Collateral Damaged?
On Liquidation Value, Credit Supply and Firm Performance

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4th CSEF Banking Conference

Naples, 15 December 2017

The contribution by Cerqueiro to this paper has been prepared under the Lamfalussy Fellowship Program sponsored by the European Central Bank. Any views expressed are only those of the author(s) and do not necessarily represent the views of the ECB, the Eurosystem, or the Executive Board of Sveriges Riksbank.

Motivation

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- Debt capacity determined by how much lenders can recover ex post in the case of a default.

- The liquidation share for a lender depends on:

  (1) Value of the firm's assets

    - Depends on market conditions and types of assets

  (2) Fraction of assets the lender is entitled to

    - Depends on contractual terms and legal framework

This paper

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What we do

- Question
  - How does a reduction in collateral capacity affect firm financing, investment, and performance?
- The legal reform
  - Reduces the liquidation value of assets for secured lenders in favor of other creditors
    - Relative winners: employees, trade creditors, government
- Data
  - Universe of incorporated firms in Sweden

What we find

- The reduction in collateral capacity led to:
  - Less debt and shorter maturity
  - Lower investment, employment, and growth
  - Distortions in asset structure
    - Towards more liquid assets

- Our results establish the importance of asset pledgeability for the real economy

Related literature

- House prices and the "collateral channel"
  - Corporate investment
    - Gan (2007); Chaney et al. (2012)
  - Entrepreneurship
    - Adelino et al. (2015); Corradin and Popov (2015); Ersahin (2015); Kerr et al. (2015); Schmalz et al. (2017)
- Large-scale reforms
  - Lilienfeld-Toal et al. (2012); Vig (2013); Aretz et al. (2016); Campello and Larrain (2016); Rodano et al. (2016); Calomiris et al. (2017)

What is different in our setting

- In our collateral shock
  - The size of the pizza does not change
  - But banks end up with fewer slices
- Why this matters
  - Exogenous variation in the liquidation value of assets is unrelated to their actual value
    - Shocks to net worth may also affect supply of credit
  - Can isolate credit supply from credit demand effects
    - No balance sheet channel (Mian and Sufi, 2014)

Roadmap

- Institutional background
- Data and methodology
- Estimates
- Conclusion

INSTITUTIONAL BACKGROUND

Collateral types

- Most jurisdictions recognize:
  - Fixed liens
    - Mainly used to pledge immovable assets (land, real estate)
    - Claim on a specific asset
  - Floating liens
    - Mainly used to pledge movable assets (equipment, inventories, receivables)
    - Claim on a "floating pool" of assets
      - Assets not specifically identified
      - The pool of assets can change over time

Floating lien

- Example: inventories
  - The actual items of the property change over time, as the firm buys or sells goods
    - The floating lien attaches to any new items
  - The firm has full control of the assets
- If the firm defaults
  - The floating lien *fixes* on the existing assets and the creditor takes control of these assets
    - *Crystallizing* event: floating lien → fixed lien

Floating lien in Sweden before 2004

- Special priority rights enabled creditors to seize assets outside bankruptcy and without court order
  - The lien holder just needs to spot any sign of smoke
  - Senior to bankruptcy costs, wages, taxes, suppliers, and other unsecured creditors
- Recovery rates (Stromberg and Thorburn, 1996)
  - Floating lien holders (83%)
  - Tax authorities (12.5%)
  - Employees and suppliers (0%)

The 2004 Law

- Special priority rights abolished
  - Creditors can only seize assets in bankruptcy
  - Liquidation proceeds net of bankruptcy costs
- Share of assets covered by the lien reduced from 100% to 55% of remaining assets after senior creditors being paid

→Lower collateral capacity
  - Payoff to floating lien holders (banks) decreased
  - Credit supplied by relative winners inelastic wrt collateral

Intents of the 2004 Law

- Argument 1– Make banks work harder

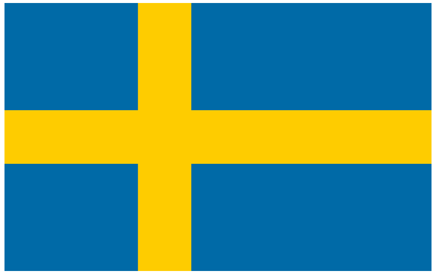
  "Give stronger incentives for banks in credit granting decisions to analyze profitability, do ongoing monitoring and weaken incentives to secure collateral."

- Argument 2 – Attenuate liquidation bias

  "Avoid inefficient liquidations and improve opportunities for temporarily troubled but essentially profitable businesses to re-emerge."

- Some consequences:
  - Reduction in credit supply and monitoring (Cerqueiro et al., 2016)
  - The 2004 Law was reversed in 2009

DATA AND METHODOLOGY



Data

- Swedish Credit Bureau
  - Accounting information for all incorporated firms in Sweden (200,000 firms) over the period 2000-2006
  - Information about collateral (types and amounts)
- Statistics Sweden
  - Investment data and industry
- Swedish Registration Office
  - Firm's date of incorporation (age)

Methodology

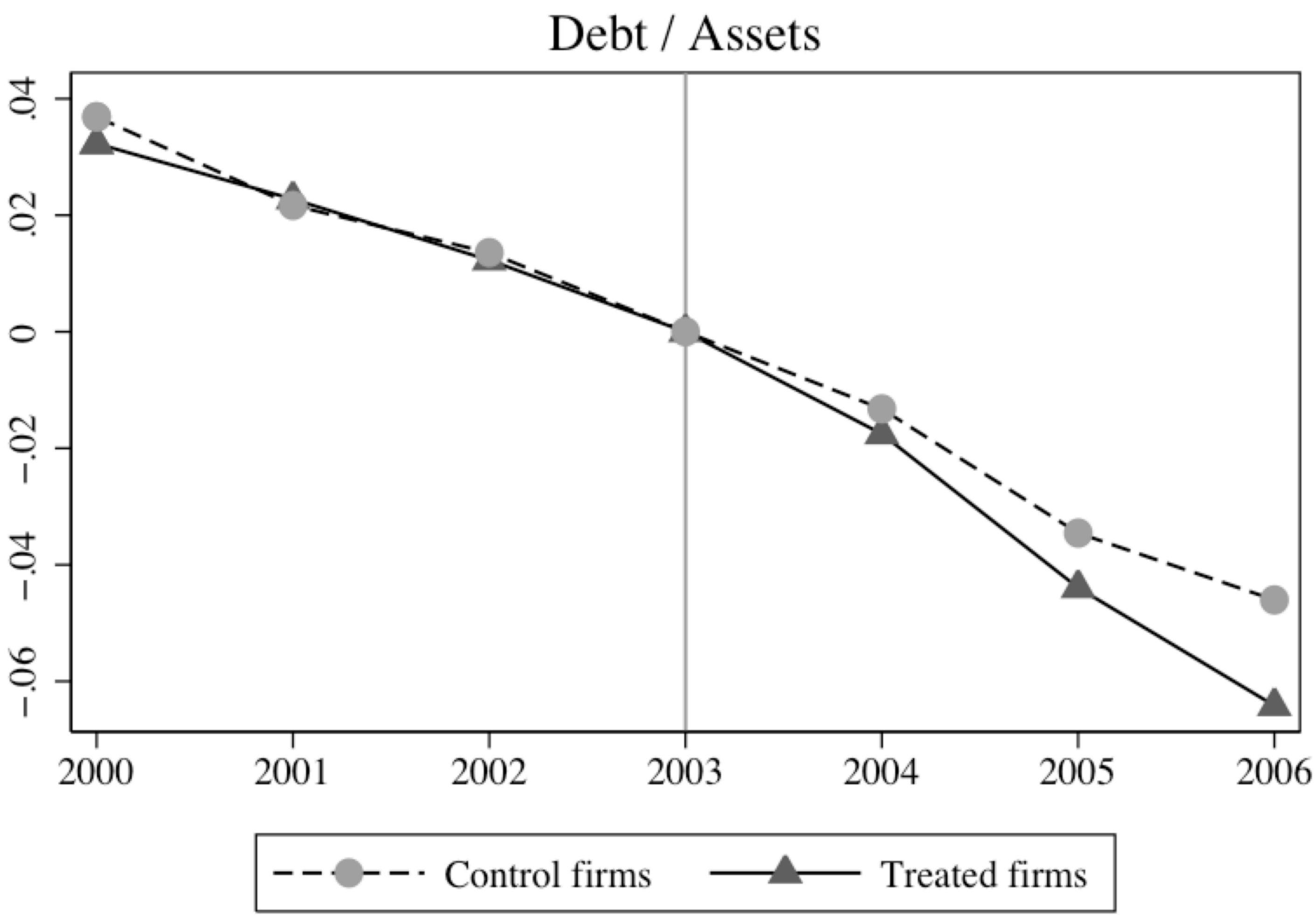
- Differences-in-differences approach
  - 2004 Law is an exogenous shock to collateral capacity
  - Treated firms = with floating liens outstanding before 2004
  - Control firms = no floating liens outstanding before 2004
- Exact matching at the industry-age level
- Additional specifications
  - Triple differences
  - Differential linear trends
  - Collapse data to cross-section


level1
29 industries
Accommodation and food service activities
level 2
55
Accommodation
56
Food and beverage services
level 3
561
Restaurants and mobile food
562
Event catering and other food service
563
Beverage serving activities
level 4
5621
Event catering activities
5629
Other food service activities
level 5
1303 industries
56291
Canteens
56292
Catering for hospitals
56293
Catering for schools
56294
Catering for the transport sector

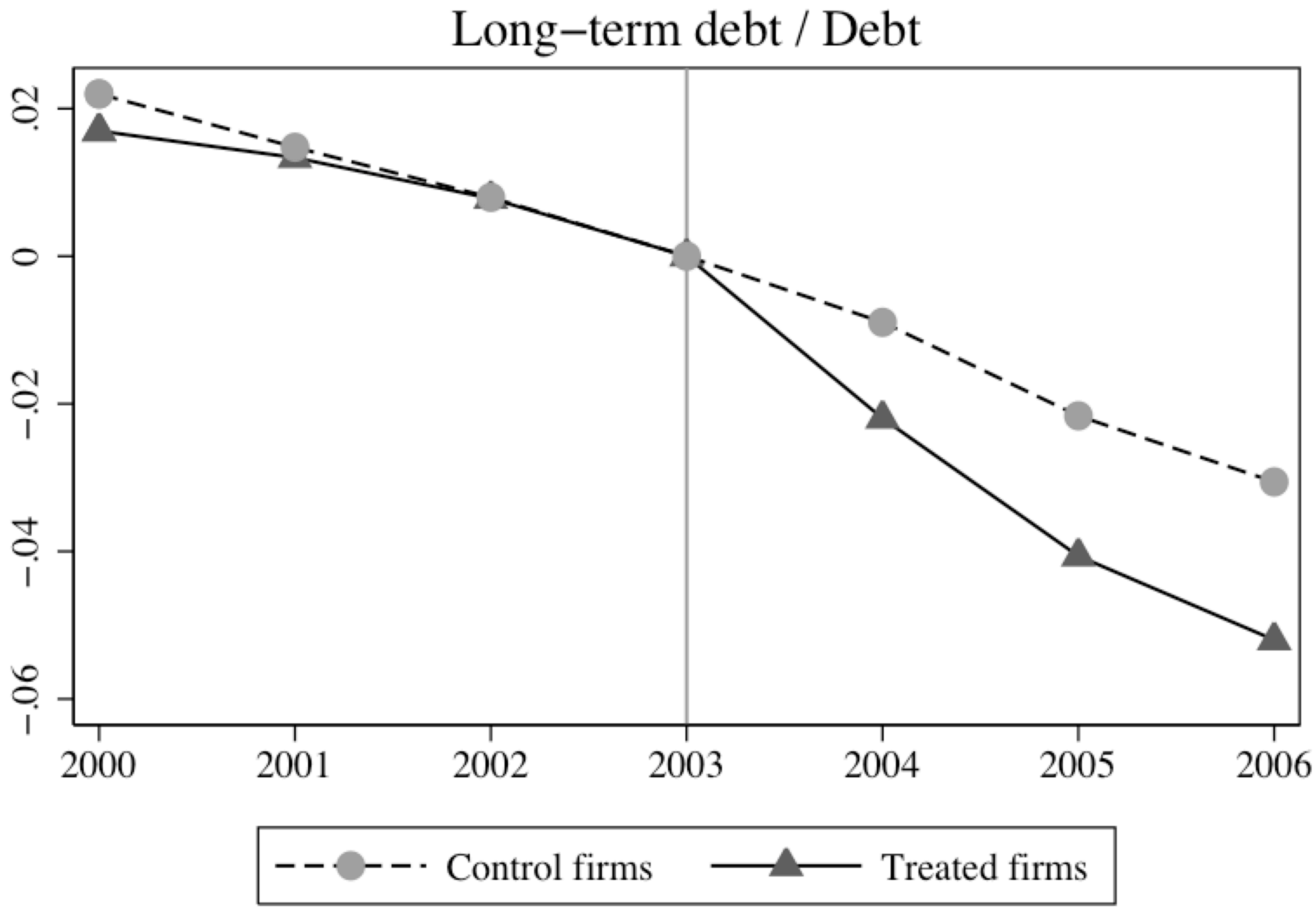
ESTIMATES

Debt and debt maturity

Leverage ratio ↓ 1.3%

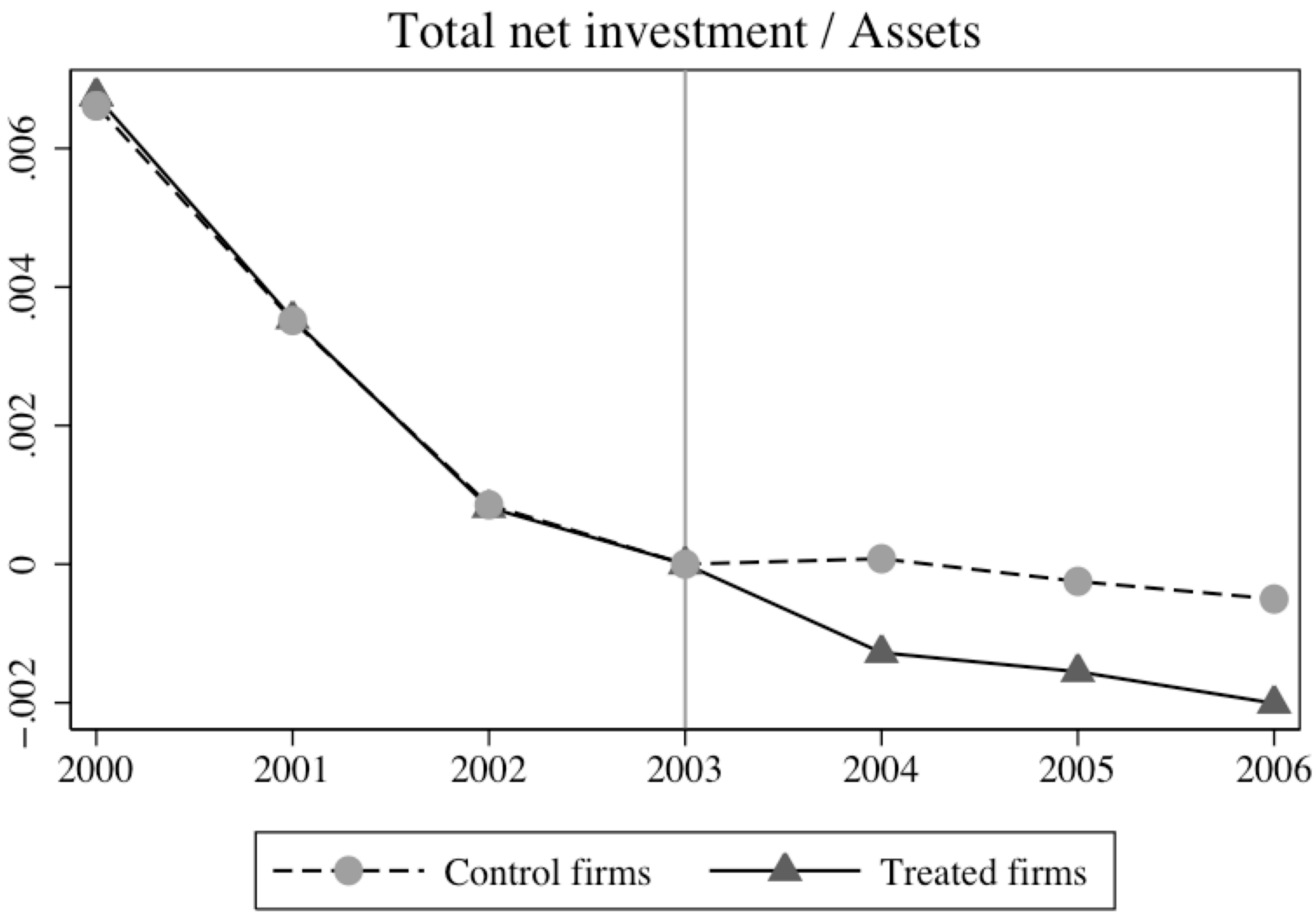


Share LT debt ↓ 11.3%

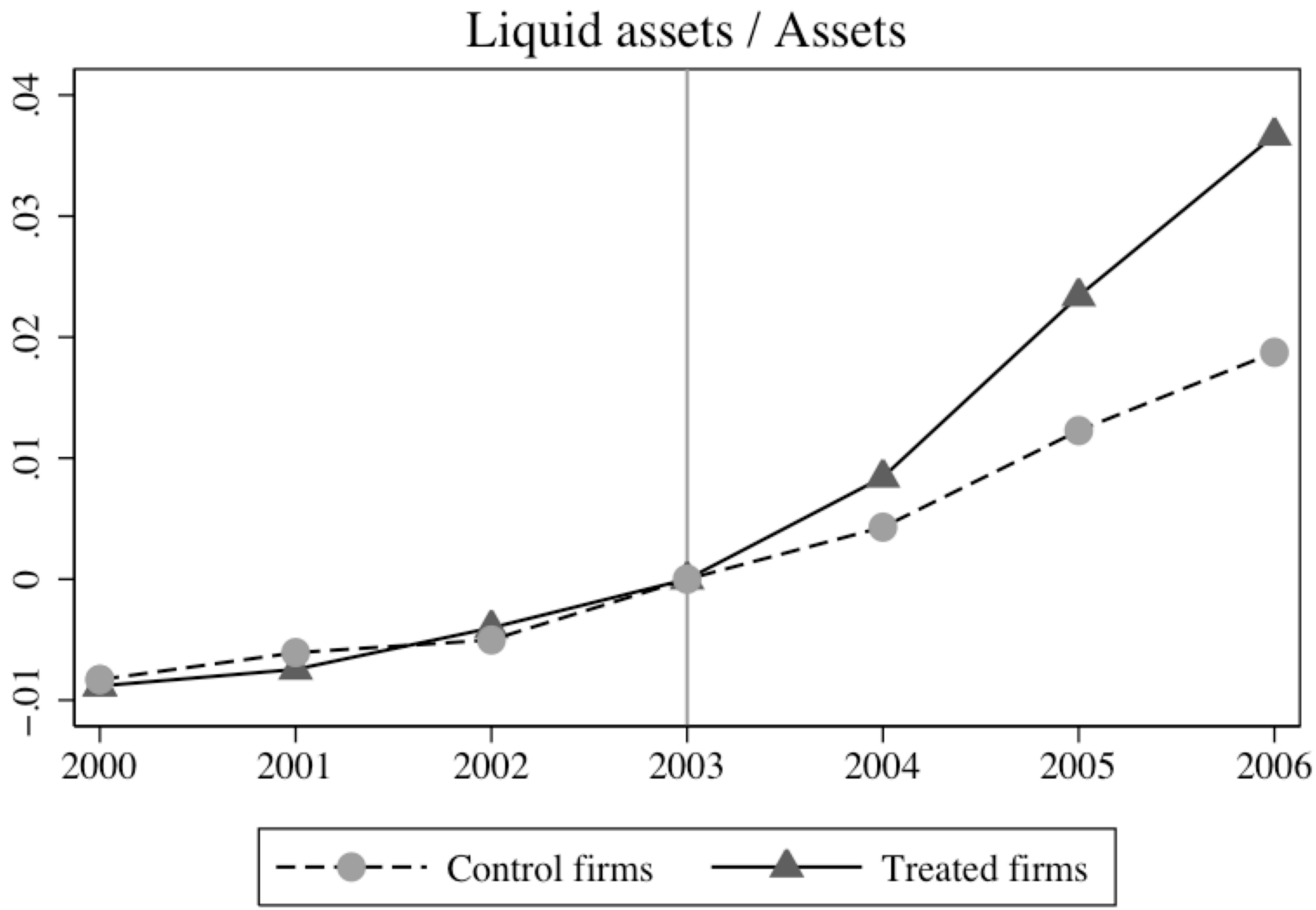


Investment and asset structure

Investment rate ↓ 7.0%

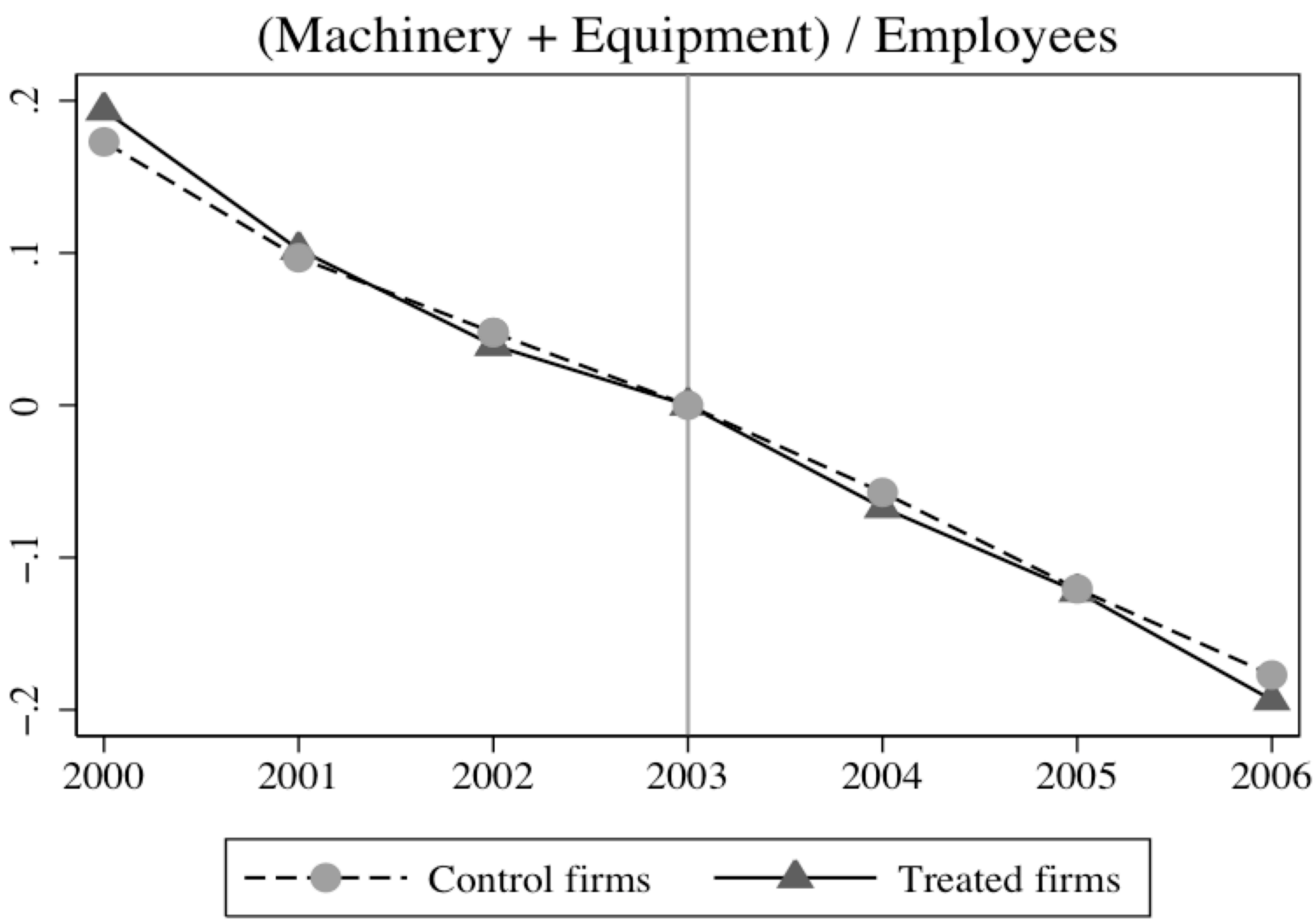


Cash holdings ↑ 6.7%

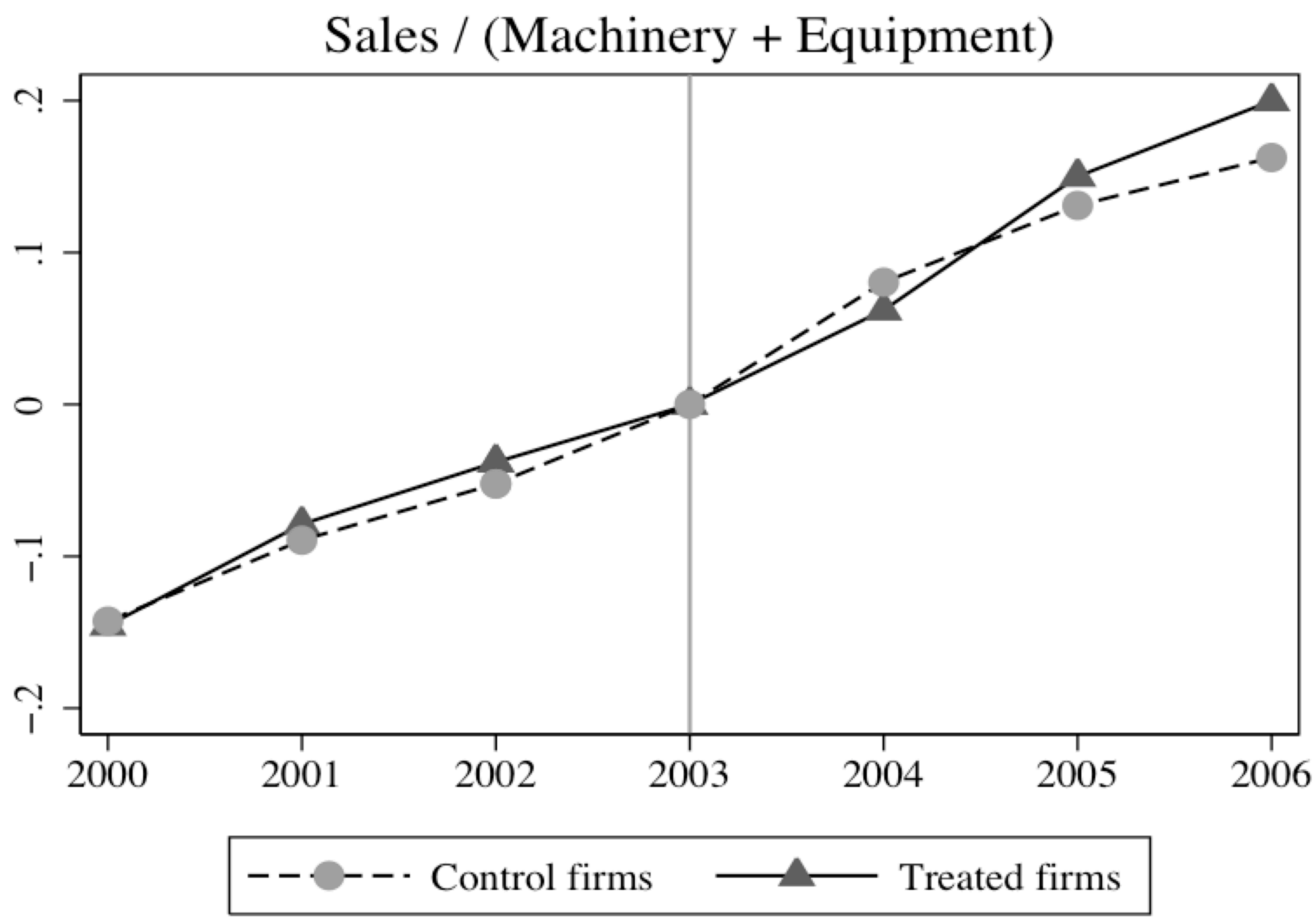


Capital intensity and efficiency

Similar capital intensity...

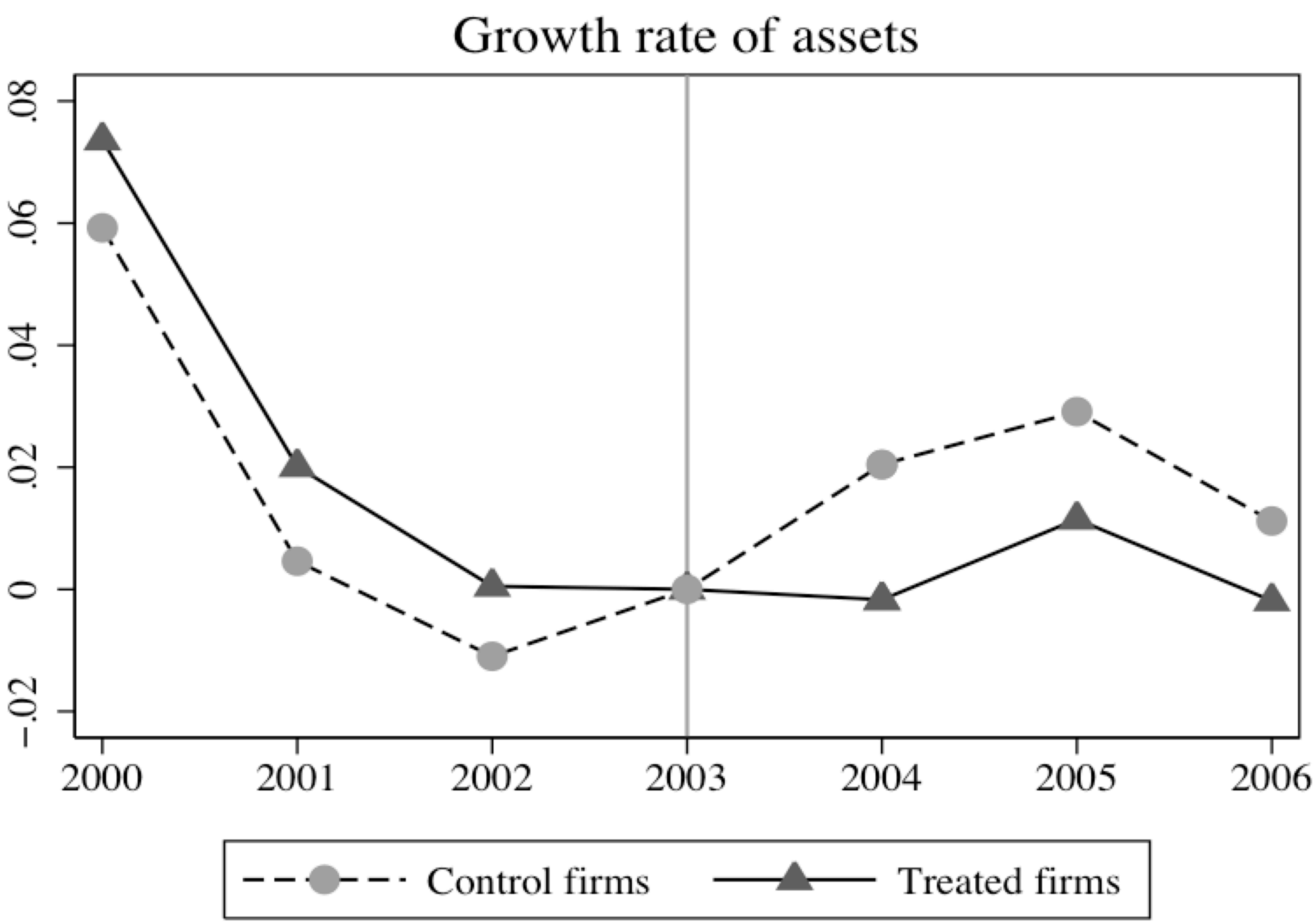


And similar efficiency...



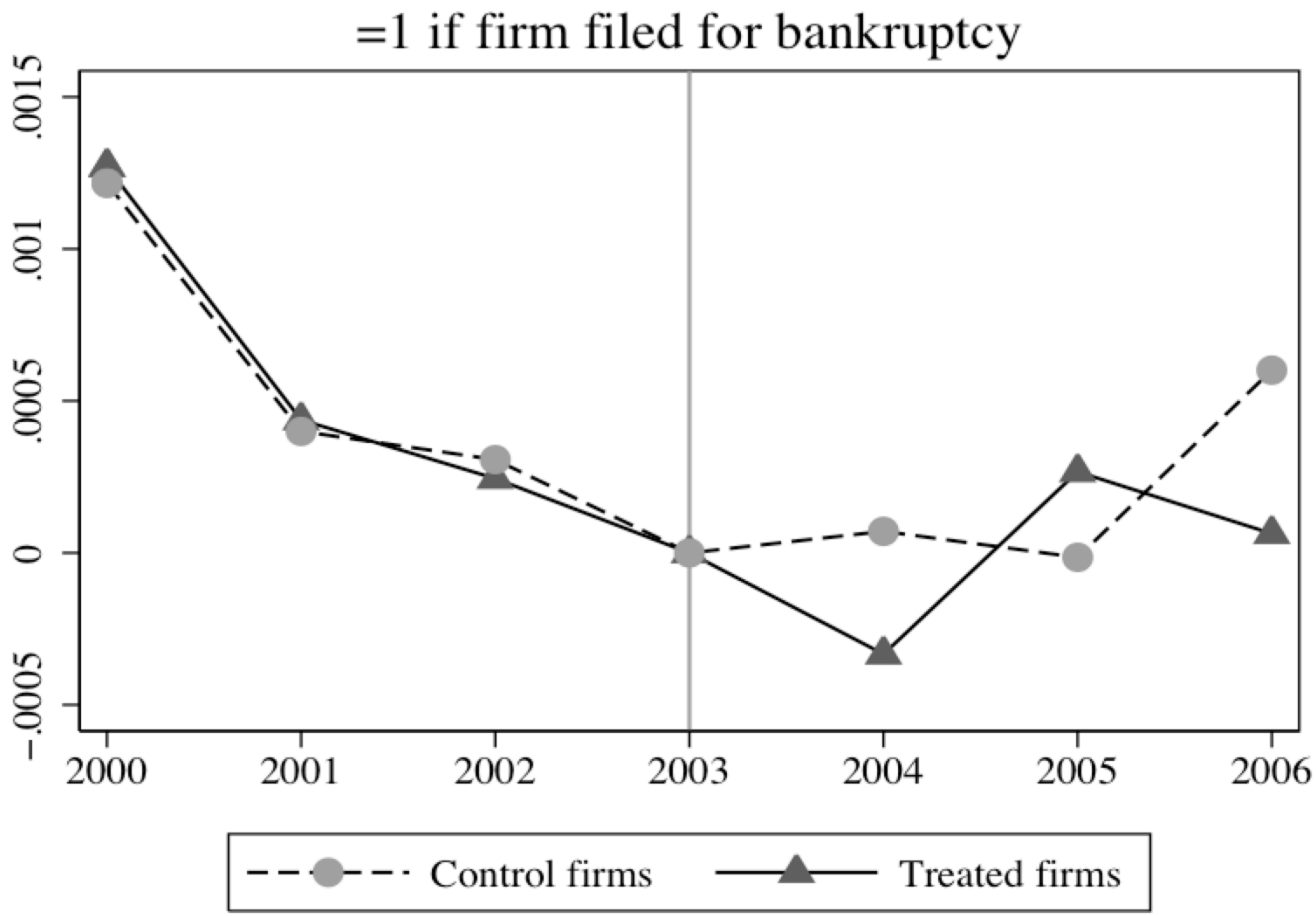
Firm growth

Asset growth ↓ 34.7%



Bankruptcy

An insignificant ↓ in bankruptcy rates



CONCLUSION

Conclusion

- We exploit a legal change in Sweden that reduced the collateral value of movable assets
- Our evidence supports a "collateral damage" effect of the law:
  - Less debt and shorter debt maturity
  - Less investment, employment, and growth
  - Firms switch from productive assets with lower pledgeable value to liquid assets

- Our results establish the importance of financing frictions for the real economy

Thanks!

Comments welcome!