Capital Requirements and Entry into Entrepreneurship

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Is there a quality-quantity trade-off in policies that promote entrepreneurship?

- Substantial interest in policies that remove entrepreneurship barriers
- But do these policies cause "profitable" or "high-growth" entrepreneurship?

  Maybe?
  - Some high-ability entrepreneurs may be unable to start profitable businesses because of, e.g., financial constraints
  - Relaxing constraints may lead to profitable or value-added entrepreneurship

  Maybe not?
  - Those unable to overcome barriers to entrepreneurship may be of lower "entrepreneurial quality"
  - Enabling these individuals to become entrepreneurs may add little value

- We consider a policy reform that lowered financial hurdles to incorporate

Background: Incorporation capital requirements for limited liability companies

- Some minimal amount of equity is required to incorporate a LLC
- Popular across developed countries over the past century
- Rationale ≈ **to protect creditors and workers from the moral hazard of limited liability**
- As of 2023,
  - £0 in the U.K.
  - €1 in France
  - €3,000 in Spain
  - €10,000 in Italy
  - €25,000 in Germany
  - €80,000 in the Czech Republic

  of equity to incorporate "regular" limited liability company
- Countries are increasingly removing these requirements to facilitate more entrepreneurship
- and in response to competitive pressure

The Norwegian setting

- Since 1910, Norway requires a minimum amount of equity at incorporation
- During 1997–2011, amount was NOK 100,000 ($17,000)
- In 2012, requirement was lowered to NOK 30,000 ($5,000)

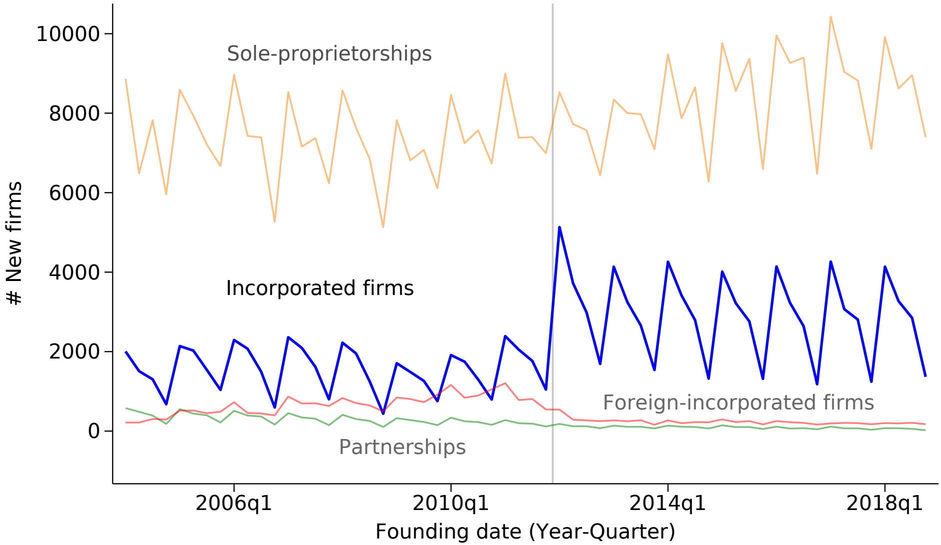
- No restrictions on the source of the equity
  - Could come from taking personal loans
  - Could come from outside equity investors

- Benefits of the Norwegian setting
  - A **shareholder register**: we see every owner in every incorporated firm
  - So we can combine comprehensive firm-level data with comprehensive individual-level data

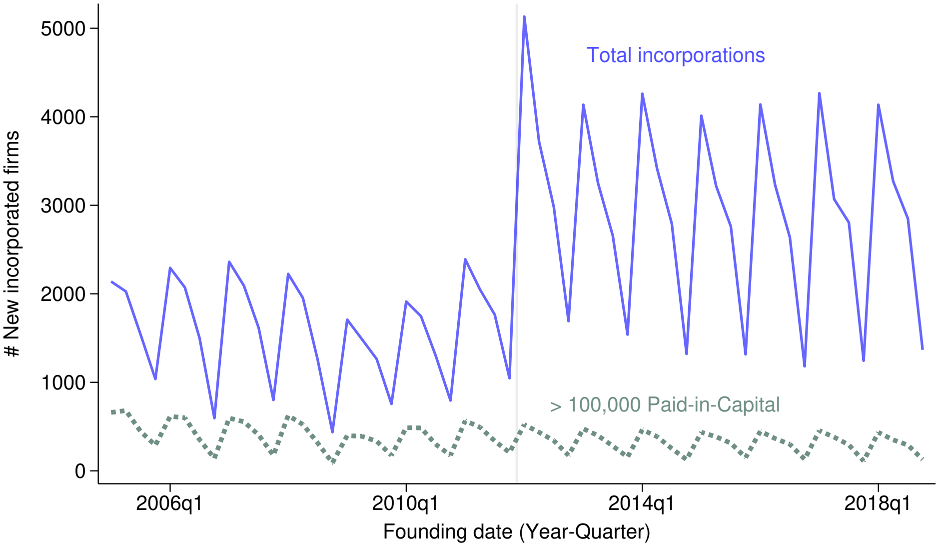
Did the reform have an effect on business creation?

("first-stage")

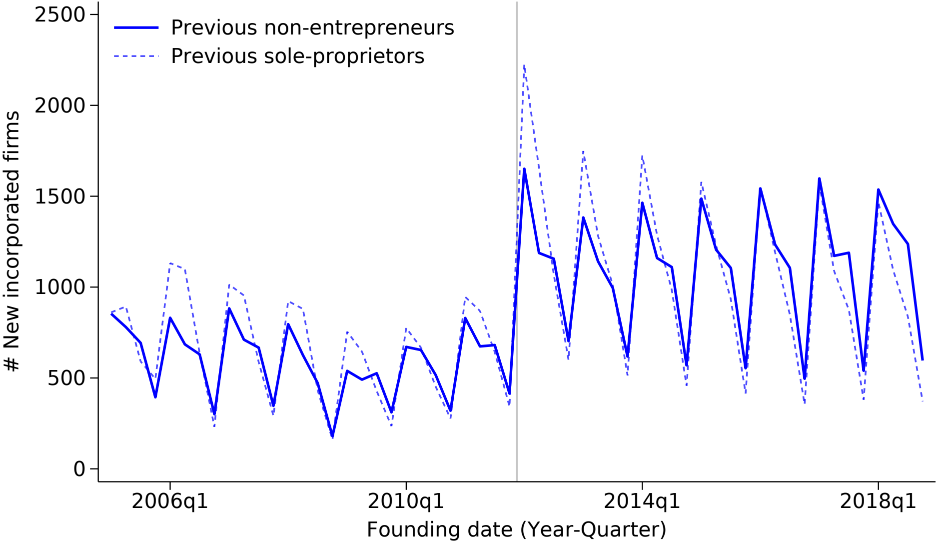
Incorporation rates double and no effect on sole-proprietor entries



Effect driven by More low-capital firms, not high-capital firms



Effect persists when focusing on firms started by ex-ante nonentrepreneurs



How did this affect the **composition** of entrepreneurs?

What drives the **large effect on entry**?

- **Liquidity channel**: low-liquidity entrepreneurs are now able to incorporate

  force 1: liquidity and ability may be positively correlated

  $\rightarrow$ marginal entrant lower ability

  force 2: high ability entrepreneurs more likely to find it worthwhile to enter

  $\rightarrow$ marginal entrant higher ability

- **Small-business channel**: It is now possible to incorporate (very) small firms
  - Even high-liquidity unconstrained individuals might respond to reform through this channel

First, consider ex-ante characteristics

- We'll consider graphically how ex-ante characteristics of entrepreneurs changed around the reform

  Entrepreneur = Equity-holder that is also the CEO

- In the paper, we have a more formal RDD-IV-style estimation approach

.. Liquid financial wealth

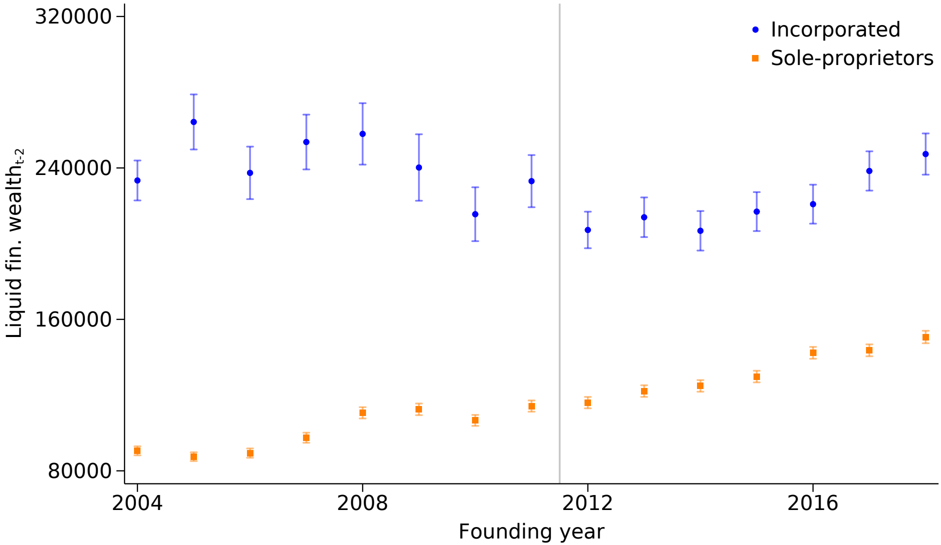
.. Military enlistment **cognitive ability** scores for (almost) all males

.. Education level

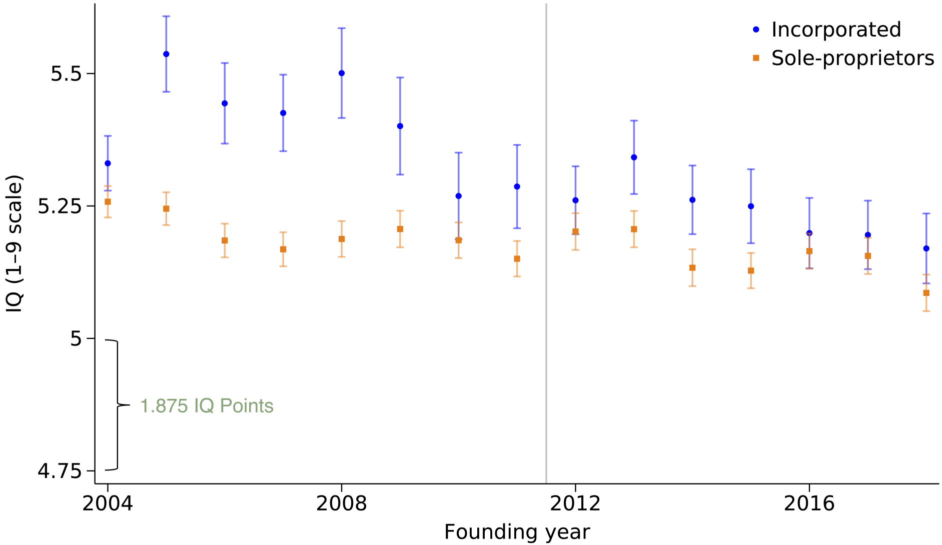
.. Pre-entrepreneurship income

.. High-school GPA (in progress)

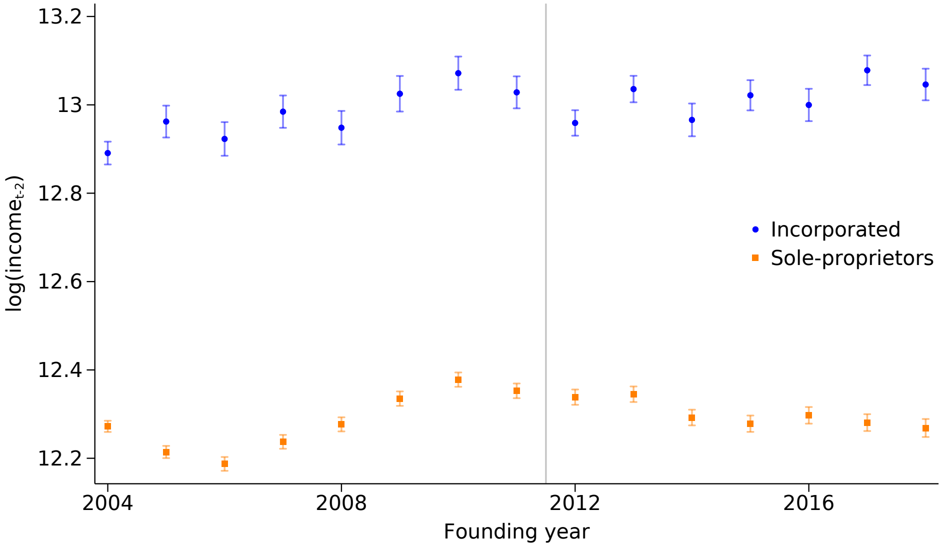
Do post-reform entrants have less liquidity?



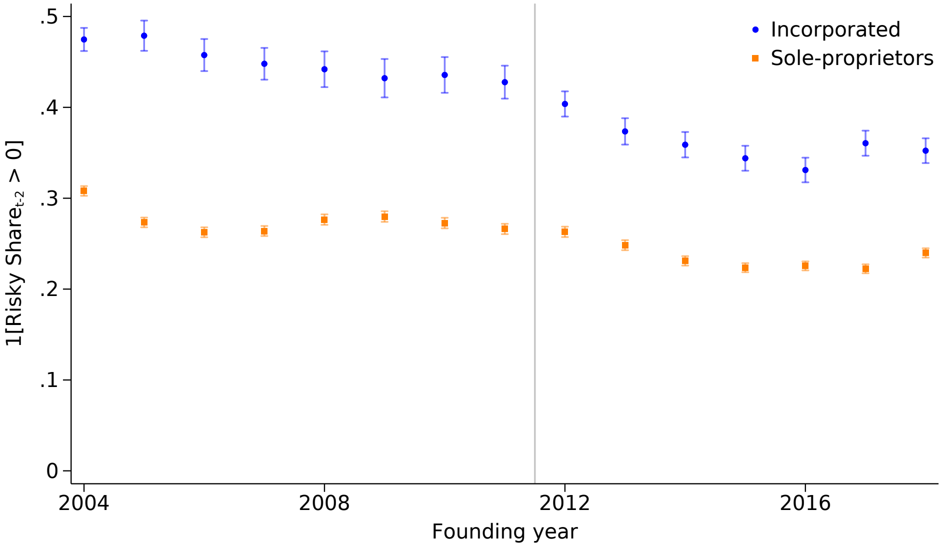
Do they have lower (measured) cognitive ability?

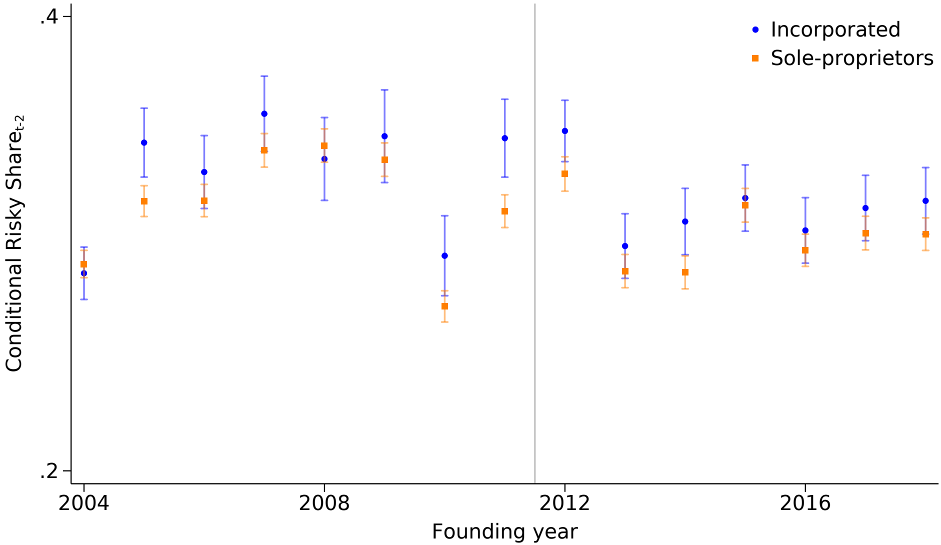


Did they have lower prior incomes?

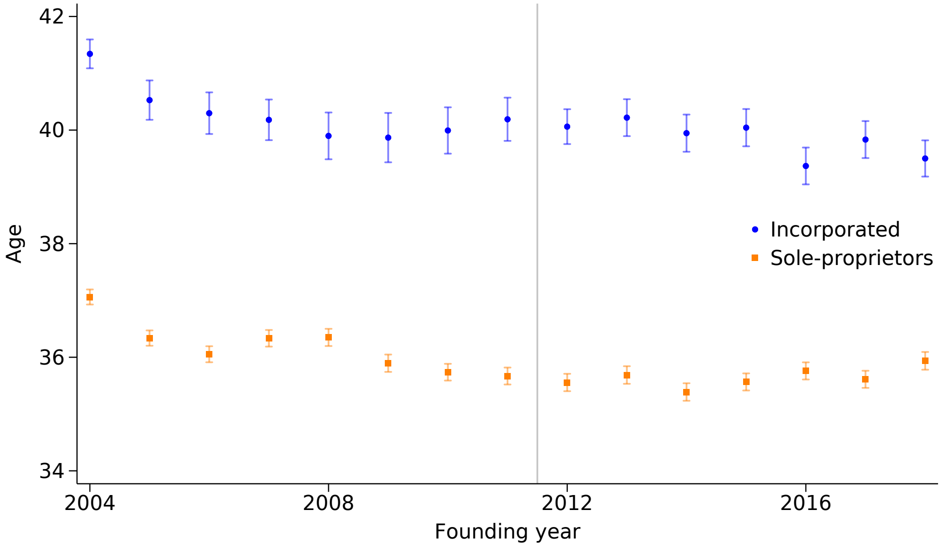


Were they less likely to participate in stock markets?




.4
.2
Conditional Risky Share$_{t-2}$
Incorporated
Sole-proprietors
2004
2008
2012
2016
Founding year

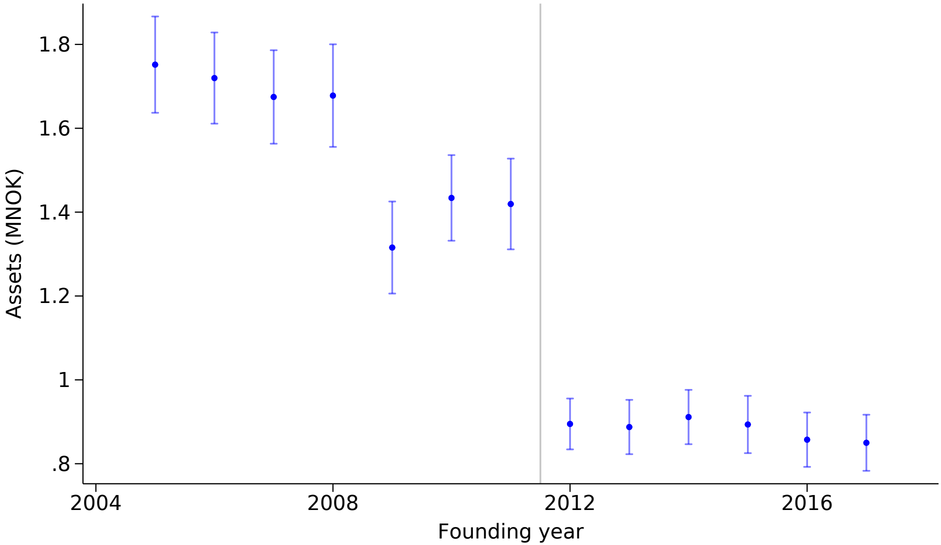
Younger?



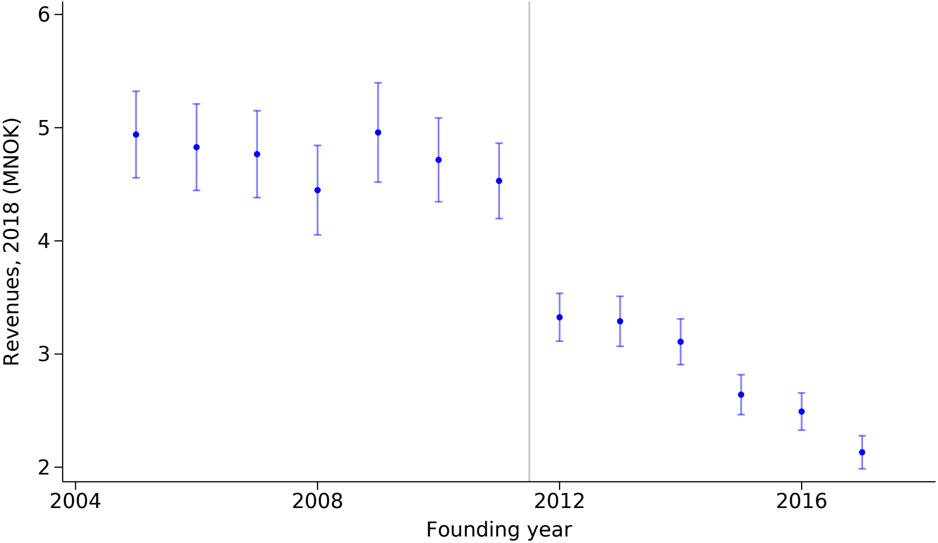
Age
42
40
38
36
34
2004
2008
2012
2016
Founding year
Incorporated
Sole-proprietors

Ex-post firm-level characteristics

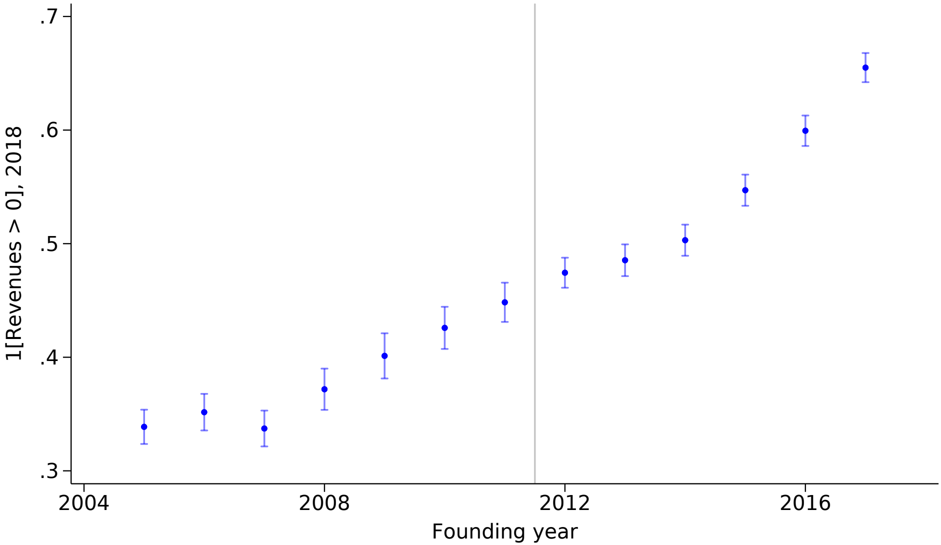
About 0.6MNOK ($100,000) less assets



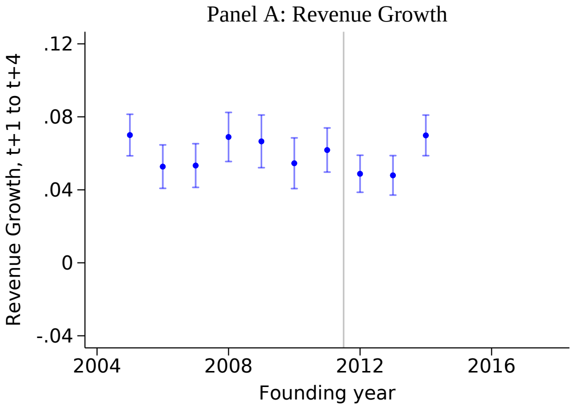
About 1.0 MNOK ($170,000) lower revenues

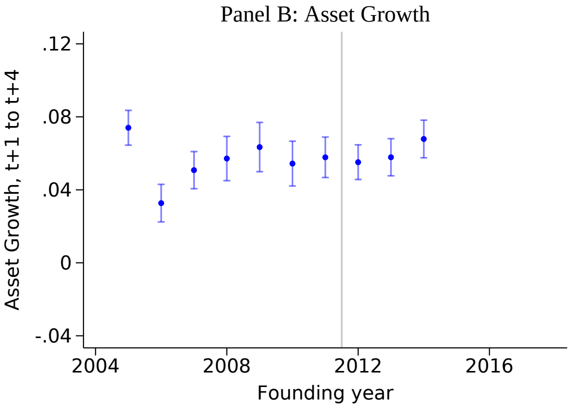


Post-reform entrants not less likely to survive



No discernible differences in growth rates





- We might have expected smaller firms to "catch up". No indication of that
- We might have expected firms to be "lower quality" → grow less. But nope

Profitability and Productivity

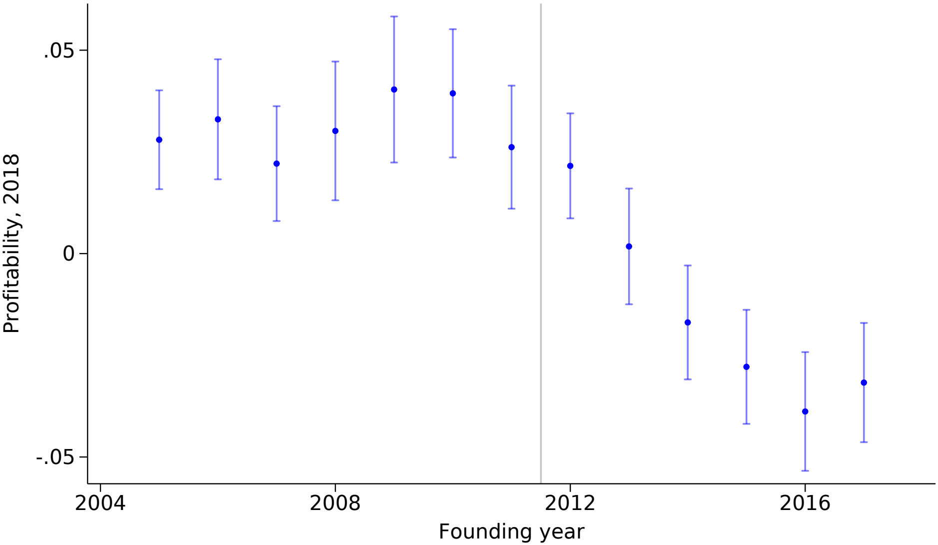
1. Profitability: Operating Income / Assets

2. Value-Added Margin: Value-added / Revenue (Hombert, Shoar, Sraer, Thesmar, 2020)

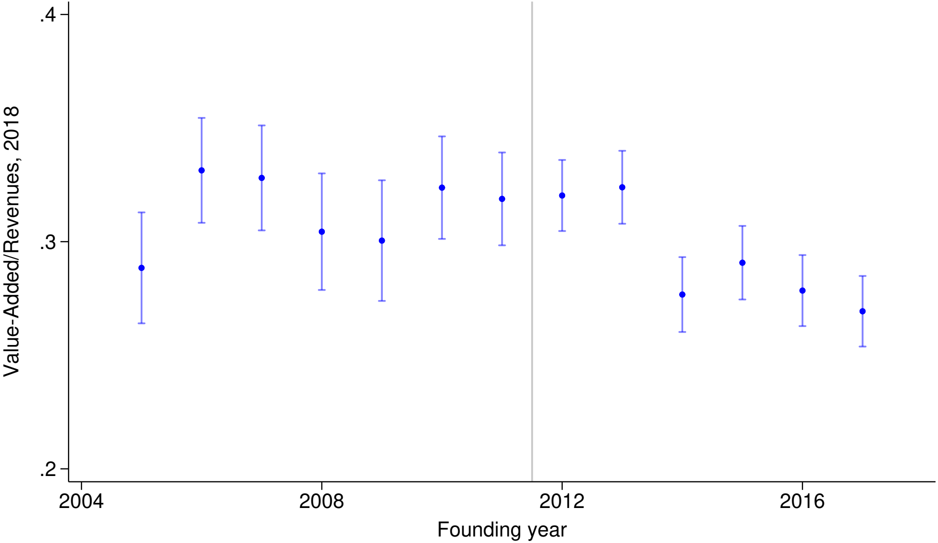
3. "TFP": Residual from regressing log revenues on log assets, wage bill, COGS

   (Lichtenberg and Siegel 1990; Bertrand and Mullainathan 2003; Giroud and Mueller 2015)

No (sharp) indication that post-reform entrants are less profitable



No difference in value-added as a share of revenues



Do post-reform entrepreneurs make less money?

- Consider Comprehensive Income

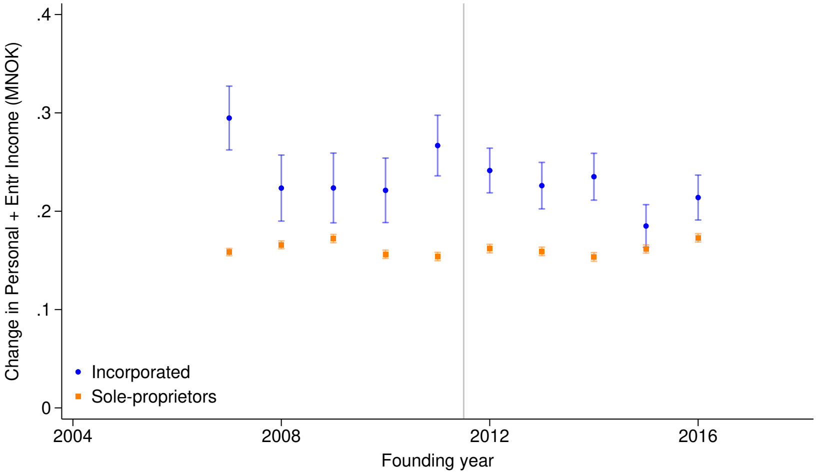
$=$ salaries and wages,

$+$ sole-proprietor income,

$+$ dividends, other capital income,

$+$ retained earnings from all firms in which entrepreneur owns stocks

No difference in change in income after becoming entrepreneur



e.g. blue point-estimate for 2010 says avg. entrepreneur who incorporated in 2010 increased their comprehensive income by 0.2 MNOK ($33,000) by 2013.

Summarizing the effects of lowering incorporation capital requirements

We find that Post-reform entrants

(1) Do not have less ex-ante personal liquidity

(2) Do not differ on ex-ante personal proxies for ability

(3) Start firms that are considerably smaller in terms of revenues and assets

(4) Do not have lower growth rates

(5) Are not less profitable or productive

(6) Do (personally) not reduce their incomes

The implications of these findings is that

(a) Incorporation capital requirements do not appear to exacerbate financial frictions
   - At least not when the starting point is low at about $17,000

(b) There is not a quantity-quality trade-off in lowering capital requirements
   - No reduced-form indicative evidence that marginal entrepreneurs reduce growth or destroy value

Caveat: We haven't really studied effects related to the rationale of these requirements