

University Paris Panthéon-Assas

Applied Game Theory

The theory of costly signaling: applications in economics

Spring term 2025

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Lecture (cours magistral)

Thursday, 9-11h50, Salle 42, Centre Desgoffe – first 6 weeks of the term

Content: *In this course, we investigate games of incomplete information and apply them to the study of costly signaling and strategic information transmission.*

Evaluation of this course is based on your paper. Instructions: website -> "Your final paper":

<https://signaling.u-paris2.fr/Pawlowitsch/2024-Applied-Game-Theory-your-essay.pdf>

Session 1. Review: the basics of game theory

Session 2. Sequential Bayesian Nash equilibrium

Session 3. Costly signaling games

Session 4. Application: advertising

Session 5. Application: dividend payments

Session 6. Application: blockholders in firms

Problem-set sessions (travaux dirigés)

Friday, 9h20-10h50, Salle 41, Centre Desgoffe, weeks 2 – 6 of the term

Evaluation of the problem-set session is based on your preparation and presentation of problem sets as well as on your participation in class. Problems have to be worked out in written form and handed in at the beginning of the session for which they are due.

References

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- Cho, I-K. and D. M. Kreps. 1987. "Signaling games and stable equilibria." *The Quarterly Journal of Economics* 102 (2): 179–221.
- Hofbauer, J., Pawlowitsch, C. 2024. "The evolutionary dynamics of costly signaling." Forthcoming in *The International Journal of Game Theory*.
- Kreps, D. M., Sobel, J. 1994. "Signalling." In *Handbook of Game Theory*, Vol. 2, edited by R. J. Aumann and S. Hart, 849–867. Amsterdam/New York: Elsevier.
- Kreps, D. M., Wilson, R. 1982. "Sequential equilibria." *Econometrica* 50 (4): 863–894.
- Milgrom P., Roberts, J. 1986. "Price and advertising signals of product quality." *The Journal of Political Economy* 94(4): 796–821.
- Miller, M. H., Rock, K. 1985. "Dividend policy under asymmetric information." *The Journal of Finance* XL (4), 1031–1051.
- Sobel, J. 2009. "Signaling Games." In *Encyclopedia of Complexity and System Science*, edited by R. Meyers, 8125–8139. New York: Springer.
- Spence, M. 1973. "Job market signaling." *The Quarterly Journal of Economics* 87 (3): 355–374.
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