Shaking the Capital Markets Tree; Euro Area Capital Market Sensitivity to Stakeholder Activities during the Negative Interest Rate Regime

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Unchartered territory for the Euro Area (EA) Negative Interest Rate Policy (NIRP)

€ ~5,3tn.
Outstanding nominal of all EA securities yielding negative
(60-80% core sov.bonds
20-40% peripheral sov.bonds)

~ 5,500
Securities affected from negative yields (%20-30% total outst.)

Identified outstanding theoretical negative coupons Floating Rate Notes (FRN)

€56bn.

<table>
<thead>
<tr>
<th>Rate</th>
<th>18/02/19</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>3M Euribor</td>
<td>-0,36%</td>
<td>-0,36%</td>
</tr>
<tr>
<td>6M Euribor</td>
<td>-0,23%</td>
<td>-0,23%</td>
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<tr>
<td>Sovereign (GE2&amp;5Y)</td>
<td>-0,16%/-0,07%</td>
<td>-0,16%/-0,07%</td>
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Bond documentation

비판지

지식

자료

시스템

티어

모델

데이터

알고리즘

모형

결과

표현

문자열이 생성된 것입니다.
Has the market turned from Floating to Floored Rate Notes?

Market structure changes

![FRN market structure chart]

- ECB main refinancing rate (rhs)
- 6M implied forward (rhs)
- Yearly av. issuance vol (lhs)

FRN market structure:
Average yearly issuance volumes of floored vs unfloored FRN (lhs/EUR mn)

- 2012: 7,302.00
- 2013: 1,529.00
- 2014: 3,528.23
- 2015: 37,608.58
- 2016: 39,720.00
- 2017: 77,066.54
- 2018: 49,888.71

*until Dec 2018
Stakeholders react

- **30.04.2015** – Entry into NIRP
- **12.05.2014** – ISDA 2014 Collateral Negative Interest Protocol
- **11.08.2015** – Clearing houses publish Guidelines on securities
- **21.03.2015** – Italian Gazette publishes Government determination in Case of Negative Interest Rates

Event study
Research aims

- Assess the presence of a feedback loops between industry, public institutions, and other stakeholders

Diagram:
- Market reactions to legal uncertainty
- Stakeholder/public reactions to legal changes
- Legal domain reactions to market movements
Research aims continued

• To move forward
  • Legal discussion regarding the **meaning of an untested term «N/A»** as the minimum rate of interest in bond documentation
  • Finance discussion regarding **asset pricing in negative yield**, and potentially negative coupon environments
  • Public policy discussion regarding the **effectiveness of Zero Interest Rate Policy (ZIRP) and NIRP** on market tendencies
Research question and Hypothesis

Hypothesis: Yes, markets reacted to attempted clarifications.

Given the uncertainty surrounding the legal impact of negative coupons, did stakeholder attempts to clarify the issue impact the pricing of Eurobond FRNs?
Significance of research

01 Policy effectiveness of NIRP
02 Floating rate interest suitability
03 ‘Legal intelligence’ of markets
04 Capacity of markets to adapt
Literature Review

• Impact of litigation and boilerplate terms found by Bradley et. al. (2010) and Ahmed & Alfaro (2017) – but focus is on Collective Action Clauses (CAC) and extent titillates

• Change in legal documentation generally slow, with significant inertia costs, as found by Choi et. al. (2017) and noted by Gelpern, et. al. (2018)

• Unlikeliness of negative coupons discussed mainly in bank research e.g. in Barr et.al. (2016) and financial media in Geddie (2016), Scaggs (2016) and Albanese (2016) but change in structure is not covered

• Impact of market changes mainly focus on quantitative easing in Kirshnamurthy & Vissing Jorgensen (2011) and other areas in Nucera (2017), Xia & Wu(2018), Jobst & Lin (2016)

• Financial scholars on floating rate debt recognize pricing and value impacts from optionality in coupons (Yawitz (1987), Fabozzi (2008)) yet lack a discussion on negative coupons
Empirical strategy

What do we observe?

Hypothesis: Segment 2 reacts on related events idiosyncratic (shown in an out-/underperformance)

How do we observe?

Impact on both segments

Yields increase (prices decrease)

Segment 1: fixed coupon securities

Segment 2: floating coupon securities

Yields decrease (prices increase)

Exogenous event (e.g. rating change)

Intra market event study (e.g. court ruling)

Measure if the floating market out-/underperformed the fixed segment

Outperformance Index (OI)
Results & conclusions

• Empirically, we conclude that
  • FRN market shows price reactions on stakeholder events but with caveats (statistical significance; event study reactions match)
  • The structure of FRN markets was impacted and shows a scattered picture as regards to the treatment of ex-/implicit floors
• Broadly, we conclude that documentation for FRN issuances were adjusted partly to react to the uncertainty.
  • Different than for pari passu the impact seems less significant for markets (the documentation (Final Terms) was not the overarching umbrella document, interpretation of the industry standard...)
  • We identify that market participants pay attention to various stakeholder statements (e.g. clearing houses vs. court rulings)
  • We find that legal documentation in our focus can be changed easily. This is a main difference to the pari passu clause topic.
  • Thus, we investigate this clause in particular, because legal teams can change it quickly. Hence, we can gauge more easily whether they have the intention to change it or not.
Results & conclusions

• Shortcomings and further research
  • Finance
    • Empirical- and econometrical improvements (event samples, bond data...)
    • Deepening of the market structure analysis (currently implied interest rate dependency)
    • Deepening the analysis on pricing impacts (technical details e.g. coupon margins)
  • Law
    • Deepen the legal discussion and holistically analyze the contractual aspects associated with the boilerplate documents
    • Study the variety in legal treatment of bonds, negative interest rates, and related matters among different jurisdictions require individual investigation
Raising questions

• For floating rate debt, however, for various reasons many did not change their N/A to 0%. Why?

• In the case of pari passu, major changes in stipulation were correlated to organized meetings between lawyers of largest stakeholders. Maybe Europe needs the same?

• Finally, laws still follow market realities - form follows function - but as we saw in pari passu case, this may be unhealthy and with big risks.

• Are regulatory measures warranted while negative rates prevail longer than some may have anticipated?
Annex
Data & methodology

Market data (Bloomberg professional)
- Raw data
  - Floating Rate Notes (FRN)
  - Descriptive data
  - Time series data
- Time series data
  - Fixed coupon bonds
  - Interest Rate Swap (IRS)
  - Control variables
- Event data
  - Internet research
  - Industry statements
  - Other (court rulings)

Data consolidation
- Bond Matching
  - Floating Rate Notes (FRN)
  - > €500mn
  - IT used as valid surrogate
  - series data
- Data set computation
  - IRS and Bond data converted into swap spread (SWSPR)
  - FRN data
    - Discount margin (DM)

Empirical Output
- Multiple regression
  - Testing is SWSPR and DM are significant
  - Test of regression path changes on two dummy event dates
- Outperformance Index (OI)
  - DM and SWSPR used to create a simple performance index
FRN market structure analysis:
Monthly Issuance Volumes of floored vs unfloored FRN (lhs/EURmn) vs. ECB main refinancing rate & 6M EUR forward rate (rhs/%)