Toulouse School of Economics

Ambiguity, learning and asset returns

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Main achievements

Theory pioneers Dynamic asset pricing with ambiguous dividends and KMM agents.

Numerical pioneers Analytical solutions. Joint calibration of degrees of risk- and ambiguity aversion.

They find that

- Ambiguity aversion is not "just another source of risk-averting investor behavior".
- The KMM framework is rich enough to simulatneously generate real world puzzles.

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- Log-utility calibration yields relatively low level of AAA + It has a clear effect on the equity premium.
- Power-power specification requires extreme ambiguity aversion + It does not have a clear effect on the equity premium (Discontinuity in CRAA parameter).

Why?

- The high growth regimes become the less desirable ones.
- The pessimistic average puts excessive weight on them.

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- Levels of expected utility are bounded from above by 0 if $\gamma > 1$.
- Ambiguity seeking behavior. Hence optimistic weighting. Cannot explain EPP.

Verify

- Pricing kernel

$$M_{t+1,z} = a(\phi, V_{t+1}) \frac{\phi'(E_\pi[V_{t+1}(C)]}{E_\mu[\phi'(E_\pi[V_{t+1}(C)])]} \frac{\beta u'(C_{t+1})}{u'(C_t)}$$

with

$$a(\phi, V_{t+1}) = \frac{E_\mu[\phi'(E_\pi[V_{t+1}(C)]]}{\phi'(\phi^{-1}(E_\mu[\phi(E_\pi[V_{t+1}(C)])]))}$$

- If ϕ exhibits nonincreasing absolute ambiguity aversion, then ambiguity aversion increases the share of the riskless asset if V_t and $-u'$ "agree" on a ranking of states.