What Drives Sovereign Risk Premiums? Recent Evidence from the Euro Area

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David Haugh, Patrice Ollivaud & Dave Turner
OECD, Economics Department
Context – it’s not just about euro area

- Contribution to controversy about effect of fiscal imbalances on interest rates. Methodological +vge of looking at differentials within currency union.

- Topical - many countries running large deficits for many years, debt likely to balloon, higher interest could exacerbate fiscal pressures.
What does previous work tell us about fiscal performance and interest rates?

- Simple correlations across OECD countries suggest relationship: spread between long and short-term interest rates is positively correlated with gross government debt ratio.

- Expected, rather than current, fiscal deficits have an effect on long-term bond yields.

- Some evidence of non-linearity.
Previous work on spreads in the euro area

- Debt service ratios explain spreads better than either the debt- or deficit-to-GDP ratio, [Bernoth, Von Hagen & Schuknecht, 2006].

- The effect on spreads is non-linear

- Expected deficits may have a role in explaining spreads

- Liquidity may play a role?
Methodology

• Panel model over the period December 2005 to December 2008 at 6 monthly intervals.

• Dependent variable is the 10 year bond spread versus DEU for 10 euro area countries (AUT, BEL, ESP, FIN, FRA GRC, IRL, ITA, NLD, PRT)
Dependent variable

Spread with German 10 year bond yield

-50 0 50 100 150 200 250 300

GRC IRL PRT IT AUT BEL ESP FIN NLD FRA

Jan 1999- June 2007 average  Jul-07  Aug-08  Dec-08  Mar-09  Jun-09
Explanatory variables

- General risk (corporate bond spread)
- Debt service ratio (GRC vs BEL)
- Gross debt ratio, net debt ratio,
- Expected fiscal balance,
- Fiscal track record
- Illiquidity,
- Expected pension expenditure

- General risk & track record *interacted* with fiscal variables, including *quadratic* terms
- 2SLS used
### Results

<table>
<thead>
<tr>
<th>Term</th>
<th>Coefficient</th>
<th>t statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>1.05</td>
<td>0.69</td>
</tr>
<tr>
<td>Risk(^1)</td>
<td>2.30</td>
<td>9.07</td>
</tr>
<tr>
<td>Risk*expected fiscal balance(^2)</td>
<td>-0.25</td>
<td>-4.47</td>
</tr>
<tr>
<td>Risk*debt service squared(^3)</td>
<td>0.04</td>
<td>11.28</td>
</tr>
<tr>
<td>Risk*illiquidity(^4)</td>
<td>0.03</td>
<td>6.29</td>
</tr>
<tr>
<td>Risk*pension(^5)</td>
<td>0.10</td>
<td>2.75</td>
</tr>
<tr>
<td>Adjusted R(^2)</td>
<td></td>
<td>0.92</td>
</tr>
</tbody>
</table>

1. Yield spread between high yield corporate bonds and government bonds.
2. Average of the OECD forecast for the fiscal balance as a percentage of GDP in the following 5 years.
3. Gross government interest payments divided by current government receipts.
4. One divided by the share of the euro denominated long-term government securities market.
5. Change in pension expenditure as a share of GDP between 2010 and 2050.
Main findings

- General risk is important also in magnifying the effect of other variables, especially fiscal imbalances.

- Debt service ratio preferred to gross or net debt ratio. Evidence of non-linearity: if debt-service ratio is already 2 SD > average incremental effect is doubled.

- Expected fiscal balances matter.

- Some evidence that fiscal track record matters.

- Other variables (illiquidity, expected pension expenditure).
Contributions to Spreads
2007q2, 2008q2, 2008q4, 2009q1

Results

<table>
<thead>
<tr>
<th>Country</th>
<th>Risk</th>
<th>Risk*expected fiscal balance</th>
<th>Risk*debt service squared</th>
<th>Risk*pension</th>
<th>Risk*illiquidity</th>
<th>Actual</th>
</tr>
</thead>
</table>

| AUT | 80 | 40 | 60 | 100 | 120 | 180 | 200 |
| BEL | 60 | 40 | 80 | 120 | 160 | 180 | 220 |
| ESP | 40 | 60 | 80 | 100 | 140 | 160 | 180 |
| FIN | 20 | 40 | 60 | 80 | 120 | 140 | 180 |
| FRA | 0 | 20 | 40 | 60 | 100 | 120 | 160 |

| GRC | 20 | 40 | 60 | 80 | 120 | 160 | 180 |
| IRL | 0 | 20 | 40 | 60 | 100 | 120 | 160 |
| ITA | -20 | 0 | 20 | 40 | 60 | 80 | 120 |
| NLD | -40 | -20 | 0 | 20 | 40 | 60 | 100 |
| PRT | -60 | -40 | -20 | 0 | 20 | 40 | 60 |
Results

Decomposition of spread change
Jun 07 to Mar 09 (Equation 3)
Policy Conclusions

- General risk aversion amplifies the effect of fiscal variables on spreads => governments likely to face more market discipline.

- Expected future deficits have a role in explaining spreads => importance of credible medium-term plans. Attraction of pension/health reforms.

- Some evidence of non-linearity in debt => worrying that many OECD countries will go well beyond previous post-war highs.
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Sovereign bond spreads in the euro area
Spread with German yield

July 07  March 09  May 09  September 09

GRC IRL PRT ITA AUT BEL ESP FIN DNK NLD FRA