Monetary financing of fiscal expenditure in South Africa

Cobus Vermeulen

Department of Economics, University of South Africa, and
South African Reserve Bank Research Fellow, University of Pretoria
vermejc@unisa.ac.za

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Background

- Approaching Covid-19
- Changing role and expectations of central banks
- Global financial crisis and monetary policy tools
- MMT and ‘magic money’
- Economics vs. politics

Closed-economy DSGE model

Replication of Gali (2020), fitted to the SA economy

- Simple CE DSGE model with MIU, Calvo pricing
- Two distinct financing regimes for government expenditure
  - **Debt financing (DF):** Government issues bonds, central bank employs Taylor rule
  - **Monetary financing (MF):** Central bank creates money to finance government spending, gives up Taylor rule

Bonds, taxes and government spending

Bond supply:

$$\hat{b}_t = (1+\rho)\hat{b}_{t-1} + b(1+\rho)(\hat{i}_{t-1} - \pi_t) + \hat{g}_t - \hat{t}_t - \chi \Delta \hat{m}_t \quad (1)$$

Tax rule:

$$\hat{t}_t = \psi_b \hat{b}_{t-1} \qquad \psi_b > \rho \quad (2)$$

Government spending:

$$\hat{g} = \phi^G \hat{g}_{t-1} + \varepsilon_t^G \quad (3)$$

Financing regimes

Debt financing:

$$\hat{i}_t = \alpha_R \hat{i}_{t-1} + (1 - \alpha_R)(\phi^\pi \hat{\pi}_t + \phi^y \Delta \hat{y}_t) \tag{4}$$

Monetary financing: (from 1 where $\hat{b}_t = \hat{b}_{t-1} = \hat{t}_t = 0$)

$$\Delta \hat{m}_t = \frac{1}{\chi} \left(\hat{g}_t + b(1+\rho)(\hat{i}_{t-1} - \pi_t) \right) \tag{5}$$

Model highlights

Resource constraint: $\hat{y}_t = \hat{c}_t + \hat{g}_t$

Consumption Euler equation: $\hat{c}_t = \hat{c}_{t+1} - \frac{1}{\sigma}(\hat{i}_t - \pi_{t+1})$

Phillips curve: $\pi_t = \beta\pi_{t+1} - \lambda\hat{\mu}_t$

Bond supply: $\hat{b}_t = (1+\rho)\hat{b}_{t-1} + b(1+\rho)(\hat{i}_{t-1} - \pi_t) + \hat{g}_t - \hat{t}_t - \chi\Delta\hat{m}_t$

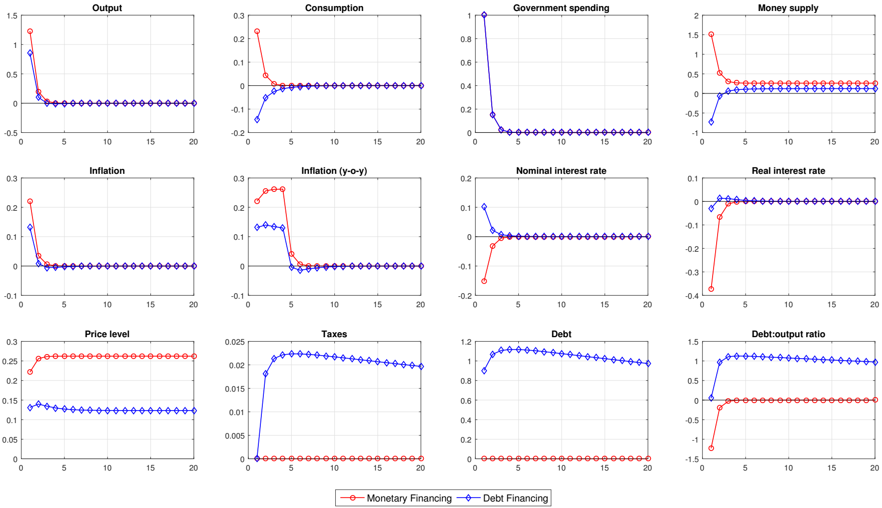
Monetary financing rule: $\Delta\hat{m}_t = \frac{1}{\chi}\left(\hat{g}_t + b(1+\rho)(\hat{i}_{t-1} - \pi_t)\right)$

Taylor rule (debt financing): $\hat{i}_t = \alpha_R\hat{i}_{t-1} + (1-\alpha_R)(\phi^\pi\hat{\pi}_t + \phi^y\Delta\hat{y}_t)$

Government spending: $\hat{g} = \phi^G\hat{g}_{t-1} + \varepsilon_t^G$

Taxes: $\hat{t}_t = \psi_b\hat{b}_{t-1}$

Debt vs. monetary financing



Credibility

- Inflation or money growth: What is the central bank's goal?

$$\Delta\hat{m}_t = \frac{1}{\chi}\left(\hat{g}_t + b(1+\rho)(\hat{i}_{t-1} - \pi_t)\right)$$

$$\hat{i}_t = \alpha_R \hat{i}_{t-1} + (1-\alpha_R)(\phi^\pi \hat{\pi}_t + \phi^y \Delta\hat{y}_t)$$

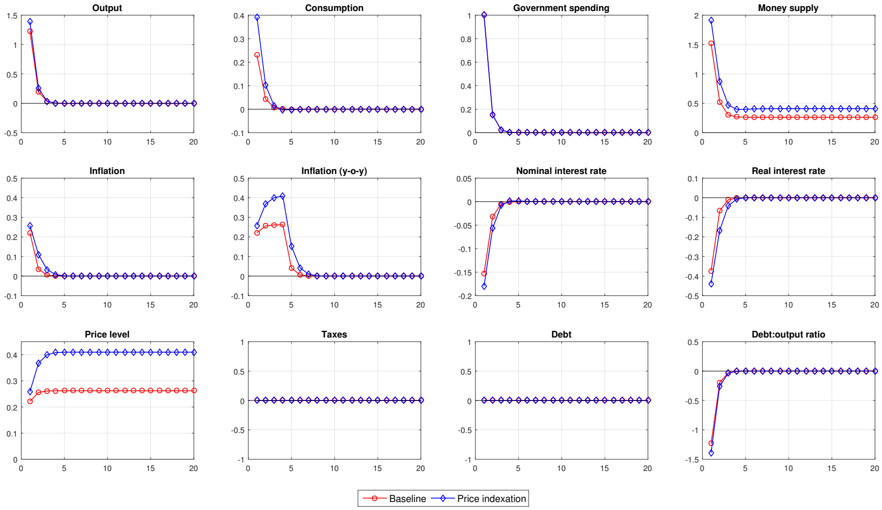
- Ricardian equivalence?

$$C_t + \frac{M_t}{P_t} + \frac{B_t}{P_t} = \frac{W_t N_t}{P_t} + \frac{M_{t-1}}{P_t} + \frac{B_{t-1}}{P_t}(1 + i_{t-1}) - T_t$$

$$\hat{c}_t = \hat{c}_{t+1} - \frac{1}{\sigma}(\hat{i}_t - \pi_{t+1})$$

- Can you fool all people all the time?

Price indexation and monetary financing



Caveats and future work

- Simplifying assumptions
  - Short-term bonds and the term structure
  - Monetary base = money stock?
  - Direct link between i and m
- Endogenous price indexation?

Stylised facts

	MF	**DF**
Debt	no	yes
Taxes	no	yes
Inflation	high	mild
Multiplier	> 1	< 1

Feasibility for South Africa?

- MF for SA?
  1. Inflation target
  2. Real interest rates
  3. Price indexation
  4. Monetary sovereignty
  5. Productivity of government spending
- First response to Covid shock?
- 'Qualifying' projects: Emergency healthcare, counter-cyclical fiscal spending, Eskom. . . ?

In closing. . .

Money can always be printed, credibility can not