Limits to arbitrage: Empirical evidence from euro area sovereign bond markets

Discussion by

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Objectives

• Document the basis between US and EUR-denominated bonds for some Euro – area countries

• Explain the pricing anomalies:
  – ECB Haircuts
  – ECB liquidity facility
  – SMP
  – => monetary funding premium
Data and methodology

- Bloomberg bond prices
- ECB proprietary data
- Data Explorer
- Datastream

- Panel estimation and event study approach
Results

• The basis is quite large

• The price anomaly is:
  – due to the different haircuts
  – related to:
    • EUR-denominated bond pledge in exchange for liquidity
      – when the CDS is high
      – when LTRO has been implemented
    • SMP/ECB purchase of EUR-denominated bonds
Comments

• Very nice and interesting paper!

• It is addressing a challenging and difficult topic!

• .....advantages of proprietary data from ECB
Comments

• What is the ECB funding premium?

• What are the hypothesis that you need to make
  – in order to have a funding premium
  – so that arbitrageurs are not eliminating it?
Comments

• What is the economic impact of each drivers:
  – Bond characteristics
  – Risk factors
  – ECB funding premium:
    • Haircut levels
    • LTRO
    • SMP
    • CDS high
Comments

• What is the difference in terms of the persistence of the impact on the basis between:
  • LTRO
  • SMP

– Several works indicate that SMP is having only a short term effect, is it the same on US-EU bond basis?
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<th>Event Study 8 December 2011</th>
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<td>Sov. Collateral to Tot. Sov. Debt&lt;sub&gt;j,t&lt;/sub&gt;</td>
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<td>R²</td>
<td>0.098</td>
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*t* statistics in parentheses

* *p < 0.10, ** *p < 0.05, *** *p < 0.01
Comments

• The pattern of the basis is quite country specific.

• How much the results are country driven?
  – If you perform the same analysis country by country do you have similar results?
Comments

• Limited number of sample bonds (19 different pairs) which meet the principle of comparison.
  – How representative is this sample with respect to the universe of European bonds?
• The amount of outstanding: USD-denominated bond are much smaller than EUR-denominated bonds.
  – This affects yield as well as liquidity.
  – Do you control for this?
Comments

• “we account for the transaction cost based on the bid-ask spread”
  – Is this average Bid-ask spread for the day or at the end of day?
  – How about depth? An arbitrage opportunity is large enough to implement when you observe large, positive basis. Depth of executing side and opposite side might be different quantity.
  – Did you check the level of arbitrage activity by other measures?
The basis is quite different conditional on the way it has been calculated (see appendix B)
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- When calculated with fw contracts is almost zero... if you will include transaction costs it would be zero....

- How do you consider transaction costs for the currency swap?

- Why Spain data stop in January 2012?
Cost of capital between the Euro bond and the syntetic Euro bond is different

cc-swap is very expensive given the impact on the leverage ratio and potentially on the RWA

In terms of funding the volatility related to collateral requirement for the cc swap can be very large and generate large cost of funding (mostly relevant for German banks)

All of this have an impact mostly on the tail risk of the transaction
Comments

• The EU-bond and the US-bond synthetic have different:
  – accounting rules and therefore a different impact on earning volatility
  – client base: not everybody could use cc-swap, and others face operational costs or accounting volatility very high.
To Sum up

• Very interesting paper!

• Enjoy reading it!