Bankruptcy Risk and the Great Recession

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Bankruptcy Risk in Big Recessions

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- US and Europe since 2008.
The Great Recession - CDS Premiums Skyrocket

25 largest financial institutions. Equity/asset ratio on the left axis. 5 year CDS premium on the right axis. Asset weighted means.
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- Focus on capital constraints (Kiyotaki and Moore 1997).
- Equilibrium default probability is zero.
- Exception: Bernanke, Gertler and Gilchrist (1999). Bankruptcy risk is idiosyncratic and perfectly diversified.
- My paper: bankruptcy risk is aggregate and cannot be diversified away.
The Balance-Sheet Channel

- New balance-sheet channel that works through bankruptcy risk.
- Builds on the rare disaster literature (Rietz 1988, Barro 2006).
- Disasters are states of a complete failure of the banking sector.
- The novel feature - endogenous disaster probability.
The flight-to-quality argument

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The key variables are leverage and bankruptcy risk.
To deviate from MM Theorem, macro models use asymmetric information. Problem: No default.

I use heterogeneous risk preferences and incomplete markets (Allen and Gale 1988).

Two types of agents: risk averse and risk neutral.

Two types of securities: equity and deposits.

To achieve risk sharing, risk averse agents will save in bank deposits and risk neutral will save in equity shares.

The model is solved under participation constraints. The constraints do not bind in equilibrium.
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The bank maximizes the value of its equity shares by choosing the optimal leverage.

Higher leverage raises the bank income but also increases the default probability.

Externality: modelled as in Gertler and Kiyotaki (2012).

Bank failures are contagious. They trigger bank runs on banks that are otherwise fundamentally solvent.

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Distribution of aggregate bank income is calibrated based on OECD bank data, 1979-2003.
Bankruptcy cost parameter is based on FDIC figures and James (1991).
The basic setup is an OLG model, which can be easily solved.
Asset Price Effects

leverage (\(\lambda\))

\(ER^e\)

\(\bar{R}\)

\(R^f\)

Bankruptcy Risk and the Great Recession
Impulse Response Functions

Assets ($a_t$)

Storage ($\mu_t$)

Leverage ($\lambda_t$)

Disaster probability

Returns

Equity Capital ($e_t$)

Assets with storage
Assets no storage

Storage with storage
Storage no storage

Leverage with storage
Leverage no storage

Disaster probability with storage
Disaster probability no storage

Returns

Equity Capital

$E R^e_t$

$R_t$

$R^e_t$

with storage

no storage

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The end

Thank you!