Managing Credit Booms and Busts

Discussion

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Introduction

- Clear and simple idea. Very well executed:
  - Collateral constraints affect borrowing and C smoothing
  - Depend on prices of assets, which are affected by past savings decisions
  - Externality and Pigouvian taxes
- Discussion:
  - Overview of model and main mechanism
  - Nature of borrowing constraints and robustness
  - Normative implications
  - Positive implications and other areas

The mechanics of the model: example

- 2 periods.
- Initial wealth (e.g. endowment) w
- tree gives z for sure in period 2.
- $d \leq \phi p$
- $\beta = R = 1$

Region where constraint not binding

- Asset pricing equation:

$$u'(w+d)\,p = u'(z-d)\,z$$

- $p = z$
- $c_1 = c_2$ and $d = \frac{z-w}{2}$
- when w decreases, debt increases.
- consumption smoothing

When borrowing constraint bind

- $u'(w+d)\,p = u'(z-d)\,z$ and $d = \phi p$

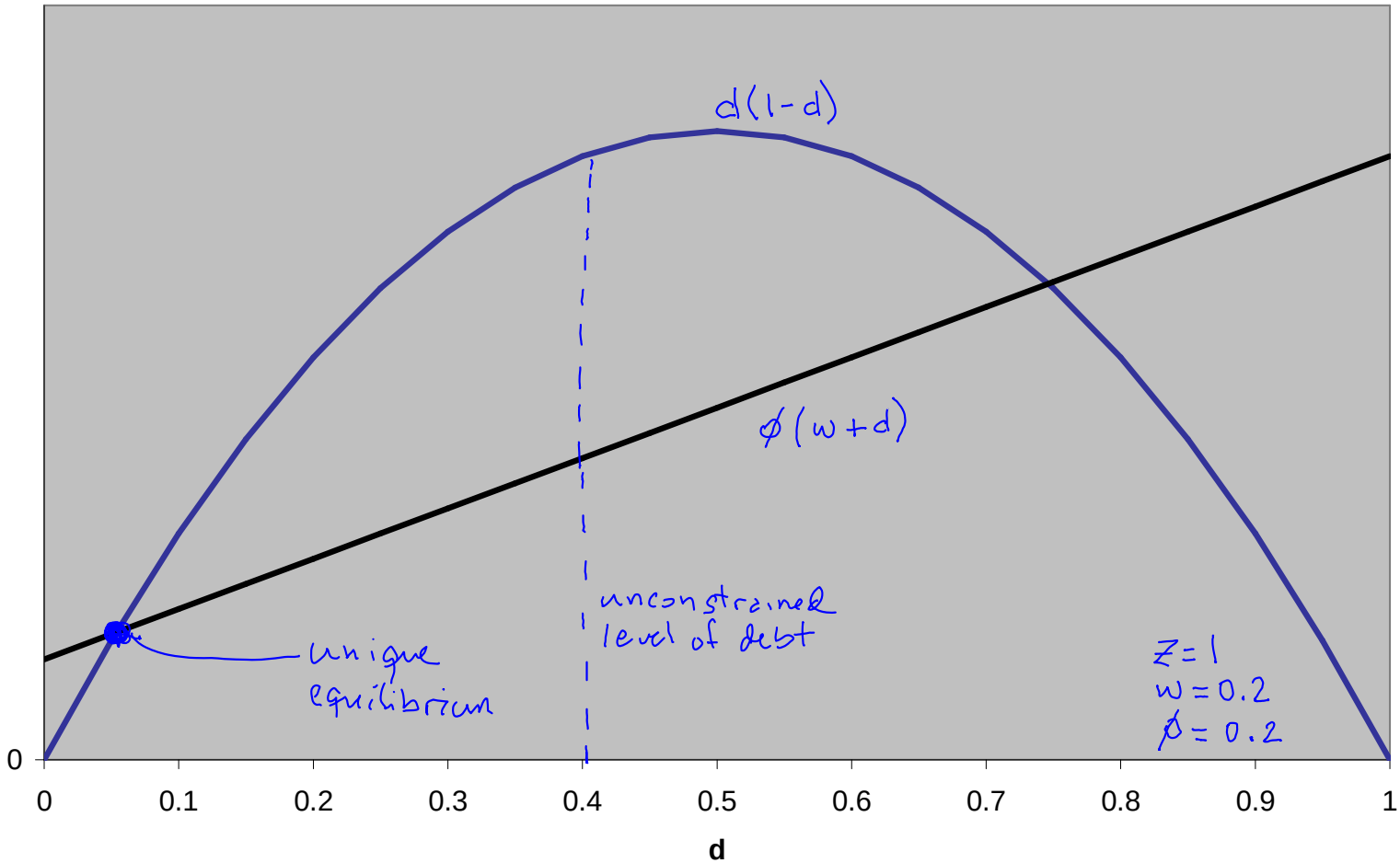
$$u'(w+d)\,d = \phi z u'(z-d)$$

- With *ln* utility

$$\frac{d}{w+d} = \frac{\phi z}{z-d}$$

$$d(z-d) = \phi z\left(w + \frac{d}{R}\right)$$

$$d\,(z-d) = \phi z \left(w + \frac{d}{R} \right)$$



Nature of Borrowing constraints

- There is no default in the model
- Even without collateral constraints, this implies borrowing constraints
  - debt cannot grow without bound
  - In previous example $d \leq z$
  - In paper, if $y_{min} = 0$, no positive debt can be sustained without default (e.g. $z = 0$)
- Why collateral constraints?

Why collateral constraints?

- Assumption in paper:
  - Agents enter period with debt and repay it (cannot default on outstanding debt)
  - Issue new debt
  - Can immediately default on that debt
  - Lose part of the capital
  - and can immediately raise new debt.
- Existing debt treated asymmetrically
- Argument in paper might not work otherwise:
  - constraints on today's debt would depend on tomorrow's expected asset prices, not today's.
  - tomorrow's expected prices depend on expected consumption growth after tomorrow.

Normative implications

- Support for a tax on debt
- Not simple: state dependence
- relatively small tax (according to calibration)
- Probably very small welfare gains:
  - calibrated crisis occurs sporadically
  - Not a huge loss in welfare
  - Aggregate vs. distributional risk
- What if more frequent? larger? (e.g. LDC's)
  - problematic for story: role of precautionary savings

Positive implications

- Parameters chosen to fit the data. Not a positive theory.
- Model is very stylized so hard to match to data.
- Crisis: credit bust and fall in asset price is 12.3%
- This should imply a very large increase in the interest rate on savings
  - Not what happened in the crisis: flight to quality

Potential explanation for LDC's

Table: Volatility of Annual Growth Rates (1960-99)

	Industrial Countries	LDC - MFI	LDC - LFI
Y	2.18	3.84	4.67
C	2.37	5.18	6.61
Income	2.73	5.44	7.25
C+G	1.86	4.34	6.40
C+G rel. Income	0.67	0.81	0.80

Sector specific assets

- Booms of entry and investment
- Considerable sector specific capital
- Bad news on prospects, decrease value of assets and collateral
- Reduces ability to borrow
- Possible rise in liquidation
- But also reduces the cost of expanding firms.

Final remarks

- Nice and elegant model. Important question.
- Normative or positive?
  - If normative, more meaningful if could get larger effects
  - If positive, expand model and explore other implications
- Aggregate or sectoral?