Syllabus

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Course: Behavioral Finance - 2026

Professor:

OVERVIEW

From roughly 1950 to 1990, research in financial economics rested on three assumptions: (i) investors hold rational beliefs (perfect information and Bayesian updating); (ii) they optimize expected utility; and (iii) markets are free of meaningful frictions, including limits to arbitrage. Together, these assumptions form the *traditional paradigm*. The paradigm proved remarkably productive: it yielded elegant, logically coherent models of asset prices and investor behavior.

Beginning in the early 1990s, a body of empirical work began to document robust phenomena that the traditional paradigm could not accommodate. The scientific response — still active and unresolved — is what we now call Behavioral Finance, and, more broadly, Behavioral Economics.

In essence, Behavioral Finance asks whether investors (a) hold *preferences* more intricate than those typically assumed in microeconomics, or maximize objectives other than expected utility; (b) form *beliefs* that systematically depart from rationality; and (c) exhibit *cognitive limitations* that show up consistently in their investment decisions. If (a) holds, economic models should adapt: this is the field's *positive* role. If (b) and (c) hold, investors may suffer persistent losses; and, under limits to arbitrage, aggregate prices may deviate from fundamentals for long periods. This is the field's *normative* role.

Crucially, Behavioral Finance retains the methodological core of mainstream economics. As Matthew Rabin put it, *"[…] this research is not an alternative to the economic research program into which we were all socialized in graduate school, but the natural continuation of this research program."*

With that perspective, the course examines the empirical facts that challenge the traditional paradigm:

- the persistent underperformance of individual investors in stock picking;

- the systematic mistakes (behavioral biases) made by individuals;
- clear, documented episodes of long-lasting mispricing;
- and the limits to arbitrage that allow prices to remain affected by behavioral demand over significant horizons.

ROADMAP OF THE COURSE

The course is organized as a single argument with three layers. We begin with the demand side — what individual investors actually do — and then move progressively toward aggregate consequences: prices, and the frictions that prevent rational traders from correcting them.

Day 1 sets the empirical baseline: individual investors, as a group, consistently underperform when picking stocks. This fact is the entry point of the course.

Days 2 through 6 open the black box. Day 2 examines overconfidence and sensation seeking, the most studied drivers of excessive trading. Day 3 turns to the disposition effect — the tendency to realize gains too quickly and hold losers too long — and its interaction with delegation and social cues. Day 4 examines familiarity, including local, social, and professional channels that concentrate portfolios in subjectively close assets. Day 5 studies the demand for lottery-like, distressed, and low-priced stocks, a central mechanism through which behavioral preferences shape the cross-section. Day 6 closes this block with salience and attention.

Day 7 asks who the biased investor is. Genetics, IQ, prenatal environment, tax inattention, and wealth turn out to predict behavioral mistakes — evidence that biases are structured heterogeneity in the population, not noise.

Day 8 bridges the demand side to the aggregate. Beliefs about future returns, measured directly in surveys and embedded in asset prices, are extrapolative and diagnostic. These features distort capital allocation even before market frictions enter the picture, and they provide a microfoundation for the mispricing studied next.

Day 9 brings these forces into the cross-section of prices: when do prices fail to reflect fundamentals, and how do we know? **Days 10 and 11** close the argument with limits to arbitrage — the theoretical and empirical reasons why rational traders cannot, or do not, fully eliminate the mispricings documented in Day 9.

The final classes are reserved for student projects, in which these tools are applied to a research question of the student's own choosing.

BIBLIOGRAPHY AND PROGRAM

Introductory book: "Trader ou investidor: aprenda a investir na bolsa sem cair nas armadilhas dos vieses comportamentais" (Bruno Giovannetti and Fernando Chague), Editora Intrínseca, 2023.

Over 11 lectures the instructor will present the (required)papers listed below and a student will present a simple and quick empirical exercise related to the topic of the session (using a dataset provided by the instructor). The last sessions are reserved for student project presentations.

Day 1 — The Perverse Stock-Picking Performance of Individual Investors

Required readings

- Odean, T. (1999). "Do Investors Trade Too Much?" American Economic Review, 89(5), 1279–1298.
- Grinblatt, M., and Keloharju, M. (2000). "The Investment Behavior and Performance of Various Investor Types: A Study of Finland's Unique Data Set." Journal of Financial Economics, 55, 43–67.
- Barber, B. M., Lee, Y.-T., Liu, Y.-J., and Odean, T. (2009). "Just How Much Do Individual Investors Lose by Trading?" Review of Financial Studies, 22(2), 609–632.

Additional suggestions

- Barber, B. M., Huang, X., Odean, T., and Schwarz, C. (2022). "Attention-Induced Trading and Returns: Evidence from Robinhood Users." Journal of Finance, 77(6), 3141–3190. — *Updates the retail-trading evidence to the zero-commission, app-based era and quantifies attention-driven costs.*
- Welch, I. (2022). "The Wisdom of the Robinhood Crowd." Journal of Finance, 77(3), 1489–1527. *— A nuanced counterpoint to the standard underperformance result; offers a useful contrast for class discussion.*
- Eaton, G. W., Green, T. C., Roseman, B. S., and Wu, Y. (2022). "Retail Trader Sophistication and Stock Market Quality: Evidence from Brokerage Outages." Journal of Financial Economics, 146(2), 502–528. — *Uses brokerage outages as a clean identification of retail order-flow effects on market quality.*

Day 2 — The Repeated Mistakes Made by Investors: Overconfidence and Sensation Seeking

Required readings

- Barber, B. M., and Odean, T. (2001). "Boys Will Be Boys: Gender, Overconfidence, and Common Stock Investment." Quarterly Journal of Economics, 116(1), 261–292.
- Grinblatt, M., and Keloharju, M. (2009). "Sensation Seeking, Overconfidence, and Trading Activity." Journal of Finance, 64(2), 549–578.
- Brown, S. J., Lu, Y., Ray, S., and Teo, M. (2018). "Sensation Seeking and Hedge Funds." Journal of Finance, 73(6), 2871–2914.

Additional suggestions

- Daniel, K., and Hirshleifer, D. (2015). "Overconfident Investors, Predictable Returns, and Excessive Trading." Journal of Economic Perspectives, 29(4), 61–88. — *Concise survey tying overconfidence to predictable return patterns; useful as a conceptual anchor for the lecture.*
- Gao, X., and Lin, T.-C. (2015). "Do Individual Investors Treat Trading as a Fun and Exciting Gambling Activity? Evidence from Repeated Natural Experiments." Review of Financial Studies, 28(7), 2128–2166. — *Uses Taiwanese lottery jackpots as exogenous shocks to gambling demand; clean identification of the trading-as-gambling channel.*
- Dorn, A. J., Dorn, D., and Sengmueller, P. (2015). "Trading as Gambling." Management Science, 61(10), 2376–2393. — *Direct individual-level evidence linking lottery participation and stock trading.*

Day 3 — The Repeated Mistakes Made by Investors: The Disposition Effect and Its Consequences

Required readings

- Odean, T. (1998). "Are Investors Reluctant to Realize Their Losses?" Journal of Finance, 53(5), 1775–1798.
- Chang, T. Y., Solomon, D. H., and Westerfield, M. M. (2016). "Looking for Someone to Blame: Delegation, Cognitive Dissonance, and the Disposition Effect." Journal of Finance, 71(1), 267–302.
- Heimer, R. Z. (2016). "Peer Pressure: Social Interaction and the Disposition Effect." Review of Financial Studies, 29(11), 3177–3209.
- Gödker, K., Odean, T., and Smeets, P. (2024). "Disposed to be Overconfident." R&R Journal of Finance.
- Chague, F., Giovannetti, B., Guimaraes, B., and Maciel, B. (2024). "Counting pennies, losing pounds: biased learning about own trading ability." R&R Review of Finance.

Additional suggestions

- Ben-David, I., and Hirshleifer, D. (2012). "Are Investors Really Reluctant to Realize Their Losses? Trading Responses to Past Returns and the Disposition Effect." Review of Financial Studies, 25(8), 2485–2532. — *Challenges and refines the canonical Odean (1998) interpretation; essential for a balanced treatment of the evidence.*

- Frydman, C., Barberis, N., Camerer, C., Bossaerts, P., and Rangel, A. (2014). "Using Neural Data to Test a Theory of Investor Behavior: An Application to Realization Utility." Journal of Finance, 69(2), 907–946. — *Brings neuroeconomic evidence to discriminate among competing theories of the disposition effect.*
- Imas, A. (2016). "The Realization Effect: Risk-Taking after Realized versus Paper Losses." American Economic Review, 106(8), 2086–2109. — *Shows that the act of realization, not the loss itself, drives subsequent risk-taking — a sharp behavioral primitive.*
- Frydman, C., Hartzmark, S. M., and Solomon, D. H. (2018). "Rolling Mental Accounts." Review of Financial Studies, 31(1), 362–397. — *Extends realization/mental-accounting logic to repurchase decisions; complements the disposition-effect mechanism.*

Day 4 — The Repeated Mistakes Made by Investors: Familiarity

Required readings

- Goetzmann, W. N., and Kumar, A. (2008). "Equity Portfolio Diversification." Review of Finance, 12(3), 433–463.
- Huberman, G. (2001). "Familiarity Breeds Investment." Review of Financial Studies, 14(3), 659–680.
- Chague, F., Giovannetti, B., and Paiva, J. (2024). "Familiarity Breeds Day Trade." Working paper.
- Seasholes, M. S., and Zhu, N. (2010). "Individual Investors and Local Bias." Journal of Finance, 65(5), 1987–2010.
- Døskeland, T. M., and Hvide, H. K. (2011). "Do Individual Investors Have Asymmetric Information Based on Work Experience?" Journal of Finance, 66(3), 1011–1041.

Additional suggestions

- Pool, V. K., Stoffman, N., and Yonker, S. E. (2012). "No Place Like Home: Familiarity in Mutual Fund Manager Portfolio Choice." Review of Financial Studies, 25(8), 2563–2599. — *Shows that familiarity bias is not confined to retail investors: professional managers display the same pattern.*
- Pool, V. K., Stoffman, N., and Yonker, S. E. (2015). "The People in Your Neighborhood: Social Interactions and Mutual Fund Portfolios." Journal of Finance, 70(6), 2679–2732. — *Adds a social-interaction layer to familiarity, anticipating the "social finance" literature.*
- Kuchler, T., Li, Y., Peng, L., Stroebel, J., and Zhou, D. (2022). "Social Proximity to Capital: Implications for Investors and Firms." Review of Financial Studies, 35(6), 2743–2789. — *Uses Facebook-based measures of social proximity to identify familiarity-driven portfolio choices and firm-level outcomes.*

Day 5 — The Repeated Mistakes Made by Investors: Lottery-Like, Distressed, and Low-Priced Stocks

Required readings

- Kumar, A. (2009). "Who Gambles in the Stock Market?" Journal of Finance, 64(4), 1889–1933.
- Birru, J., and Wang, B. (2016). "Nominal Price Illusion." Journal of Financial Economics, 119(3), 578–598.
- Chague, F., Giovannetti, B., and Guimarães, B. (2024). "The Overpricing of Popular High-Risk Stocks." R&R at Review of Asset Pricing Studies.

Additional suggestions

- Bali, T. G., Cakici, N., and Whitelaw, R. F. (2011). "Maxing Out: Stocks as Lotteries and the Cross-Section of Expected Returns." Journal of Financial Economics, 99(2), 427–446. — *Introduces the MAX measure; canonical asset-pricing implication of lottery demand.*
- Boyer, B., Mitton, T., and Vorkink, K. (2010). "Expected Idiosyncratic Skewness." Review of Financial Studies, 23(1), 169–202. — *Direct cross-sectional pricing of skewness preferences — the formal counterpart to "lottery-like" stocks.*
- Eraker, B., and Ready, M. (2015). "Do Investors Overpay for Stocks with Lottery-Like Payoffs? An Examination of the Returns of OTC Stocks." Journal of Financial Economics, 115(3), 486–504. — *Stark evidence of lottery overpricing in less-regulated OTC markets; useful out-of-sample test of the mechanism.*

Day 6 — The Repeated Mistakes Made by Investors: Salience and Attention

Required readings

- Barber, B. M., and Odean, T. (2008). "All That Glitters: The Effect of Attention and News on the Buying Behavior of Individual and Institutional Investors." Review of Financial Studies, 21(2), 785–818.
- Engelberg, J. E., and Parsons, C. A. (2011). "The Causal Impact of Media in Financial Markets." Journal of Finance, 66(1), 67–97.
- Da, Z., Engelberg, J., and Gao, P. (2011). "In Search of Attention." Journal of Finance, 66(5), 1461–1499.
- Hartzmark, S. M. (2015). "The Worst, the Best, Ignoring All the Rest: The Rank Effect and Trading Behavior." Review of Financial Studies, 28(4), 1024–1059.

Additional suggestions

- Bordalo, P., Gennaioli, N., and Shleifer, A. (2012). "Salience Theory of Choice Under Risk." Quarterly Journal of Economics, 127(3), 1243–1285. — *Theoretical foundation for salience as a decision primitive; required background for the empirical work below.*
- Hartzmark, S. M., and Shue, K. (2018). "A Tough Act to Follow: Contrast Effects in Financial Markets." Journal of Finance, 73(4), 1567–1613. — *Identifies a contrast-effect (a salience-related mechanism) in reactions to earnings announcements.*

- Cosemans, M., and Frehen, R. (2021). "Salience Theory and Stock Prices: Empirical Evidence." Journal of Financial Economics, 140(2), 460–483. — *Brings Bordalo–Gennaioli–Shleifer salience theory to the cross-section of stock returns.*
- Frydman, C., and Wang, B. (2020). "The Impact of Salience on Investor Behavior: Evidence from a Natural Experiment." Journal of Finance, 75(1), 229–276. — *Clean natural-experiment identification of salience effects on trading decisions.*

Day 7 — Characteristics of Investors with Strong Behavioral Biases

Required readings

- Cronqvist, H., and Siegel, S. (2014). "The Genetics of Investment Biases." Journal of Financial Economics, 113(2), 215–234.
- Grinblatt, M., Keloharju, M., and Linnainmaa, J. T. (2012). "IQ, Trading Behavior, and Performance." Journal of Financial Economics, 104(2), 339–362.
- Cronqvist, H., Previtero, A., Siegel, S., and White, R. (2016). "The Fetal Origins Hypothesis in Finance: Prenatal Environment, the Gender Gap, and Investor Behavior." Review of Financial Studies, 29(3), 739–786.
- Birru, J., Chague, F., De-Losso, R., and Giovannetti, B. (2024). "Attention and Biases: Evidence from Tax-Inattentive Investors." Management Science.

Additional suggestions

- Calvet, L. E., Campbell, J. Y., and Sodini, P. (2009). "Measuring the Financial Sophistication of Households." American Economic Review: Papers & Proceedings, 99(2), 393–398. — *Foundational measurement of household financial skill using Swedish administrative data.*
- Bach, L., Calvet, L. E., and Sodini, P. (2020). "Rich Pickings? Risk, Return, and Skill in Household Wealth." American Economic Review, 110(9), 2703–2747. — *Documents how risk-taking, returns, and skill vary systematically across the wealth distribution.*
- Fagereng, A., Guiso, L., Malacrino, D., and Pistaferri, L. (2020). "Heterogeneity and Persistence in Returns to Wealth." Econometrica, 88(1), 115–170. — *Norwegian-data evidence on persistent return heterogeneity, much of which plausibly reflects behavior and information.*
- Calvet, L. E., Célérier, C., Sodini, P., and Vallée, B. (2023). "Can Security Design Foster Household Risk-Taking?" Journal of Finance, 78(4), 1917–1966. — *Connects product design to household behavior — useful bridge to limits-to-arbitrage themes later in the course.*

Day 8 — Belief Formation and Expectations in Financial Markets

Required readings

- Greenwood, R., and Shleifer, A. (2014). "Expectations of Returns and Expected Returns." Review of Financial Studies, 27(3), 714–746.

- Barberis, N., Greenwood, R., Jin, L., and Shleifer, A. (2015). "X-CAPM: An Extrapolative Capital Asset Pricing Model." Journal of Financial Economics, 115(1), 1–24.
- Bordalo, P., Gennaioli, N., and Shleifer, A. (2018). "Diagnostic Expectations and Credit Cycles." Journal of Finance, 73(1), 199–227.
- Giglio, S., Maggiori, M., Stroebel, J., and Utkus, S. (2021). "Five Facts about Beliefs and Portfolios." American Economic Review, 111(5), 1481–1522.

Complementary readings

- Adam, K., Marcet, A., and Beutel, J. (2017). "Stock Price Booms and Expected Capital Gains." American Economic Review, 107(8), 2352–2408.
- Bordalo, P., Gennaioli, N., Ma, Y., and Shleifer, A. (2020). "Overreaction in Macroeconomic Expectations." American Economic Review, 110(9), 2748–2782.
- Bouchaud, J.-P., Krueger, P., Landier, A., and Thesmar, D. (2019). "Sticky Expectations and the Profitability Anomaly." Journal of Finance, 74(2), 639–674.
- Da, Z., Huang, X., and Jin, L. J. (2021). "Extrapolative Beliefs in the Cross-Section: What Can We Learn from the Crowds?" Journal of Financial Economics, 140(1), 175–196.

Day 9 — Empirical Evidence of Prices Detached from Fundamentals

Required readings

- Huberman, G., and Regev, T. (2001). "Contagious Speculation and a Cure for Cancer: A Non-Event That Made Stock Prices Soar." Journal of Finance, 56(1), 387–396.
- Lamont, O. A., and Thaler, R. H. (2003). "Can the Market Add and Subtract? Mispricing in Tech Stock Carve-Outs." Journal of Political Economy, 111(2), 227–268.
- Hartzmark, S. M., and Solomon, D. H. (2023). "Marketwide Predictable Price Pressure." Working paper.
- Fedyk, A. (2024). "Front-Page News: The Effect of News Positioning on Financial Markets." Journal of Finance, 79(1), 5–47.

Additional suggestions

- Baker, M., and Wurgler, J. (2006). "Investor Sentiment and the Cross-Section of Stock Returns." Journal of Finance, 61(4), 1645–1680. — *The canonical sentiment-based asset-pricing reference; a natural counterpart to the case-study evidence in the required list.*
- Stambaugh, R. F., Yu, J., and Yuan, Y. (2012). "The Short of It: Investor Sentiment and Anomalies." Journal of Financial Economics, 104(2), 288–302. — *Combines sentiment with short-sale constraints to explain a broad set of return anomalies.*
- Ben-David, I., Franzoni, F., and Moussawi, R. (2018). "Do ETFs Increase Volatility?" Journal of Finance, 73(6), 2471–2535. — *Direct evidence that non-fundamental demand can move prices, even in highly liquid securities.*

- Hartzmark, S. M., and Sussman, A. B. (2019). "Do Investors Value Sustainability? A Natural Experiment Examining Ranking and Fund Flows." Journal of Finance, 74(6), 2789–2837. — *Sharp identification of how a salient ranking shifts flows and prices.*
- Gabaix, X., and Koijen, R. S. J. (2024). "In Search of the Origins of Financial Fluctuations: The Inelastic Markets Hypothesis." Working paper. — *Macro-finance perspective on price elasticity that complements the micro-level mispricing evidence.*

Day 10 — Are There Limits to Arbitrage?

Required readings

- Shleifer, A., and Vishny, R. W. (1997). "The Limits of Arbitrage." Journal of Finance, 52(1), 35–55.
- Kolasinski, A. C., Reed, A., and Ringgenberg, M. C. (2013). "A Multiple Lender Approach to Understanding Supply and Search in the Equity Lending Market." Journal of Finance, 68(2), 559–595.
- Chague, F., De-Losso, R., de Genaro, A., and Giovannetti, B. (2017). "Well-Connected Short-Sellers Pay Lower Fees: A Market-Wide Analysis." Journal of Financial Economics, 123(3), 646–670.
- Cereda, F., Chague, F., De-Losso, R., de Genaro, A., and Giovannetti, B. (2022). "Price Transparency in OTC Equity Lending Markets: Evidence from a Loan Fee Benchmark." Journal of Financial Economics.

Additional suggestions

- Gromb, D., and Vayanos, D. (2010). "Limits of Arbitrage." Annual Review of Financial Economics, 2, 251–275. — *Authoritative survey of the theoretical limits-to-arbitrage literature; useful pedagogical anchor.*
- Mitchell, M., Pulvino, T., and Stafford, E. (2002). "Limited Arbitrage in Equity Markets." Journal of Finance, 57(2), 551–584. — *Classic evidence that holding costs and risk prevent the elimination of seemingly obvious mispricings.*
- Boehmer, E., and Wu, J. (2013). "Short Selling and the Price Discovery Process." Review of Financial Studies, 26(2), 287–322. — *Direct measurement of short sellers' contribution to price efficiency.*

Day 11 — Effects of Limits to Arbitrage

Required readings

- Saffi, P. A. C., and Sigurdsson, K. (2011). "Price Efficiency and Short Selling." Review of Financial Studies, 24(3), 821–852.
- Prado, M. P., Saffi, P. A. C., and Sturgess, J. (2016). "Ownership Structure, Limits to Arbitrage, and Stock Returns: Evidence from Equity Lending Markets." Review of Financial Studies, 29(12), 3211–3244.

- Chu, Y., Hirshleifer, D., and Ma, L. (2020). "The Causal Effect of Limits to Arbitrage on Asset Pricing Anomalies." Journal of Finance, 75(5), 2631–2672.
- Chague, F., Giovannetti, B., and Herskovic, B. (2024). "Information Leakage from Short Sellers." R&R at Journal of Finance.

Additional suggestions

- Engelberg, J. E., Reed, A. V., and Ringgenberg, M. C. (2018). "Short-Selling Risk." Journal of Finance, 73(2), 755–786. — *Identifies short-selling risk — not just cost — as a friction; refines the standard limits-to-arbitrage narrative.*
- Stambaugh, R. F., Yu, J., and Yuan, Y. (2015). "Arbitrage Asymmetry and the Idiosyncratic Volatility Puzzle." Journal of Finance, 70(5), 1903–1948. — *Connects limits to arbitrage to a major cross-sectional anomaly through arbitrage asymmetry.*
- Beber, A., and Pagano, M. (2013). "Short-Selling Bans Around the World: Evidence from the 2007–09 Crisis." Journal of Finance, 68(1), 343–381. — *Cross-country natural experiment on short-selling regulation; clean test of arbitrage frictions at the regulatory margin.*

Final Sessions — Student Project Presentations

In the final classes, students present their original research projects. Presentations combine an empirical exercise, an identification strategy, and a clear placement in the literature covered in the course.

GRADING

- 50% — participation in lectures
- 50% — research project