When Your Bank Leaves Town: Losing Soft Information in Brick-and-Mortar Branches

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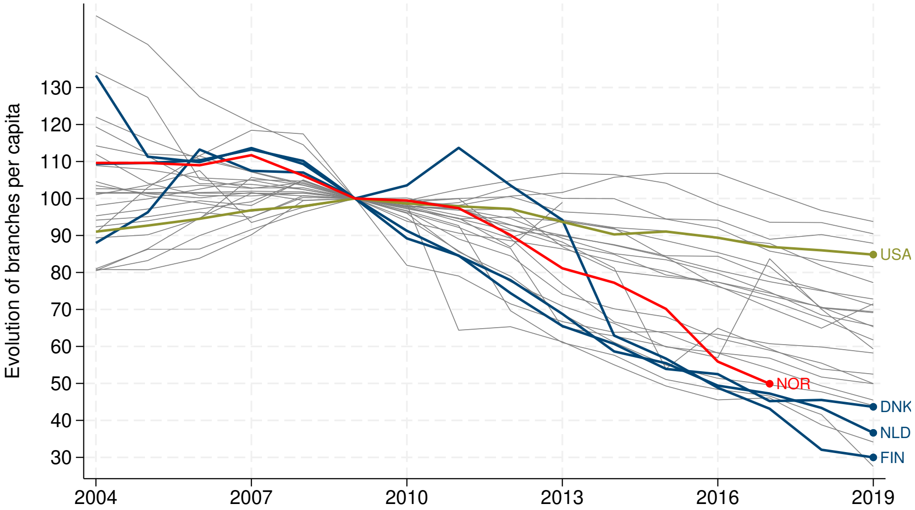
Bank office closures is a common trend in high-income countries



Source: Financial Access Survey, International Monetary Fund

Access to a financial intermediary is important for firms...

Conclusive evidence on the role that physical access to a bank office plays for corporate clients

- Most empirical evidence focuses on effects to SMEs (Bonfim et al., 2021)
- Corporate lending declines rapidly and locally following branch closures (Nguyen, 2019; Amberg and Becker, 2024)
- Spillovers to employment, sales, construction, crime... (Garmaise and Moskowitz, 2006; Jiménez et al., 2024)
- The channel is the loss of soft information on clients (Agarwal and Hauswald, 2010; Qi et al., 2024)

...and it is also important for households

- In Norway, households rely on banks to:
  - Hold most of their savings in the form of deposits (Fagereng et al., 2020)
  - Acquire financial products $\rightarrow$ mostly involving a bank employee
  - Office visits: 21% to access financial expertise/ advisors; 18% to request loans or mortgages

Survey evidence from Finans Norge

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- The (lack of) provision of banking services has impact on the population:
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  - Worsening in local-bank "health" reduces household consumption (Cooper and Peek, 2021)
  - Households' bankruptcy increases following bank closures (Allen et al., 2016)
- Consequences of office closures for households have been largely unexplored:
  - Complicating access to banking services, including financial advice
  - Loss of information on the financial relationship
  - Individuals' financial position may change: borrowing, wealth allocation...
- A priori ambiguous effects, clearly heterogeneous: age, financial literacy, location

Survey evidence from Finans Norge

Our paper

Does bank office presence impact individuals' financial outcomes?

Case study: Norway 2003-2019

- Annual panel on individuals' wealth composition
- Bank office location down to the address

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  - × Use measures of exposure at the municipality level
  - ✓ We identify banks where individuals have accounts, from tax records
- Data limitations for individuals
  - × Access to credit registry or surveys
  - ✓ We use a comprehensive overview of individuals' finances, from tax records

Our paper

Does bank office presence impact individuals' financial outcomes?

Methods:

- Event study approach, exploiting when a bank closes all its offices in a municipality
- Control for local economic conditions with municipality $\times$ time FE
- Control for bank specific trends with bank $\times$ time FE

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Methods:

- Event study approach, exploiting when a bank closes all its offices in a municipality
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- Control for bank specific trends with bank $\times$ time FE

Results:

- Gross financial and non financial wealth drop
- Total income decreases, driven by business income
- Evidence of banks as gatherers of soft information in the retail market

Contribution

1. Consequences of bank relationships and physical bank distance to local economic outcomes:
   - Predominantly on lending conditions to local firms (Beck et al., 2018; Qi et al., 2024)
   - Spatial price discrimination (Degryse and Ongena, 2005; Agarwal and Hauswald, 2010)

   → Extend the studies to the relation between individuals and banks

2. Economic consequences of bank office closures:
   - Most empirical evidence is on *firm* and real regional outcomes (Bonfim et al., 2021; Amberg and Becker, 2024; Jiménez et al., 2024)
   - Closures following mergers increase household bankruptcy rates and contract mortgage credit (Allen et al., 2016; Nguyen, 2019)

   → First evidence of effect of bank office closures on individuals' full balance sheet

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   → First evidence of effect of bank office closures on individuals' full balance sheet

Conclusion:
Bank offices still play a role for individuals, and online banking does not fully substitute for them

The data we use

Data sources

1. Novel database on active bank offices location [2003-2019]:
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3. Households' tax reports (Norwegian tax authority) [2004-2021]:
   Annual information on households' income sources and wealth by asset class
   - Gross wealth = Real wealth + Financial wealth
   - Financial wealth = Deposits + Others (e.g. bonds, mutual funds, stocks, foreign assets...)
   - Debt: real estate, consumer loans...
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4. Individuals' demographic and socioeconomic characteristics (Statistics Norway) [2004-2019]:
   Gender, age, marital status, household ID, and **municipality** of residence

Defining treatment in our case

- The bank register contains information for each office at the **address** level
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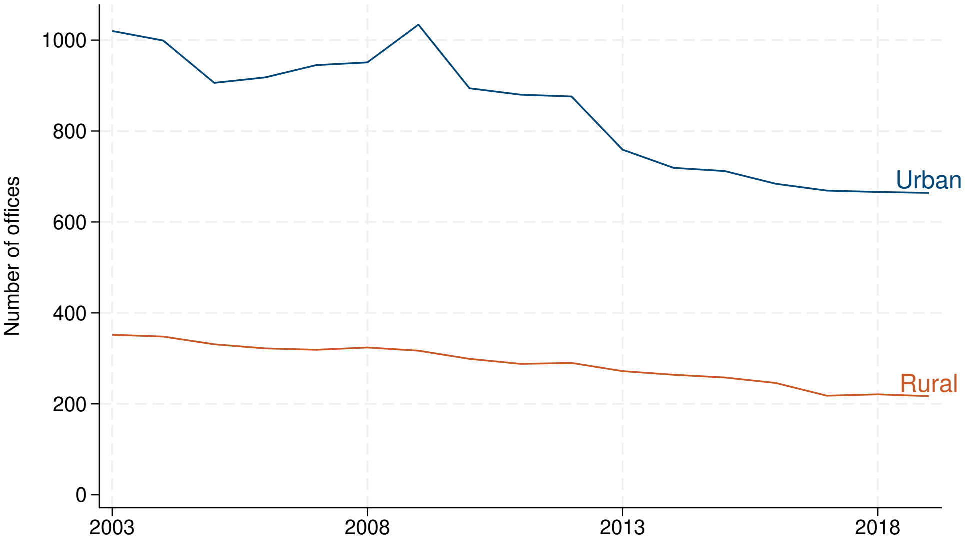
- We study what happens to clients of a bank when it closes its last office in a municipality

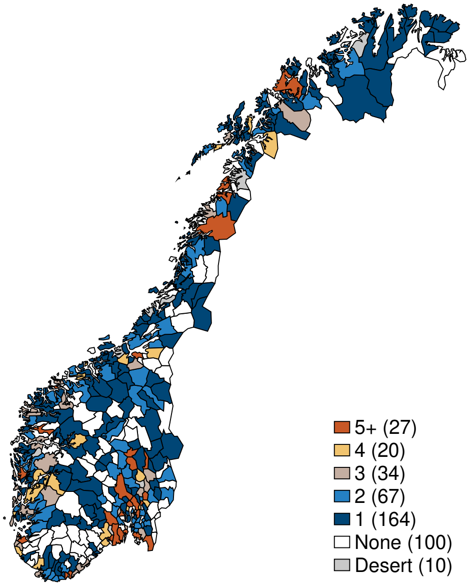
- An individual becomes forever treated at t when:
  - She lives in municipality m
  - She had at least one account with bank b in $t-1$
  - Bank b had a presence in municipality m at $t-1$
  - Bank b is no longer present in municipality m at t

Evolution of bank offices in Norway



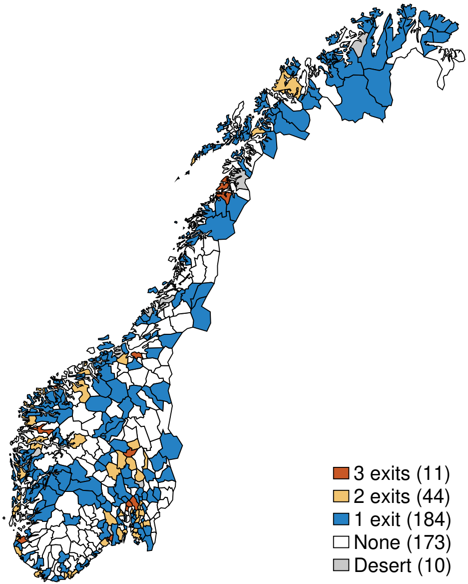
Evolution of bank presence in Norway

- Closures are spread across the country

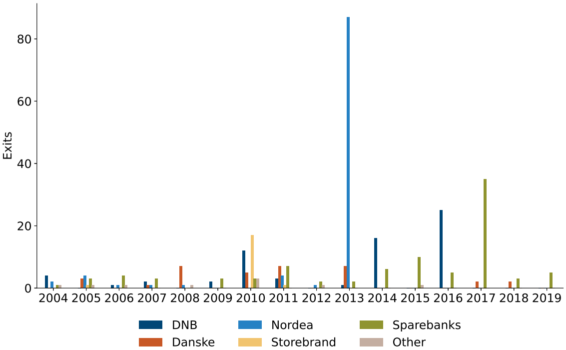


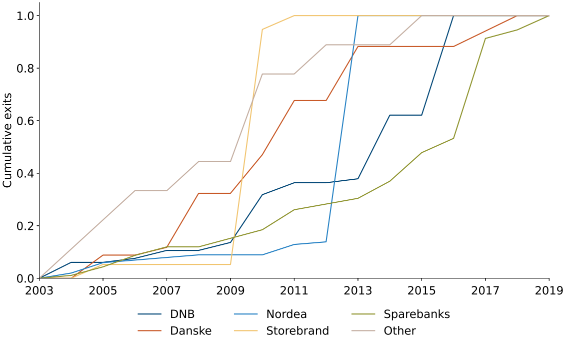
Evolution of bank presence in Norway

- Closures are spread across the country
- What about bank exits? Between 2004-2019:
  - 20 municipalities lost access to two banks
  - 170 municipalities lost access to one bank
- In 2019, there were 89 banking deserts



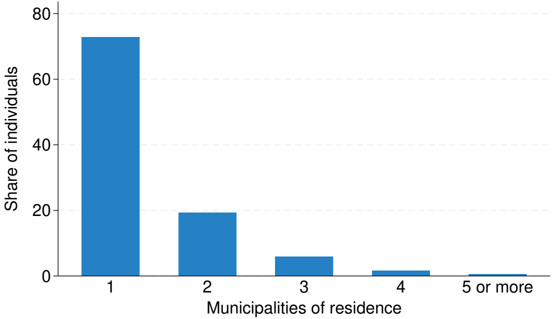
Loss of bank presence over time





Selecting the sample of interest

- Population filters:
    1. People that do not move municipalities



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- Population filters:
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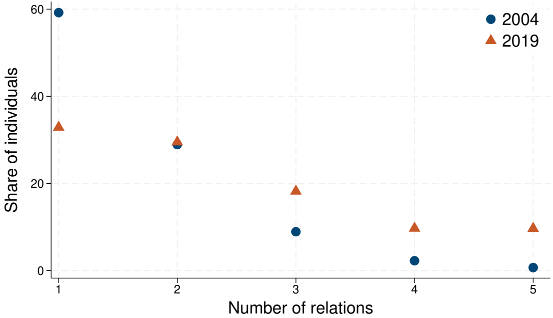

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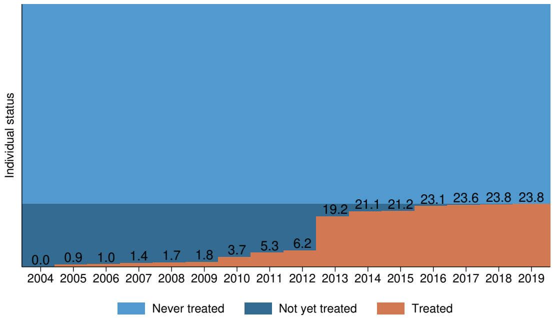
Selecting the sample of interest

- Population filters:
  1. People that do not move municipalities
  2. Exit of any of the banks where individual has an account
  3. Those with an account at a *present* bank in 2004
- Treatment: bank's exit from a municipality



Final data set

- Non-movers aged 20-75 that we see from 2004 to 2019
- Those with an account in a *present* bank in 2004 and do/will not live in banking desert
- Variables of interest as of December 31st:
  - Gross wealth = financial + non-financial
  - Debt
  - Income: total, business
  - Employment indicators

Summary statistics

▸ Var. evolution

	Mean	Std. dev.	Min	Max	N
Age	49	12	20	75	2,175,952
Female (%)	49	50	0	100	2,175,952
Gross wealth	137,374	922,069	-171,444	255,295,664	2,175,518
Gross non-financial wealth	63,113	115,515	0	21,361,598	2,175,518
Gross financial wealth	77,876	958,382	-188,967	249,923,376	2,175,559
Market value 1st dwelling	192,788	199,771	-147,486	7,638,147	1,359,864
Debt	89,175	208,176	0	139,448,045	2,175,518
Has debt (%)	80	40	0	100	2,175,952
Employment income	41,485	213,562	-292,440,623	54,213,823	2,175,836
Unemployment benefits	252	1,963	0	63,573	2,175,836
Unemployed (%)	1	10	0	100	2,175,952

All monetary values in 2015 USD.

Summary statistics by treatment status

	Never treated	Ever treated
Age	41.82	41.69
Female (%)	50.21	43.90
Gross wealth	43,057.88	56,060.95
Gross non-financial wealth	19,611.76	23,248.43
Gross financial wealth	23,446.12	32,812.52
Share deposits in financial wealth	74.35	72.72
Market value 1st dwelling	125,375.89	139,251.21
Debt	42,946.34	56,854.46
Has debt (%)	76.41	82.26
Employment income	25,241.08	28,545.38
Unemployment benefits	329.49	364.51
Unemployed (%)	1.74	1.86

All monetary values in 2015 USD.

Empirical strategy

Empirical strategy ▸ Timing

We fit the following event study specification:

$$y_{i(b,m),t} = \sum_{k=-L}^{F} \beta^k D^k_{i(b,m),t} + \iota_i + \theta_{m,t} + \gamma_{\underline{b},t} + u_{i(b,m),t},$$

- $y_{i(b,m),t}$: outcome of interest for individual i, who lives in municipality m and has an account at b, during year t:
  - Wealth: financial, non-financial, debt, real estate (logs)
  - Employment: income (total, business), labour force status

- $D^k_{i(b,m),t}$ individual is k periods away from treatment

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- $D^k_{i(b,m),t}$ individual is k periods away from treatment
- $\theta_{m,t}$: municipality time varying FE capture changes in demographics / internet availability
- $\gamma_{\underline{b},t}$: bank time varying FE capture clientele financial literacy/ advertising, fixed to 2004 main bank

When your bank leaves town...

Summary of results

- Effects on wealth and debt

- Employment channel

- Soft information channel

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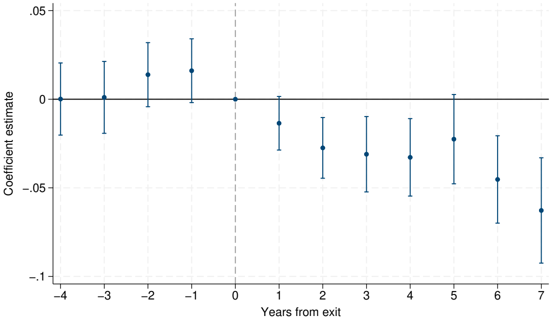
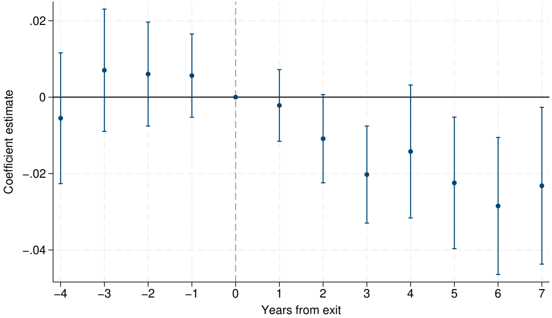
Effect on wealth



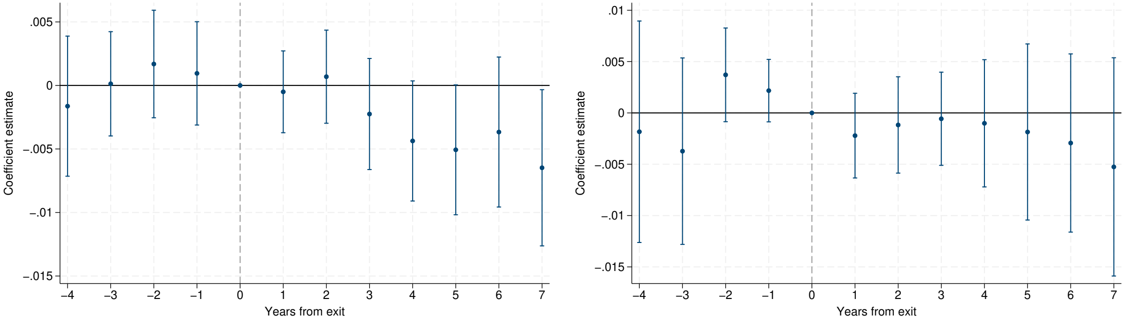
(a) Financial wealth



(b) Non-financial wealth

Drop in financial wealth: 2 yrs after treatment, it is 3% lower or $\sim$ USD 2k
Drop in non-financial wealth of $\sim$ 2% five years after treatment, or $\sim$ USD 1k

Debt and housing value

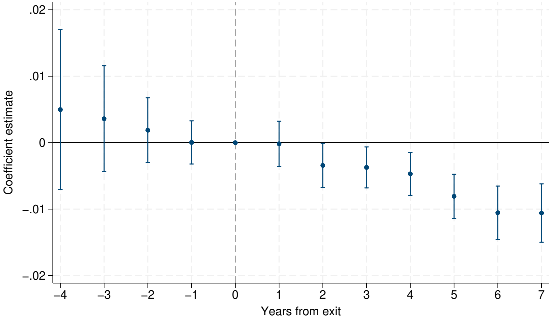


(a) Probability of having debt

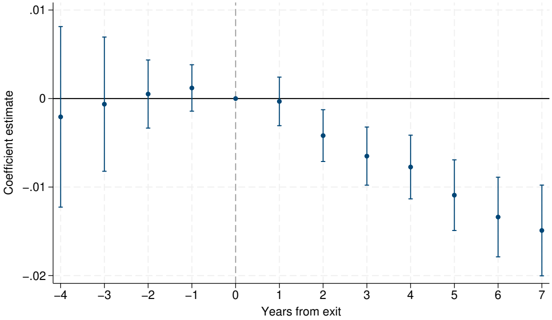
(b) Market value housing

Decrease of half a percentage point in the probability of having debt

Home ownership



(a) Residence



(b) Any housing

Summary of results

- Effects on wealth and debt
  - Drop in financial wealth: 2 yrs after treatment, it is 3% lower or $\sim$ USD 2k
  - Drop in non-financial wealth of $\sim$ 2% five years after treatment, or $\sim$ USD 1k
  - Decrease of half a percentage point in the probability of having debt
- Employment channel
- Soft information channel

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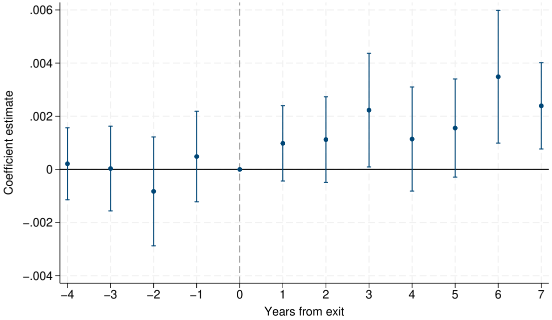
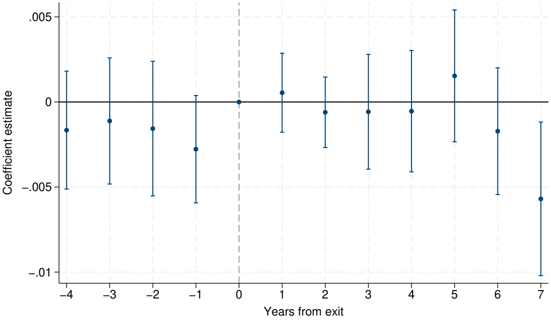
Unemployment and self-employment probability effect



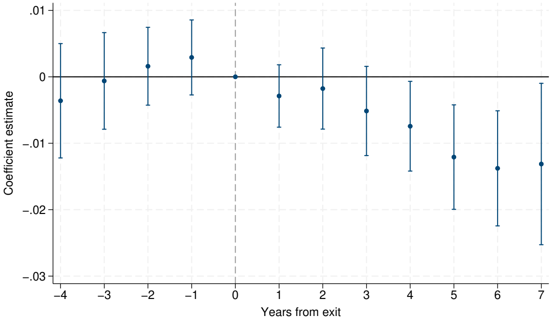
(a) Unemployment probability



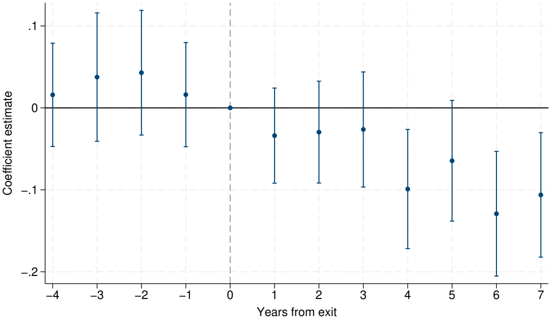
(b) Self-employment probability

Increase of 22% of the baseline unemployment probability

Total and business income



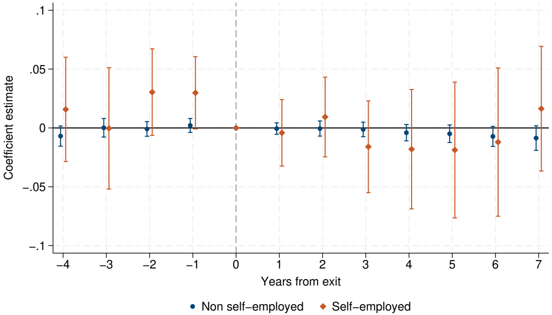
(a) Total income



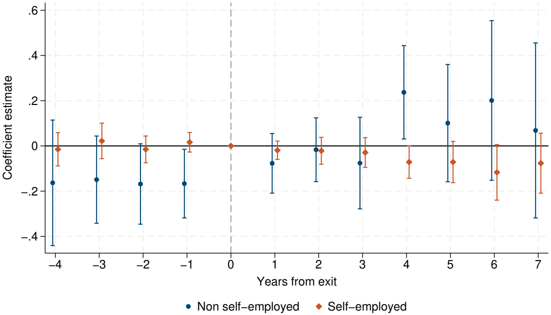
(b) Business income

Total income decreases, driven by business income

Total and business income by self-employment



(a) Total income



(b) Business income

Self-employed experience the bigger drop in income

Summary of results

- Effects on wealth and debt
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  - Decrease of half a percentage point in the probability of having debt

- Employment channel
  - Increase of 22% of the baseline unemployment probability
  - No change in self-employment probability
  - Total income decreases, driven by business income
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- Soft information channel

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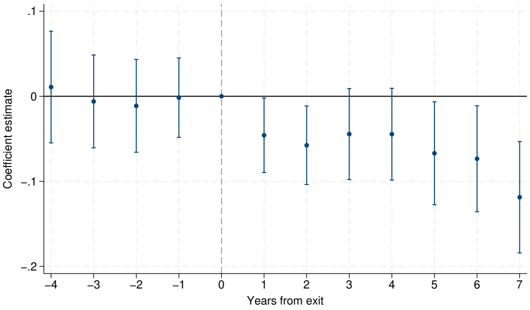
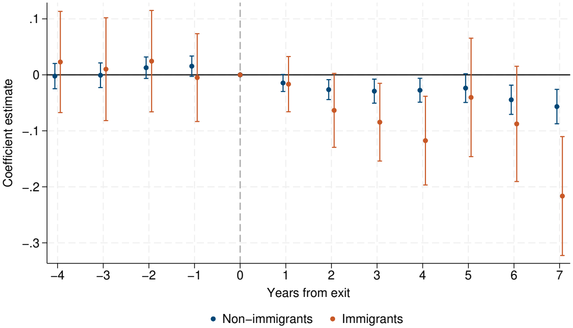
Soft information on financial wealth

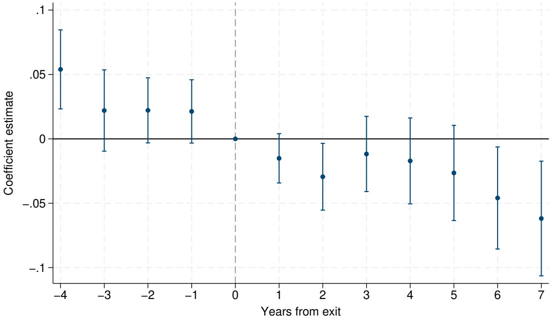


(a) Out of the labour force

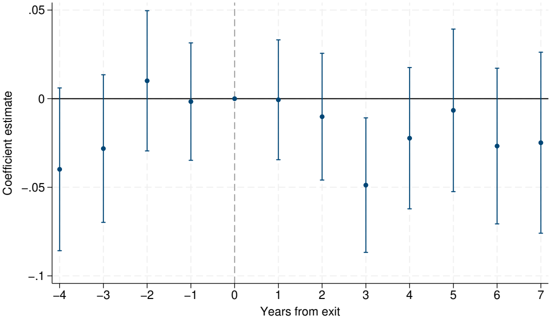


(b) By migration status

Soft information on financial wealth

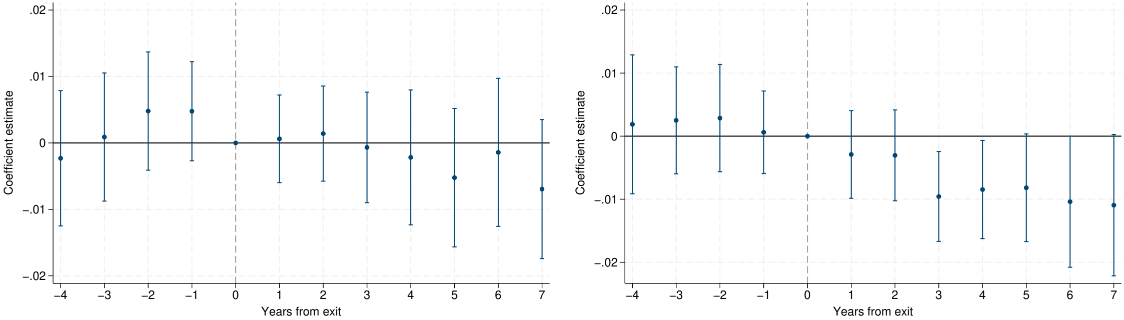


(a) Born before 1956



(b) Born after 1972

Soft information on probability of having debt



(a) Born before 1956

(b) Born after 1972

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- Employment channel
  - Increase of 22% of the baseline unemployment probability
  - No change in self-employment probability
  - Total income decreases, driven by business income
  - Self-employed experience the bigger drop in income

- Soft information channel
  - Wealth effect is present for those out of the labour force
  - Effect is stronger for migrants
  - Younger and older cohorts experience different results

Conclusion

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- Document a 35% decrease in bank offices in Norway (2003-2019)
- Exploit staggered bank exit from municipalities
- Overall decrease in gross wealth, probability of having debt and home ownership
- Employment effects present, mostly for self-employed
- Evidence of banks as gatherers of soft information

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