Discussion of

On the Optimality of Financial Repression

V.V. Chari  Alessandro Dovis  Patrick Kehoe

Alberto Martin
CREI, Universitat Pompeu Fabra and Barcelona GSE, IMF

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Motivation

- Recent years in Europe: marked increase in amount of public debt held by banking system
- Partly government induced
  - regulation (e.g., ECB)
  - moral suasion
- Conventional wisdom: increase in bank bondholdings is bad
  - crowds out investment
  - distorts incentives
- This paper:
  - we are forgetting a benefit of bank bondholdings
    * increase incentives for repayment, raise sustainability of debt
  - beneficial if debt is useful (e.g., for tax smoothing)
Overview

- Dynamic economy with
  - government
  - savers
  - bankers
Overview (II)

- In each period, output given by
  \[ Y_t = \omega_k \cdot K_t + \omega_l \cdot L_t \]

- Government
  - benevolent
  - finances spending \( g_t \in \{g_L, g_H\} \) through debt \( b_{t+1} \), labor tax \( \tau_l \) or investment tax \( \tau_k \)

- Savers:
  - supply labor, consume and save
  - maximize
    \[ U_t = \sum_{s=t}^{\infty} \beta^{s-t} (c_s - v(l_s)) \]
    where \( v(l_s) \) is disutility of labor, with \( v'(\cdot) > 0 \) and \( v''(\cdot) > 0 \)
  - note: in equilibrium, \( R_{t+1} = \frac{1}{\beta} \)

- Bankers
  - rent out capital, borrow and invest
  - maximize wealth
Financial markets

- Savers can purchase public debt at price $q_t^B$ or bank deposits at price $q_t^D$

- Bankers can purchase public debt at price $q_t^B$ or issue deposits at price $q_t^D$

- Two frictions:
  - sovereign risk: government can choose to repay share $\delta_t \in [0, 1]$ of debt
    * repayment is nondiscriminatory
  - limited pledgeability: bankers can pledge at most fraction $\gamma$ of wealth
    * borrowing constraint

\[
\frac{d_t}{\beta} \leq \gamma [\omega K \cdot K_{t+1} + \delta_{t+1} \cdot b_{t+1}^B]
\]
Deposit market

- Timing: fiscal policy announced, output produced, asset payments made (including government debt), new assets traded, investment takes place

Bank investment equals \( n_t + d_t - q_{t+1} \cdot b^B_{t+1} \), where

\[-n_t = \omega_K \cdot K_t + \delta_t \cdot b^B_t - d_{t-1} \cdot \beta^{-1} \] is the bank’s net worth

- Replacing in constraint

\[ d_t \leq \frac{\gamma}{\beta^{-1} - \omega_K \cdot \gamma} \cdot \left[ \omega_K \cdot n_t + (\delta_{t+1} - \beta \cdot \omega_k) \cdot b^B_{t+1} \right] \]

- Key assumption:

\[ \gamma^{-1} > \beta \cdot \omega_k > 1 \]

i.e., investment is productive and bankers are constrained

- bankers want to invest as much as possible but cannot
- debt purchases crowd out productive investment
- bankers always prefer \( b^B_{t+1} = 0 \)
Role of public debt

- Convex disutility of labor: incentive to smooth $\tau_l$
- Useful role of public debt
- Under government commitment
  - debt used to smooth $\tau_l$
  - banks set $b_{t+1}^B = 0$
- With sovereign risk
  - perfect tax smoothing is no longer feasible with $b_{t+1}^B = 0$
    * government always defaults!
      - avoid tax distortion, default $\approx$ lump-sum taxation
  - can it be optimal to have some smoothing with $b_{t+1}^B > 0$?
    * if so, force banks to hold bonds: financial repression
    * trade-off: lower investment (crowding out) vs. higher output (tax smoothing)
    * financial repression provides a costly commitment technology
Main results

- If $g_H$ is sufficiently high, always desirable to have some financial repression in equilibrium

- Debt behavior:
  - locally, it rises in $g_H$ and falls in $g_L$
  - over time, public debt in $H$ and $L$ states falls, until debt in $L$ is zero
    * intuition:
      - Ramsey with commitment, debt is constant
      - without commitment, debt has same smoothing benefits but is costly
      - incentive to reduce it
  - bottom line: should expect to see repression in periods of large fiscal needs
My view

- Very nice paper
  - timely and important question
  - slight deviation from standard tax-smoothing model: introduce
    * sovereign risk with non-discriminatory enforcement
    * credit-constrained agents
  - sensible bottom line:
    * much concern about ex post effect of sovereign risk on banking system
    * not enough attention paid to effects on incentives and debt sustainability

- Closely related to recent work on non-discrimination and foreign borrowing
  - foreign borrowing is valuable
  - sustainable as long as some assets are in the hands of domestic agents
    * domestic banks hold bonds for liquidity purposes (Gennaioli, Martin and Rossi 2014)
    * domestic banks hold bonds for risk shifting (Livshits and Schoors 2009)
    * domestic agents hold domestic assets for risk sharing (Broner, Martin and Ventura 2010, Broner and Ventura 2011)
Empirical evidence

- Two main forces in the model:
  - **crowding-effect of debt**
    - most of us believe in some version of it
    - but government debt may also crowd investment in
      - liquidity (Holmstrom-Tirole 2008), collateral (Angeletos et al. 2013, Bolton and Jeanne 2011)
  - **government defaults adversely affects bank lending/investment**
    - Gennaioli, Martin and Rossi (2014, WP) analyze aggregate and bank-level data:
      - sovereign defaults followed by fall in private credit...
      - ...fall in credit increasing in banks' holdings of public bonds
      - at bank level, post-default fall in credit increasing in holdings of public debt...
      - ...$0.60 increase in bondholdings associated to $1 fall in lending
    - Soner-Baskaya and Kalemli-Ozcan (2014)
      - Turkish earthquakes in '99 to assess effect of sovereign risk with bank lending
      - positive correlation with bondholdings
Comment 1: Role of non-discrimination

- In model without heterogeneity (i.e., only savers), financial repression would be used all the time
  - akin to lump sum taxation: force savers to hold debt, then default
  - in a sense, this is a model on limits of financial repression
    * costly for banks to hold debt because it crowds out investment

- Strange role of non-discrimination
  - model assumes non-discrimination ex post.....
    * impossible to distinguish between bankers and savers at the time of repayment
  - but discrimination ex ante!
    * because banks can be forced to hold debt but savers cannot
Comment I: Role of non-discrimination (II)

- Non-discrimination: is there an inconsistency in the model?
  - an important rationale for non-discrimination ex post is that bonds are traded in secondary markets (Broner, Martin and Ventura 2010)
    - but this also makes it difficult to discriminate ex ante!
  - which assumptions are consistent with pattern of discrimination in the model?

- Alternative framing: government imposes minimum bondholdings but cannot discriminate
  - if in equilibrium bonds of savers > $b$: constraint not binding, everything as in paper
  - if binding, $b$ distorts savings decisions and crowds out investment
Comment II: optimality of financial repression

- Financial repression attempts to deal with externality
  - banks do not internalize the effects of bondholdings on enforcement

- But it is “coarse” reaction to externality
  - force banks to hold government bonds

- Why not subsidize banks to internalize the externality?
  - closer to events of recent years
    * beneficial risk-weighting of government bonds, ECB valuation of bonds as collateral, etc..
  - mitigates or eliminates crowding-out effect

- Discussion of optimal policy
  - fully subsidized bond purchases
    * crowding in effect of bondholdings
  - size of purchases determines transfers to bankers
    * return to investment vs. disutility of labor
Sovereign debt holders: Germany vs. Spain

[Graph showing the trend of sovereign debt holders for Germany and Spain from March 2000 to March 2012. The graphs compare residents and non-residents, with a secondary axis for the spread (RHS).]
Comment III: what else can we learn?

- Optimal financial repression and financial development $\gamma$
  - greater $\gamma$ strengthens balance sheet effect: higher benefit of repression
    \* but it also strengthens crowding out effect: higher cost of repression
  - eventually, once $\gamma$ is high enough constraint no longer binds and optimal FR is zero
  - can we say anything else?
    \* slight variation: public bonds easier to pledge $\gamma^B > \gamma$
    \* constraint
      \[
      d_t \leq \frac{\gamma}{\beta^{-1} - \omega_K \cdot \gamma} \cdot \left[ \omega_K \cdot n_t + \left( \frac{\gamma^B}{\gamma} \cdot \delta_{t+1} - \beta \cdot \omega_k \right) \cdot b^B_{t+1} \right]
      \]
    \* higher financial development $\gamma$ reduces optimal financial repression
      \* more efficient commitment technology as leverage increases

- Optimal financial repression and productivity
  - temporary shocks to $\omega_K$
  - financial repression rises in recessions
    \* weakens crowding out effect, less so future incentive effects

- Use of financial repression vs. investment taxation
Concluding remarks

- Very nice paper

- Explores role of non-discrimination in sustaining commitment
  - whenever some assets are in the hands of agents liked/valued by government...
  - ...“collateral” cost of default or non-enforcement

- Can this insight be pushed to other areas?
  - Example: redistribution across sectors
    * in Argentina, from agricultural sector to the urban population
      - persistent taxes, distortions, etc...
    * why not turn all voters into stakeholders?
      - non-traded shares/bonds that pay in proportion to agricultural profits
      - commitment technology to avoid distortionary interventions