Discussion of “Managing Credit Booms and Busts: A Pigouvian Taxation Approach” by O. Jeanne and A. Korinek

C. Bora Durdu
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Motivation

• If credit frictions are prevalent, the interaction between debt accumulation and asset prices can give rise to booms and busts.

• During booms, rise in asset prices relaxes credit constraints inducing further borrowing.

• During busts, tightening of credit constraints leads to fire-sales of assets, further tightening of credit, eventual collapse of asset prices.

• Existence of these feedback effects create an externality.

• Could Pigouvian taxation help restore socially optimal equilibrium?
Key Ingredients of the Model

- **Budget constraint:**
  \[ c_t + d_t + \theta_{t+1}p_t = e_t + \theta_t(p_t + y_t) + \frac{d_{t+1}}{R} \]

- **Collateral constraint:**
  \[ \frac{d_{t+1}}{R} \leq \phi\theta_tp_t \]

- When \( d \) is sufficiently high such that the constraint binds, agents fire-sell their asset \( p \downarrow \), constraint binds even further...

- Under competitive equilibrium (Laissez-faire), an externality arises because agents do not internalize that their borrowing decision affects future asset prices.
Social Planner’s Problem and Pigouvian Taxation

- Social planner’s problem differs from Laissez-faire in that the planner internalizes that future asset prices and insiders’ borrowing capacity depend on the aggregate debt.

- The collateral constraint becomes:
  \[
  \frac{d'}{R} \leq \phi \hat{p}(m, y, m + d'/R). 
  \]

- Pigouvian taxation:
  \[
  \tau(m_t, y_t) = \frac{\lambda_{t+1} \phi \partial p_{t+1}}{E_t[u'(c_{t+1})]} \quad \text{with} \quad T_t = \tau_t w_{t+1}/R
  \]

- Optimal magnitude of this tax on average is 2.41%, making a case for capital controls.
Main Contribution

• Macro models with financial frictions: Aiyagari and Gertler (1999), Bernanke, Gertler and Gilchrist (1999), Durdu, Mendoza and Terrones (2009), Mendoza (2008), Mendoza and Smith (2006), Korinek (2009),...

• Role of externality: Caballero and Krishnamurthy (2001), Korinek (2008), Lorenzoni (2008), Uribe (2006),...

• Role of stabilization policies: Benigno et al. (2008), Bianchi (2009), Durdu (2009), Durdu and Mendoza (2006),...
Comments

• Very timely, interesting project!

• Some caveats apply regarding policy implications.

• Lessons from Durdu and Mendoza (2006):
  – DSGE asset pricing model in which Fisherian deflation of asset prices induce crisis.
  – Domestic agents face collateral constraints.
  – Foreign traders incur per-trade and recurrent trading costs.
  – An IFO provides ex-ante price guarantees (PG) offered to foreign traders and finances it with lump-sum taxation.
Lessons from Durdu and Mendoza (2006), Cont’ed

- PG can undo the effect of financial frictions but introduces moral-hazard-like distortions.

- Effectiveness of guarantees depend on
  - The level at which they are set.
  - Whether they are state-contingent or not.
  - If elasticity of foreign investor demand is high guarantees improve domestic welfare with sharp increases in value of foreign traders.
  - Otherwise, only high levels of price guarantees can undo the frictions but this would cause welfare losses.

- Bottomline: policy action is not always preferable, it may do more harm than good if not carefully designed!
Sensitivity and general issues

• Sensitivity of the results:
  – What if outsiders can hold domestic equity?
  – What if the Markov chain is symmetric?
  – What other key ingredients of the model can affect the tax rate?

• Is policy intervention always good?
  – If optimal tax is time-varying, could uncertainty about future level and timing of changes increase volatility?
  – Does it make sense to tax inflows if they are permanent rather than transitory? If not, how can policy makers identify whether inflows are permanent or transitory?
Further general issues

• What happens when the tax rate is set higher or lower than socially optimal level?

• If over-taxation is costly, how can countries internalize its adverse consequences?

• If these costs are not internalized, could over-imposition of controls—relative to what is optimal from a world-wide social welfare viewpoint—have adverse long-run impact?
Technical comment on Carrol’s Endogenous Grid Point (EG)

- EG relies on changing the time convention of the state variables.
- The standard approach, e.g., in neoclassical growth model, uses as state variable capital at the beginning of the period.
- EG proposes to rewrite the problem using the total amount of resources available in the next period.
- The latter alternative does not require the use of a numerical root finder. Caveat: applicable only to simple models.
- If labor is endogenous, it is not possible to fix a grid on market resources (see Barillas and Fernandez-Villaverde, 2007).