

# Topics in Asset Pricing

Lars Peter Hansen

TA: Filippo Cavaleri

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What follows is the list of topics and related readings for the first nine lectures of the class. Some of the lectures will be supplemented with material in Jupyter notebooks including access to computer codes for some of the homework exercises. Several of the “Hansen” papers are close to being surveys and contain further important references.

1. Term structure of uncertainty and pricing (1.5 lectures)

- (a) martingales and stochastic discounting
- (b) shock elasticities and impulse response functions

References: Hansen (2012), Borovička et al. (2014), Borovička and Hansen (2016), Hansen (2021)

2. Recursive preferences under uncertainty (2 lectures)

- (a) recursive utility and misspecification aversion
- (b) ambiguity aversion
- (c) asset pricing illustrations

References: Campbell and Vuolteenaho (2004), Epstein and Zin (1991), Duffie and Epstein (1992), Hansen and Sargent (2001), Chen and Epstein (2002), Collin-Dufresne et al. (2016), Hansen and Miao (2018), Hansen and Sargent (2019), Hansen and Sargent (2021), Hansen and Sargent (2022)

3. Asset pricing and production economies (4 lectures)

- (a) single capital stock economies
- (b) two capital stock economies with costly reallocation
- (c) two consumer types with financial market restrictions

References: Hansen et al. (1999), Basak and Cuoco (1998), Hansen et al. (2008), He and Krishnamurthy (2013), Brunnermeier and Sannikov (2014), Eberly and Wang (2012)

4. Assessing asset pricing models in the presence of misspecification (1.5 lectures)

References: Hansen et al. (1995), Hansen and Jagannathan (1997), Chen et al. (2021)

## References

- Basak, Suleyman and Domenico Cuoco. 1998. An equilibrium model with restricted stock market participation. *Review of Financial Studies* 11:309–341.
- Borovička, Jaroslav and Lars Peter Hansen. 2016. Term Structure of Uncertainty in the Macroeconomy. In *Handbook of Macroeconomics*, vol. 2, edited by John Taylor and Harald Uhlig, chap. 20, 1641–1696. Elsevier.
- Borovička, Jaroslav, Lars Peter Hansen, and José A. Scheinkman. 2014. Shock Elasticities and Impulse Responses. *Mathematics and Financial Economics* 8 (4):333–354.
- Brunnermeier, Markus K and Yuliy Sannikov. 2014. A Macroeconomic Model with a Financial Sector. *American Economic Review* 104:379–421.
- Campbell, John Y. and Tuomo Vuolteenaho. 2004. Bad Beta, Good Beta. *American Economic Review* 94:1249–1275.
- Chen, Xiaohong, Lars Peter Hansen, and Peter G. Hansen. 2021. Robust identification of investor beliefs. *Proceedings of the National Academy of Sciences of the United States of America* 117.
- Chen, Zengjing and Larry Epstein. 2002. Ambiguity, Risk, and Asset Returns in Continuous Time. *Econometrica* 70:1403–1443.
- Collin-Dufresne, Pierre, Michael Johannes, and Lars A. Lochstoer. 2016. Parameter Learning in General Equilibrium: The Asset Pricing Implications. *American Economic Review* 106:664–698.
- Duffie, D and L G Epstein. 1992. Stochastic Differential Utility. *Econometrica* 60:353–394.
- Eberly, Janice C and Neng Wang. 2012. Reallocating and Pricing Illiquid Capital: Two Productive Trees. SSRN Electronic Journal.
- Epstein, Larry G. and Stanley E. Zin. 1991. Substitution, Risk Aversion, and the Temporal Behavior of Consumption and Asset Returns: An Empirical Analysis. *Journal of Political Economy* 99:263–286.

- Hansen, Lars Peter. 2012. Dynamic Valuation Decomposition within Stochastic Economies. *Econometrica* 911-967 (3). Fisher-Schultz Lecture at the European Meetings of the Econometric Society.
- . 2021. Uncertainty Spillovers for Markets and Policy. *Annual Review of Economics* 13:371–396.
- Hansen, Lars Peter and Ravi Jagannathan. 1997. Assessing specification errors in stochastic discount factor models. *Journal of Finance* 52:557–590.
- Hansen, Lars Peter and Jianjun Miao. 2018. Aversion to ambiguity and model misspecification in dynamic stochastic environments. *Proceedings of the National Academy of Sciences* 115:9163–9168.
- Hansen, Lars Peter and Thomas J. Sargent. 2001. Robust Control and Model Uncertainty. *The American Economic Review* 91:60–66.
- . 2019. Acknowledging and Pricing Macroeconomic Uncertainties. *VOXEU* .
- . 2021. Macroeconomic Uncertainty Prices when Beliefs are Tenuous. *Journal of Econometrics* 223 (1):222–250.
- . 2022. Risk, Ambiguity, and Misspecification: Decision Theory, Robust Control, and Statistics. SSRN Electronic Journal.
- Hansen, Lars Peter, John Heaton, and Erzo G. Z. Luttmer. 1995. Econometric Evaluation of Asset Pricing Models. *Review of Financial Studies* 8:237–274.
- Hansen, Lars Peter, Thomas J. Sargent, and Thomas D. Tallarini. 1999. Robust Permanent Income and Pricing. *Review of Economic Studies* 66:873–907.
- Hansen, Lars Peter, John C. Heaton, and Nan Li. 2008. Consumption Strikes Back? Measuring Long-Run Risk. *Journal of Political Economy* 116:260–302.
- He, Z and A Krishnamurthy. 2013. Intermediary Asset Pricing. *American Economic Review* 103:732–770.