r-g<0: Can We Sleep More Soundly?

Mauro and Zhou

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Global $r$ has been declining.

Public debt accumulates *autonomously* at a rate of $r-g$

If $r-g < 0$, do we no longer have to worry about debt?

Mauro and Zhou: Not so fast.

$r-g < 0$ is the norm, not an irregularity

$r-g$ doesn’t predict default

Excellent data work

Convincing on both counts
Conceptual Framework

Accounting identities ➔

\[ \Delta d_{t+1} \approx (r - g) \, d_t + def_t \]

Debt will decline as long as growth-interest differential sufficient to cover deficits:

\[ (g - r) > \frac{def}{debt} \]
<table>
<thead>
<tr>
<th></th>
<th>Past 10 years</th>
<th>Currently</th>
</tr>
</thead>
<tbody>
<tr>
<td>$g_{\text{nominal}}$</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>$r_{\text{nominal}}$</td>
<td>2.5%</td>
<td>1.8%</td>
</tr>
<tr>
<td>$g - r$</td>
<td>1.5%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Deficit/Debt</td>
<td>8%</td>
<td>6%</td>
</tr>
</tbody>
</table>
g-r vs. Deficits: High Income
Deficits higher and dominate variance

g-r higher and dominates variance
g-r vs. Deficits: Developing
g-r vs. Deficits: Developing

Deficits dominate variance

g-r much higher and dominates variance
Conceptual Problems with Debt Sustainability Accounting Exercises

Given r, g, deficit: debt sustainability merely accounting

But r, g, deficit are all determined in equilibrium:

- \( g \leftrightarrow \text{deficit} \)
- Multiple equilibria in r
- .....
Multiple Equilibria in $r$

$r \ll g \Rightarrow$ easier to service debt

Markets charge low risk premium, low $r$

$r \gg g \Rightarrow$ harder to service debt

Markets charge high risk premium, high $r$

Political Equilibrium in Deficit and \( r \)

Policymaker equalized marginal benefit and cost of public debt

- Marginal costs: probability of default or spiking risk premia
- Marginal benefits: benefits of \( \uparrow \) public spending and \( \downarrow \) taxes

With low \( r-g \), optimizing policymaker will increase deficits until \( \text{prob(crisis)} \) outweighs economic/political benefit of deficit

Reduced risk doesn’t follow from low \( r-g \)