Government Deficits and Central Bank financing in the COVID-19 era: Evil or Blessing in Disguise?

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May 2020

This presentation reflects solely the views of the authors.
We see mounting pressure on the share of government spending in GDP. Governments around the world are stepping in as purchasers and insurers of the last resort.

**Government spending as a share of GDP**

- End of WWI
- WWII
- Financial crisis

<table>
<thead>
<tr>
<th>Year</th>
<th>Germany</th>
<th>U.K.</th>
<th>Japan</th>
<th>U.S.</th>
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<tbody>
<tr>
<td>1900</td>
<td>10</td>
<td>20</td>
<td>30</td>
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<td>1910</td>
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<td>1920</td>
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<td>1940</td>
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<td>1950</td>
<td>20</td>
<td>30</td>
<td>40</td>
<td>50</td>
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</table>

**Fiscal deficits widening globally.**

Source: Philip Schellekens, IFC
• “With tax revenues down, the only option right now is borrowing. **But who can lend the government such large sums?** At what cost? And how are Canadians going to **pay it all back?** Is the federal government going to have to **raise taxes** and cut regular spending once the COVID-19 crisis is over?”

• “Of all the uncertainties caused by the Covid-19 pandemic, one thing feels beyond doubt — at some point, **taxes are going to have to rise.**” (FT May 15, 2020)

• “[Indonesia] Due to the long-term nature of this debt, I argue that the debt will create a **burden for the next generation.** And, if not well managed, it can create a debt crisis in the future.” (The Conversation, May 8, 2020)

• “Richest nations face $17tn government debt burden from coronavirus” (FT, May 24, 2020)

“Where is the “money” for all this extra spending coming from?”
“Government is ‘printing’...inflation, crowding out, reputation”
“Debt will be a problem...Unsustainable...Future generations”
1. Government deficits as private sector saving—Why Measure 5 is necessary, especially in response to COVID-19

2. Government deficits and their implications for the Central Bank operations: the interdependency of fiscal and monetary operation is more significant than you may think …

3. Philippines’ example—interdependence means the government can always refinance domestic-currency debt at roughly the central bank’s target rate

4. Final Remarks and Conclusions
Government Deficits are unsettling to many

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<thead>
<tr>
<th>Commonly-Held Beliefs</th>
<th>Reality</th>
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<tr>
<td>Government Finances = Families’ Finances (budget constraint)</td>
<td>• Government finances (currency issuer) do not operate like yours or mine (currency users) (and families borrow too!)</td>
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<td>Deficits = Crowding Out (loanable funds model)</td>
<td>• Government deficit = Non-government surplus</td>
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<td></td>
<td>• From basic accounting, government deficit creates income for recipients; bond sales neither reduce this income nor return it to the government</td>
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<td>Deficits = Higher Interest Rates (loanable funds model)</td>
<td>• By adding central bank reserves, deficits put downward pressure on interest rates, ceteris paribus</td>
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<td></td>
<td>• Bond sales are monetary operations to achieve central bank’s interest rate target; the alternative is IOR</td>
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<td>• 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</td>
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This presentation ...

• **Demystifies** government deficits (deficit phobia) & central bank financing of them

• **Does** so by tracing & explaining the reality of how central banks & treasuries operate every day (not just now). Arguments rely on real-world accounting & operations, not theory; theory (e.g., Taylor rule) must be built on the former, not vice versa. Commonly-held beliefs are the result of misconceptions & imprecision of commonly-used terms

• **Shows** that: *(i)* government deficits add to private sector saving and interest rates do not increase (i.e., there is no crowding out); *(ii)* government debt is an asset for the private sector; *(iii)* central bank “financing” of deficits is *always* present, whether directly or indirectly. “Printing money” (=Domestic-currency bonds) is not be a problem. It will be sustainable (no default)

• **Argues** that the best options to get out of the crisis are: *(i)* to allow Central Banks to continue “printing money” until this is over; and *(ii)* to enable the private sectors’ financial positions to begin the post-COVID-19 lockdown period to be the same or better than at its start. This requires significant fiscal action throughout the lockdown & during the transition to full-on post-lockdown status.
ADB COVID-19 Policy Database

This database provides information on the key economic measures that governments are taking to combat the COVID-19 pandemic. Measures are classified according to how they work their way through the financial system, and how they affect the financial positions of different sectors of society. The database also tracks non-economic measures.

Read the Background Document

Policy Measures
View measures implemented by each economy.

Data Extraction
Extract data by economy, by measure, or by date.

COVID-19 Cases
Get data on daily and cumulative cases and deaths by economy and by region.

Economic Research and Regional Cooperation Department (ERCD)
Asian Development Bank (ADB)
May 2020
Measures 01-04 are mostly funded by the Central Bank (self-financed) and also partly by the Government.

Measure 05 is funded by the (i) Government’s bond sales to the non-Government sector (which may be purchased in the secondary market by the Central Bank in Measure 07B); (ii) Central Bank loans or primary market purchases of government bonds (Measure 07A); (iii) drawdown of existing reserves (Measure 07A) and (iv) also partly by international assistance (Measure 08B).

Direct Income Support

International Assistance

Source: ADB COVID-19 Policy Database
Data as of May 18, 2020. 7 out of ADB’s 46 Developing members have zero amount in the ADB COVID-19 Policy Database. These are Kiribati, Nepal, Niue, Solomon Islands, Tajikistan, Turkmenistan, and Uzbekistan.
Central Banks are Sources of many COVID-19-Related Government Deficits (Measure 5)

<table>
<thead>
<tr>
<th>Direct Central Bank Loans or Primary Market Purchases</th>
<th>Secondary Market Quantitative Easing</th>
<th>Explicit Bond Rate Targets or Yield Curve Control</th>
<th>Central Bank Replaces Its Short-Term Government Securities with Long-Term Funding by SOE or Other Government Agencies a</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Indonesia</td>
<td>1. US</td>
<td>1. Japan</td>
<td>1. India</td>
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<tr>
<td>2. Philippines</td>
<td>2. ECB</td>
<td>2. Australia</td>
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<td>3. UK</td>
<td>3. Thailand</td>
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<td>4. New Zealand</td>
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<td>7. Bangladesh</td>
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<td>11. Philippines</td>
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<td>12. Papua New Guinea</td>
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<td></td>
<td>13. Solomon Islands</td>
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Source: Authors from information in ADB COVID-19 Policy Database: https://covid19policy.adb.org

a The first four columns are category 7 in ADB’s Database. Final column: increase in central bank liabilities is operational, not a deliberate monetary policy action.
b PRC’s SOE/agency lending is to state governments, though government deficits in PRC are mainly incurred by state governments.
c Singapore, Mongolia are drawing on “reserve funds”
d India’s Ways and Means Advances (WMA) scheme is designed to meet temporary mismatches in cash flows of the receipts and expenditures of the government. It is a loan facility from the RBI for 90 days
**Bookkeeping: Government Deficit Directly Creates …**

Governments spend by electronically crediting bank accounts…
**Bookkeeping: Government Deficit Directly Creates …**

**A Private Sector Surplus**

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<td>+100</td>
<td>+100</td>
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</tr>
<tr>
<td>Govt Account</td>
<td>Reserves</td>
<td>Reserves</td>
<td>Deposits</td>
</tr>
<tr>
<td>-100</td>
<td>+100</td>
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<tr>
<td><strong>Net Worth</strong></td>
<td>Reserves</td>
<td>Recipient’s Deposit</td>
<td>Net Worth</td>
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<tr>
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-100 Govt Account

+100 Net Worth

+100 Reserves

+100 Recipient’s Deposit

+100 Deposit

+100 Net Worth
Domestic Private Balance + Government Balance + Rest of the World Balance $\equiv 0$

(DPB) (GB) (ROW = KA = -CA)
USA Sector Financial Balances as a % of GDP, 1952q1 to 2019q4

Private Sector Balance Mirrors Government Balance

Low &/or Negative Private Sector Balance Associated with Financial Fragility
Japan

Private Sector Balance Mirrors Government Balance

Low &/or Negative Private Sector Balance Associated with Financial Fragility

% of GDP
Why is the domestic private sector of interest?

- Because a private sector deficit often anticipates a crisis...financial fragility
- Best example is the years leading to the AFC of 1997-98, but also countries like the US, late 1990s (plus Federal government ran surpluses), mid-2000s and the Great Recession; Japan (DPB balance shrank to 1.5% pf GDP in 1990); Spain: DPB fell to -10% of GDP in 2007
Why is this important? The crisis and the measures taken directly impact the financial position of the private sector

• **Deficits do not** “crowd out” private saving —**they add to it.** This accounting is the same with and without COVID-19!

• Absent CA surplus, **only a government deficit** will allow the private sector to avoid a fragile position

• Measure 5 (Direct Income Support) is unique among all the measures in that it **increases** private sector incomes directly

• Measures 1/2/3 (Monetary Policy) instead directly **raise private leverage**
  • Lower interest rates = more loans
  • Relaxed capital requirements = more loans
  • Loan guarantees = more loans
  • Providing “liquidity” = more loans

• Rebounding quickly from COVID-19 requires pre-COVID-19 private sector financial positions to be preserved (or, even better, improved)
1. Government deficits as private sector saving—Why Measure 5 is necessary, especially in response to COVID-19

2. Government deficits and their implications for the Central Bank operations: the interdependency of fiscal and monetary operation is more significant than you may think …

3. Philippines’ example—interdependence means the government can always refinance domestic-currency debt at roughly the central bank’s target rate

4. Final Remarks and Conclusions
Returning to the Deficit Transactions (Bookkeeping) …

Government Deficit Increases Banks’ Reserves Held in Accounts at the Central Bank

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<td>-100 Govt Account</td>
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Returning the Deficit Transactions (Bookkeeping) …

Government Deficit Increases Banks’ Reserves Held in Accounts at the Central Bank
Government Deficit Adds Central Bank Reserves and Reduces Interest Rate Below Central Bank’s Target

Opposite of the commonly-held belief!
What does the CB have to do to prevent $i^*$ from falling?

**Government Deficit Adds Central Bank Reserves and Reduces Interest Rate Below Central Bank’s Target**

**Sell Bonds…A Monetary Policy Operation to Drain Reserves and Achieve Central Bank’s Interest Rate Target**

Yes, there is a bond sale. The question is for what: to ”finance” the government?
The opposite of what the loanable funds model tells us.

Government Deficit Adds Central Bank Reserves and Reduces Interest Rate Below Central Bank’s Target

No: Bond Sale is a Monetary Policy Operation to Drain Reserves and Achieve Central Bank’s Interest Rate Target

How do we know this?
Because the Government didn’t need the CB’s reserves to incur the deficit.
The Government does not need taxes or bond sales.

**Government Deficit Adds Central Bank Reserves and Reduces Interest Rate Below Central Bank’s Target**

Bond Sale is a Monetary Policy Operation to Drain Reserves and Achieve Central Bank’s Interest Rate Target

How do we know this? The government didn’t need the CB’s reserves to incur the deficit.

The Central Bank needed the reserve drain to achieve its interest rate target.
The whole story in a nutshell: Policy makers do not see the whole picture but only what pertains to their direct mandate.

Government

Central Bank

Money from heaven
Currency issuer

Government

“Printing Money”

Bond Market

“Borrowing”

Private Sector

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

Govt deficit = Pvt surplus

Govt deficit = Pvt surplus

Households/Business:
Currency Users
But don’t deficits eventually need to be paid back? Would debt become “unsustainable” (i.e., default)?

- Most economists label “convergence” of debt ratio as “fiscal sustainability”…….DSA in domestic currency?
- Even in that case, **deficits aren’t paid back**—the national debt can grow forever at the pace of GDP.
- More importantly, “convergence” is due to manageability of debt service.
- **Domestic-currency debt** can always be refinanced at roughly the central bank’s target rate. Can you default on “money” you have “printed”?
- **Caveats**: (i) This is never a given for **foreign currency-denominated debt**; (ii) If developing economies feel compelled to reverse policy in response to foreign exchange markets, interest rate on domestic-currency debt can become tied to central bank’s defense of the exchange rate.
• The Central Bank is the monopoly supplier of reserves; there is no operational constraint on government deficit in the domestic currency unless it is self-imposed (e.g., Indonesia, ECB)

• The fiscal deficit pushes it downward, not upward. The central bank must offset changes to its own balance sheet that are not consistent with achieving its interest rate target.

• Not like the family finances: the government does not need taxes or bond sales—the private sector needs the central bank’s reserves in order to pay taxes and purchase bonds, while the central bank needs the bond sale in order to achieve its interest rate target.

• Bonds (national debt)? These are the assets of the private sector….detested when presented as obligations of the government. Unfortunately you cannot have it both ways. They are one in the same!

• Besides, why wouldn’t you want risk-free assets for savers or as collateral?
1. Government deficits as private sector saving—Why Measure 5 is necessary, especially in response to COVID-19

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3. The Philippines’ example—interdependence means the government can always refinance domestic-currency debt at roughly the central bank’s target rate

4. Final remarks and Conclusions
Monetary Board approves additional Php 300 billion support to the National Government to fight COVID-19

To further support the Filipino people during the COVID-19 pandemic, the Monetary Board authorized the Bangko Sentral ng Pilipinas (BSP) to purchase government securities from the Bureau of Treasury (BTr) under a repurchase agreement in the amount of Php 300 billion with a maximum repayment period of 6 months. The fund generated from the said agreement shall be used to support the National Government’s (NG) programs to counter the impact of Coronavirus Disease 2019

<table>
<thead>
<tr>
<th>Philippines Monetary Board (BSP)</th>
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</thead>
<tbody>
<tr>
<td><strong>• 6 month repurchase agreement for 300B</strong></td>
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</tr>
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<td><strong>• National Government (NG) spends 300B, creating 300B reserves</strong></td>
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(2) **Government Deficit Adds Central Bank Reserves**

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

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(2) Government Deficit Adds Central Bank Reserves

(3) *Term Deposit Auction* is a Monetary Policy Operation to Drain Reserves
The government didn’t issue a bond to drain reserves the deficit creates …

So, the central bank issued its own interest-bearing liability
(4) To Achieve BSP’s Interest Rate Target …
BSP’s Term Deposit Facility (TDF) Must Be Interest Bearing

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(5) For Government Bond Auction to Settle …
BSP Ensures There Are 300B Excess Reserves to Drain

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BSP Ensures There Are 300B Excess Reserves to Drain

If you observe inflation, it is not this channel
What model do you have in mind?
(2) Government Deficit Adds Central Bank Reserves

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

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

So, the central bank issued its own interest-bearing liability.

(5) For Government Bond Auction to Settle …

BSP Ensures There Are 300B Excess Reserves to Drain

Inflation? Monetization? How? Government spends but drains liquidity by issuing bonds. If you observe inflation, it is not this channel. What model do you have in mind?
BSP Loan to Government vs Government Bond Sales

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

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

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

• **No Difference of Macroeconomic Significance**
  - In either case, BTr can finance & refinance deficits at roughly BSP’s target rate
Philippines during March-April 2020
Ensuring a “Domestic Taker”

- **Failed BTr Auctions**
  - 16 March—3-month (82% subscribed)
  - 23 March—3-month (125%); 6-month (69%); 1 year (36%)
  - 24 March—7-year (105%)
  - 30 March—3-month (76%); 6-month (81%); 1 year (110%)
  - 31 March—35-day (197%)

- **BSP’s Response**
  - 17 March—Cancels TDF auctions “to ensure adequate short-term peso liquidity”
  - 23 March—Approves Php 300B repurchase agreement with BTr
  - 24 March—New daily 1-hour facility to buy select BTr securities in secondary market
  - 26 March—Remits Php 20B advance dividend to BTr
  - 8 April—All BTr securities eligible for purchase at daily 1-hour facility through June

Philippine govt. auctions didn't fail because nobody wanted the bonds. They failed because its govt. bond market wasn't liquid at the height of COVID-19 uncertainty & the CB hadn't stepped in yet to do its job.

May 26: ADB loan $400M to the Philippines to improve liquidity in its financial markets.
Money from heaven
Currency issuer

Central Bank

"Printing Money"

Government

"Borrowing"

Bond Market

Households/Business:
Currency Users

Govt deficit = Pvt surplus

Private Sector

Govt deficit = Pvt surplus

Interest rates decline so government or CB issues bonds to drain reserves & achieve interest rate target
The COVID-19 Measures and their Funding

Central Bank

1. Liquidity
2. Encourage Private Credit Creation
3. Direct Loans
4. Equity Investments
5. Direct Income Support
6. International Assistance
7A. Bond Markets
7B. Central Bank Swaps
8A. Central Bank Swaps
8B. International Assistance

Source: ADB COVID-19 Policy Database
1. Government deficits as private sector saving—Why Measure 5 is necessary, especially in response to COVID-19

2. Government deficits and their implications for the Central Bank operations: the interdependency of fiscal and monetary operation is more significant than you may think …

3. The Philippines’ example—interdependence means the government can always refinance domestic-currency debt at roughly the central bank’s target rate

4. Final Remarks and Conclusions
**Final Remarks and Conclusions**

• **Reminder:** all we have done is to show how CB & Treasury operate in the real world (with examples), and how they coordinate their operations - No model and no assumptions

• This presentation is not a proposal to get out of the crisis. We discuss this in another presentation, where we use the insights we get from this discussion:

  (i) Use fiscal policy to re-establish private sector balances, and to reactivate economies (of course, monetary policy still has a significant role)
  (ii) Understand that the constraint developing economies face is the foreign exchange & currency depreciations; not the fiscal deficit *per se*
  (iii) Policy goal: increase monetary sovereignty to raise your policy space
  (iv) Be ready for the next crisis: money will leave…what will you do?
  (v) Have a sound growth strategy
Summary: How is all this being “paid” for?

• The main source of Measures 1-5 is, ultimately, the Central Bank, which is “self-financed” (money from heaven)…In the current situation, “printing money” is the best option we have. We need to understand properly how it works and dismiss misconceptions.

• Correctly understood, “printing money” for a monetary sovereign is the ability to incur primary deficits, however “financed,” with the interest rate on the national debt still a policy variable.

• Over 20 central banks, including the ECB and those of some developing economies, are carrying out some version of Central-Bank-finance of government.
Instability? This is not 1997-98

Daily Exchange Rate (Feb 3 - May 25)

If you think that “printing money” automatically leads to depreciation and/or destroys reputation, then notice that these three countries’ currencies appreciated after their CBs’ intervened.
Are you still wondering if there are limits to Central Bank funding the Government?

- Recall that our arguments refer to the use of **domestic currency**, not foreign, which, of course, can be a can of worms. Important to separate both.

- **Legal limits**: whatever the law says (political decision). This is fine but note that laws are always being rewritten and that whatever limits are set in terms of, for example, a certain %, are arbitrary.

- **Economic limits**:
  - (i) Default: NO;
  - (ii) **Official Fx Reserves** to defend currency: this is about the C/A deficit and/or about the size of the fiscal deficit; not about the fact that the CB funded the Gov.
  - (iii) Issue **bonds that nobody wants** to buy: not even the CB (law)?
  - (iv) **Inflation**: (a) is the lack of a bond sale inflationary? NO; (b) can a deficit be inflationary? YES, if/when Gov spending is beyond the economy’s capacity (like any other spending). And do not forget that inflation may come through different routes (e.g., wage growth above labor productivity growth; supply shocks)
  - (v) **Expectations/Loss of reputation**: consistent with financial statement effects?
Fiscal policy (Measure 5) is **NECESSARY** because it adds to private sector incomes. Monetary policy (Measures 1/2/3) adds to private sector leverage.

If private sector wants to **deleverage**, absent a large current account improvement, only a government deficit can enable this—this is accounting.

Domestic-currency bond sales are for **interest rate maintenance**, not finance. This interdependence of government/central bank operations means government bond auctions can always settle at roughly the central bank’s target rate. And **bonds are an asset of the private sector**.

Because domestic-currency government debt can always be serviced & refinanced at roughly the CB’s target rate, then it **need not ever be paid off**. “Unsustainable” does not apply. Naturally, as the situation improves, there will be much less need for large fiscal deficits.

CB financing of Governments has not caused any problem, quite the opposite! Tell us **WHAT** you need to see and by **WHEN** to argue otherwise.
Thank you for cooperating!