Elderly Tax Incentives and Migration: Evidence from Administrative Tax Data

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- The opinions expressed in this paper are those of the authors alone and do not necessarily reflect the views of the Internal Revenue Service or the U.S. Treasury Department.
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- Special thanks to the team at SOI, especially Kevin Pierce and Amanda Eng, for their invaluable help.

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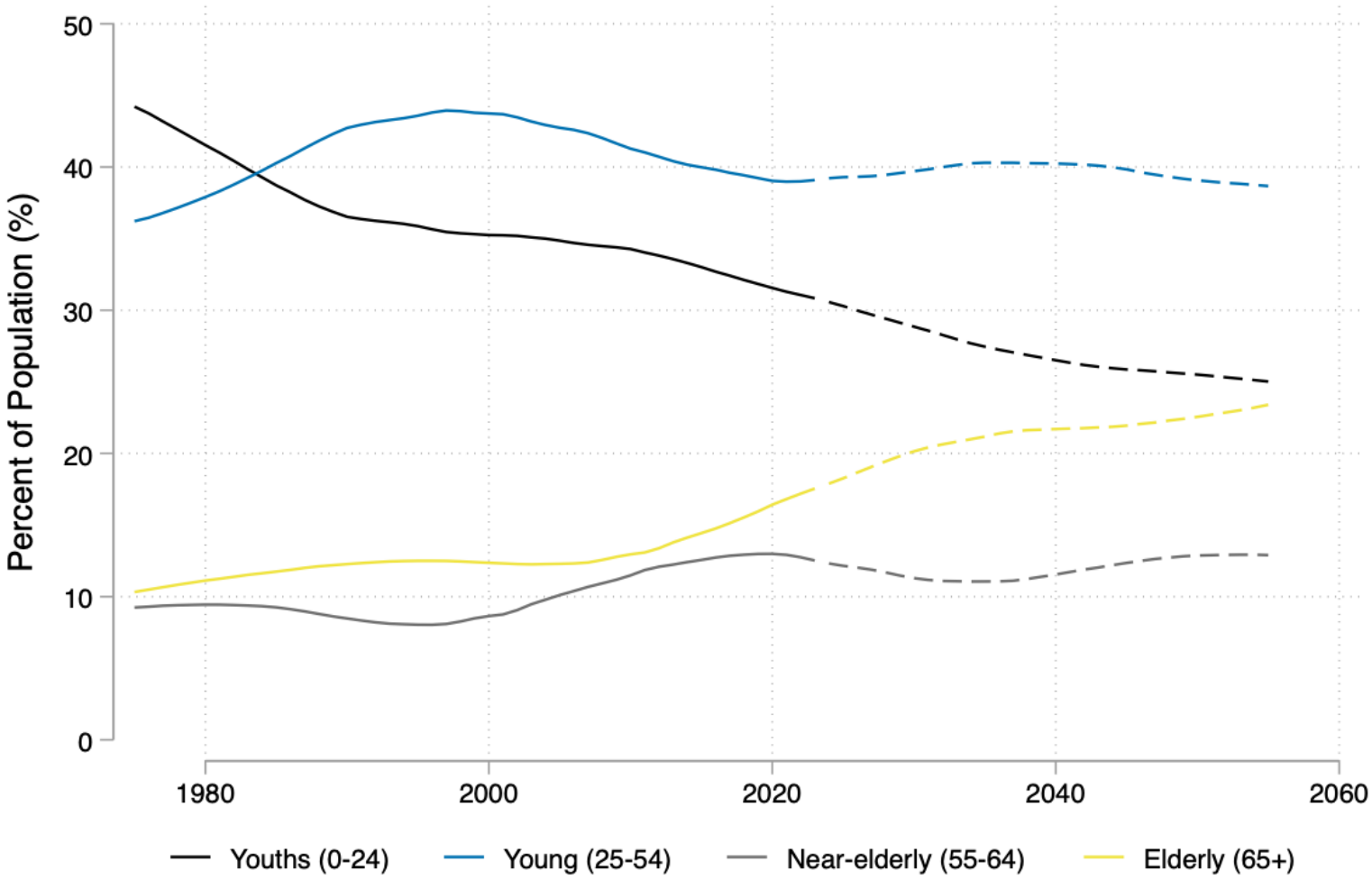
Demographic Projections By Age



Source: Congressional Budget Office, January 2025 Demographic Outlook

Motivation

Our work focuses on the intersection of two phenomena:

1. The US population is aging.
2. Governments are increasingly interested in using tax policy to attract or retain residents.
   - Star scientists, inventors, athletes (Kleven, Landais and Saez, 2013; Akcigit, Baslandze and Stantcheva, 2016; Moretti and Wilson, 2017)
   - The rich or wealthy (Young et al., 2016; Rauh and Shyu, 2019; Kleven et al., 2014; Agrawal and Foremny, 2019; Moretti and Wilson, 2023).

Focus: Elderly Migration

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New York

"These seniors are taking their pensions and fleeing to Florida and other states that do not tax it, and we want to keep them here where they pay taxes and contribute to our community."
- State Senator Hugh Farley, 2016

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- More affluent (Conway and Rork, 2016)
- Potentially mobile (retired, no labor force attachment)
- "Recession-proof" revenue sources
- Consume a bundle of government services mainly paid for by federal government (Medicare)

This has led states to provide **Elderly-Specific** individual income tax breaks.

- Previous work has found limited effect of these policies on migration (Conway and Rork, 2012).

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Part 3: Use a difference-in-difference approach to assess the effect of large and discrete elderly-specific tax changes.

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Part 3: Estimate the elderly response to large and discrete elderly-specific tax changes.

- Some evidence of migration response of elderly filers in DID.
- Per mover state-revenue would have to be extremely large in order for migration response to offset static revenue effect.

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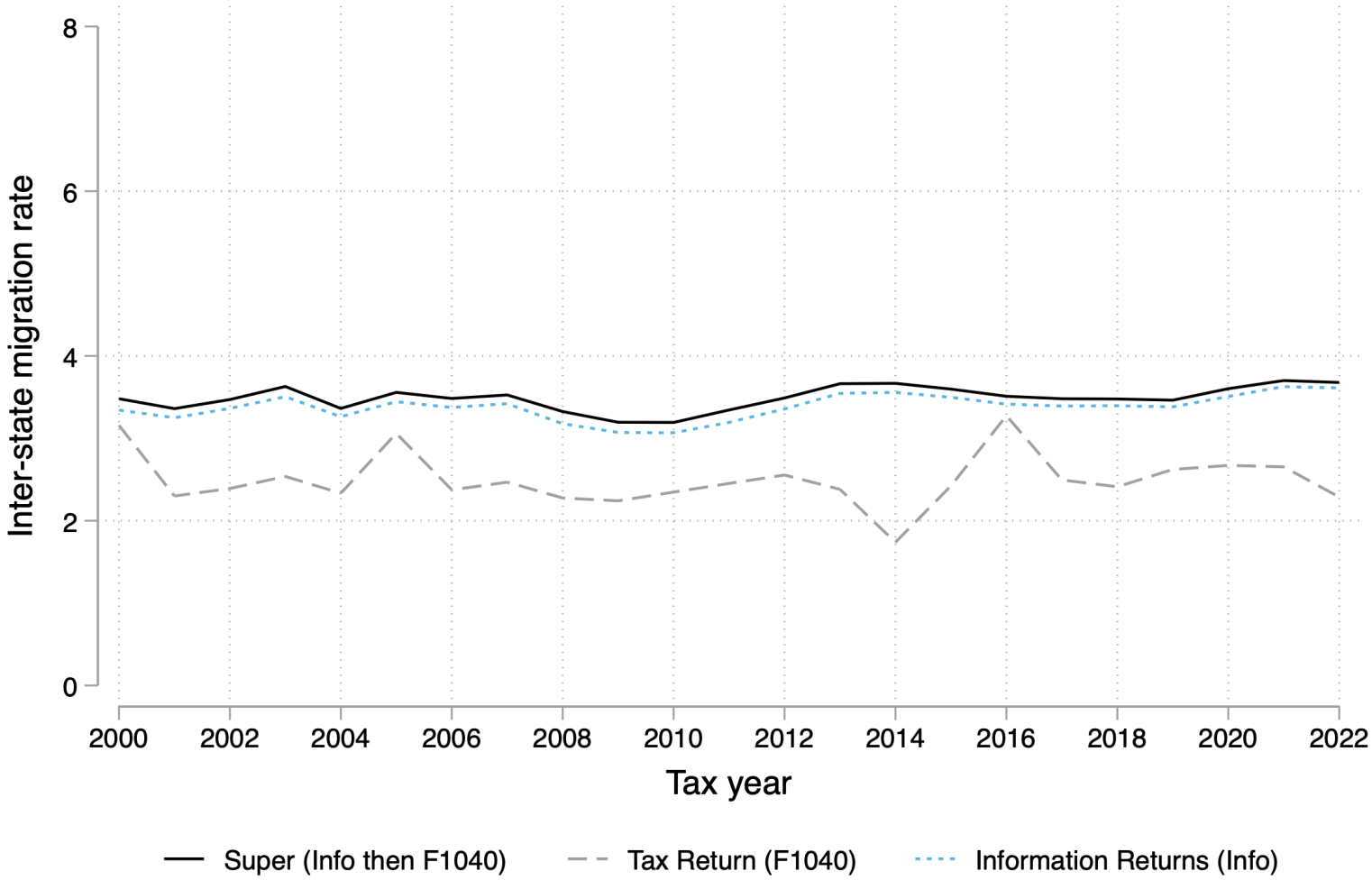
- Supplemented by information from other tax forms and demographic characteristics.
- Using these we construct two datasets:
  1. State-to-state flows by AGI, age, and filing status (100 percent sample of tax filers)
  2. Individual-level data (Stratified random sample)

We rely primarily on zip-codes from information returns to measure residency



Source: IRS Data Bank, full migration sample.

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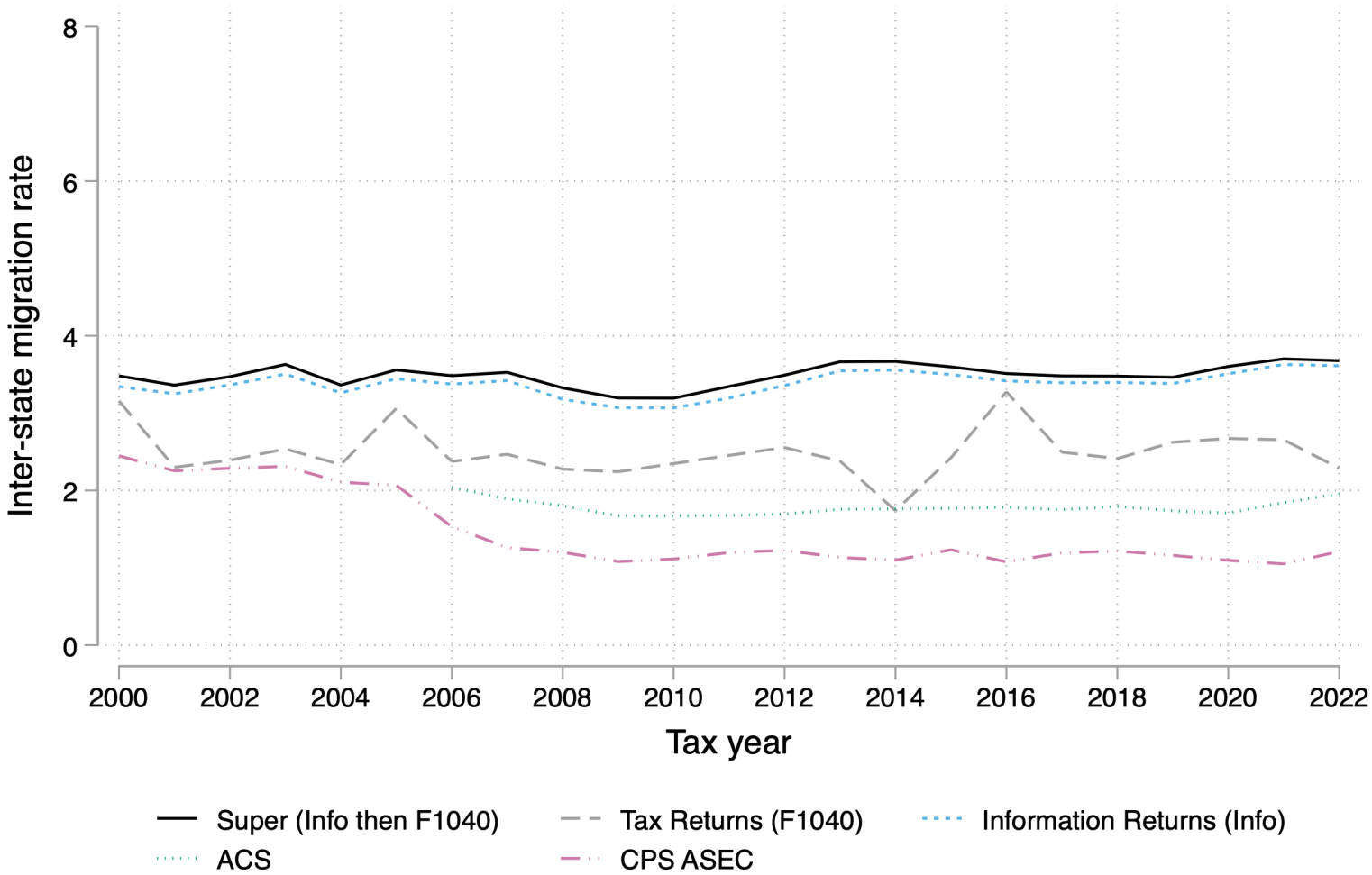
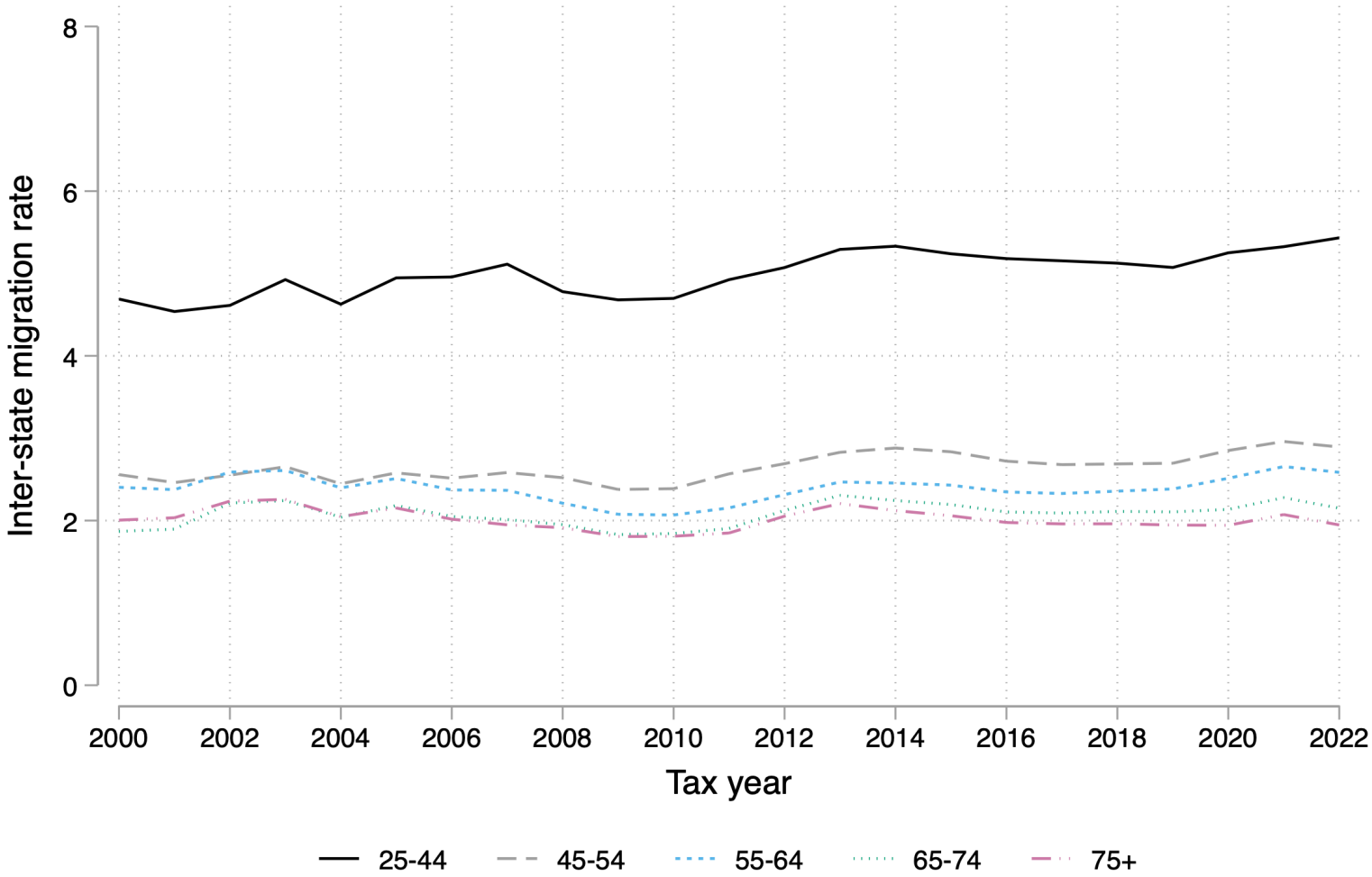


Source: IRS Data Bank, full migration sample, plus CPS ASEC and ACS via IPUMS (Ruggles et al., 2023). ◂ For those 65+

Inter-state migration by age, 2000-2022



Source: IRS Data Bank, full migration sample.

◀ By-AGI (25-54) ◀ By-AGI (65+)

Part 2: Studying the universe of state tax changes

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- To estimate the effect of individual income taxes on elderly migration, we need two elements:
  1. Data on migration (just discussed).
  2. Data on average state individual income tax rates by age.

Elderly-specific tax incentives

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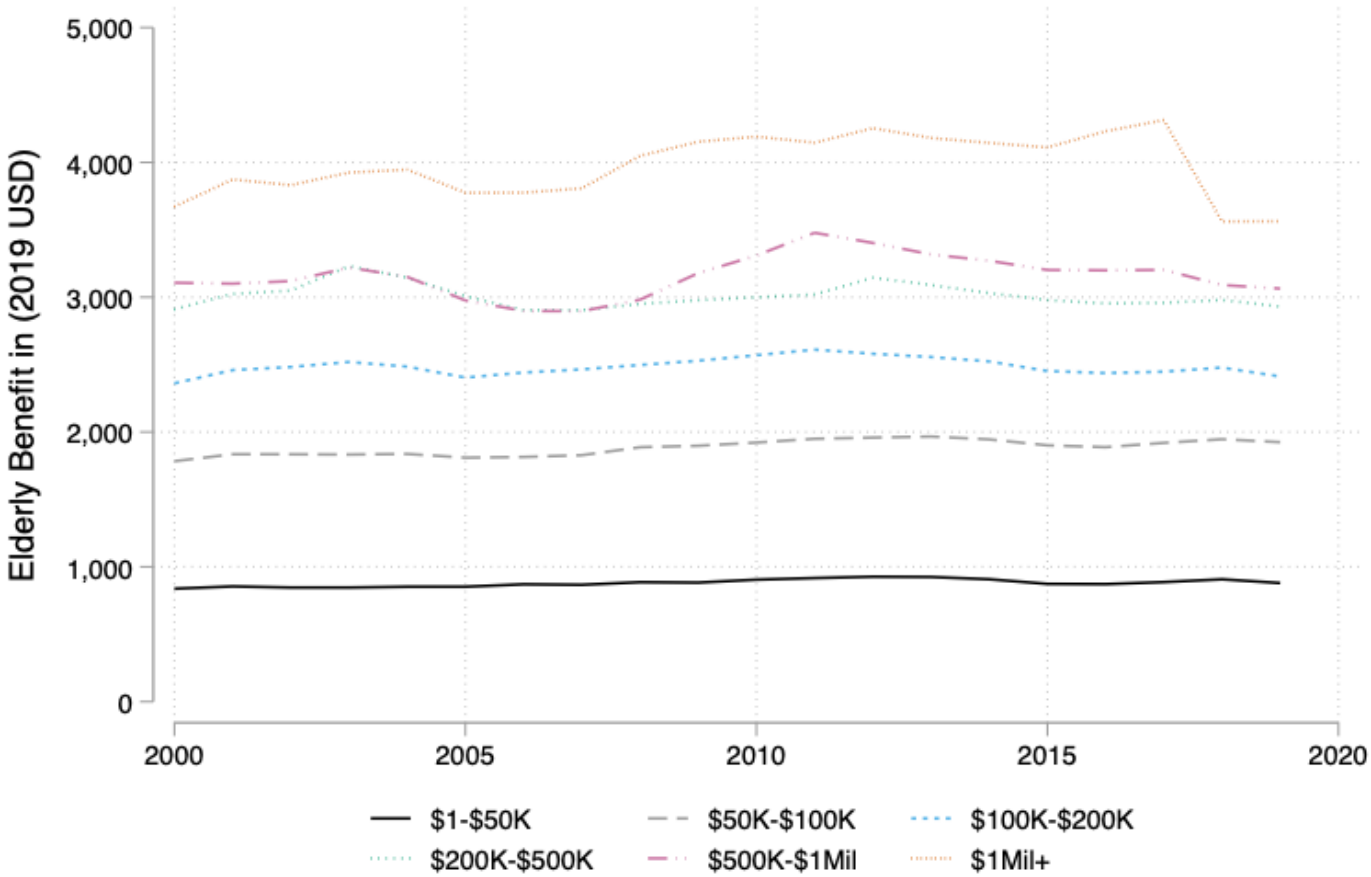
- We estimate that the elimination of these benefits (based on 2019 figures) would raise $19.5 Billion, or 5 percent of state individual income tax revenue.

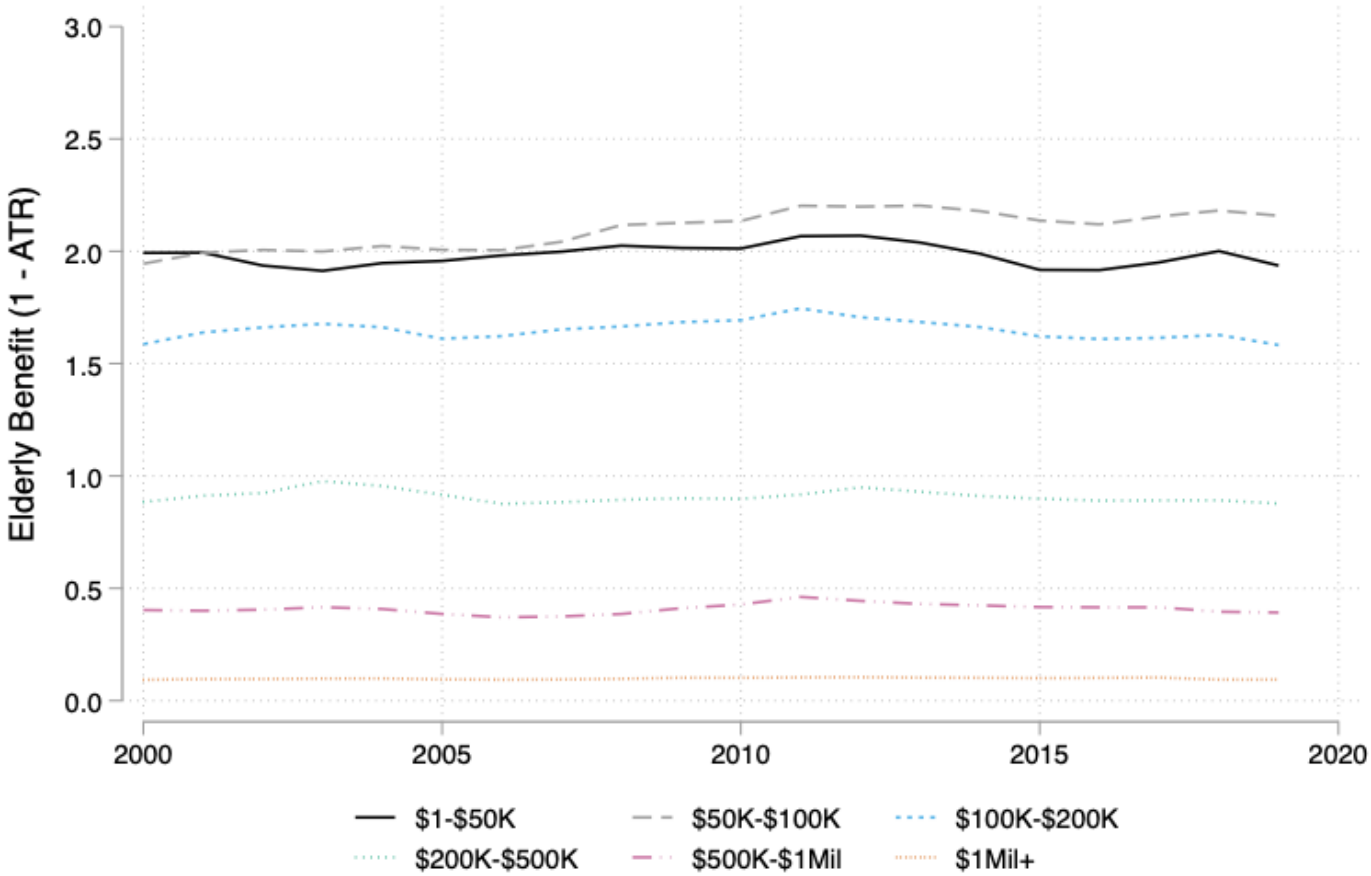
Differences in tax liability increase with income



Note: Showing average elderly benefit (2019 USD), for MFJ returns, excluding states with no individual income tax.

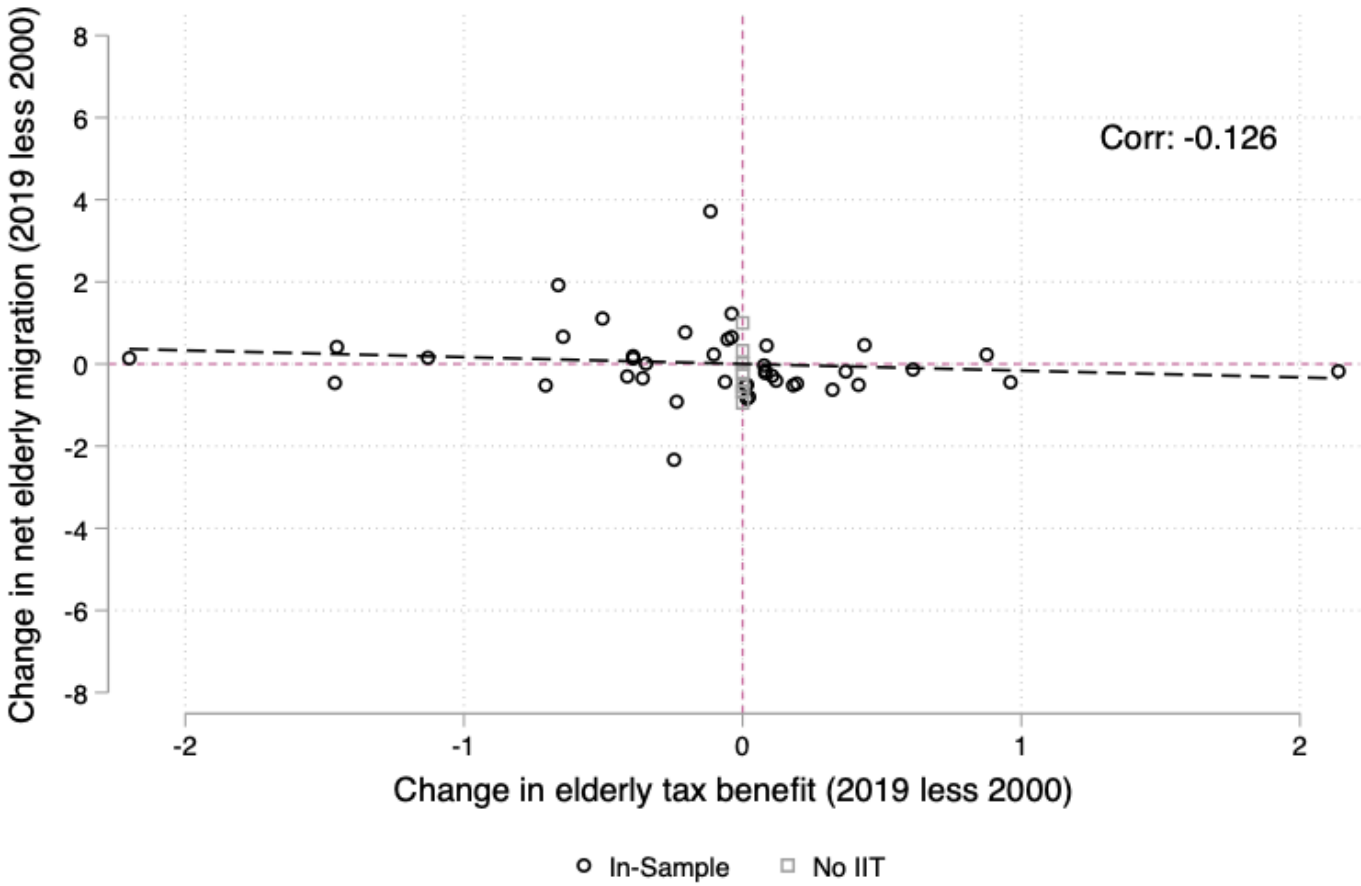
◂ Profile Construction

Differences in ATR tend to fall with income



Note: Showing one minus the average elderly benefit (for MFJ returns) divided by AGI, excluding states with no individual income tax.

Correlation between change in elderly tax benefit (ATR) and net in-migration is small



Note: Showing results for $100,000 - $200,000 AGI bracket.

Specification: PPML applied to State-to-State Flows

For each AGI group a and age group A we estimate the following PPML model (Correia, Guimarães and Zylkin, 2020; Chen and Roth, 2024):

$$M^{A}_{odaft} = \exp\left(\beta_1 \text{TAX}_{odaft} + \gamma X_{odt} + \delta_t + \phi_{odf} + \rho_{or,dr,t} + \epsilon_{odaft}\right) \quad (1)$$

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SE clustered at Origin-Year + Destination-Year + Flow (3-way clustering).

Two ways to construct our measure of Taxes

First, we estimate the effect of a change in the overall after-tax rate:

$$\text{ATR}^{A}_{odaft} = \overbrace{\left[(1-\tau^{A}_{daft-1})\right]}^{\text{Destination state}} - \overbrace{\left[(1-\tau^{A}_{oaft-1})\right]}^{\text{Origin state}}$$

For age groups $A \in (25-64, 65+)$, where τ is the average tax rate.

Two ways to construct our measure of Taxes

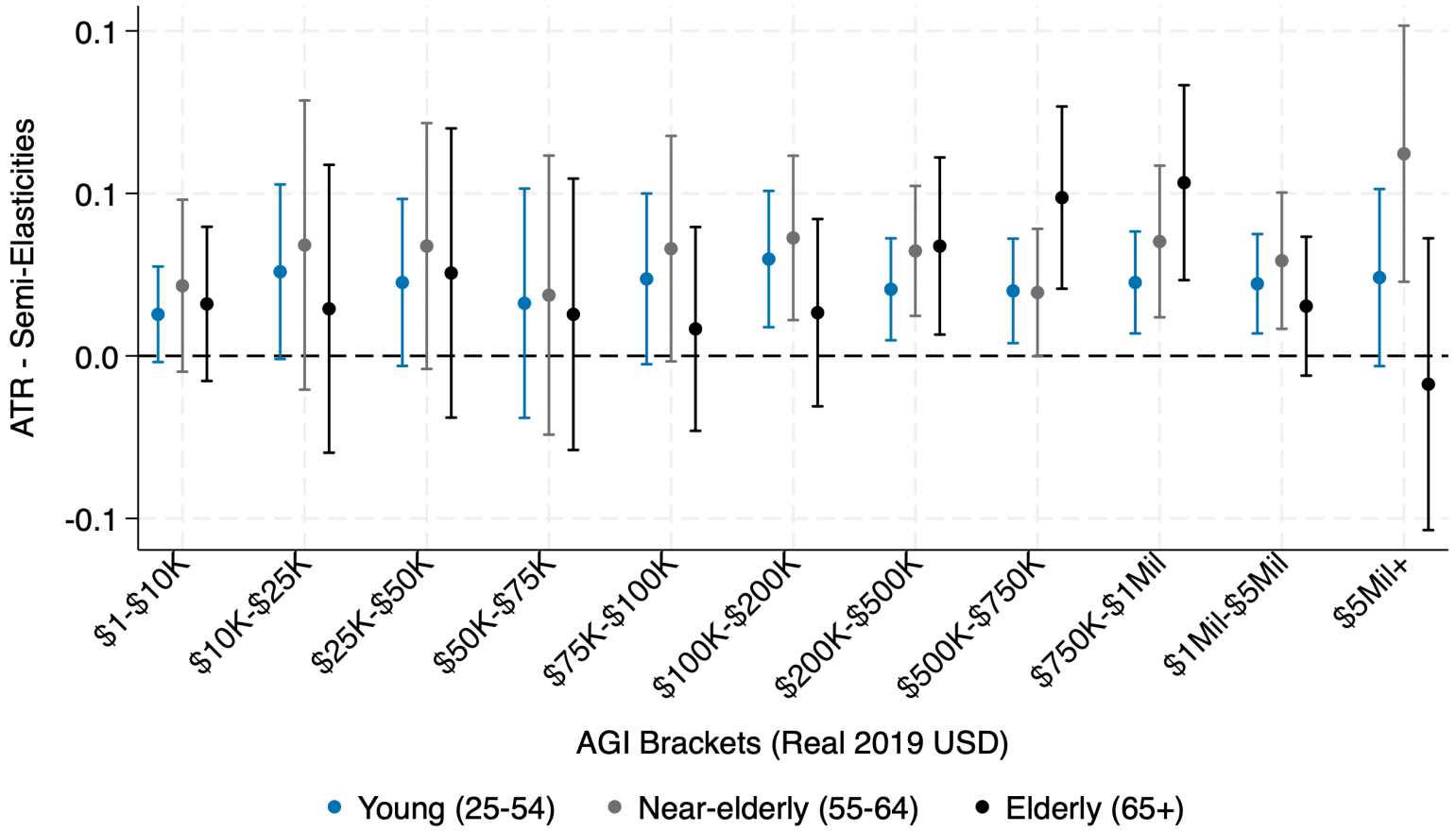
Next, we decompose the ATR into elderly-specific (ETB) and non-elderly specific (NET) components:

$$\text{ETB}_{odaft} = \overbrace{\left[(1-\tau^{e}_{daft-1}) - (1-\tau^{ne}_{daft-1})\right]}^{\text{Destination state}} - \overbrace{\left[(1-\tau^{e}_{oaft-1}) - (1-\tau^{ne}_{oaft-1})\right]}^{\text{Origin state}}$$

$$\text{NET}^{eb}_{odaft} = \left[(1-\tau^{ne}_{daft-1}) - (1-\tau^{ne}_{oaft-1})\right]$$

Where e refers to the elderly, and ne to the de-aged elderly.

Effect of ATR on inter-state migration



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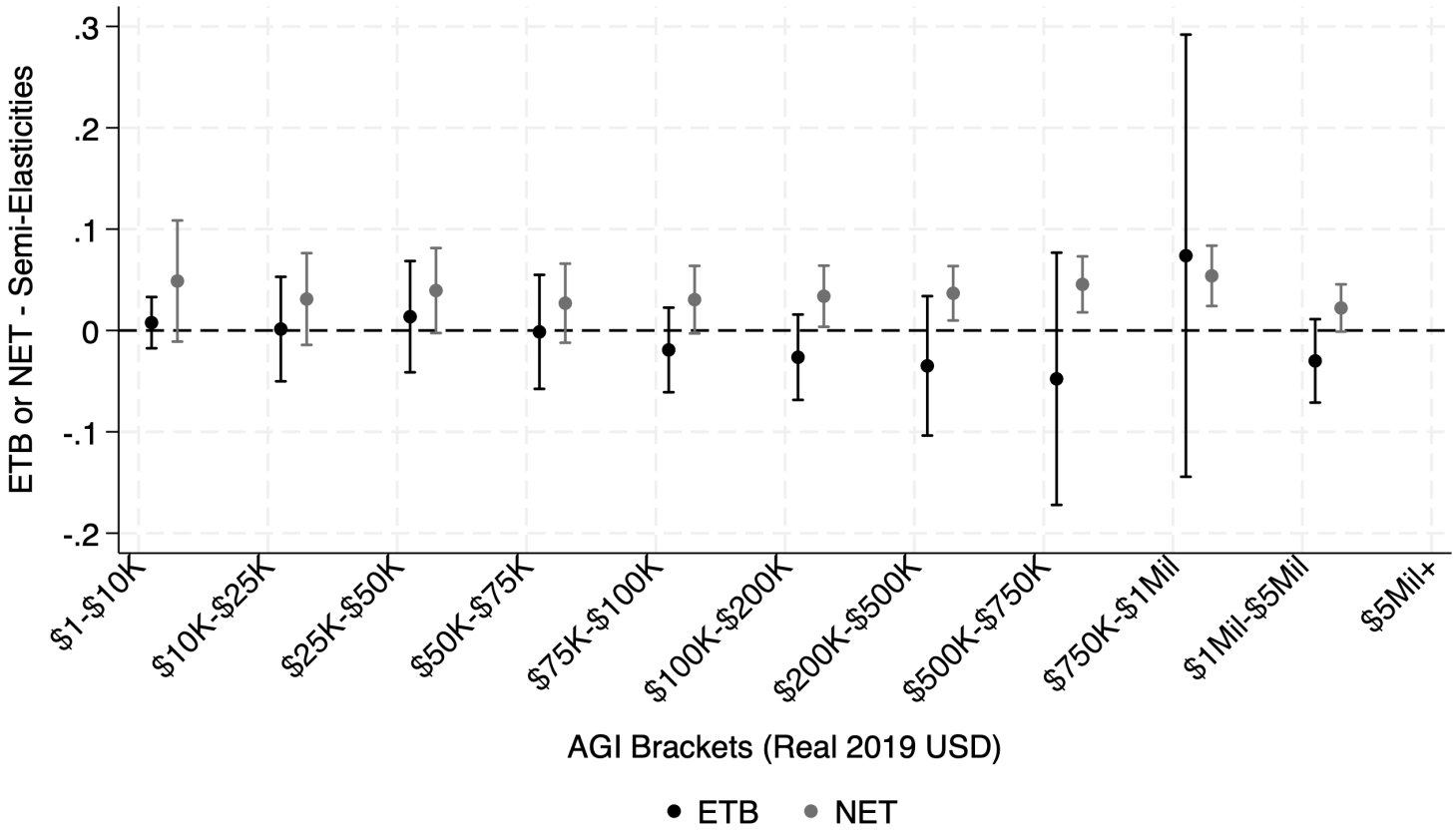
◂ 2-Year-Leads ◂ No controls

Effect of ETB vs. NET on inter-state migration



NOTE: Excluding top AGI bracket for scale, ETB effect is a statistically insignificant ≈ 0.57.

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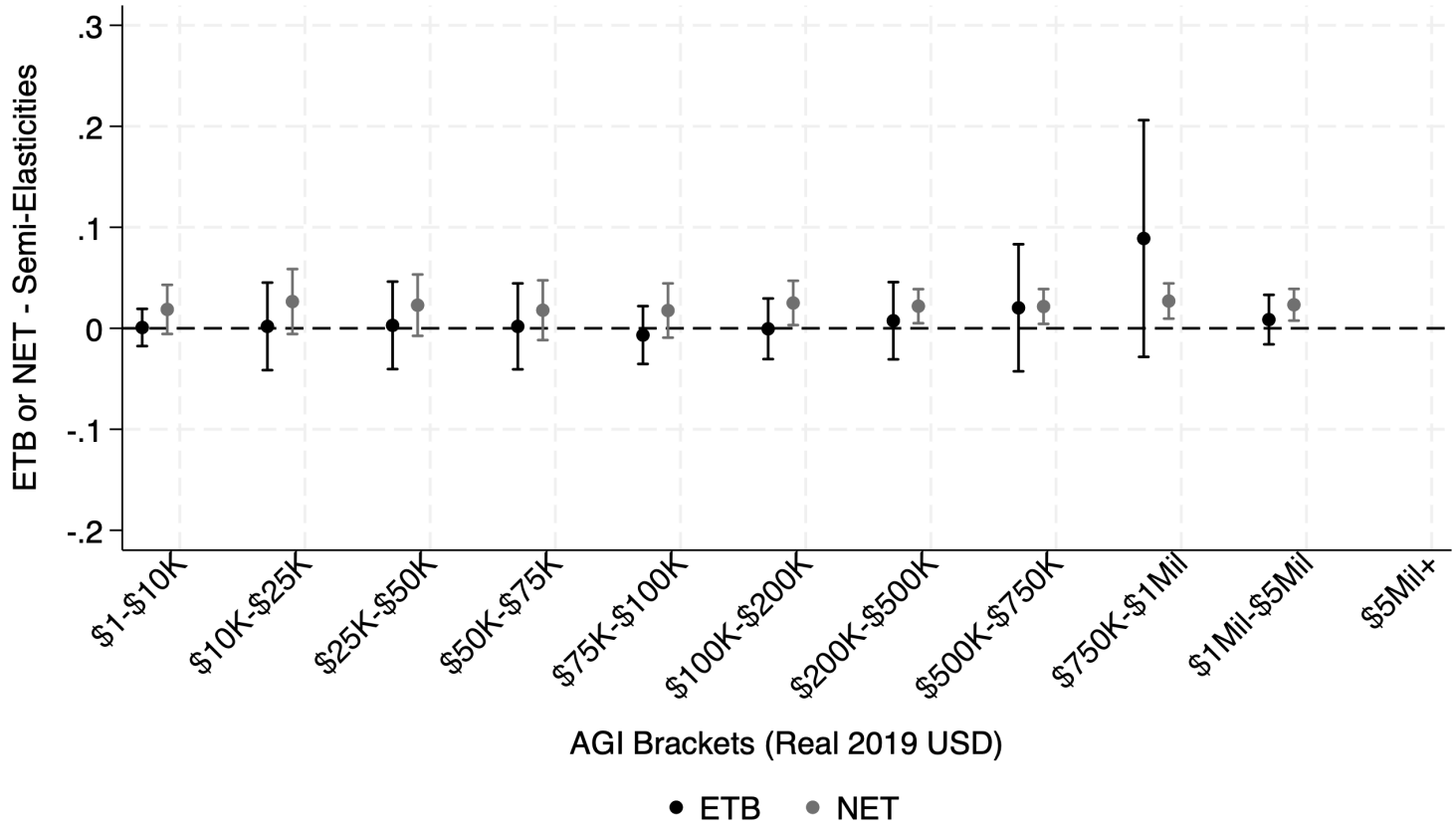
Placebo-Test: effect of ETB vs. NET on Young (25-54)



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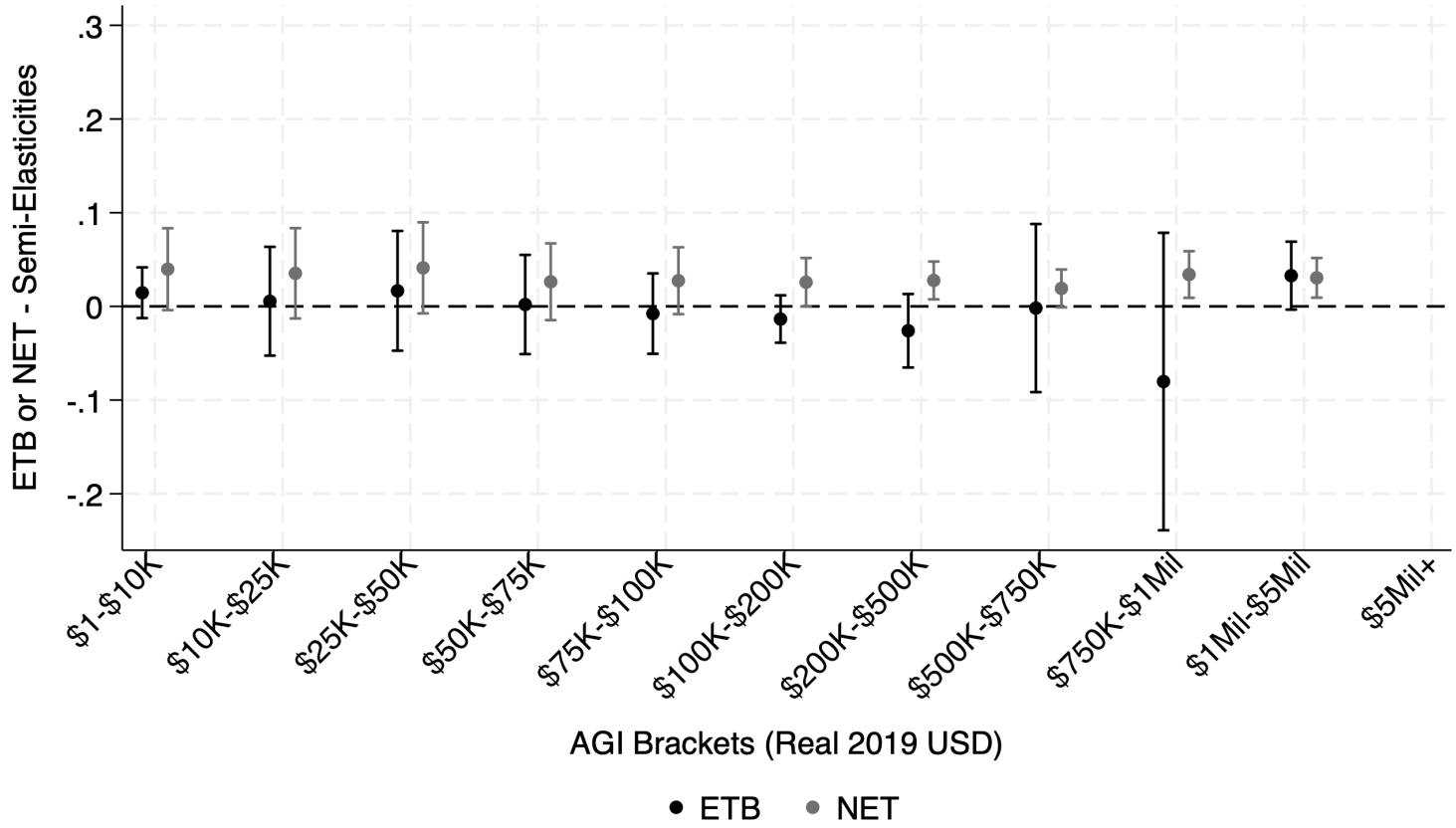
Effect of ETB vs. NET on Near-Elderly (25-54)



NOTE: Excluding top AGI bracket for scale, ETB effect is a statistically insignificant ≈ -0.24.

PPML approach yields, at most, modest results

- The overall tax differential ATR has a modest effect on migration of higher incomes. Ex. For elderly taxpayers reporting between \$200K-\$1Mil:
  - 1 PP change in ATR $\implies$ 1.5 to 5.5 % change in migration .
  - The implied elasticities for the elderly range from 0.12 to 0.23.
  - Elderly folks more responsive to ATR than the young.
- Separating the effect into NET and ETB: Effect of ETB is quite small & statistically insignificant for the elderly.
- **In sum**: elderly migration is modestly affected by the overall tax burden, but the special benefits of being elderly have no effect.

Part 3: Difference-in-Difference

- In this section, we investigate the effects of a few highly visible changes to policy, using difference-in-difference (DID) and event history analyses.
- Fundamentally, we take advantage of the horizontal inequity of these tax policies: that younger tax filers (25-54) with similar incomes are not impacted by a change in elderly-specific tax policies.
- We identify the causal effect of these policies under the assumption that, but for the elderly tax reform, the trends in inter-state migration of the two groups would have evolved in parallel.
  - Use our stratified random sample of individuals.
  - Consider both in-and-out migration

Difference-in-Difference specifications

$$y_{iast} = \alpha + \beta \text{Treated}_{at} \times \text{Post}_t + X_{it} + \delta_t + \zeta_a + \gamma_s + \epsilon_{iast} \quad (2)$$

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- Estimated separately by AGI brackets (real 2019 USD), modified to include untaxed retirement income.

Difference-in-Difference specifications

$$y_{iast} = \alpha + \beta \text{Treated}_{at} \times \text{Post}_t + X_{it} + \delta_t + \zeta_a + \gamma_s + \epsilon_{iast} \quad (2)$$

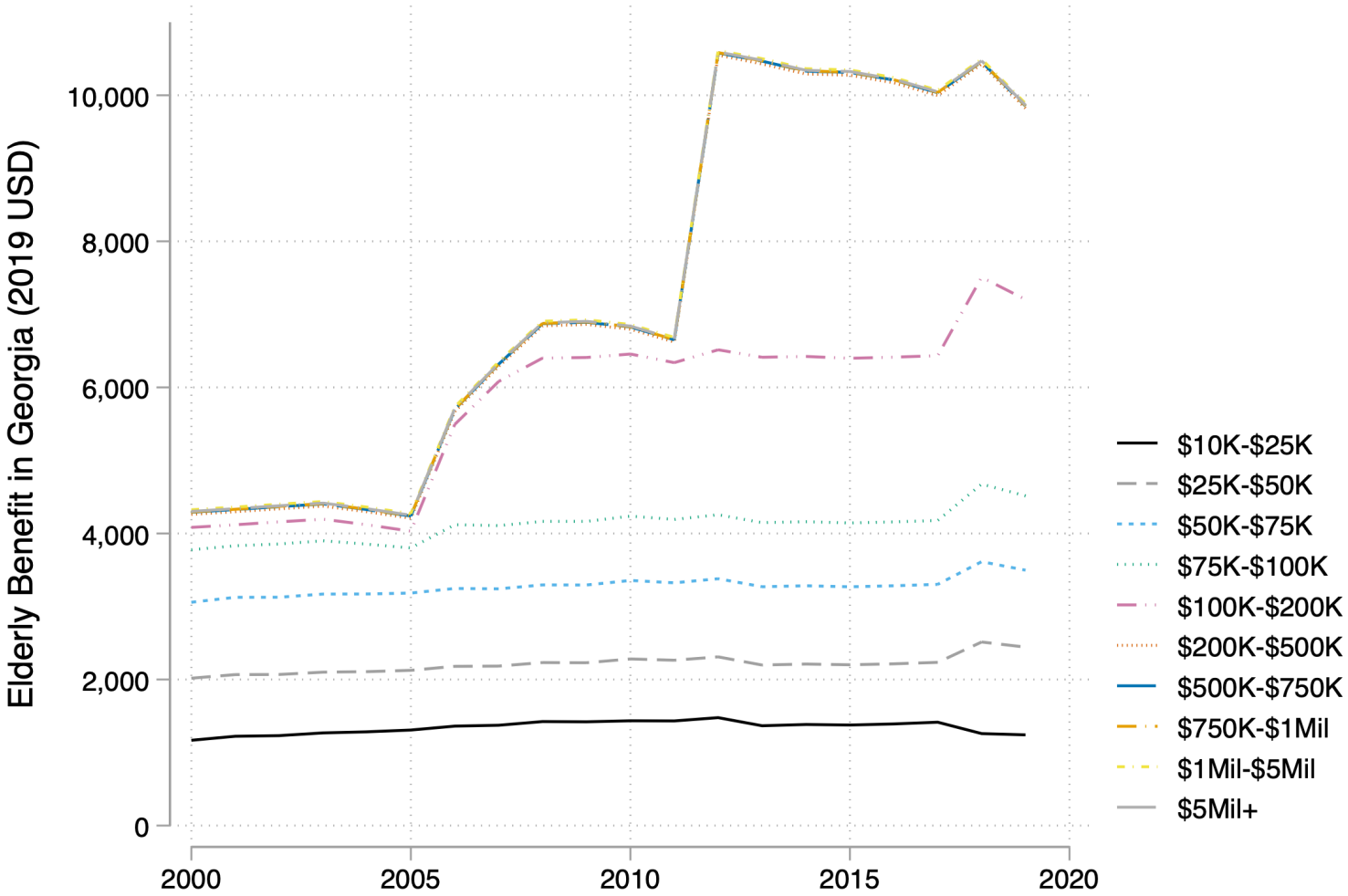
- Treated_{at} = Elderly (65+) vs. young (25-54)
- FE for year δ_t and age bins ζ_a
- Separately estimate out- and in-migration
- Individual level controls X_{it} and origin-state FE (γ_s) for in-migration
- Estimated separately by AGI brackets (real 2019 USD), modified to include untaxed retirement income.
- Stratified random sample (over-samples high-income filers)
  - Out-migration: tax filers living in treated state in year $t-1$
  - In-migration: tax filers living in another state in year $t-1$
    - Sample 1: States without individual income taxes
    - Sample 2: States that are not also a treated state

◂ Policy description table

Overview of difference-in-difference results

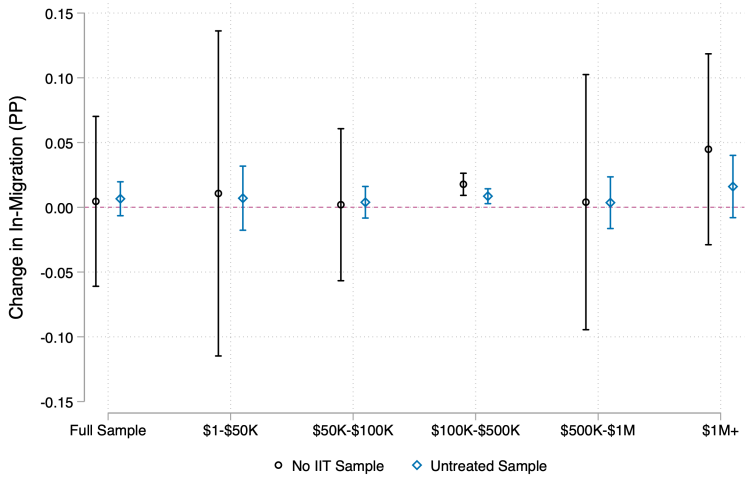
1. Expansion states (GA, IA, KS)
   - Georgia (2 pension exemptions)
   - Iowa and Kansas (Exempting SSB from taxation)
2. Contraction states (MI, NC)
   - Michigan (scaled back pension exemption)
   - North Carolina (eliminated personal exemption + standard deduction)

Georgia increased elderly tax benefits twice (2006, 2012)

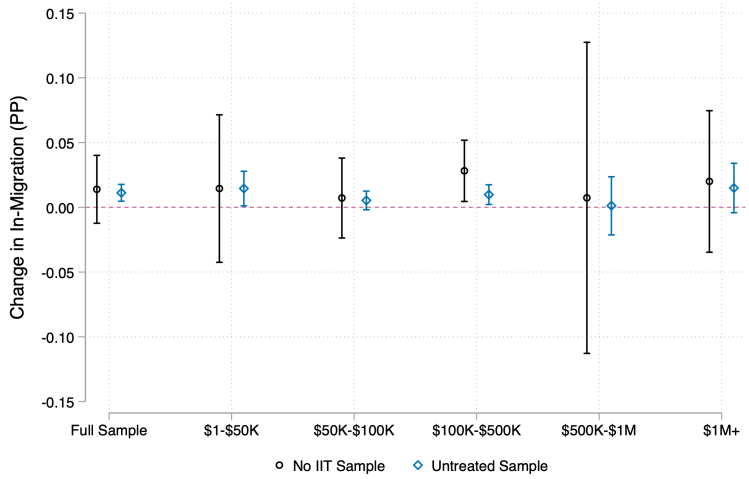


◂ ATR Figure

DiD results, Georgia, in-migration

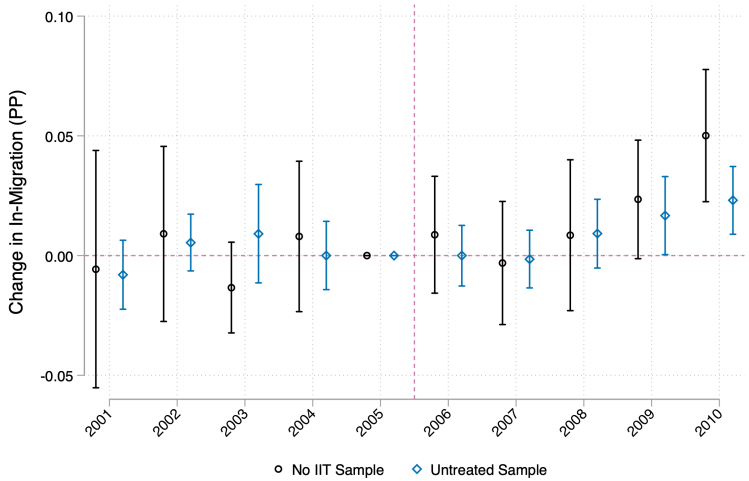


(a) 2001 through 2010



(b) 2001 through 2016

Event-study results, Georgia, in-migration ($100K-$500K)



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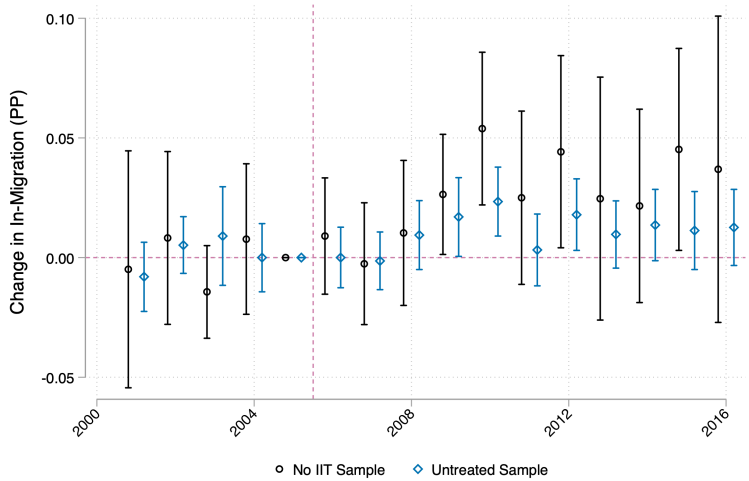
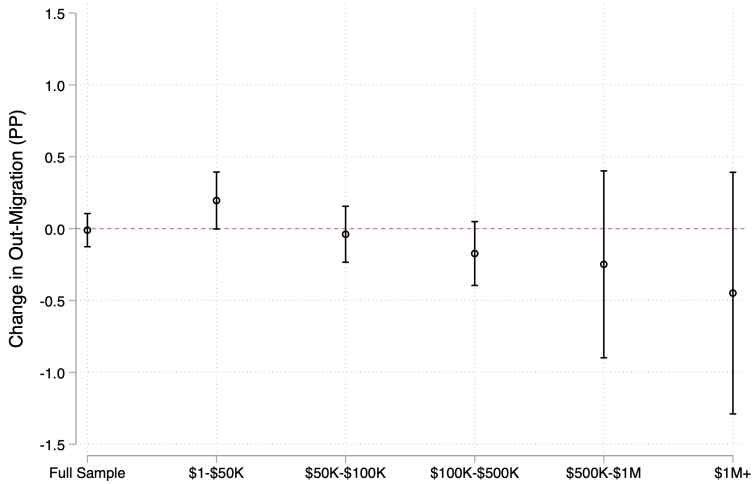


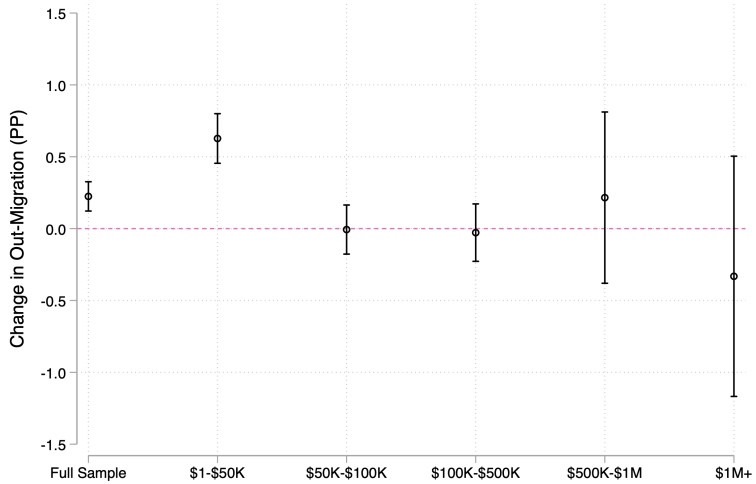
(b) 2001 through 2016

◀ Full event-study, 2001-2010 ◀ Full event-study, 2001-2016

DID results, Georgia, out-migration

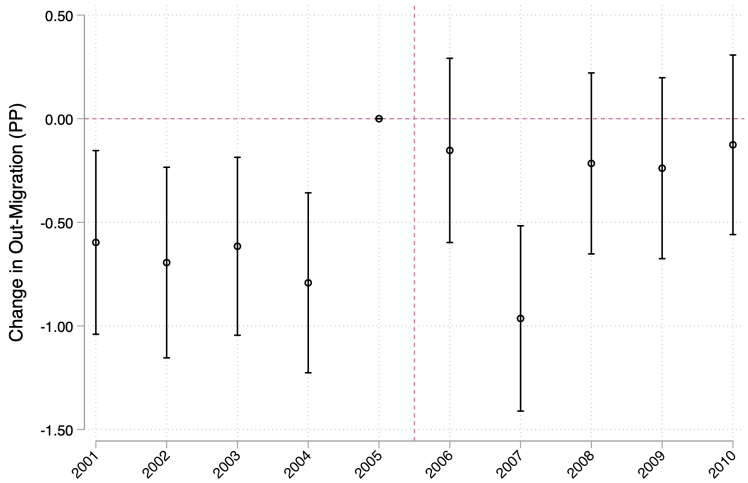


(a) 2001 through 2010

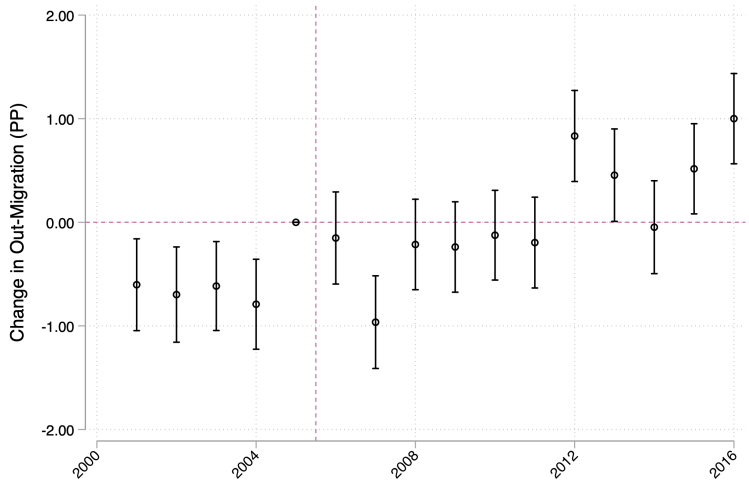


(b) 2001 through 2016

Event-study results, Georgia, out-migration ($1-$50K)



(a) 2001 through 2010



(b) 2001 through 2016

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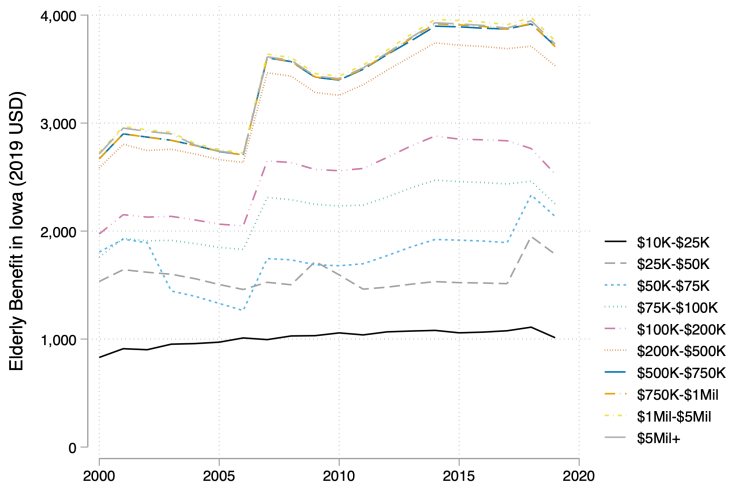
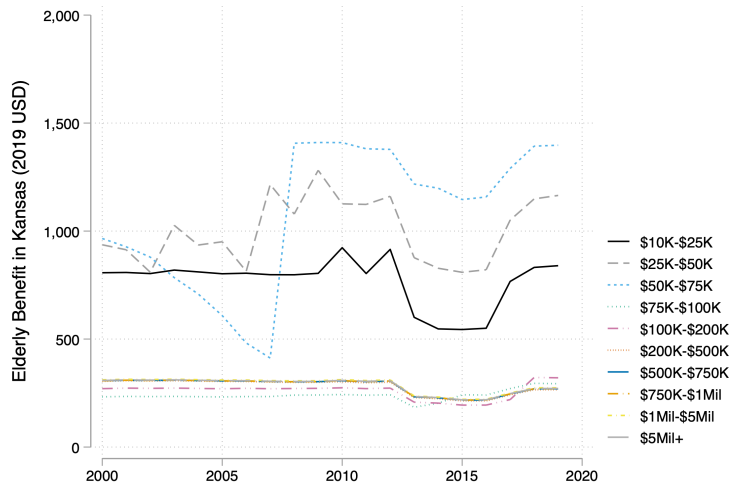
Iowa and Kansas both exempted SSB from taxation



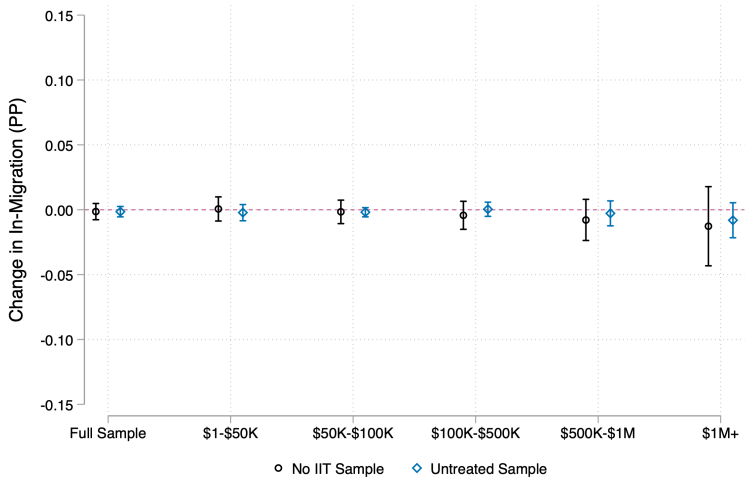
(a) Iowa



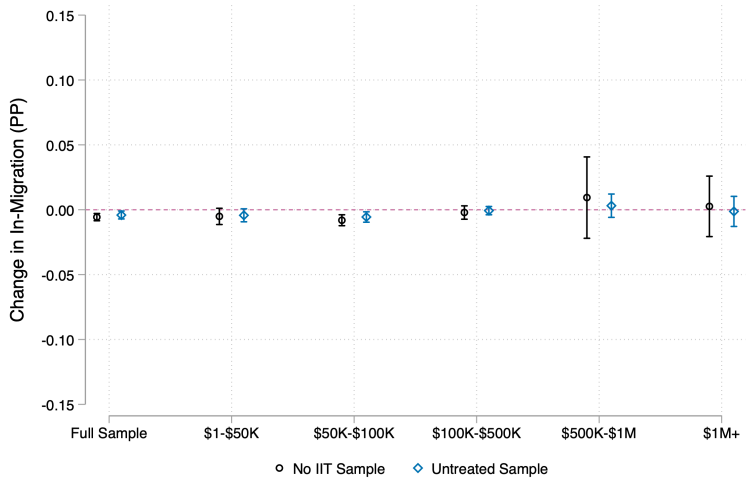
(b) Kansas

◂ ATR Figure

DID results, Iowa and Kansas, in-migration



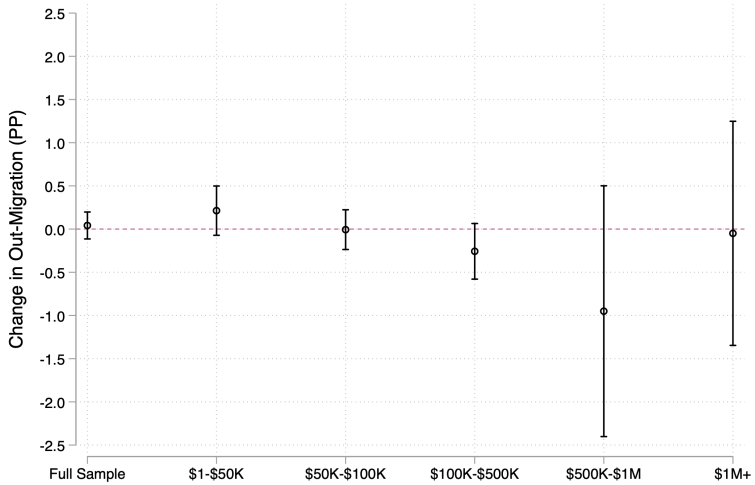
(a) Iowa



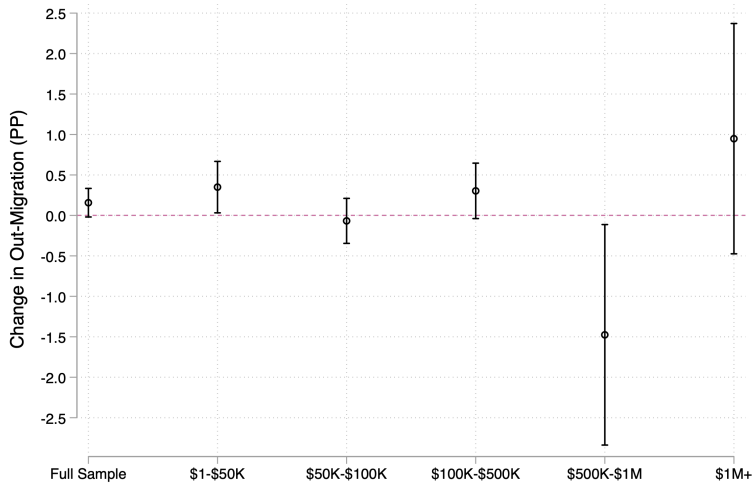
(b) Kansas

◀ Iowa event-studies ◀ Kansas event-studies

DID results, Iowa and Kansas, out-migration



(a) Iowa



(b) Kansas

◀ Iowa event-studies ◀ Kansas event-studies

Contraction states are more complex

1. Michigan
   - Scaled back generous pension benefits between 2012 and 2014.
   - Michigan reduced benefits for elderly individuals born **after** 1946 (or 1952). ◂ MI profile
   - Two issues:
     1. The treated group in the post-period includes many untreated elderly individuals.
     2. The great-recession in the pre-treatment period complicates pre-trends.
   - In future work, we employ a more refined regression-discontinuity design based on date of birth.

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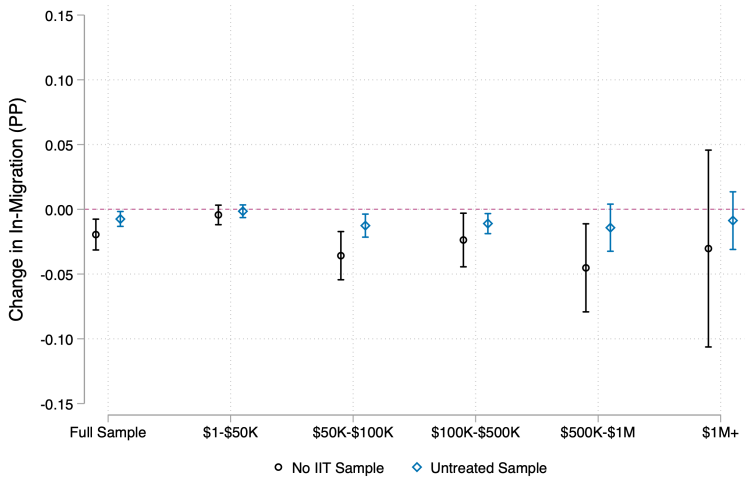
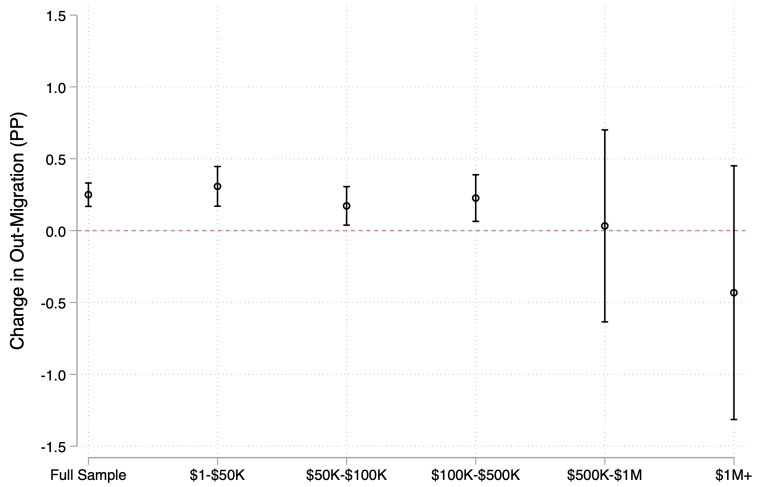
We consider these results as more preliminary.

DID results, Michigan

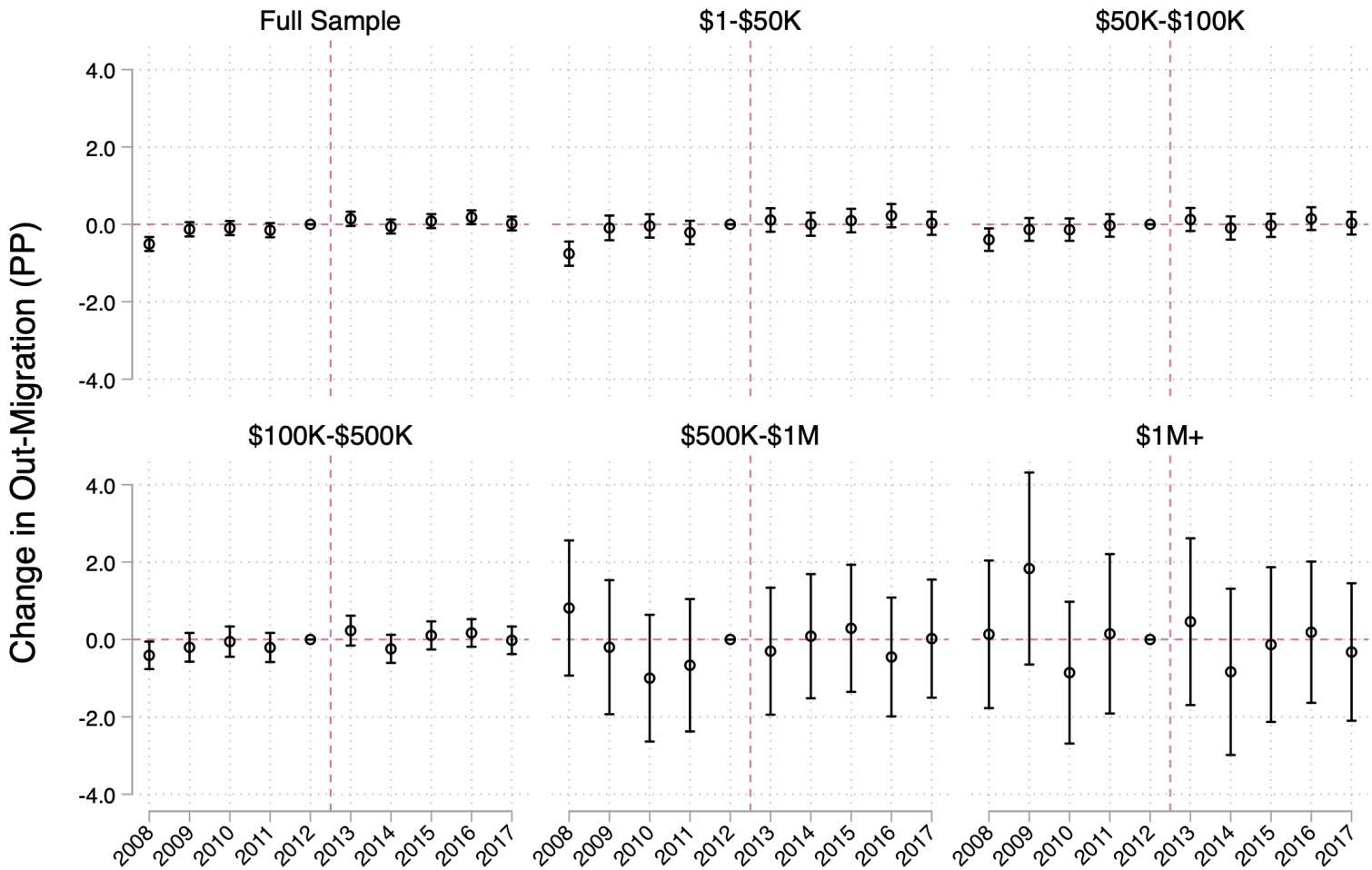


(a) In-migration



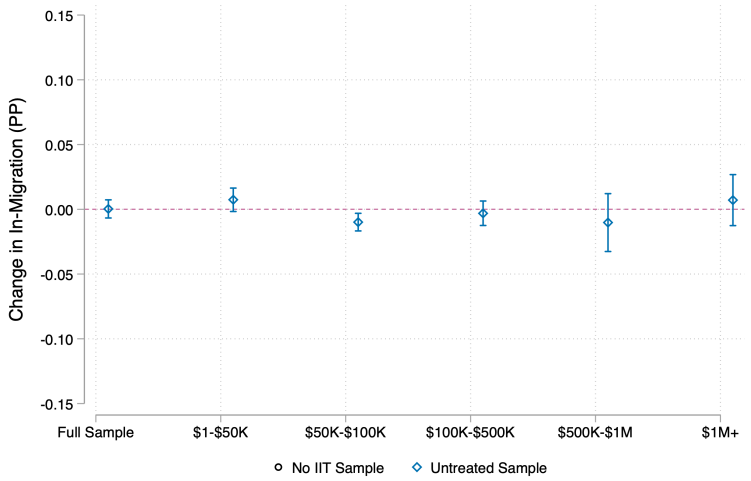
(b) Out-migration

Event-study results, Michigan, out-migration

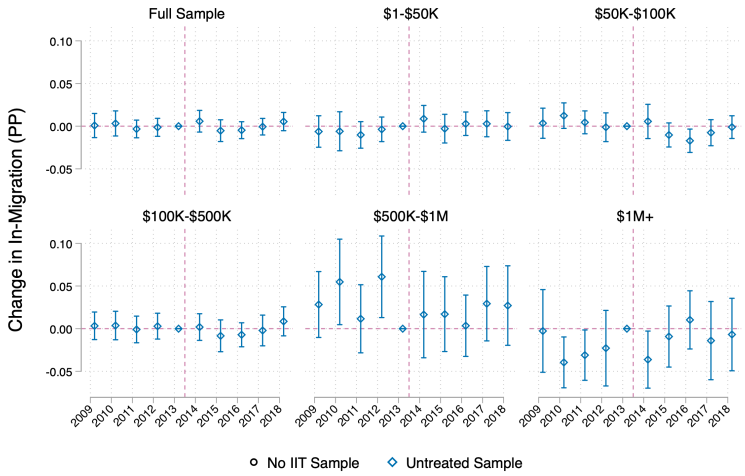


◂ Michigan in-migration event-studies

DID and event-study results, North Carolina

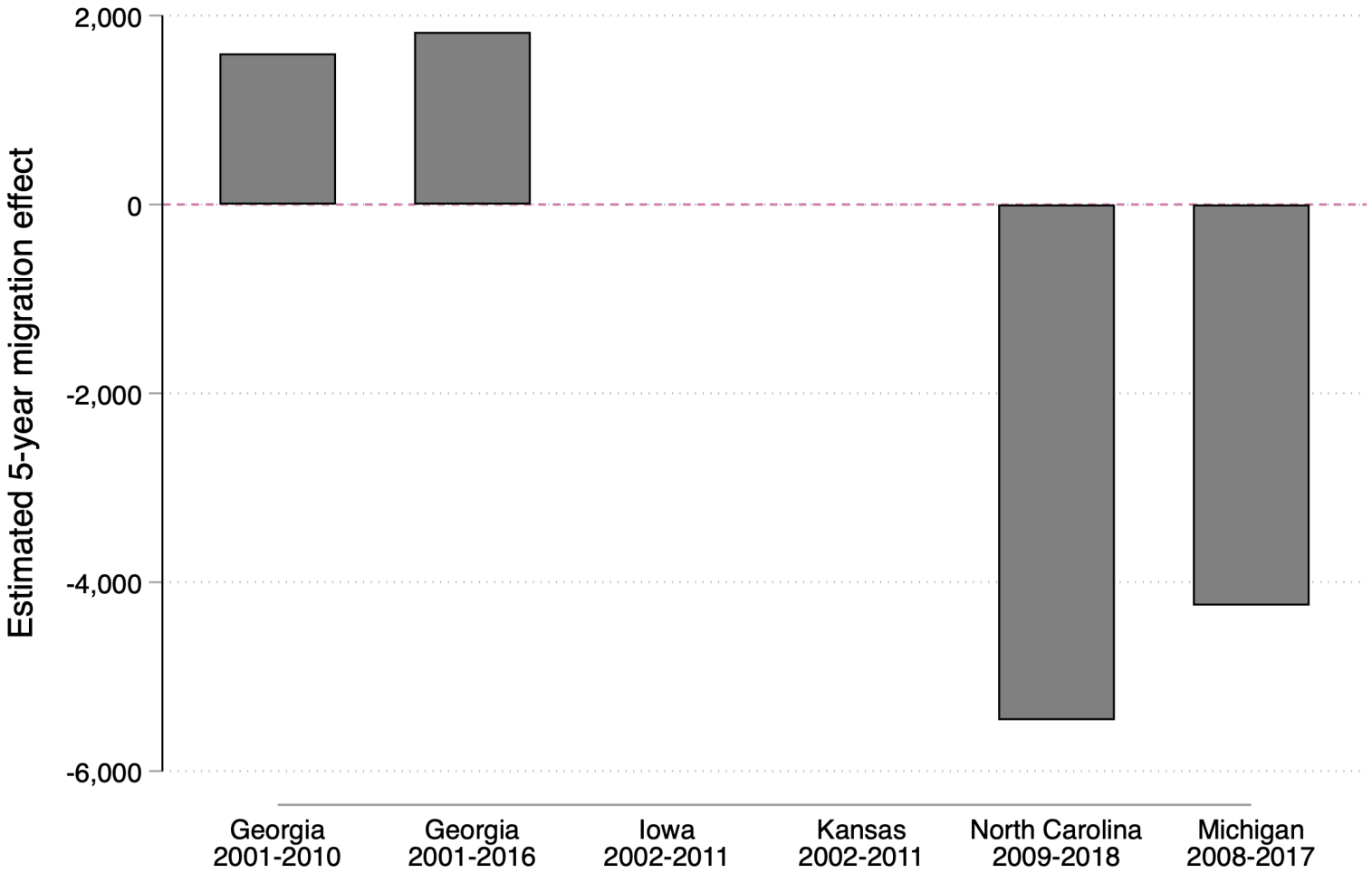


(a) Difference-in-Difference



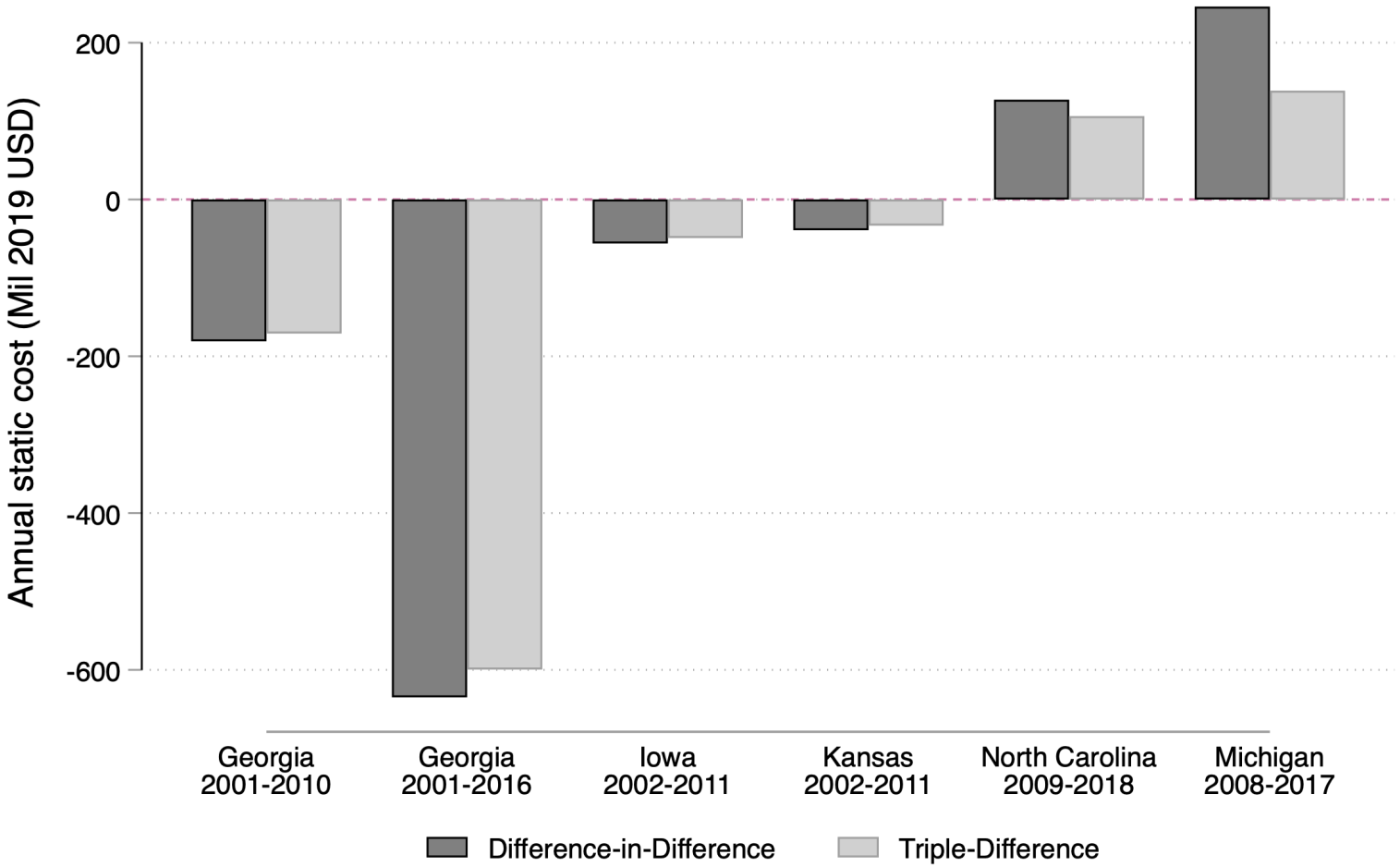
(b) Event-study

Overview of net-migration effects



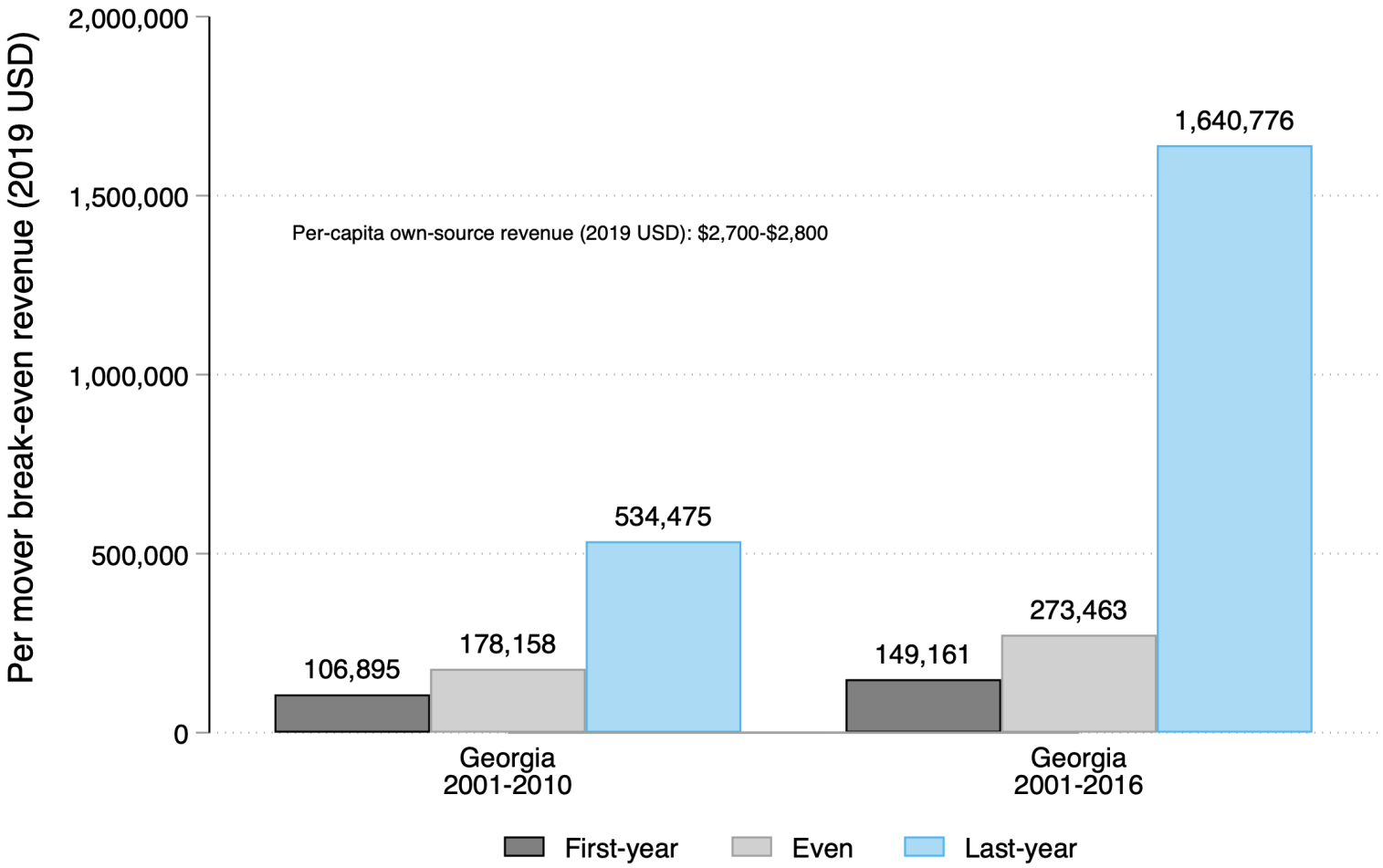
Note: Statistically significant migration effects, excluding coefficients with problematic pre-trends or opposite-sign effects.

Cost-estimate

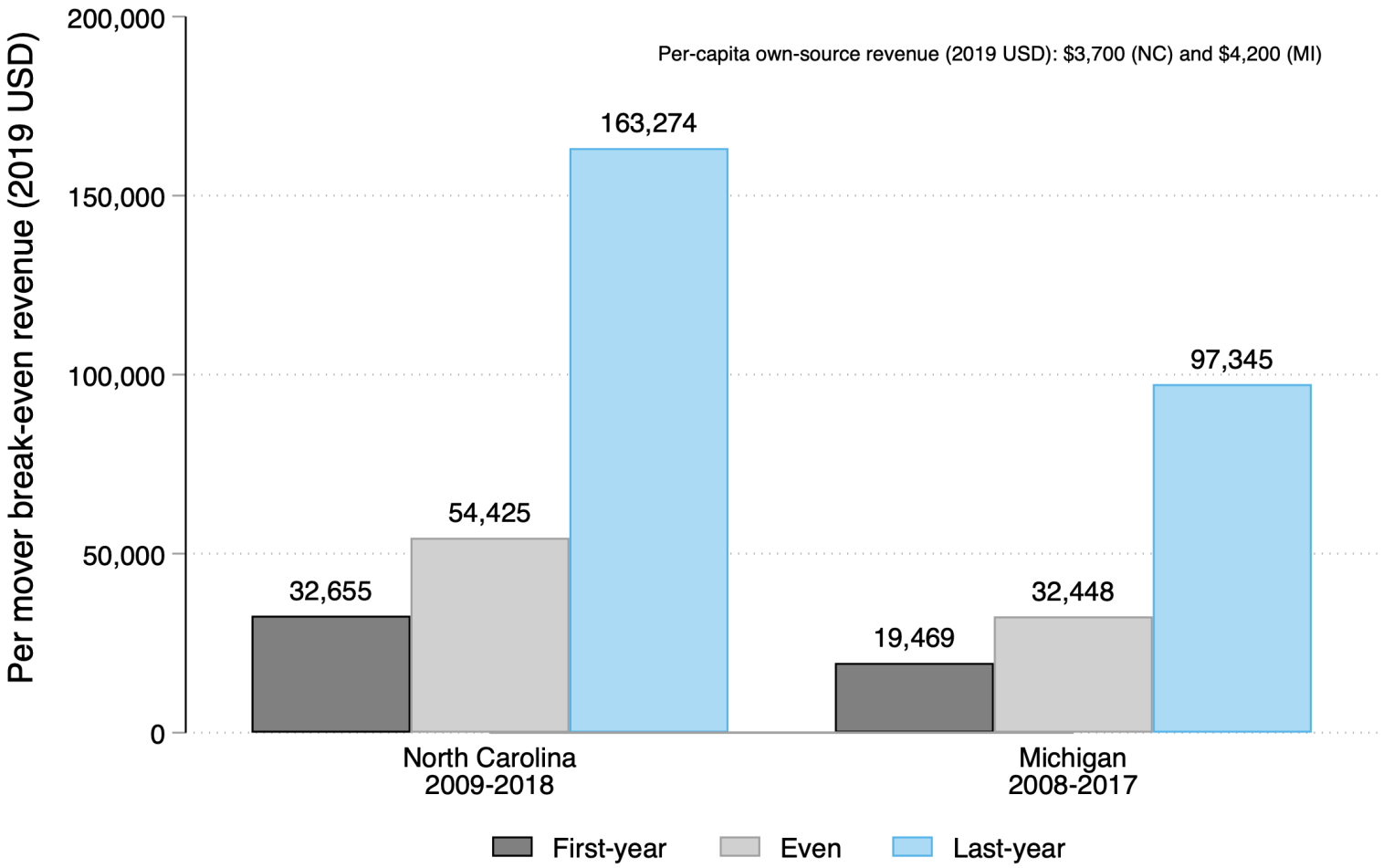


◂ Cost-estimate methodology

Per-capita break-even net revenue: Georgia



Per-capita break-even net revenue: NC and MI



Conclusion

Part 1: Measuring elderly migration using tax data.

Part 2: Use the universe of state-level tax changes to estimate the migration response of elderly individuals.

NOTE: We recently found an error in the constructions of AGI brackets in the flows dataset. We have corrected this error within the IRS, but our Poisson results should be interpreted with caution.

- Middle-to-high income elderly (65+) filers are marginally more responsive than the young or near-elderly.
- Elderly filers don't respond to elderly-specific tax changes.

Part 3: Estimate the elderly response to large and discrete elderly-specific tax changes.

- Some evidence of migration response of elderly filers in DID.
- Per mover state-revenue would have to be extremely large in order for migration response to offset static revenue effect.

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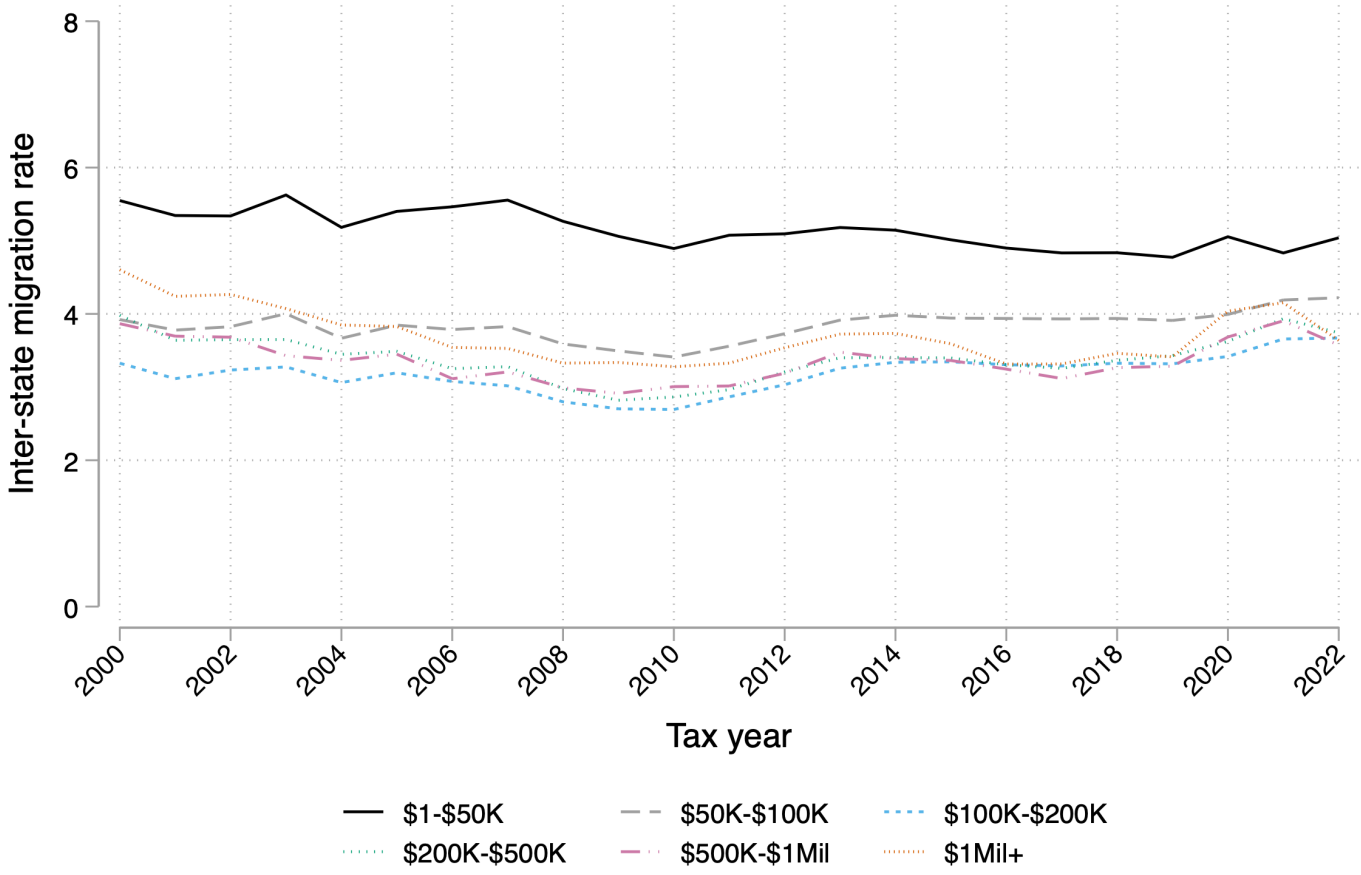
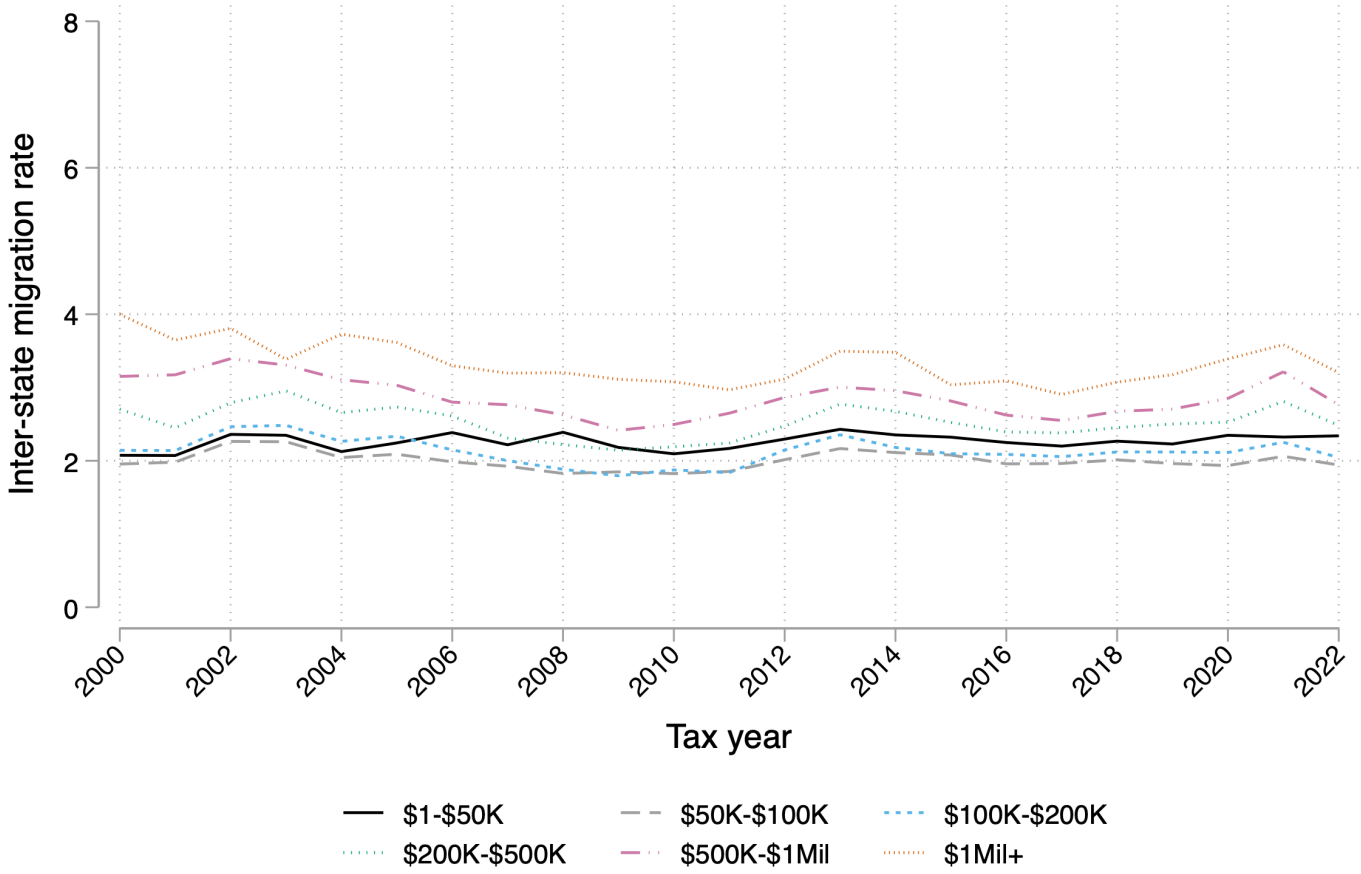
Migration declines with AGI for the young (25-54)



Source: IRS Data Bank, stratified random sample

Return

Migration does not decline with AGI for the elderly (65+)

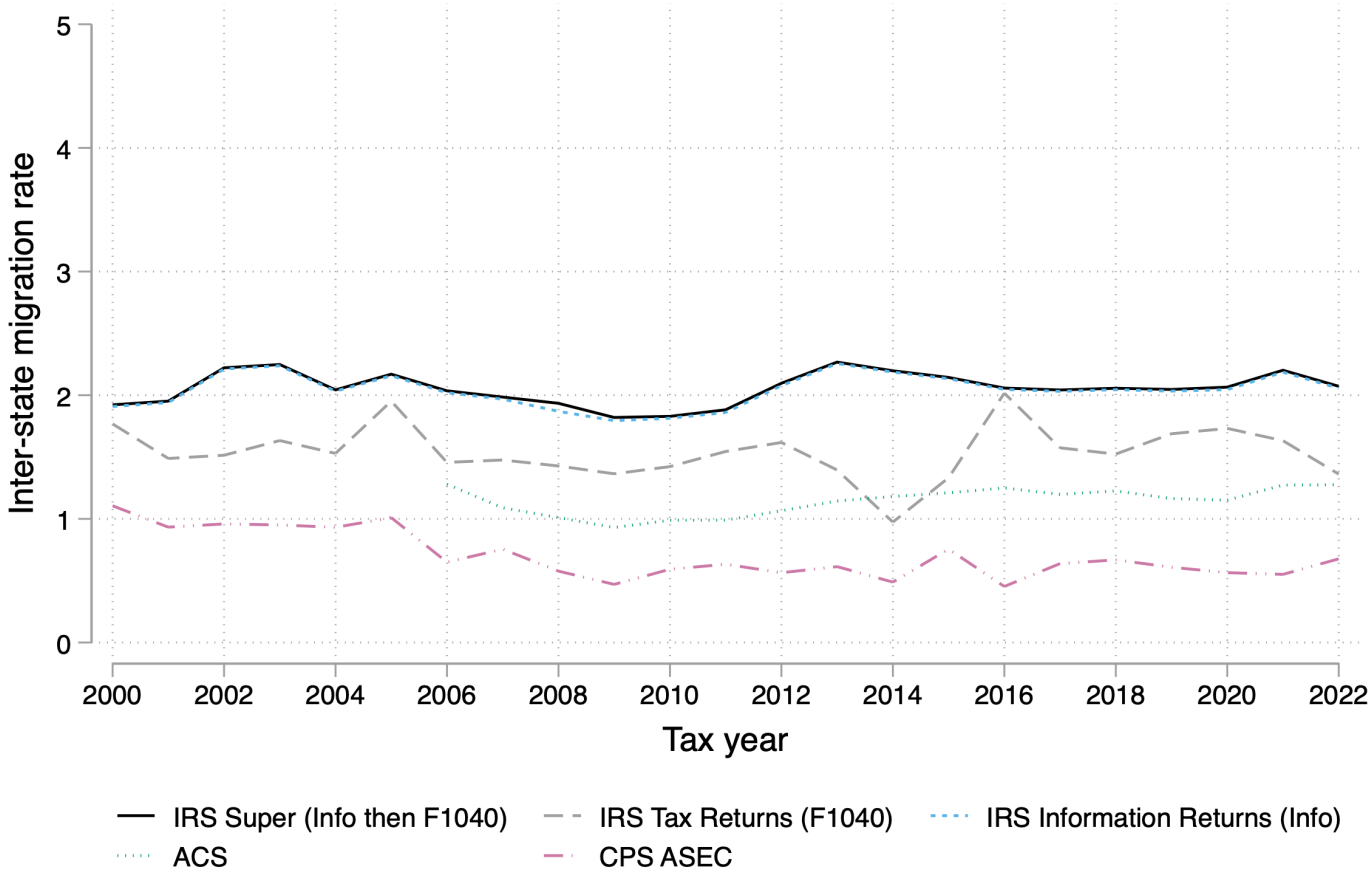


Source: IRS Data Bank, stratified random sample

Note: Untaxed portions of retirement income added back to AGI.

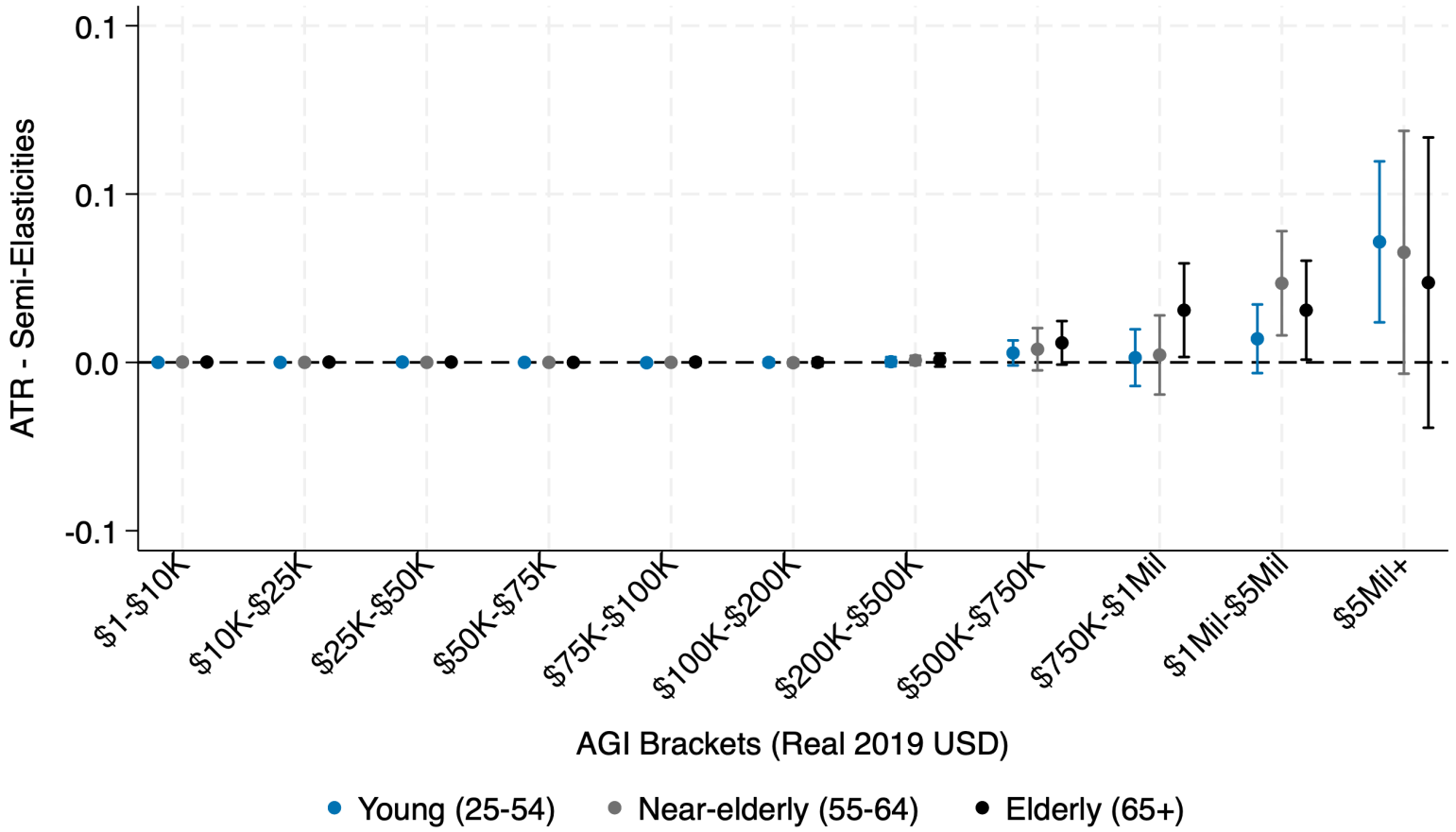
Return

Elderly migration more common in IRS data than in other data sources



Return

Effect of ATR (elderly tax benefit) on inter-state migration, 2-year-lead



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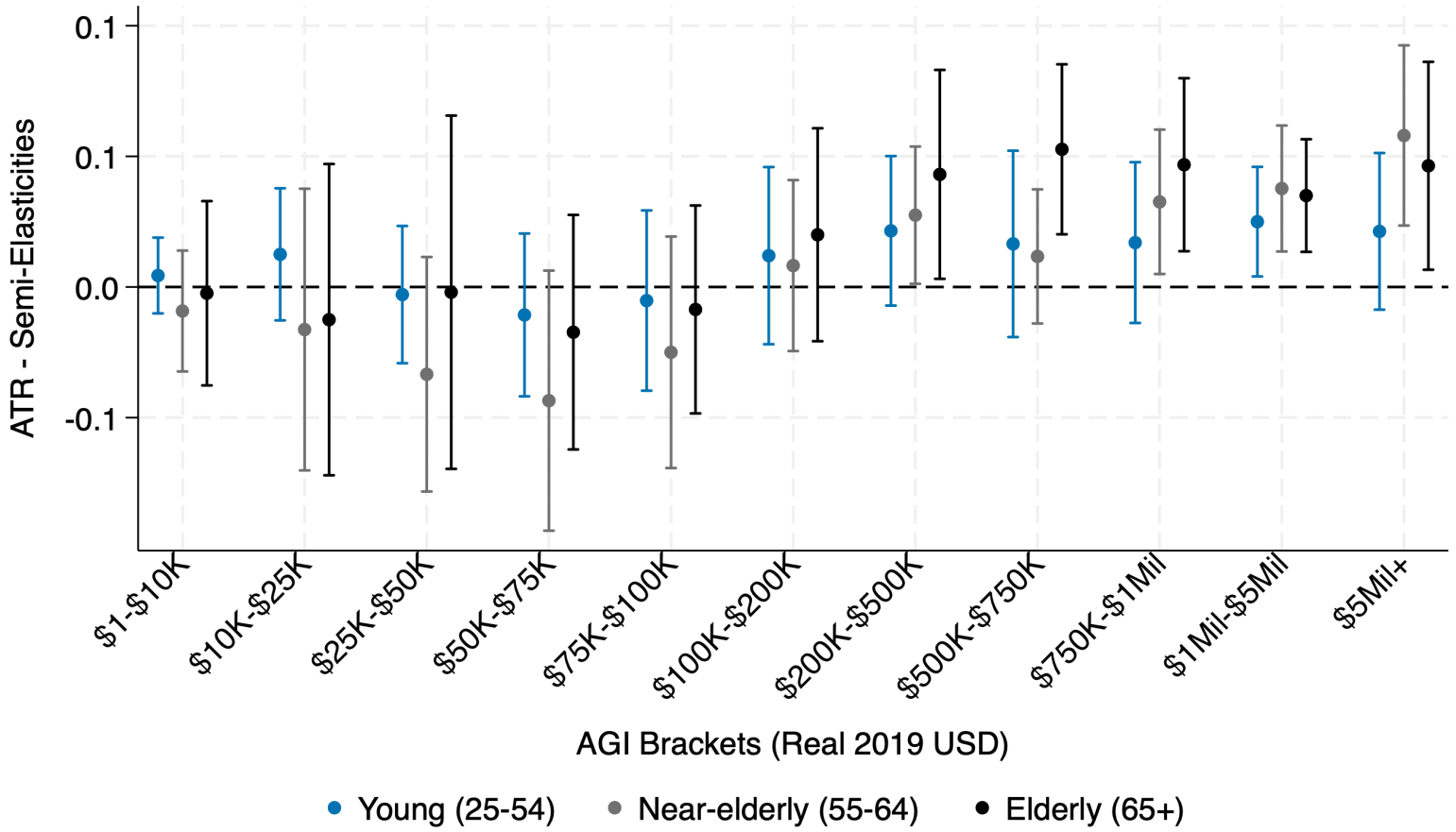
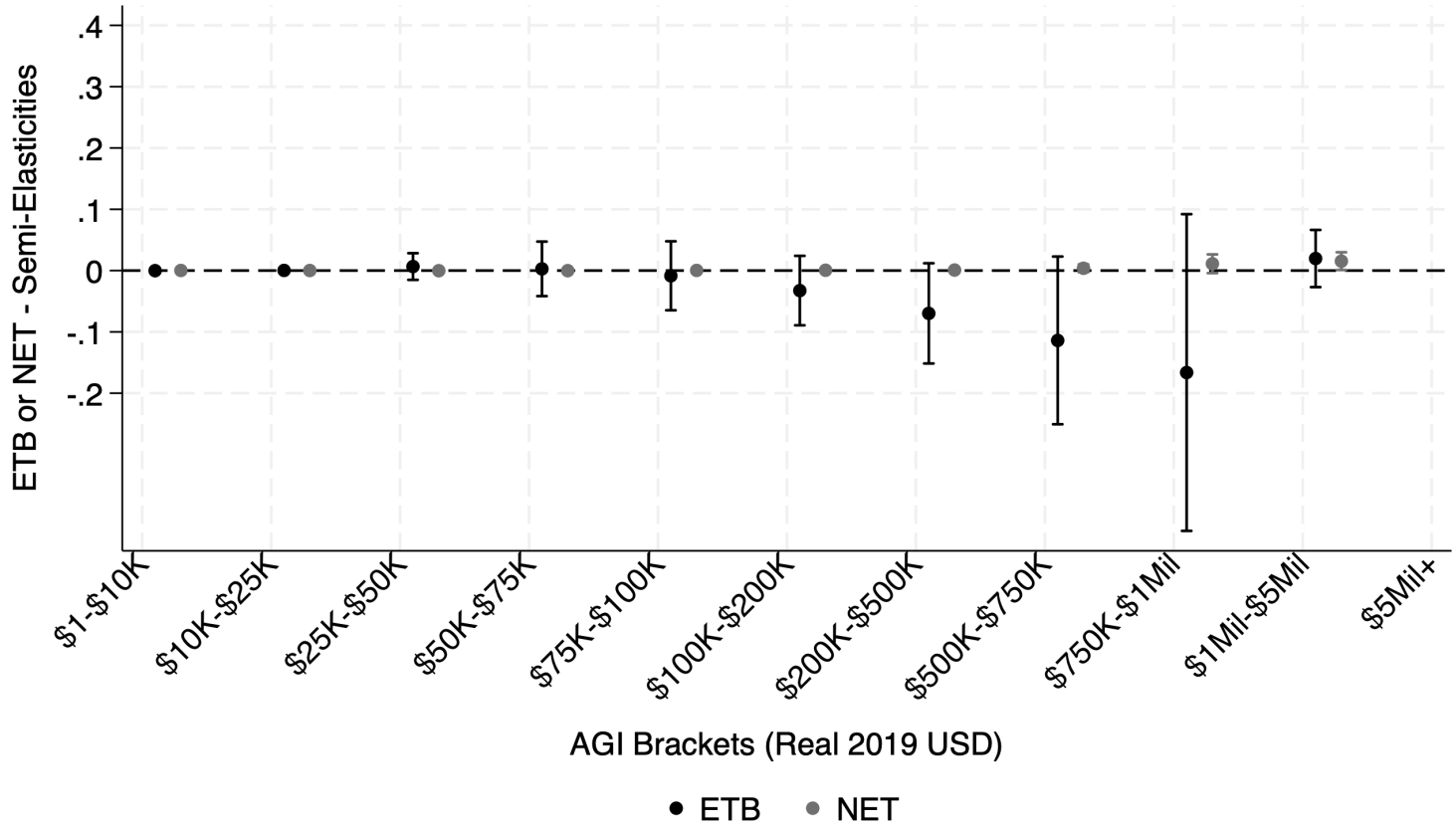
Effect of ATR (elderly tax benefit) on inter-state migration, no controls



Return

Effect of ETB vs. NET on inter-state migration, 2-Year Lead



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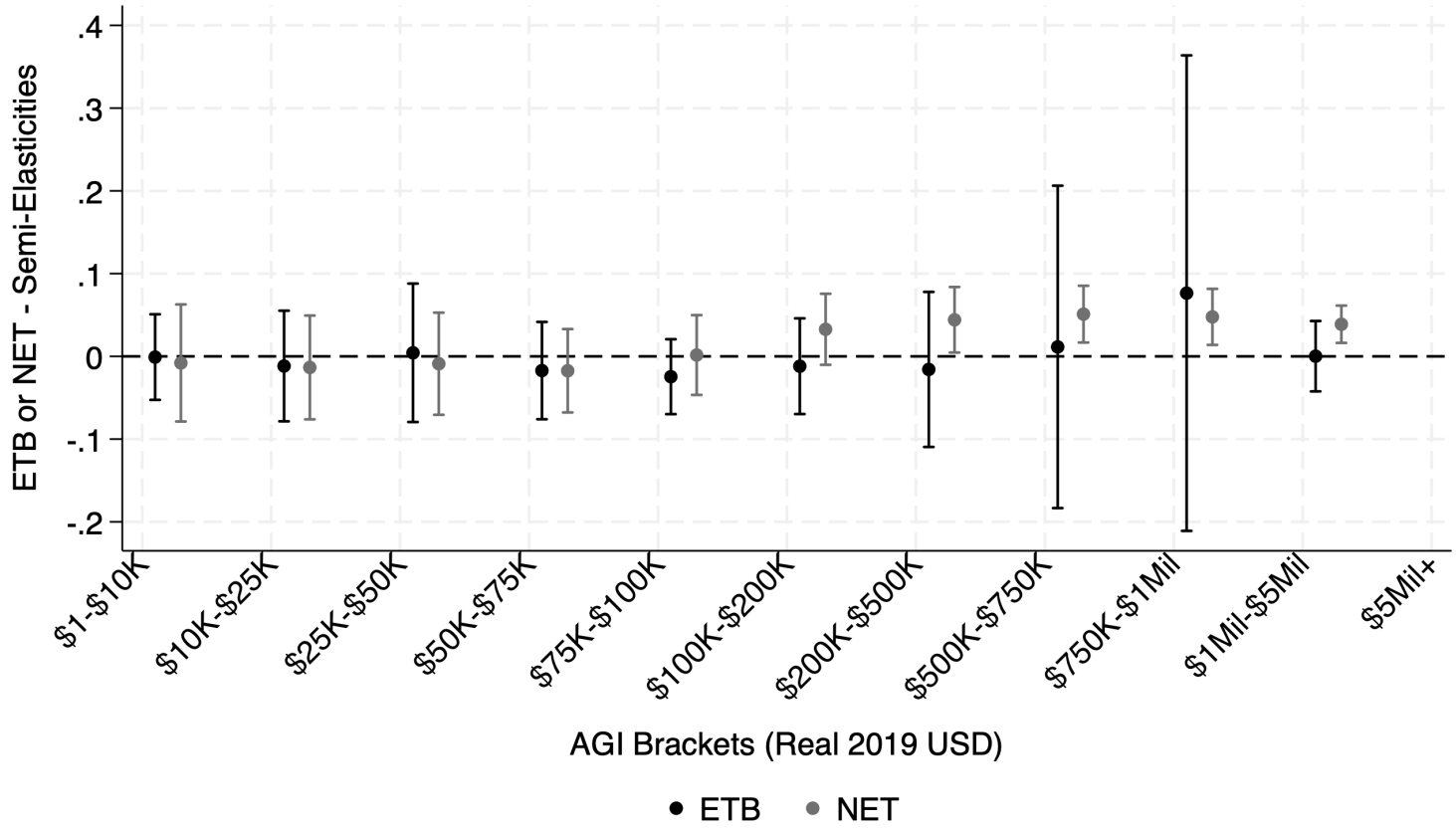
Effect of ETB vs. NET on inter-state migration, No Controls



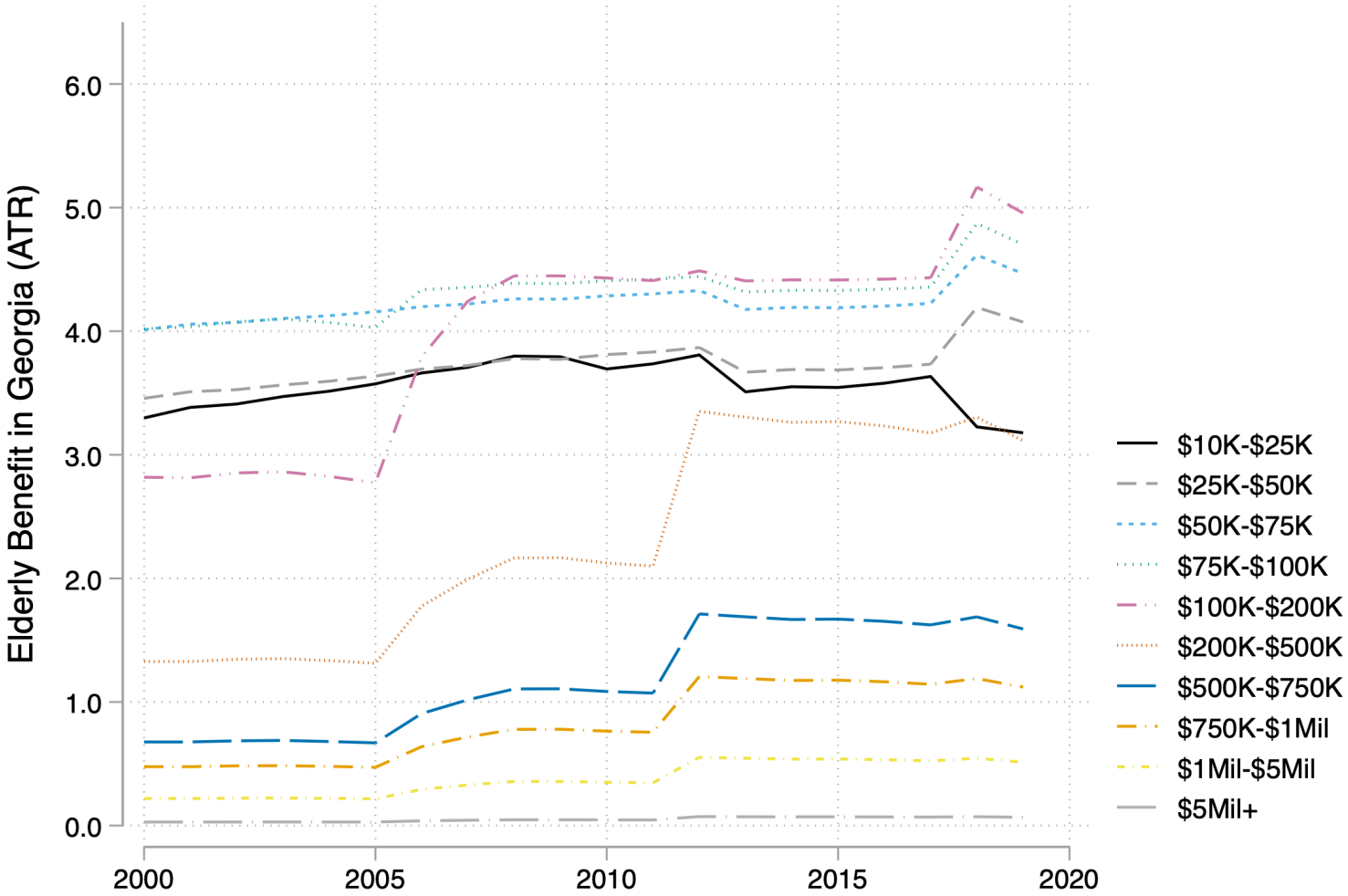
Return

States under consideration

State	Year of Policy Reform	Policy Description	Exposed Income Groups
		Increase in generosity	
Georgia	2006	Increase pension exemption from 30K to 50K	All, especially higher AGI groups
	2012	Increase pension exemption from 70K to 130K	All, especially higher AGI groups
Iowa	2007 (2014)	Phase-out (elimination) of taxation of SSB	All, especially higher AGI groups
Kansas	2007 (2008)	Exempts SSB if federal AGI is less than $50,000 ($75,000)	AGI of $50,000 or under
		Placebo	
South Carolina	None	None	None
		Decrease in generosity	
North Carolina	2014	Eliminates $4,000 pension exemption + eldelry-specific standard deduction	All, especially lower AGI groups
Michigan	2012	Only those born prior to 1946 receive: -Pension exemption of $94,618 -$10,545 investment income exclusion (counts against pension exemption) Only those born prior to 1952 receive: - SSB exemption Eliminated $2,400 elderly exemption	All

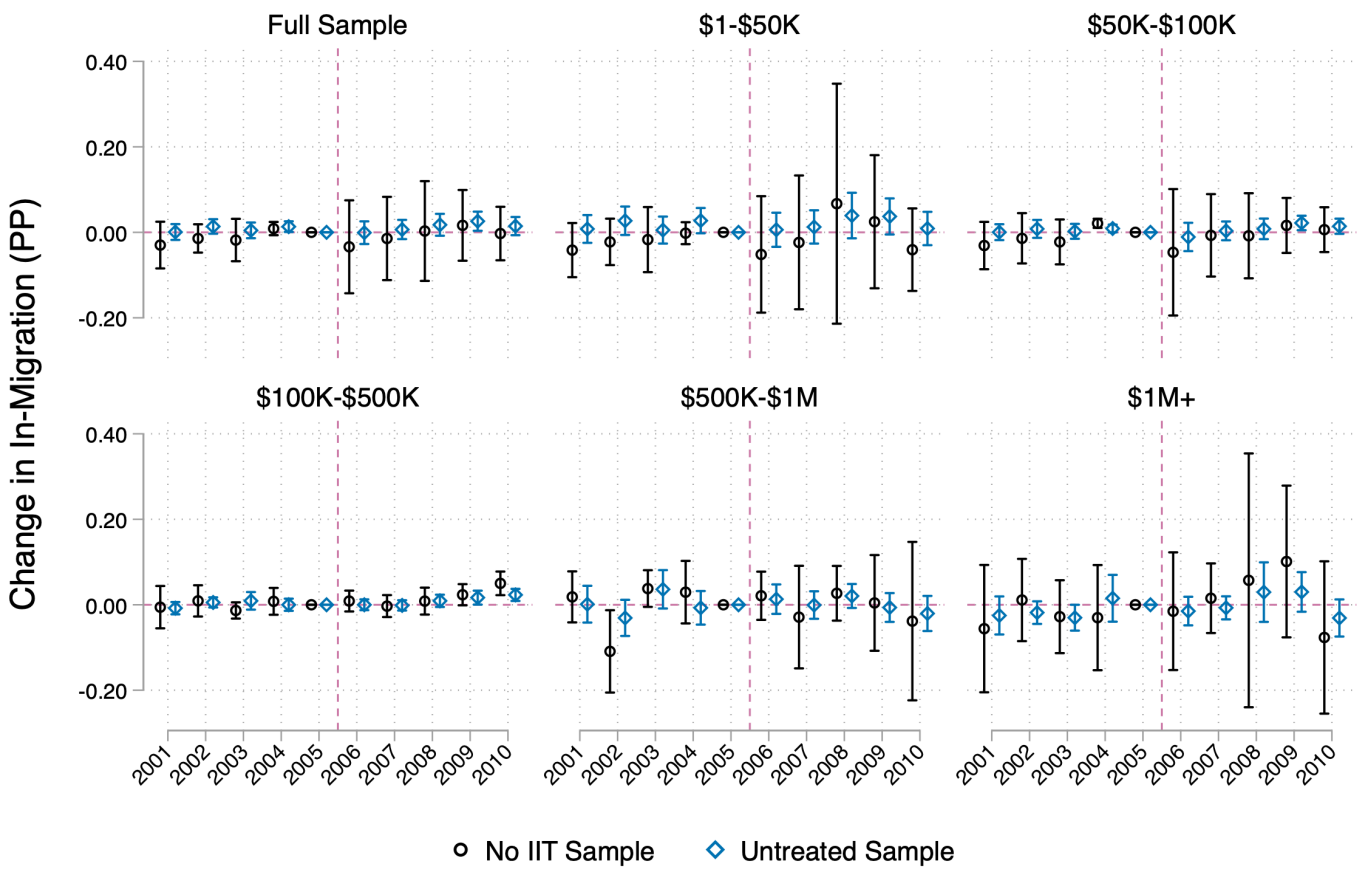
Return

Georgia increased elderly tax benefits twice (2006, 2012)



Return

Event-study results, in-migration, Georgia, 2001-2010



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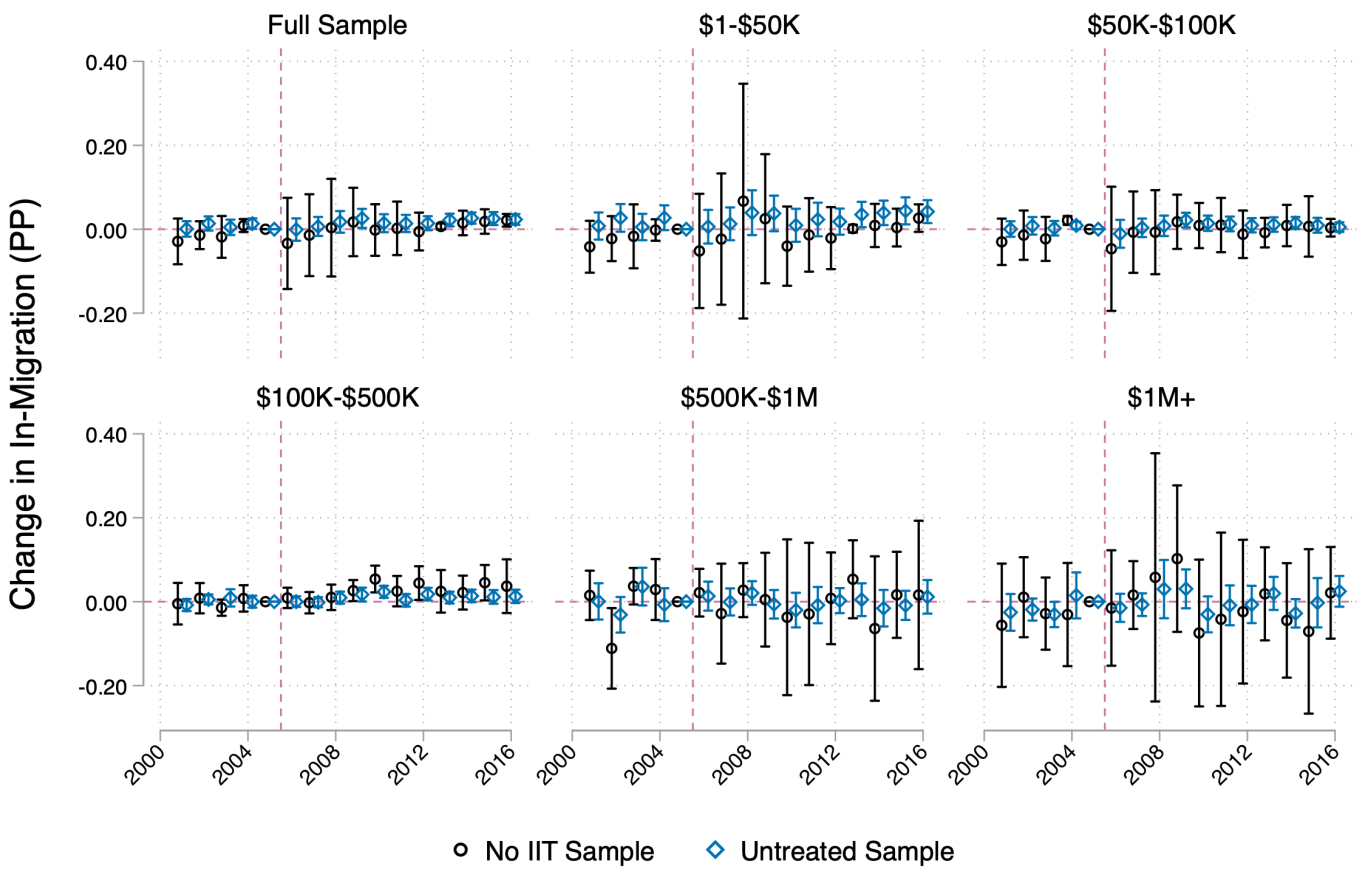
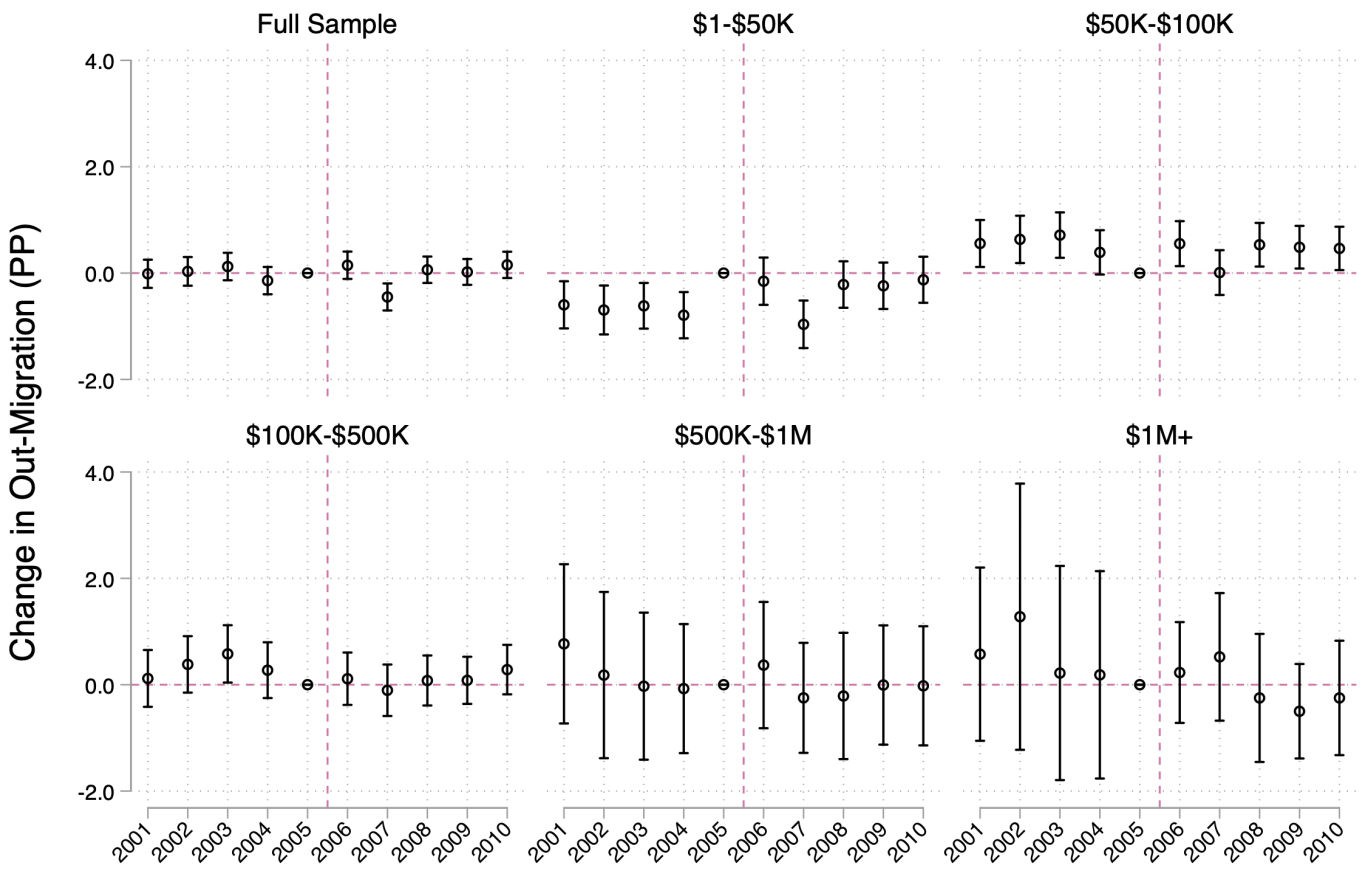
Event-study results, in-migration, Georgia, 2001-2016



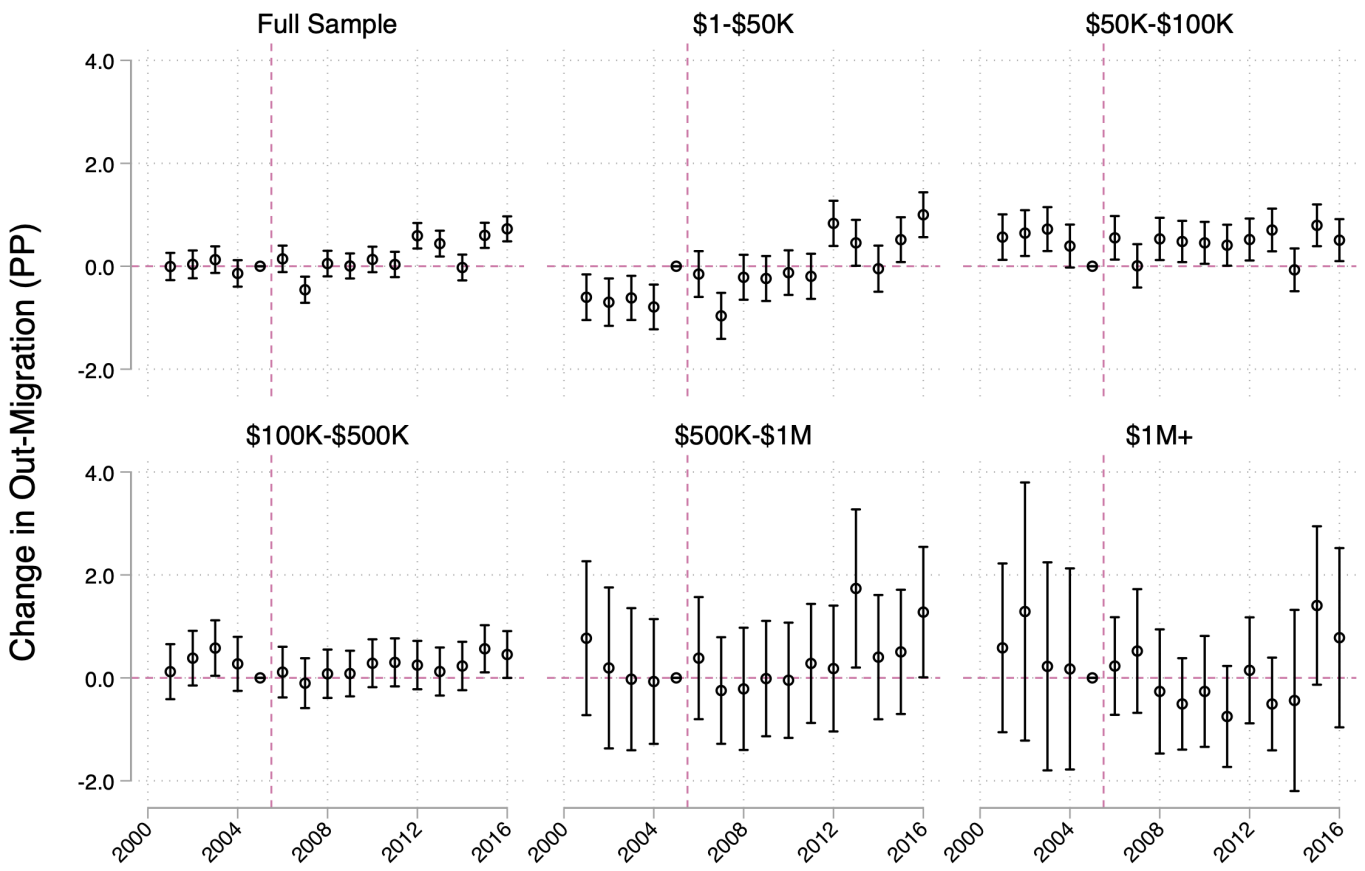
Return

Event-study results, out-migration, Georgia, 2001-2010



Return

Event-study results, out-migration, Georgia, 2001-2016



◂ Return

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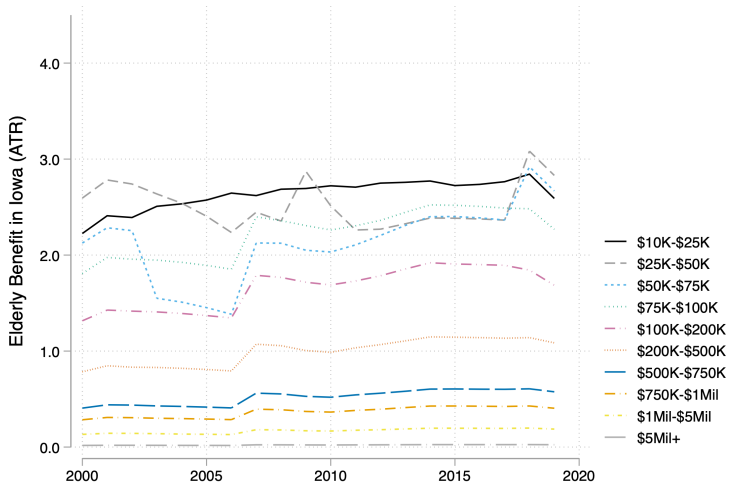
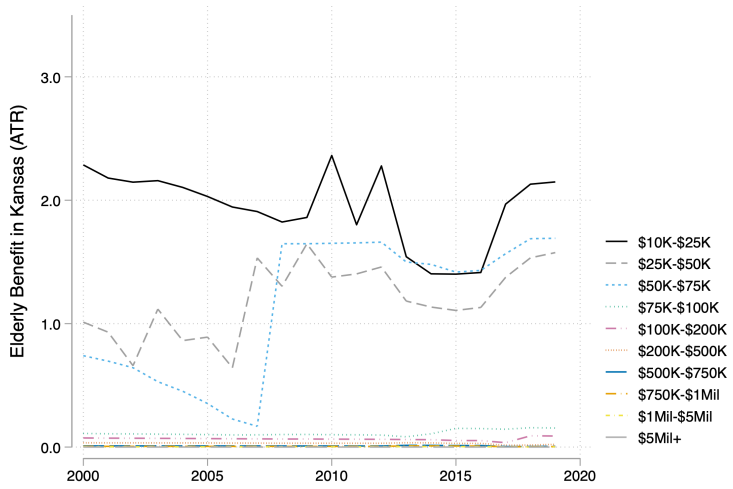


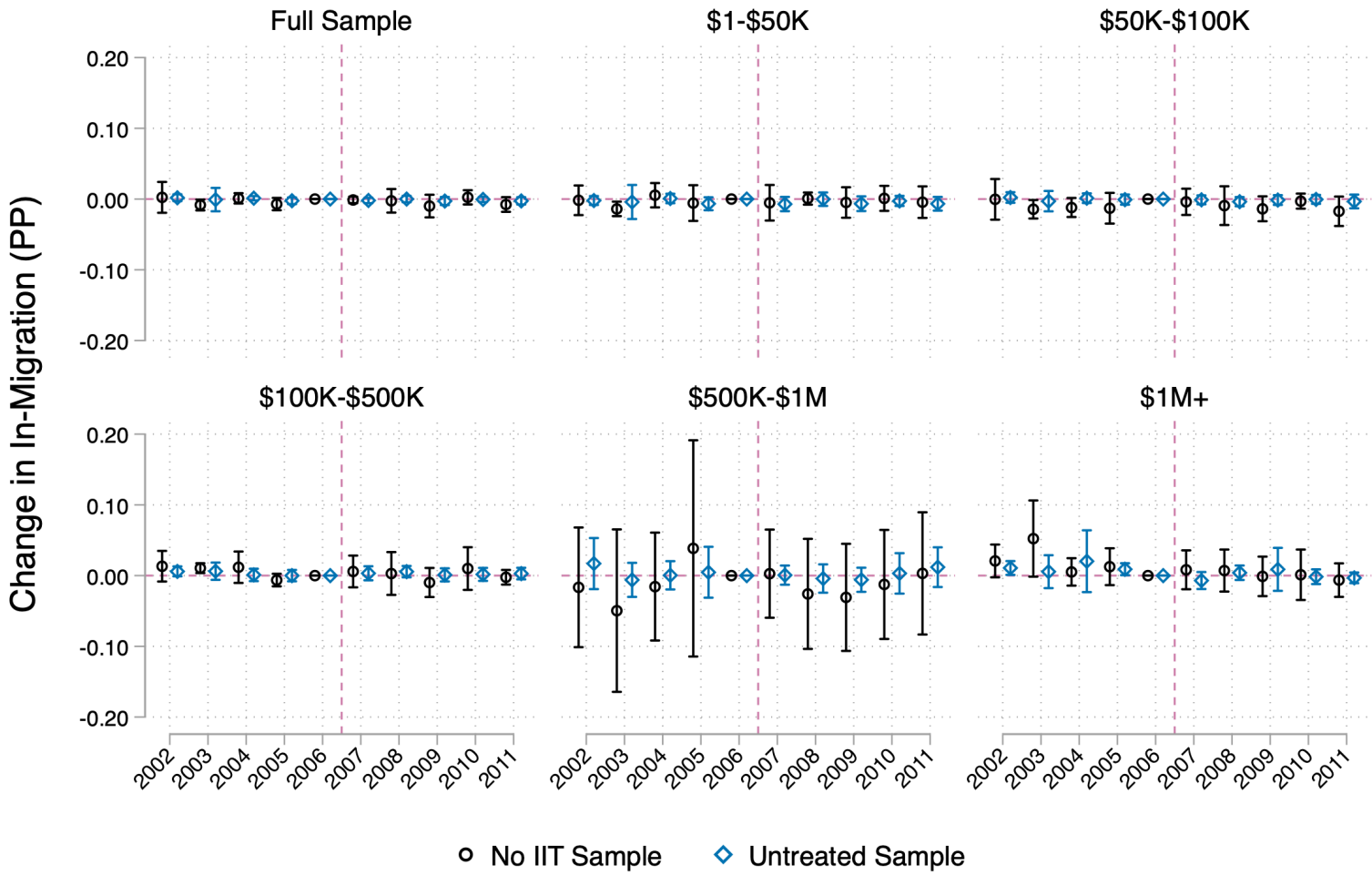
(a) Iowa



(b) Kansas

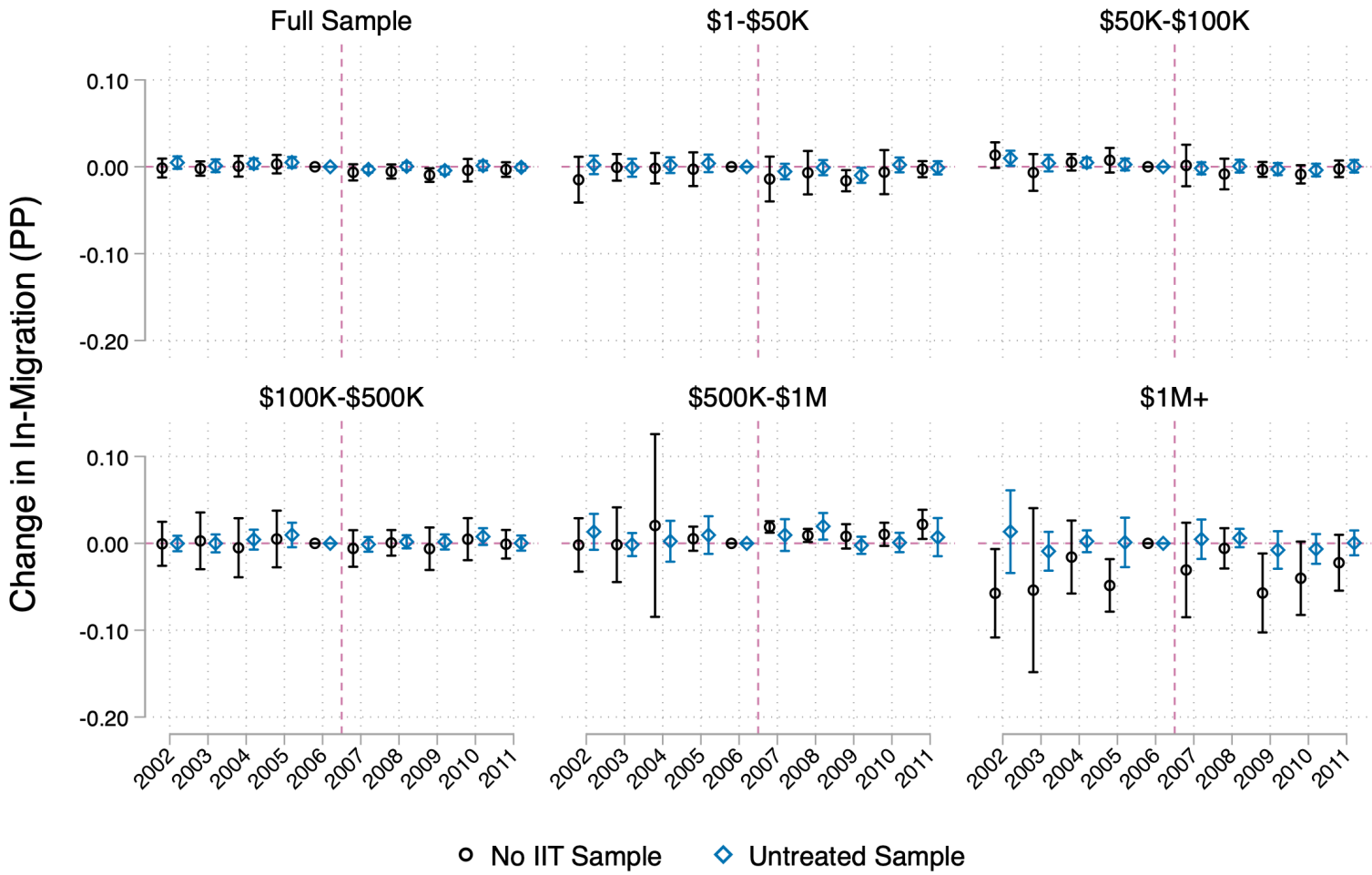
◀ Return

Event-study results, in-migration, Iowa



Return

Event-study results, in-migration, Kansas



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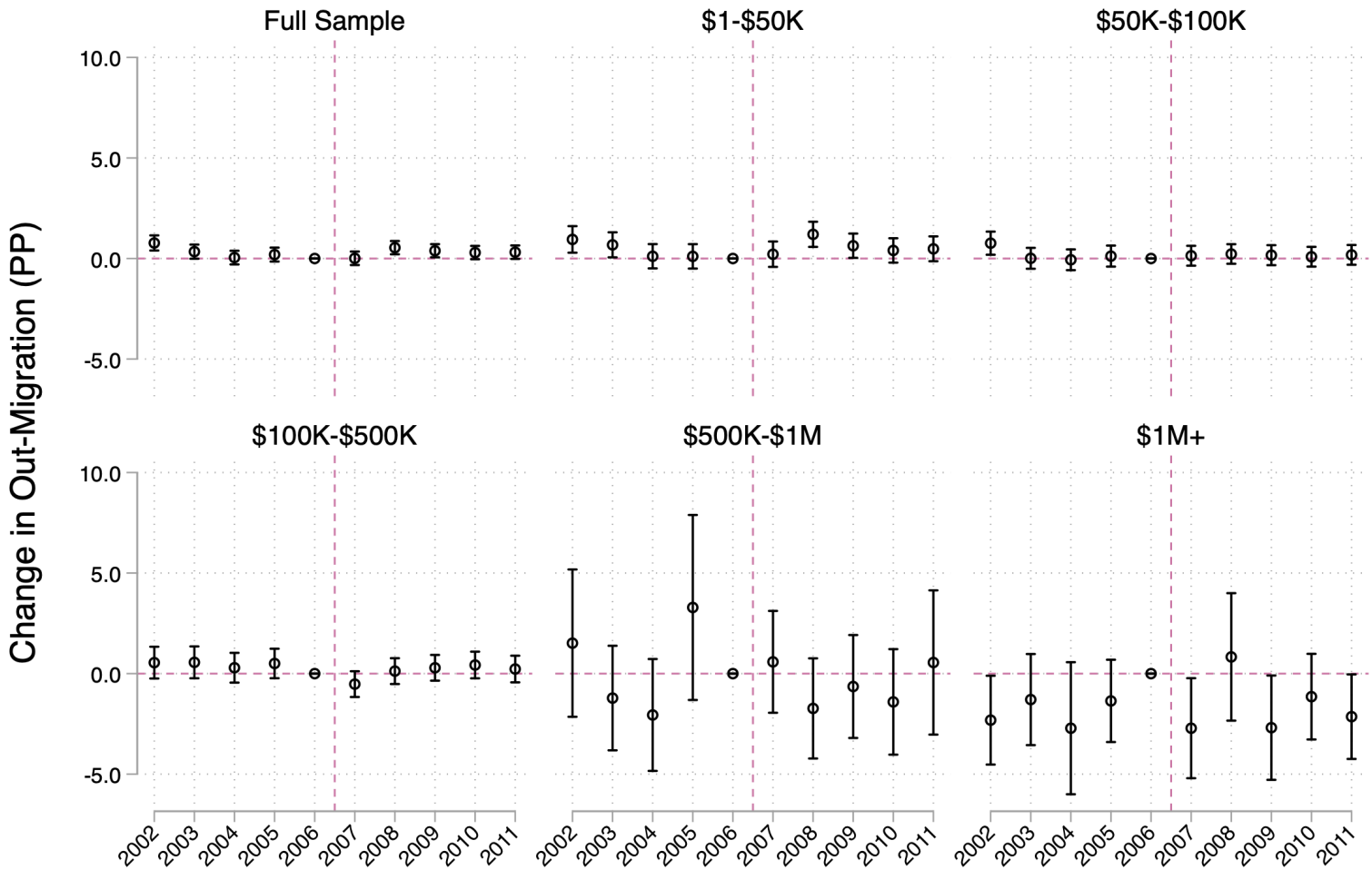

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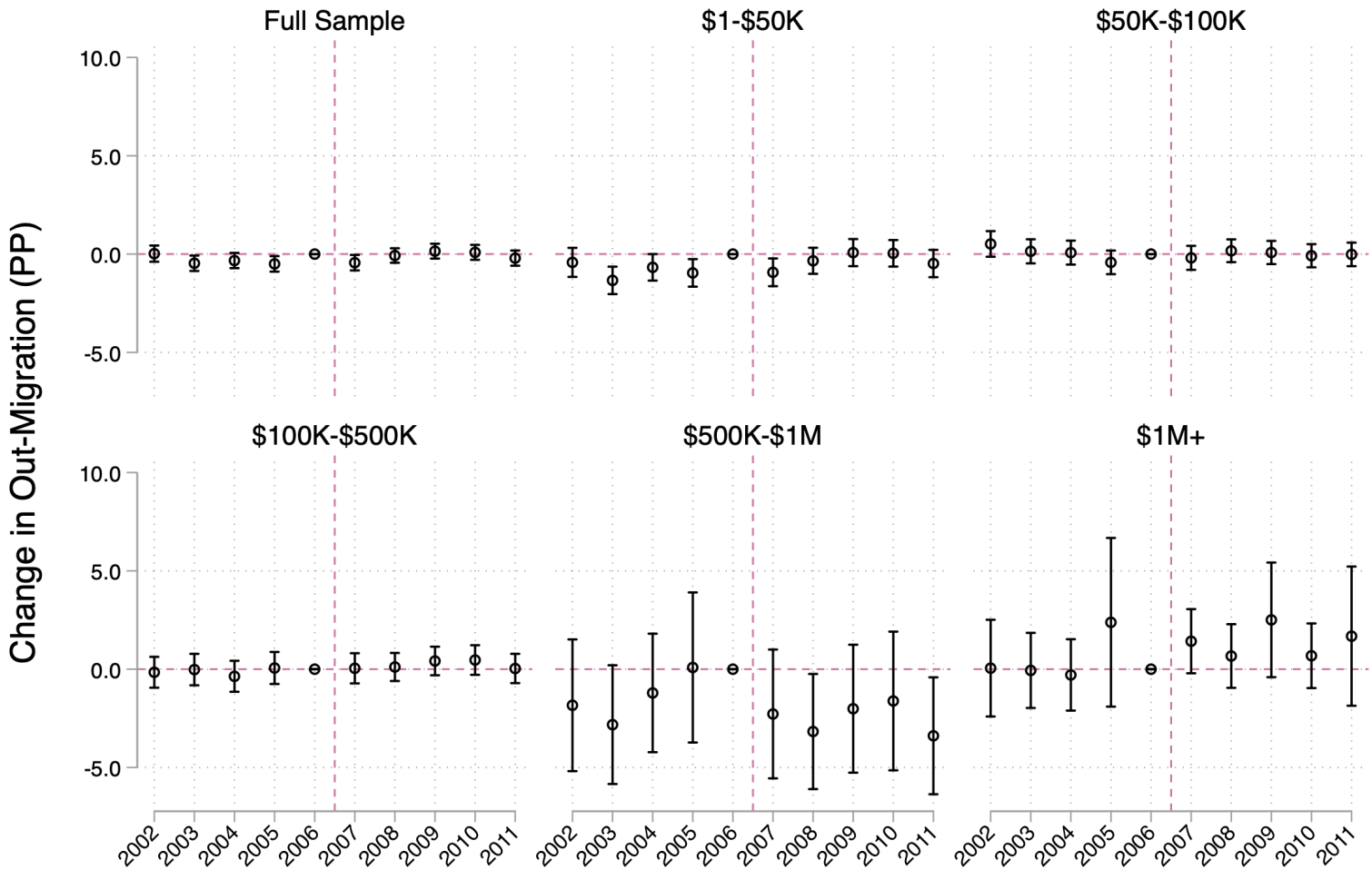
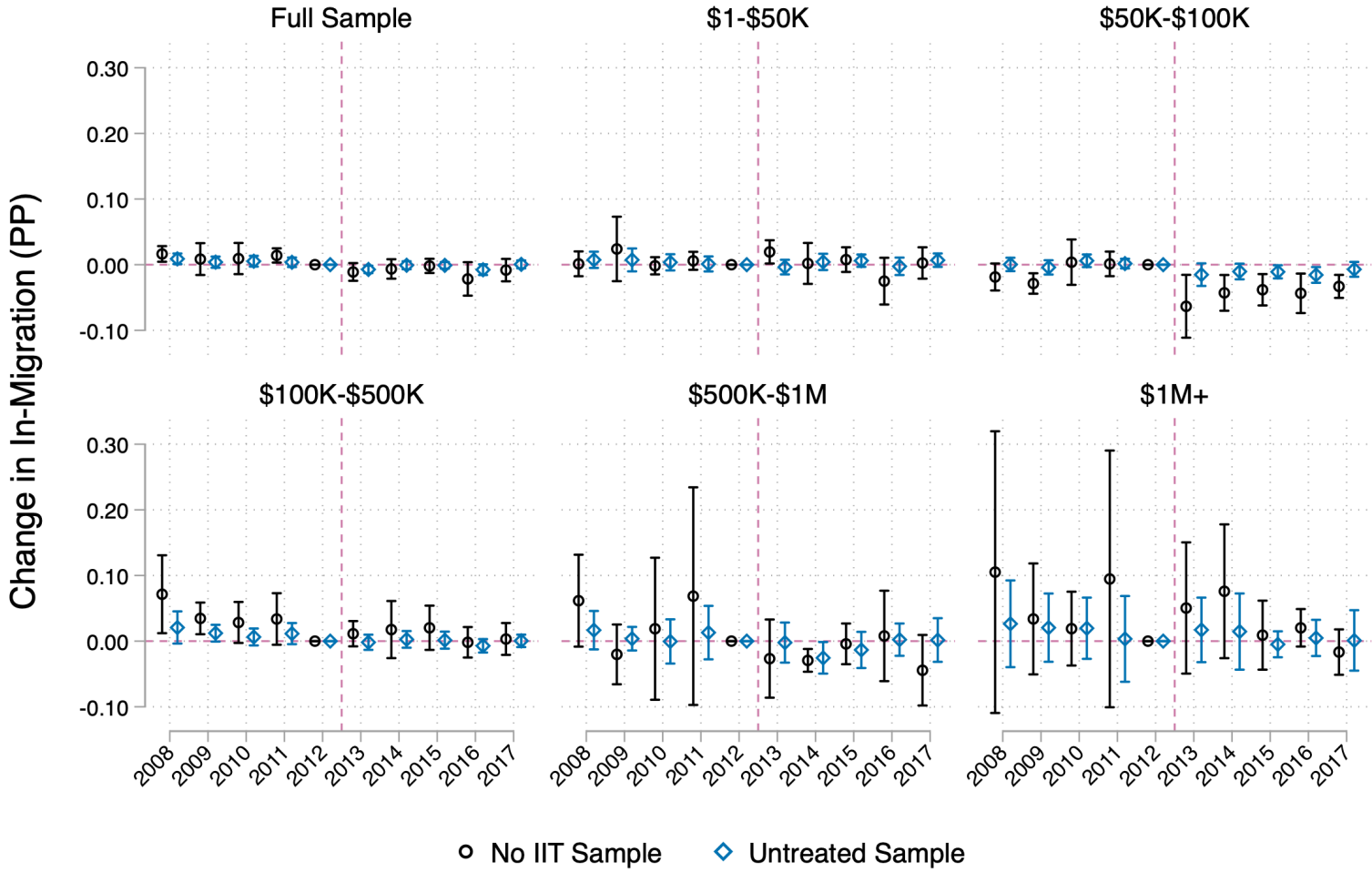


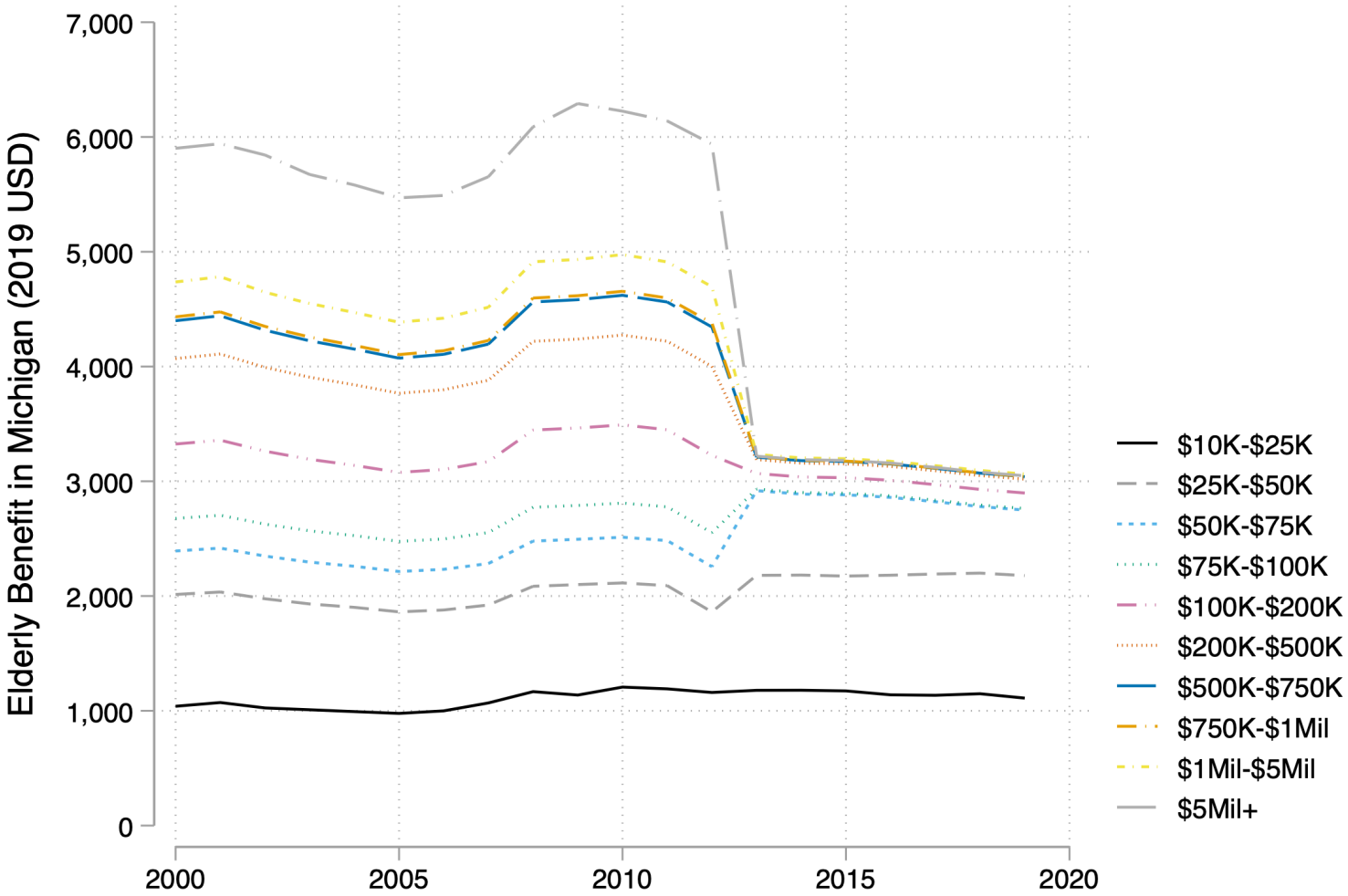
Return

ES results, Michigan, in-migration



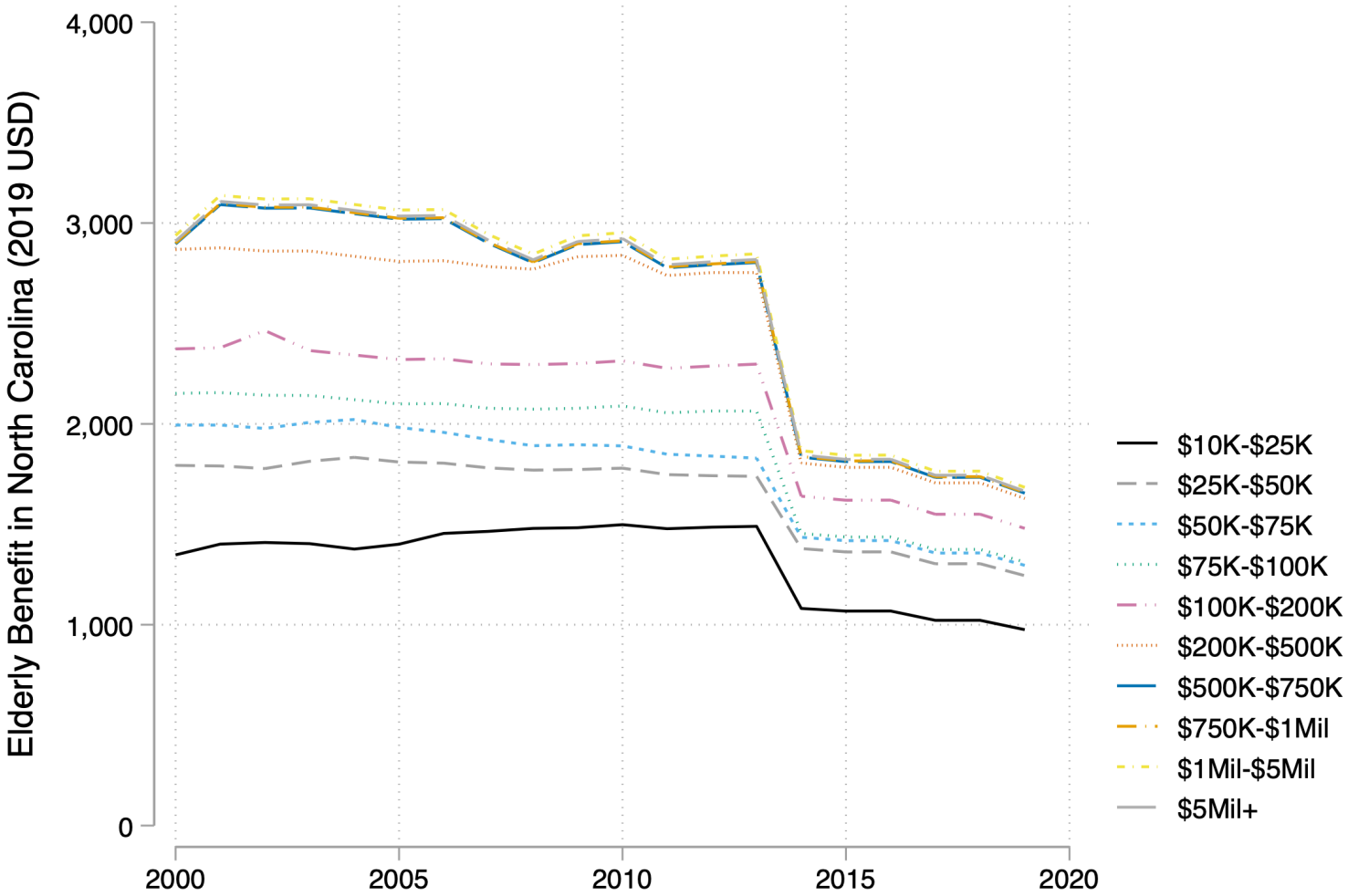
Return

Elderly benefit in Michigan



Return

Elderly benefit in North Carolina



Return

Constructing income profiles

1. Pull a stratified random sample of tax returns from 2005-2007.
2. Randomly select 20,000 returns per cell (defined based on marital status, AGI, and age)
3. Pull in all tax information required to estimate federal and state tax liability.
4. Construct a representative individual per cell by averaging over the 20K.
5. Run these repr. filers through the TAXSIM calculator for each possible state and year (adjusting for inflation).
6. Adjust these profiles to be equivalent "non-elderly" by switching sources of income (like SSB, pension) to non-property income & turning off age indicator.
7. Repeat 4-5 for these non-elderly profiles.

Return

Constructing cost estimates

1. Pull a stratified random sample of tax returns from 2006.
2. Divide into four-groups: Young (25-64) vs old (65+) X unchanged vs. de-aged (same process as income profiles).
3. For each state:
   1. Keep only data from the treated state.
   2. Age data to be representative of the post-treatment period.
   3. Run each of our four groups through NBER's TAXSIM for two different years (pre- vs. post-treatment).

$$EB_{DID} = \overbrace{(R_{e,po,act} - R_{e,po,de})}^{\text{Elderly Benefit After}} - \overbrace{(R_{e,pre,act} - R_{e,pre,de})}^{\text{Elderly Benefit Before}} \tag{3}$$

$$EB_{3D} = \overbrace{(R_{e,po,act} - R_{e,po,de})}^{\text{Elderly Benefit After}} - \overbrace{(R_{e,pre,act} - R_{e,pre,de})}^{\text{Elderly Benefit Before}} - \overbrace{(R_{y,po,act} - R_{y,po,de})}^{\text{Non-Elderly Benefit After}} + \overbrace{(R_{y,pre,act} - R_{y,pre,de})}^{\text{Non-Elderly Benefit Before}} \tag{4}$$

Return