

Horizon Dependent Risk Aversion and the Timing and Pricing of Uncertainty

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March 19, 2017

Motivation

- Standard long-run risk model captures many asset pricing features.
- However, fails to match a few. This paper focuses on two:
 - That agents care about when their risk is resolved.
 - Term-structure of risk premia is downward sloping.

Modeling Innovation

- Makes risk preference horizon dependent.
- Agents are more averse to short term risks (γ_t is downwards sloping)
- Backed up by large empirical literature on risk preferences.

My initial intuition

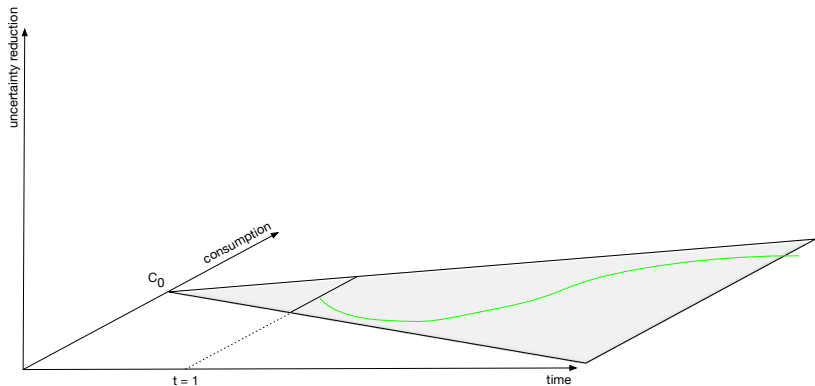
- The more risk-averse you are, the more risk you'd like to get rid of.
- You should want to resolve risk up front even more if initial γ is high.
- Should prefer early resolution even more.

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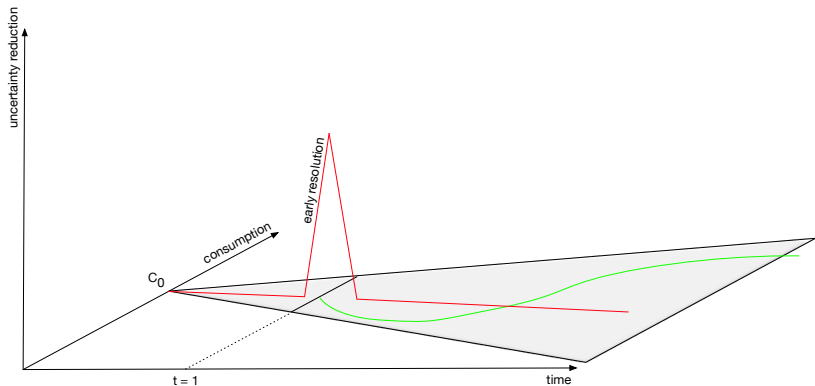
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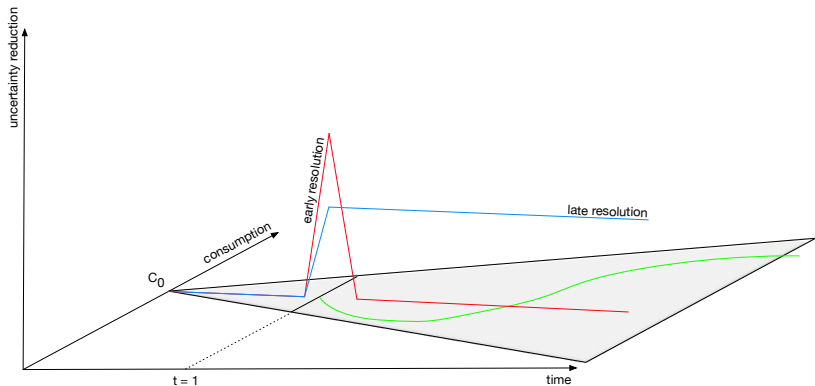
Intuition - Consumption is uncertain



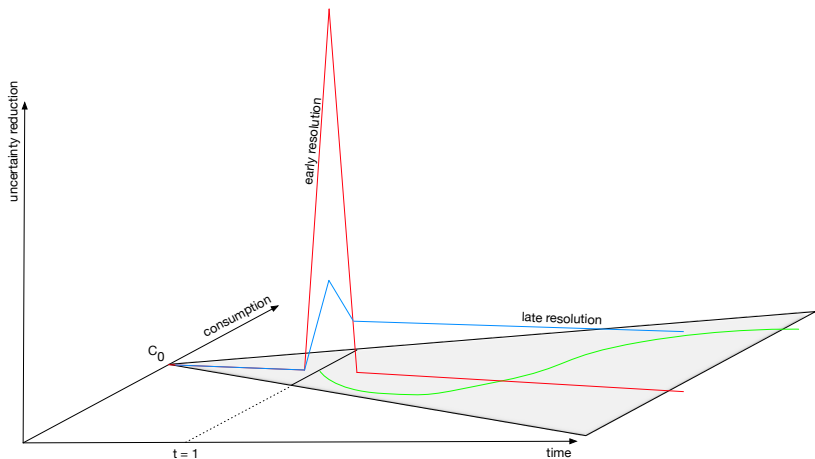
Intuition - Could resolve it at $t = 1$



Intuition - Under constant γ , preferable



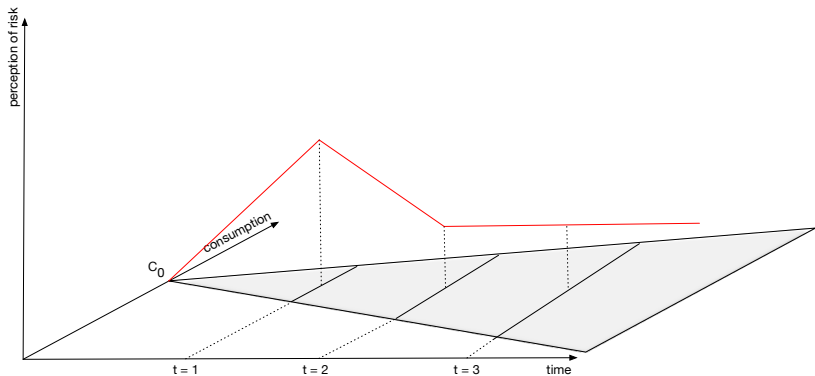
Intuition - But changes with γ_1 !



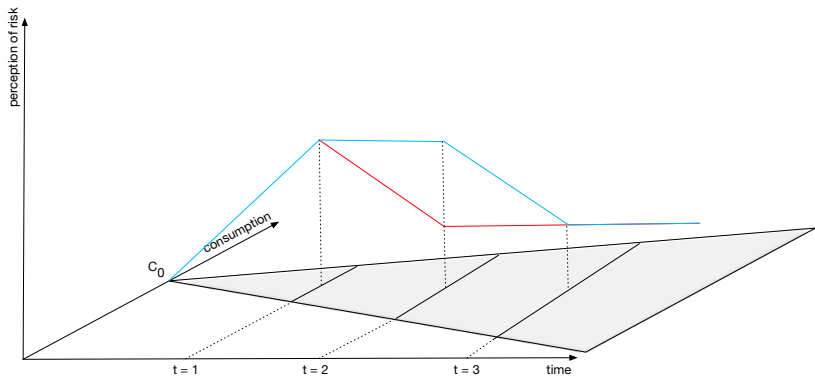
Intuition - Uncertainty Resolution

- γ_1 determines relative desire to play large lottery.
- If $\gamma_1 \gg \gamma_t, \forall t > 1$, rather defer lotteries.
- If not, willing to play lottery upfront.
- Allows modeler to dial-in resolution preferences!

Intuition - Perception of Risk



Intuition - Disagreement about $t = 2$, not $t = 1$



Intuition - Term Premia

- SDF contains disagreement about how risk is perceived at time 2.
- Self t thinks continuation value is higher than self $t + 1$.
- Assets that pay off in states where disagreement is large have high values.
- Downward sloping term premia reflect:
 - Downward sloping risk aversions.
 - Time-inconsistent risk preferences and stochastic risk.

Stuff I Like

- Cool modeling innovation.
- Unexpected prediction about risk resolution.
- Intuitive channels for term premia.

Comment 1 - How big of a problem is early resolution?

- Ahlbrecht and Weber (1996): gradual resolution supported.
- Brown and Kim (2013): agents prefer early resolution.
- Dillenberger (2010): agents prefer one-shot resolution.
- EFS discuss anxiety or unmodeled planning.

Comment 2 - Agent Sophistication

- Varying risk-aversions seem highly plausible
- Is awareness of dynamic inconsistencies?
- Strotz (1956) says if behavior is time-inconsistent:
 - Agents could not internalize at all.
 - Agents could precommit.
 - Agents could *consistently plan*.
- Literature started by Andreoni and Sprenger (2012) that could be brought to bear on this.

Comment 3 - Parameter Learning

- Collin-Dufresne, Johannes, and Lochstoer (2016)
- Bayesian learning of parameters means posteriors are martingales.
- → parameter beliefs form subjective long-run risks.
- If agents prefer early resolution, parameter learning is a priced risk.

Minor Points w.r.t. EFS

- “In addition, Barro (2009) points out that EIS below 1 leads to the counterfactual prediction that an increase in economic uncertainty would lead to an increase in price dividend ratios.” - EFS
- Uncertainty and gradual resolution not defined.
- Some calibrations have $\gamma = 12$, but EFS say that's too high.
- Need $\tilde{\gamma} \approx 1$ to get traction in the term premia.

Conclusion

- Interesting and intuitive modeling innovation.
- Results have distance from assumptions!