based on Keefer and Bodily (1983):

$$\sigma = \frac{P_{90} - P_{10}}{2.65}$$

While historical data shows that 80% confidence interval should be 42.2% wide, CFOs provide confidence intervals with an average width of 14.5% only.



% HITTING CONFIDENCE INTERVAL



SENSITIVITY OF LOWER CONFIDENCE BOUND



MISCALIBRATION AND FIRM POLICIES

Dependent variable:	Investment intensity (%)		Leverage (%)	
	(1)	(2)	(3)	(4)
Miscalibration ST	0.235		1.324***	
	(0.257)		(0.358)	
Optimism ST	0.336		-0.027	
•	(0.384)		(0.454)	
Miscalibration LT		0.600**		0.538
		(0.242)		(0.450)
Optimism LT		0.837*		0.227
		(0.418)		(0.632)
Firm characteristics	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Survey Date FE	Yes	Yes	Yes	Yes
Observations	2,547	2,511	2,601	2,565
Adj R ²	0.114	0.116	0.316	0.310

OUT-OF-SAMPLE VALIDATION

- Boutros, Ben-David, Graham, Harvey, Payne, 2019, The Persistence of Miscalibration, Working Paper
- Extends analysis to 2017
- ▶ Realized returns hit confidence intervals only 24% of the time
- Study examines learning rate of CFOs making multiple predictions
- CFOs adjust their confidence intervals after realized return "misses" their prior confidence interval
- Adjustment, however, is small and CFOs remain highly miscalibrated even after many iterations
- ▶ Feedback, therefore, appears to have limited effect in this context

SLOW AND DECELERATING LEARNING RATE

- Figure shows the average adjustment following a "miss" in previous forecast. Dashed horizontal line shows average change in confidence interval across forecasters who missed.
- ▶ By the 9th quarter of learning, no further learning appears to occur



Source: Boutros, Ben-David, Graham, Harvey, Payne, 2019, The Persistence of Miscalibration, Working Paper

OUT-OF-SAMPLE VALIDATION

 Since 2011, realized returns hit 80% confidence intervals only 24% of the time



Source: Boutros, Ben-David, Graham, Harvey, Payne, 2019, The The Persistence of Miscalibration, Working Paper