The hazards of fiscal consolidation and debt feedback

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July 2019
Why study fiscal consolidation and debt feedbacks?

- Fiscal constraints from the past: global crisis, commodity prices, etc
- Debt-to-GDP at a 2 decades historical maximum
- Country-specific fiscal problems (Brazil pensions, PEMEX)

![Graph showing fiscal balances and debt as a percentage of GDP for Brazil, Chile, Colombia, Mexico, and Peru from 1993 to 2018. The graph includes lines for debt, general, and primary balances. Source: WB Fiscal Space Database.]
How much do countries need to adjust their budget to achieve sustainability?

**Static DSA budget balance**

2018 (dark) vs target (light) primary surplus

- BR: 1.31
- CB: 0.55
- CL: -0.24
- MX: 1.79
- PE: -1.68

Primary Balance (%GDP)

Own calculations, based on IMF WEO (2018) forecast of 2024 inflation and growth, and July 2019 interest rates at current average maturity.
Question: The hazards of achieving the target primary surplus

**Problem:** Static DSA assume variables are exogenous; in practice deficit affects simultaneously debt, prices, output, and interest rates.

1. How large is the effect of fiscal consolidation on output, interest rates, and inflation (fiscal multiplier)?
2. How does the stock of debt interact with the effect of consolidation? (Debt feedback - Favero Giavazzi 2007)


Identification of fiscal shocks: Many approaches: short run restrictions (Blanchard Perotti), sign identification (Mountford Uhlig 2009), local projections (Jorda 2015), narrative (Romer&Romer)....
What we do

- **Unified methodology.** Same S-BVAR for 5 Latin American Countries (Chile, Peru, Colombia, Brazil, Mexico)
- **Small open economies.** (two blocks)
- **Sign identification.** of “output” and “Fiscal” shocks
- **Debt feedbacks.** Compare IRF’s *vanilla* (without debt), and *debt feedback* specification.
- **Main findings:** debt feedbacks appear only in Brazil and (less) in Mexico, and only on interest rates and inflation.
Why Bayesian VAR?

- Flexible, unified methodology across countries
- Constraints specific to emerging economies (non-stationarity, short series)

Specification

- **External block** US GDP, Fed funds.
- **Domestic variables**
  - Endogenous: exchange rate, growth, interest rates, inflation, primary balance
  - Exogenous: debt level (in one specification)
Identification by sign restrictions

**Problem** correlation between GDP and fiscal policy can respond to:

- “Revenue/expenditure elasticity to GDP”: GDP $\rightarrow \Delta$ primary balance
- “Fiscal multiplier”: Fiscal consolidation $\rightarrow \Delta GDP$

**Solution:** sign identification (Mountford-Uhlig 2009):

- **Output shocks**: last at least one period, and increase primary surplus.
- **Fiscal consolidation shocks**: last at least one period, and have weakly negative effect on GDP

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fiscal Shock</th>
<th>Output Shock</th>
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<tbody>
<tr>
<td>Primary Surplus</td>
<td>+</td>
<td>+</td>
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<td>Inflation</td>
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<td>Exchange rate</td>
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<td>Interest rate</td>
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<tr>
<td>GDP</td>
<td>-</td>
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Results: Fiscal shocks

IRF of a fiscal consolidation shock
1% primary surplus in Q1

Specifications:
- Debt
- Vanilla

Budget, GDP, Inflation, Interest

Quarters ahead
Comment on results of fiscal shocks:

- Fiscal consolidation shocks have expected effects: reduce interest rates, reduce inflation, contract output.
- The debt feedback effect is noticeable in Mexico and Brazil:
  - No debt feedback on fiscal multipliers: effect on output is similar in both “vanilla” and “debt specification”
  - The reaction of interest rates and inflation is larger when we include debt.
- Countries where fiscal concerns are more important (higher debt, higher default risk). In line with Favero and Giavazzi (2007). Fiscal dominance? Crowd-in? Credibility effect? Signaling
Results: reaction to output shock

IRF of an output shock
+1% growth in Q1

Quarters ahead

Specification Debt Vanilla
+1% growth in Q1

IRF of an output shock
Extensions and avenues of improvement

- Longer quarterly time series? Sources?
- More/less variables? e.g. revenue/expenditure growth? Commodities?
- More shocks to be identified? e.g. demand vs supply
Thank you!