Demystifying government deficits and central bank financing

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This presentation reflects solely the views of the authors
1. What are the primary misconceptions about domestic-currency government deficits?

2. Are there inflationary dangers to central bank financing government deficits?

3. Won’t larger deficits lead to unsustainable debt & currency depreciation?

4. What does all this mean for policy?
Government Deficits are unsettling to many

<table>
<thead>
<tr>
<th>Commonly-Held Beliefs</th>
<th>Reality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government Finances = Families’ Finances (budget constraint)</td>
<td>• <strong>Government finances</strong> (currency issuer) do not operate like yours or mine (currency users) (and families borrow too!)</td>
</tr>
</tbody>
</table>
| Deficits = Crowding Out (loanable funds model) | • **Government deficit** = Non-government surplus  
• From basic accounting, government deficit creates income for recipients; bond sales neither reduce this income nor return it to the government |
| Deficits = Higher Interest Rates (loanable funds model) | • By adding central bank reserves, **deficits put downward pressure on interest rates**, ceteris paribus  
• **Bond sales are monetary operations** to achieve central bank’s interest rate target; the alternative is IOR  
• Central banks supply at least enough reserve balances to settle government bond auctions and necessarily drive interest rates on government debt in domestic currency regardless who owns it |
Most people’s view government deficits via Loanable Funds

- Supply of Loanable Funds by Savers
- Demand for Loanable Funds by Businesses

\[ S = I \]
Government deficits in the Loanable Funds view
Crowding out and interest rates

Interest Rate

Govt Deficit

Higher \( i^*_1 \) Needed to Generate More LF

\( i^*_1 \)

\( i^*_0 \)

New level of \( I \)

\( I_1 < I_0 \) due to higher \( i \)

\( S_0 = I_0 \)

\( I_1 + \text{Def} = S_1 \)

Supply of LF by Savers

Demand for LF by Businesses + Govt

Demand for LF by Businesses

Qty of Loanable Funds (LF)
Do budget deficits lead to higher interest rates?
Do Governments and private sector compete for funds (savings) – crowding out?
## What’s Wrong with the Loanable Funds View?

<table>
<thead>
<tr>
<th>Loanable Funds</th>
<th>Reality</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Proposed in the gold standard and Bretton Woods fixed exchange rate system</td>
<td>• Government’s own deficit supplies the dollars (baht, rupiah, pesos) that are needed to purchase the bonds</td>
</tr>
<tr>
<td>• Fixed supply of savings from which anyone can attempt to borrow</td>
<td>• Government deficits always lead to $-for-$ increase in the supply of net financial assets held by the non-government sector</td>
</tr>
<tr>
<td>• Competition for a finite pool of savings</td>
<td>• <strong>It is the dealers who compete among themselves, not the Government</strong></td>
</tr>
<tr>
<td>• Borrowing is limited by access to scarce financial resources</td>
<td>• Auctions require coordination between the Central Bank and Treasury</td>
</tr>
<tr>
<td>• Deficit pushes interest rate up</td>
<td>• <strong>Deficit pushes interest rate down (deficit fills the system with excess reserves)</strong></td>
</tr>
</tbody>
</table>
Governments spend by electronically crediting the reserve balances of private Banks, which in turn credit the bank accounts of those receiving payments from the government. Our payments to the government go ‘the other way around’
Bookkeeping: Government Deficit Directly Creates …

A Private Sector Surplus

Fiscal deficits increase the aggregate supply of reserve balances
### Government Deficit Increases Banks’ Reserves Held in Accounts at the Central Bank

<table>
<thead>
<tr>
<th>Government</th>
<th>Central Bank</th>
<th>Bank</th>
<th>Households/Businesses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assets</strong></td>
<td><strong>Liab/Equity</strong></td>
<td><strong>Assets</strong></td>
<td><strong>Liab/Equity</strong></td>
</tr>
<tr>
<td>-100 Govt Account</td>
<td>-100 Net Worth</td>
<td>+100 Reserves</td>
<td>-100 Govt Account</td>
</tr>
</tbody>
</table>
Government deficits credit bank reserves, which puts downward pressure on interbank market rate.

Issue bonds to drain excess reserve balances.
Amount = Deficit
Trade Cash for T-bill

Government’s own deficit supplies the dollars that are needed to purchase the bond.

No change in the quantity of reserves in the system.
The reality of central bank-government operational interdependence. NO Crowding Out

• Deficits add to private saving (this is accounting)

• Deficits do not put upward pressure on interest rates. Opposite: they put downward pressure:

  • In a corridor framework for interest rate targeting, either the central bank or the government must sterilize the deficit’s reserve add by offering an interest-bearing alternative (or paying interest on reserves at the target rate)

• IMPLICATION: domestic-currency government bond sales are functionally interest-rate maintenance operations, not financing expenditures (which has already happened)
The whole story in a nutshell:

Policy makers do not see the whole picture but only what pertains to their direct mandate.

Interest rates decline so government or CB issues bonds to drain reserves & achieve interest rate target.

Money from heaven
Currency issuer

Central Bank

“Printing Money”

Households/Business: Currency Users

“Borrowing”

Govt deficit = Pvt surplus

Bond Market

Private Sector

If depends on how you look at things.
1. What are the primary misconceptions about domestic-currency government deficits?

2. Are there inflationary dangers to central bank financing government deficits?

3. Won’t larger deficits lead to unsustainable debt and currency depreciation?

4. What does all this mean for policy?
Government issues bonds vs. Central Bank buys Government bonds

• We have shown above that when Government issues bonds, there are two operations: (i) Government spends (which creates excess reserves); (ii) Bond issuance to drain excess reserves…
  • …where does inflation come from? NO, not from here
  • Japan, US…? They live in a state of fiscal deficit. Or you mean hyperinflation, e.g., Zimbabwe?

• What happens if instead the CB directly finances the Government (what people call monetization). Any difference?
Government Deficit Adds Central Bank Reserves

*Term Deposit Auction* is a Monetary Policy Operation to Drain Reserves

Still NO inflation

The government didn’t issue a bond to drain reserves the deficit creates …

So, the *central bank* issued its own interest-bearing liability
Government Bond Sales vs CB loan to Government

- **Government Bond Sales**
  - Interest rate on new debt = T-bill rate ≈ CB’s target rate

- **CB Loan to Government**
  - Interest rate on new debt = CB’s term deposit facility ≈ CB’s target rate

- **CB Loan to Government vs Government Bond Sales: Does Not Matter**
  - Recipient of spending receives funds in either case
  - BTr still effectively pays interest ≈ CB’s target rate in either case
  - Quantity of reserves banks hold at CB is the same in either case

- **No Difference of Macroeconomic Significance**
  - In either case, BTr can finance & refinance deficits at roughly CB’s target rate
Where does inflation come from?

• A **deficit** can be **inflationary** because it is too big or poorly targeted, but **nothing** to do with how the deficit the was “financed”.

• Inflation can appear before full employment is reached if there are **supply side bottlenecks**; as a consequence of **migration** from the country side that puts upward pressure on the price of food and other necessities; **wages** increasing faster than productivity; or higher **markups**
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Unsustainability and currency depreciation

• Domestic-currency debt service is always a policy variable

• Yes, developing nations can experience currency depreciation, & central banks may raise rates to defend against this

• However, the causality from an alleged loss of “credibility” to severe depreciation isn’t so simple
Instability? This is not 1997-98

Daily Exchange Rate
(Feb 3 – June 15, 2020)

If you think that deficits automatically lead to depreciation and/or destroy reputation, then notice that these three countries’ currencies appreciated after their CBs intervened.
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Summing Up: in today’s financial system...

- Fiscal deficits (domestic currency):
  - create a private sector surplus…
  - do not lead to interest rate increases…
  - …do not crowd the private sector
  - are inflationary only if too large or poorly targeted (not method)

- Future generations burden? It depends…. 
- “Debt”: why wouldn’t you want risk-free assets for savers or as collateral?

- The problem (in today’s crisis) is not the fiscal deficit!

- What is the real problem the crisis may lead to? The health of the private sector (signal of crisis): absent a significant C/A surplus, governments will need to run a deficit. Do not be scared
• **Misconceptions** about how central banks and governments operate on a daily basis lead to concerns about “how to pay for” deficits governments are running today.

• Treasury-central bank **coordination** implies that budget deficits do not lead to higher interest rates (crowding out) and so-called “printing money” does not directly create inflation.

• Today’s deficits and debt-to-GDP ratios are **political choices**—if you think that what is acceptable in your country is 0% deficit & 25% debt/GDP, then set those limits and see what happens.

We have **not** said that:

• All deficits are good and carry no inflation risk

• Domestic currency debt does not need to be serviced—just “print money”

• There are no caveats for developing economies that have legitimate concerns about currency depreciation

• We can trust governments’ fiscal policy decisions
Thank you for your attention

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