Political factors of sovereign credit risks

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Default or not default?

Why do some countries fulfill their debt obligations even when their debt exceeds GDP more than several times, while others declare a default even when their debt is much lower?
The impact of political institutions on sovereign credit risks

**Impact channels**

- **Political stability**
  - Reduce risks:
    - Higher quality of institutions
    - Less uncertainty and wider planning horizon

- **Political regime**
  - Reduce risks (democracy against authoritarian regimes):
    - Higher quality of institutions (legal norms, system of checks and balances, etc.)
  - Balkan (1992), Schultz, Weingast (2003), Sherry Yu (2016)
  - Increase risks (democracy against authoritarian regimes):
    - Dependence from political cycle
    - Narrow planning horizon for elected politicians

- **Political competition**
  - Reduce risks:
    - Additional deterrent to unwarranted policies
    - Breen, McMenamin (2013), Smaoui, Boubakri, Cosset (2017)
  - Increase risks:
    - Complicating implementation of unpopular policies
    - van Rijckegehem, Weder (2009), Smaoui, Boubakri, Cosset (2017)
### Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Values</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>default: [0..1], EDD, DDD</td>
<td>Reinhart &amp; Rogoff + own calculations</td>
</tr>
<tr>
<td>Political regime</td>
<td>polity: [-10..10]</td>
<td>Polity IV Database</td>
</tr>
<tr>
<td>Regime durability</td>
<td>durable: [integer]</td>
<td>Polity IV Database</td>
</tr>
<tr>
<td>Concentration of political power</td>
<td>HHI: [0..10000]</td>
<td>Database of Political Institutions</td>
</tr>
<tr>
<td>Net Export to GDP Ratio</td>
<td>CAB: [real]</td>
<td>World Economic Outlook Database (IMF)</td>
</tr>
</tbody>
</table>

**Pic. 1. Years in default by countries represented in the sample**

**Sample:** 58 countries (1980 - 2017)

**Estimation:** Panel logit-regression (FE)
Sovereign Default Probability Factors:

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAB/GDP</td>
<td>0.072***</td>
<td>0.067***</td>
<td>0.073***</td>
<td>0.071***</td>
<td>0.073***</td>
</tr>
<tr>
<td>(0.019)</td>
<td>(0.018)</td>
<td>(0.019)</td>
<td>(0.019)</td>
<td>(0.019)</td>
<td>(0.019)</td>
</tr>
<tr>
<td>Debt/GDP</td>
<td>0.036***</td>
<td>0.039***</td>
<td>0.037***</td>
<td>0.036***</td>
<td>0.038***</td>
</tr>
<tr>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.004)</td>
</tr>
<tr>
<td>polity2</td>
<td>–0.102***</td>
<td>–0.142***</td>
<td>–0.142***</td>
<td>–0.095***</td>
<td>–0.095***</td>
</tr>
<tr>
<td>(0.021)</td>
<td>(0.032)</td>
<td>(0.021)</td>
<td>(0.021)</td>
<td>(0.021)</td>
<td>(0.021)</td>
</tr>
<tr>
<td>durable</td>
<td>–0.052***</td>
<td>–0.047***</td>
<td>–0.041***</td>
<td>–0.051***</td>
<td>–0.063***</td>
</tr>
<tr>
<td>(0.006)</td>
<td>(0.008)</td>
<td>(0.009)</td>
<td>(0.010)</td>
<td>(0.009)</td>
<td>(0.010)</td>
</tr>
<tr>
<td>pHHI</td>
<td>0.007</td>
<td>0.013***</td>
<td>0.008*</td>
<td>–0.003</td>
<td></td>
</tr>
<tr>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td>(0.004)</td>
<td></td>
</tr>
<tr>
<td>polity2:durable</td>
<td>–0.004***</td>
<td>–0.004***</td>
<td>–0.004***</td>
<td>–0.004***</td>
<td></td>
</tr>
<tr>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td>(0.001)</td>
<td></td>
</tr>
<tr>
<td>polity2:Debt/GDP</td>
<td>0.001*</td>
<td>0.001*</td>
<td>0.001*</td>
<td>0.001*</td>
<td></td>
</tr>
<tr>
<td>(0.0004)</td>
<td>(0.0003)</td>
<td>(0.0003)</td>
<td>(0.0003)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>durable:pHHI</td>
<td></td>
<td></td>
<td></td>
<td>0.001**</td>
<td></td>
</tr>
<tr>
<td>(0.0005)</td>
<td></td>
<td></td>
<td></td>
<td>(0.0005)</td>
<td></td>
</tr>
<tr>
<td>(0.005)</td>
<td>(0.009)</td>
<td>(0.059)</td>
<td>(0.559)</td>
<td>(0.603)</td>
<td>(0.602)</td>
</tr>
</tbody>
</table>

- An increase in the duration of the regime is associated with a decrease in the probability of default
- An increase in the level of democracy is associated with a decrease in the probability of default
- An increase in the concentration of political power is associated with an increase in credit risks (in 2 of 5 models, in the rest it has no effect)
- Significant effects are exerted by the interaction of
  - type and durability of political regime
  - type of regime and the ratio of debt to GDP
  - the durability of political regime and the degree of political power concentration

Note: *p<0.1; **p<0.05; ***p<0.01
Nonlinearity of interaction effects

Pic. 2. Predicted value by type and durability of the political regime

Pic. 3. Predicted value by type of political regime and debt to GDP

Pic. 4. Predicted value for the durability of the political regime and the degree of political power concentration
## Differences in the effects of political institutions depending on:

<table>
<thead>
<tr>
<th>debt type</th>
<th>debt to GDP ratio*</th>
</tr>
</thead>
<tbody>
<tr>
<td>external</td>
<td>internal</td>
</tr>
<tr>
<td>• The risk of default is lower in consolidated democracies with a high degree of political power concentration</td>
<td>• Default risk lower in consolidated autocracies</td>
</tr>
<tr>
<td></td>
<td>• The degree of political power concentration does not matter</td>
</tr>
</tbody>
</table>

* critical debt level selected based on Maastricht criteria
• confirmed relationship between the probability of sovereign default and the characteristics of political institutions

• identified channels of action of this relationship

• revealed specifics of the effects of these channels depending on the type of debt and the ratio of debt to GDP

• elicited nonlinearity of the effects of political institutions on the probability of sovereign default depending on their interaction with each other and with the ratio of debt to GDP
Limitations

- Causality direction
- Nonlinearity of interaction effects
- Critical debt level
- Omitted variables

Further development

- Causality tests
- Theoretical rationale
- Alternative estimations
- Add new factors