Discussion of
“Sudden Stops and Sovereign Defaults”
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Two patterns in Euro Zone

1. Convergence in prices and wages in the ‘South’, without equivalent convergence in productivity

2. Convergence in interest rates, without equivalent convergence in risk fundamentals
• Why Greece paid the same interest rate as Germany?

1. Myopic banks? Low probability events?
   Information-insensitive debt? [illustration]

2. Implicit bail-out guarantee?
   — a form of (very distortionary) within-Europe transfer
• Why Greece paid the same interest rate as Germany?


2. Implicit bail-out guarantee?
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3. This paper: imperfect information and signaling
   — information on government solvency is imperfect
   — market access for borrowing is a signal of (in)solvency
   — defaultable debt
Model

- Risk-neutral competitive lenders
- Risk-neutral borrower with a project and no cash
- Payoffs

<table>
<thead>
<tr>
<th>Period t</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invest</td>
<td>1</td>
<td>a</td>
<td>—</td>
</tr>
<tr>
<td>Income</td>
<td>—</td>
<td>1 ± $\epsilon$</td>
<td>$R \cdot (1 ± \epsilon ± \epsilon')$</td>
</tr>
<tr>
<td>Borrow/repay</td>
<td>1</td>
<td>$b$</td>
<td>$-1 \cdot r_0 - b \cdot r_1(b)$</td>
</tr>
</tbody>
</table>

- Efficiency: invest if $NPV > 0$
- Default if

\[
(1 - \eta)R(1 ± \epsilon ± \epsilon') \geq R(1 ± \epsilon ± \epsilon') - r_0 - br_1(b)
\]

or

\[
\eta R(1 ± \epsilon ± \epsilon') \leq r_0 + br_1(b)
\]
Timing

- Borrow 1
  - $H$
    - No default
  - $L$
    - No default
- Borrow $b$
  - $H$
    - No default
  - $L$
    - Default
- $\epsilon$
- $\epsilon'$
Results

(i) Equilibrium is efficient if project is financed iff NPV is positive
   — under certain circumstances, positive NPV projects are not financed (market break-down)
(ii) Country receives full NPV, banks receive zero
(iii) In a pooling equilibrium, $L$ receives informational rents at the cost of $H$
(iv) $L$ always wants to pool, $H$ always wants to separate
(v) Separation always possible
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Modification: If at $t = 1$, $L$ can invest $\leq a - 2\varepsilon$ to obtain $R' \ll R$ at $t = 2$, then polling equilibrium can also exist. Polling equilibrium is inefficient. Pooling can lead to market break-down at $t = 0$. 
Interpretation of the results

• In a separating equilibrium, \( b = b(\epsilon) \) is a signal of sovereign risk at \( t = 2 \)

• If \( b > \hat{b} \equiv a - (1 + \epsilon) \), then country is assessed as \( L \) and it pays higher interest rates \( \rightarrow \) negative shift in supply of funds schedule (‘sudden stop’)

• Increase in spreads upon this signal and more likely future ‘sovereign default’

• When countries pool, both countries face the same interest rates, but investment in \( L \) is diverted and it necessarily defaults

• Equilibrium is constrained efficient, but can be far from first best
Comments

1. Work in progress
   — spell out objectives of agents, assumptions, and rules of the game more clearly

2. Push towards either more theory or more quantitative

3. Very ad hoc lending contract

4. Little consequences for welfare (unless lending breaks down);
   No room for policy

5. Example rather than general result (taxonomy of cases)

6. A lot of strong statements about quantitative success of the model

7. Next steps:
   — dynamic model with curvature (costly signaling)
   — merging signaling with currency crisis
Information-insensitive debt

Figure: Debtor payoff and distribution of outcomes