Discussion of the project titled "Debt Management under Optimal Fiscal Policy" by E. Faraglia, A. Marcet and A. Scott

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Description of the project

- First paper: simulate Angeletos 2002, Buera and Nicolini 2004 (BN hereafter), the model is at odd with fiscal facts in OECD countries (even when including capital accumulation, habit persistence, etc.)
- Second and third paper: extend previous model to bonds at different maturities.

$\Rightarrow$Numerically challenging:
a. Constraints with expectations of future marginal utilities (Marcet and Marimon approach, add lagged as co-state)
b. Large state space (Sims' method)

- Fourth paper (still to come): implications for debt management with optimal fiscal policy under incomplete markets (e.g. transaction costs) and bonds at different maturities

Optimal fiscal policy literature (overview)

- Lucas and Stokey 1983: Ramsey allocation, show optimality of constant labour taxes⇒fluctuations in G are offset with Arrow Debreu securities
- Angeletos 2002, BN 2004 ⇒when state contingent bonds not available, use different maturities to complete the market
- Ayagari et al. 2002: taxes do not need to be constant under incomplete markets
- Marcet and Scott 2009: *completing* the market has counterfactual empirical implications
- Faraglia, Marcet and Scott 2009 (FMS hereafter): Angeletos and BN are at odd with data for debt in OECD countries
- Other papers related to FMS: *Shin 2006, Lustig, Sleet and Yeltekin 2006, Khumof and Yakadina 2006*

Debt management literature (overview)

- Missale 1999: debt management through cost minimization$\Rightarrow$ when government expects rising interest rates they decrease maturity
- Missale and Blanchard 1991:

a. Stylized facts: initial conditions matter, high level of debt associated with short maturities
b. Interaction of fiscal and monetary policy$\Rightarrow$ at high levels of debt, government decreases maturity to maintain anti-inflationary credibility

- Missale and Bacchiocchi 2005: relation between debt maturities and rate differentials across countries (open economy dimension)
- Incidentally: type of auctions (english, dutch, etc.) also influences the yield curve (see Chari and Weber 1992, Bartolini and Cottarelli 1994)

Data for debt in OECD countries

- Faraglia, Marcet and Scott 2009: find U-shaped relation between debt and maturities
- Data do not show exact relation: many countries use *swaps* to push forward the burden of deficits (not only Greece and Italy!)
- Missale and Blanchard 1991: the relation depends on the initial level of debt
- Maturities structure vary depending on monetary regimes: pre and post EMS, pre and post Bretton Woods, pre and post EMU ...

Should a model of Ramsey plan explain the data?

- Not necessarily. In our view it is a normative analysis not a positive one
- Governments are not benevolent, not committed, last for five years and are subject to lobbies pressure
- Default is endogenous: it is not a shock!

Alternative proposal to explain U-shaped

- Government needs to roll over debt: starts with positive deficits and past interest rate burden
- Goal: maximize probability of placing debt
- Segmented asset markets: investors with two types of risk profiles$\Rightarrow$
  1. Households (intermediated by banks) seek for liquid assets
  2. Institutional investors (pension funds) or hedge funds which want to stay long (high capital gains)
- Government will want to place the highest share of debt on the short and long term maturities

Some finance based explanation

- *Pivotal* portfolios have better risk/return profiles as their distribution is a mean preserving spread
- Markovitz results apply here: pivotal portfolios allow to minimize variance and maximize expected returns
- In many countries debt management is done by authorities (independent from fiscal or monetary authorities) which apply finance principles

List of (other) reasons to explain debt maturities

- Lack of commitment
- Non benevolent government: Khumof and Yakadina 2006, politically oriented governments
- Interaction with monetary policy and use of open market operations
- Interest rate differentials in currency areas

Conclusions

- *Deep, thoughtful and numerically challenging paper*
- Albert Marcet algorithmic skills at his best!
- I would not push the U-shaped motivation too much