Comments of “The Hunt for Duration: Not Waving but Drowning?”

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Comments on “The hunt for duration: not waving but drowning?” by Domanski, Shin, and Sushko

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IMF’s Sixteenth Jacques Polack Annual Research Conference
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Introduction

- Really enjoyed reading this paper
- Very interesting, with new insights
- Introduces a new topic
- Leads to much thinking and learning
  - Especially for readers with little knowledge of how financial intermediaries function
  - But for others, too
- Many questions for future work
Paper organization

• Life insurers and pension funds in the euro-area bond market
• Stylized example of duration matching
• Evidence from German insurance sector bond holdings
Main contributions

• Three main aspects covered in the paper
  1. Highlights how incentives in asset-liability managers can affect their demand for long-term bonds
  2. Introduces how duration mismatches can play a role in reaction to interest rates, and generate unexpected/perverse feedback loops
  3. Uses data from insurance companies and other investors in Germany to show evidence consistent with these mechanisms
• Although there is some analytical discussion, main contribution is on the empirical analysis
• Theoretical issues discussed in much more detail in book, Shin (2010)
  • How much new and self-contained material to show in this paper?
• The evidence presented is consistent and seems to support the main points discussed at the beginning of the paper, but more welcomed
Several related questions arise from the paper

- Comments organized in four broad areas, linked to both the analytical and empirical analyses
  1. Incentives for asset-liability managers
  2. Asset-liability managers vs. asset managers
  3. Identification
  4. Other issues related to the empirical analysis
1. Incentives for asset-liability managers

- Asset-liability managers want to immunize their balance sheets
  - Match assets and liabilities in duration (and other attributes)
  - Or, in attempt to keep duration gap roughly constant, match movements in assets and liabilities
  - Prevent deterioration from further shifts in interest rates
- Driven by regulation and/or risk management practices
- Given these incentives, how do portfolio holdings react to interest rate changes?
1. Incentives for asset-liability managers

- Key idea:
  - Non-monotonic, upward sloping demand curve
  - For low yields, demand for bonds increases as yields fall
  - Specifically, fall in long-term rates increases demand for long-term bonds, depressing long-term rates even further
  - Feedback loop
- Duration gap (liability duration > asset duration)
  - Liability convexity exceeds asset convexity
  - Duration gap widens at an increasing rate as interest rates fall
  - The value of liabilities increase more than the value of assets
  - Prompts higher demand for long-term bonds
  - If rates fall too much, insurance companies can become insolvent, and immunization no longer possible
1. Incentives for asset-liability managers

- Feedback loops
  - If asset-liability managers are important and feedback loops arise, what stops them?
  - Do they stop with firm insolvencies or with significantly wider duration gaps and mismatches?
  - Any evidence on this?
  - Is there a role for policy action?

- Regulation and risk management might drive investment practices
  - If regulation is key, any attempts to change it?
  - What are the tradeoffs?
  - If risk management is key, what are the costs of dynamic hedging?
1. Incentives for asset-liability managers

- Do other incentives beyond regulation and risk management play role?
- Asset side
  - What is profitable to do when interest rates drop?
  - Worth waiting until interest rates increase?
  - Are feedback loop, overshooting, and snap-backs taken into account?
  - If so, how?
- Liability side
  - Liabilities can be fixed
  - The increase in liabilities seems due to mark-to-market practices
  - How far is this from optimal behavior?
- More general equilibrium analysis would be welcomed, as authors say
2. Asset-liability managers vs. asset managers

• Differentiation between insurance companies and financial intermediaries very interesting
  • But need to understand how other institutions operate
  • Do so in a more systematic basis
  • How do asset managers differ from asset-liability managers?
  • Are investment funds following immunization practices?
  • How do they compare with banks and households?
  • What drives their behavior?
  • Link between DB pension funds and insurance companies not clear
• Key difference seems to be between
  • (i) asset-liability managers; (ii) asset managers
  • Manifested only partly in this paper’s results
2. Asset-liability managers vs. asset managers

### Average Maturity (years)

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Chilean Insurance Companies</td>
<td>9.77</td>
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<tr>
<td>Chilean Domestic Mutual Funds</td>
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</tr>
<tr>
<td>Chilean PFAs</td>
<td>4.36</td>
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</tbody>
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Source: Opazo et al. (2015)
2. Asset-liability managers vs. asset managers

- Incentives play very different role
- Asset-liability managers
  - Long-term view, though still far away from optimal behavior
- Asset managers
  - Short-term view due to principal-agent problems linked to short-term monitoring by investors, investment companies, and regulators
  - Short-term positions not optimal, but do not have dynamic hedging motive due to immunization (asset-liability matching)
- Tradeoff between asset-liability managers and asset managers
  - Which ones closer to socially optimal portfolios?
  - How to balance stability and risk management vs. long-run returns?
  - Ways to avoid perverse incentives with financial intermediation?
3. Identification

- Evidence interesting and suggestive, but more on identification
  - Even when knowing how difficult this is, and sometimes not essential
- What kick starts the loop?
  - Life-insurance holdings as function of interest rates
  - Interest rates as function of life-insurance holdings
- Evidence based on portfolio allocations, reflecting equilibrium outcome
  - Supply and demand considerations
- More evidence welcomed to identify demand function
  - Use evidence from supply of bonds or stock of debt?
  - Bids in government auctions?
  - Other instruments?
4. Empirical analysis

• Non-linearity
  • Why is positive relation only relevant for long-term bonds?
  • Why not analyzing non-monotonicity in interest rates?

• Holdings
  • Analyze long- vs. short-term holdings more systematically, across instruments
  • Sovereign bonds vs. corporate bonds and other instruments
  • Direct vs. indirect holdings
4. Empirical analysis

• German data
  • Anything unique (good or bad) about them?
  • Nice data, but limited
  • Would be useful to extend time span, and perhaps frequency
  • Is the paper using all available data?

• Smaller points
  • How well is the duration of liabilities measured?
  • Any evidence of investors with matched assets and liabilities?
To conclude

• Learned a lot from the paper
• Recommend reading it
• Overall, suggestive evidence
• Look forward to much more work in this area
  • Both on the theoretical and empirical fronts