

THE EFFECT OF BANK RECAPITALIZATION POLICY ON CORPORATE INVESTMENT

Discussant: Philip Vermeulen
European Central Bank
DG-Research MPRD

Common challenges in Asia and Europe
Eltville 01 May 2014

MAIN QUESTION AND RESULTS

Does recapitalization of banks lead to higher firm investment? Quantitative assessment

Mechanism: higher bank capital → higher willingness to lend
→ more borrowing firms → more investment

- ▶ Japan 1998-1999
- ▶ Two recapitalisations (March 1998) (March 1999) : 2 percent of GDP
- ▶ Without recapitalisation of March 98 aggregate investment would be 1.3 pct lower
- ▶ If recapitalisation of March 99 would have been done in March 98: aggregate investment would be 8.3 pct higher

MICRO LEVEL INVESTMENT

Firm loan demand will depend on

- ▶ availability of cash flow
- ▶ profitability of new investment (TFP shocks, capital)
- ▶ cost finance (level of indebtedness)
- ▶ price investment goods

Bank loan supply will depend on

- ▶ bankruptcy risk of individual firms
- ▶ availability of collateral
- ▶ Basel I ratio

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

High number of shocks

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock

High number of shocks

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness

High number of shocks

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)

High number of shocks

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)
- ▶ Basel I capital ratio

High number of shocks

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)
- ▶ Basel I capital ratio

High number of shocks

- ▶ TFP shock

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)
- ▶ Basel I capital ratio

High number of shocks

- ▶ TFP shock
- ▶ investment price shock

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)
- ▶ Basel I capital ratio

High number of shocks

- ▶ TFP shock
- ▶ investment price shock
- ▶ collateral value shock

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)
- ▶ Basel I capital ratio

High number of shocks

- ▶ TFP shock
- ▶ investment price shock
- ▶ collateral value shock
- ▶ fixed operating cost shock

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)
- ▶ Basel I capital ratio

High number of shocks

- ▶ TFP shock
- ▶ investment price shock
- ▶ collateral value shock
- ▶ fixed operating cost shock
- ▶ exit cost without default

STRUCTURAL MODEL

- ▶ Very rich
- ▶ combines micro-mechanism of lending-borrowing-investment
- ▶ Allows to analyze the effect of recapitalization

Necessary cost: high number of state variables

- ▶ level of capital stock
- ▶ inherited indebtedness
- ▶ land (collateral)
- ▶ Basel I capital ratio

High number of shocks

- ▶ TFP shock
- ▶ investment price shock
- ▶ collateral value shock
- ▶ fixed operating cost shock
- ▶ exit cost without default
- ▶ exist cost default

THE DATA

select sample: manufacturing firms quoted on the Tokyo Stock Exchange

- ▶ large firms
- ▶ access to other finance (bond and equity)

Questions:

THE DATA

select sample: manufacturing firms quoted on the Tokyo Stock Exchange

- ▶ large firms
- ▶ access to other finance (bond and equity)

Questions:

- ▶ How many banks do these firms borrow from?

THE DATA

select sample: manufacturing firms quoted on the Tokyo Stock Exchange

- ▶ large firms
- ▶ access to other finance (bond and equity)

Questions:

- ▶ How many banks do these firms borrow from?
- ▶ Can these firms borrow from foreign banks? Sony, Toyota,...

THE DATA

select sample: manufacturing firms quoted on the Tokyo Stock Exchange

- ▶ large firms
- ▶ access to other finance (bond and equity)

Questions:

- ▶ How many banks do these firms borrow from?
- ▶ Can these firms borrow from foreign banks? Sony, Toyota,...
- ▶ Why don't these firms switch bank? No information of bank switching given in the paper

THE DATA

select sample: manufacturing firms quoted on the Tokyo Stock Exchange

- ▶ large firms
- ▶ access to other finance (bond and equity)

Questions:

- ▶ How many banks do these firms borrow from?
- ▶ Can these firms borrow from foreign banks? Sony, Toyota,...
- ▶ Why don't these firms switch bank? No information of bank switching given in the paper
- ▶ Was there an increase in bond issuance, equity issuance in this period?

THE DATA

select sample: manufacturing firms quoted on the Tokyo Stock Exchange

- ▶ large firms
- ▶ access to other finance (bond and equity)

Questions:

- ▶ How many banks do these firms borrow from?
- ▶ Can these firms borrow from foreign banks? Sony, Toyota,...
- ▶ Why don't these firms switch bank? No information of bank switching given in the paper
- ▶ Was there an increase in bond issuance, equity issuance in this period?
- ▶ Estimated effects are probably lower bound? Effect on SME's should be larger

SOME TECHNICAL ISSUES

- ▶ Can you estimate model using Simulated Method of moments?

SOME TECHNICAL ISSUES

- ▶ Can you estimate model using Simulated Method of moments?
- ▶ Check more dynamic fit of model?

SOME TECHNICAL ISSUES

- ▶ Can you estimate model using Simulated Method of moments?
- ▶ Check more dynamic fit of model?
- ▶ Lagged effects of recapitalisation? Takes time to plan investment

SOME TECHNICAL ISSUES

- ▶ Can you estimate model using Simulated Method of moments?
- ▶ Check more dynamic fit of model?
- ▶ Lagged effects of recapitalisation? Takes time to plan investment
- ▶ Autocorrelation of investment and borrowing?

SOME TECHNICAL ISSUES

- ▶ Can you estimate model using Simulated Method of moments?
- ▶ Check more dynamic fit of model?
- ▶ Lagged effects of recapitalisation? Takes time to plan investment
- ▶ Autocorrelation of investment and borrowing?
- ▶ Cross-correlation of investment and borrowing?

SOME TECHNICAL ISSUES

- ▶ Can you estimate model using Simulated Method of moments?
- ▶ Check more dynamic fit of model?
- ▶ Lagged effects of recapitalisation? Takes time to plan investment
- ▶ Autocorrelation of investment and borrowing?
- ▶ Cross-correlation of investment and borrowing?
- ▶ Why so high interest rates? Difference between credit rationing and high interest rates.

OVERALL CONCLUSION

- ▶ paper on an important issue: Does bank recapitalisation promote investment? Yes
- ▶ quantitatively important.
- ▶ leads to a better understanding of micro-mechanism of bank recapitalisation that eventually needs to be incorporated in macro-models
- ▶ high data needs to estimate: matched firm-bank data
- ▶ 2 pct of GDP is a lot of money. Is bank recapitalisation its best use?

