Discussion

Divergent Risk-Attitudes and Endogenous Collateral Constraints

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CEPR ESSIM May 2017

Summary

- **This paper**: A model of leverage and asset price determination

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- Two key ingredients
  1. Reference dependent preferences in consumption
  2. Collateral constraint

Outline

1. Model
2. Preferences
3. Comments on framework
4. Comments on quantitative analysis
5. Thoughts

Environment: Lenders

- Lenders

$$\max_{C_t^l, B_t^l} \mathbb{E}_0 \sum_{t=0}^{\infty} \beta^t U^l \left(C_t^l, X_t \right)$$

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  - When calibrated: $U^l \left(C_t^l, X_t \right) = U^l \left(C_t^l \right)$
    - Lenders are standard

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- **Assumption**: borrowers are impatient, $\rho < \beta$

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- $\Lambda > 1$ generates a kink at $C_t = X_t$
- Three parameters:
  1. $\gamma \geq 0$ is risk aversion ($\gamma = 3$)
  2. $\lambda \geq 1$ is loss aversion ($\lambda = 2$)
  3. $\theta \in [0, 1]$ is diminished sensitivity to gains/losses

Gain/Loss function

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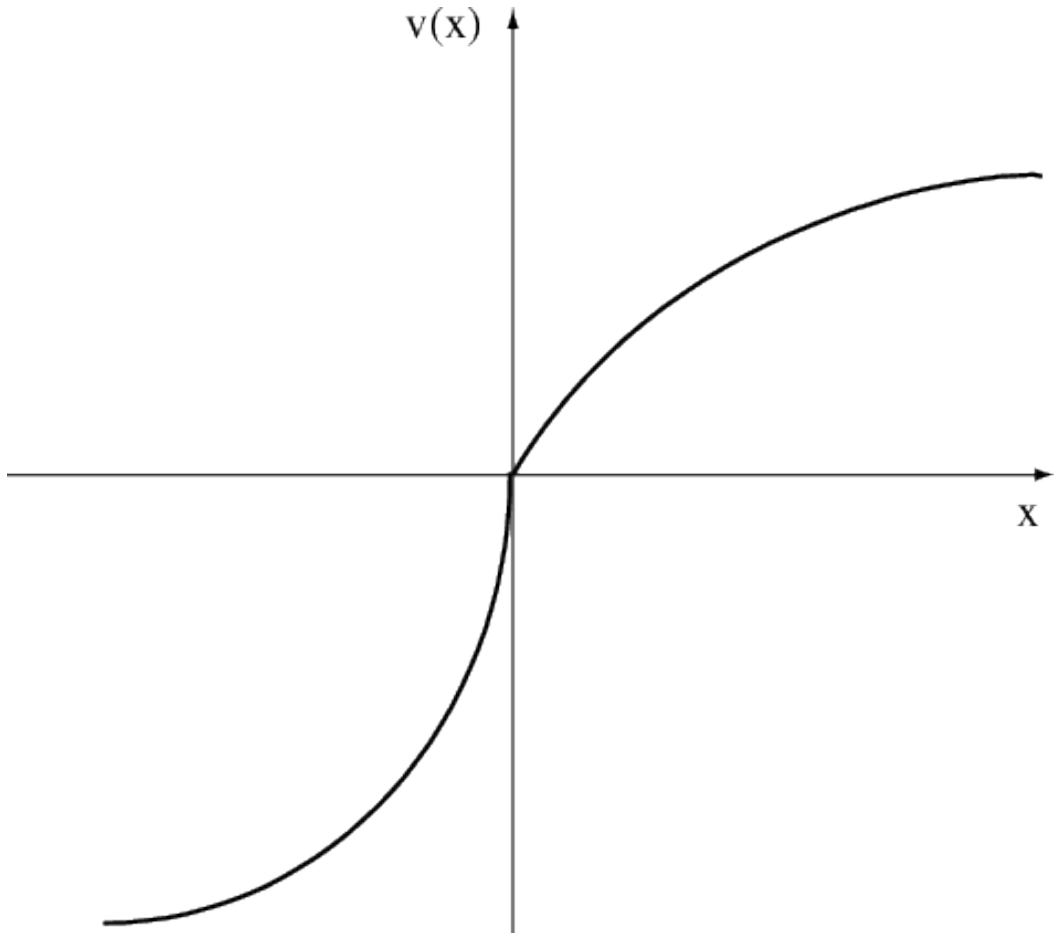

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- **Important**: the paper uses *aggregate consumption* as reference point

$$C_t = \nu C_t^l + (1-\nu)\, C_t^b$$

- Some motivation for this choice is needed
  - Using $X_{t+1}^i = bC_t^i$ is perhaps more reasonable (same dimensionality in baseline calibration, more amplification?)

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- Two agent risk-sharing problem with
  - a single non-contingent bond
  - subject to a collateral constraint
  - non-standard preferences

Comments on framework

1. **Why** (agent-specific) **reference dependent utility?**
   - Loss aversion addresses the inability of standard preferences to deal with risk premia for *small* and *large* gambles simultaneously
   - For macro modeling, it seems natural to work with risk aversion
   - Could (agent-specific) risk aversion deliver the same quantitative results?
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2. **Endowment economy:** The model is an endowment economy, so it can only speak to the behavior of credit, and asset prices
   - Endogenous variables: interest rates and credit, (shadow) asset prices from borrowers SDF
   - Endogenous production to think about macroeconomic crises
   - Total output and consumption are unaffected

Impulse Response

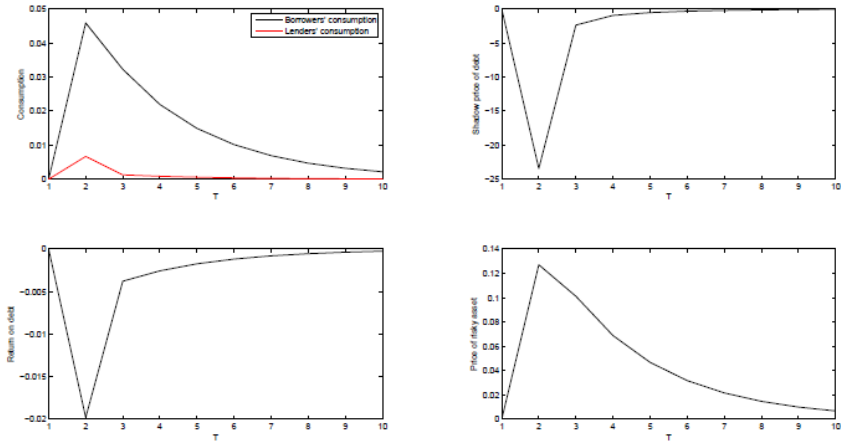

Figure 2: **Impulse responses of selected variables to one time shock to the borrowers' income.**

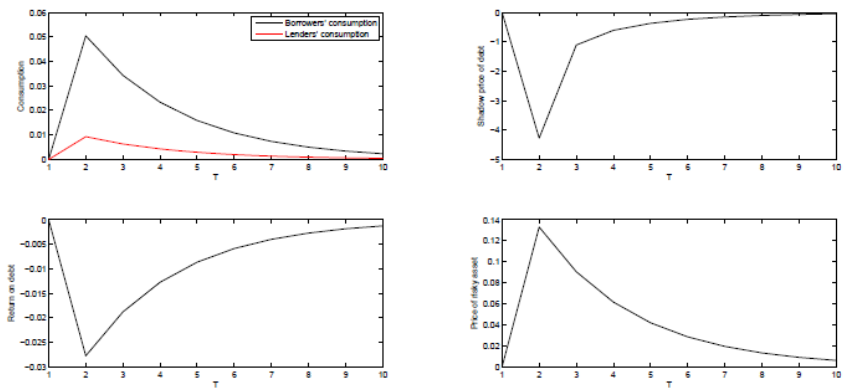

Figure 3: **Impulse responses of selected variables to one time shock to the lenders' income.**

Comments on quantitative results

1. **Impulse responses** could be more informative
   - In a nonlinear model like this one, impulse responses vary with the initial state
   - Surprising that impulse responses for w_t^b and w_t^l are almost identical?
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2. *"For the model to provide a good and realistic laboratory, episodes of de-leveraging, hence crises, shall materialize"*
   - Why is deleveraging important in the model?
   - Are borrowers at any point net savers?
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3. **CRRA benchmark**
   - The ideal comparison would to recalibrate the model with different CRRA coefficients, and then compare with loss-aversion
   - The paper uses equal risk-aversion CRRA as benchmark

Thoughts

1. Normative analysis
   - *"We examine the impact of divergent risk-attitude on the economy inclination toward excessive leverage and risk-taking"*
   - As it is written, normative claims are unclear
   - Both *distributive* (through the interest rate) and *collateral* externalities (through the constraint), using the terminology in Davila Korinek 17
   - Decouple normative and positive implications

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   - Decouple normative and positive implications
2. Language
   - Leverage cycles
   - Deleveraging
   - Endogenous risk
   - Boom-bust cycles

Conclusion

- Interesting idea
  - Study implications of non-standard preferences in a setup with collateral constraints
  - The model can match facts on pricing and leverage for US and UK
- Scope to push the approach further