

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 → collateral worth more → credit boom
 - asset price bust → collateral worth less → 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

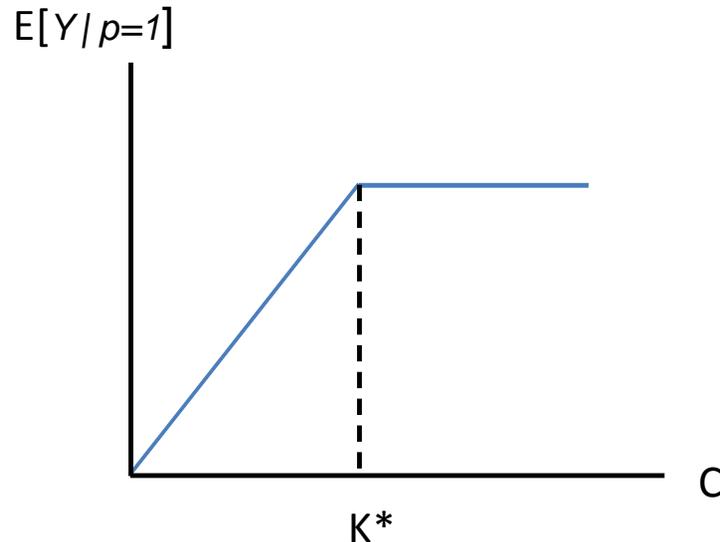
Also different from models that emphasize asymmetric information (Gorton & Pennacchi, 1990; Dang et al., 2010)

- 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 \Rightarrow collateral values equalize

- Economy begins with $p_i C \in \{0, C\}$ for all i
- In each period, some collateral may change quality
 - now $p_i C \in \{0, \hat{p}C, C\}$; mass accumulates over time on $\hat{p}C$
- Concavity \Rightarrow 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 $\hat{p}C$ 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
 - also gives lenders an incentive to produce information
 - ⇒ 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?