

# Discussion: Intermediary Balance Sheets and the Treasury Yield Curve

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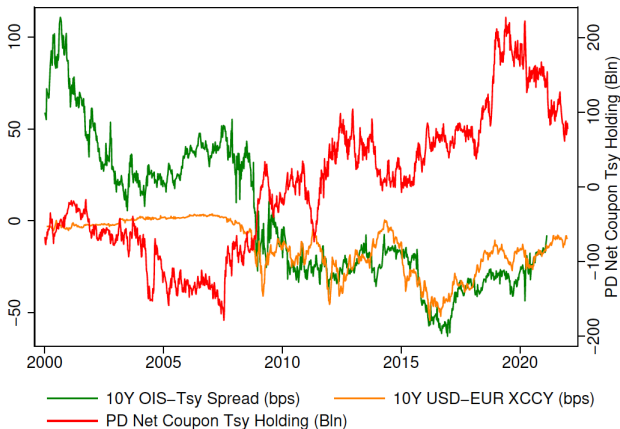
The University of Hong Kong

June 4, 2023

FIRS Annual Conference, Vancouver

# Motivation

Figure 1: Primary Dealer Treasury Holdings, Swap Spreads, and Cross-Currency Basis.



- A framework to make sense of the 3 observations?

- 1 Demonstrate that yield curve depends on primary dealer position

$$y^l = i^l + r^{cip}, y^s = i^s - r^{cip}$$

- When dealers long (short), negative (positive) swap spread
- Swap spread comoves with CIP deviation under the long regime
- Construct long and short yield curves as arbitragy bounds

# This Paper

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- When dealers long (short), negative (positive) swap spread
  - Swap spread comoves with CIP deviation under the long regime
  - Construct long and short yield curves as arbitrage bounds
- 2 Identify Treasury supply as the regime change driver
  - 3 Policy effect depends on regimes

## Yield Curve Estimation: Net Long/Short Curve

- Net long curve

$$\exp(-ny_{n,t}^l + x_{1,t}) = E_t^Q \left[ \exp(-(n-1)y_{n-1,t+1}^l) \right]$$

where  $x_{1,t} = i_t^l + r_t^{cip}$

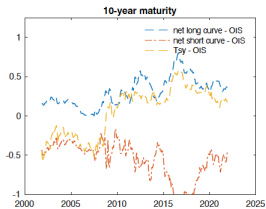
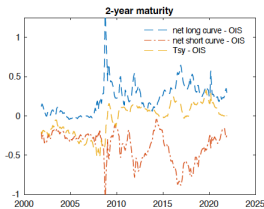
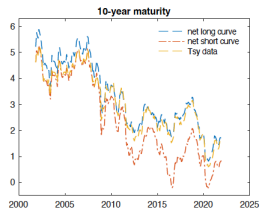
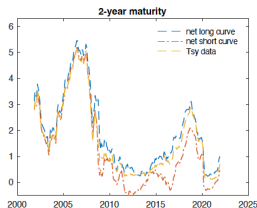
- Net short curve

$$\exp(-ny_{n,t}^s + x_{2,t}) = E_t^Q \left[ \exp(-(n-1)y_{n-1,t+1}^l) \right]$$

where  $x_{2,t} = i_t^s - r_t^{cip}$

- $x_{1,t}$  and  $x_{2,t}$  are affine functions of risk factors

# Yield Curve: Estimation and Data



## Overall Assessment

- A great rich paper with many contributions
  - Balance sheet cost (CIP), dealer position and Treasury yield curve
  - Construct net long/short yield curve
  - Explanation of negative swap spread
  - Supply-demand factors and implications for policy

## Comment #1: Exogenous Treasury Yield or Swap Rate?

- This paper takes the view that swap rate is priced by the SDF
  - Entering a swap does not take up as much balance sheet capacity
- Alternative: bond prices are exogenous and the frictions investors face determine swap rate (Jermann, 2020)
- Helpful to discuss the plausibility of assuming exogenous swap rate



## Comment #2: Convenience Yield

- This paper: holding Treasuries should compensate for balance sheet cost, but Treasuries have no additional convenience value

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- This paper: holding Treasuries should compensate for balance sheet cost, but Treasuries have no additional convenience value
  - A large literature on the convenience yield of Treasuries (Krishnamurthy and Vissing-Jorgensen, 2012; Jiang, Lustig and Krishnamurthy, 2021)
  - Easy to accommodate in the framework (incorporate into  $x_{1,t}, x_{2,t}$ ), but how to operationalize in estimation might be tricky
  - Helpful to discuss how to think about convenience yield

## Comment #3: The Role of Risk Premia

- How important is the risk of the future balance sheet cost fluctuations and its risk premium?

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- How important is the risk of the future balance sheet cost fluctuations and its risk premium?
- Construct a “naive” version of yield curve: estimate the swap curve and add  $x_{1,t}$  and  $x_{2,t}$  to construct a “pseudo” curve (no risk premium)
- Compare the current net long/short curve and the “pseudo” curve to quantify the risk premium associated with future balance sheet cost

## Comment #4: The Risk of Regime Switch

- Long (short) rates are derived assuming the same regime lasts forever
- May be informative to extend to a model with regime shifts
  - Bansal and Zhou (2002); Bikbov and Chernov (2013), etc
  - How much yield dynamics are due to the risk of changing regime?

## Conclusion

- A great paper, very rich, with contributions on many dimensions
- Suggestion #1: justify a bit more of the view that the authors take (in comparison to the literature)
  - Exogenous swap rate, friction determines Treasury yield?
  - Convenience yield
- Suggestion #2: a bit more extension in analysis
  - Quantify the risk premia associated with balance sheet fluctuations
  - Analyze the effect of regime switch risks