Discussion of

Valuing the Stock of External Sovereign Debt

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The paper(s)

- Great research agenda
  - Very topical
  - Empirics on sovereign debt is lagging behind
  - Needed: Better measurement of debt stocks and debt relief
  - Access to DRS, one of the richest data sources (a miracle!)
  - Takes discounting and present value seriously
  - Theory & Empirics
The paper(s)


- New measure: Zero coupon equivalent debt stock
- Important new stylized facts and implications for theory
  - Comparability of debt levels of 100 developing countries
  - Insights on debt composition (interest vs principal, private vs official, maturity)

Paper 2: “In for a Penny, In for 100 Billion Pounds”

- Two questions on debt relief:
  1) Is it efficient? 2) Is it welfare improving?
  - Answer to 1: in most cases, no (discounting)
  - Answer to 2: in most cases, yes (consumption heterogen.)
Efficiency of Debt Relief \( (r_{\text{country}} > r_{\text{market}}) \)

Example: Mexico (value of debt/GDP)
1) Welfare and Debt Overhang

**Traditional Literature: Debt overhang, Debt Laffer curve**
- Country perspective or creditor perspective

Older debate (1980s debt crisis):
- Classic models by Krugman (1989), Sachs (1989), Froot, Rogoff

Recent debate (HIPC, Europe & US):
- Overhang Hangover (Gourinchas & Imbs 2007)
- Disincentive effects of HIPC debt relief (Easterly 2002)
- Reinhart and Rogoff (2010, 2012): Debt and growth (90%)

Overall: Incentive problems and debt overhang still taken seriously
Concern of serial default: Cycles of relief – borrowing – relief
1) Welfare and Debt Overhang

This paper: Redistribution plays main role
- Efficiency considerations secondary
- Paper very upfront about what it does and does not do, caveats
- But, could improve by discussing other views, previous findings

Main comment: discuss literature in more detail
- One example. You conclude:
  - Huge welfare benefits of debt relief for HICPs
  - Little benefits (or even world welfare loss) for EMEs
- Arslanalp and Henry (2006, JEP): opposite conclusion, HIPC debt relief inefficient, problem bad institutions

Furthermore: Aid vs Debt Relief
2) Discounting: Haircuts vs Debt Relief

First part of the paper: DRs plays key role

**What is the proper discount rate?**

(i) Market discount rates (Haircuts)
- DRs observable. Consensus in literature
- This paper: impute market DRs (improves Cruces & Trebesch 2012, similar rationale as in Borriand Verdelhan 2012)
  - Here: Account for term structure

(ii) Country discount rates (Debt Relief)
- DRs not observable. No consensus
- Earlier papers: Use 10% rate or lower
  - Sturzenegger/Zettelmeyer (2007): borrowing rate in “normal” times
- Here: Impute Country DRs with consumption forecasts (CCAPM)
High Country Discount Rates: Application

- You conclude: $r_{country} > r_{market}$ (opposite of SZ 2007)
- Debt reduction inefficient in middle income countries
- Empirically observed patterns?

- If high DRs are true: Why do countries not “Megaswap” all the time?
  - Megaswap: Push all maturities far out and pay >10% coupon
  - If country DRs high: Great deal for debtors. Creditors like it too ($ZCE \uparrow$)
  - But: Megaswap now in court, very few similar cases: Greece July 2011

- Government behavior at odds with high imputed DRs
  - Countries restructure and borrow at low interest rates
How Important is the Discount Rate?

- More generally: We tend to think DRs very important
- But in distress: Maturites shorten, countries in arrears
  - Broner et al. (2012), Arellano & Ramanarayanan (2012)
- What happens to haircuts if we increase DRs by 50% (1 s.d.)?
- 22 EME cases since 1998: Haircut increases from 34% to 42%

<table>
<thead>
<tr>
<th></th>
<th>Our Haircut</th>
<th>Our DR</th>
<th>&quot;Country&quot; DR</th>
<th>&quot;Country&quot; Haircut</th>
<th>Amount (m US$)</th>
<th>Debt Relief / GDP (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia 2000</td>
<td>50.8%</td>
<td>12.5%</td>
<td>18.7%</td>
<td>57.3%</td>
<td>31,943</td>
<td>9.3%</td>
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<tr>
<td>Ecuador 2000</td>
<td>38.3%</td>
<td>17.3%</td>
<td>25.9%</td>
<td>43.5%</td>
<td>6,700</td>
<td>18.3%</td>
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<tr>
<td>Uruguay 2003</td>
<td>9.8%</td>
<td>9.0%</td>
<td>13.5%</td>
<td>15.4%</td>
<td>3,127</td>
<td>2.8%</td>
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<tr>
<td>Argentina 2005</td>
<td>76.8%</td>
<td>10.4%</td>
<td>15.5%</td>
<td>83.2%</td>
<td>60,572</td>
<td>36.4%</td>
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<td>Ecuador 2009</td>
<td>67.7%</td>
<td>13.0%</td>
<td>19.4%</td>
<td>54.6%</td>
<td>3,190</td>
<td>3.0%</td>
</tr>
<tr>
<td>Greece 2012</td>
<td>/1</td>
<td>64.8%</td>
<td>15.3%</td>
<td>23.0%</td>
<td>199,210</td>
<td>56.8%</td>
</tr>
</tbody>
</table>

1/ amount in Euro. Data on Greece from Zettelmeyer, Trebesch and Gulati (2012)
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→ Discount rates might not be sufficient to evaluate efficiency of debt relief

In debt restructuring context: Effect of DRs sensitive to deal characteristics
Data and Robustness

• **Show the beauty**... more summary stats, tables, figures
  – Aggregate picture. Why not more country breakdowns? (relevance of interest vs principal? maturity structures?)

• **Discuss assumptions** and potential data limitations
  – What exactly are interest rate, exchange rate assumptions?
  – Data is debtor reported. Is this a problem in the context of debt relief estimation? (see Depetris Chauvin/Kraay 2005)

• **Maybe benchmark to**
  – Published GDF series: “Present value of external debt”.
  – Dikhanov (2004): “Historical Present Value of Debt in Developing Countries.”
Conclusion

- Overall: Important contributions and great research agenda
- Second paper could be improved by adding details and by more benchmarking to existing literature
Cruces/Trebesch (2012): Imputed Market DRs
HISTOGRAM OF IMPUTED DISCOUNT RATES

1st quartile 13.1%

3rd quartile 23.9%

Upper limit of each bin

Frequency

12.4% 15.3% 18.3% 21.3% 24.2% 27.2% 30.2% 33.1% 36.1% 39.1%
IMPUTED DISCOUNT RATES (BY COUNTRY)