Wealth Taxation and Migration Patterns of the Wealthy

Katrine Jakobsen, Henrik Kleven, Jonas Kolsrud, Camille Landais & Mathilde Munoz

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Do the Rich Move to Avoid Wealth Taxes?

- Migration responses central to debate on desirability of wealth taxes
  - Literature on "intensive margin" responses to wealth tax (Jakobsen & al [2020])
  - Evidence on top earners migration response to tax (Kleven et al. [2020])
  - Work on *within-country* responses to wealth taxation only: Moretti & Wilson [2023], Bruhlart et al. [2022], Agrawal et al. [2023]

Do the Rich Move to Avoid Wealth Taxes?

- Migration responses central to debate on desirability of wealth taxes
- Why important
  1. Top earners $\neq$ wealth holders= responsiveness to taxes?
  2. Wealth (stock) $\neq$ income (flow)= avoidance strategies?
  3. Wealthy entrepreneurs= economic spillovers for the economy?

Do the Rich Move to Avoid Wealth Taxes?

- Migration responses central to debate on desirability of wealth taxes
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- Requires detailed data on (i) migration (ii) wealth (iii) firms' ownership + (iv) exogeneous shock in wealth taxation

This Paper: Wealth and Migration in Scandinavia

Today we will mostly focus on Sweden → Denmark used as a robustness

1. Who migrates at the top of wealth distribution?
   - How large and how persistent?
   - Who is more likely to leave?
2. What are the economic implications of wealthy out-migration?
   - Real effects on individual-level outcomes (taxes, portfolio reallocation)
   - Economic spillovers on closely-held businesses (employment, profits..)
3. What is the (causal) effect of wealth taxation on migration?
   - International migration responses to repeal of the wealth tax

What are migration-induced implications of taxing wealth for the aggregate economy?

Wealth Taxation in Sweden (1910-2007)

- Annual tax on the market value of net wealth of wealthy households
- Key features of the Swedish wealth tax before 2007:
  - **Tax schedule**:
    - 0% below exemption threshold, 1.5% MTR above ▸ Paying Wealth Tax
  - **Reporting requirements**: Third-party reporting + assessments at market values
  - **Tax exemptions**: real estate (25%), listed stocks (20%), assets in closely-held businesses (100%). ▸ Details
- Residence rules: wealth tax applies to Swedish tax residents
  - Non-residents liable for wealth held in Sweden
  - Owning a firm in Sweden can be sufficient to be Swedish tax resident
  - Capital gains taxable up to 10 years upon migration

Repeal of the Swedish Wealth Tax in 2007

- Swedish wealth tax: 1999-2007
  - Wealth tax payments $\approx$ 1.2% of total tax revenues
  - Annual average tax of $\approx$ .5% of total net wealth for the top 2%
  - Other capital incomes taxed at 30% annually
- 2007: Abolitition of wealth tax (Effective January 1st)
  - Sharp and large decrease in MTR from 1.5% to 0.
  - Followed surprise win of the right wing coalition at the October 2006 elections

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  - Sharp and large decrease in MTR from 1.5% to 0.
  - Followed surprise win of the right wing coalition at the October 2006 elections
- Similar reforms in Denmark (1996), France (2017)...
  - Denmark decreased top MTR from 2.2% to 1% in 1990
  - Fully repealed the wealth tax in 1996
  - We use this as "out of sample" test for the Swedish reform

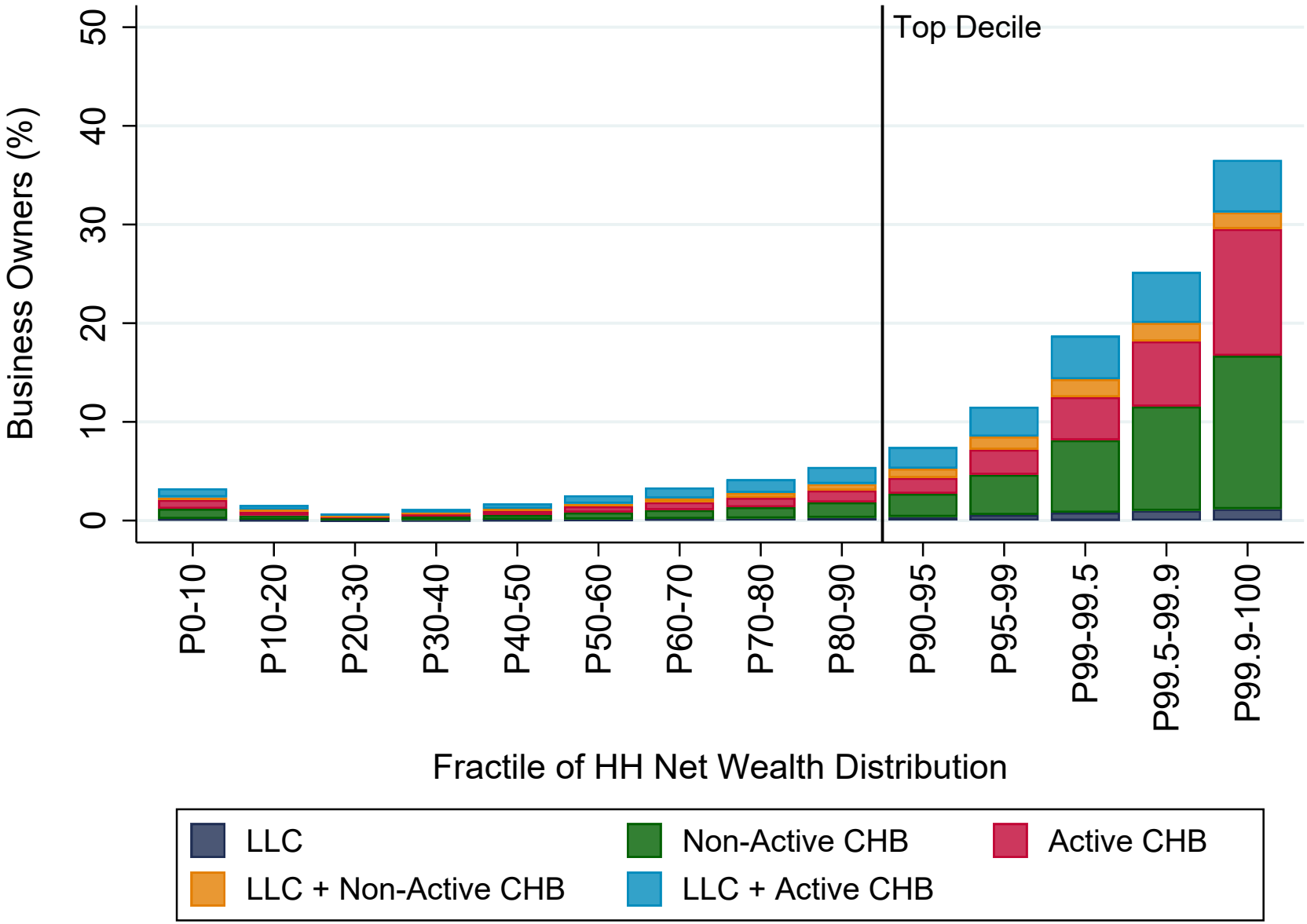
Administrative Data on Wealth and Migration in Sweden

- Third-party reported information on **wealth**
  - Net market value of real estate, listed stocks, bank accounts, bonds...
    ⇒some info only available until 2007 ▸ Prediction model
  - List of all housing + financial transactions
  - Shares in **closely-held businesses** (CHB):
    ⇒link unlisted companies to Swedish owners
  - Ownership register: all firm-to-firm ownership links + shares
    ⇒ measure both direct and indirect firm ownership

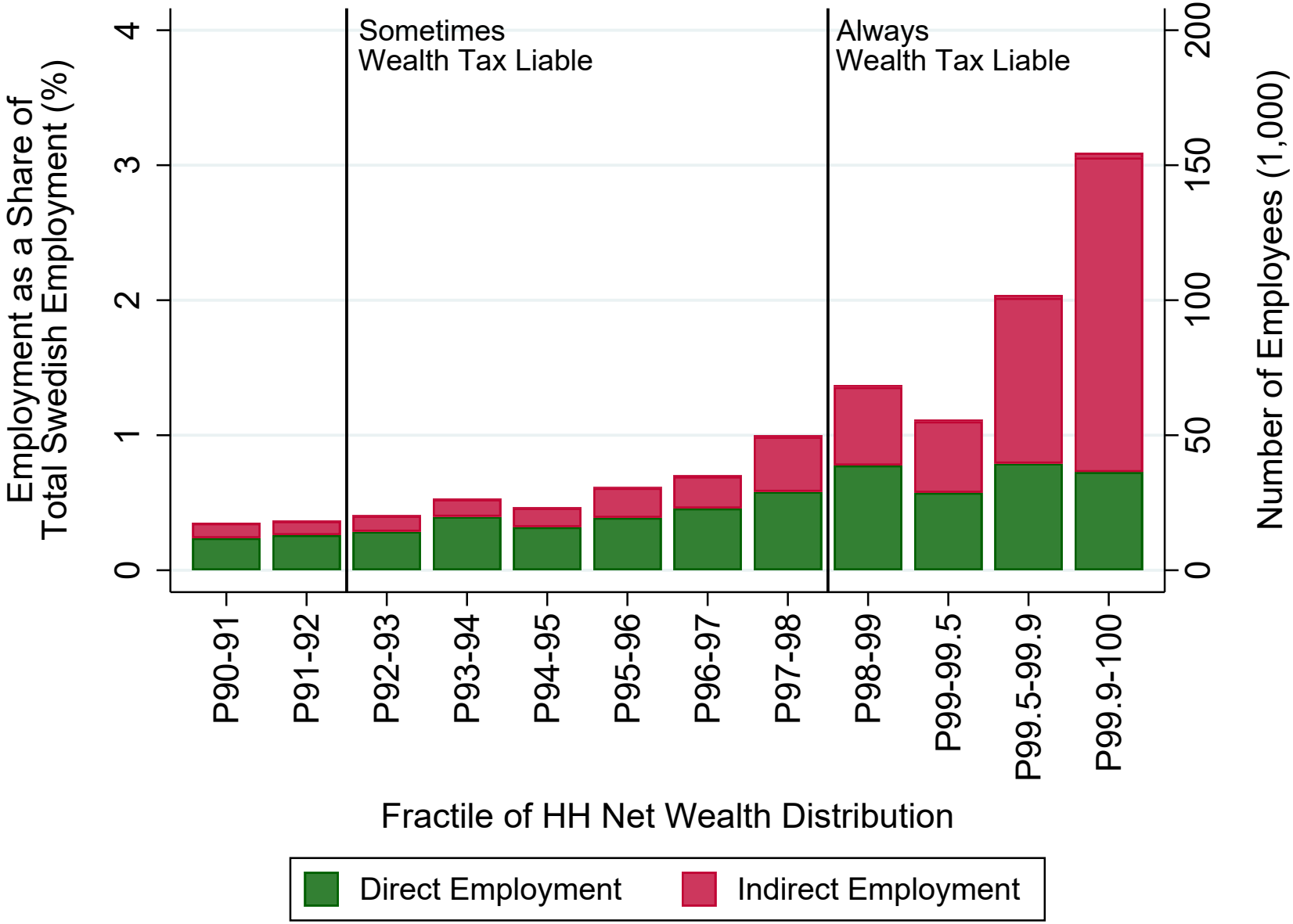
- Population registers with rich **demographic** & **economic** info
  - E.g. info on all earnings, capital income, transfers
  - E.g. detailed info on education, occupation, etc.

- Administrative **international migration** registers
  - Dates of entry/exit, duration of stay each year
  - Country of origin/destination

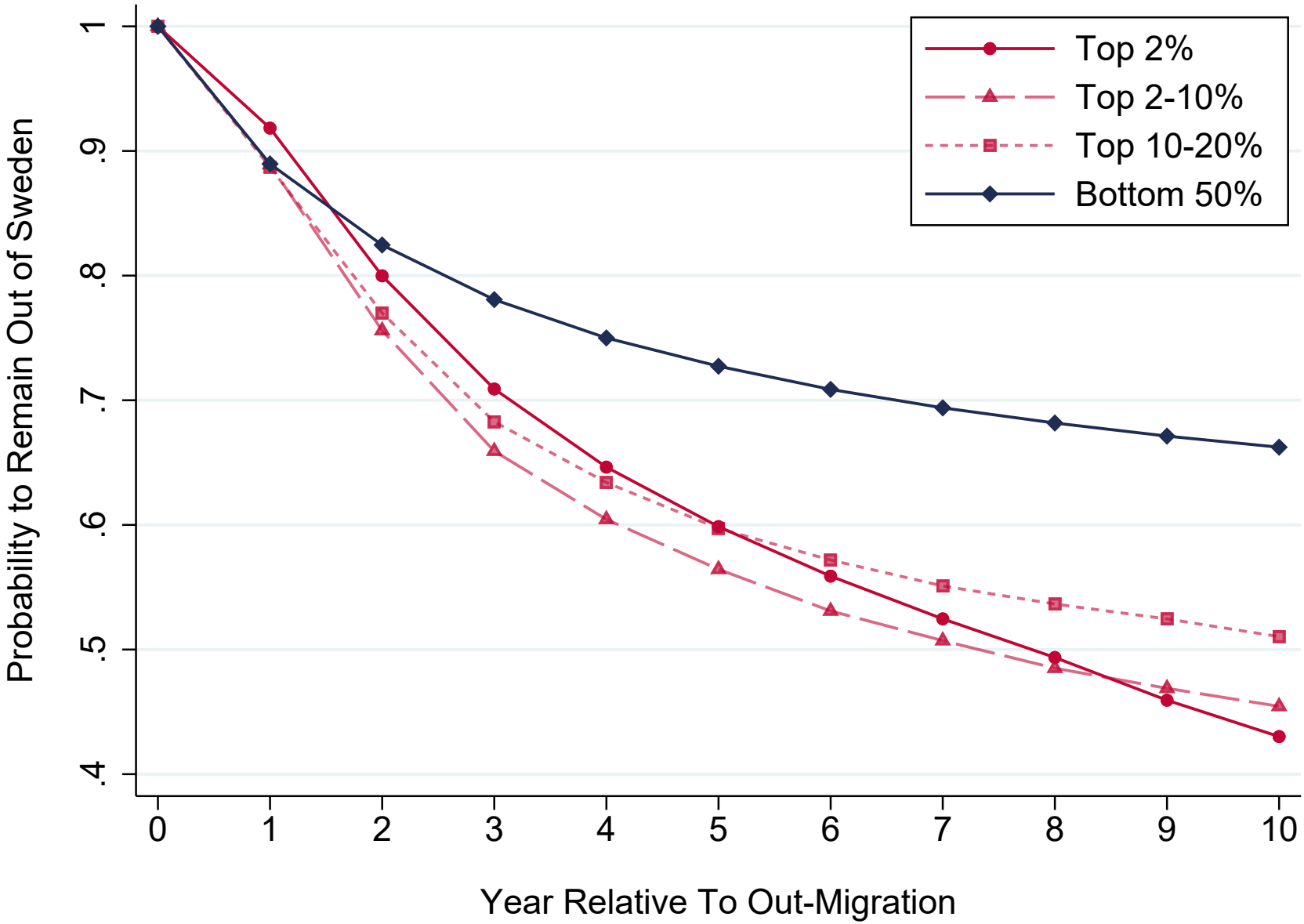
#1: Many Entrepreneurs Among the Wealthy



#2:Large Employment at Firms Held by the Wealthy



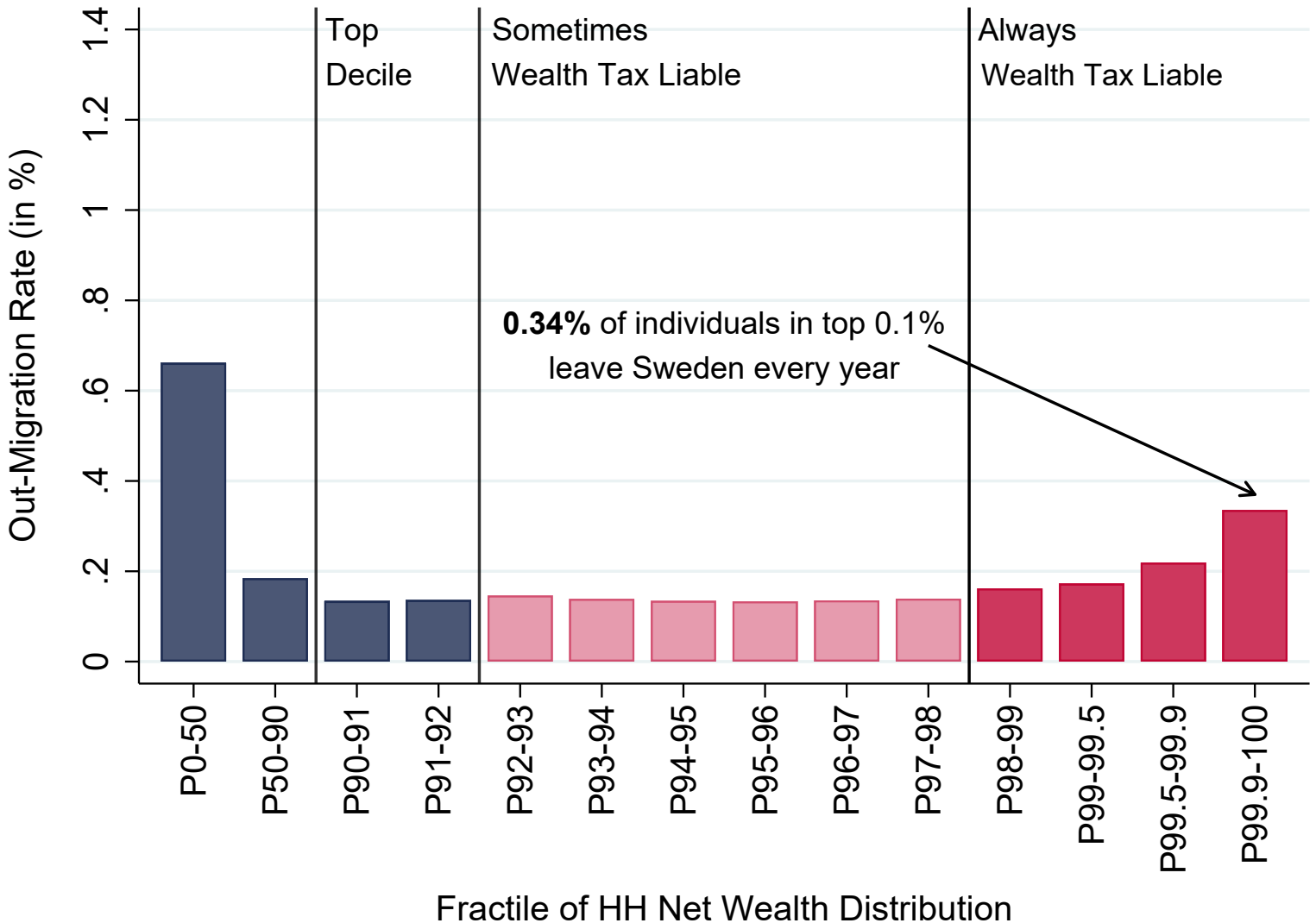
#3: Migration is Real But Sometimes Transitory



Out-Migration Rates by Wealth Level: 1999-2006

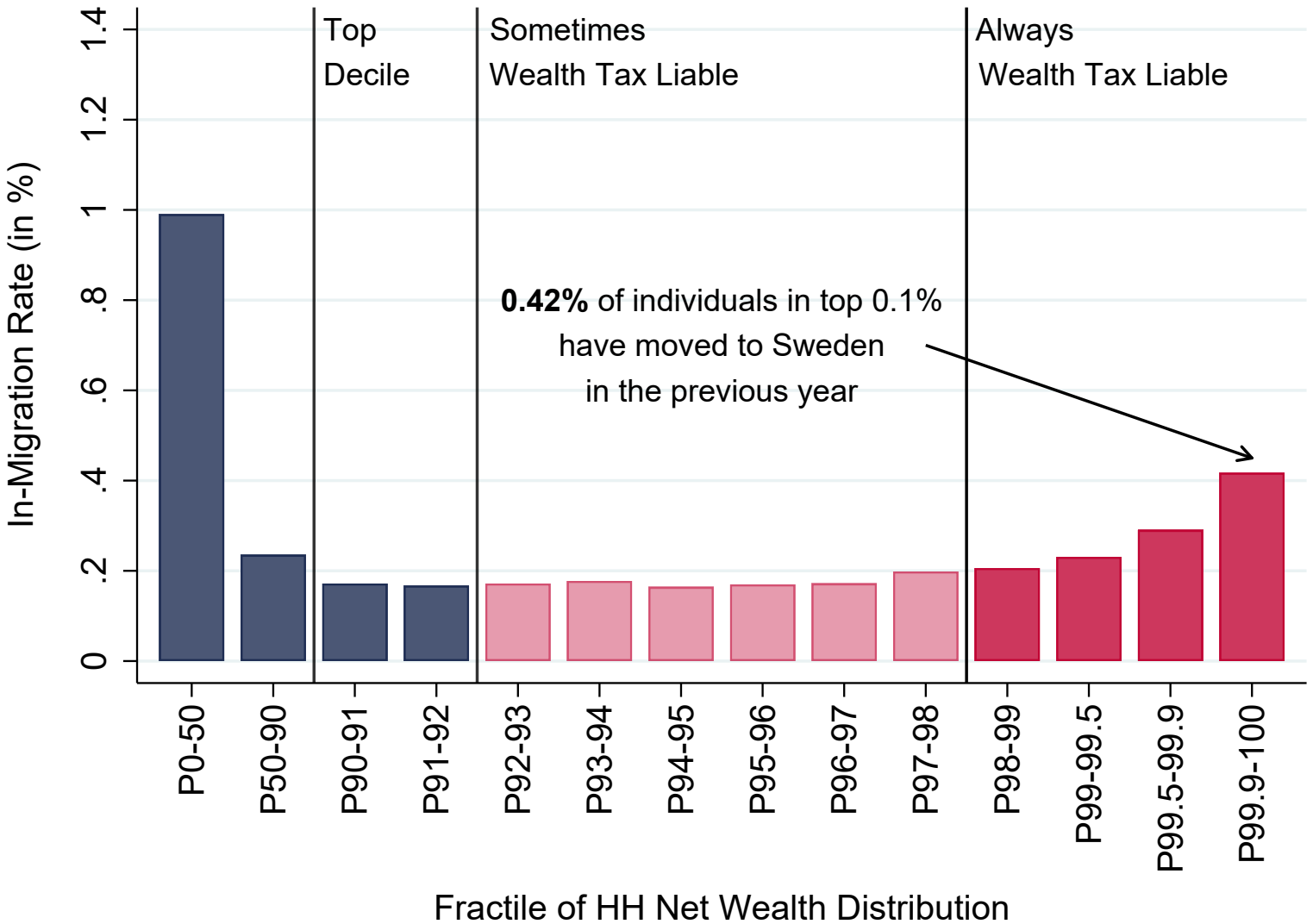
Out-migrants liable to wealth tax $\approx$ 0.1% of total net wealth

▸ Same numbers in DK



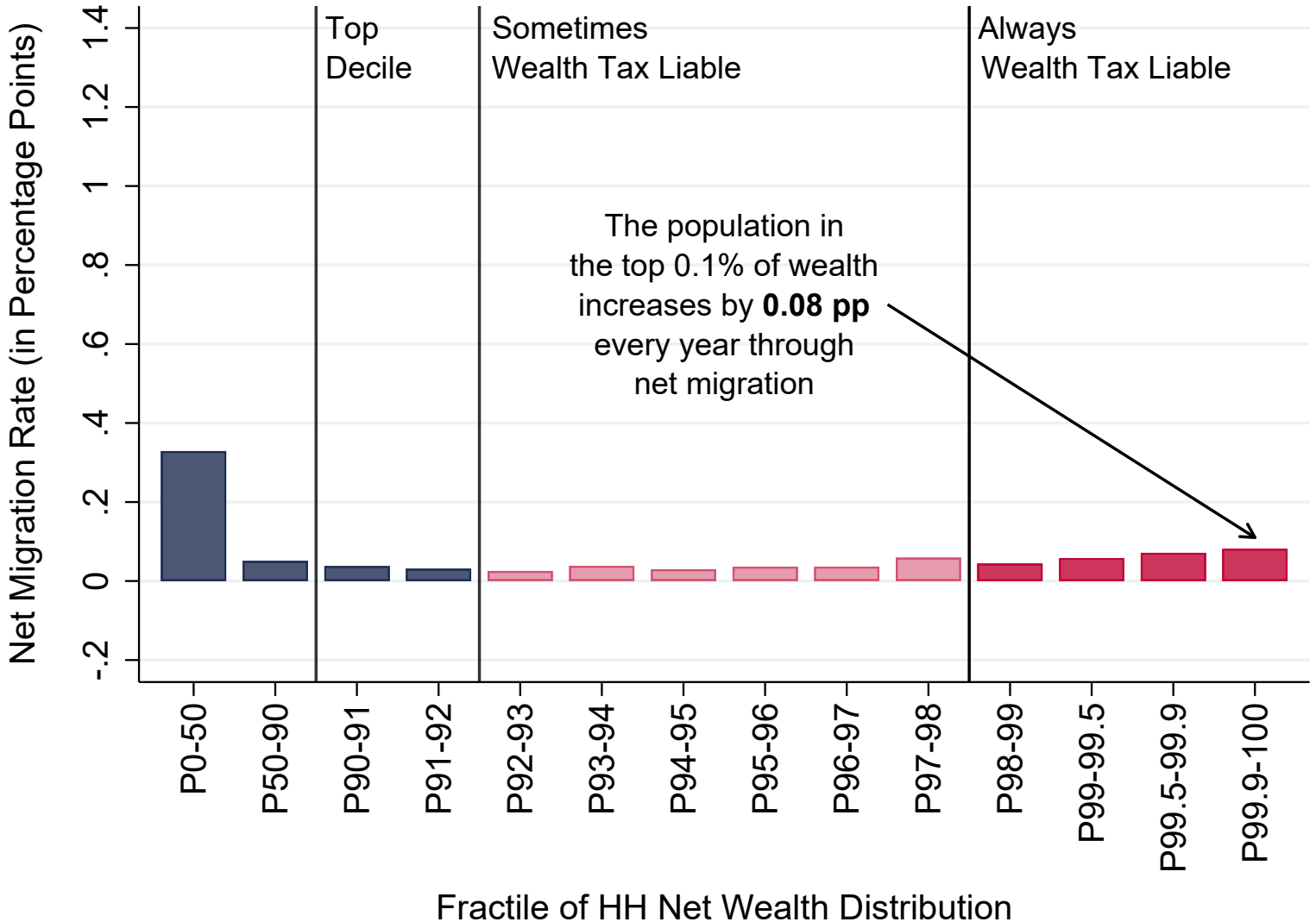
In-Migration Rates by Wealth Level: 1999-2006

More In-migration as well at the top ▸ Same numbers in DK



Net-Migration Rates by Wealth Level: 1999-2006

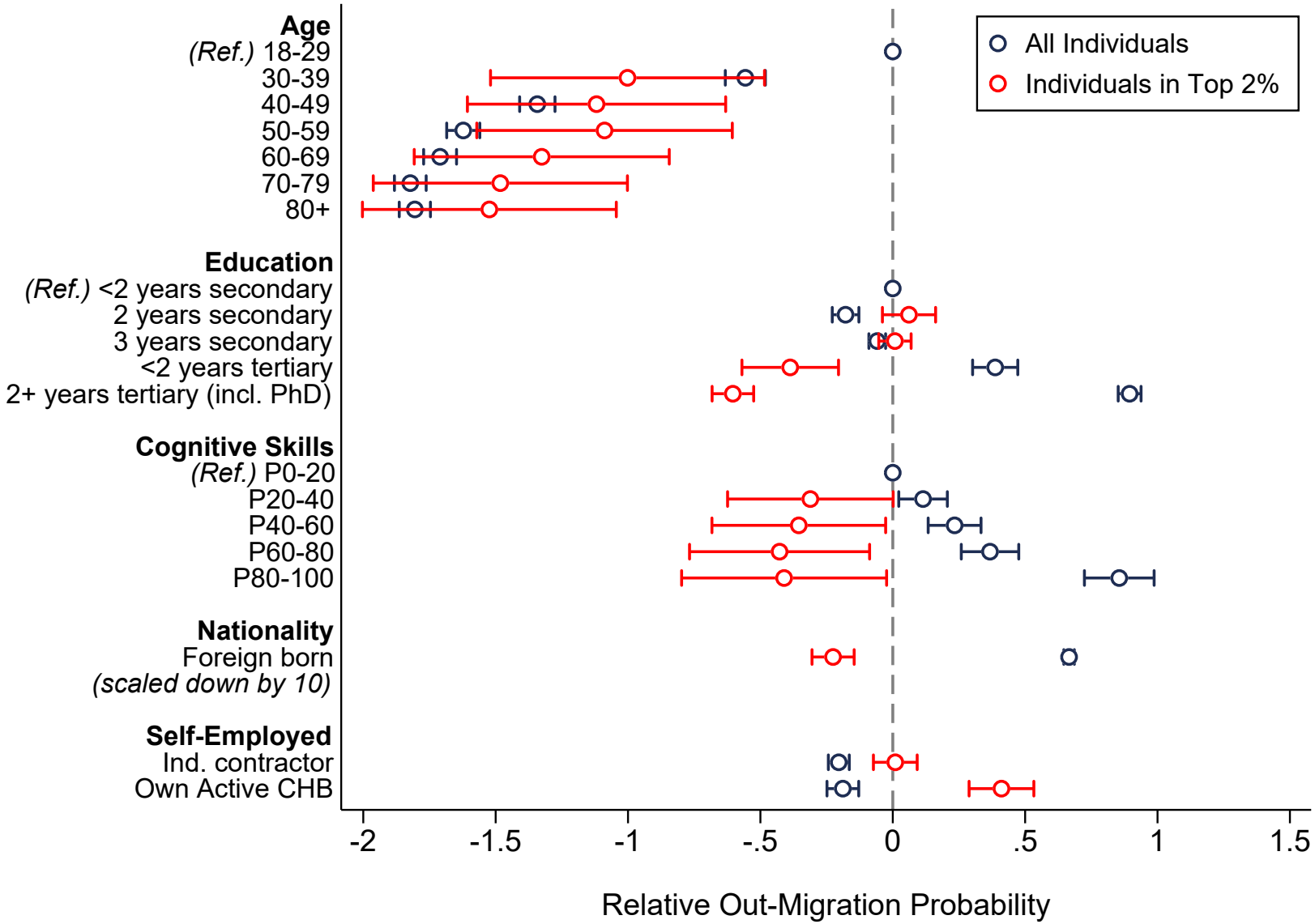
Small positive net migration rates → No exodus of the wealthy



Selection Into Out-Migration: Sweden

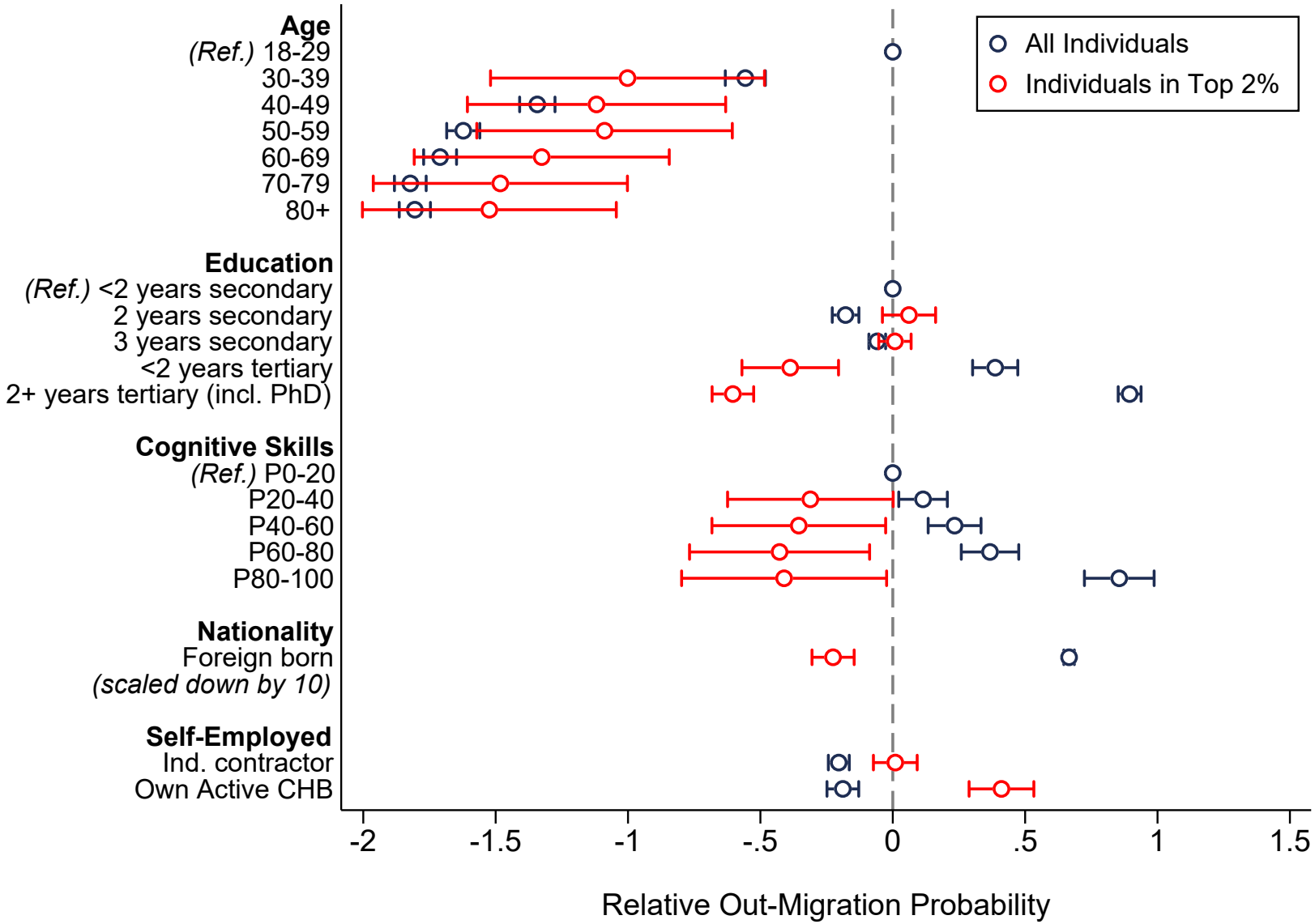
Linear Probability Model of Out-Migration 2001-2007

Equations



Selection Into Out-Migration: Sweden

No brain drain, but wealthy entrepreneurs 40% more likely to leave



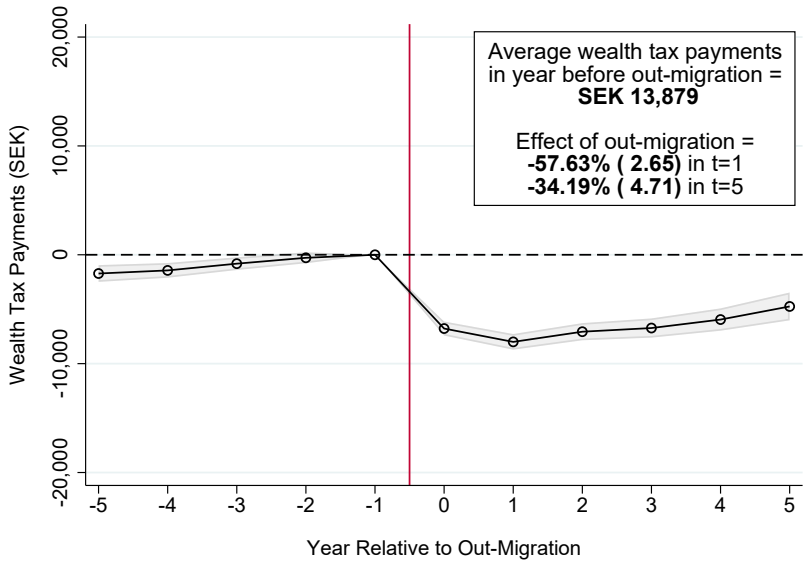
Effects of Out-Migration on Individual-Level Outcomes

- Focus on *all* out-migration events of wealth taxpayers (1999-2006)
  - During that period, wealth was taxed
- Individual-level outcomes before and after out-migration
  - Comparison group: wealthy staying in Sweden
  - Random allocation of placebo out-migration dates (no matching)
- Dynamic self-selection into out-migration? What happens after?

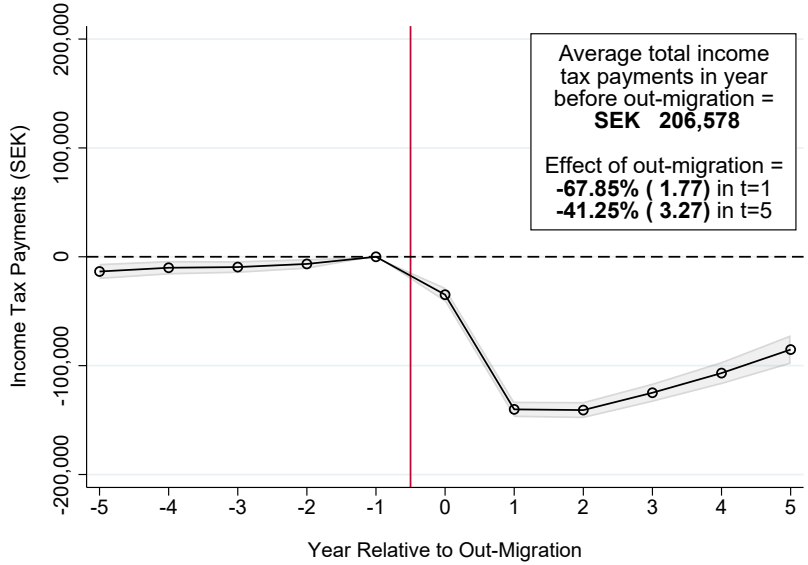
$$\underbrace{y_{it}}_{\text{Indiv. outcome}} = \sum_{\substack{j=-5 \\ j\neq -1}}^{5} \beta_j \times \underbrace{1 \cdot (M_i = 1) \cdot 1(t = j)}_{\text{Migrant x time to event FE}} + \sum_j \delta_j \cdot 1(t = j) + \varepsilon_{it}$$

▸ Treatment vs Control

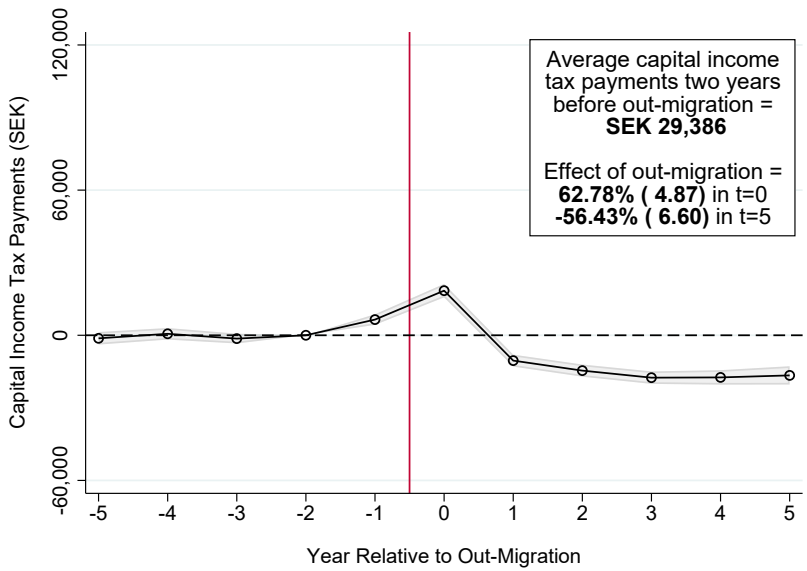
a. Wealth Tax Payments



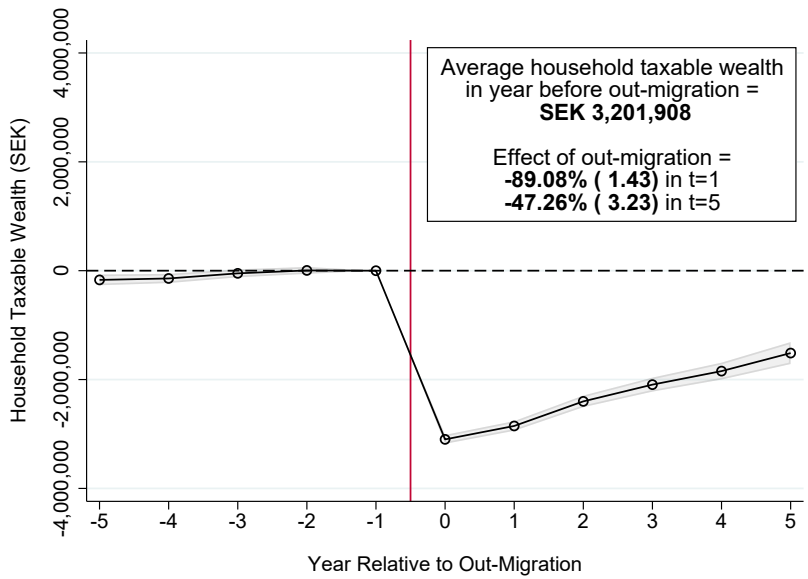
b. Income Tax Payments



c. Capital Income Tax Payments

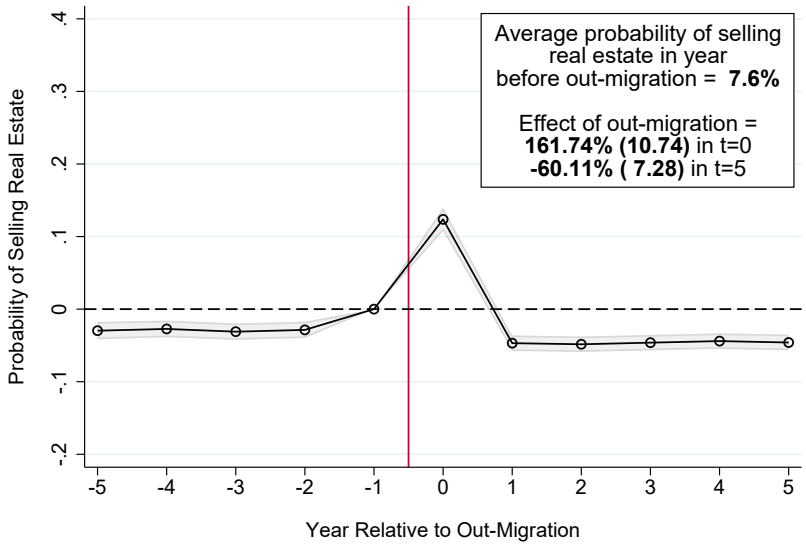


d. Taxable Wealth in Sweden

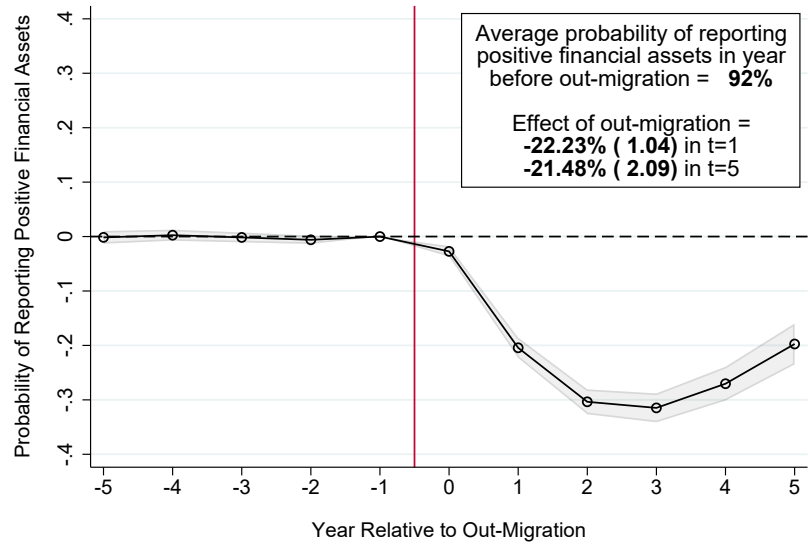


▸ Heterogeneity by CHB Ownership

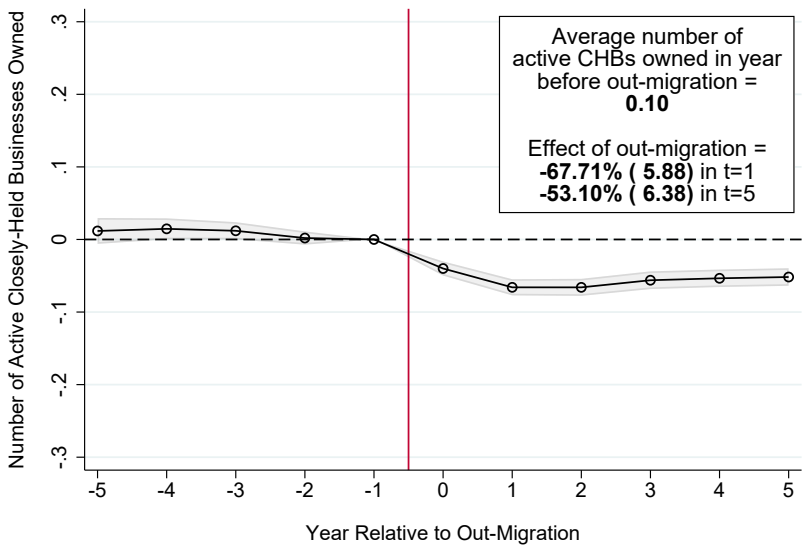
a. Real Estate Transaction



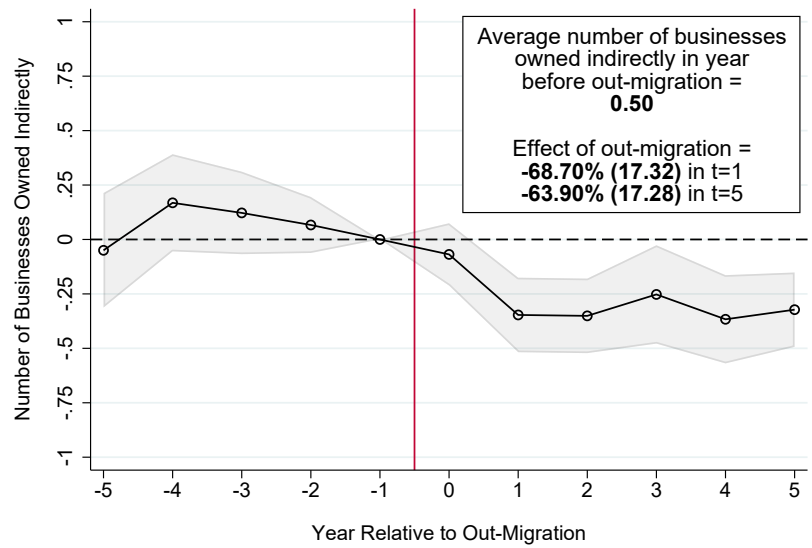
b. Reporting Financial Wealth



c. Firms Held Directly



d. Firms Held Indirectly



Closely-Held Businesses Owned by Wealthy Taxpayers

Smallish firms, but bigger than average unlisted firm

Variable	Mean	Median	Std. Dev.	Obs.	% of Swedish Aggregates	% of Active CHBs
			Panel A. All active CHBs			
Nr. of Owners	1.8	1	7.1	589,788		
Nr. of Employees	8	3	40.5	589,788	13.53%	100%
Value Added ($)	399.7k	178.5k	3,629.7k	541,097	21.84%	100%
Net Turnover ($)	1,247.9k	456.1k	7,178.2k	541,097	17.68%	100%
Tax Payments ($)	16.2k	2.5k	553.8k	541,097	27.64%	100%
Gross Investments ($)	62.8k	7.4k	548.2k	541,097	17.88%	100%
			Panel B. Active CHBs with at least one owner in the top 2% of net worth			
Nr. of Owners	2.4	2	17.9	89,485		
Nr. of Employees	14.1	4	82.3	89,485	3.56%	26.32%
Value Added ($)	834.9k	263.2k	6,431.1k	82,473	6.90%	31.58%
Net Turnover ($)	2,775.6k	709.7k	14,923.5k	82,473	6.13%	34.65%
Tax Payments ($)	45.4k	6.6k	429.7k	82,473	10.68%	38.64%
Gross Investments ($)	149.5k	11.8k	1.286.8k	82,473	6.41%	35.88%

Notes: The values for value added, net turnover, tax payments, and gross investments were converted from SEK to USD using the average of the yearly currency exchange rates between 2000 and 2006.

Firms Owned (Directly and Indirectly) by the Wealthy

Variable	Mean	Median	Std. Dev.	Obs.	% of Swedish Aggregates
Panel A. All active firms held by ultimate owners					
Nr. of Ultimate Owners	2.4	1	32.6	692,054	
Nr. of Employees	10.5	4	49.9	692,054	20.82%
Value Added ($)	514.5k	194.7k	3590.4k	638,841	32.73%
Net Turnover ($)	1,740.3k	509.3k	12,044.2k	638,841	28.90%
Tax Payments ($)	20.6k	2.6k	552.1k	638,841	37.63%
Gross Investments ($)	78.3k	6.9k	849.9k	638,841	25.34%
Panel B. Active firms with at least one ultimate owner in the top 2% of net wealth					
Nr. of Ultimate Owners	5.5	2	73.9	134,540	
Nr. of Employees	21.8	6	103.2	134,540	8.61%
Value Added ($)	1,175.7k	334.5k	6,024.2k	125,324	14.53%
Net Turnover ($)	4,399.4k	962.1k	25,521.6k	125,324	14.53%
Tax Payments ($)	56.5k	6.5k	580.3k	125,324	17.98%
Gross Investments ($)	190.4k	13.5k	1,805.3k	125,324	11.98%

Notes: The values for value added, net turnover, tax payments, and gross investments were converted from SEK to USD using the average of the yearly currency exchange rates between 2000 and 2006.

Effects of Out-Migration on Firm-Level Outcomes

- Firm outcomes before and after out-migration of their owners
  - Comparison group: firms held by wealthy stayers
  - Random allocation of placebo out-migration dates (no matching)
  - Focus on firms held in -1 with at least one employee

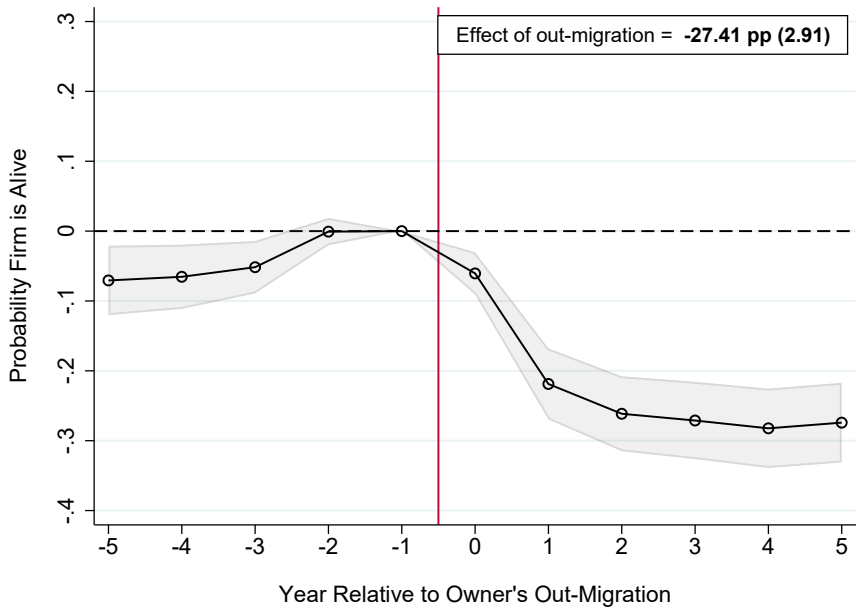
- Dynamic self-selection into out-migration? What happens after?

$$\underbrace{y_{ft}}_{\text{Firm outcome}} = \sum_{\substack{j=-5 \\ j\neq -1}}^{5} \beta_j \times \underbrace{1 \cdot (M_f = 1) \cdot 1(t = j)}_{\text{Migrant Owner x time to event FE}} + \sum_j \delta_j \cdot 1(t = j) + \varepsilon_{ft}$$

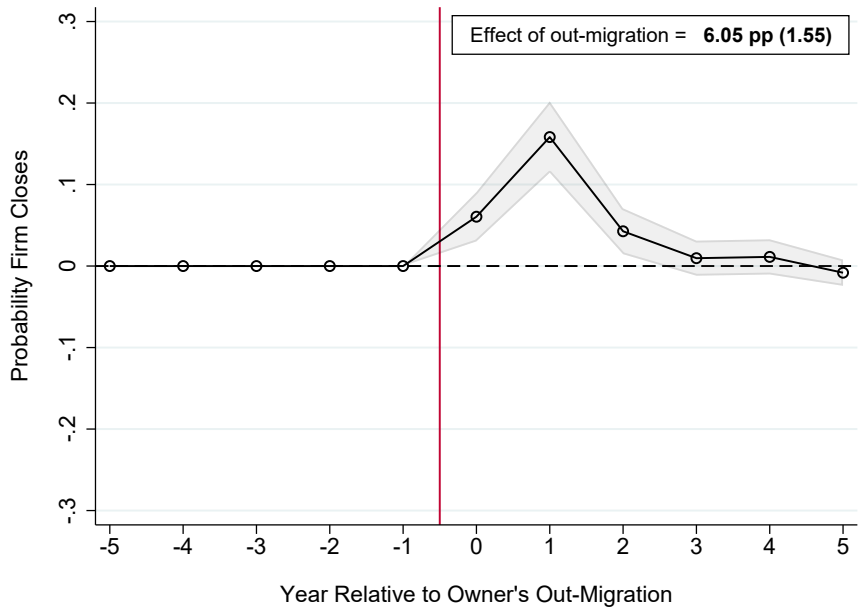
▸ Treatment vs Control

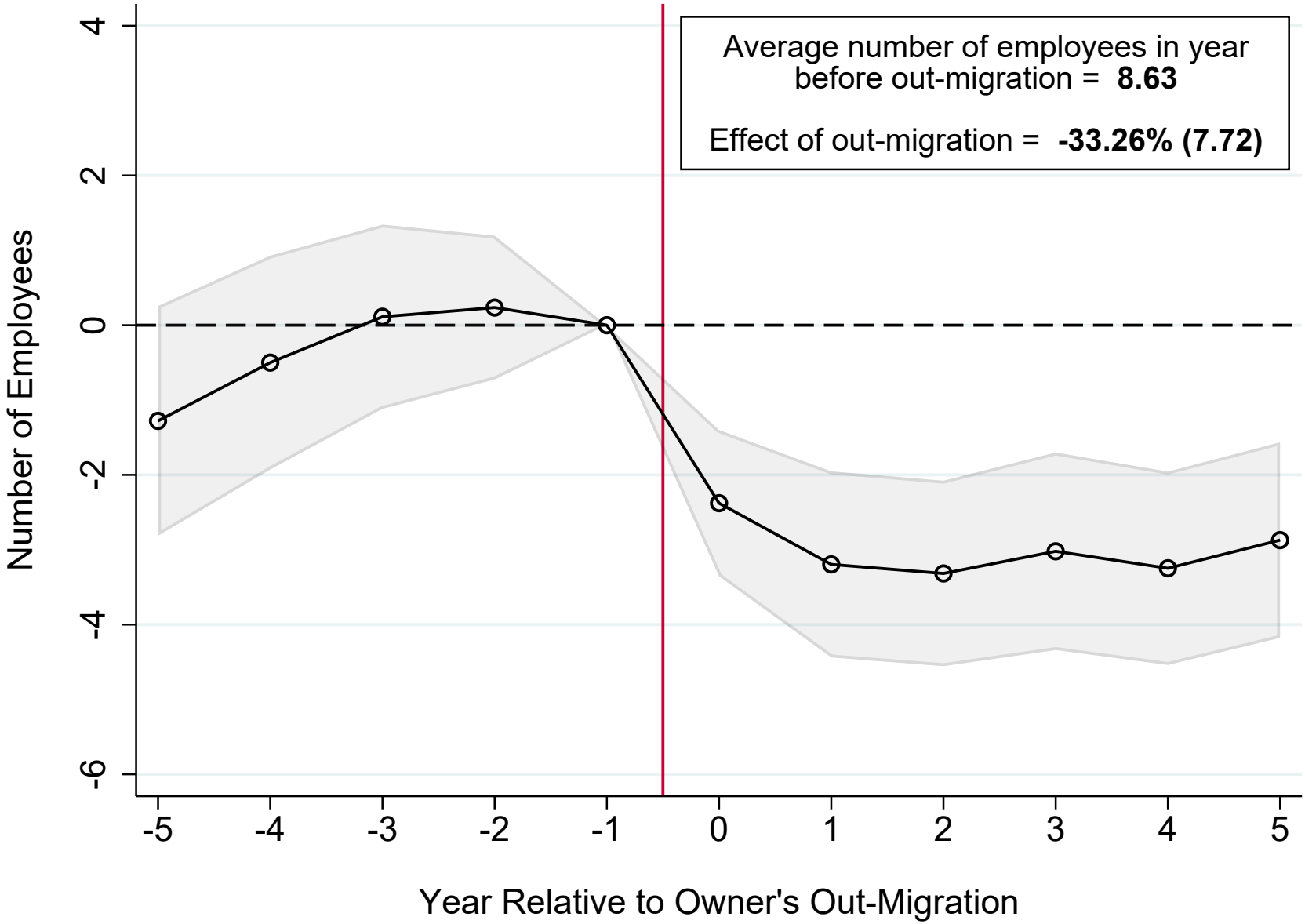
Wealthy Owners Close Their CHB Upon Leaving

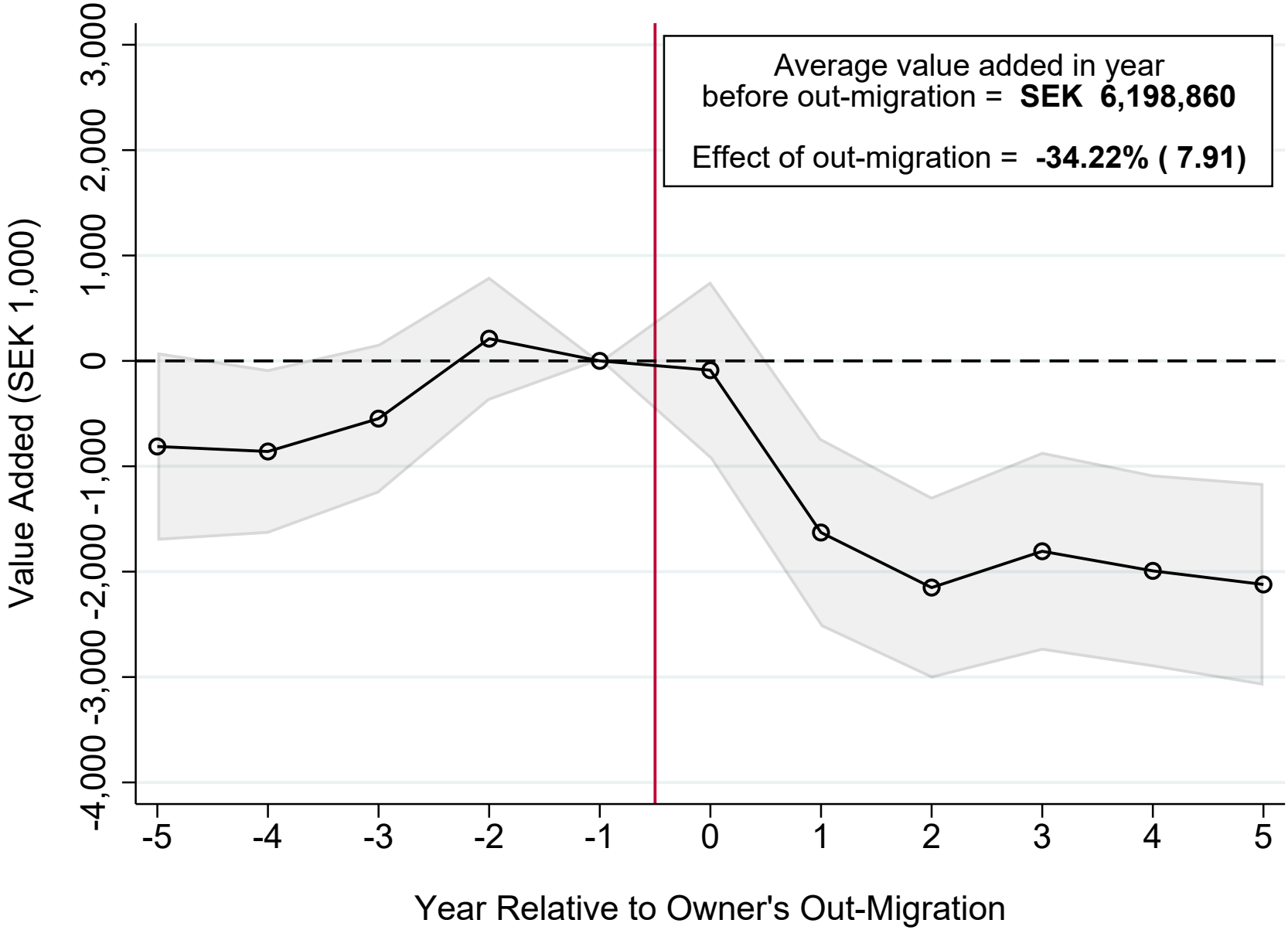
a. Probability Firm is Alive



b. Probability of Closure



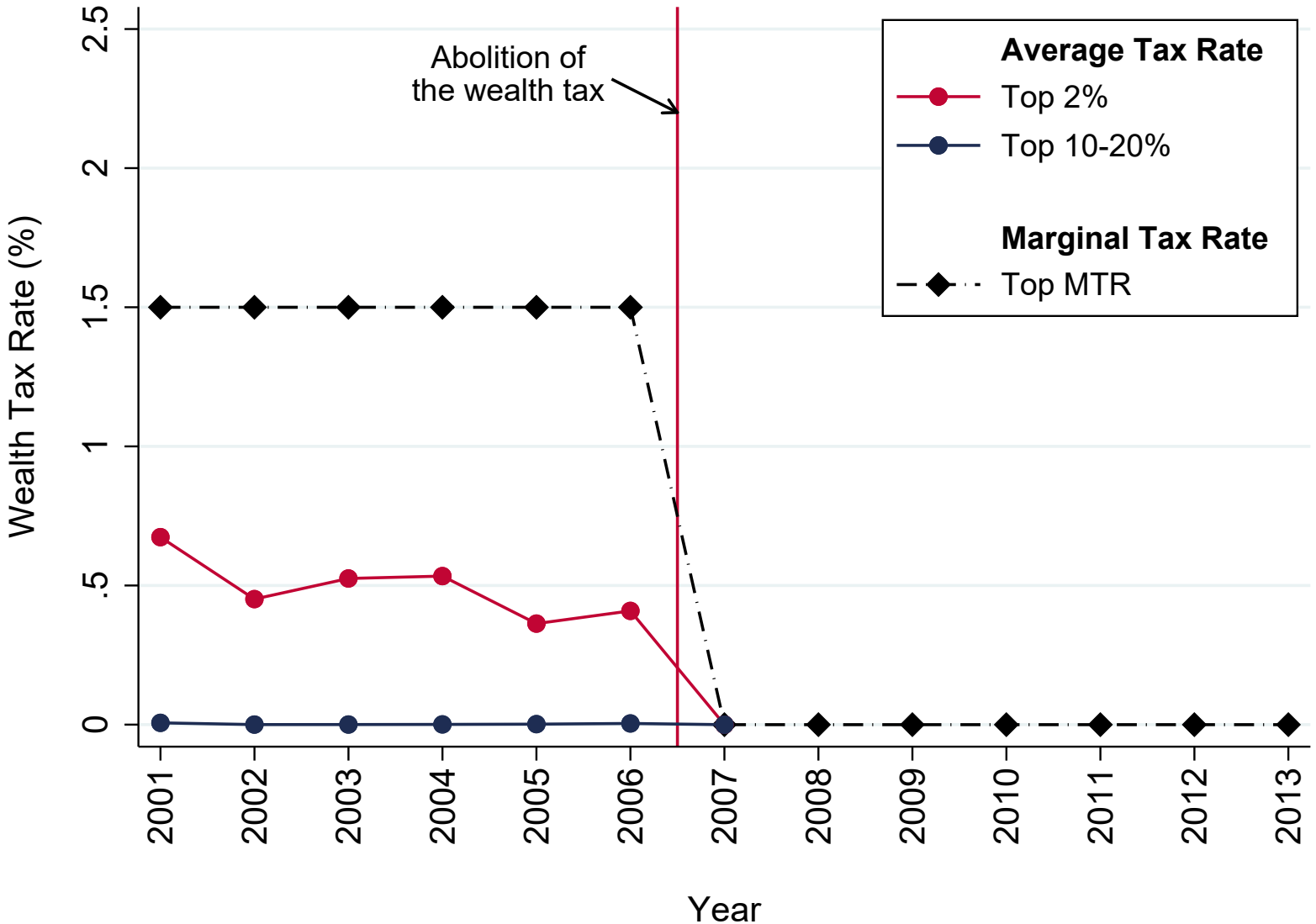

Average number of employees in year before out-migration = 8.63
Effect of out-migration = -33.26% (7.72)
Number of Employees
4
2
0
-2
-4
-6
-5
-4
-3
-2
-1
0
1
2
3
4
5
Year Relative to Owner's Out-Migration


Average value added in year
before out-migration = SEK 6,198,860
Effect of out-migration = -34.22% (7.91)
Value Added (SEK 1,000)
-4,000
-3,000
-2,000
-1,000
0
1,000
2,000
3,000
-5
-4
-3
-2
-1
0
1
2
3
4
5
Year Relative to Owner's Out-Migration

Economic Effects of the Wealthy Migration: Mechanisms

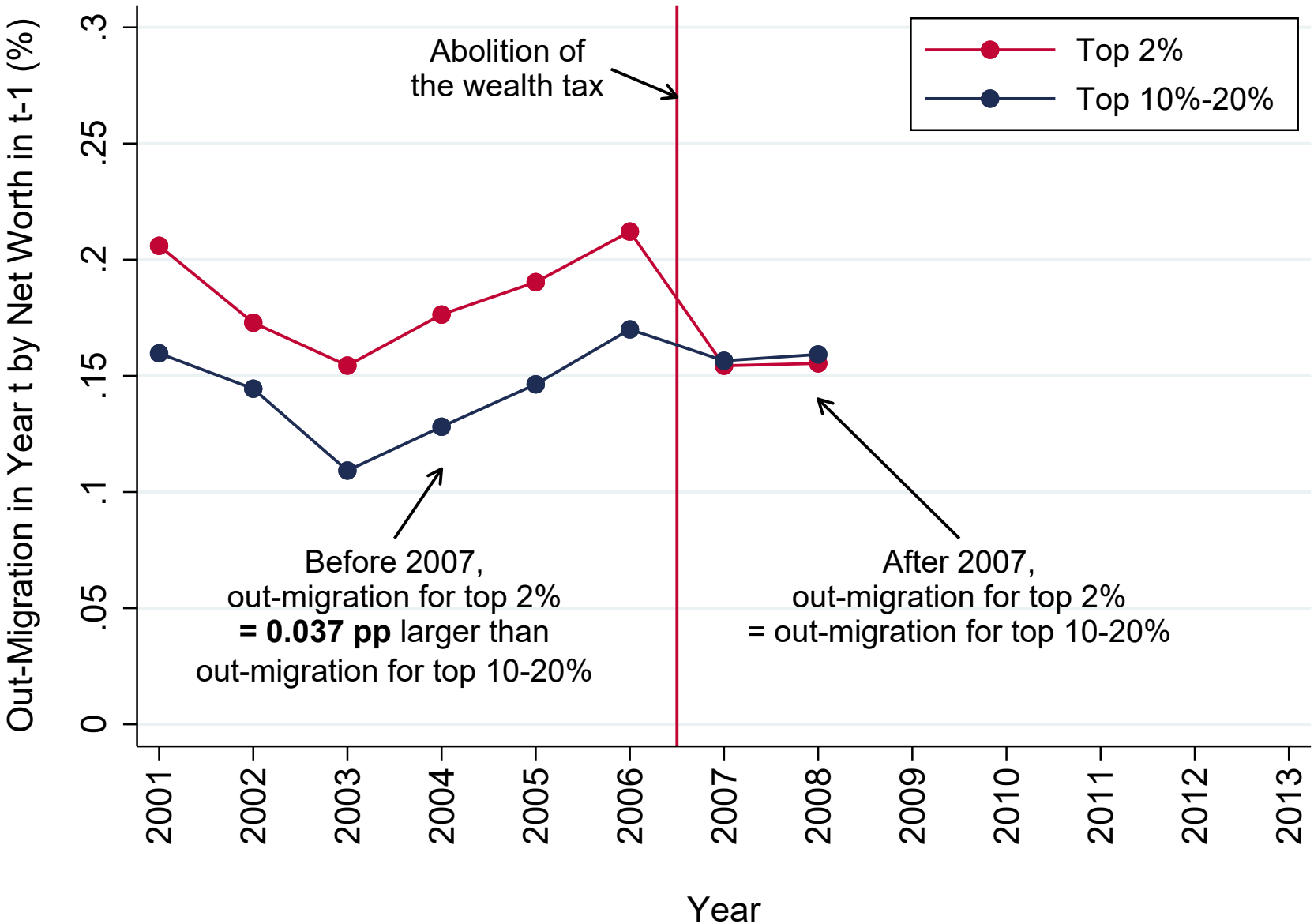
- Negative firm-level outcomes following owner out-migration
  - Mostly driven by extensive margin
  - Little effect at intensive margin ▸ Intensive Margin
  - Effects on subsidiaries have similar magnitude ▸ Subsidiaries
  - Economic effects of **in-migration** are symmetric ▸ In-Migration
- Firm-level effects $\neq$ net economic effects of wealth taxation:
  1. Part of firms' closure events are buyouts ▸ Buyouts
  2. Workers reallocate to other firms ▸ Worker-level analysis
  3. Not all migration events are driven by the wealth tax

Wealth Tax Rates in Sweden



▸ Effective Tax Rates

Out-Migration Rates of the Wealthy



Estimation Strategy

- Effect of the reform on Y_{it}: out-migration rate of individual i

$$Y_{it} = \alpha + \sum_{t=2000}^{\bar{t}} \beta_j \cdot \underbrace{1(t = j) \cdot 1(T_i = 1)}_{\text{year FE} \times \text{ top 2\% dummy}} + \gamma_t + \delta \cdot 1 \cdot (T_i = 1) + u_{it}$$

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- Compute semi-elasticity of migration from IV using DD as instrument

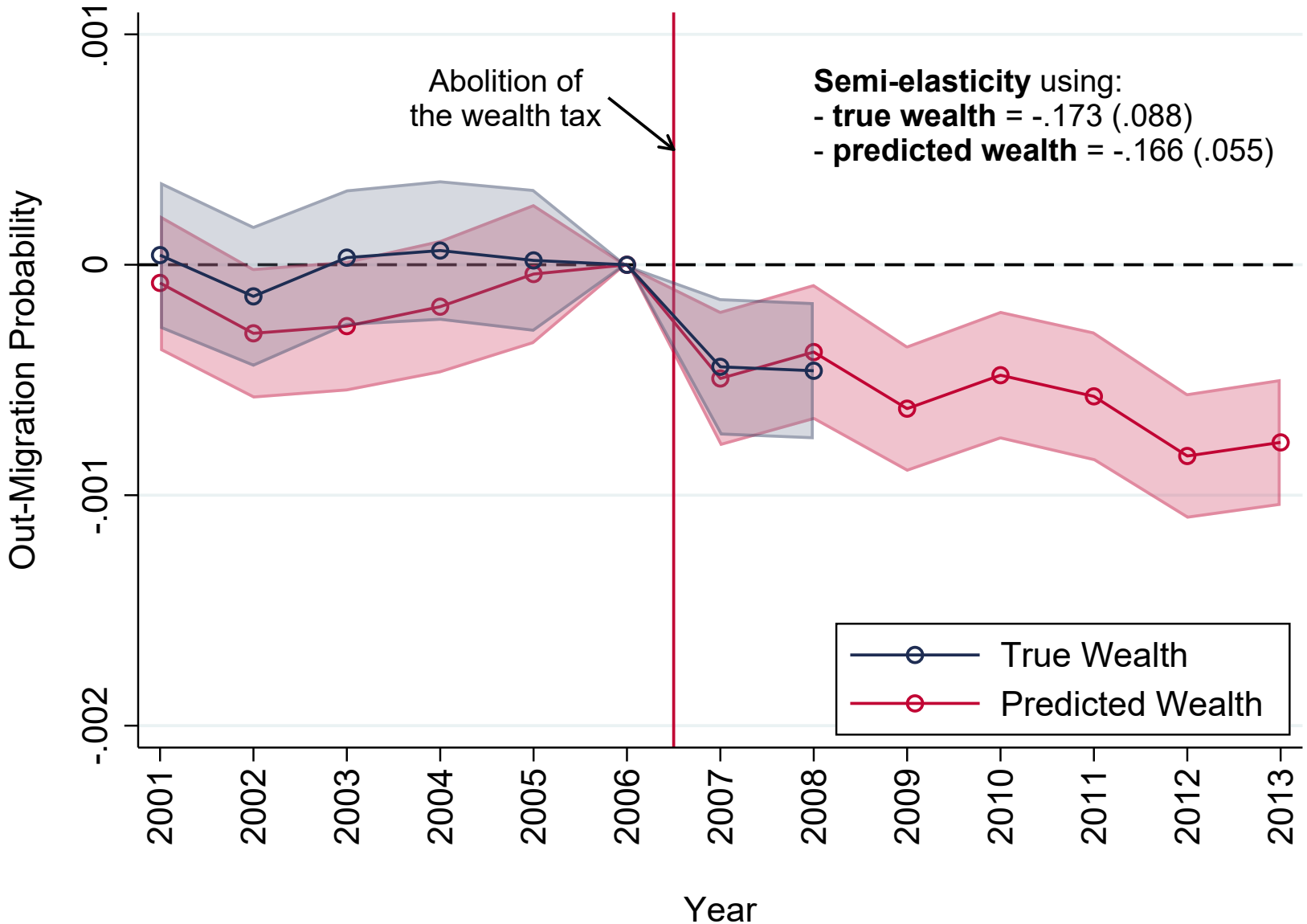
$$Y_{lt} = \varepsilon \underbrace{\ln(1 - \tau_{lt})}_{\text{IV: } (T_l = 1) \cdot (t \geq 2007)} + \beta \cdot (t \geq 2007) + \eta \cdot (T_l = 1) + u_{lt}$$

  - Y_{it}: out-migration rate of group $l = \{T, C\}$ in year t
  - Because τ small, ε has simple interpretation

- Compute *predicted* wealth to investigate longer-run effects
  - LLM model based on past wealth + past & current wealth ▸ Details

Effect of the Wealth Tax Repeal

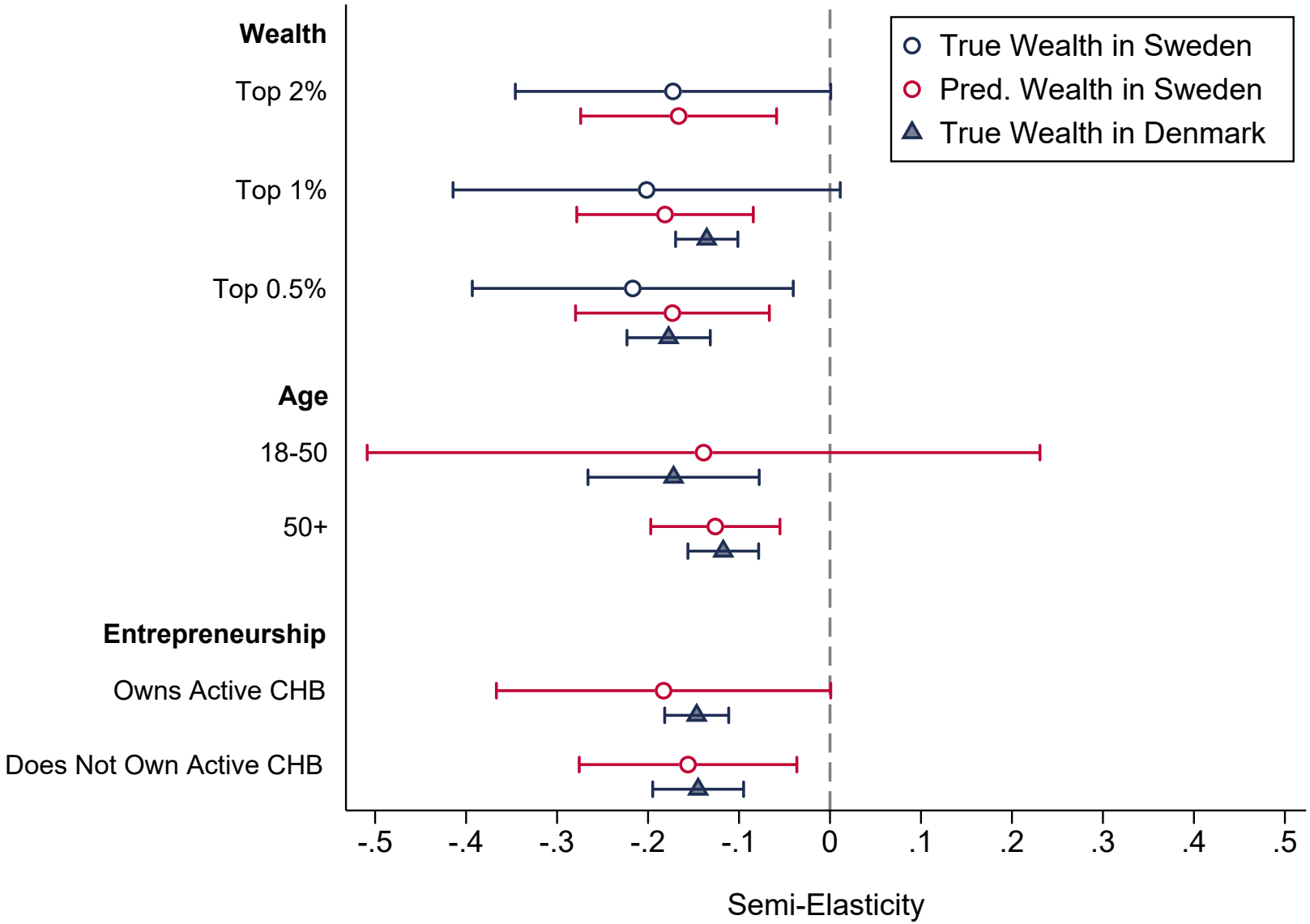
1 pct point increase in τ increases wealthy out-migration by 0.17 pct point



Semi-Elasticities of Out-Migration by Characteristics

Very Little Heterogeneity in Out-Migration Semi-Elasticities

▸ Denmark DiD



Interpreting the Magnitude: From Flows to Stock

- Well identified estimate of the effects on migration flows
- Translate into effect on pop. size (stock) using simple OLG model
- Elasticity of steady state population size N w.r.t $1-\tau$:

▸ Methodology ▸ Intuition

$$\Rightarrow \varepsilon_{N,1-\tau} \approx 2.16(0.620)$$

- Comparison with migration elasticities in the income tax literature?
  - Translate elasticity with respect to implicit capital income tax rate
  - Yields elasticity $\approx .1$

▸ Comparison ▸ Capital Income Taxation

Aggregate Implications of Tax-Induced Migration

- Direct effect: tax-induced migration decreases the wealth tax base
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- Indirect effect: tax-induced migration may reduce other outcomes
- Use estimated effects of wealthy out-migration events to gauge this:
  1. Tax-induced migration events must be similar in the way they shape firms' and individuals' outcomes
     - No selection based on demographics (homogeneous elasticities)
     - Spillover effects similar before and after repeal of the tax Go
  2. No simultaneous shock that would affect firms/individuals' outcomes even absent migration

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- Indirect effect: tax-induced migration may reduce other outcomes
- Use estimated effects of wealthy out-migration events to gauge this:
- Quantify upper bounds assuming (1) and (2) hold
  - -0.11% individual tax payments (excluding wealth tax)
  - -0.18% in firms' tax payments
  - -0.1% in aggregate value added
  - -.03% in aggregate employment

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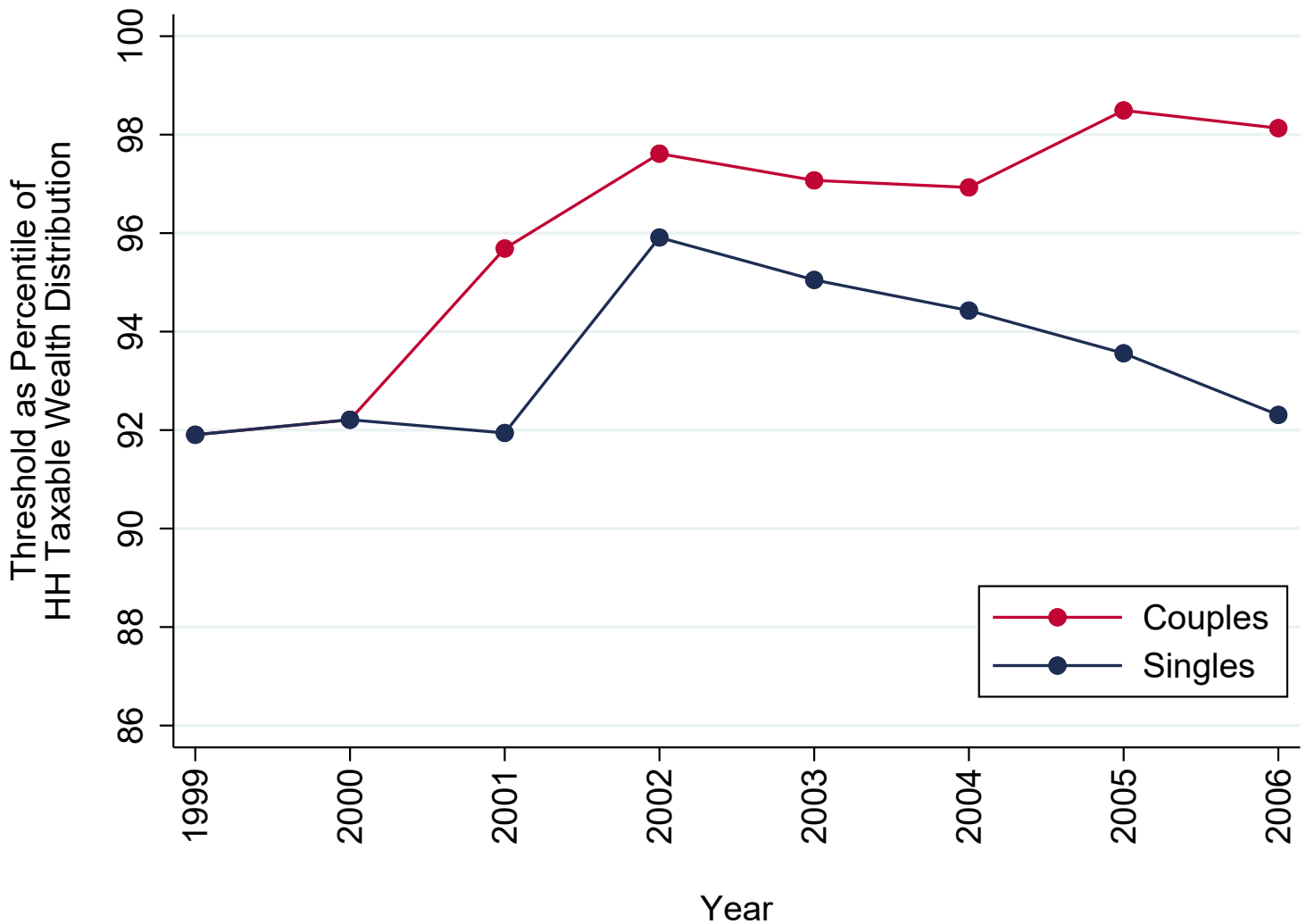
- Aggregate implications of tax-induced migration were modest

APPENDIX SLIDES

Wealth Tax Exemption Threshold in Sweden: 1999-2006

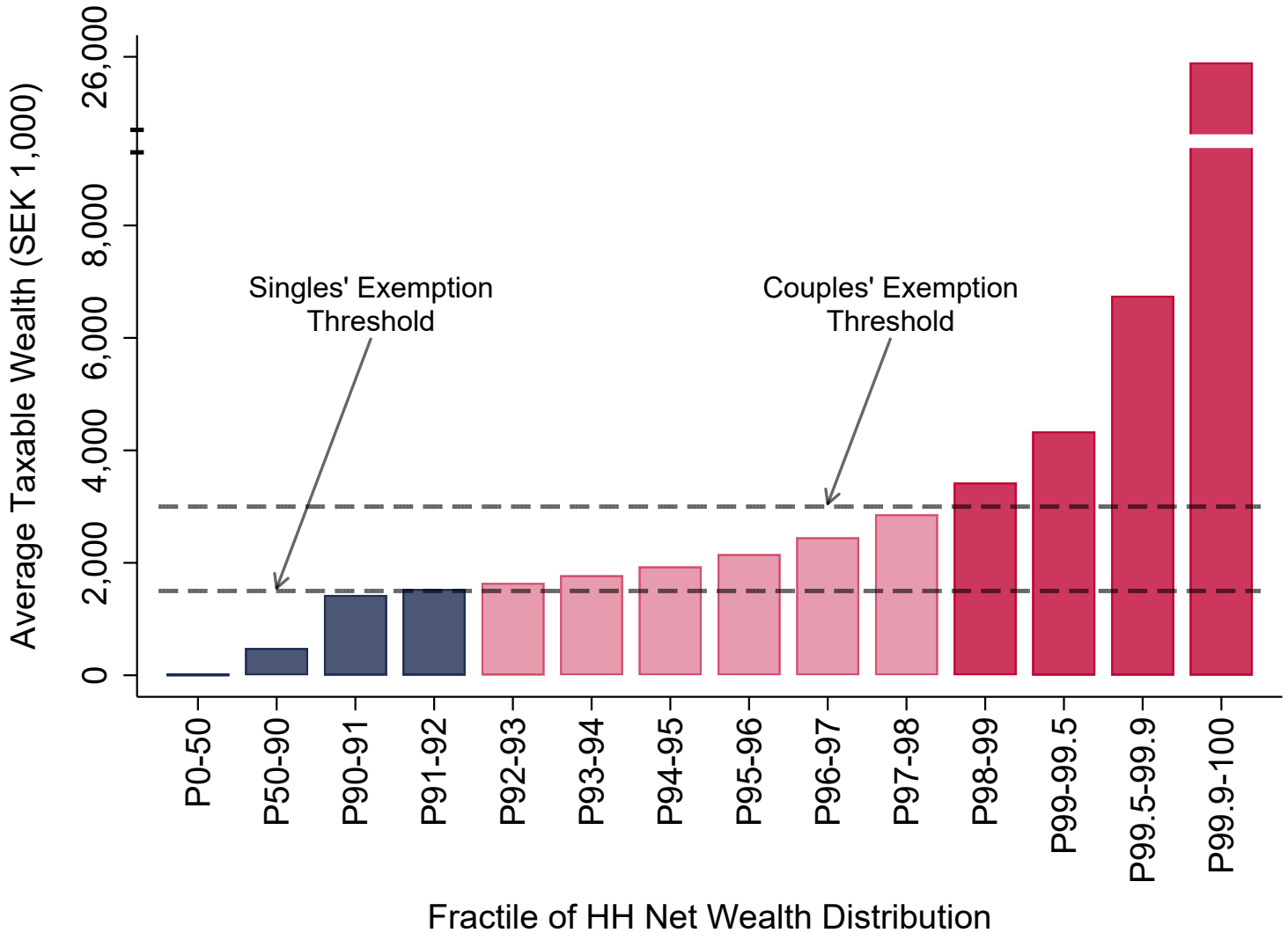
Top 2% for couples, top 8% for singles



Back

Share Paying the Wealth Tax by Wealth Level: 1999-2006

We define the wealthy based on *total* net wealth



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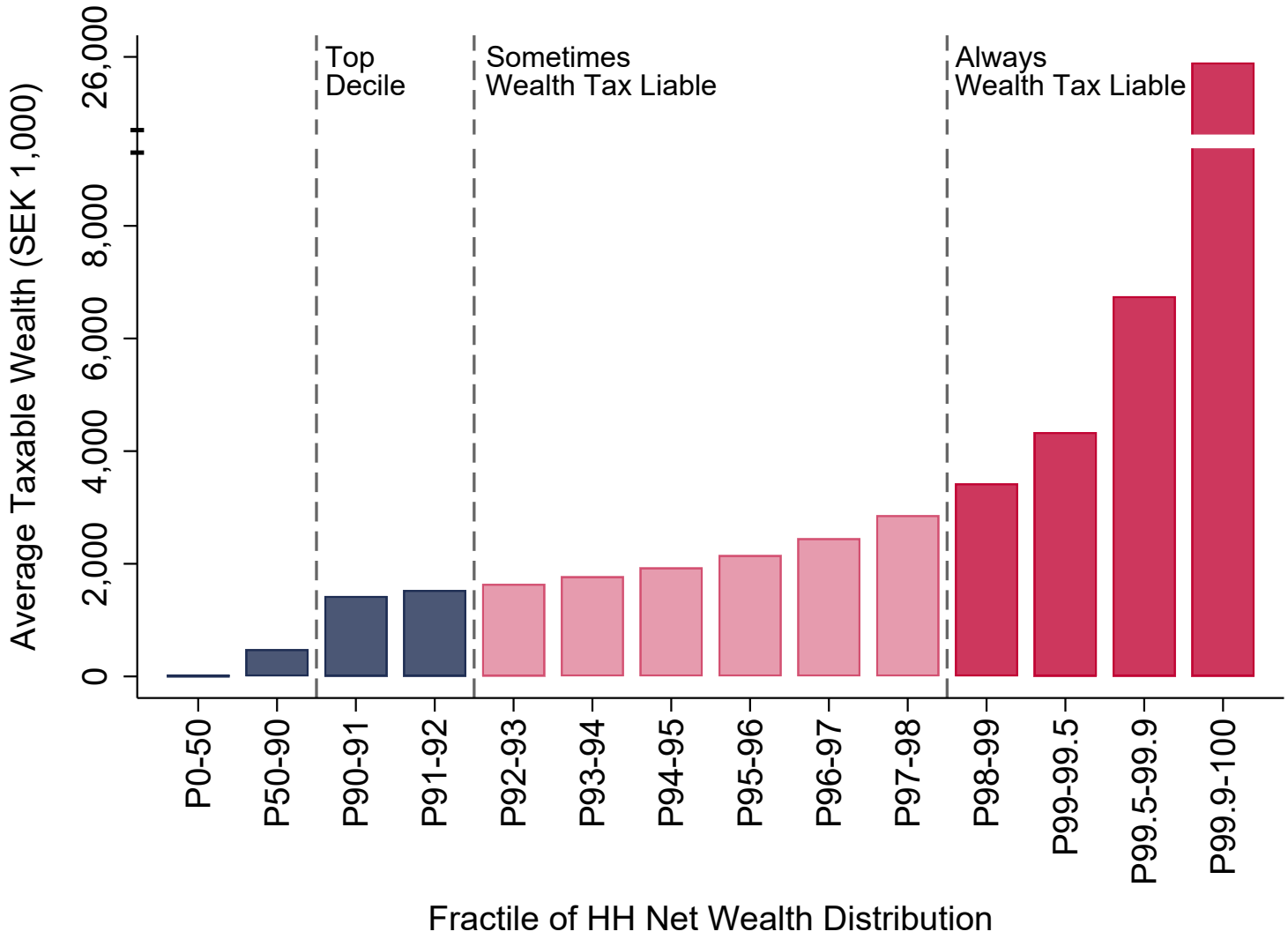
Share Paying the Wealth Tax by Wealth Level: 1999-2006

We define the wealthy based on *total* net wealth



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Taxation and Definition of Closely-Held Businesses

- Definition of Closely-held businesses (CHB)
  - 4 largest owners have more than 50% of the votes
- Definition of tax-exempt business assets
  - Must prove the assets are "essential" to firm's activity
  - Various concrete rules to check (e. g quick ratio rule)
- Limitations on income shifting ("3:12 rules")
  - The amount of income taxed as capital income is capped

▸ Back

Figure: Countries of Destination: Top 2% of Wealth Holders in Sweden

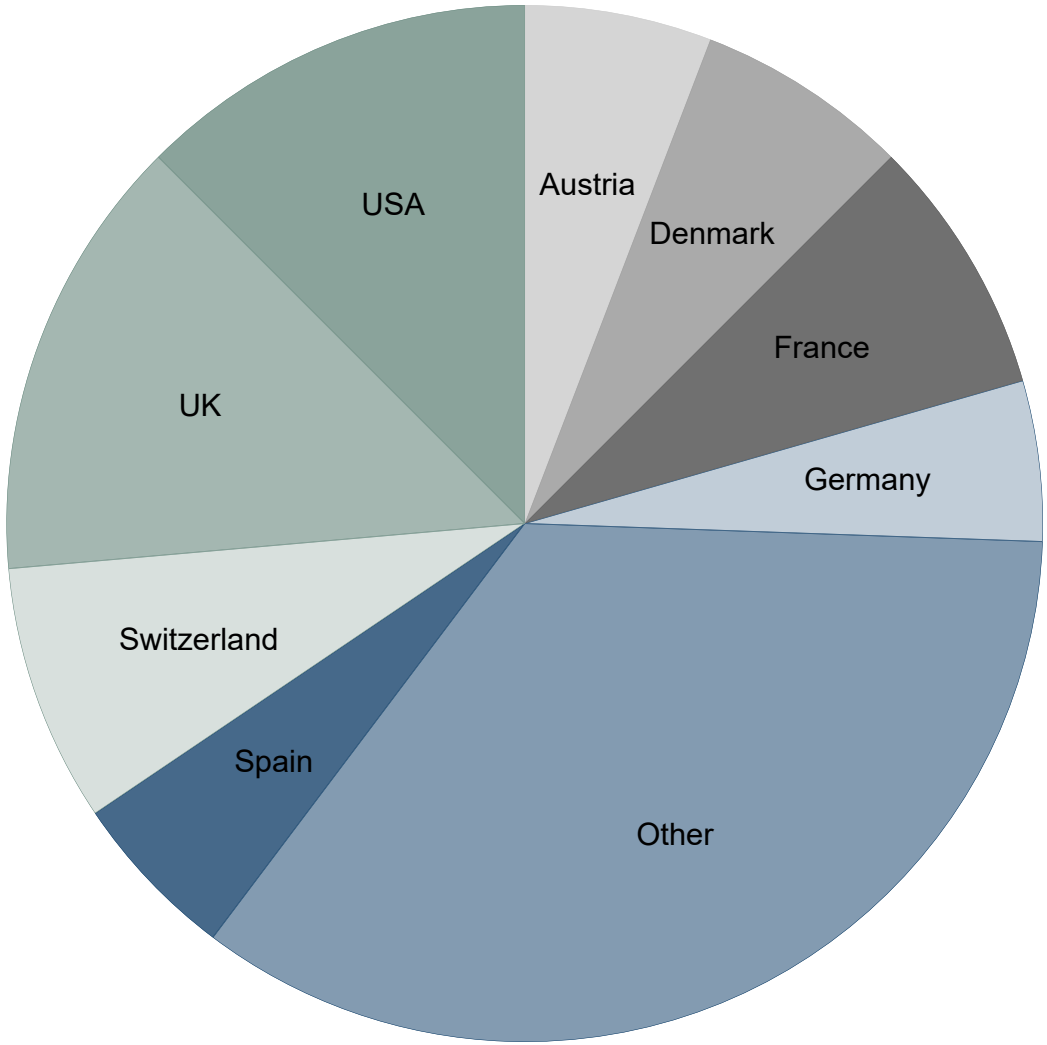

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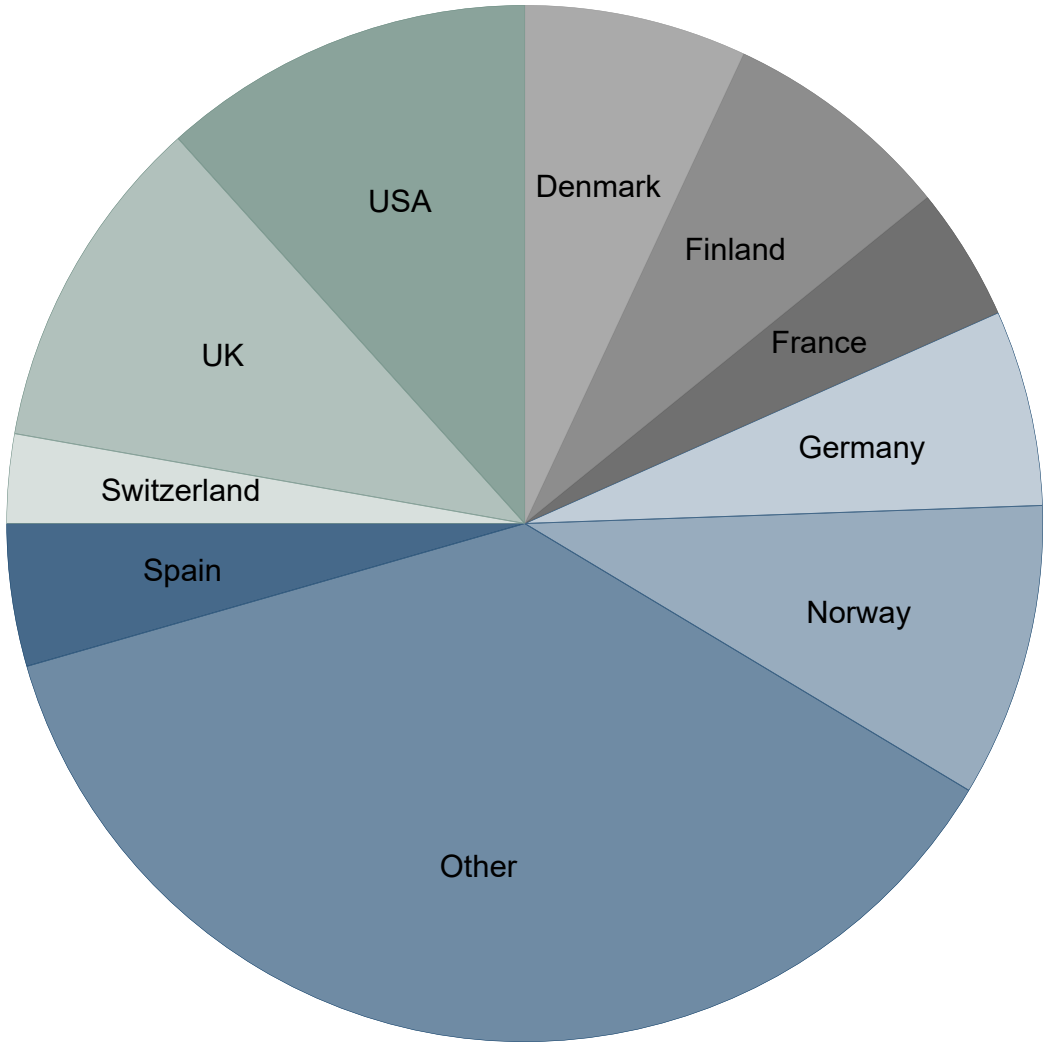
Figure: Countries of Destination: Top 20% to 10% of Wealth Holders in Sweden



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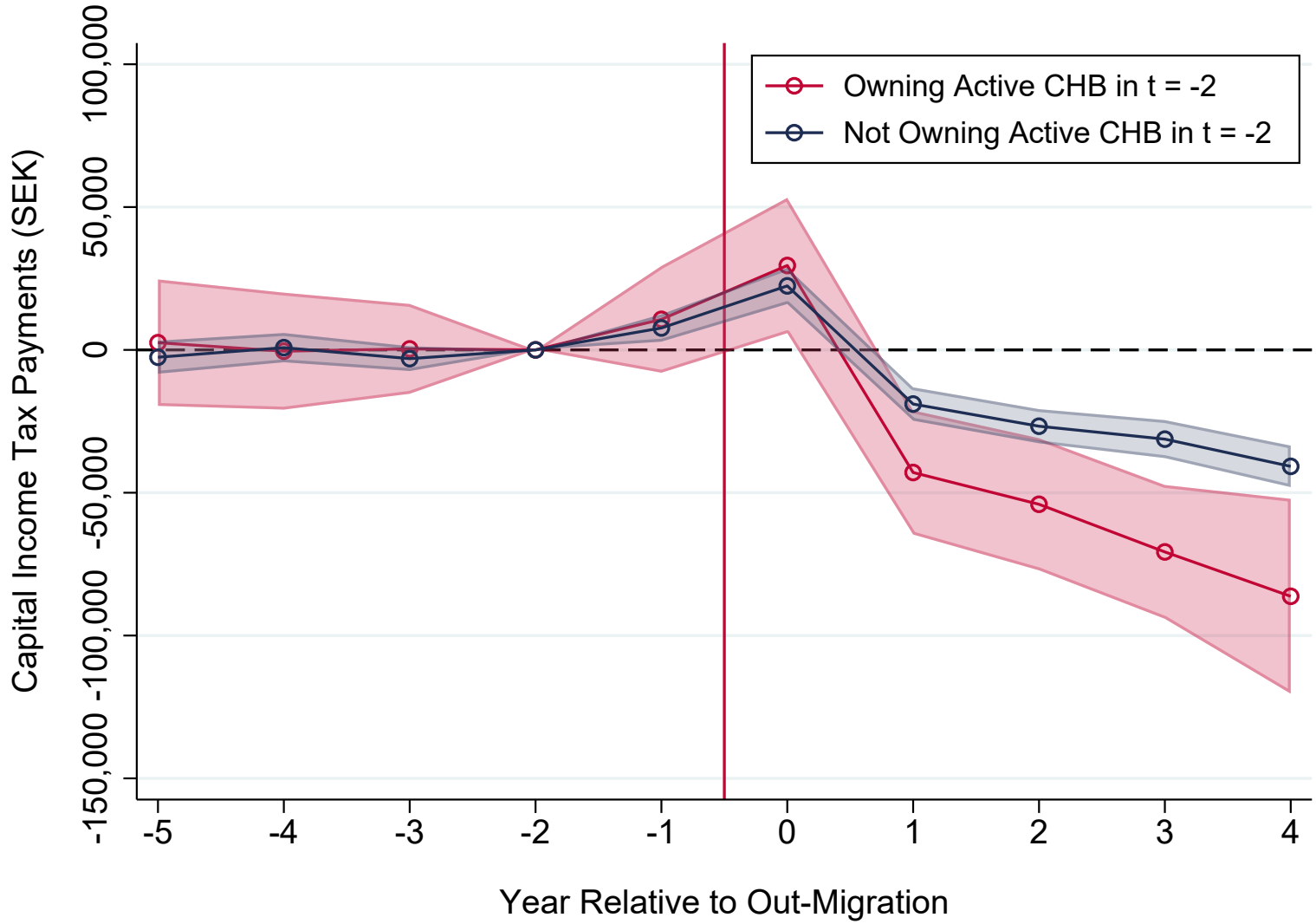
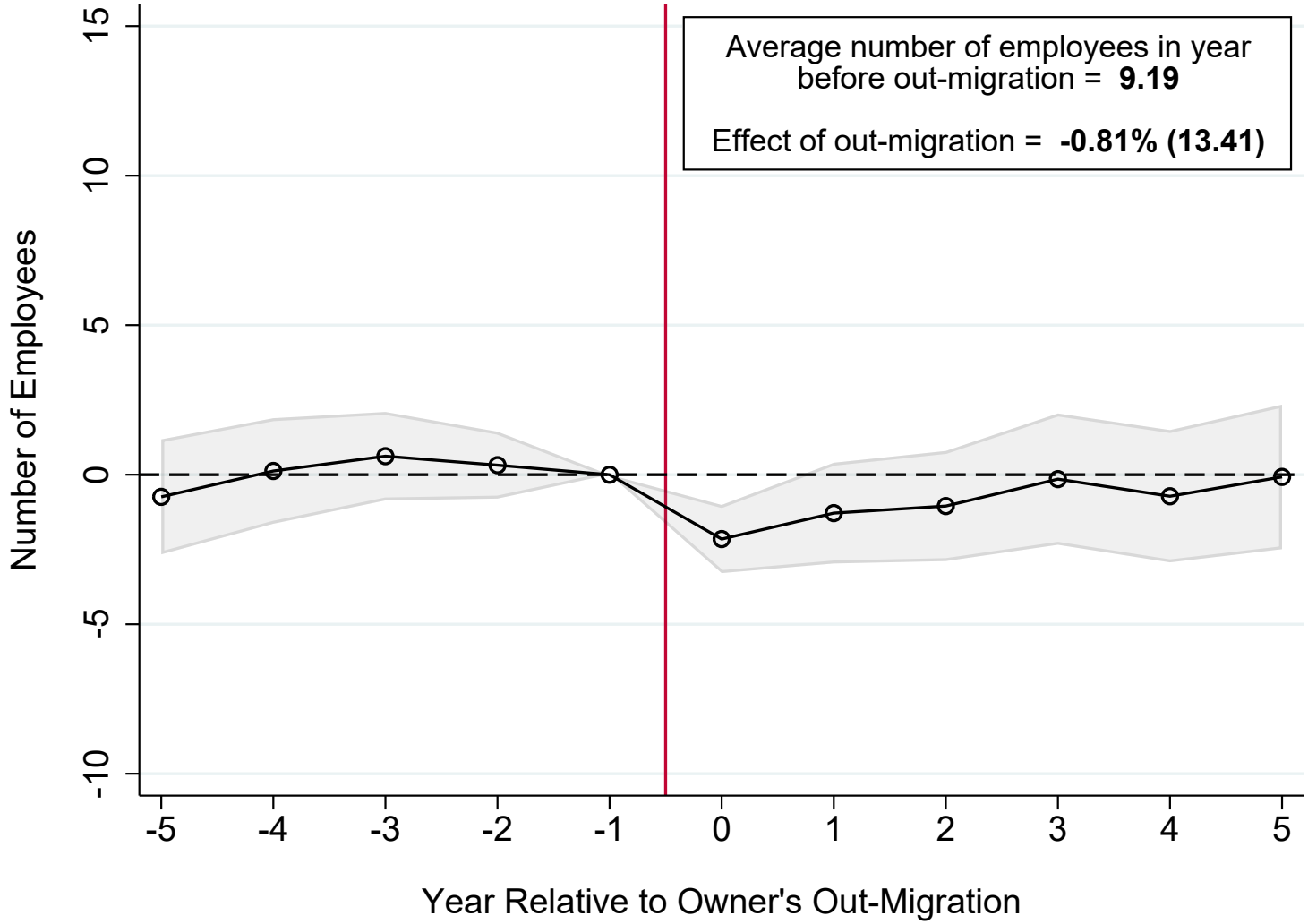
Summary Statistics Treatment vs Control Units

Variable	Control Group Mean	Median	Std. Dev.	Obs.	Treatment Group Mean	Median	Std. Dev.
Panel A. Sample of individuals in the top 2% of net worth							
Total Tax Payments ($)	25.3k	13k	128.8k	1,997,202	47.2k	14k	253.5k
Labour Income Tax Payments ($)	15.0k	9k	29.0k	1,997,202	26.3k	8k	111.7k
Capital Income Tax Payments ($)	7.1k	1k	111.7k	1,997,200	17.1k	0	211.7k
Wealth Tax Payments ($)	2.1k	0	14.7k	1,997,200	2.5k	0	16.9k
Panel B. Sample of active CHBs with at least one owner in the top 2% of net worth							
Number of Employees	10.5	3	50.1	187,093	18.5	2	83.4
Value Added ($)	975.0k	278k	4,810.9k	210,706	3,766.2k	423k	21,257.4k
Net Turnover ($)	3,455.8k	756k	27,469.3k	210,706	10,659.5k	1,218k	50,444.0k
Tax Payments ($)	52.6k	7k	369.7k	210,706	195.8k	10k	930.9k
Gross Investments ($)	148.7k	8k	1,036.3k	201,686	269.1k	10k	1,199.1k

▸ Back to individual ES ▸ Back to firm ES


Owning Active CHB in t = -2
Not Owning Active CHB in t = -2
Capital Income Tax Payments (SEK)
-150,000
-100,000
-50,000
0
50,000
100,000
-5
-4
-3
-2
-1
0
1
2
3
4
Year Relative to Out-Migration

Back


Average number of employees in year before out-migration = 9.19
Effect of out-migration = -0.81% (13.41)
Number of Employees
15
10
5
0
-5
-10
-5
-4
-3
-2
-1
0
1
2
3
4
5
Year Relative to Owner's Out-Migration

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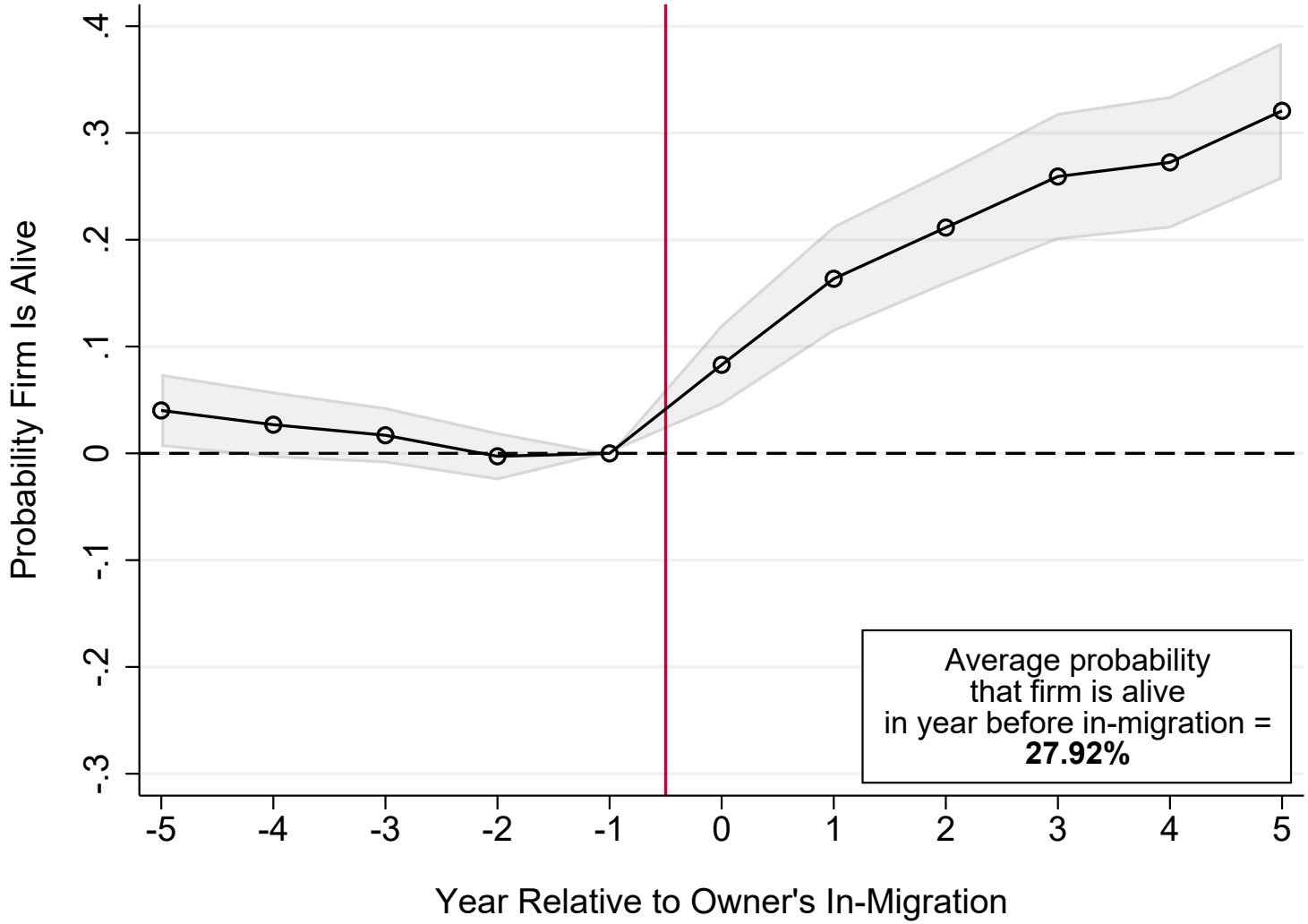
Outcome	Only Directly-Held Firms		Directly and Indirectly-Held Firms	
	Average Outcome for Treated in $t = -1$	Effect in $t = +5$	Average Outcome for Treated in $t = -1$	Effect in $t = +5$
Prob. Firm Is Alive (pp)	1.00	-27.41%	1.00	-21.08%
		(2.91)		(3.44)
Number of Employees	8.63	-33.26%	21.17	-18.79%
		(7.72)		(5.52)
Value Added (SEK 1,000)	6,198.86	-34.22%	11,874.08	-33.13%
		(7.91)		(7.81)
Net Turnover (SEK 1,000)	21,274.53	-31.71%	39,673.01	-27.11%
		(7.19)		(5.04)
Tax Payments (SEK 1,000)	390.50	-50.51%	483.27	-45.00%
		(9.27)		(11.25)
Gross Investments (SEK 1,000)	636.34	-21.90%	877.68	-19.49%
		(10.08)		(6.13)

▸ Back


Probability Firm Is Alive
.4
.3
.2
.1
0
-.1
-.2
-.3
-5
-4
-3
-2
-1
0
1
2
3
4
5
Year Relative to Owner's In-Migration
Average probability
that firm is alive
in year before in-migration =
27.92%

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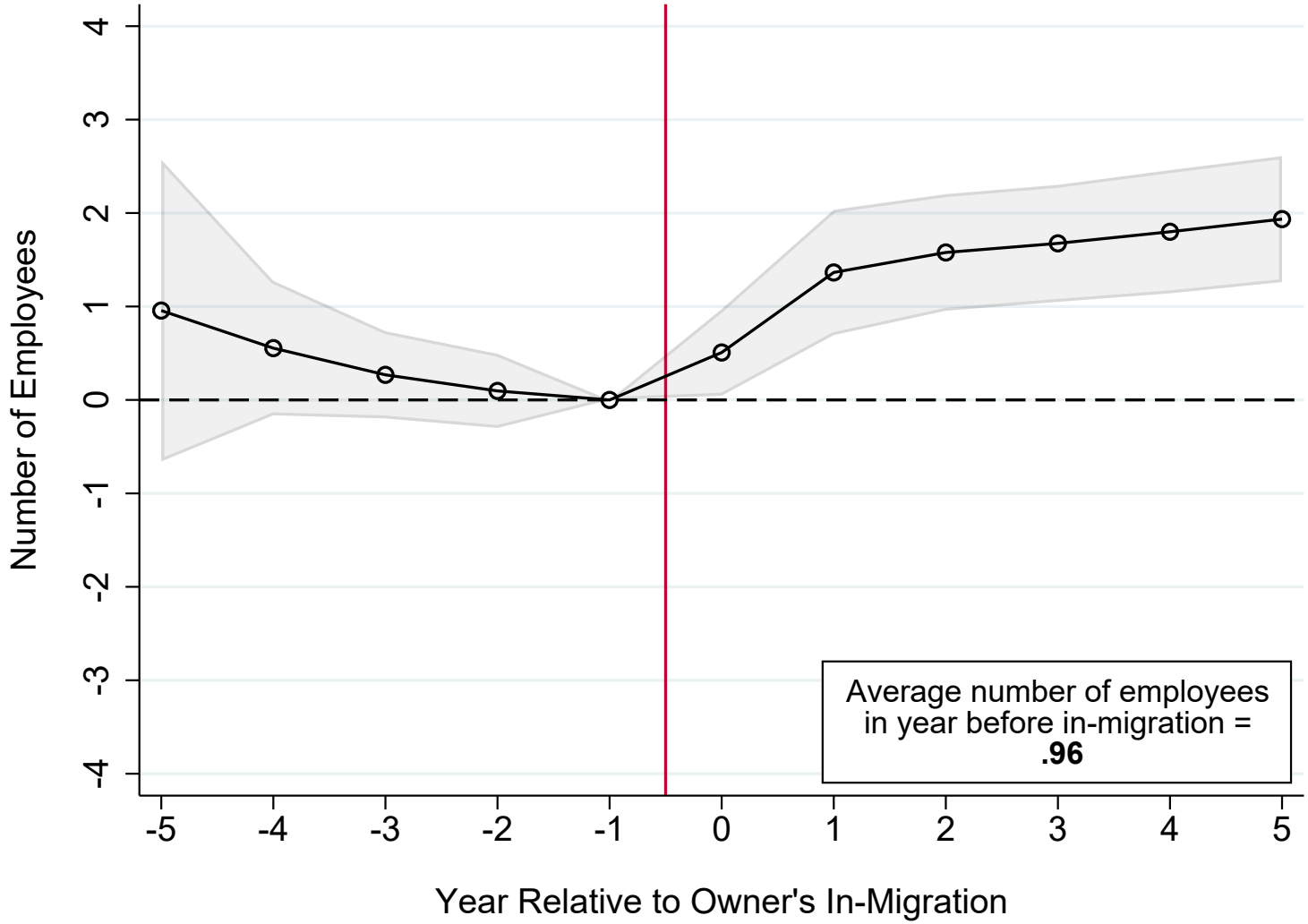
Number of Employees
4
3
2
1
0
-1
-2
-3
-4
-5
-4
-3
-2
-1
0
1
2
3
4
5
Year Relative to Owner's In-Migration
Average number of employees
in year before in-migration =
.96

Back

Tracking Employees After Firm Closure

- Among the firms with out-migrant owners, we focus on the ones closing in the year of the out-migration event or after
- We select the individuals working at these firms in their last year of activity (year $= t$)
- We track these workers to their employment in year $t + 1$

$Year = t$

Origin Firm	**Employee**
A	1
	2
	3
	4
	5

$\Rightarrow$

$Year = t + 1$

Employee	**Destination Firm**	**Share Going to Same Firm**
1	B	20%
2	C	80%
3		
4		
5		

- Approximately 50% of the firms closing with at least 5 employees send at least 50% of their workers to the same firm

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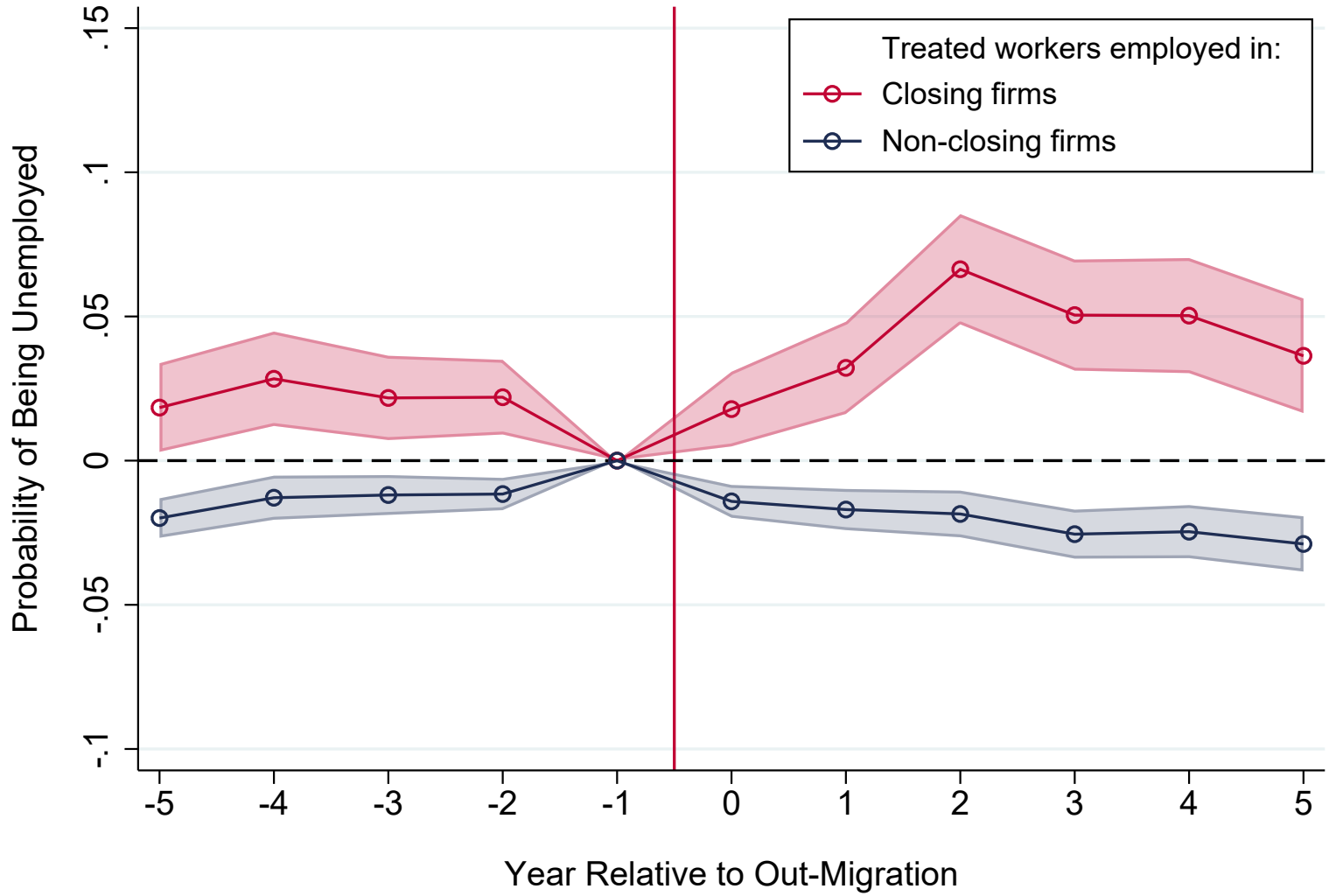
Treated workers employed in:
Closing firms
Non-closing firms
Probability of Being Unemployed
.15
.1
.05
0
-.05
-.1
-5
-4
-3
-2
-1
0
1
2
3
4
5
Year Relative to Out-Migration

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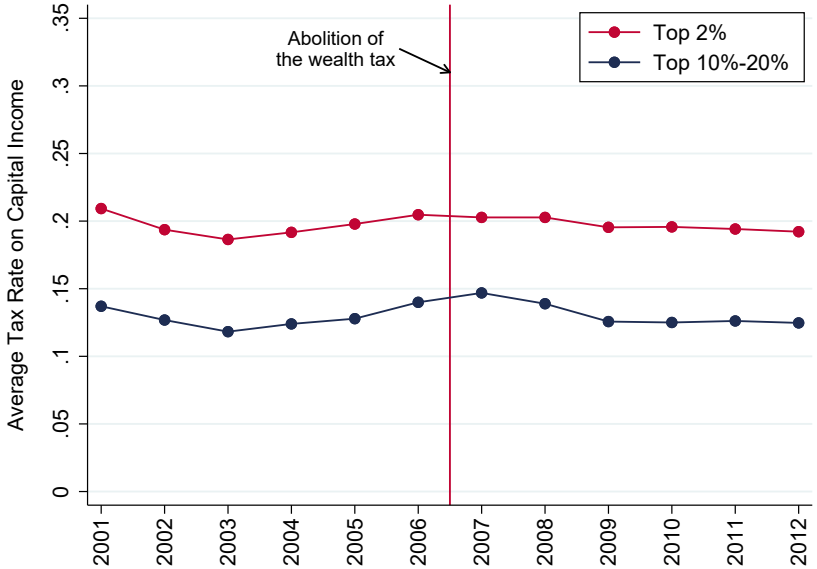
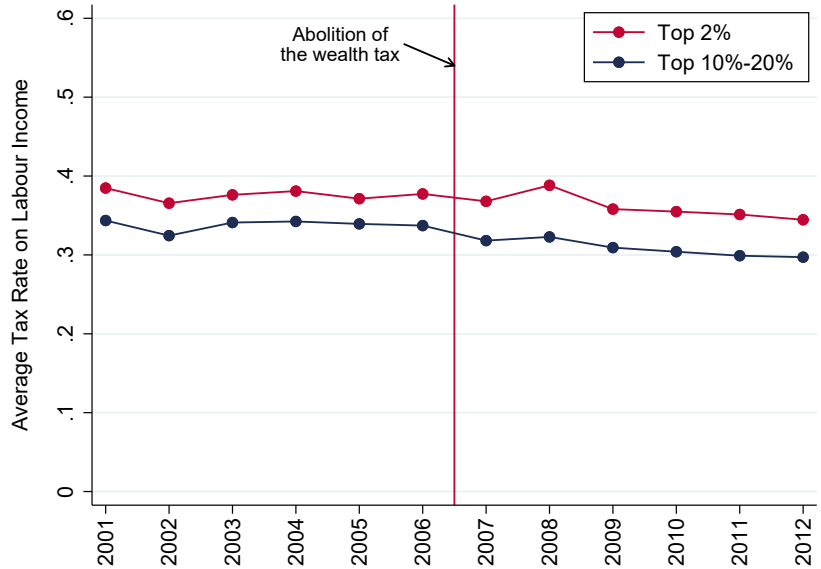
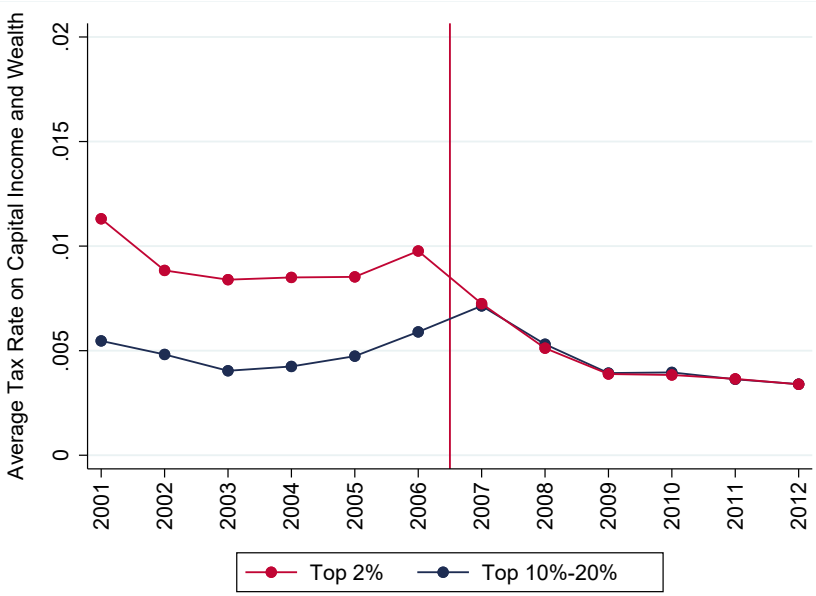
a. Capital Income Tax



b. Labor Income Tax



c. Capital Income Tax + Wealth Tax



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Prediction Model: Details

Start with law of motion of wealth: Wealth $= W$, Return $= r$, Capital Income $= rW$, consumption$=C$, Earnings$=E$, Inheritance$=I$

$$W_t = (1 + r_t) W_{t-1} + E_t + I_t - C_t$$

Interesting point = for individuals observed after end of wealth tax, we can use rich information about their observed past wealth to predict wealth forward this means we have one model to predict wealth in t+5 or t+10 say, based on wealth in t

By iteration we get, for instance after X iterations

$$W_t = W_{t-X} \prod_{j=t-X}^{t} (1 + r_j) + \sum_{k=t-X}^{t} (E_k + I_k - C_k) \prod_{j=k+1}^{t} (1 + r_j)$$

What predictors?

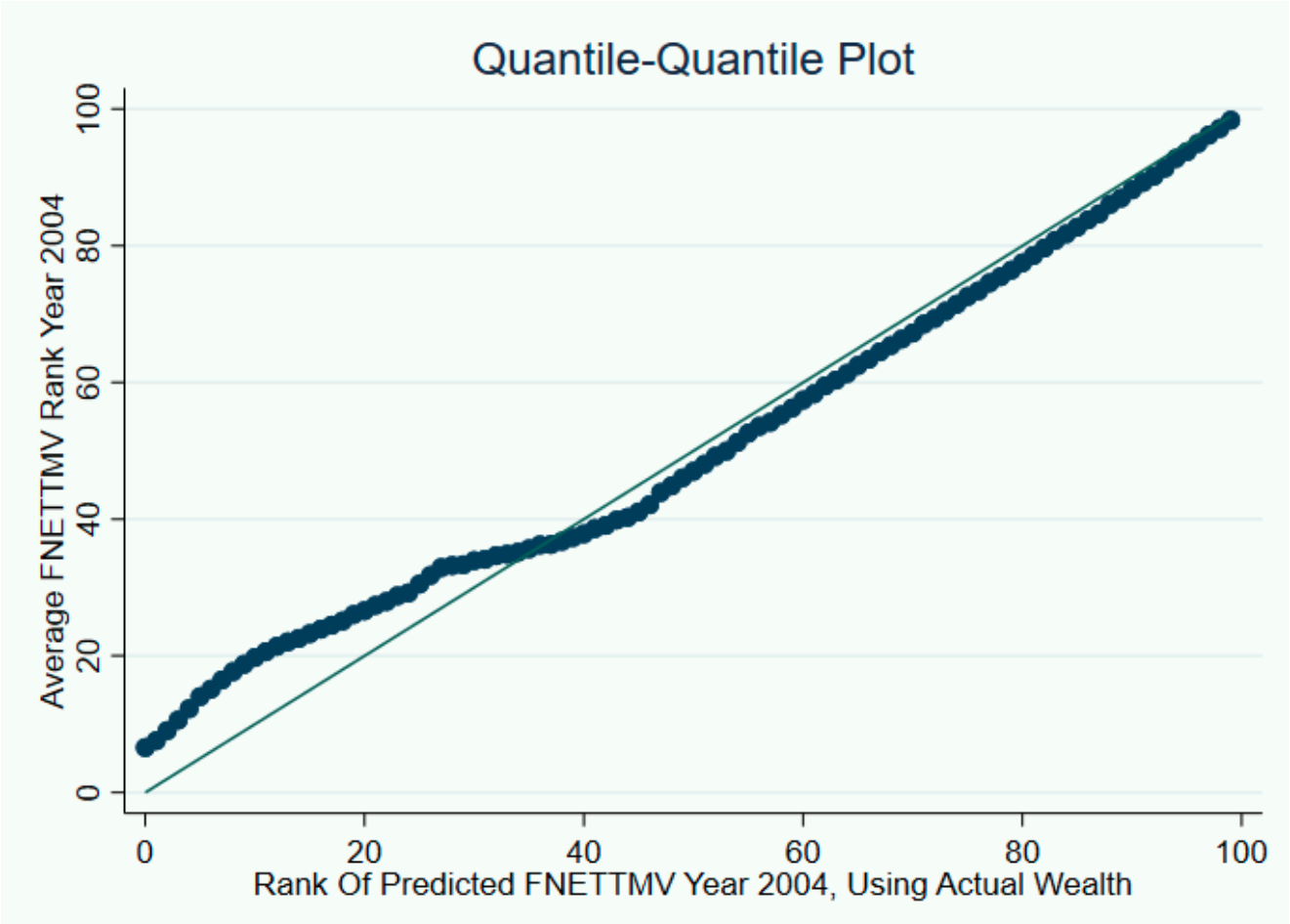
Above decomposition shows that difference and capital income stem from:

1. Past wealth (which we observe!)
2. Past earnings/consumption (or past savings behaviour) (life-cycle wealth)
3. Differences in net of returns r_t
4. Inheritance received (inherited wealth)

But good thing is, law of motion is an identity, and we observe a lot of elements of this identity!

Assessing Quality of Prediction Model

Figure: Prediction Model - Fit



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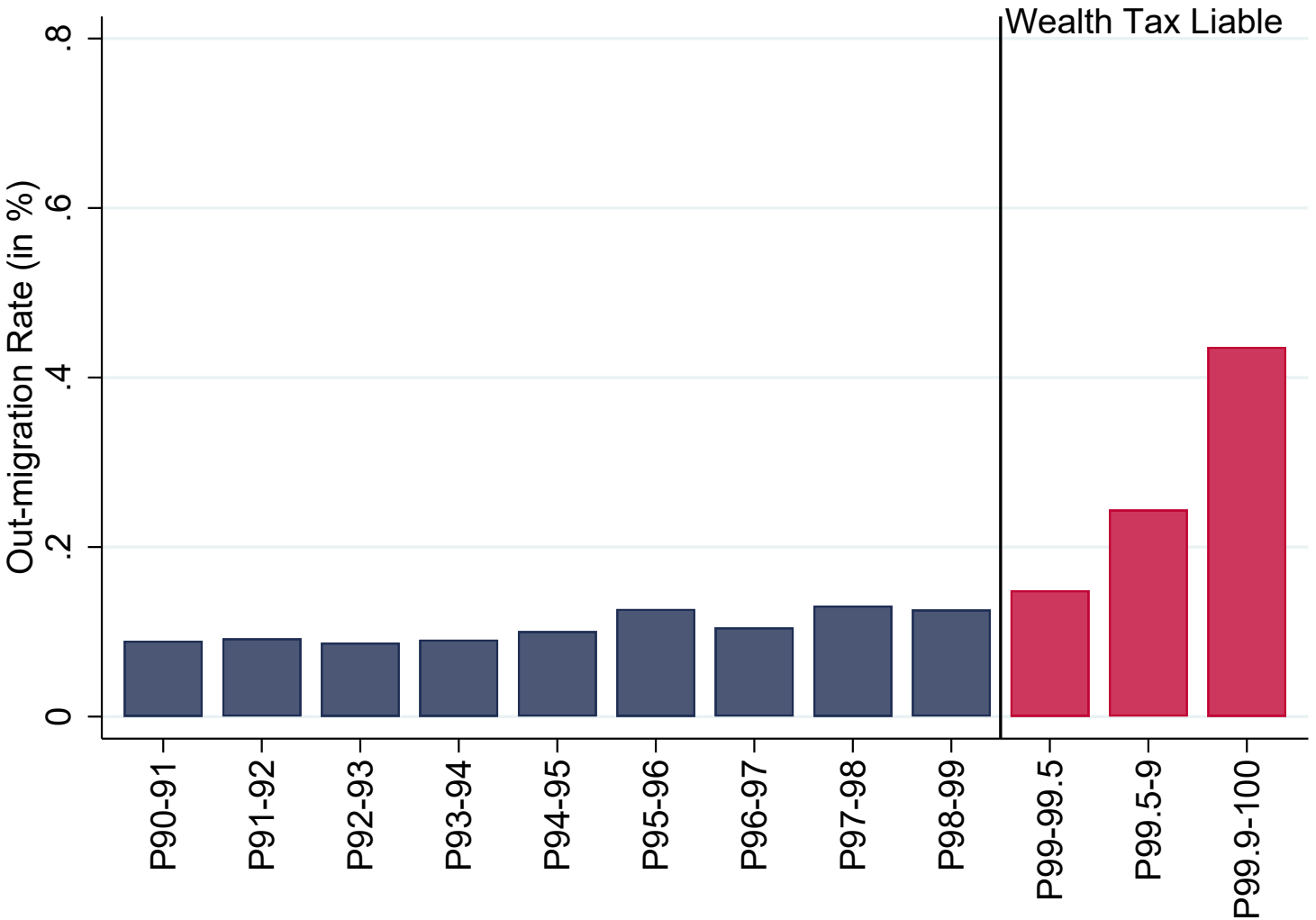
Out-Migration Rates by Wealth Level in DK: 1989-1996



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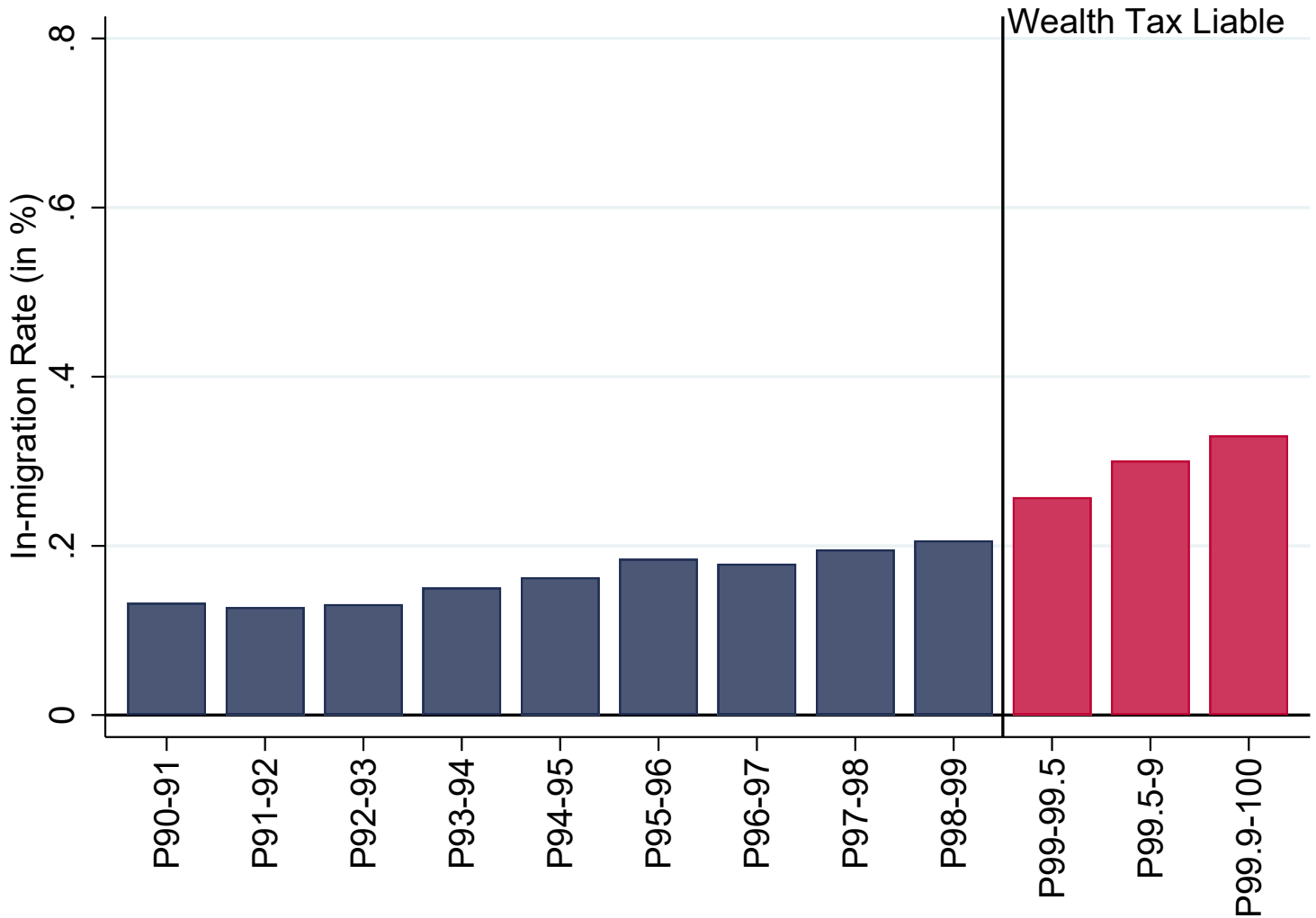
In-Migration Rates by Wealth Level in DK: 1989-1996



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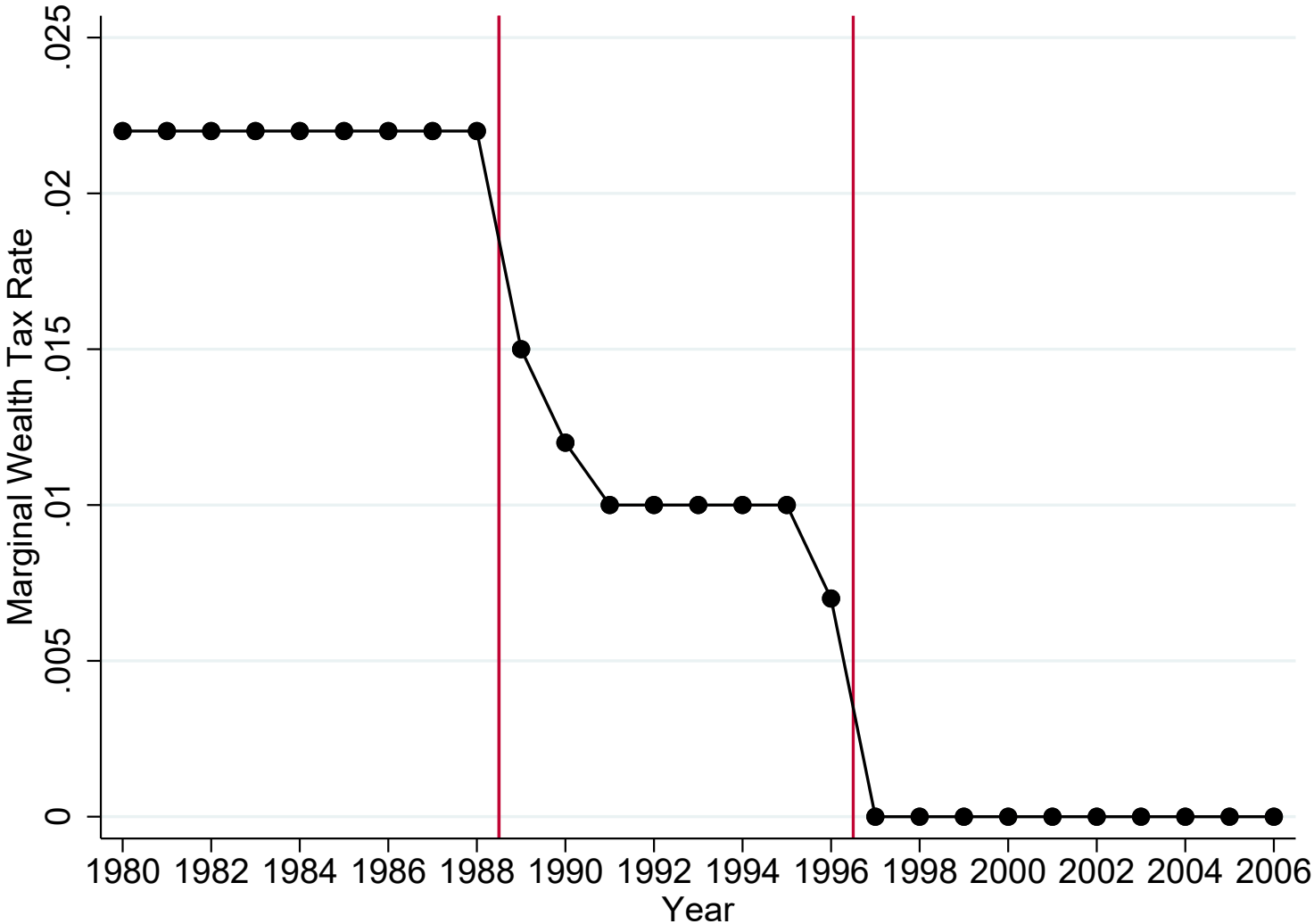
Statutory Wealth MTR - Denmark



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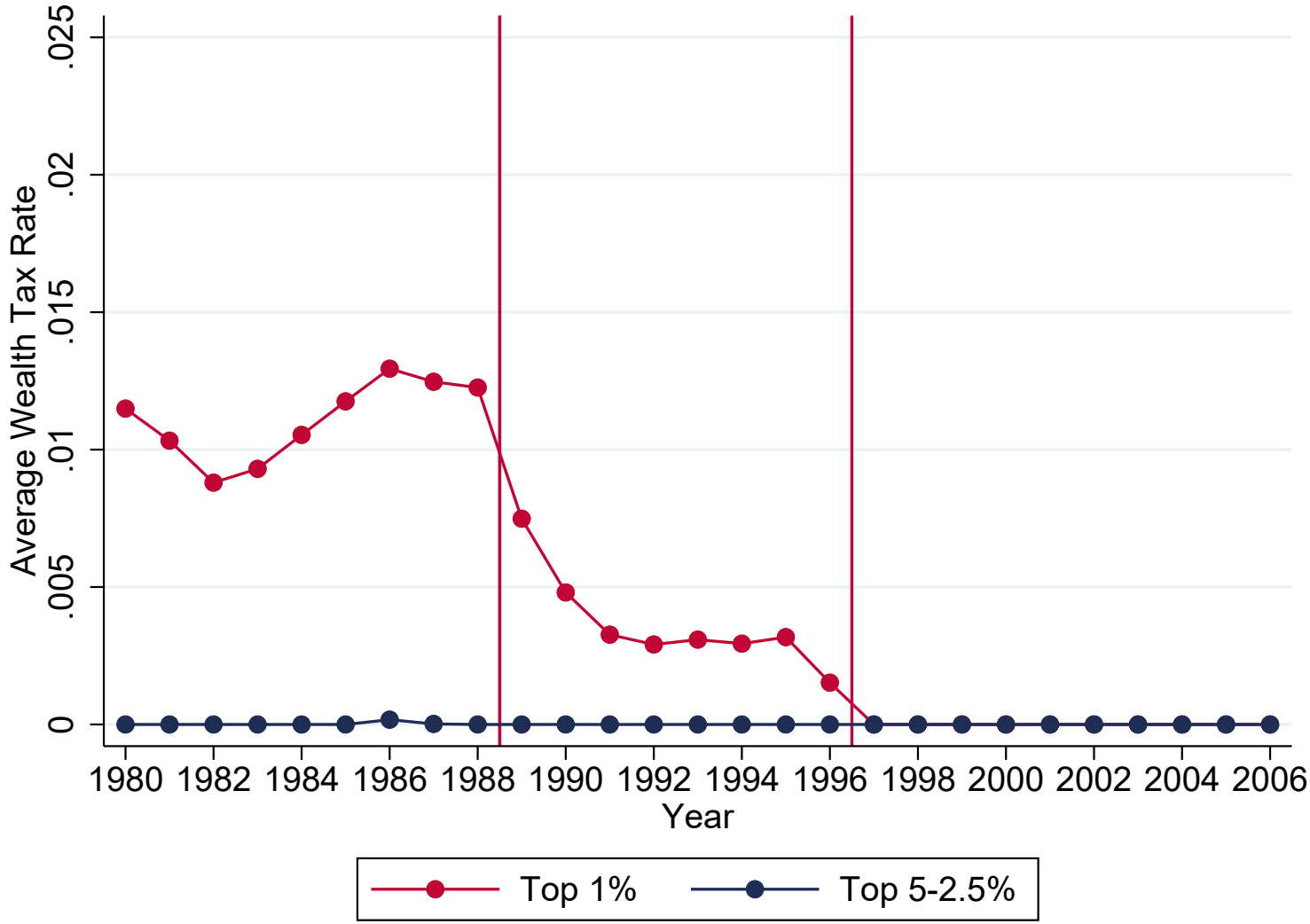
Top Wealth ATR - Denmark



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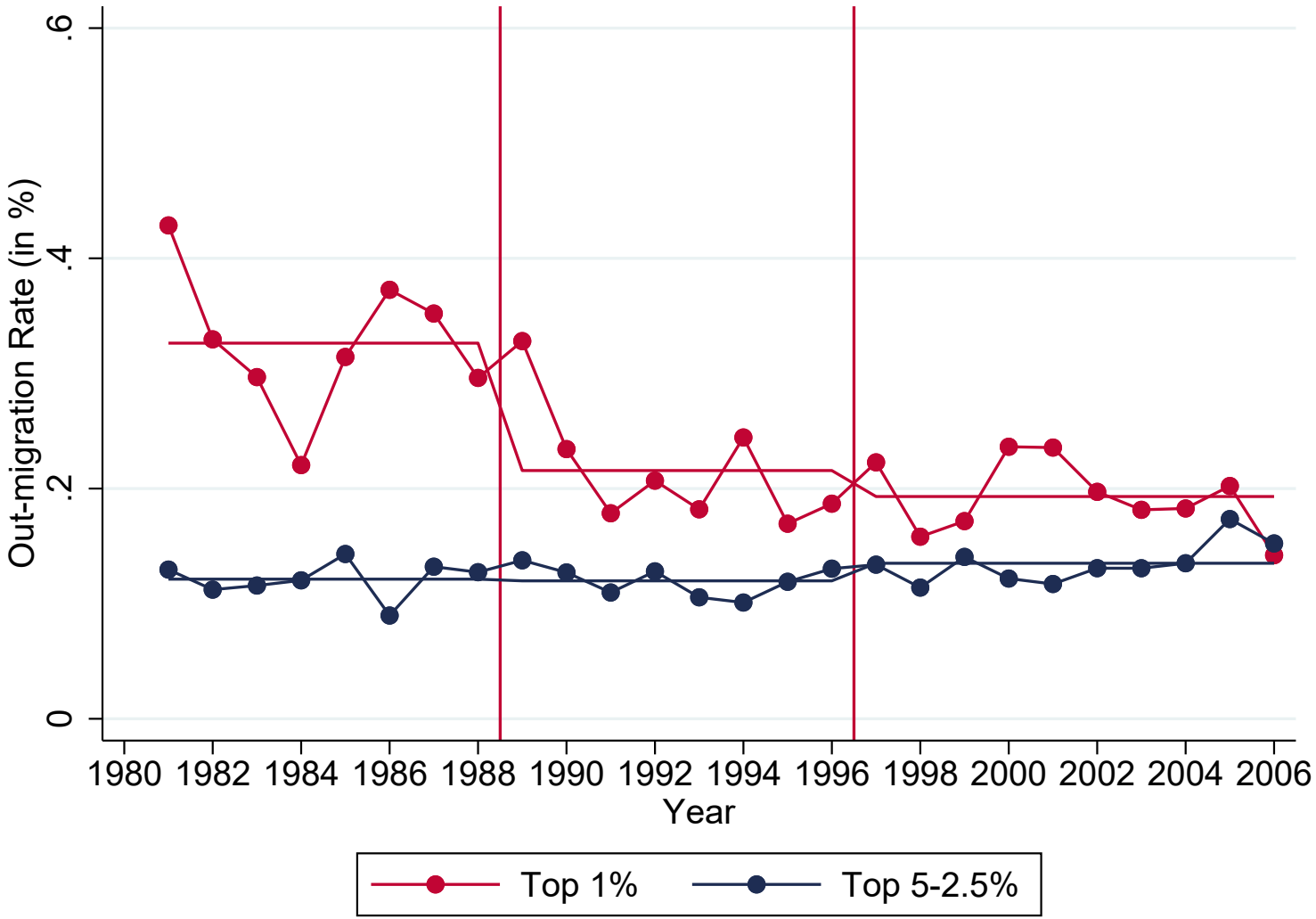
Danish Reforms: Migration Effects

Top 1%: Out Migration Rates



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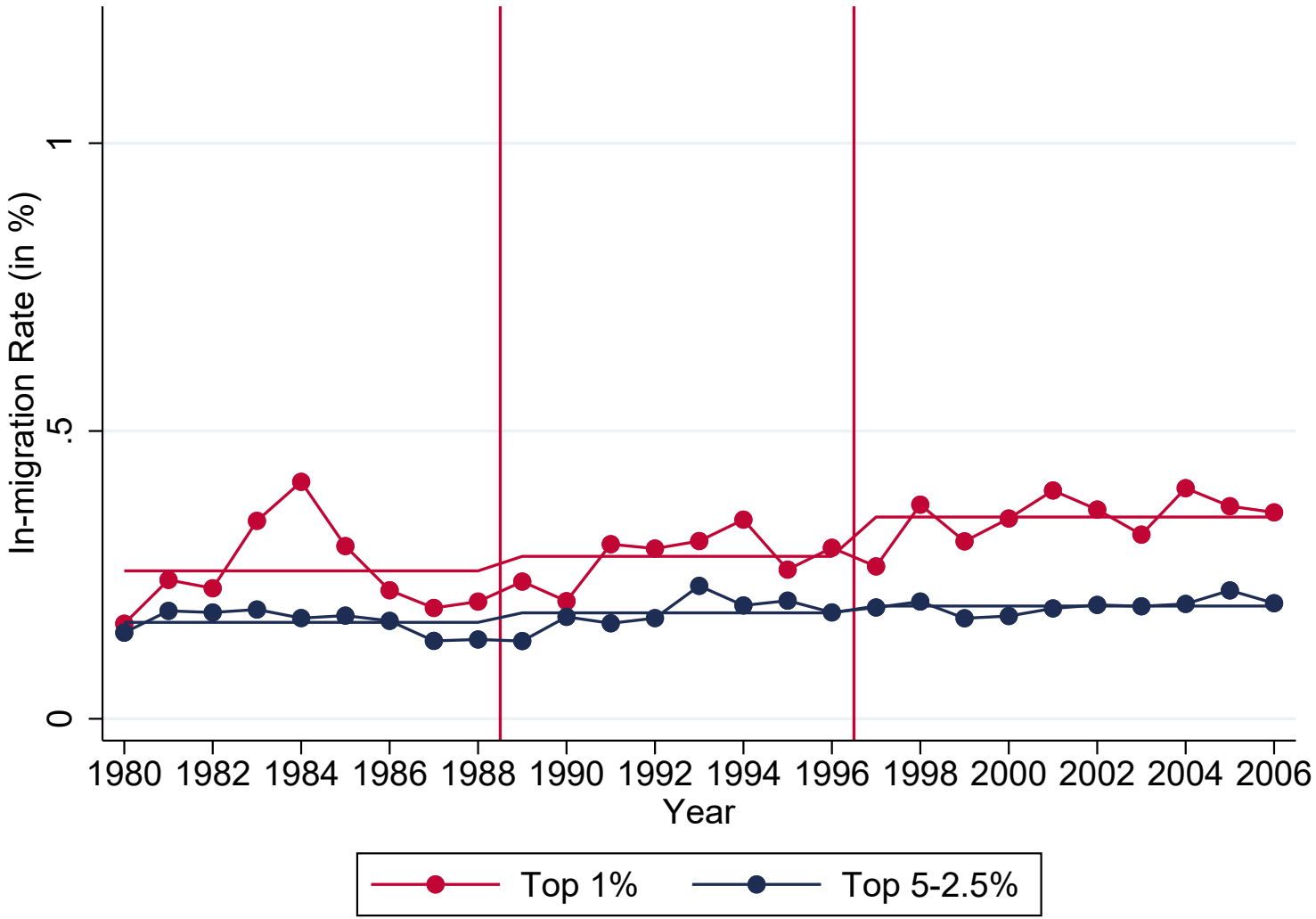
Danish Reforms: Migration Effects

Top 1%: In Migration Rates



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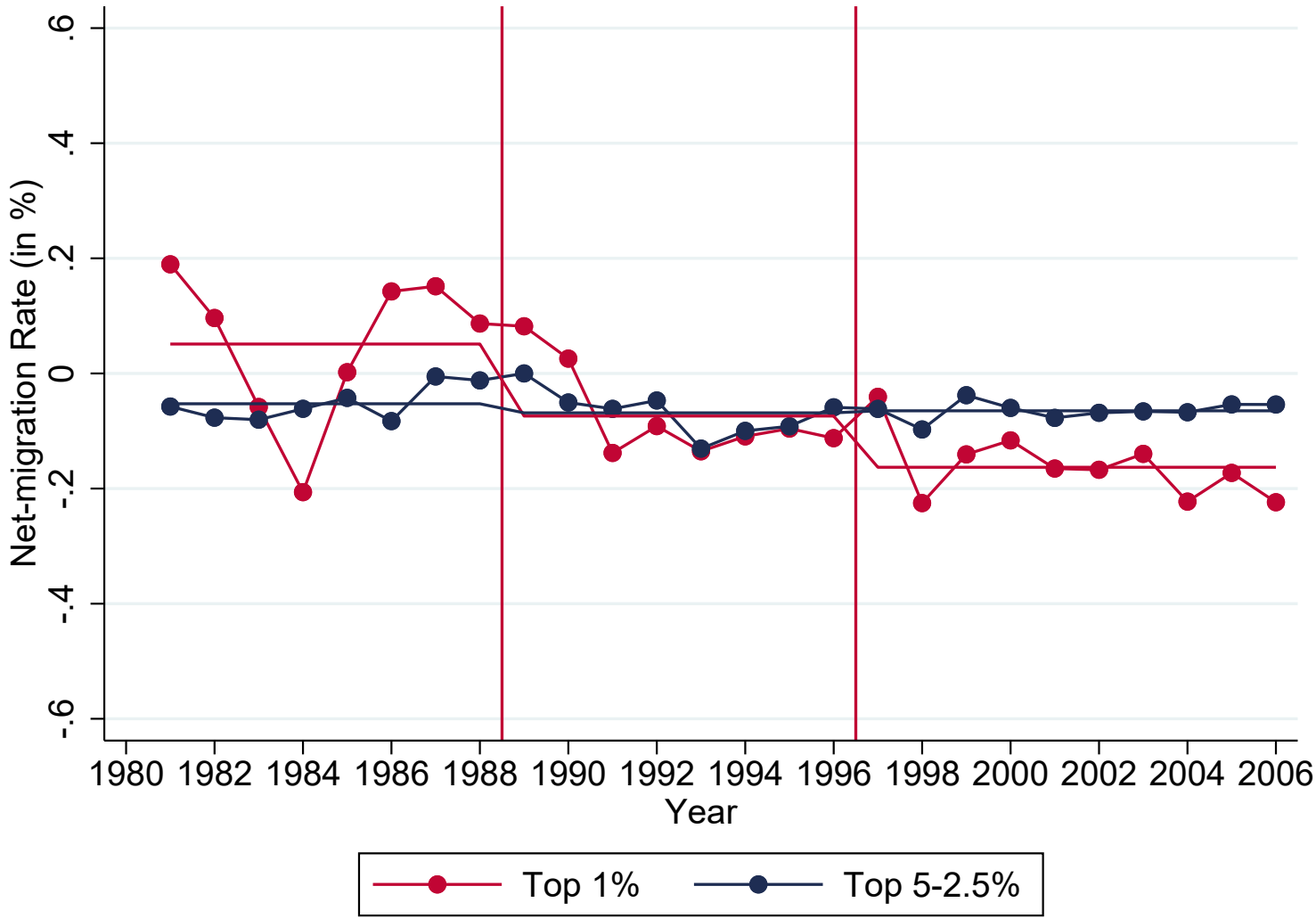
Danish Reforms: Migration Effects

Top 1%: Net Migration Rates



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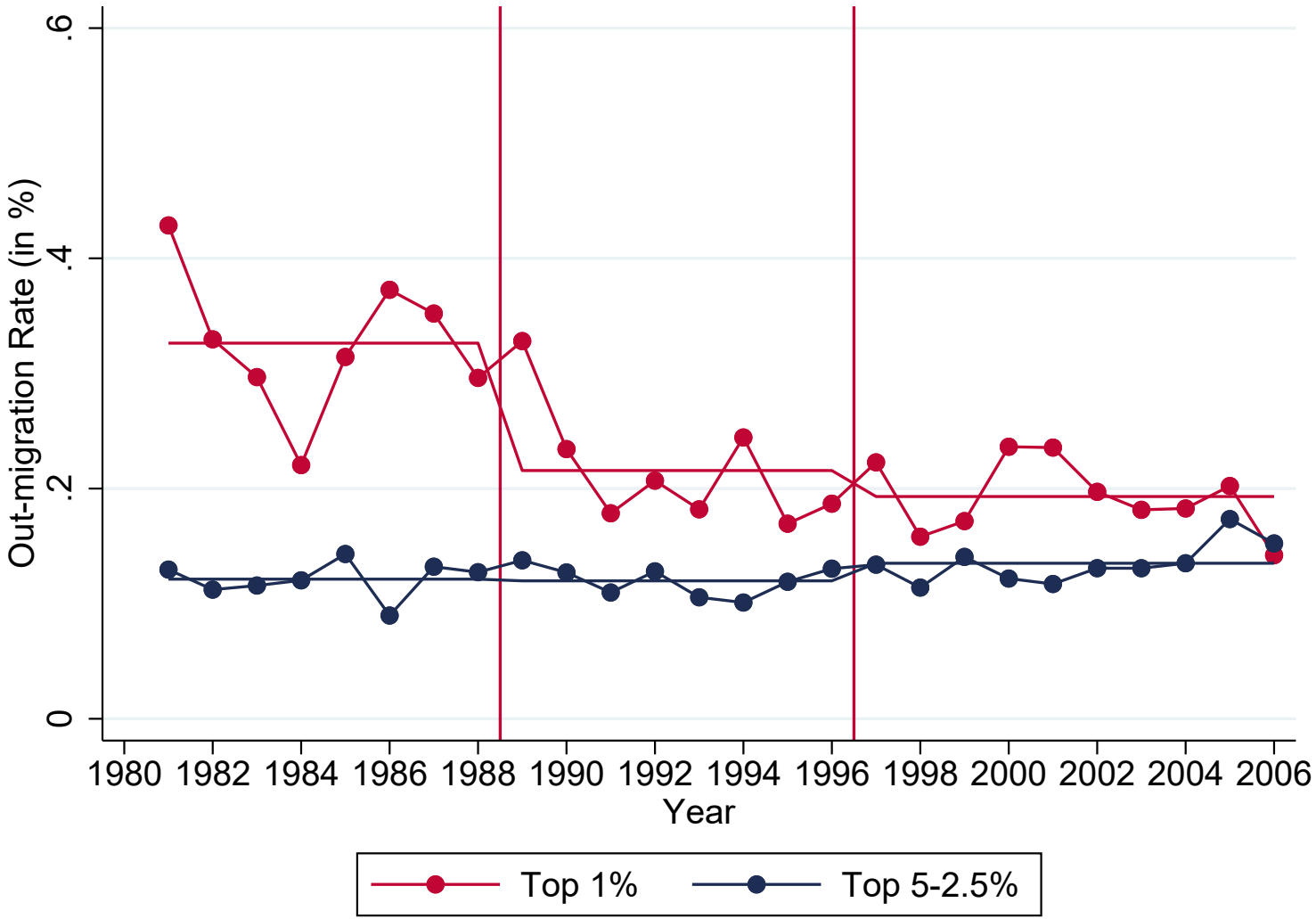
Danish Reforms: Migration Effects

Top .05%: Out Migration Rates



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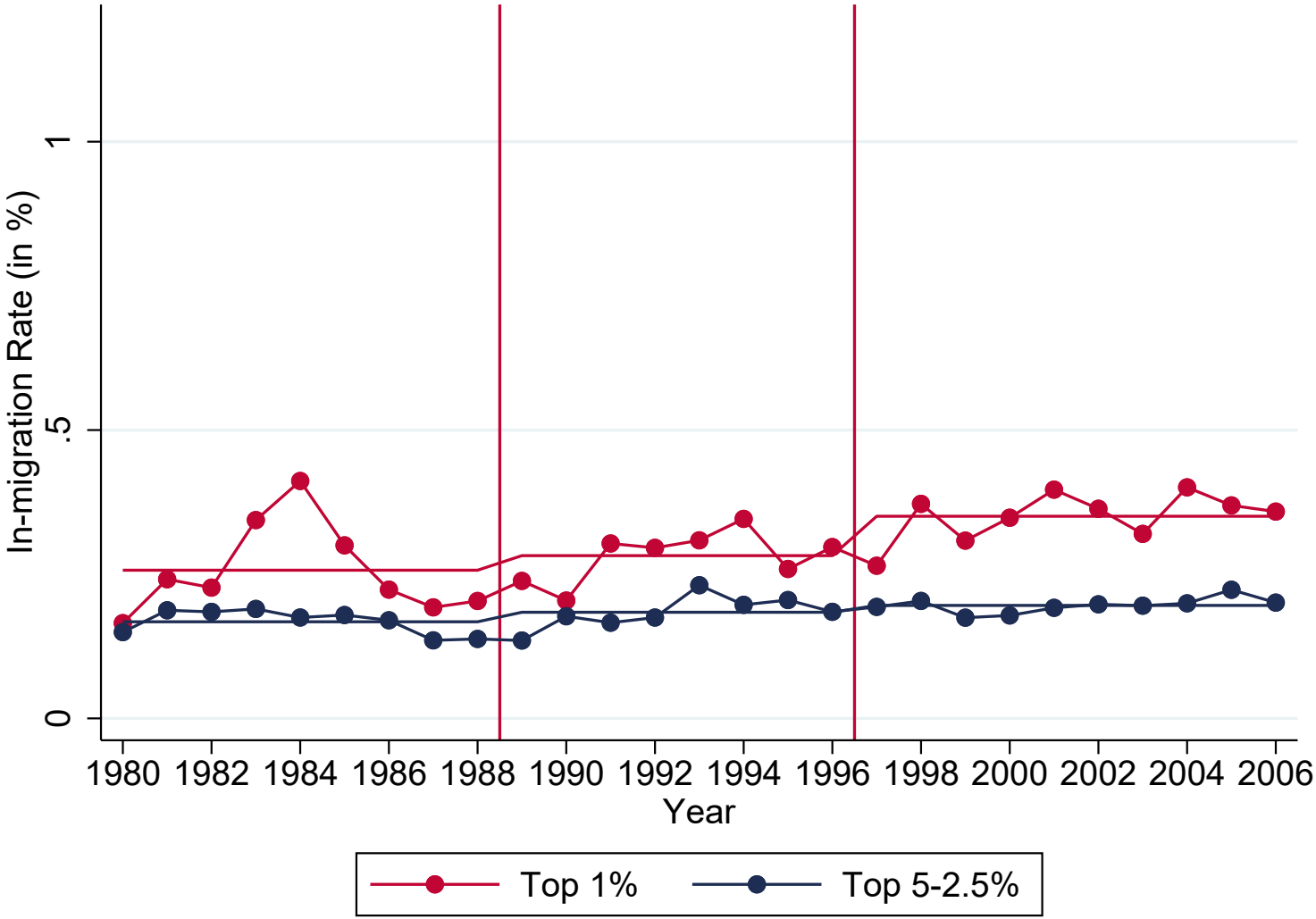
Danish Reforms: Migration Effects

Top .05%: In Migration Rates



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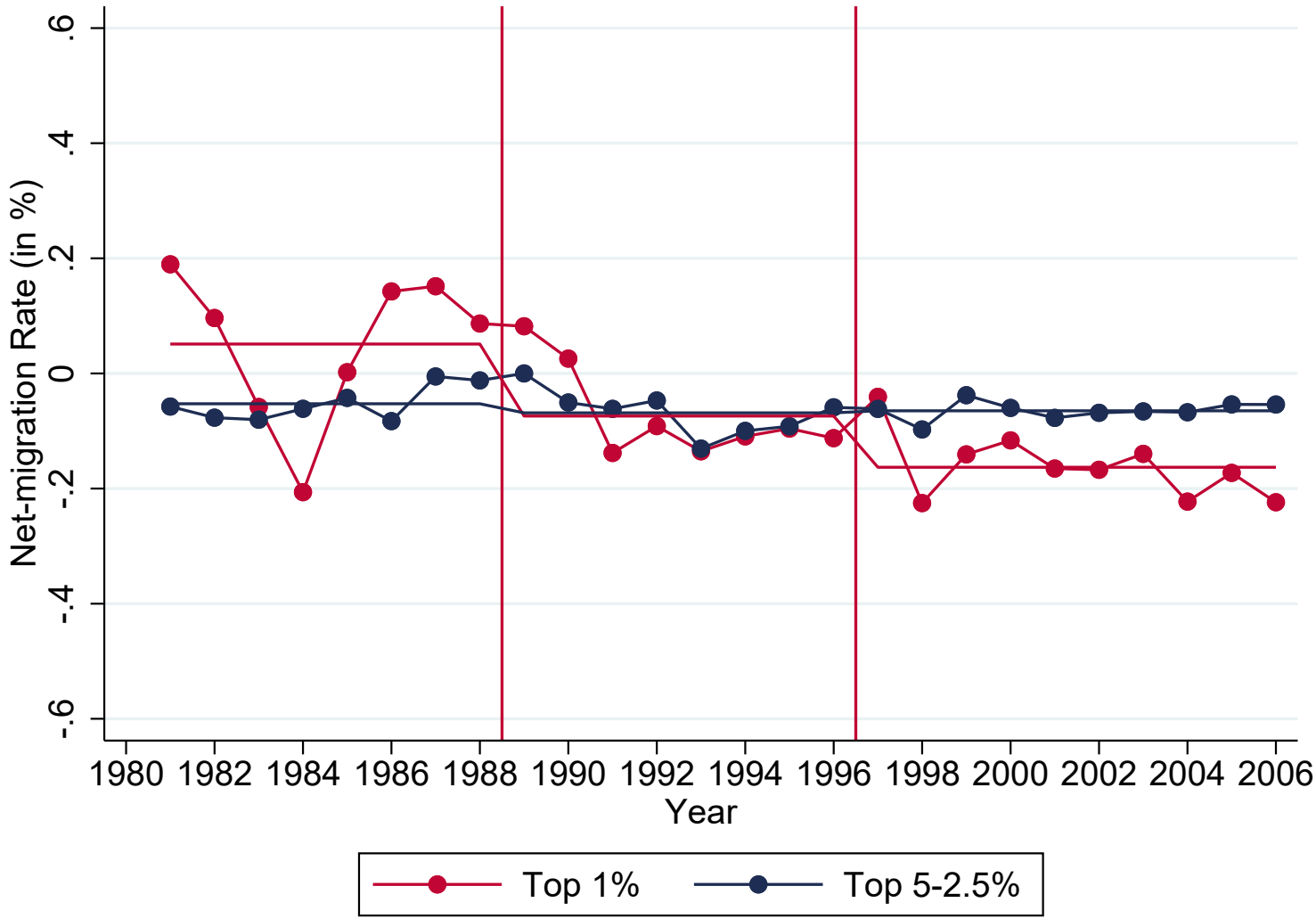
Danish Reforms: Migration Effects

Top .05%: Net Migration Rates



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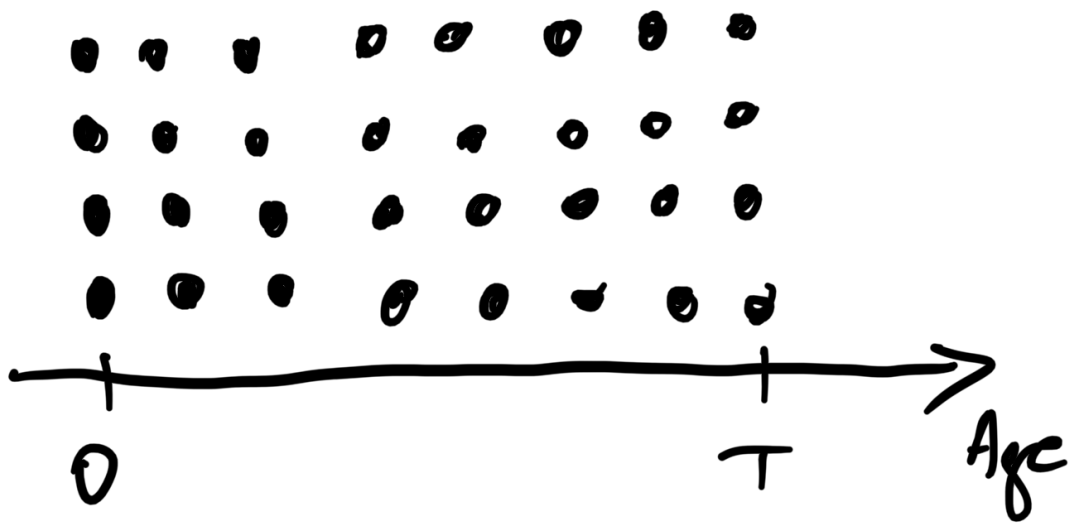
Interpreting the Magnitude: From Flows to Stock

- Population size at time t = sum of pop. of all ages k at t

$$N_t = \sum_k N_t^k$$



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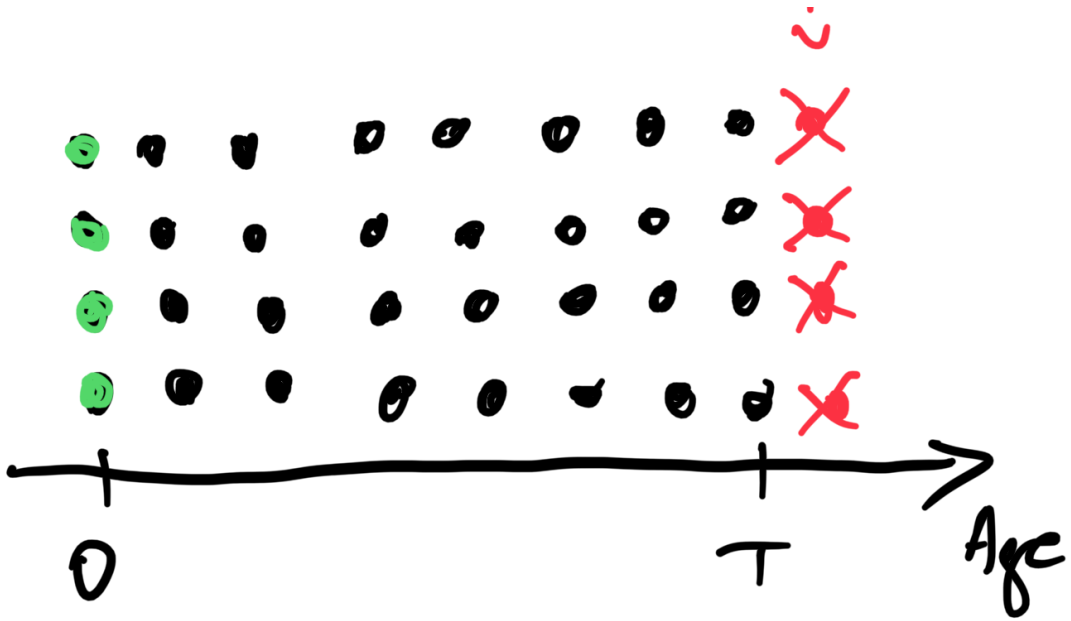

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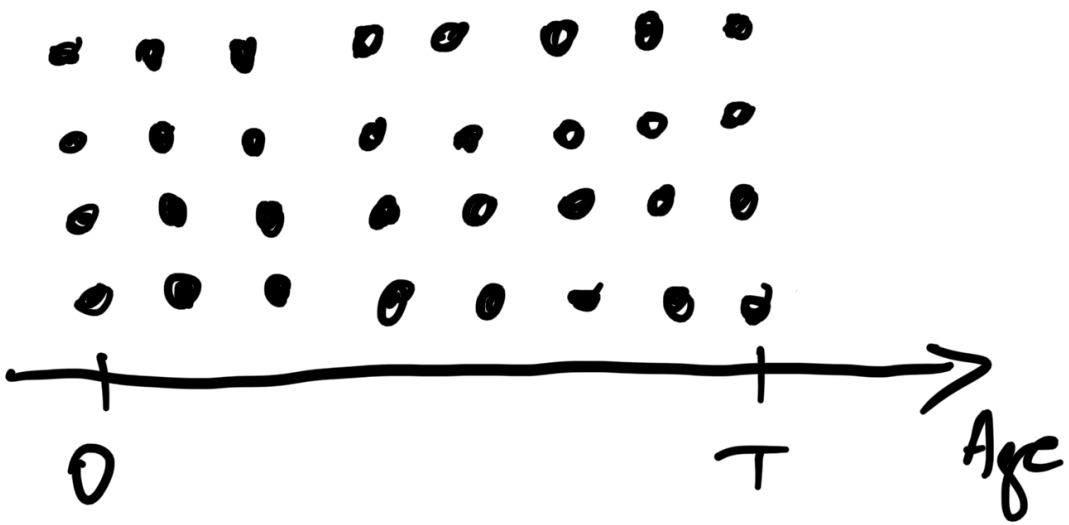

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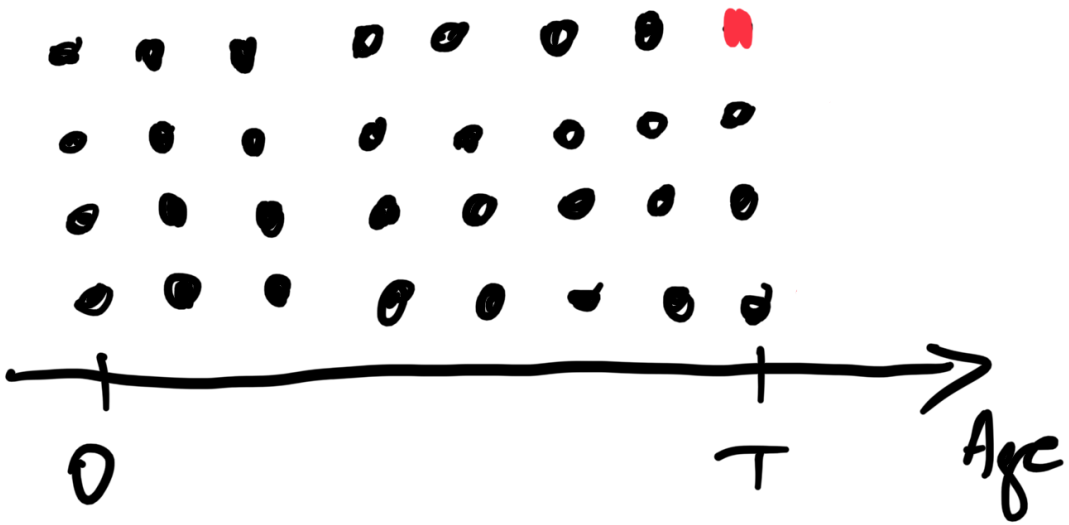

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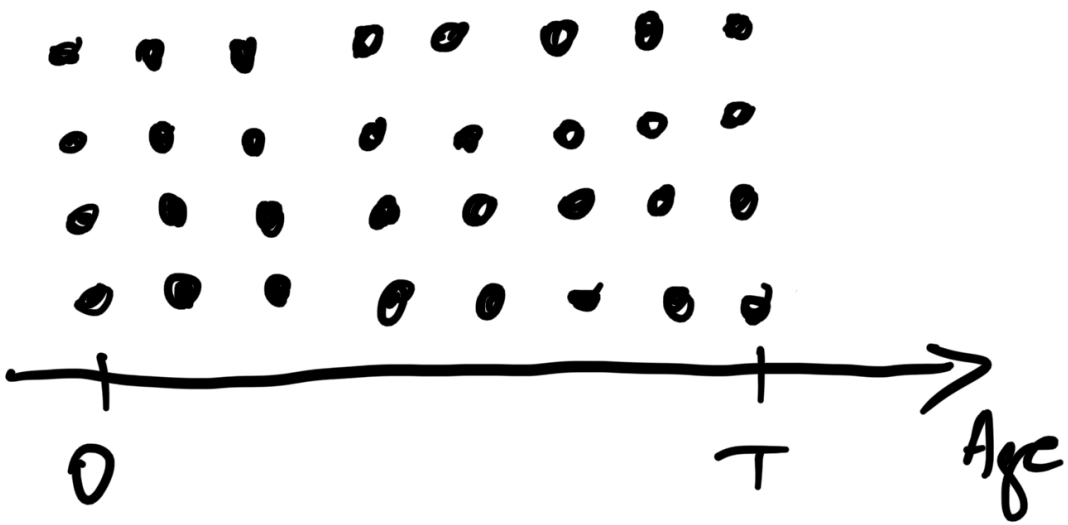

▸ Back

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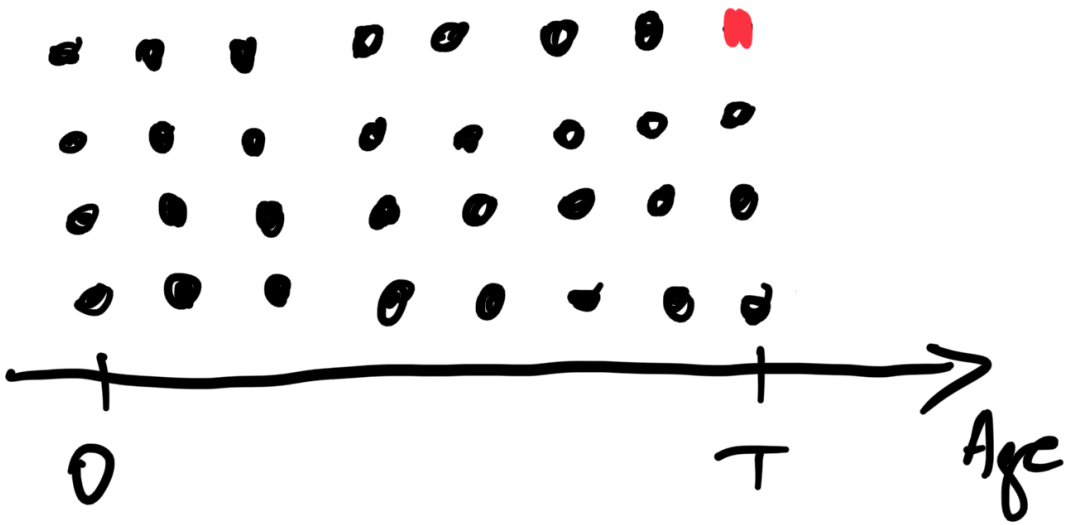

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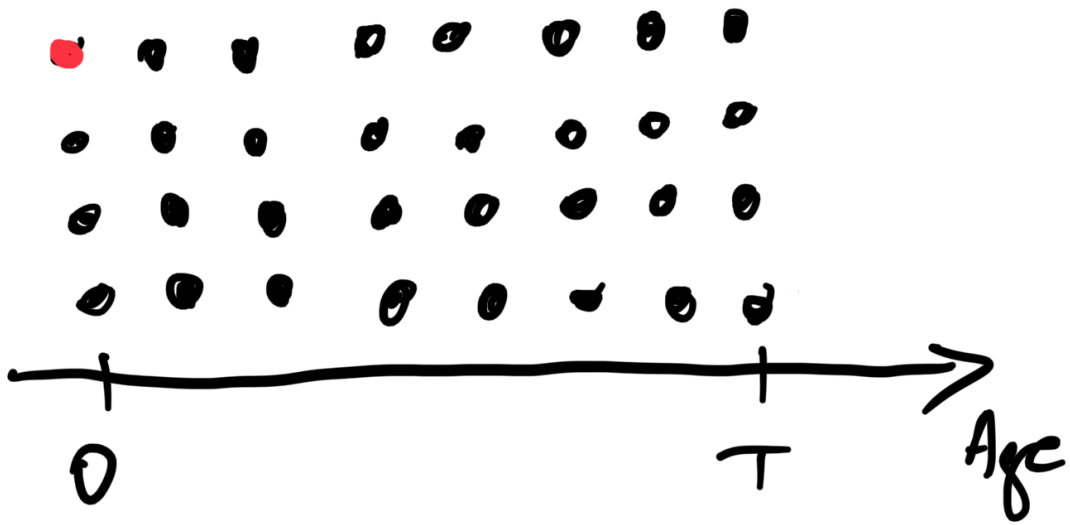

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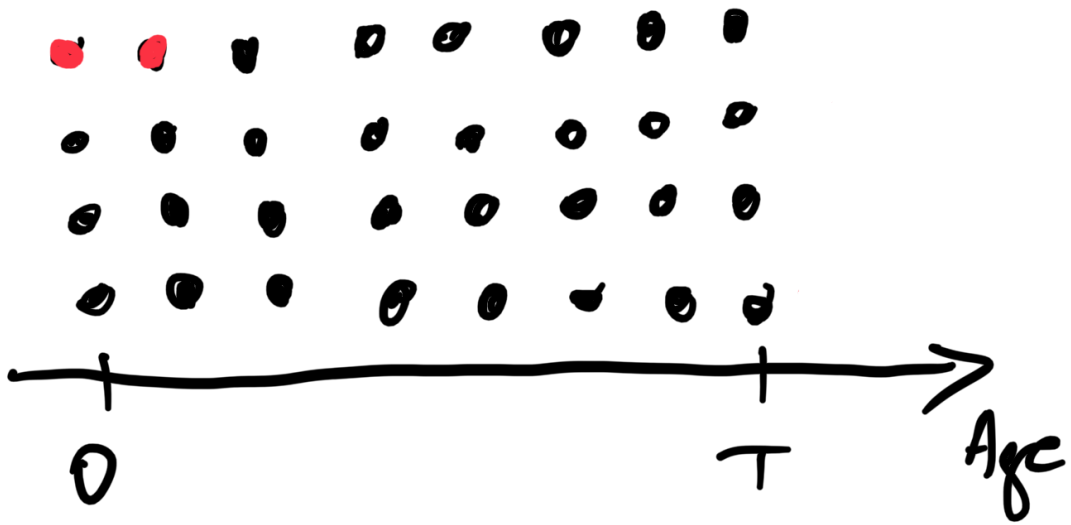
Interpreting the Magnitude: From Flows to Stock

- Population size at time t = sum of pop. of all ages k at t

$$N_t = \sum_k N_t^k$$



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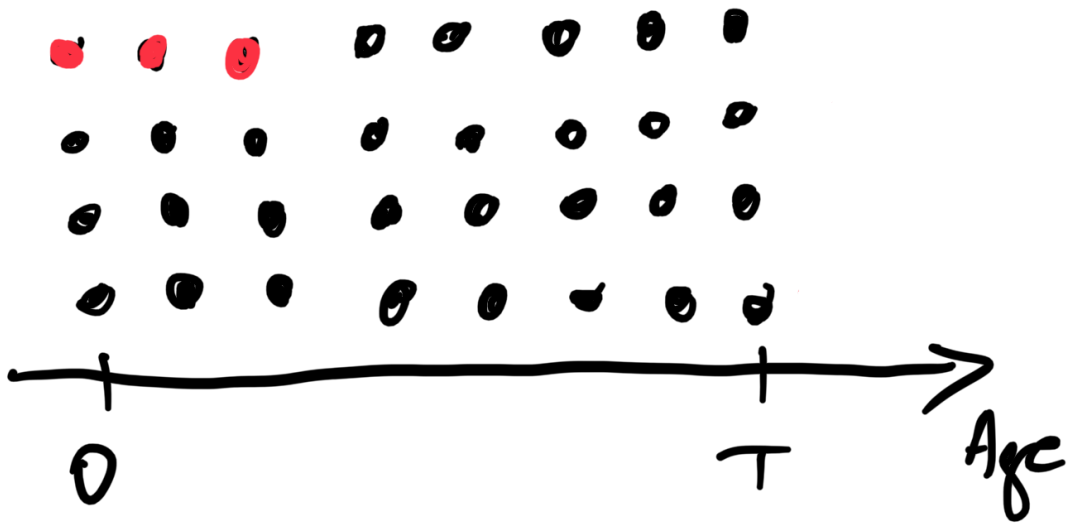
$$N_t = \sum_k N_t^k$$



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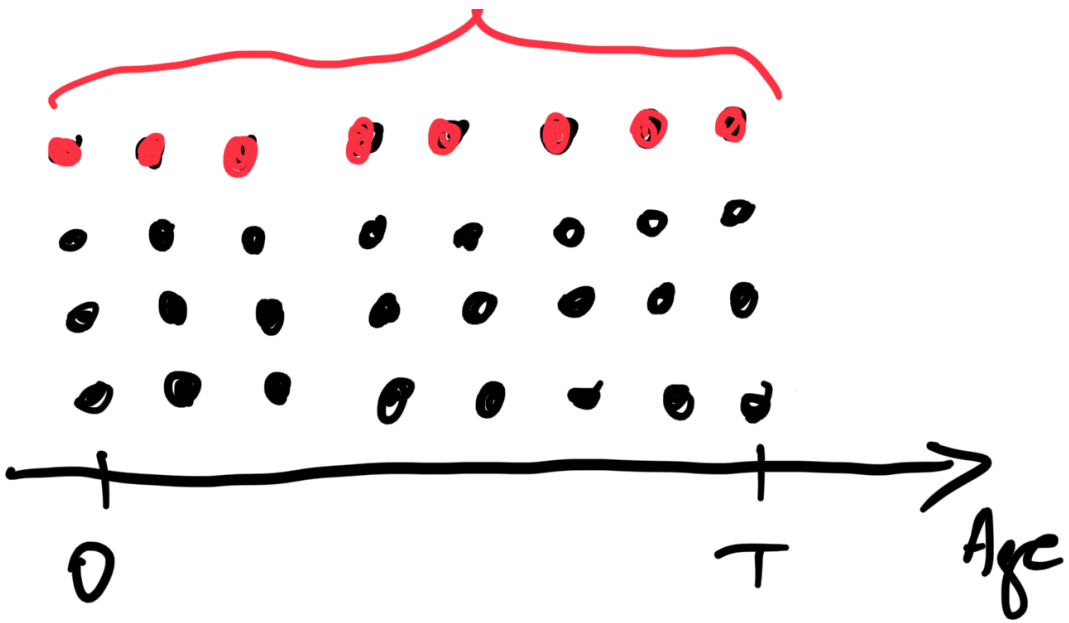

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Interpreting the Magnitude: From Flows to Stock

- Well identified estimate of the effects on migration flows
- Translate into effect on pop. size (stock) using simple OLG model
- Population size at time t = sum of pop. of all ages k at t

$$N_t = \sum_k N_t^k$$

- At each age $k = 1, ..., T$ population size at time t is

$$\begin{aligned} N_t^1 &= B_t \\ N_t^2 &= (1 - \alpha_t^1) N_{t-1}^1 = (1 - \alpha_t^1) B_{t-1} \\ N_t^3 &= (1 - \alpha_t^2) N_{t-1}^2 = (1 - \alpha_t^2)(1 - \alpha_{t-1}^1) B_{t-2}, \textit{Etc.} \end{aligned}$$

- B_t: number of "births"
- α_t^k: net migration rate of population of age k at time t

Interpreting the Magnitude: Stock Elasticity

- At steady state: $B_t = B_{t-1}, \forall t$ and $\alpha_t^k = \alpha_{t-1}^k, \forall t, k$

$$N_t = B_t \sum_{k=0}^{T} \Pi_{j=0}^{k} (1 - \alpha^{k-j})$$

- Elasticity of steady state population size w.r.t $1 - \tau$:
  - Assume (for simplicity) marginal effect of reform on α^k same $\forall k$

$$\varepsilon_{N,1-\tau} \approx -\frac{d\overline{\alpha}}{d\ln(1-\tau)} \cdot \frac{T+1}{2}$$

- Average number of years spent in top 1%: T=24 yrs

$$\Rightarrow \varepsilon_{N,1-\tau} \approx 2.16(0.620)$$

- **Conservative upper-bound** with anticipation effects (T=50 yrs):

$$\Rightarrow \varepsilon_{N,1-\tau} \approx 4.42(1.264)$$

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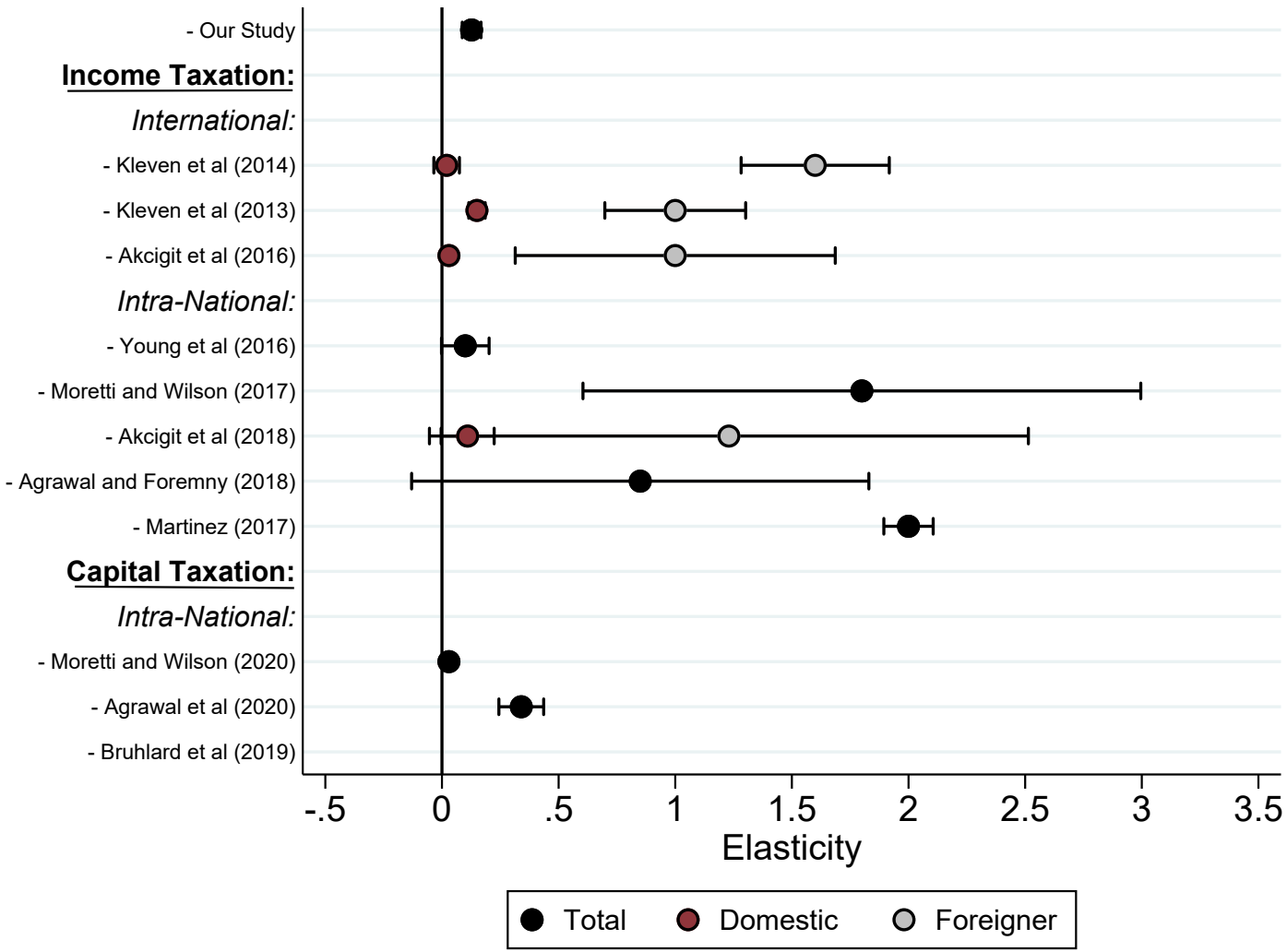
Comparison to Elasticities in the Literature



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Change in Capital Income Taxation Induced by Wealth Tax

- Transform estimate into elasticity w.r.t $1 - t$
  - Where $t \approx \frac{\tau}{r}$: avg tax on K income
  - Over period of interest, we find: $r = .042$, and $\tau \approx .006 \Rightarrow t = 14.3\%$

$$\varepsilon_{N,1-t} = \varepsilon_{N,1-\tau} \cdot \frac{d \ln(1-\tau)}{d \ln(1-t)} \approx .078 \quad (.013)$$

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Linear Probability Model of Out-Migration

- Two models to study selection into out-migration (Y) from Sweden
  - Model 1 - All individuals:

$$\mathbb{P}\{Y = 1\} = \beta' \mathbf{X}_0$$

  - Model 2 - Individuals in the top 2% of net wealth:

$$\mathbb{P}\{Y = 1\} = 1\{W < P_W\} \cdot \beta' \mathbf{X}_0 + 1\{W \geq P_W\} \cdot \beta_w{}' \mathbf{X}_0$$

    - $\mathbf{X}_0$ is a vector of individual characteristics
    - P_W is the 98th percentile of the net wealth distribution

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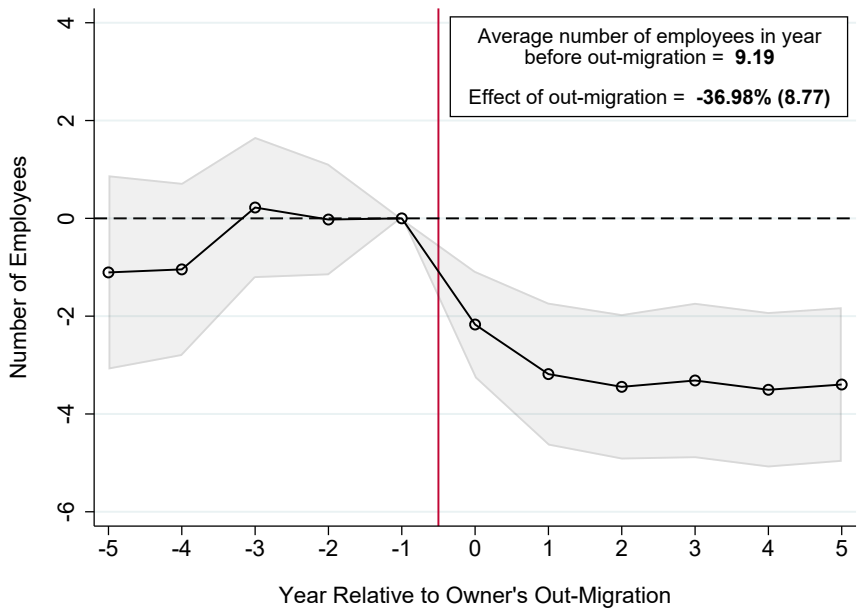
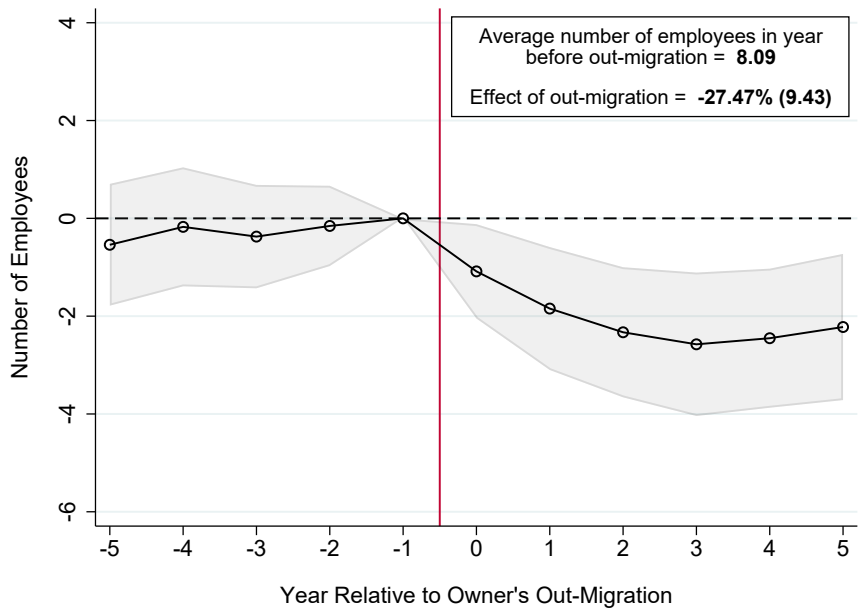
Effect on Employment Before vs After Wealth Tax Repeal

a. Before



b. After



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Effects Before vs After Wealth Tax Repeal

Outcome	Effects In Levels Out-Migration Years: [2001, 2006] $t_{pre} = +5$	[2007, 2013] $t_{post} = +5$	T-Stat $t_{pre} = t_{post}$	Percentage Effects Out-Migration Years: [2001, 2006] $t_{pre} = +5$	[2007, 2013] $t_{post} = +5$	T-Stat $t_{pre} = t_{po}$
Sample of CHBs with owner in the top 2% of net worth						
Prob. Firm Is Alive (pp)	-28	-24.47	-0.86	-28%	-24%	-0.86
	(3.43)	(3.76)		(3.43)	(3.76)	
Number of Employees	-3.40	-2.22	-1	-36%	-27%	-0.74
	(0.81)	(0.76)		(8.77)	(9.43)	
Value Added (SEK1,000)	-2,917	-875	-2	-42%	-18%	-1
	(624)	(598)		(9.09)	(12.32)	
Net Turnover (SEK1,000)	-9,272	-2,752	-2.41	-39%	-16%	-1.72
	(2,056)	(1,759)		(8.73)	(10.33)	
Tax Payments (SEK1,000)	-202	-85	-2.04	-50%	-28%	-1.37
	(45)	(34)		(11)	(11)	
Gross Investments (SEK1,000)	-196	-75	-1.27	-30%	-19%	-0.61
	(78)	(55)		(12)	(14)	

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