Discussion of "Redistribution and the Multiplier"
by Tommaso Monacelli and Roberto Perotti

Florin O. Bilbiie
Paris School of Economics, Univ. Paris I Panthéon-Sorbonne and CEPR
EUI-IMF Conference, Florence May 2011
Summary

• Multiplier: who pays for it? Impatient borrowers or patient savers.

• Robin Hood should be finance minister if you want positive multiplier

\[ \begin{align*}
C_{B,t} &= w_t N_{B,t} - r_t \bar{D} - T_{B,t}, \\
C_{S,t} &= w_t N_{S,t} + r_t \bar{D} + Profits_t - T_{S,t},
\end{align*} \]

• Missing piece: evidence in favor of both
  – assumption: are (lump-sum) taxes themselves different depending on whether \( S \) or \( B \)?
  – mechanism: are labor supply responses to taxation different across \( S-B \)?

Rest of this discussion: Three points

1. What is fundamentally new with respect to already existing, comparable models
   – Potentially much (!), \textit{effectively} a bit less

2. Why is multiplier so \textit{low} (half of the people eat all their income and pay no taxes)
   – a serious (and not obvious) issue

3. Where the real beef may be:
   – taking constraints seriously.
What’s new

Throughout analysis, \( \bar{D} = 0 \):

\[
C_{B,t} = w_t N_{B,t} - T_{B,t}, \\
C_{S,t} = w_t N_{S,t} + \text{Profits}_t - T_{S,t},
\]

Model is exactly isomorphic to: rule-of-thumb agents (Gali, Lopez-Salido and Valles, 2007 JEEA) or limited asset markets participation LAMP (Bilbiie 2008 JET, Coenen and Straub IntFin, Bilbiie and Straub 2004 WP, Bilbiie, Meier and Mueller 2008 JMCB)

- Interest rate is first-difference in savers’ consumption.
- Finance premium (Lagrange multiplier on debt constraint) is a residual variable - no role whatsoever in the allocation (more below).
- One difference - relative share of agents is fixed to one half. Implications of relaxing that?
Intuition

- What is at the core of the mechanism is \textit{not} the finance premium (no borrowing constraint is "relaxed"), but:

- \textit{Profits} - just as in the model with LAMP (more below).

- The new element here: the role of asymmetric taxation;

- Anecdote: very first -2002- version of GLV was making precisely this assumption (only $S$ taxed), but also inelastic labor of $B$.

- Would be useful to have a symmetric, truly lump-sum benchmark ($T_{B,t} = T_{S,t} = 0.5G_t$)
Fig. 1: The labor market equilibrium in response to a government spending increase.
Why is multiplier so \textit{small}? 

- Effect would be stronger (or: would need less taxation asymmetry) for 
  - more inelastic labor 
  - higher relative share of "borrowers", say $\lambda$ (fixed to one half here) 

- BUT $\rightarrow$ "inverted aggregate demand logic" (Bilbiie, JET 2008) = a bifurcation in the aggregate elasticity of intertemporal substitution:

- Slope of aggregate demand (IS curve) \textit{changes sign} when

  $$
  \lambda > \lambda^* = \frac{1}{1 + \frac{\varphi}{1 + \mu}}
  $$

  - Reason: negative income effect on asset holders through profit income.

- In this paper, since $\lambda = 0.5$, we stay in the "standard" region as long as:

  $$
  \varphi < 1.2
  $$

- Interesting to study robustness of this to non-zero (or endogenous) debt limit, but likely to be second-order.

- What may be truly first-order: whether fiscal policy indeed relaxes borrowing contraints.
When will constraint stop binding?

• Solve for Lagrange multiplier on borrowing limit, derive bounds beyond which constraint stops binding:
  – Permanent, perfect foresight ($\gamma_j$ is net growth rate of consumption of agent of type $j$):
    \[
    \frac{1 + \gamma_S}{1 + \gamma_B} > \frac{\beta_S}{\beta_B} \approx 1.01.
    \]
  – Purely temporary shocks (this is where multiplier is largest!)
    \[
    c_{B,t} - c_{S,t} > \frac{\beta_S}{\beta_B} - 1 \approx 0.01
    \]

• Very likely to stop binding under $G$ shocks precisely in region of interest ($c_B \nearrow, c_S \searrow$)

• At the very least need to do simulations to find shock size such as it keeps binding (still problematic - which policy function to use)

• But this is exactly what is potentially first-order, and new:
  — what happens when fiscal policy relaxes borrowing constraint?
Two periods, today and tomorrow

Supply (borrower):

\[ D = \begin{cases} 
\frac{Y'_B}{1+\beta_B} \frac{1}{1+R} - \frac{\beta_B}{1+\beta_B} Y_B & \text{if } \frac{1}{1+R} < \frac{1+\beta_B}{Y_B} D + \frac{\beta_B}{Y_B} Y_B \\
D, & \text{otherwise}
\end{cases} \]

Demand (saver):

\[ D = -\frac{Y'_S}{1+\beta_S} \frac{1}{1+R} + \frac{\beta_S}{1+\beta_S} Y_S \]

**Fig. 2:** The effect of government spending: taxation of S (red) or B (blue)
This implies the opposite!
- spending financed through taxing savers puts economy in standard, unconstrained region
→ crowding out

Similar picture under endogenous debt limit

Multi-period stochastic model with such non-linearities \textit{can} be solved (PEA: Marcet, den Haan).
- there are idiosyncratic shocks, when agents are taxed asymmetrically.
- inflation does not redistribute wealth from savers to borrowers (unless nominal interest rate is fixed). In fact, in equilibrium it is the other way around: since nominal interest rates fulfil the Taylor principle, in response to inflation real interest rates increase - so wealth is redistributed from borrowers to savers through interest payments.