Dynamics and Determinants of Compliance with Fiscal Rules

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Focus on compliance with fiscal rules

Most of the literature so far focused on the introduction or strength of fiscal rules, not compliance with them.

This presentation focuses on...
- Compliance rates across countries and rules
- Determinants of (non-)compliance
- Evolution of compliance over time
Data & Statistics
Presentation is based on two datasets/papers

- EU (Reuter, 2019)
  - EC and IMF datasets, legal documents
  - 1995-2014, 20 countries of EU28
  - Budget balance rules (49%), Debt rules (22%), Expenditure rules (29%)

- Global (Lledo and Reuter, 2018)
  - IMF Fiscal Rules Dataset
  - 1995-2016, 49 countries
  - Only budget balance rules
  - Supranational and national rules

Number of Budget Balance Rules (Global)

Source: Lledo and Reuter (2018)
Average compliance over all rules and countries is around 50%

- EU dataset
  - All rule types
  - Only national rules
  - Taking legal provisions from original texts into account

Source: Reuter (2017)
Average compliance over all rules and countries is around 50%

- Global dataset
  - Only Budget balance rules
  - Including supranational rules:
    - European Union (EU)
    - Eastern Caribbean Currency Union (ECCU)
    - West African Economic Union (WAEMU)
    - Central African Economic and Monetary Community (CEAMC)

Source: Lledo and Reuter (2018)
CEMAC & WAEMU are extreme outliers

Median compliance margin
- Across countries and rules in Percent of GDP

Source: Lledo and Reuter (2018)
Evolution of Compliance Margin Over Time

- All
- National Rules
- Supranational Rules: EU
- Supranational Rules: non-EU


Values range from -8 to 8.
Share of Rules in Compliance Over Time
Determinants of Compliance
Why do countries comply with rules and why not?

- Rule characteristics (Rule design and framework)
  e.g. Rule type, Monitoring body, Rule coverage, Non-compliance actions

- (Socio-)Economy, Business Cycle
  e.g. Debt level, Population, Output gap, Decentralization

- Political system, Voter Preferences
  e.g. Ideology of government, Election years, Government size, Fragmentation of government

- Institutional framework
  e.g. (Reformed) Stability and Growth Pact, EMU membership, IMF programme
Why do countries comply with rules and why not?

- EU dataset, 1995-2015
- Panel logistic regression

\[ B_{i,j,t} = \alpha + \beta V_{i,j,t} + \gamma C_{i,t} + \theta S_{i,t} + \varepsilon_{i,j,t} \]

- Dependent variable (Dummy) is one if country complied with its fiscal rule in respective year
- Vectors of rule-specific, country-specific and supranational variables as controls
Higher compliance probability with stronger independent monitoring and enforcement

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constraining stock (rather than flow) variable</td>
<td>0.69***</td>
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<tr>
<td>Coverage (%) of general government finances</td>
<td>0.61***</td>
</tr>
<tr>
<td>Statutory base</td>
<td>-0.26***</td>
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<tr>
<td>Monitoring body</td>
<td>0.17**</td>
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<tr>
<td>Alert mechanism</td>
<td>0.29***</td>
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<tr>
<td>Enforcement body</td>
<td>0.47***</td>
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</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government fragmentation</td>
<td>-1.42**</td>
</tr>
<tr>
<td>Decentralization</td>
<td>-1.08***</td>
</tr>
<tr>
<td>Election Year</td>
<td>-0.09**</td>
</tr>
</tbody>
</table>

Source: Reuter (2017)
Also interesting which factors are overall not significant

- (Socio-)Economic, Business Cycle variables
- Supranational framework
  - Only membership in EMU has significant, but negative effect
- History of rules
  - Not significant how many or how long rules are in force
  - Not significant who introduced rules
- Combinations of rules
- Forecast errors
Evolution of Compliance Over Time
How compliance and noncompliance evolve over time?

- Global dataset, 1985-2016, 49 countries
- Compliance in economic rather than in legal terms
- Estimated model:

\[ dev_{i,j,t} = \beta dev_{i,j,t-1} + Z'_{i,t} \delta + u_{i,j,t} \]

- Sample selection problem: Heckman selection model
Deviations are persistent but not permanent

<table>
<thead>
<tr>
<th>in t:</th>
<th>&lt; -5%</th>
<th>-5% - -2%</th>
<th>-2% - 0</th>
<th>0 - 2%</th>
<th>2% - 5%</th>
<th>&gt; 5%</th>
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<td>8.1%</td>
<td>1.8%</td>
<td>0.9%</td>
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<td>-5% - -2%</td>
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<td>40.6%</td>
<td>35.5%</td>
<td>6.5%</td>
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<td>1.9%</td>
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<td>12.8%</td>
<td>43.6%</td>
<td>30.5%</td>
<td>3.3%</td>
<td>0.0%</td>
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<tr>
<td>0 - 2%</td>
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<td>5.4%</td>
<td>21.1%</td>
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<td>19.0%</td>
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<td>4.0%</td>
<td>6.3%</td>
<td>22.7%</td>
<td>53.4%</td>
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<td>&gt; 5%</td>
<td>0.0%</td>
<td>3.7%</td>
<td>2.5%</td>
<td>6.2%</td>
<td>19.8%</td>
<td>66.7%</td>
</tr>
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</table>

Source: Lledo and Reuter (2018)
Over time deviations from the rule thresholds tend to diminish

Rules act as a pulling force towards the threshold

„Magnet effect“ from both sides, i.e. in compliance and non-compliance
- Stronger for countries in non-compliance

Rules do not need to be strictly complied with to influence deficits

<table>
<thead>
<tr>
<th>Dep. Var: Compliance margin</th>
<th>(1)</th>
<th>(2)</th>
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<tbody>
<tr>
<td>Lagged Compliance margin</td>
<td>0.72***</td>
<td></td>
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<tr>
<td></td>
<td>(0.07)</td>
<td></td>
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<tr>
<td>Lagged Compliance margin (Positive)</td>
<td>0.91***</td>
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<tr>
<td></td>
<td>(0.06)</td>
<td></td>
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<tr>
<td>Lagged Compliance margin (Negative)</td>
<td>0.61***</td>
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<tr>
<td></td>
<td>(0.11)</td>
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</tbody>
</table>

Controls: Yes, Yes
Country fixed effects: Yes, Yes
N (1st stage): 2,436, 2,436
N (2nd stage): 761, 761

Source: Lledo and Reuter (2018)
Intensity of “magnet effect” depends on the size and recurrence of compliance

- Years in non-compliance: For larger deviations from thresholds the effect is stronger

- The more frequent rules are not complied with, the weaker is the effect
  - Probably small and repeated deviations can be more easily accommodated without triggering corrective action

- Comparison with countries without rules:
  - In compliance: Convergence without rules is faster
  - In non-compliance: Convergence without rules is slower
Conclusions
Rule design, calibration and framework are key

- Average compliance over all rules and countries is around 50% (slightly higher for supranational EU rules)
- Higher probability of compliance can be observed with stronger independent monitoring and enforcement bodies (issuing real-time alerts)
  - Non-compliance more likely with more fragmented governments, in decentralized countries and in election years
  - Combinations of rules and supranational framework did not increase probability of compliance
- Evolution over time: Evidence of “Magnet effect”, i.e. thresholds of rules act as targets rather than ceilings
  - Reinforces the need to calibrate rules with safety margins
  - For rules to act as an anchor they need to be simple and easy to communicate