Discussion of:

Collateral Crises

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Overview

- Aim: study the dynamics of credit and output ...

  when information about collateral quality is endogenous

- In normal times, credit tends to grow (a "boom")

- If collateral quality worsens, credit declines for 2 reasons

  (i) the lower value of the collateral (fairly standard)

  (ii) lenders have an incentive to produce information (new)

- Fragility builds up during a boom

  – contractions in credit/output is larger after a longer boom

Outline

- Relationship to other work
  - what is different about the model/mechanism here?
- Review the key elements of this mechanism
- Comments/questions

Other work

The mechanism here is different from the "standard" feedback effect with collateral constraints

- Standard: focus is on total value of available collateral
  - asset price boom $\longrightarrow$ collateral worth more $\longrightarrow$ credit boom
  - asset price bust $\longrightarrow$ collateral worth less $\longrightarrow$ credit crunch
  - as in Kiyotaki & Moore (1997), others

- Here: a crisis can occur even holding the total value of collateral fixed
  - what matters is the *distribution* of collateral (in value terms) across firms

Also different from models that emphasize asymmetric information (Gorton & Pennacchi, 1990; Dang et al., 2010)

- There: concern that asymmetric information will hinder trade/credit
  - achieve better outcomes if counterparties have same information about the value of the asset
  - securities with a relatively state-independent payoff are useful ("information insensitive")

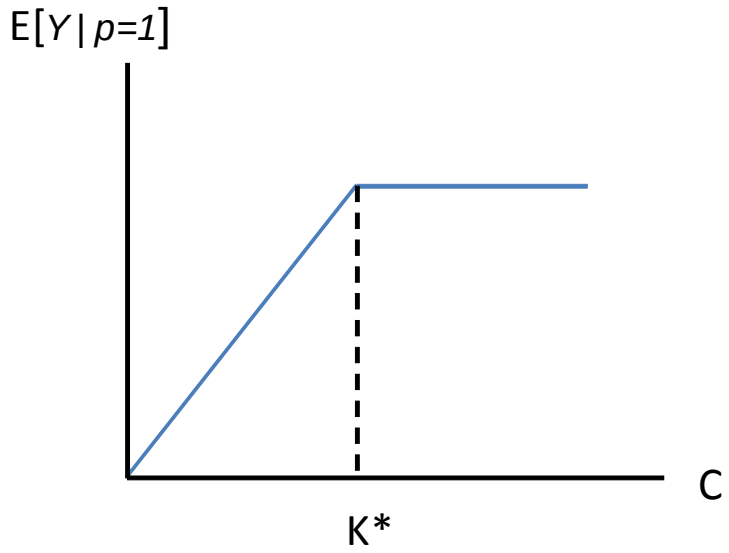
- Here: borrower and lenders have same information about the asset
  - issue is how well *everyone* can distinguish collateral quality

Key elements

1) Diminishing returns to collateral at the firm level

- Unconstrained efficient level of operation K^*
  - if $p_i C > K^*$, excess collateral of firm i is unused

- Suppose a firm's collateral were known to be good:



- Concavity $\Rightarrow$ distribution of collateral across firms matters for aggregate efficiency

2) No information production ⇒ collateral values equalize

- Economy begins with $p_i C \in \{0, C\}$ for all i

- In each period, some collateral may change quality
  - now $p_i C \in \{0\,,\, \widehat{p}C\,,\, C\}$; mass accumulates over time on $\widehat{p}C$

- Concavity ⇒ total lending and total output increase
  - a "credit boom"

- Note: total value of collateral in the economy is not changing
  - the distribution of that value across firms is becoming more equal

3) Information production $\Rightarrow$ collateral values disperse

- Any event that induces lenders to produce information about collateral value will:
  - move firms from $\widehat{p}C$ to $\{0, C\}$
  - decrease total credit/output (concavity)
- Firm may borrow less to avoid giving lender this incentive
  - recall: fixed cost of producing information

$\Rightarrow$ Two reasons credit/output may fall

- the possibility of information production tightens constraint
- actual information production creates dispersion in collateral values

Comments

The nature of the aggregate shock

- A fraction $(1 - \eta)$ of good collateral becomes bad
  - total value of collateral in the economy falls, then gradually returns to original level
- Combines the "standard" mechanism and the new one
  - lower total collateral value will constrain credit ...
  - as will the possibility of information production
- Story: suddenly realize some assets are worse than we thought
  - sounds like a plausible description of recent crisis, but ...

- Suppose the shock is a decrease in the probability of success (q)
  - lenders are more likely to end up holding the collateral

  $\longrightarrow$ also gives lenders an incentive to produce information

  $\Rightarrow$ can induce a crisis through the same mechanism

- Story also seems plausible
  - always knew some of collateral is questionable, but ...
  - suddenly realize I may actually get stuck with it

- Highlights the mechanism in this model more cleanly
  (average collateral quality is not changing)

- Both types of shocks were present in the recent crisis
  - can the model be used to measure their relative importance?

Evidence for the mechanism

- Does the distribution of collateral across firms matter?
  - if markets work well, answer should be 'no'
    (but if markets worked well, no need for collateral)

- Paper offers evidence that cross-sectional standard deviation of stock returns falls during periods of credit expansion
  - ok, but ....

- Are there more direct ways to test whether distribution matters?
  - how can I judge the relative importance of the mechanism here?