Discussion of
Understanding the Effects of Government Spending on Consumption

by

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1 Overview

- use variant on New Keynesian model to match government-spending multipliers for output and consumption in U.S. data

- combine several frictions so higher $G$:
  - raises employment and real wages
  - consumption of rule-of-thumb agents increases enough to swamp decline in consumption of maximizing agents
  - sticky prices allow real wage to rise even when marginal product of labor falls
  - need a 50% RoT factor
2 Empirics

- GLV treat $G$ as predetermined in VAR; identify responses to $G$ with dynamic impacts of spending

- Some issues in identifying $G$ impacts:

  1. foreknowledge: spending proposed, debated and legislated before it appears in $G$ data

  - creates moving-average term in representation for $G$: shock to $G$ not function of current and past $G$

  - unknown if VARs approximate this well
• if approximation poor, \( G \) innovation can be \textit{anything} (but not exogenous \( G \))

2. timing of spending: intrinsic randomness in accounting

• NIPA data on \( G \) need not coincide with timing when orders and purchases made

• confounds problems from foreknowledge

3. public-financing decision: can overturn effects of \( G \)

4. type of \( G \): productive versus unproductive

Baxter-King’s important work on theory of (3) & (4)
3 Theory: Frictions

- GLV have several important frictions
  - Calvo price setting
  - Demand-determined employment
  - Rule-of-thumb consumers (RoTers)
  - Capital adjustment costs

- RoTers and sticky prices are central
  - the kick from $G$ works through RoTers
  - need stickiness so $W/P$ rises even when $N$ rises (and $MP_N$ falls)
- consumption of RoTers is:

\[ C_t^r = \frac{W_t}{P_t} N_t^r - T_t \]

- if higher \( G \) raises \( W/P \) and \( N \) sufficiently, aggregate \( C \) can rise

- result relies on:
  - asymmetry—sticky prices & flexible wages (evidence?)
  - \( MPC = 1 \) (important?)
4 Theory: Fictions

- GLV have some important fictions:
  - lump-sum taxes
  - deficit financing
  - only unproductive $G$
  - $G$ single source of uncertainty
  - synchronized appropriations and spending

- problem with these “first-step” assumptions?
  - yes, according to Baxter-King (& me)
5 How Well Do They Do?

Responses to Government Spending

Data
• static multipliers: $Y(t)/G(1)$
• persistent $G$; cumulative multipliers

Cumulative Multipliers

Data
• compare multipliers from model and data

Static Multipliers

Data and Model
Cumulative Multipliers

Data and Model

- what are GLV’s criteria for success?
6 Other Implications

- sticky prices important to GLV’s story

- model includes a Taylor rule
  
  - GLV state “RoT and sticky prices necessary” to get consumption multiplier > 0
  
  - GLV do not discuss this, but it’s fair to examine model’s implications for inflation and nominal interest rate
  
  - compare to data

- expand GLV’s initial data set
Responses to Government Spending

Data

- a little different from GLV
Responses of Inflation and Nominal Rate

Data and Model
7 A Tale of Fiscal Finance

• Baxter-King showed distortionary taxes and period-by-period budget balance converts $Y$ multipliers from $> 1$ to $< 0$

• despite lump-sum taxation GLV’s results tied to \textit{timing} of financing

• how GLV choose parameters for tax rule:

\[
t_t = \varphi_b b_t + \varphi_g g_t
\]

• paths of $\{\hat{g}_t, \hat{t}_t, \hat{b}_t\}$ due to exogenous $G$
• regress $\hat{t}_t$ on $\hat{b}_t, \hat{g}_t$ to estimate $\varphi_b, \varphi_g$

• fragile method of estimation: depends on
  – how $G$ identified
  – assumptions in VAR about tax and debt policy
  – simultaneity important and recursivity inappropriate
  – makes sense only if $G$ is sole source of uncertainty
• I amplify on Figure 7 in paper
  – fix \( \varphi_g = .12 \) and vary \( \varphi_b \)
  – fix \( \varphi_b = .30 \) and vary \( \varphi_g \)

• large consumption multipliers depend on
  – small contemporaneous tax financing
  – strong response of future taxes to debt
  – larger \( \varphi_b \) \( \Rightarrow \) weaker response to \( G_{t-k} \)

• by pushing financing into future, RoTers face small increases in current taxes, so higher \( G \) has bigger kick
Consumption Responses

Fix $\phi_g = .12$; $\phi_b = .30, .20, .10, .05$

Fix $\phi_b = .30$; $\phi_g = .12, .3, .6, .9$

Model