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Liquidity Premiums
Update from Working Party

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Agenda

- Background
- Terms of Reference
- Status Update
- Defining the Liquidity Premium
- The Puzzle
- Methods of Assessment
- Issues
- Implications
- Discussion
- Next Steps

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Background

- Liquidity Premium-additional spread over reference yield curve to determine MP
- Arguably a long held key assumption of UK insurers business model
- Supporting insurers as providers of long term funding ...
- Generating consumer value in provision of annuities
- Relatively small in stable markets
- Brought into high importance since financial crisis -mid 2007
- Increase in yields –what was due to a) default expectations & b) LP
- Possibly controversial in liability determination - historic debates on MC
- Was critical for life companies to determine LP to support valuation

But now

- We have the experience of crisis to further inform debate
- And there is still a lot at stake given ongoing LTG package discussions

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Terms of Reference

Liquidity premium party looking to bring together research on the liquidity premium

- Provide summary of how life insurance actuaries currently use the liquidity premium for pricing, valuation and risk management
- Identify and discuss several high-level questions:
  - How does the liquidity premium affect the way life offices manage their business?
  - Are there improvements that can be made to current practices?
  - Are the Solvency II LTG proposals appropriate?
  - What can we learn from other sectors?

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Status Update

- Not going to answer all questions today!
- Progress so far:
  - Working party responded to Groupe Consultatif note on market-consistent valuation
  - Continuing to review literature and discuss research
  - Working towards a sessional paper in 2014

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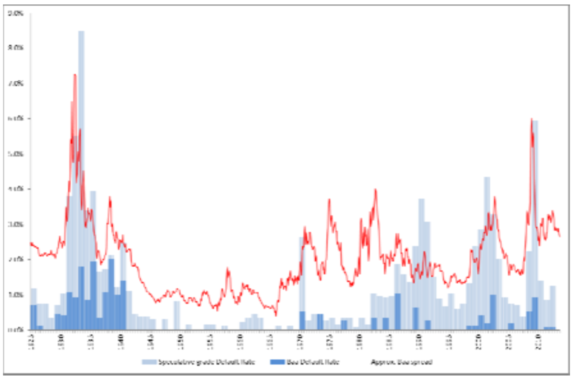
The Puzzle

- Credit spreads have been volatile
- Credit spreads have consistently been much higher than historic defaults
- Investors demand very high rewards against the risk of default; or
- Liquidity premium rewards are substantial; or
- Defaults have been very low; or
- Something else!



Data source:
St. Louis Fed
[assumes long-dated treasuries have same duration as long-dated Baa corporates];
Rating agency statistics

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What is the Liquidity Premium?

- Illiquid assets tend to trade at lower prices, giving rise to a higher yield:
  - Lack of market makes valuation difficult
  - Investors selling quickly may have to accept a lower price, so have higher liquidity risk
  - Can have higher transaction costs
- Suggests that a component of returns over “risk-free” are due to liquidity risks, rather than credit risks

Yield =
Risk-free + Expected Defaults + Compensation for defaults + Liquidity premium

- An investor who has a known time horizon and can match liabilities can be reasonably certain of earning an illiquidity premium.
- **…but the liquidity premium isn’t directly observable.**

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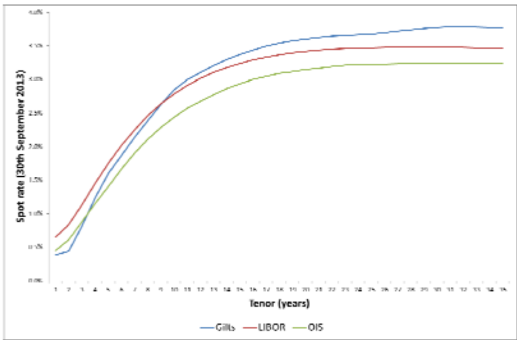
Risk-free rates

- Any method that relies on measuring liquidity premiums as a “residual” will mean the risk-free rate has to be measured.
- …but many different practices over what the “risk-free” rate is
- Credit adjustments make this more complex



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Potential methods of assessment (1)

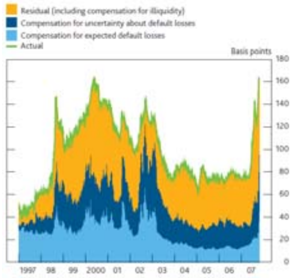
- **Merton model**

  Approach used for Bank of England paper (shown right)

  Uses a Black-Scholes type model to derive default premiums on a bond would be in the absence of liquidity premiums.

  Liquidity premium is then the residual difference between spreads, expected default.

  Issues:
  - Can be calibrated in different ways
  - Requires equity options to be quoted



Webber & Churm, Bank of England

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Potential methods of assessment (2)

- **CDS negative spreads**
  Under the assumption that CDSs are liquid, a liquidity premium would be the difference between corporate bond spreads and CDS spreads.

  Issues:
  - Are CDSs really liquid?
  - Basis risk
  - Calibration

- **Covered Bonds**
  Covered bonds have very high security and secured on high quality mortgage portfolios. They're highly regulated, with zero defaults to date.

  Could a measure of the liquidity premium be based on covered bond spreads?
  Issues:
  - Really no default risk?

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Liquidity premiums in liabilities

- Consensus that the liquidity premium should only be applied to liabilities with highly predictable cashflows and no options for policyholders to surrender?
- Discounting liabilities using a liquidity premium:
  - Because it's possible to earn a liquidity premium on the assets backing liabilities?
    - Implies liquidity premium should be based on the backing assets
    - Matching adjustment would be consistent with this
  - Or because the liabilities themselves are illiquid?
    - Implies assets backing the liabilities will not impact liability discount rate
    - Volatility balancer consistent with this
- Are liquidity premium estimates too subjective?
- Should the discount rate be:
  - Risk-free + liquidity premium;or
  - Asset yield – default margin?
- Also impacts on capital calculations

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Issues

- Term structure of the premium
  - Does the liquidity premium vary by term? How would one measure this?
- Alternative asset classes
  - How would the liquidity premium on, say, equity release be measured?
- Which assets to reference
  - actual backing assets or typical assets in the market?
- Liabilities
  - should consider the predictability of the liabilities (irrespective of backing assets)
- Difficulty in estimation – implications of volatility

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Implications

- Impacts all areas – pricing, reserving, ALM, and so on
- Regulation and accounting:
  - Solvency II
  - IFRS Phase II
- How will liquidity premium calculations affect insurer behaviour?
  - What will insurers invest in?
  - Will this impact the provision of infrastructure and other long-term financing?
- Not entirely clear it's possible to come up with an objective answer. Is this all too subjective?

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Discussion & questions

- Scope of Application of LP –annuities only ?
- Application & treatment in pricing versus reserving
- Consistency across UK companies – disclosures clarity or confusion
- Approaches to Stressing the Liquidity Premium
- Liquidity Premiums & Sovereign Bond Risk

- Any issues to highlight to the working party ?

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