Debt Accumulation & Reduction: What Do the Data Say?

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Outline

- Debt levels and borrowing costs
- Debt dynamics
- Fiscal risk
- Debt spikes and debt reductions
- Takeaways
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• Debt levels and borrowing costs
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Debt is high…

Median

Weighted average (excluding China and India)
...the share of FX debt has been decreasing, but not everywhere...

Median

Weighted average (excluding China and India)
...interest rates are increasing...
...spreads are high and volatile...
...and market access is precarious
Liquidity versus Solvency

Source: Albinet, Kessler and Brancher (2023)
Imagine there’s no spread

It’s not easy, even if you try
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Debt Dynamics 101

- Change in the debt to GDP (\(d\)) ratio \(\Delta d =\)
  - primary balance over GDP \(pb\)
  - (real GDP growth) \(\times\) (initial debt/GDP) \(gd_{t-1}\)
  - (inflation) \(\times\) (initial debt/GDP) \(\pi d_{t-1}\)
  - (interest rate) \(\times\) (initial debt/GDP) \(id_{t-1}\)
  + stock-flow reconciliation \(sf\)
  (AKA, the unexplained part of debt)

\[
\Delta d = -pb + (i - g - \pi) d_{t-1} + sf
\]
The Drivers of Debt Dynamics

Large

Growing

SSA

HUMIC

IR | GR | INF | PB | SF


IR | GR | INF | PB | SF

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Fiscal risk

• **Definition**
  • Large or systematic deviations of fiscal outcomes from their expected values

• **Sources**
  • Macro shocks (GDP growth, exchange rate, inflation, and interest rate)
  • Policy shocks (policy slippages and change in government policies)
  • Realization of contingent liabilities
  • Strategic forecasts
Fiscal risk in a nutshell

Public debt/GDP (Italy)
Outturns minus forecasts

\[ D_t - E_{t-2}(D_t) \]

Source: Panizza (2020)
Debt Dynamics & Forecast Errors

\[
\frac{d_t - E_{t-1}d_t}{d_{t-1}} = (i - E_{t-1}i) + (\pi - E_{t-1}\pi) + (g - E_{t-1}g) + \frac{pb_t - E_{t-1}pb_t}{d_{t-1}} + \frac{sf_t - E_{t-1}sf_t}{d_{t-1}}
\]

INTEREST Forecast Errors
INFLATION Forecast Errors
GROWTH Forecast Errors
PRIMARY BALANCE Forecast Errors
STOCK FLOW RECONCILIATION
Components of debt risk

Source: Panizza (2020)
Components of debt risk

Source: Panizza (2020)
### Fiscal risk and the exchange rate

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Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Source: Panizza (2020)
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Debt Reductions and Spikes

Source: Panizza and Powell (2023)
The drivers of debt reductions and spikes

Source: Panizza and Powell (2023)
Probability of different types of debt reduction episodes

Source: Panizza and Powell (2023)
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Takeaways

• Debt levels are high and borrowing costs are high and volatile
  • Especially in low income economies (and Sub-Saharan Africa)
  • Good news: more liquidity than solvency problems

• Fiscal risk and debt spikes are high in Sub-Saharan Africa
  • Invest in forecasting capacity
  • Data quality and transparency are key

• The main driver of debt growth, fiscal risk, and debt spikes is the “unexplained part of debt”
  • Strongly correlated with exchange rate depreciations when FX debt is large
  • Good debt management is very important

• Debt reductions are often driven by inflation and rarely driven by fiscal consolidation
  • But fiscal rules help