Discussion of:

Noise as Information for Illiquidity

by

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1. This Paper

- Compute dispersion of Treasury yields around a fitted curve.

- Relate this term-structure "noise" to illiquidity:

  – Correlation with other illiquidity measures.

    E.g., on-the-run spread, Pastor-Stambaugh, Refcorp spread.

  – Correlation with hedge-fund and currency carry-trade returns.

Main Results

- Noise correlates positively with the other illiquidity measures.

- Noise seems to correlate more, relative to the other measures, with episodes of market stress.

- Noise correlates negatively with hedge-fund and currency carry-trade returns.

- Exposure to noise helps explain hedge-fund returns.

Interpretation

- Noise is related to amount of arbitrage capital.

- When arbitrageurs have less capital,

    – Treasury yields are less closely tied together.

    – Market liquidity is low.

    – Hedge-fund returns are low.

2. Comments

- Advantages of HPW measure.

- Possible improvements to HPW measure.

- Causality channels.

3. Advantages of HPW Measure

- Easier to detect mispricings in the Treasury market than in other markets.

- Episodes of stress in the Treasury market are likely to be associated with stress in other markets.

Connections with Theory

- Vayanos-Vila (2009): Term-structure model with preferred-habitat investors and arbitrageurs.

- In equilibrium, yields are affine functions of risk factors.

- When arbitrageur risk aversion is low, term structure is mainly driven by few fundamental factors.

- When arbitrageur risk aversion is high, factors related to investor demand become important $\Rightarrow$ HPW noise increases.

4. Possible Improvements to HPW Measure

- One source of price discrepancies is shorting costs.

  – For example, shorting costs are linked to on-the-run spreads. (e.g., Duffie (1996), Krishnamurthy (2002), Vayanos-Weill (2008), Banerjee-Graveline (2011))

- Price discrepancies associated with shorting costs can fail to

  – Yield attractive returns.

  – Be associated with times of high illiquidity.

Possible Improvements (cont'd)

- To eliminate shorting costs, could use swap rates.

- Other ideas:

  - Give more weight to discrepancies between closeby maturities.

  - Consider also bonds with maturities longer than 10 years (adjusting for time-variation in their number).

5. Causality Channels

- Two possibilities:

  (1) Shocks to noise affect arbitrageur capital, and capital feeds back into noise.

  (2) Other shocks affect arbitrageur capital, and capital affects noise.

- Hedge-fund evidence suggests that noise captures global illiquidity $\Rightarrow$ Supports (2).

Causality Channels (cont'd)

- If (2) is true, then

  - Can hedge-fund returns measure illiquidity better than noise does?

  - Are there other measures of an aggregate of the other shocks?