The Chicago School of Finance at 125: Behavioral Finance

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Outline

- Chicago Booth’s role in the development of behavioral finance
- progress in behavioral finance
- the future

The 1980s and 1990s

THEORY / CONCEPTUAL	EMPIRICAL
	Excess volatility (Shiller, 1981; LeRoy and Porter, 1981)
	Long-run reversals (De Bondt and Thaler, 1985)
Noise-trader models (De Long et al., 1990)	
	Closed-end funds (Lee, Shleifer, Thaler, 1991)
Limits to arbitrage (Shleifer and Vishny, 1997)	
Psychological models of beliefs (Barberis, Shleifer, Vishny, 1998; Daniel, Hirshleifer, Subrahmanyam, 1998)	
Psychological models of preferences (Benartzi and Thaler, 1995; Barberis, Huang, Santos, 2001)	
	Investor trading behavior (Barber and Odean)
	Technology-stock bubble (Mitchell, Pulvino, Stafford, 2002; Lamont and Thaler, 2003)

Notes on the 1980s and 1990s

- Chicago Booth was quite involved in the development of behavioral finance, particularly in the 1990s
  - a lot of the debate about rational vs. behavioral approaches took place here
- the debate in the 1980s and 1990s was vibrant, sometimes heated
- Richard Thaler's arrival at Chicago Booth in 1995 proved to be very significant

The 2000s and 2010s

FIELD	**PAPERS**
Behavioral Corporate Finance	Baker and Wurgler (2000, 2002) Malmendier and Tate (2005, 2008)
Behavioral Household Finance	
Prescriptive Behavioral Finance	Nudge: Thaler and Sunstein (2009)
Behavioral Asset Pricing – second wave, on beliefs	Survey data (Greenwood and Shleifer, 2014; Bordalo et al., 2020) Extrapolation models (Barberis et al., 2015) Experience effects (Nagel and Xu, 2022)

A classic critique

- one of the main critiques leveled at behavioral finance in the 1990s was the potential for “lack of discipline”
- Fama (1998, *JFE*):

> Finally, given the demonstrated ingenuity of the theory branch of finance, and given the long litany of apparent judgment biases unearthed by cognitive psychologists (DeBondt and Thaler, 1995), it is safe to predict that we will soon see a menu of behavioral models that can be mixed and matched to explain specific anomalies. My view is that any new model should be judged (as above)

A classic critique

- interestingly, this forecast proved incorrect
  - the center of gravity of behavioral finance in the past few decades has remained in a small set of concepts
  - over-extrapolation, overconfidence, and prospect theory
- we may have stayed disciplined *because of* Gene’s warning

Frameworks in behavioral finance

Beliefs

- over-extrapolation
  - of past returns
  - of past fundamentals
- overconfidence about signals
  - differences of opinion, plus short-sale constraints
  - misvaluation even without short-sale constraints

Preferences

- prospect theory
  - loss aversion, probability weighting

Progress in behavioral finance

- research on limits to arbitrage
- empirical findings that are challenging to explain with fully rational frameworks
- increasingly sophisticated, psychologically-grounded models of important phenomena
  - the aggregate stock market
  - the cross-section of stock returns
  - bubbles
  - individual investor behavior
  - real estate markets

The future

- understanding the drivers of overreaction
  - is over-extrapolation of past returns / fundamentals the right approach?
- reconciling overreaction with instances of underreaction
  - Fama (1998, *JFE*):

First, an efficient market generates categories of events that individually suggest that prices over-react to information. But in an efficient market, apparent underreaction will be about as frequent as overreaction. If anomalies split randomly between underreaction and overreaction, they are consistent with market efficiency. We shall see that a roughly even split between apparent overreaction and underreaction is a good description of the menu of existing anomalies.

Under- and over-reaction

	Under-reaction	Over-reaction
Markets	Reaction to earnings news Momentum	Excess volatility Bubbles Value premium Reaction to some non-earnings news
Surveys	Near-term earnings Near-term interest rates	Long-term earnings growth Returns Several other economic variables
Experiments	Balls-and-urns updating task	Base-rate neglect Representativeness Time-series forecasts

Under- and over-reaction

- fortunately, there has been significant recent progress in our understanding of *when* there is under- vs. over-reaction
- there is evidence of more overreaction:
  - for weak evidence, as opposed to strong evidence (Augenblick, Lazarus, Thaler, 2023; Ba, Bohren, Imas, 2023)
  - for processes with lower time-series persistence (Bordalo et al., 2020; Afrouzi et al., 2023)
  - for assets with more fat-tailed fundamentals (Kwon and Tang, 2023)
  - when people pay more attention (Bordalo et al., 2023)

The future, continued

- understanding what we can learn from survey data
- prescriptive behavioral finance
  - helping people to make better financial decisions
- revisiting behavioral corporate finance
- more connections between behavioral finance and machine learning

Survey data

- analysis of survey data has led to a rich set of findings:
  - the market P/D ratio comoves positively with expectations of long-term earnings growth (LTG)
  - LTG predicts future market returns with a negative sign (Bordalo et al., 2023)
  - expectations about long-term earnings growth are driven, in part, by past growth in fundamentals (Nagel and Xu, 2022)
  - the market P/D also comoves positively with some measures of return expectations, which in turn are driven, in part, by past returns
- the survey data also raise a number of questions:
  - do they capture investors' true expectations?
  - are they partly reverse-engineered from observed prices?
  - how strongly do investors' beliefs about returns and earnings growth pass through to their portfolio decisions?

The future, continued

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  - helping people to make better financial decisions
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The future, continued

And finally:

- more interaction between researchers on the rational vs. behavioral side