Behavioral Finance (with focus on AI)

Course title - Intitulé du cours	Behavioral Finance (with focus on AI)
Level / Semester - Niveau /semestre	MRes – S2
School - Composante	Ecole d'Economie de Toulouse
Teacher - Enseignant responsable	Milo Bianchi
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	15h
TA Hours - Volume horaire TD	
TP Hours - Volume horaire TP	
Course Language - Langue du cours	English
TA and/or TP Language - Langue des TD et/ou TP	English

Teaching staff contacts – Coordonnées de l'équipe pédagogique :

Milo Bianchi – milo.bianchi@tse-fr.eu

Course Objectives – Objectifs du cours :

Standard finance theory finds a hard time in explaining several phenomena associated with the behaviors of individual investors and of financial markets. In the past 30 years, several so-called puzzles have been systematically documented. In response to these puzzles, behavioral finance has emerged to develop alternative approaches that relax standard assumptions about investors' preferences, beliefs, and rationality. The aim is to make more realistic assumptions on how investors process information, how they form beliefs, how they perceive risk and, as a result, try to make more accurate predictions. A novel and particularly interesting angle to address these issues come from the rise of AI, which may have the potential of helping investors be less exposed to behavioral biases and possibly improve the efficiency of financial markets.

This course is intended to present and propose a discussion of the most recent developments in behavioral finance, with applications to household finance and financial markets. In the first part of the course, we present some important departure from the standard framework, in terms of preferences, beliefs, or cognitive resources. We show how those departures can be incorporated into models of decision making and of market interactions and discuss how those richer models can be used to analyze financial choices and asset markets in the field. In the second part of the course, we cover some emerging topics on how AI is shaping the behavior of investors and of financial markets. We introduce some foundational issues on how AI is distinct from automation and other general-purpose technologies; we analyze how AI reshapes financial services and possibly investor behaviors, and we discuss some ethical and regulatory issues.

Content

Part 1: Portfolio choices and asset prices with non-standard preferences and beliefs
(Prospect Theory, Ambiguity aversion, Social Preferences)
Part 2: Portfolio choices and asset prices in the age of AI
(AI in Finance, Behavioral biases in online platforms, Robo-advisors)

By the end of this course, students should be able to:
- Evaluate portfolio choices and asset prices in light of recent insights in behavioral finance
- Assess the impact of fintech on individual investors and financial markets
- Discuss critically papers at the research frontier
- Elaborate novel research ideas

Prerequisites – Pré requis :
Basic micro and econometrics.

Practical information about the sessions – Modalités pratiques de gestion du cours :
5 lectures, 3 hours each

Grading system – Modalités d'évaluation :
Evaluation will be based on a report in which a topic presented in class is critically evaluated and a possible research idea is developed. Details will be announced in the first lecture of the course.

Bibliography/references – Bibliographie/références :

Surveys:

Barber, B. M. and Odean, T. (2013), "The behavior of individual investors", in *Handbook of the Economics of Finance*, Elsevier, pp. 1533-1570
Beshears, J. and Choi, J.J. and Laibson, D. and Madrian, B.C. (2018), Behavioral Household Finance. NBER Working Paper No. w24854
Barberis, Nicholas (2018). "Psychology-based models of asset prices and trading volume." Handbook of Behavioral Economics: Applications and Foundations 1. Vol. 1. North-Holland. 79-175.
Campbell, J. Y. (2006), "Household Finance", *Journal of Finance,* 61(4): 1553-1604.

Papers (PRELIMINARY):

Part 1

Barberis, N. C., Jin, L. J., & Wang, B. (2021). "Prospect theory and stock market anomalies" *Journal of Finance*, 76(5): 2639-2687.
Bianchi, M. and Tallon, J.-M. (2019), "Ambiguity Preferences and Portfolio Choices: Evidence from the Field", *Management Science,* 65(4): 1486-1501.
Bianchi, Milo and Wang, Gang and Liu, Zhengkai, (2022) Are We Becoming Greener? Life-time Experiences and Responsible Investment. Available at SSRN: https://ssrn.com/abstract=4003445
Epstein, Larry G., and Martin Schneider (2010) "Ambiguity and asset markets." *Annual Review of Financial Economics*: 315-346.
Kahneman D and Tversky A. (1979) "Prospect theory: an analysis of decision under risk" *Econometrica* 47: 263-291.
Malmendier, Ulrike. (2021) "Experience effects in finance: Foundations, applications, and future directions." *Review of Finance* 25.5 1339-1363.
Odean T. "Are investors reluctant to realize their losses?" (1998) *Journal of Finance*, 53: 1775-1798.

Part 2

Agrawal, Ajay K., Joshua Gans, and Avi Goldfarb (2025). "The Economics of Bicycles for the Mind." *NBER Working Paper* w34034.
Aldasoro, I., Gambacorta, L., Korinek, A., Shreeti, V., & Stein, M. (2025), "Intelligent financial system: How AI is transforming finance" *Journal of Financial Stability*, 81, 101472.
Bianchi, F., et al. (2025) "The Prestakes of Stock Market Investing." *NBER Working Paper* w34420.
Bianchi, M., & Briere, M. (2024). "Human-Robot Interactions in Investment Decisions". *Management Science (forthcoming)*.

Bianchi, M. and Brière, M. (2025), “Can Robot-Advising Reduce Inequalities?”, *mimeo*
Bianchi, M. and Brière, M. (2022), "Robo-Advising: Less AI and More XAI?" in *Machine Learning and Data Science in Financial Markets,* Cambridge University Press.
Buchanan, B. (2019), 'Artificial intelligence in finance',
Available at http://doi.org/10.5281/zenodo.2612537.
D’Acunto, F. Prabhala, N. and Rossi, A. (2019), “The Promises and Pitfalls of Robo-advising” - *Review of Financial Studies*, 32(5), 1983-2020.
Berg, T., Burg, V., Gombović, A., & Puri, M. (2020) “On the rise of FinTechs–Credit scoring using digital footprints” *Review of Financial Studies,* 33(7), 2845-2897.
Fu, R., Aseri, M., Singh, P. V., & Srinivasan, K. (2022). “Un” fair machine learning algorithms. *Management Science*, *68*(6), 4173-4195.
Ide, E., & Talamas, E. (2025). Artificial intelligence in the knowledge economy. *Journal of Political Economy (forthcoming)*.
Inderst, Roman, and Marco Ottaviani. "Financial advice." *Journal of Economic Literature* 50, no. 2 (2012): 494-512.
Jordan, M. I. (2019), 'Dr. AI or: How I learned to stop worrying and love economics', *Harvard Data Science Review* 1(1).
Lopez-Lira, A., & Tang, Y. (2023). Can ChatGPT forecast stock price movements? Return predictability and large language models. *arXiv preprint arXiv:2304.07619*.
Ludwig, J., Mullainathan, S., Pink, S. L., & Rambanchan, A. (2025). Algorithms as A Vehicle to Reflective Equilibrium: Behavioral Economics 2.0. *NBER Chapters*.
Mo, H., & Ouyang, S. (2025). (Generative) AI in Financial Economics. *Journal of Chinese Economic and Business Studies*, 1-79.
Mullainathan, Sendhil. "Economics in the Age of Algorithms." (2025) *AEA Papers and Proceedings*. Vol. 115. American Economic Association.
Morewedge, C. K., Mullainathan, S., Naushan, H. F., Sunstein, C. R., Kleinberg, J., Raghavan, M., & Ludwig, J. O. (2023). Human bias in algorithm design. *Nature Human Behaviour*, *7*(11), 1822-1824.
Narayanan, Arvind, and Sayash Kapoor (2025). "AI as normal technology." *Knight First Amendment. Institute, Columbia University*.

Session planning – Planification des séances

Sessions will be divided roughly in half between Part 1 on non-standard preferences and beliefs and Part 2 on AI in finance. This plan may be adapted based on time constraints or students’ interest.

Distance learning – *Enseignement à distance:*

Lectures and presentations are in person.