

# Taxation and Migration by the Super-rich

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# Motivation

- Options for raising tax are important because of revenue needs and high public debt in many countries
- Particular interest in raising taxes on capital/wealth:
  - Wealth has been growing faster than income for 40 years (Piketty & Zucman, 2014)
  - Concerns about wealth inequality (Saez & Zucman, 2019)
- Key barrier to reform of capital taxation is uncertainty about the migration responses of the very wealthy:

“there is virtually **no evidence on [international] migration responses to capital or wealth taxes.**” (Jakobsen, Jakobsen, Kleven & Zucman, 2020)

## This paper: research question

How responsive are the 'super-rich' to capital taxation?

### Context

- Reforms to taxation of UK-resident non-domiciled individuals ('non-doms') who use the 'remittance basis'
- Remittance Basis Users (RBUs) are **internationally connected** and have **high wealth**
- Tax reform decreases the effective net-of-average-tax rate on returns from wealth by 20%

# This paper: results

## Emigration response is modest

- Semi-elasticity: increase in emigration rate in response to a 1% decrease in net-of-tax rate is 0.31pp for long-stayers (baseline emigration rate: 4%)
- Can rule out increases in emigration rate of more than 0.45pp
- Emigration response is largest among those paying little UK tax pre-reform

## Sizeable effects on incomes and tax revenue

- Stayers increase income reported and tax paid in the UK by more than 150%
- Mainly driven by spike in offshore investment income reported in UK
- Emigrants retain significant economic footprint in the UK

# This paper: contributions

1. Evidence on (intranational) migration responses to wealth taxation (Agrawal, Foremny & Martinez-Toledano, 2022; Brülhart, Gruber, Krapf & Schmidheiny, 2022)
2. Tax-induced mobility among the rich (Kleven, Landais, Saez & Schultz, 2014; Kleven, Landais, Muñoz & Stantcheva, 2020; Baselgia & Martínez, 2023; Moretti & Wilson, 2023)
3. Who should be taxed? (Boskin & Sheshinski, 1983; Piggott & Whalley, 1996)

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  - Earnings still important for many with high wealth, limiting importance of preferential regimes
3. Who should be taxed? (Boskin & Sheshinski, 1983; Piggott & Whalley, 1996)
  - Migration issues important in policy design

# Outline

1. Context and data
2. The UK's globally connected super-rich
3. Empirical strategy
4. Migration response
5. Effects on incomes, revenue, and investment
6. Conclusion

# Context and data

## Non-dom regime and remittance basis

- Most countries tax based on residence (main exception: US)
- UK has hybrid system: residents whose permanent home ('domicile') is abroad can elect to be taxed on the 'remittance basis'
  - 25,000-30,000 non-doms claim remittance basis per year
  - No UK tax due on **foreign returns from investment** (dividends, interest, rent, capital gains) as long as you keep those returns abroad
  - Typically you won't pay tax on unremitted investment returns anywhere (exceptions: withholding tax; dual residents; citizenship-based tax)
  - Trade-off: losing tax-free allowances, costing up to £8.5k in tax; long-stayers pay lump-sum charge of £30k-90k; fees for tax advisors

# Data

- Administrative tax data from UK tax authority (HMRC):
  - Universe of personal tax returns ('Self Assessment'), 1997–2020
  - Supplemented by data from withholding tax system for earned income ('Pay-As-You-Earn'), giving us full coverage of universe of UK taxpayers
- Observe:
  - UK income (including breakdown into components and industry), capital gains, and tax paid
  - (Some) personal characteristics: sex, age, residential location, migrant status incl. year of arrival and origin country
- **Challenge:** remittance basis users do not report unremitted foreign investment income and gains

## Measuring foreign income and gains

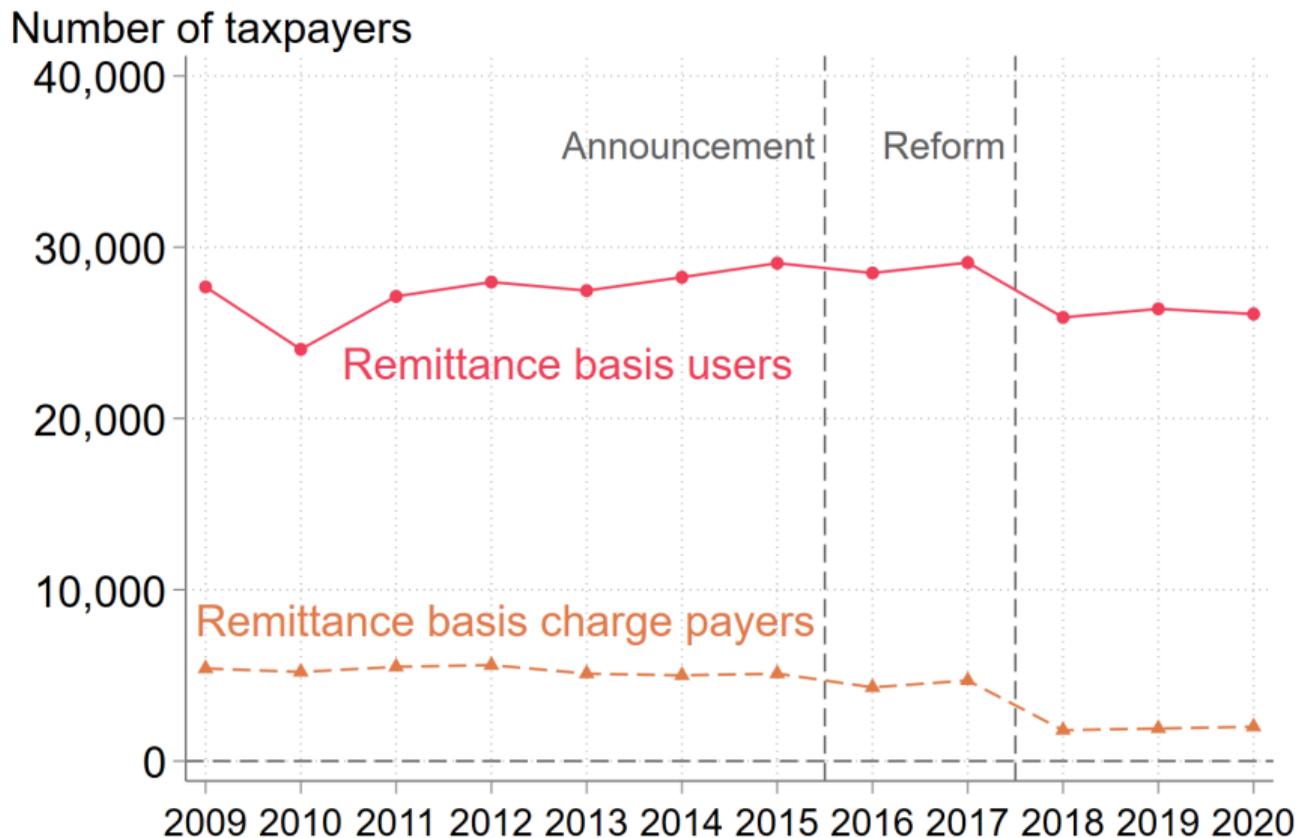
- Remittance basis users do not have to report unremitted income and gains
- Three-step process to estimate these:
  1. Lower-bound estimate is that they must have an amount of income and gains such that it is worth claiming remittance basis for those currently claiming
  2. Improve lower bound by predicting who is likely to claim in future
  3. Improve estimate further by imputing the unreported income + gains, using observed income and gains for similar individuals who do not have access to non-dom regime

## Imputation details

- Use inverse propensity score weighting and regression adjustment
  - Done within bins based on minimum benefit from non-dom status (step 1)
  - 'Doubly-robust' and can also get standard errors (Wooldridge, 2007; 2022)
- Imputation is based on total investment income of people without access to the regime
  - Assumption: conditional on covariates, UK doms and non-doms have similar worldwide investment income and gains
- Covariates: age, sex, local house price (proxy for wealth), industry, UK earned income
  - Construct bins for each of these, so not too reliant on linearity

# The UK's globally connected super-rich

## Number of RBUs has been relatively steady



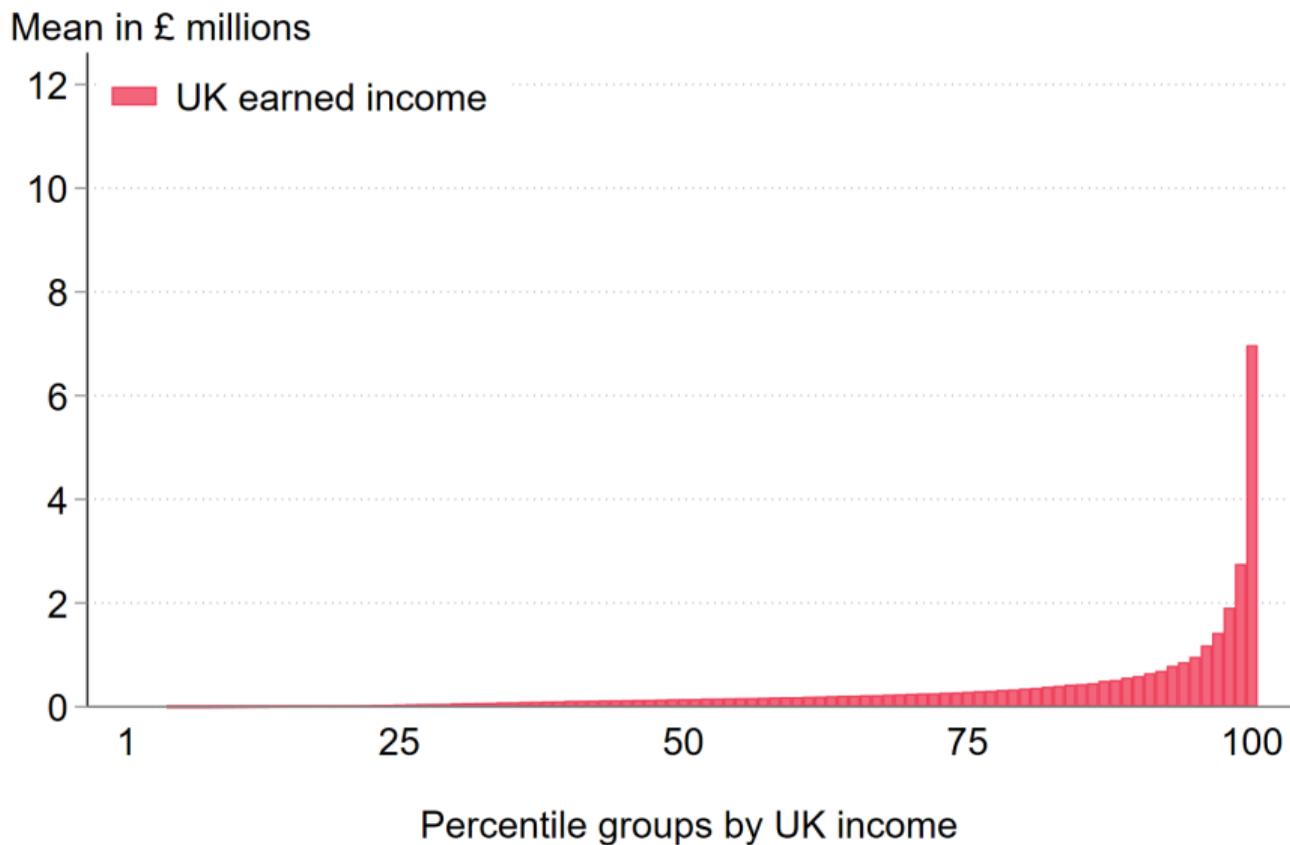
## Five facts about remittance basis users (RBUs)

1. RBUs have very high incomes and wealth: 86% are in the UK top 1% and 29% in top 0.1% by income once overseas investment income is taken into account
2. RBUs do vast majority of their investments abroad
3. RBUs do have a lot of earnings from work (despite high wealth) → mostly working in 'City-type' jobs (finance, law, consulting, accounting)
4. RBUs come from a huge range of countries, but US, Western Europe, and India dominate
5. Baseline international mobility among RBUs is high

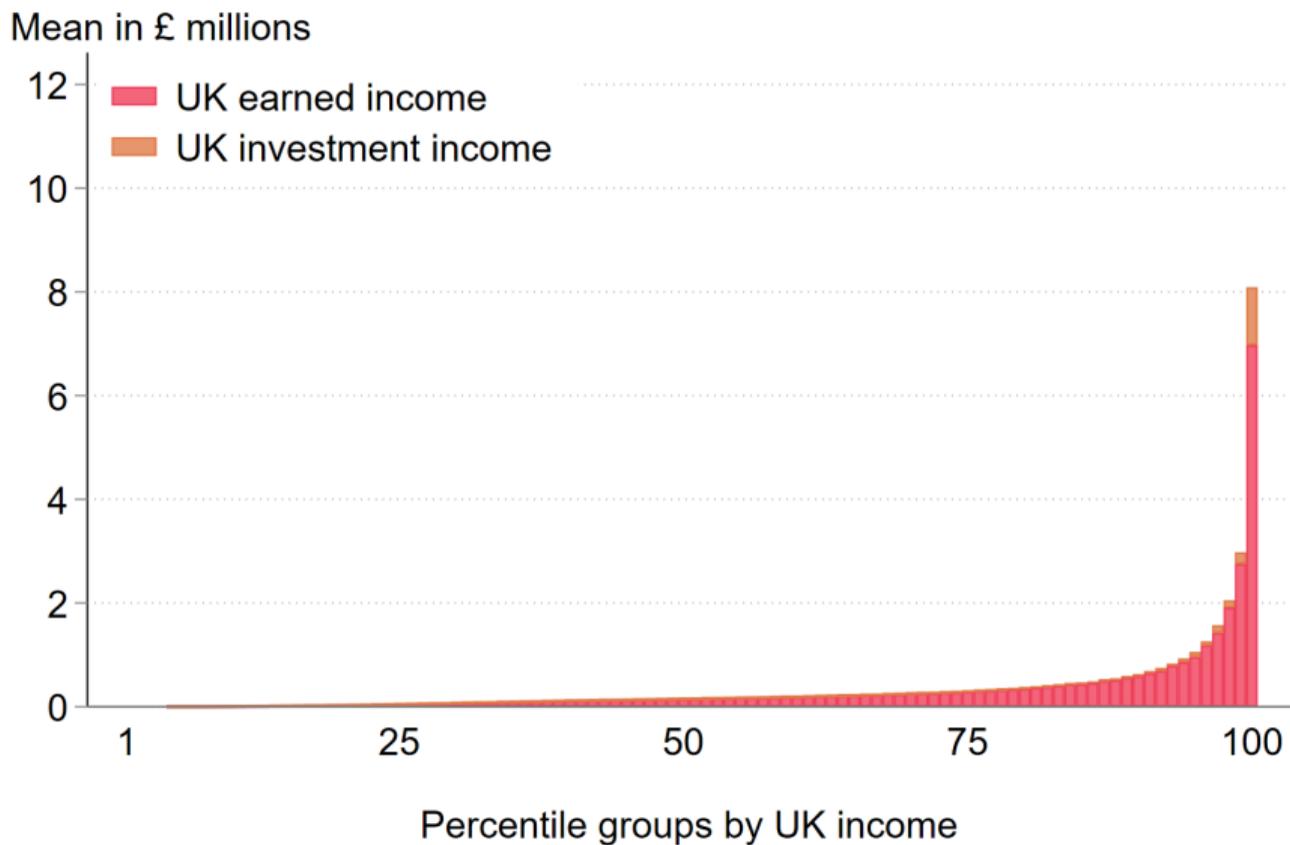
▶ Industry

▶ Location

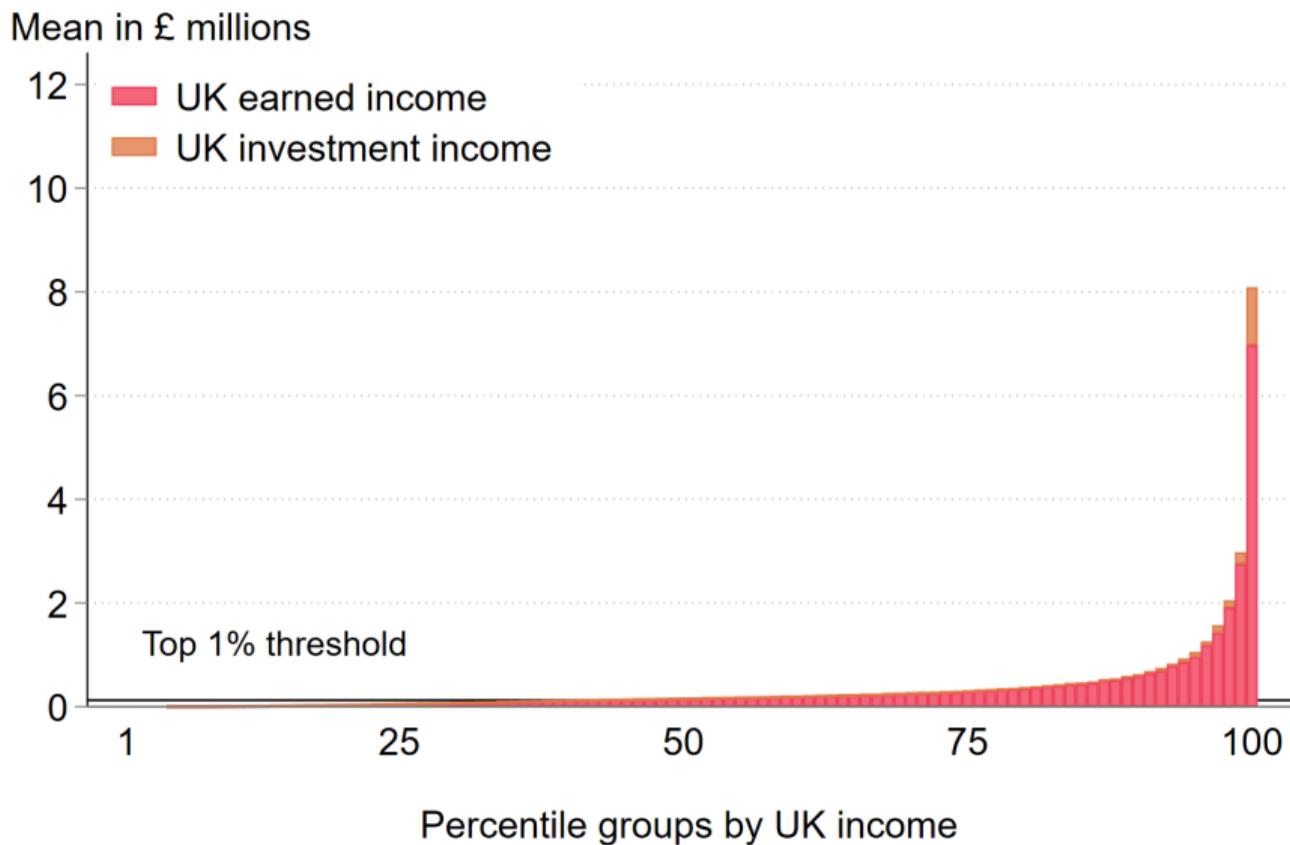
## RBUs have high UK earnings...



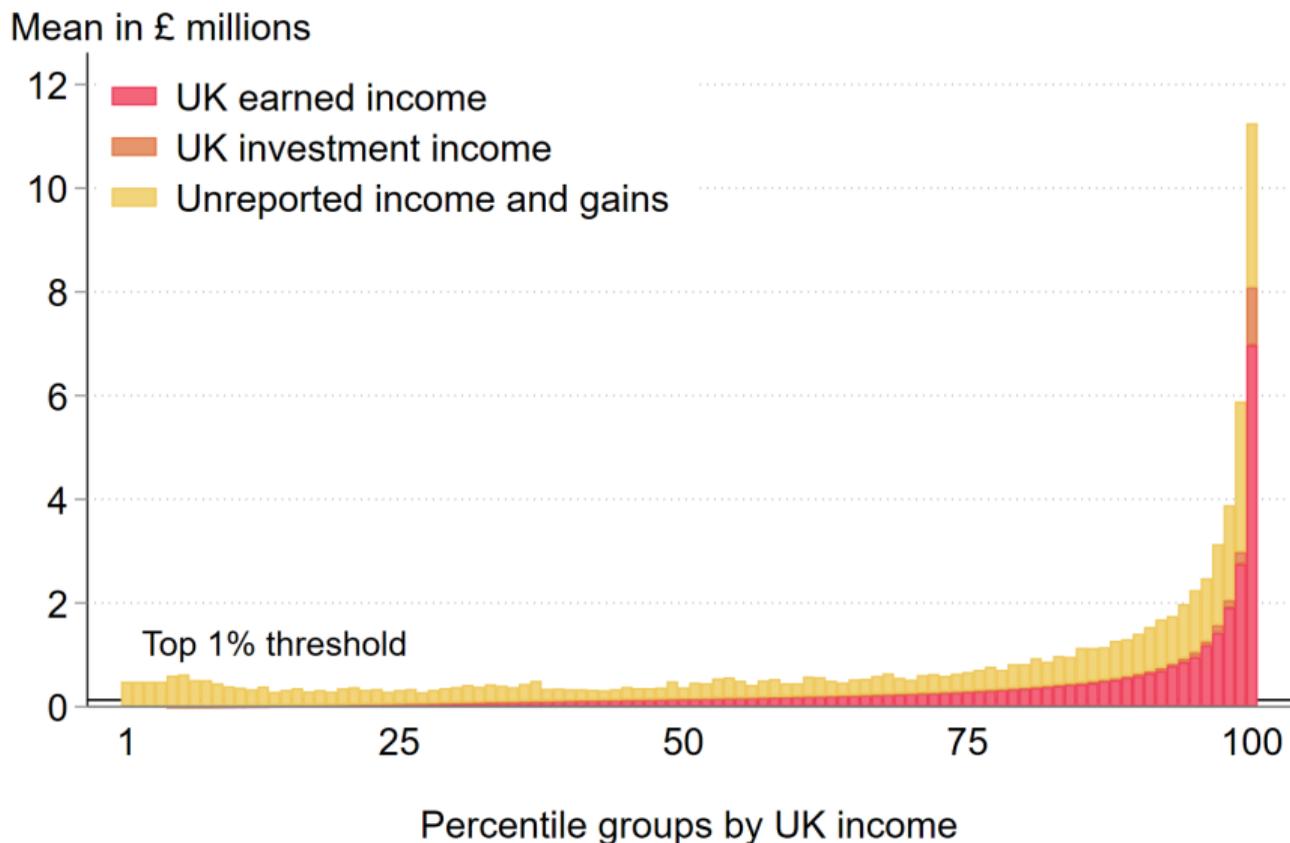
## RBUUs have high UK incomes...



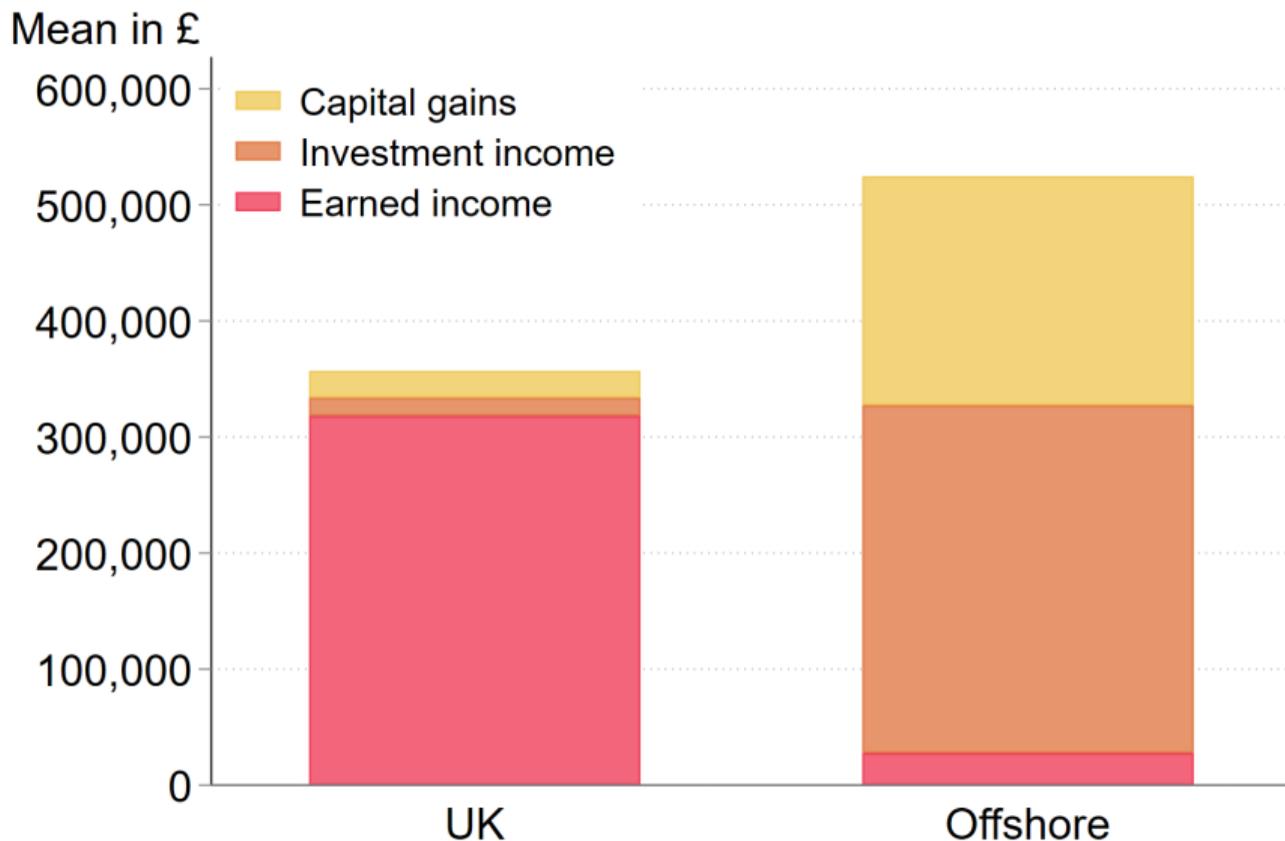
## RBUs have high UK incomes...



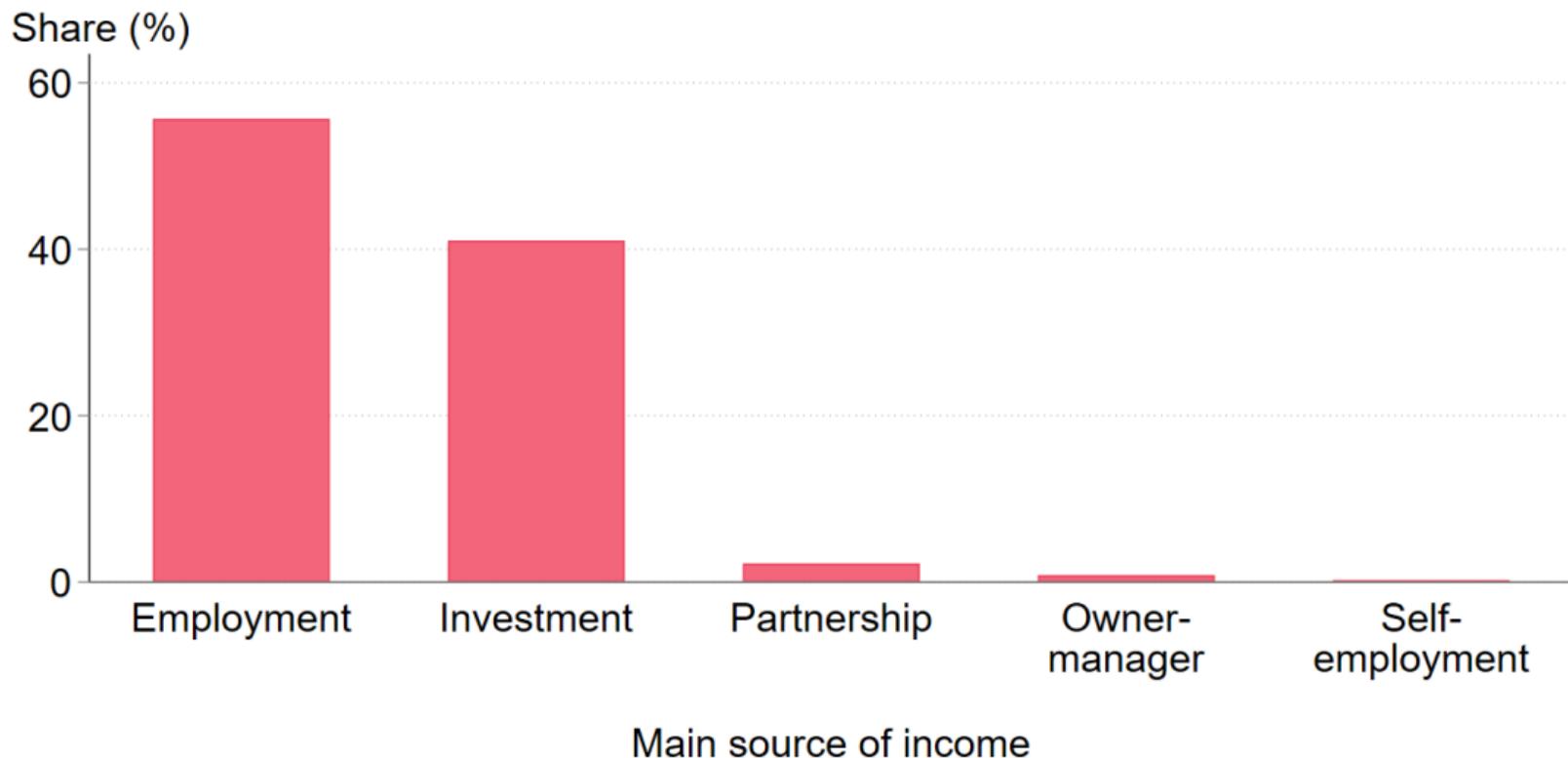
## ...and high returns on investment overseas (i.e. high foreign wealth)



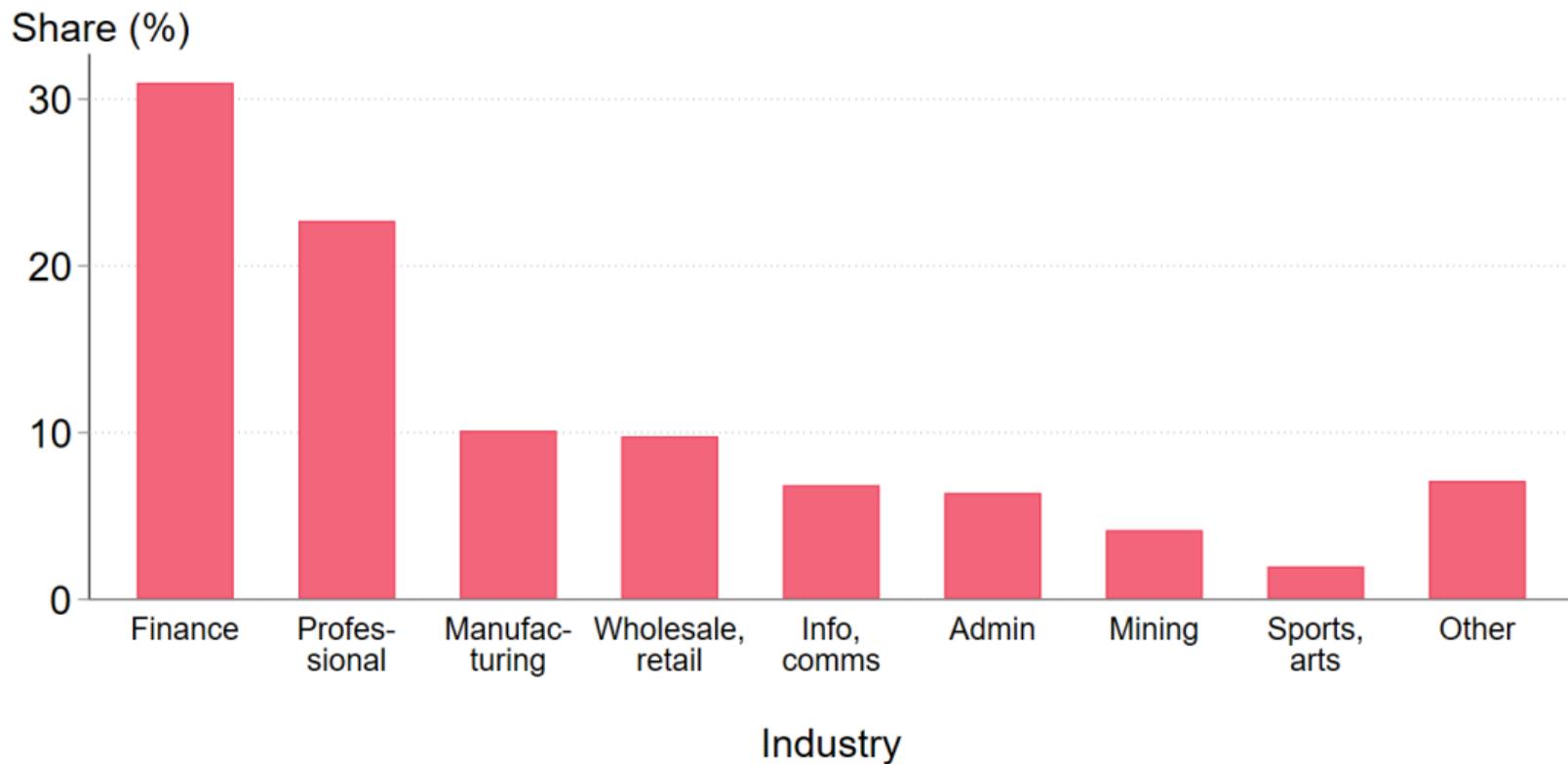
## Most of RBU investment is abroad, consistent with tax incentives



## Despite high capital income, RBUs are largely workers...

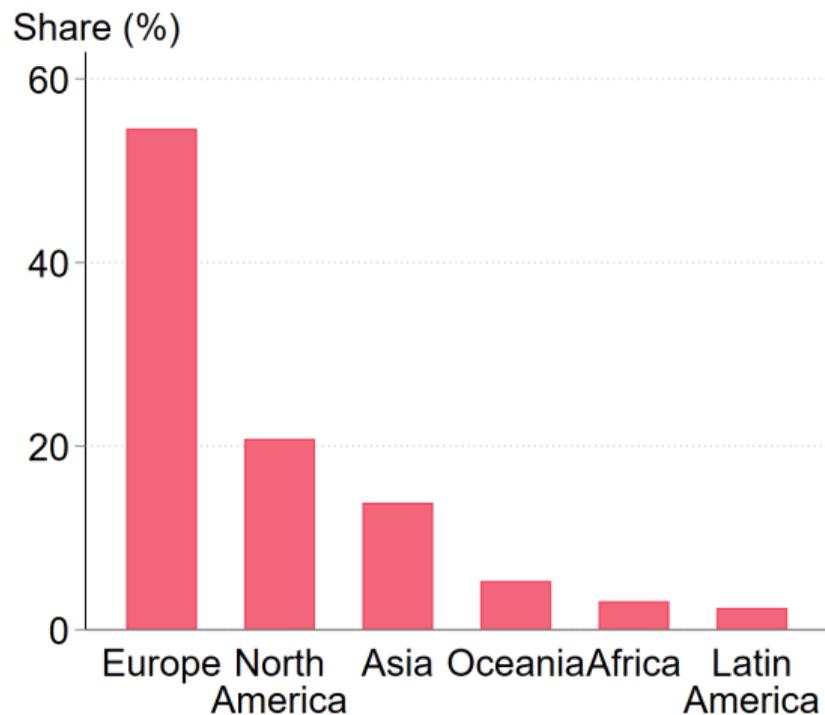


...particularly in finance and professional services

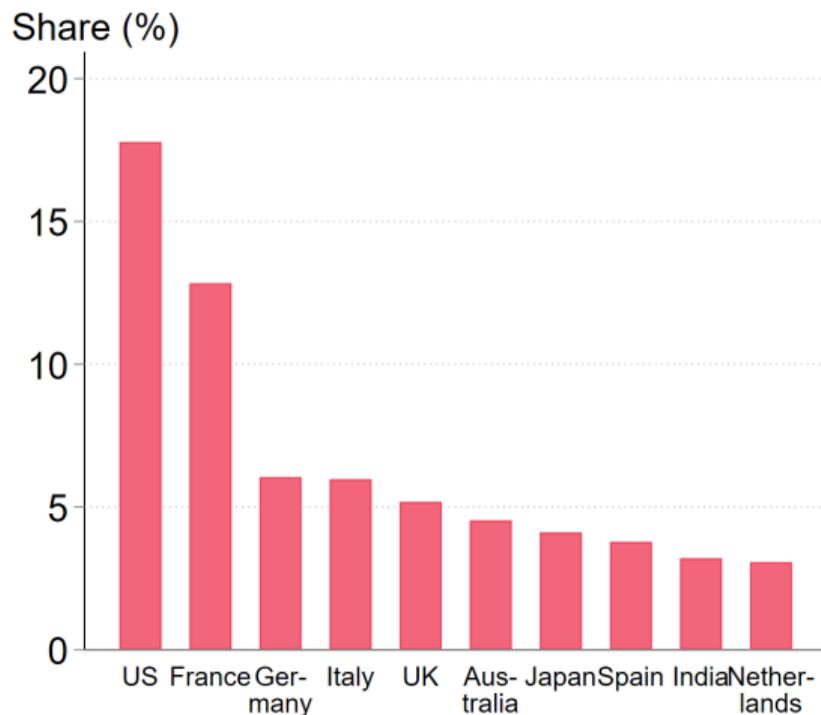


# RBUs come from Europe, US, India & former colonies

## (a) Nationality by world region

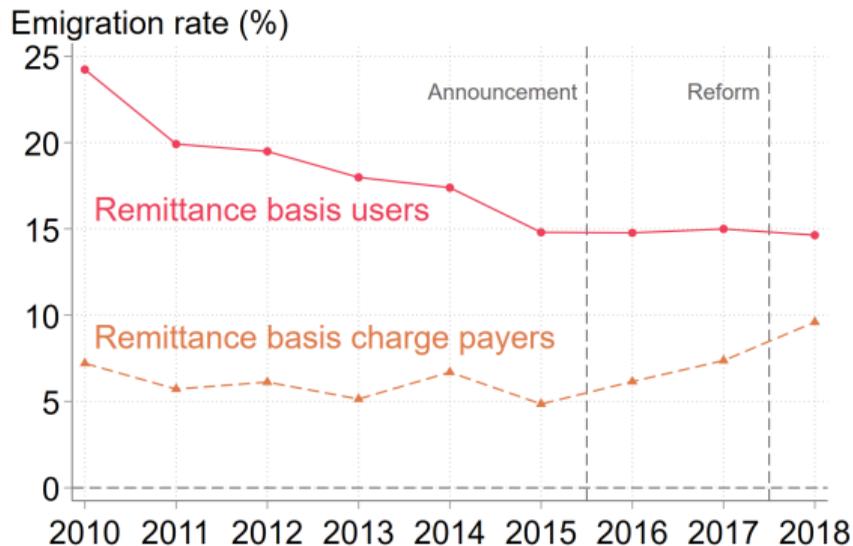


## (b) Nationality, top 10 countries

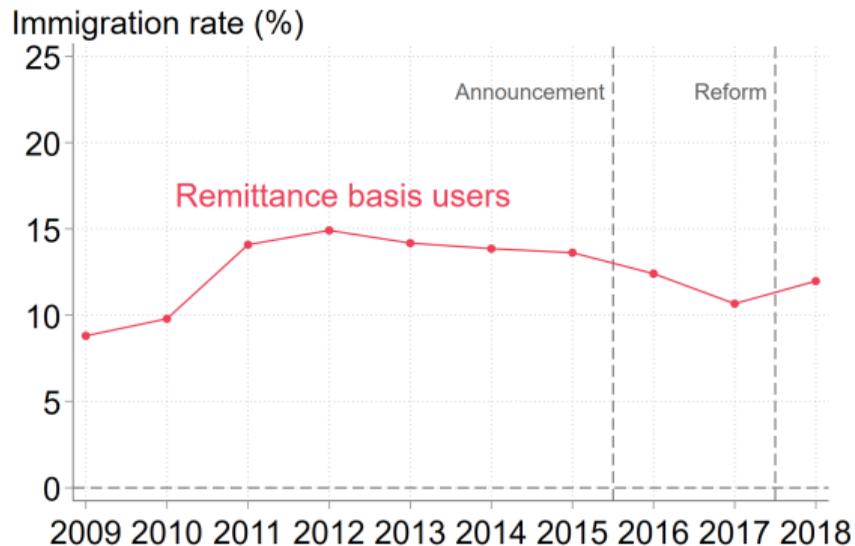


# Baseline mobility among RBUs is high

## (a) Emigration rate



## (b) Immigration rate



# Empirical strategy

## Remittance basis reform

- Reform announced in July 2015, implemented in April 2017, curtailed access to the remittance basis
- People are 'deemed UK domiciled' for tax purposes, losing access to remittance basis, if one of two conditions is met:
  - Condition A: UK-born to a father with a UK domicile
  - Condition B: resident in the UK for  $\geq 15$  of last 20 years

## Identification strategy

- We focus on Condition B because it:
  - Affects a large number of remittance basis users (2,000–3,000)
  - Splits up remittance basis user population into natural treatment and control group by number of years spent in UK
- We use difference-in-differences design comparing those UK-resident for 15–20 to those UK-resident for 10–14 of the last 20 years
- Results are robust to using different treatment and control groups

## Identification strategy: limitations

- Because Condition B only affects those who have been living in the UK for a long time, we cannot study effect on immigration
- For the same reason, we only get an effect estimate for long-stayers
- Possibility of anticipation response in control group
  - Seems unlikely because we get similar results when we use people who are going to be affected in 1–5 years as control group

# Migration response

# Estimation of emigration elasticity

## Aggregate-level IV difference-in-differences approach

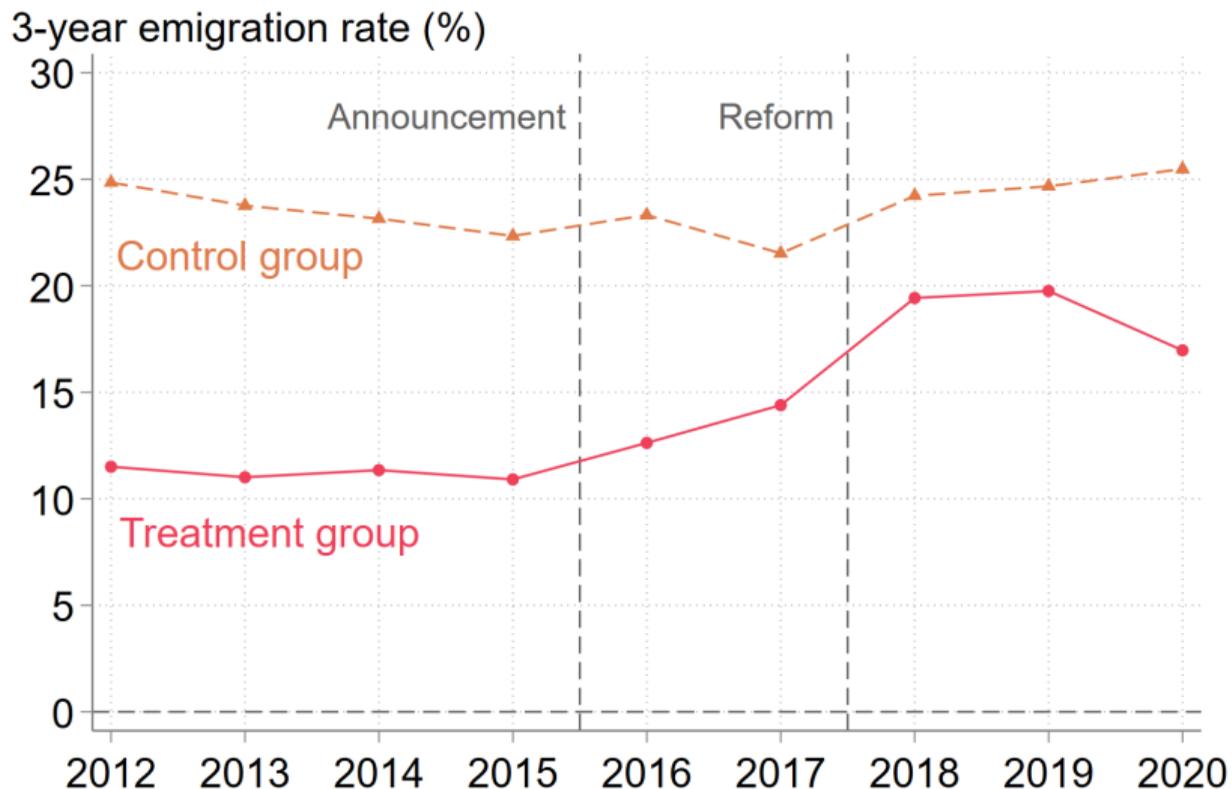
- Collapse observations into group-year cells
- Regress emigration rate on log net-of-average-tax rate and group + year FEs:

$$E_{gt} = \eta \times \log(1 - \bar{\tau}_{gt}) + \mu_g + \lambda_t + \varepsilon_{gt},$$

where  $E_{gt}$  = emigration rate of group  $g$  in year  $t$

- Instrument log net-of-average-tax rate by static DiD estimator (treated  $\times$  post-2018)
- Target parameter  $\eta$  is semi-elasticity, capturing effect of one-percent increase in net-of-average-tax rate on emigration rate

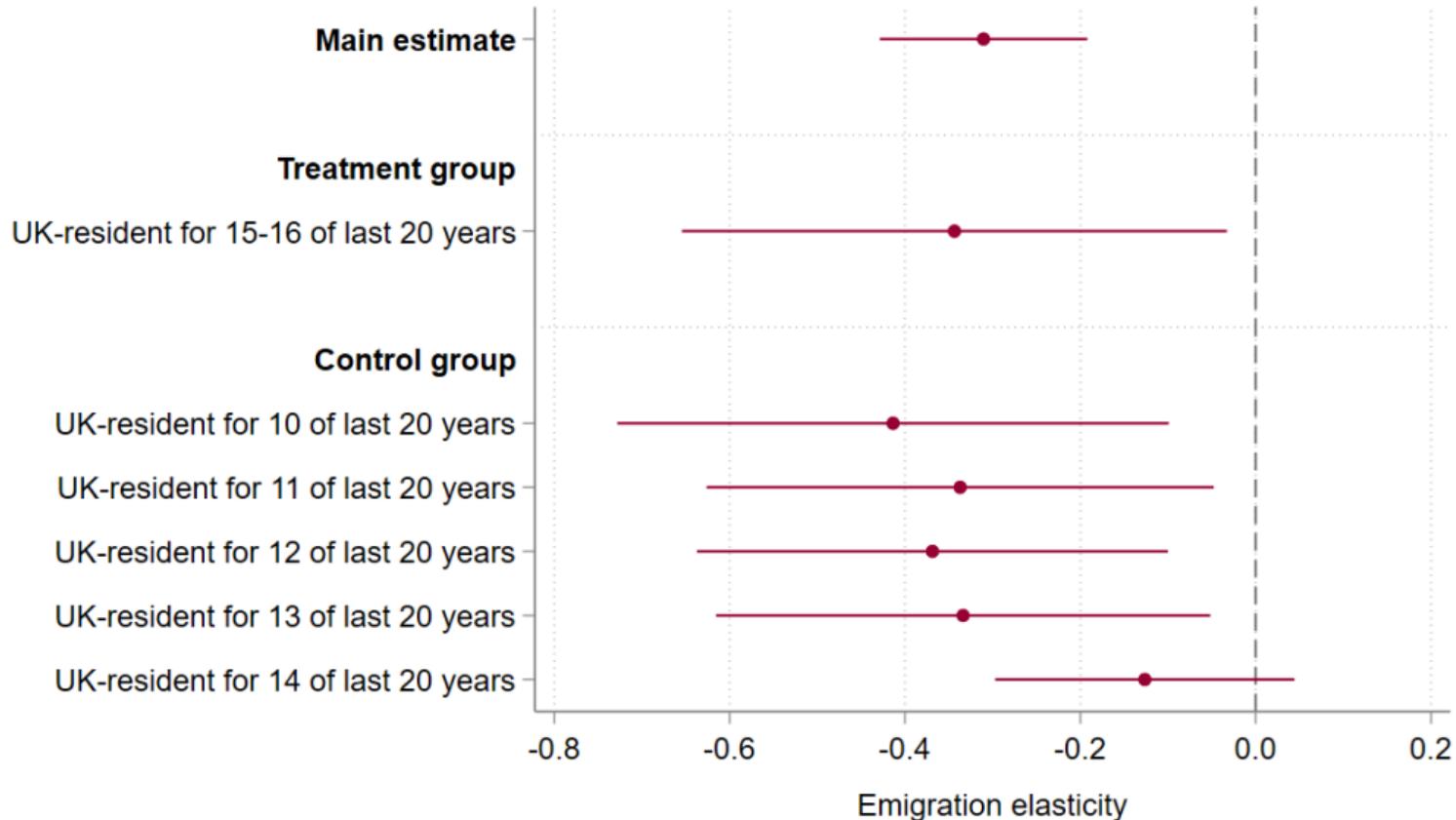
# Impact of Condition B reform: 3-year emigration rate



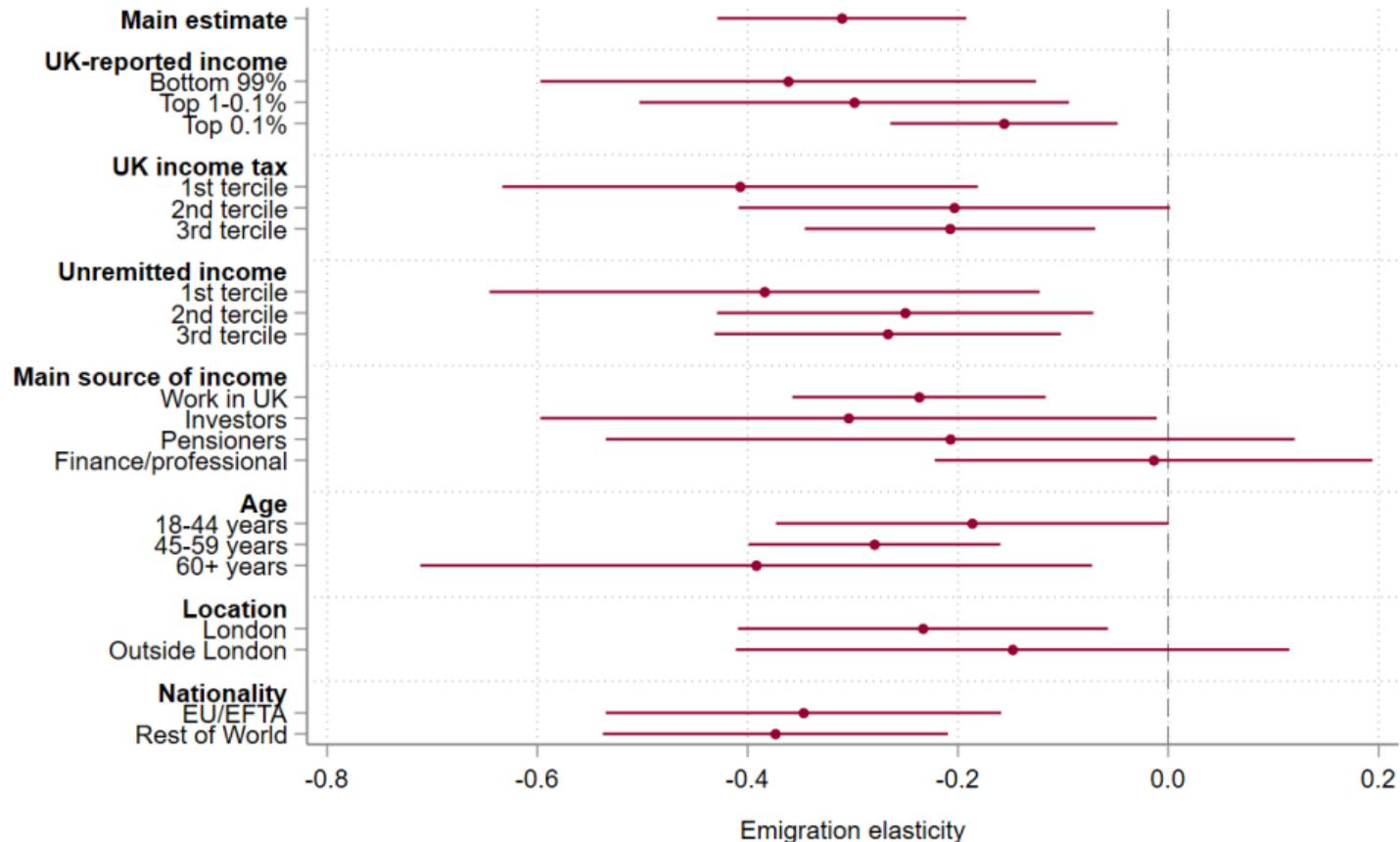
## Emigration elasticity: 3-year emigration rate

	First stage: net-of-average-tax rate (1)	Reduced form: emigration rate (2)	2SLS: semi-elasticity (3)
<b>Panel A: treatment group UK-resident for 17–20 of last 20 years</b>			
Treated × post-2018	-0.202*** (0.015)	0.063*** (0.011)	
Semi-elasticity			-0.310*** (0.046)
Group-year cells	14	14	14
Individual-year obs.	34,870	34,870	34,870
<b>Panel B: treatment group UK-resident for 15–16 of last 20 years</b>			
Treated × post-2018	-0.191*** (0.015)	0.066** (0.021)	
Semi-elasticity			-0.344** (0.121)
Group-year cells	14	14	14
Individual-year obs.	19,891	19,891	19,891

# Robustness of emigration elasticity estimate: 3-year emigration rate



# Heterogeneity in emigration elasticity: 3-year emigration rate



## Effects on incomes, revenue, and investment

# Estimation of income and tax responses

## Individual-level difference-in-differences approach

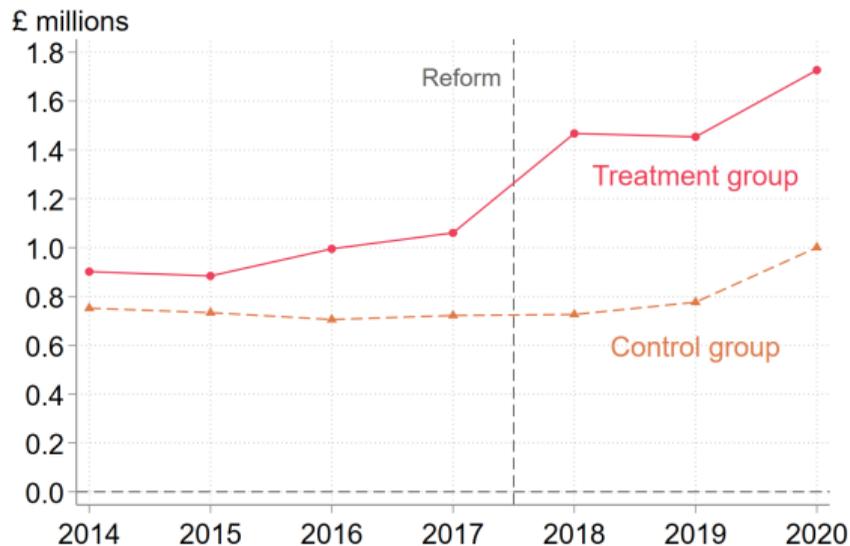
- Condition on RBUs in 2017 who remain UK-resident after reform
- Regress outcome of interest on treatment group indicator interacted with year dummies, and individual + year FEs:

$$Y_{it} = \sum_{\substack{k=2014 \\ k \neq 2017}}^{2020} \delta_k \times \mathbb{1}\{t = k\} \times T_i + \alpha_i + \gamma_t + \epsilon_{it},$$

where  $Y_{it}$  = outcome of interest of individual  $i$  in year  $t$

# Reform leads to 166% increase in UK-reported income...

## (a) Mean UK-reported income

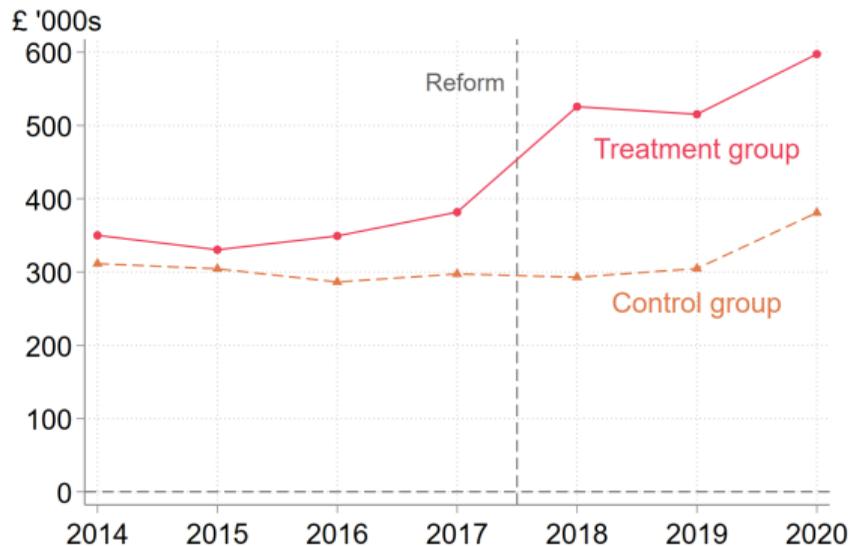


## (b) DiD effect estimates

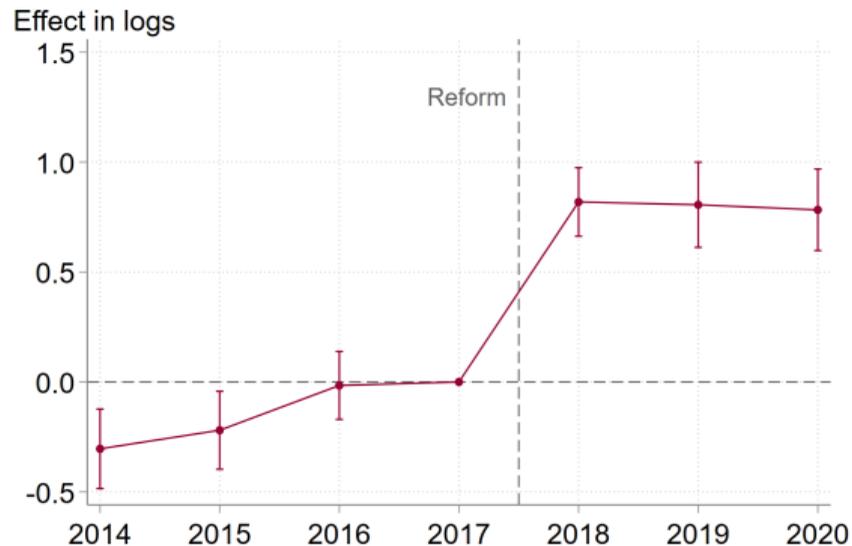


...which directly translates into tax paid (155% increase)

(a) Mean UK income tax



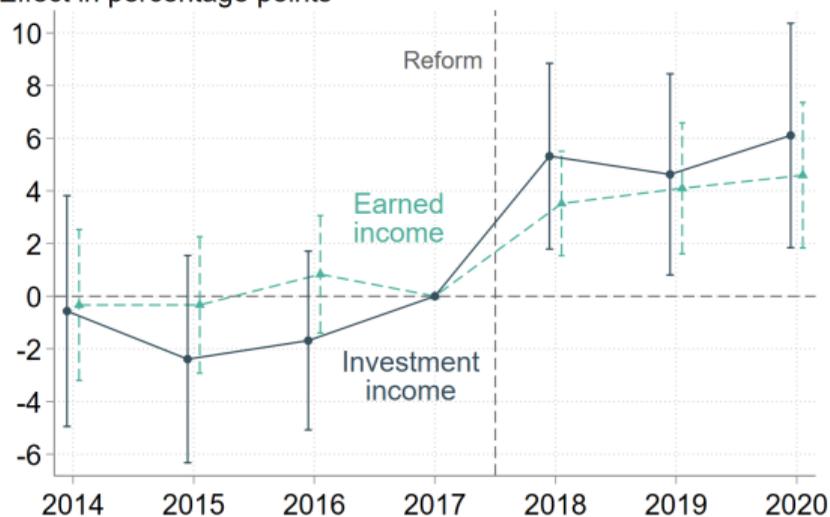
(b) DiD effect estimates



# Effect on UK-reported investment income and earned income

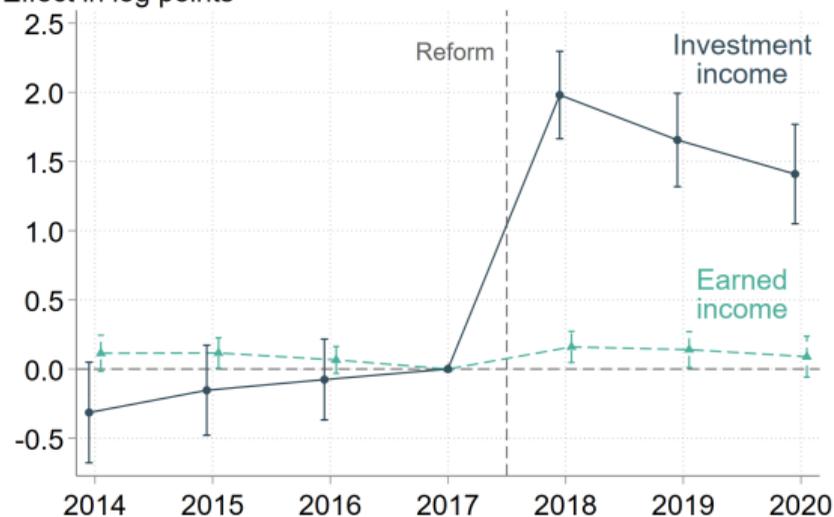
## (a) Extensive margin

Effect in percentage points



## (b) Intensive margin

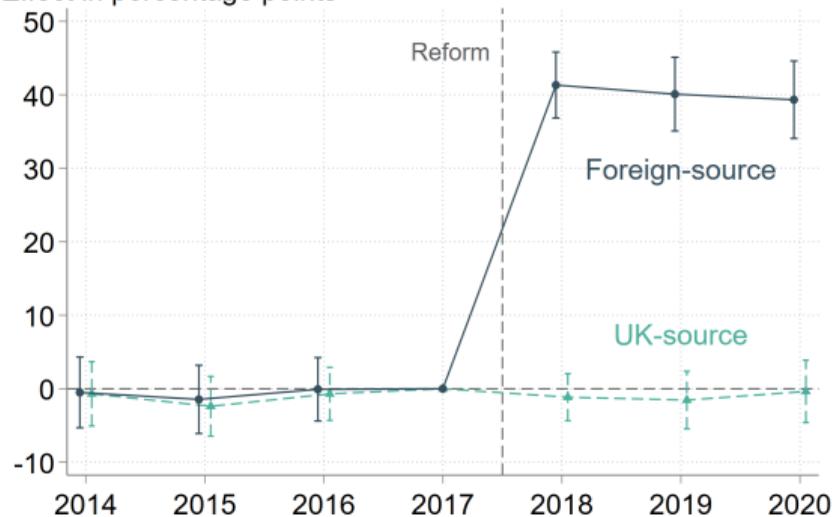
Effect in log points



# Investment onshoring vs. reporting responses

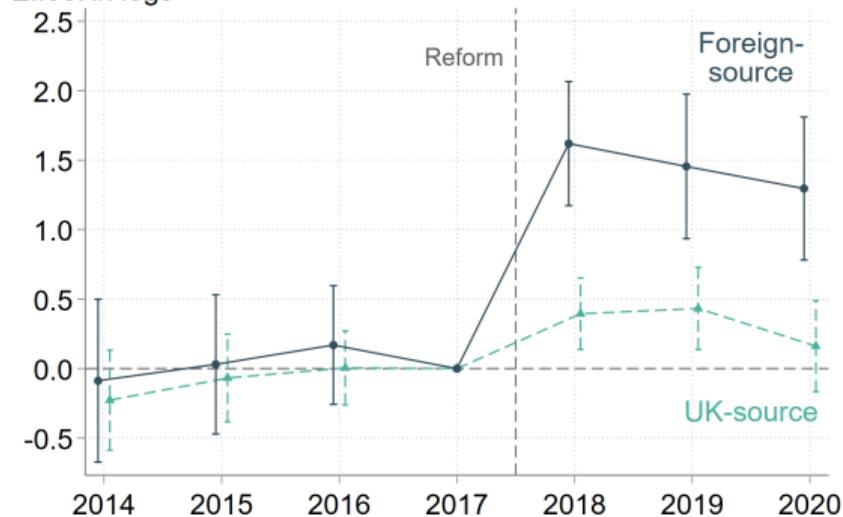
## (a) Extensive margin

Effect in percentage points



## (b) Intensive margin

Effect in logs



► Descriptives

► Effects on levels

# Economic footprint of emigrants

# Analysis of UK economic footprint after emigration

## Descriptive analysis

- Pool remittance basis users (RBUs) who emigrate in 2018, 2019, or 2020 to increase power
- As before, compare emigrating RBUs affected by the Condition B reform (who spent 15–20 of the last 20 years in UK) to those marginally unaffected (who spent 10–14 of the last 20 years in UK)
- Include emigrants who disappear from tax data ('ghosts'), imputing zero values for them

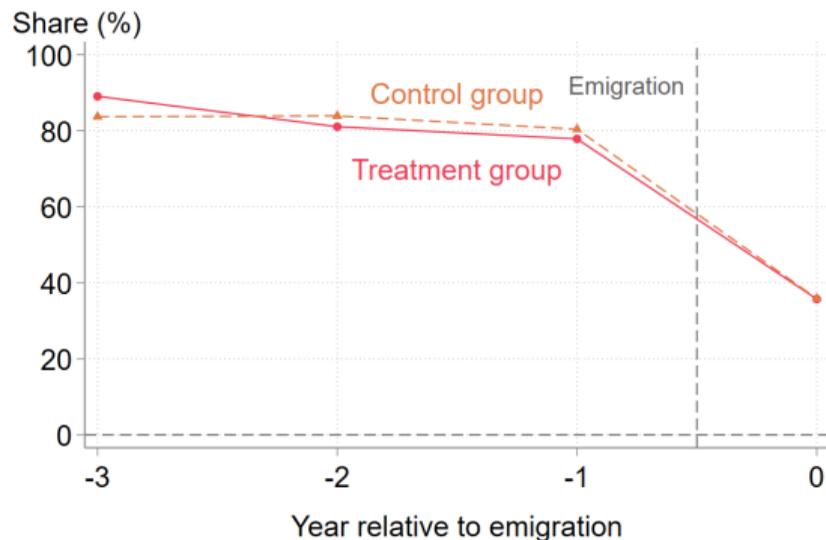
# Number of days spent in UK after emigration



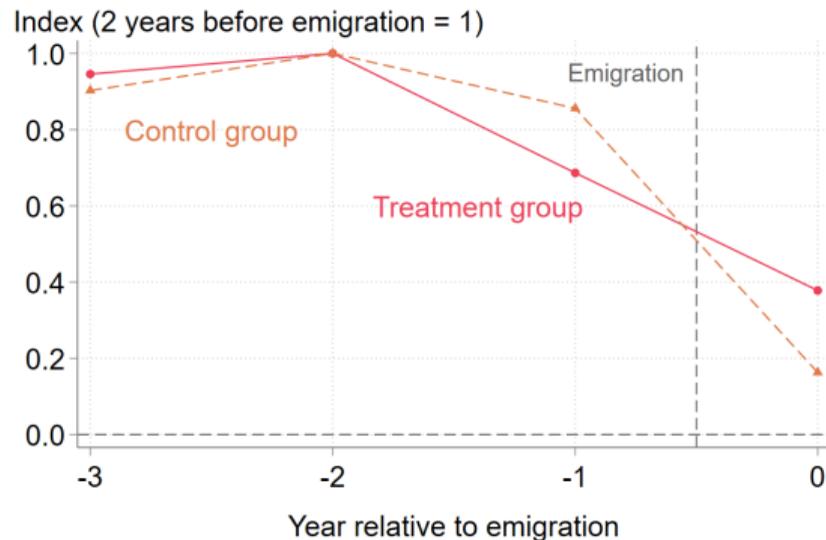
N = 1571. Note: disaggregated bins 30-60, 60-80, 80-100 in control group assuming equal split.

# Emigrants' tax payments fall by (only) 60% after leaving

## (a) Share with positive value



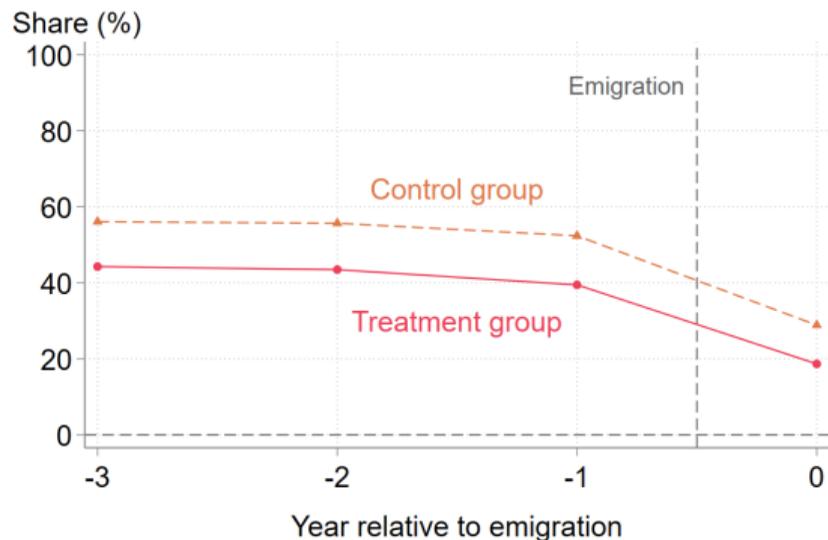
## (b) Levels (indexed)



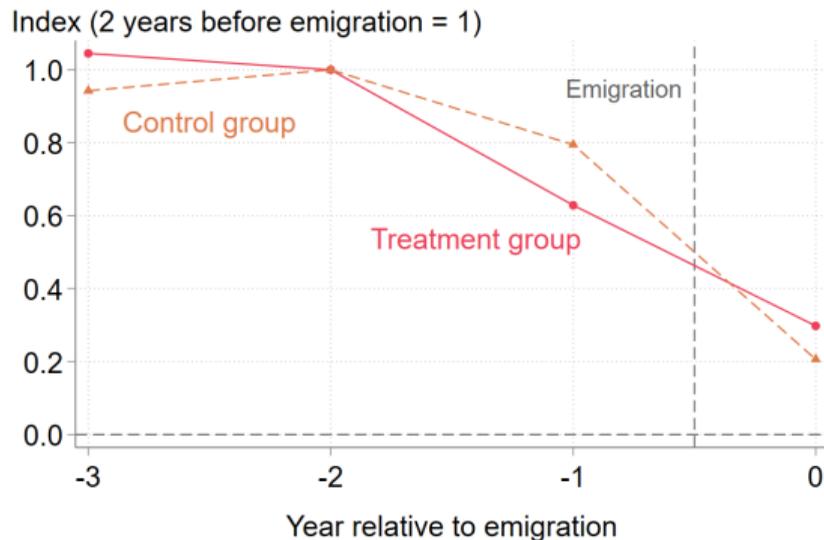
N = 860. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. We include emigrants who disappear from data, imputing zeros.

# UK employment income falls by 70% after emigration

(a) Share with positive value



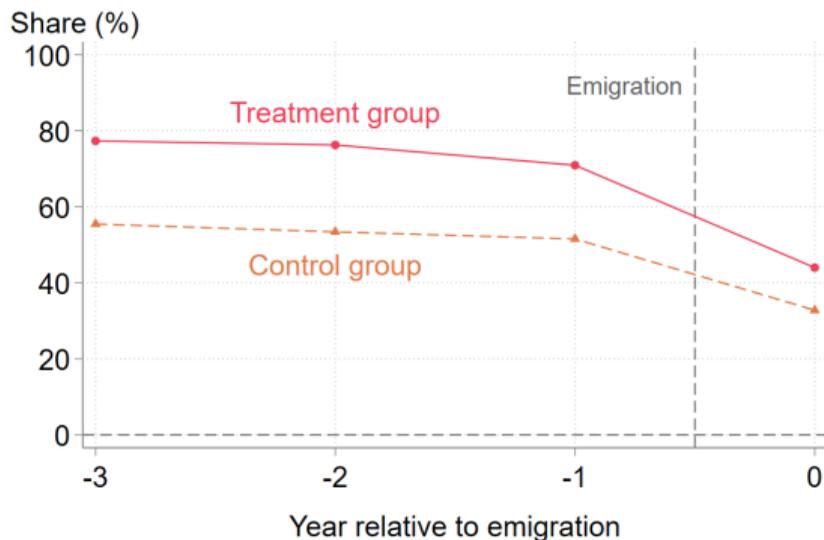
(b) Levels (indexed)



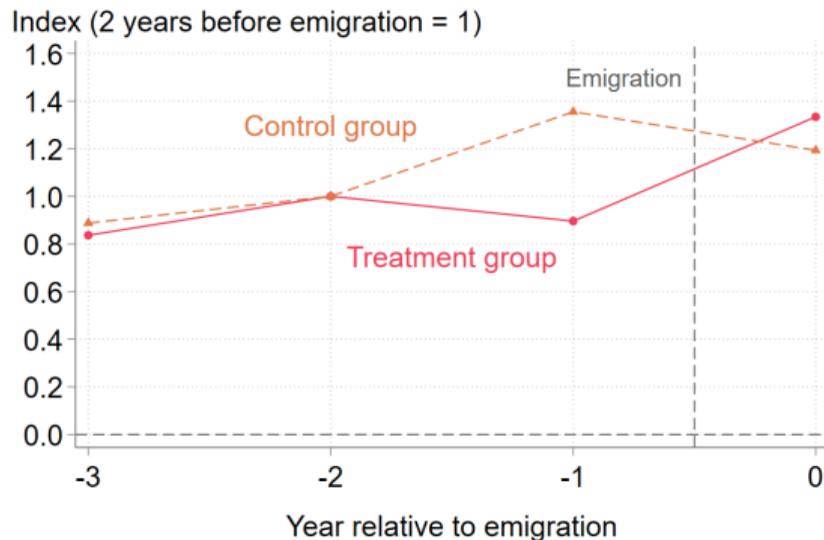
N = 860. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. We include emigrants who disappear from data, imputing zeros.

# UK investment income increases by 30% after emigration

(a) Share with positive value



(b) Levels (indexed)



N = 860. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. We include emigrants who disappear from data, imputing zeros.

# Conclusion

## Conclusion

- We tackle longstanding challenge in estimation of migration responses among the super-rich to taxation
- We have a setting with:
  - Detailed data on the super-rich
  - Ability to measure average tax rate
  - Variation in the tax rate across time and across individuals
- We find low migration elasticity in our setting, relative to existing estimates for intranational mobility

Thank you!

Work in progress – feedback is most welcome.

Email: [a.advani.1@warwick.ac.uk](mailto:a.advani.1@warwick.ac.uk)

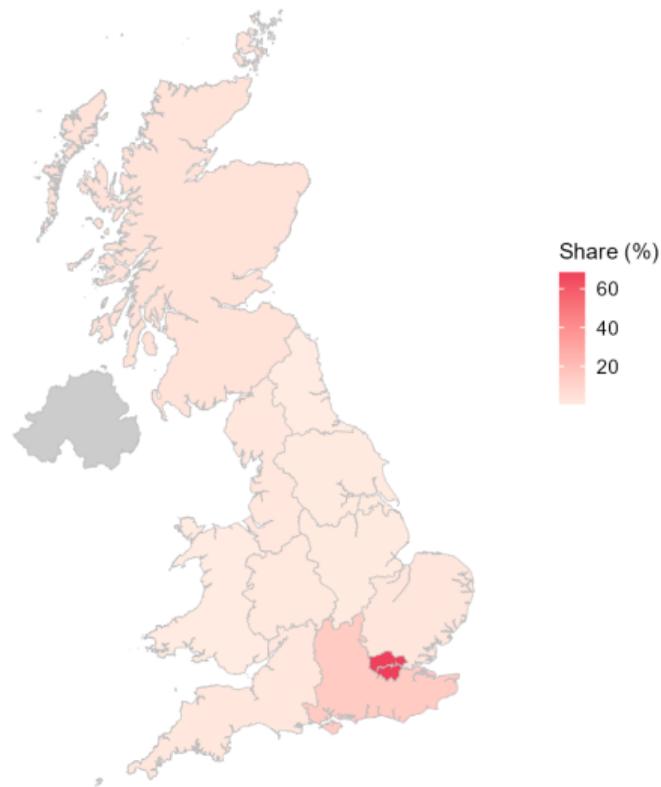
# Appendix

## Top 20 5-digit industries among RBUs

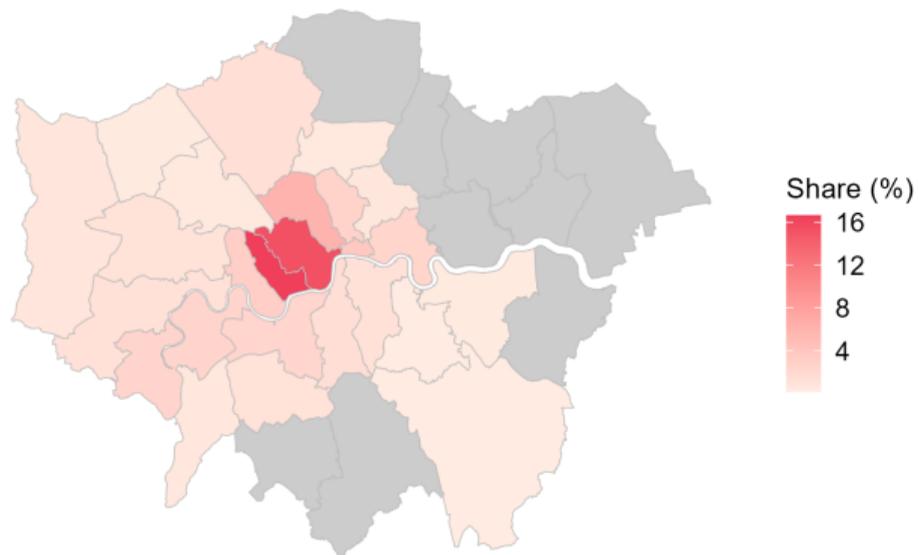
Rank	Industry (SIC code)	Number	Share (%)
1	Banks (K64191)	3,006	13.86
2	Activities auxiliary to financial intermediation (K66190)	1,440	6.64
3	Management consultancy (M70229)	1,302	6.00
4	Other business support services (N82990)	1,066	4.91
5	Mineral oil refining (C19201)	802	3.70
6	Fund management (K66300)	762	3.51
7	Head offices (M70100)	757	3.49
8	Extraction of crude petroleum (B06100)	593	2.73
9	Other professional, scientific & technical activities (M74909)	358	1.65
10	Advertising agencies (M73110)	319	1.47
11	Information technology consultancy (J62020)	318	1.46
12	Other engineering activities (M71129)	314	1.45
13	Support for petroleum & natural gas extraction (B09100)	282	1.30
14	Security & commodity contracts dealing (K66120)	279	1.29
15	Other research on natural sciences & engineering (M72190)	278	1.28
16	Accounting & auditing (M69201)	275	1.27
17	Non-specialised wholesale trade (G46900)	261	1.20
18	Financial management (M70221)	255	1.18
19	Engineering-related consulting (M71122)	253	1.17
20	Sport clubs (R93120)	230	1.06

# Residential location of remittance basis users

(a) Share by GOR/NUTS1 region

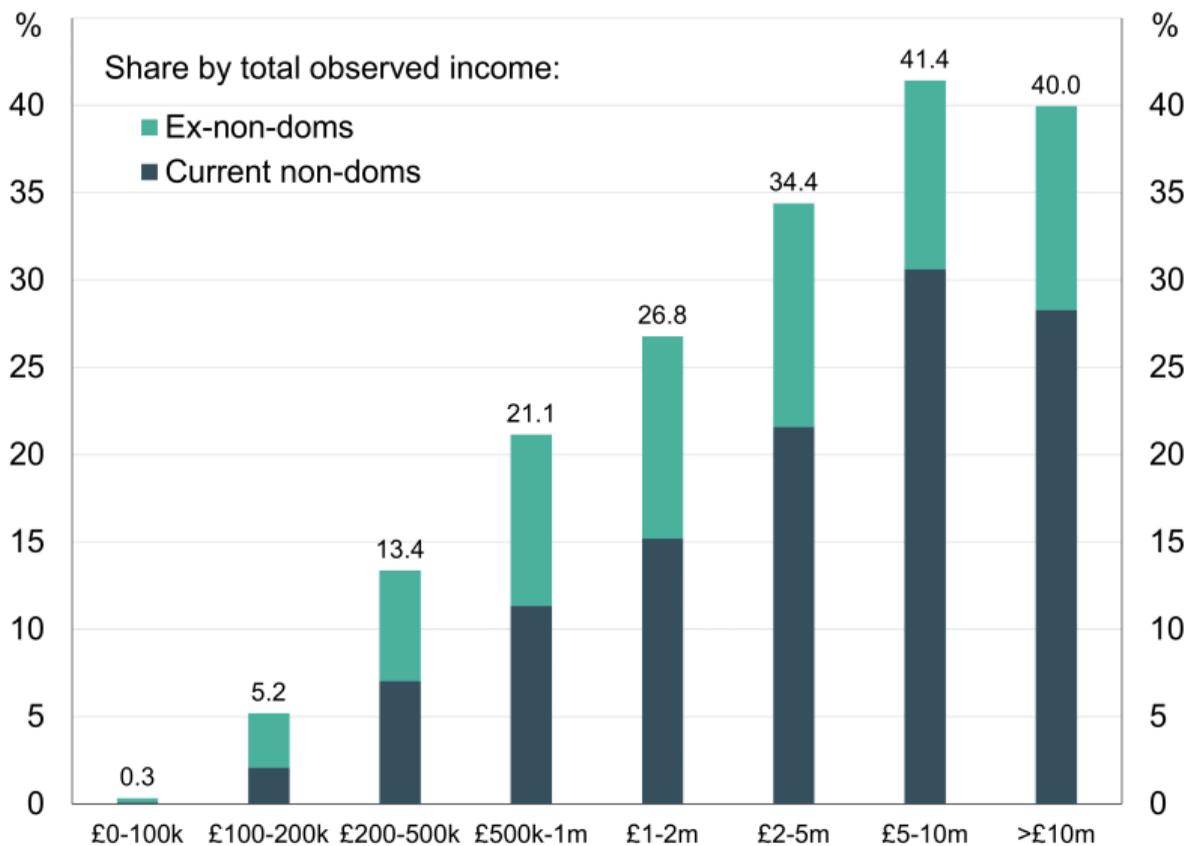


(b) Share by London Borough

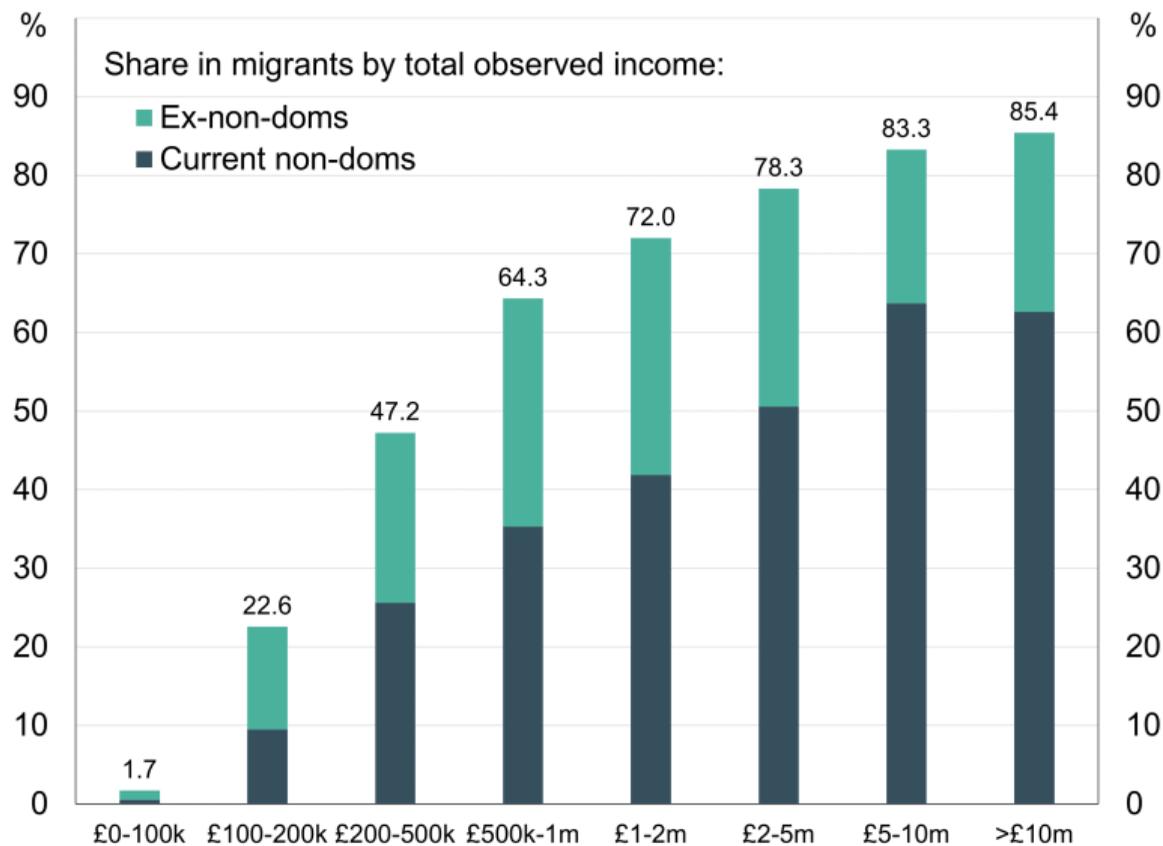


[◀ back](#)

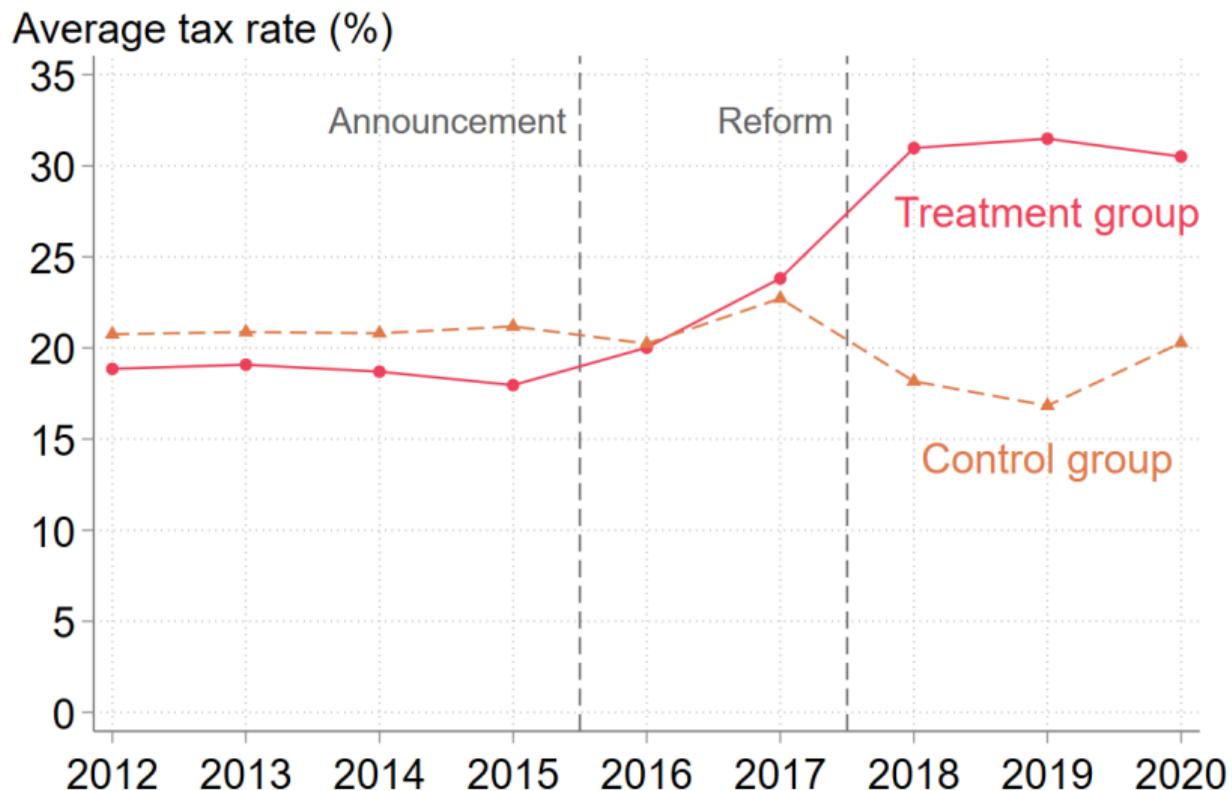
# Large share of high-income people are non-doms



# Majority of high-income migrants are non-doms

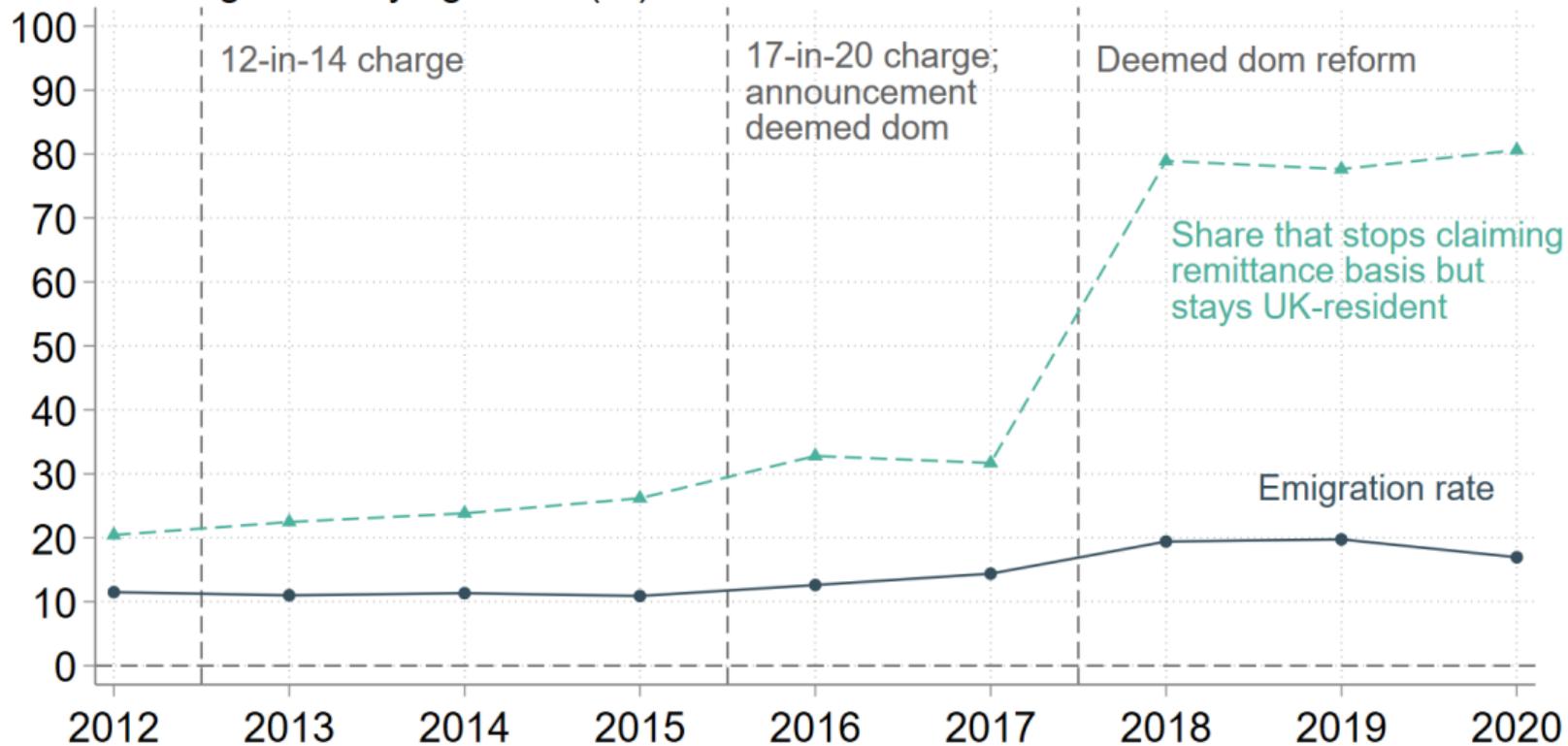


# Impact of Condition B reform: tax (3-year emigration analysis)

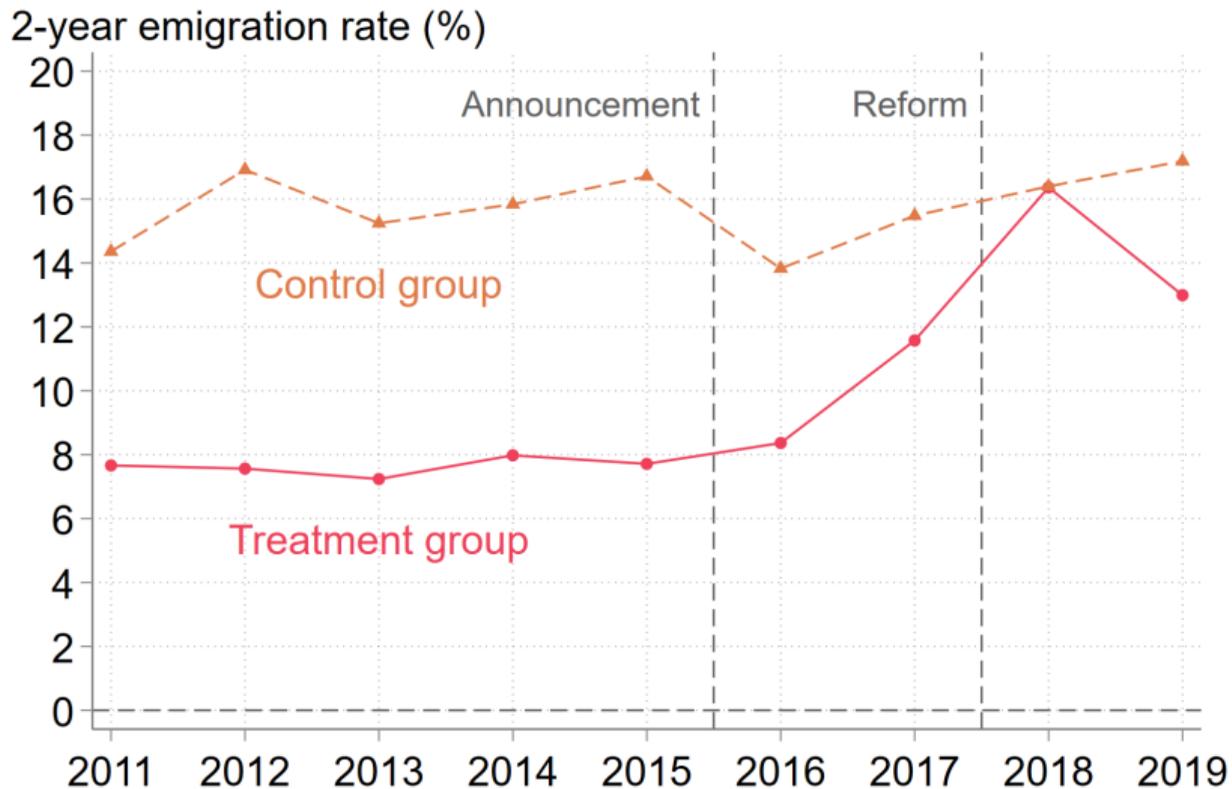


# Impact of Condition B reform: stayers and leavers (3-year)

Share leaving and staying in UK (%)



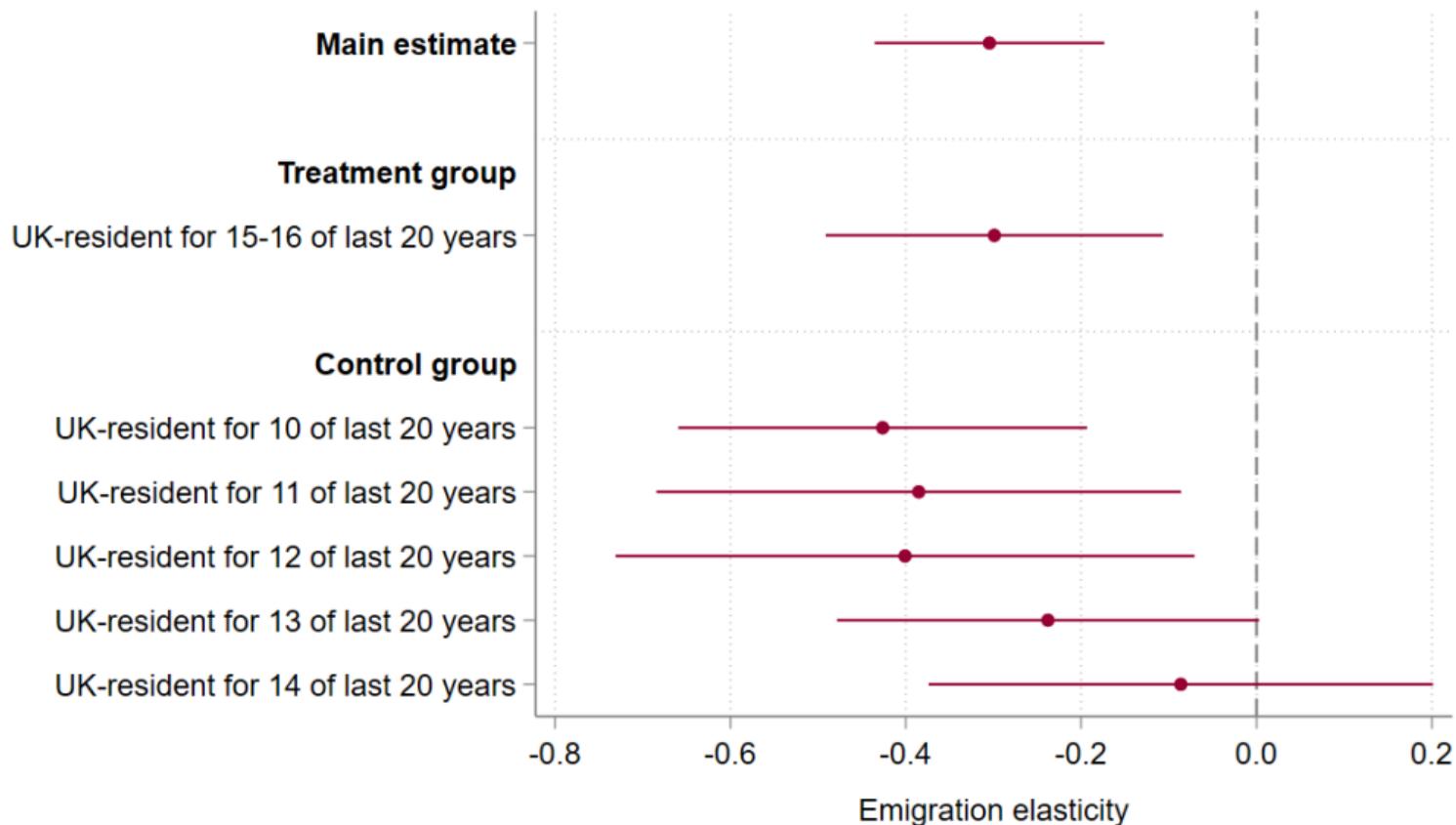
# Impact of Condition B reform: 2-year emigration rate



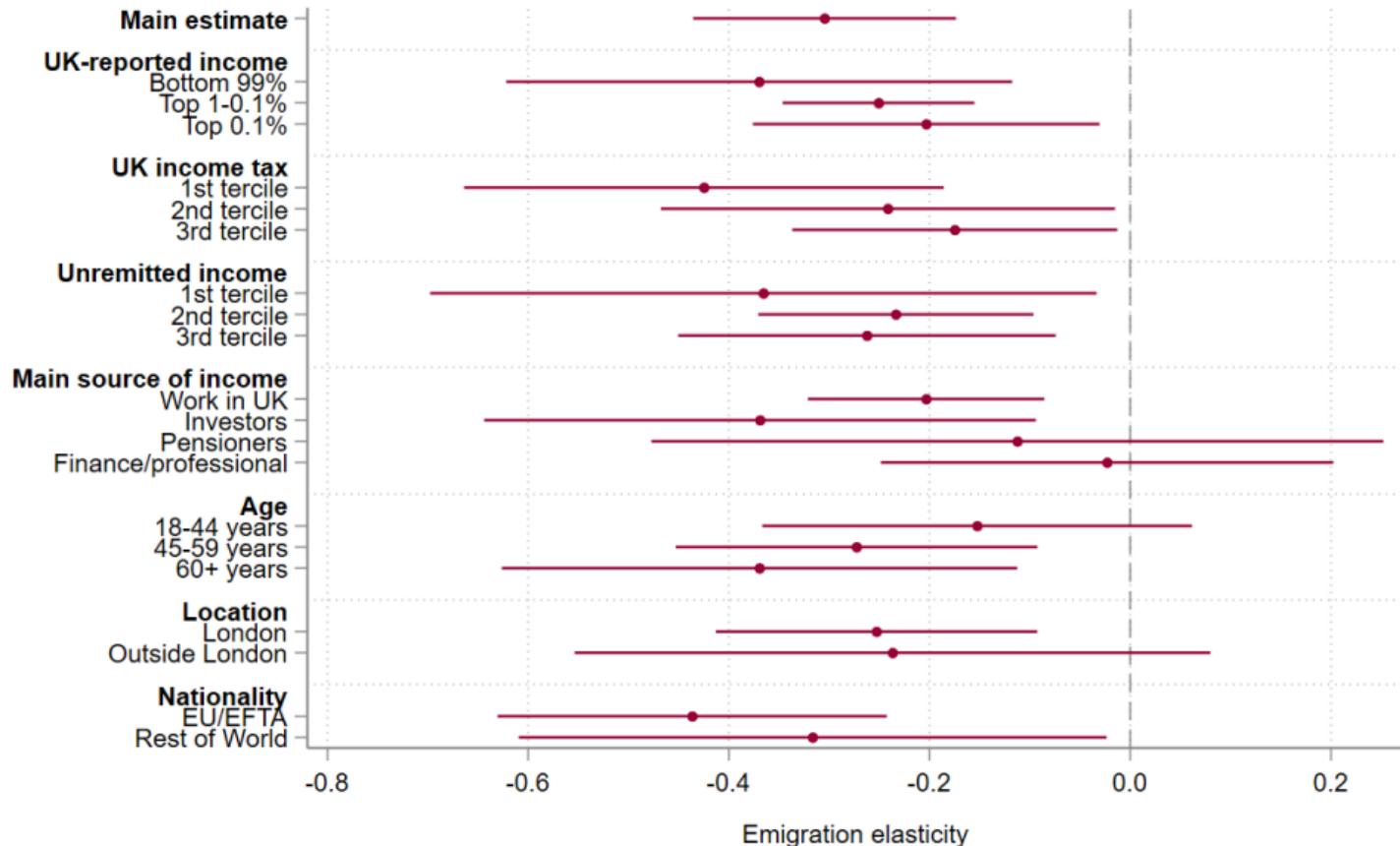
## Emigration elasticity: 2-year emigration rate

	First stage: net-of-average-tax rate (1)	Reduced form: emigration rate (2)	2SLS: semi-elasticity (3)
<b>Panel A: treatment group UK-resident for 17–20 of last 20 years</b>			
Treated × post-2018	-0.199*** (0.015)	0.061*** (0.014)	
Semi-elasticity			-0.305*** (0.051)
Group-year cells	14	14	14
Individual-year obs.	31,385	31,385	31,385
<b>Panel B: treatment group UK-resident for 15–16 of last 20 years</b>			
Treated × post-2018	-0.186*** (0.023)	0.055** (0.016)	
Semi-elasticity			-0.299** (0.075)
Group-year cells	14	14	14
Individual-year obs.	18,259	18,259	18,259

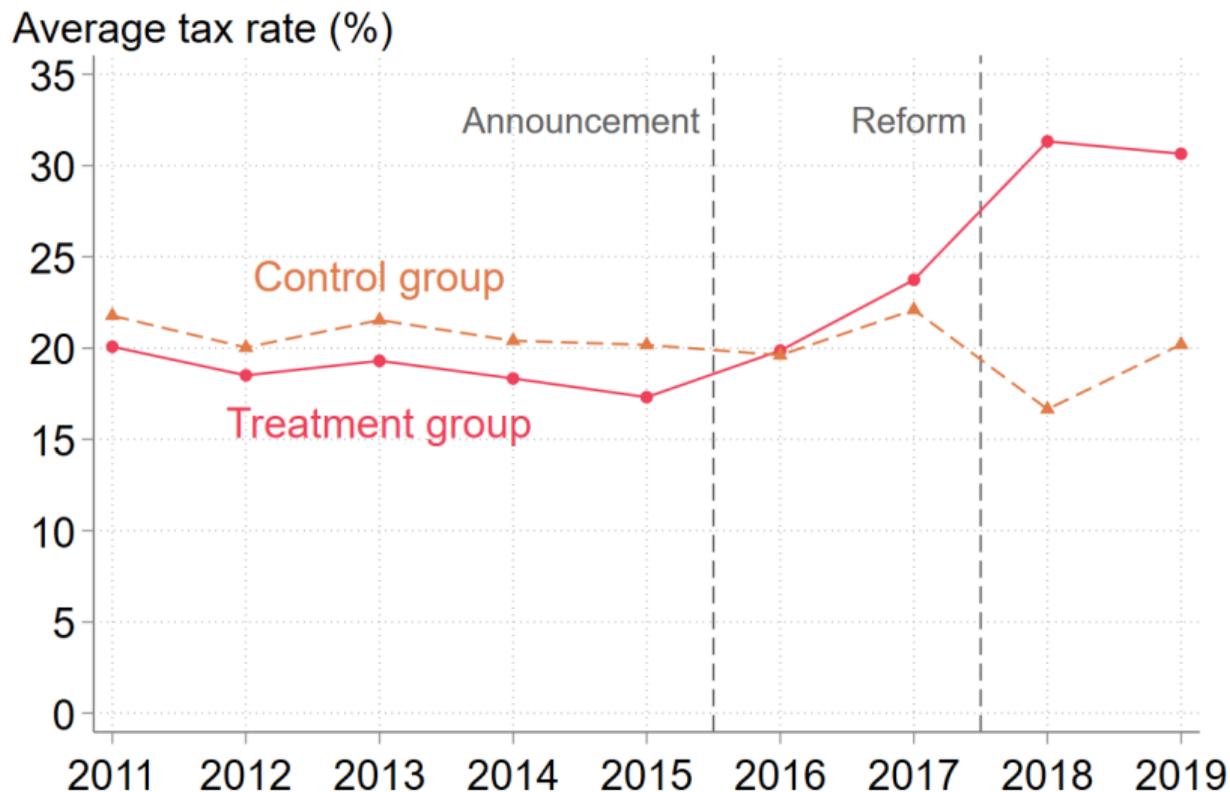
# Robustness of emigration elasticity estimate: 2-year emigration rate



# Heterogeneity in emigration elasticity: 2-year emigration rate

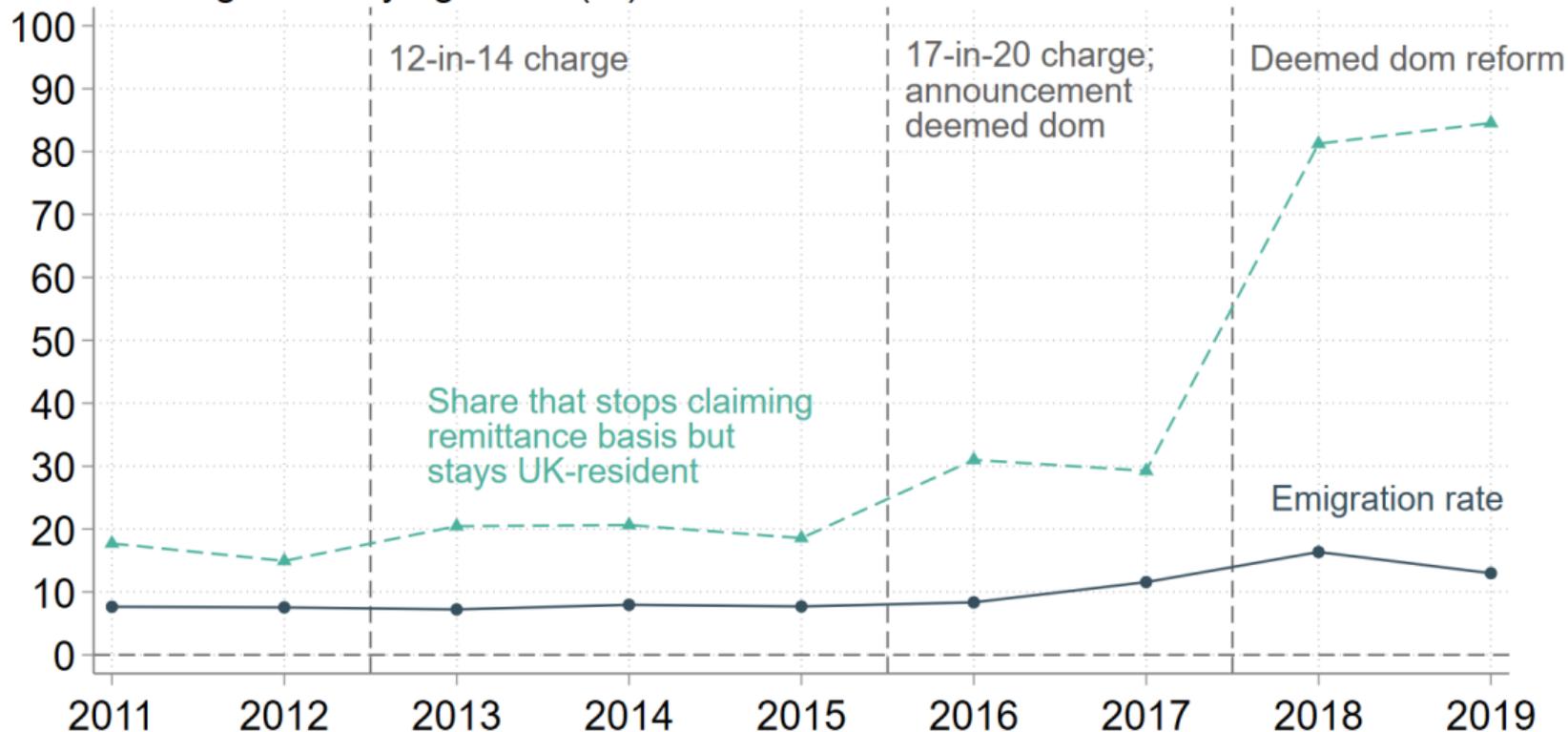


## Impact of Condition B reform: tax (2-year emigration analysis)

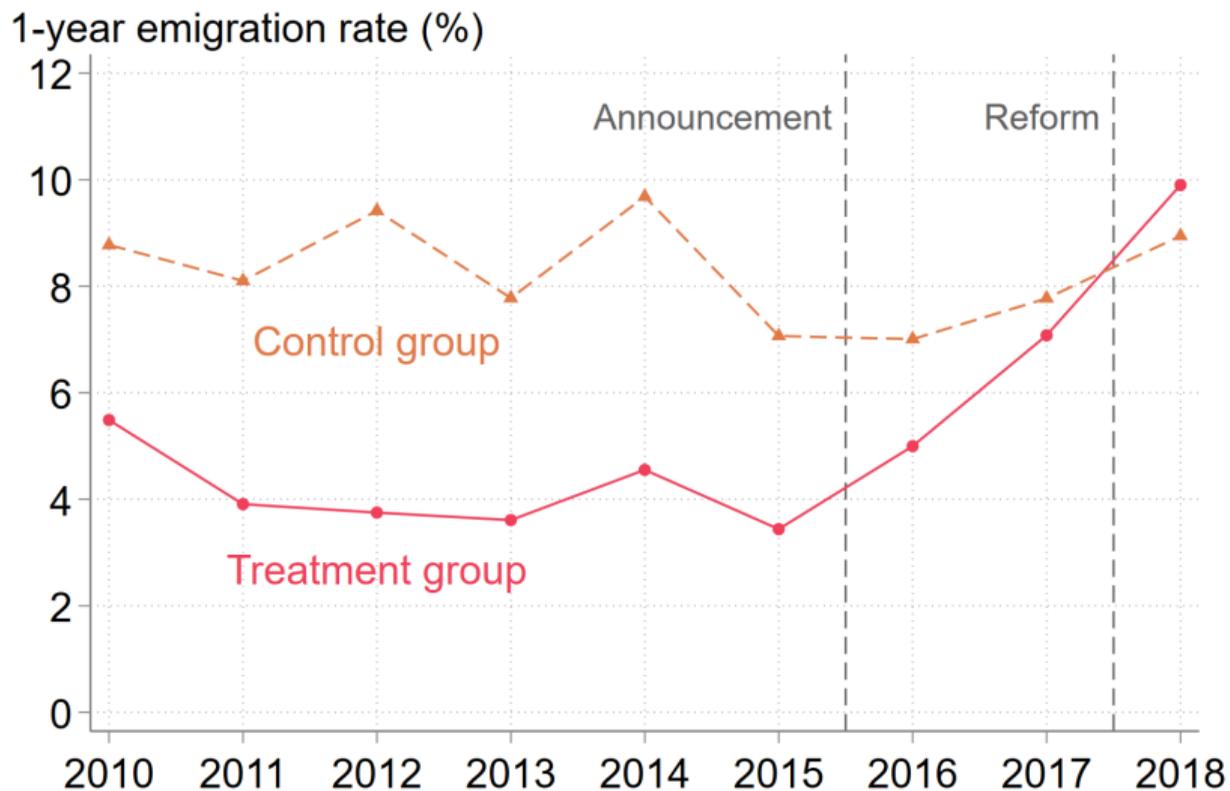


## Impact of Condition B reform: stayers and leavers (2-year)

Share leaving and staying in UK (%)



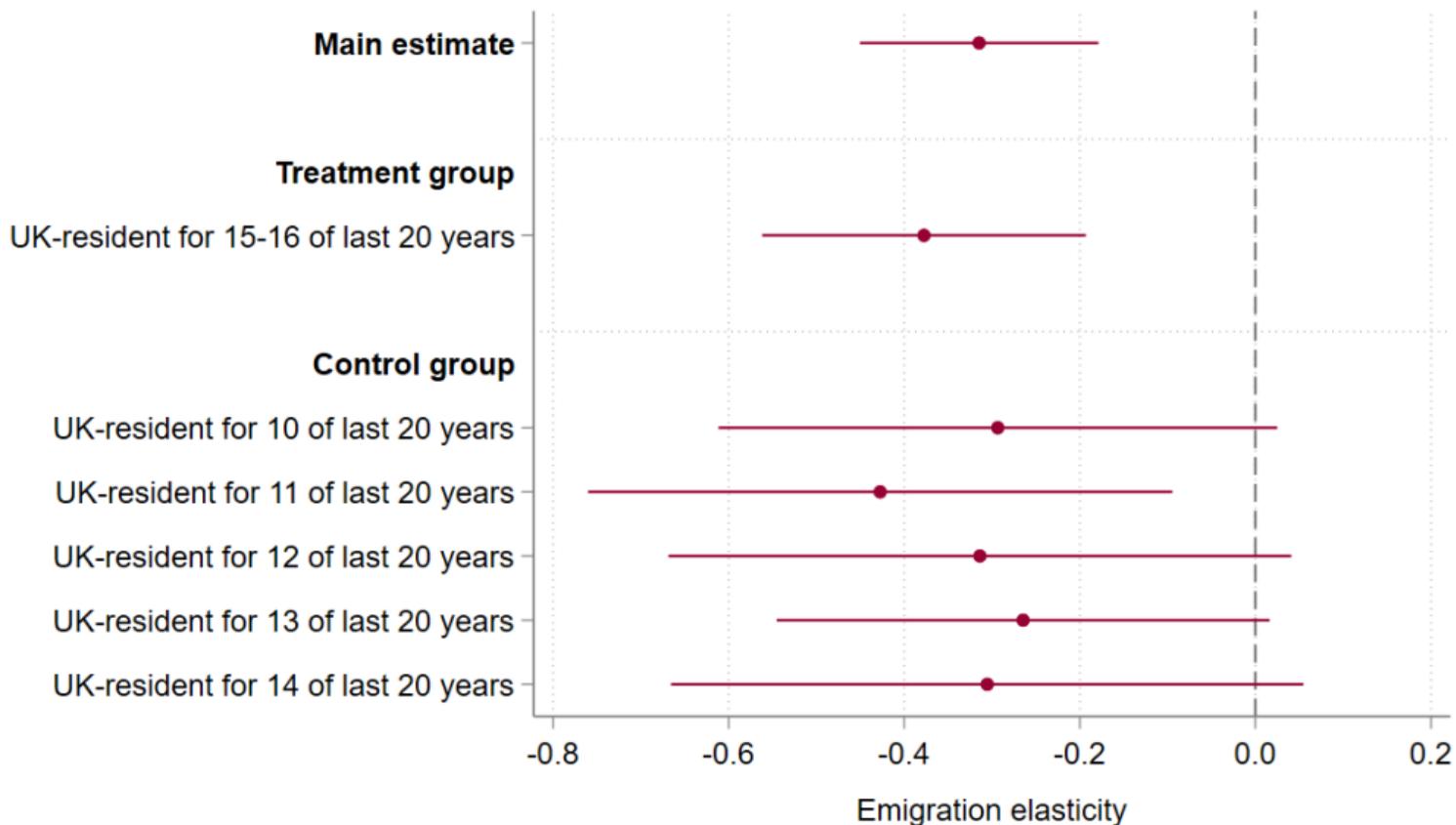
# Impact of Condition B reform: 1-year emigration rate



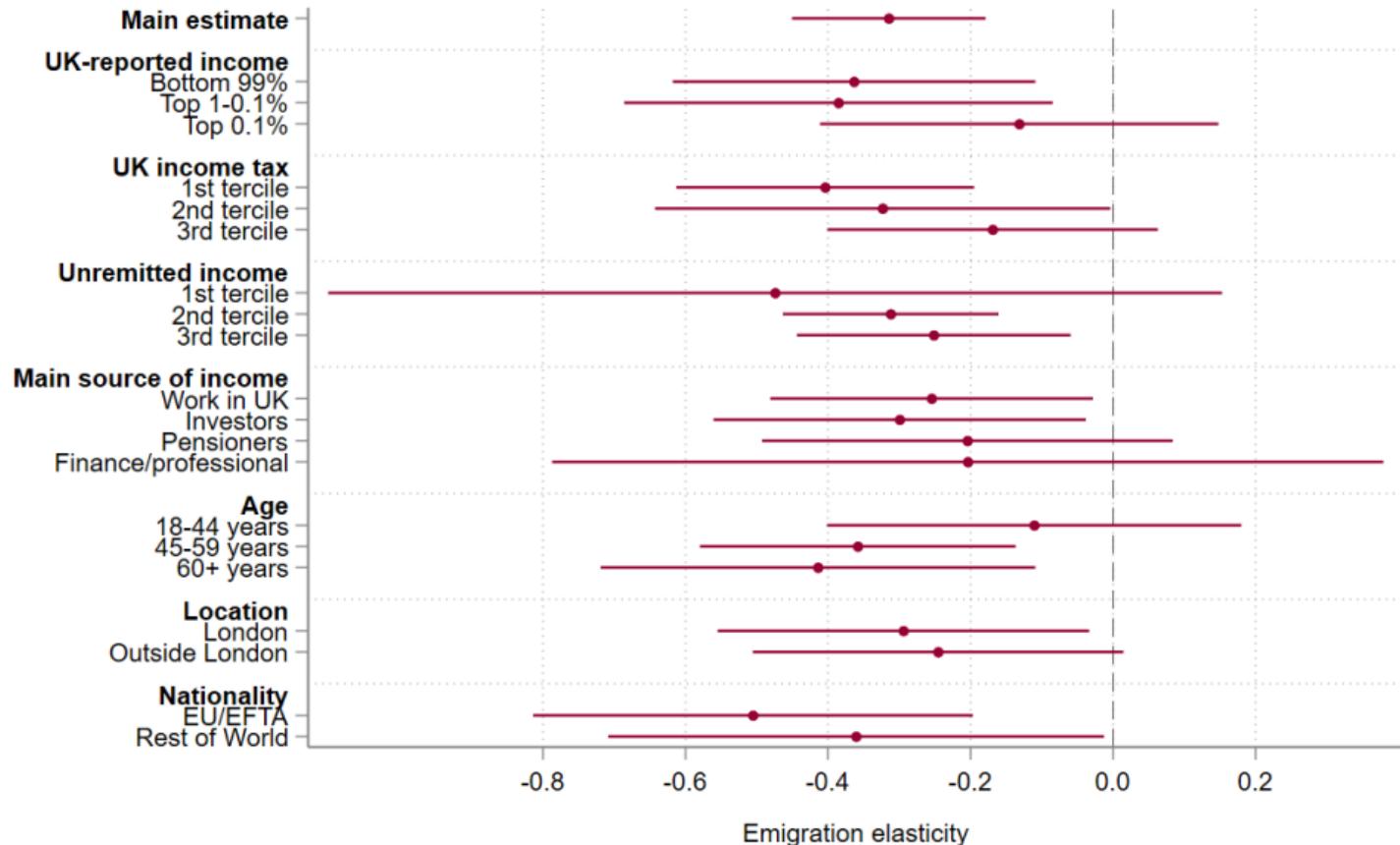
## Emigration elasticity: 1-year emigration rate

	First stage: net-of-average-tax rate (1)	Reduced form: emigration rate (2)	2SLS: semi-elasticity (3)
<b>Panel A: treatment group UK-resident for 17–20 of last 20 years</b>			
Treated × post-2018	-0.169*** (0.009)	0.053*** (0.010)	
Semi-elasticity			-0.315*** (0.053)
Group-year cells	14	14	14
Individual-year obs.	29,044	29,044	29,044
<b>Panel B: treatment group UK-resident for 15–16 of last 20 years</b>			
Treated × post-2018	-0.152*** (0.009)	0.057*** (0.010)	
Semi-elasticity			-0.378*** (0.072)
Group-year cells	14	14	14
Individual-year obs.	16,930	16,930	16,930

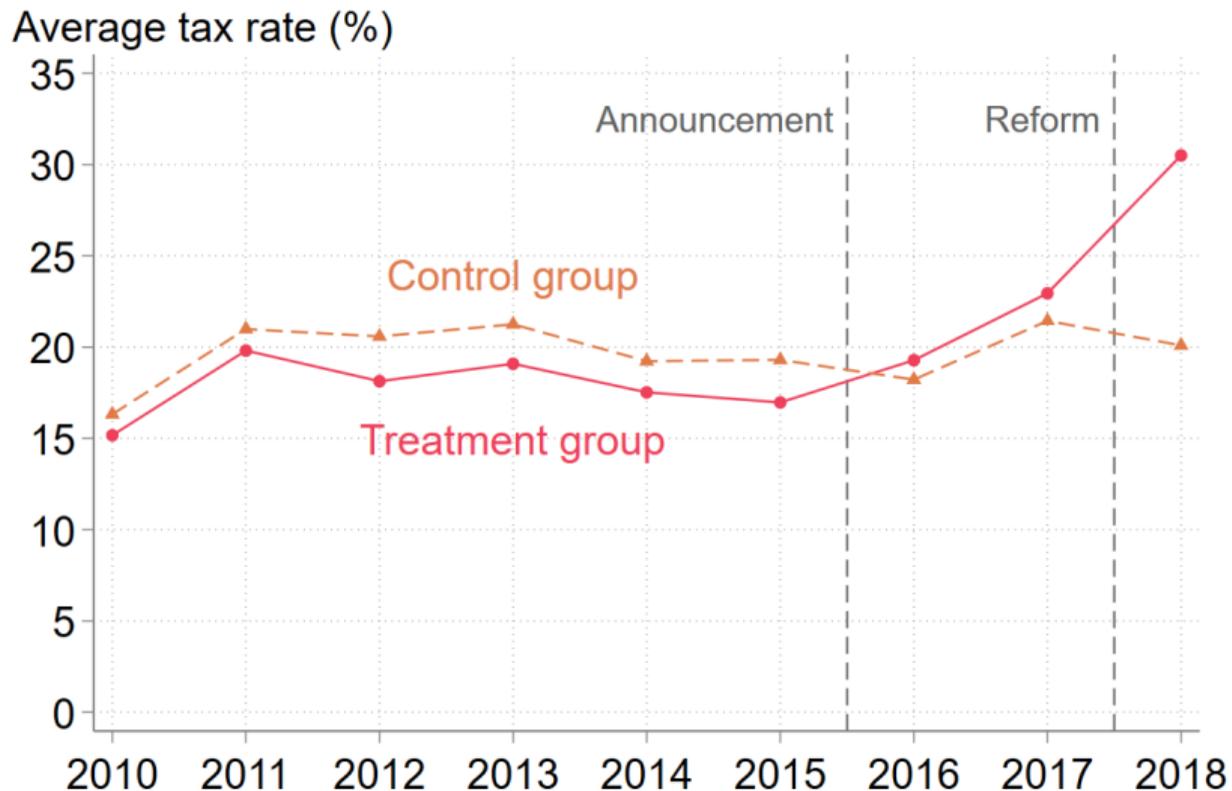
# Robustness of emigration elasticity estimate: 1-year emigration rate



# Heterogeneity in emigration elasticity: 1-year emigration rate

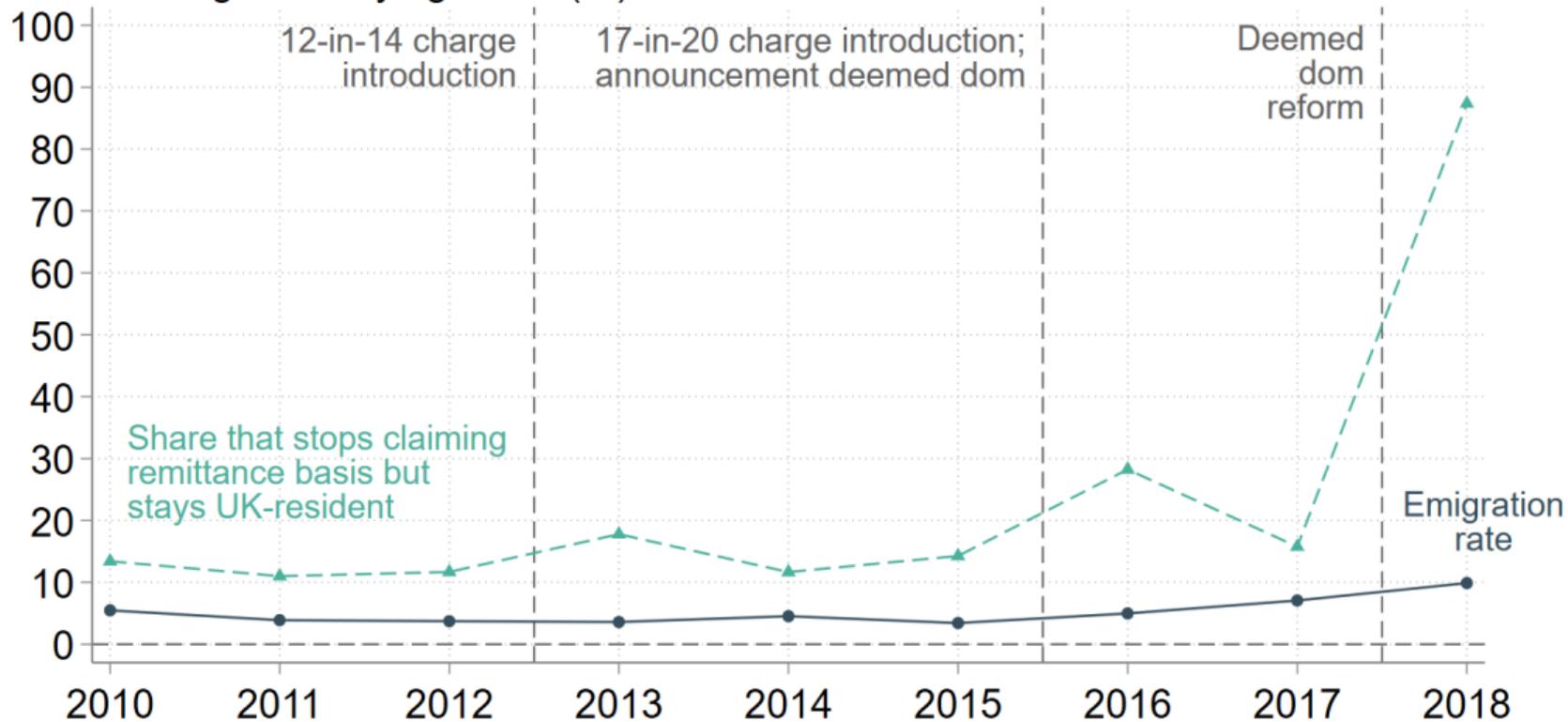


# Impact of Condition B reform: tax (1-year emigration analysis)

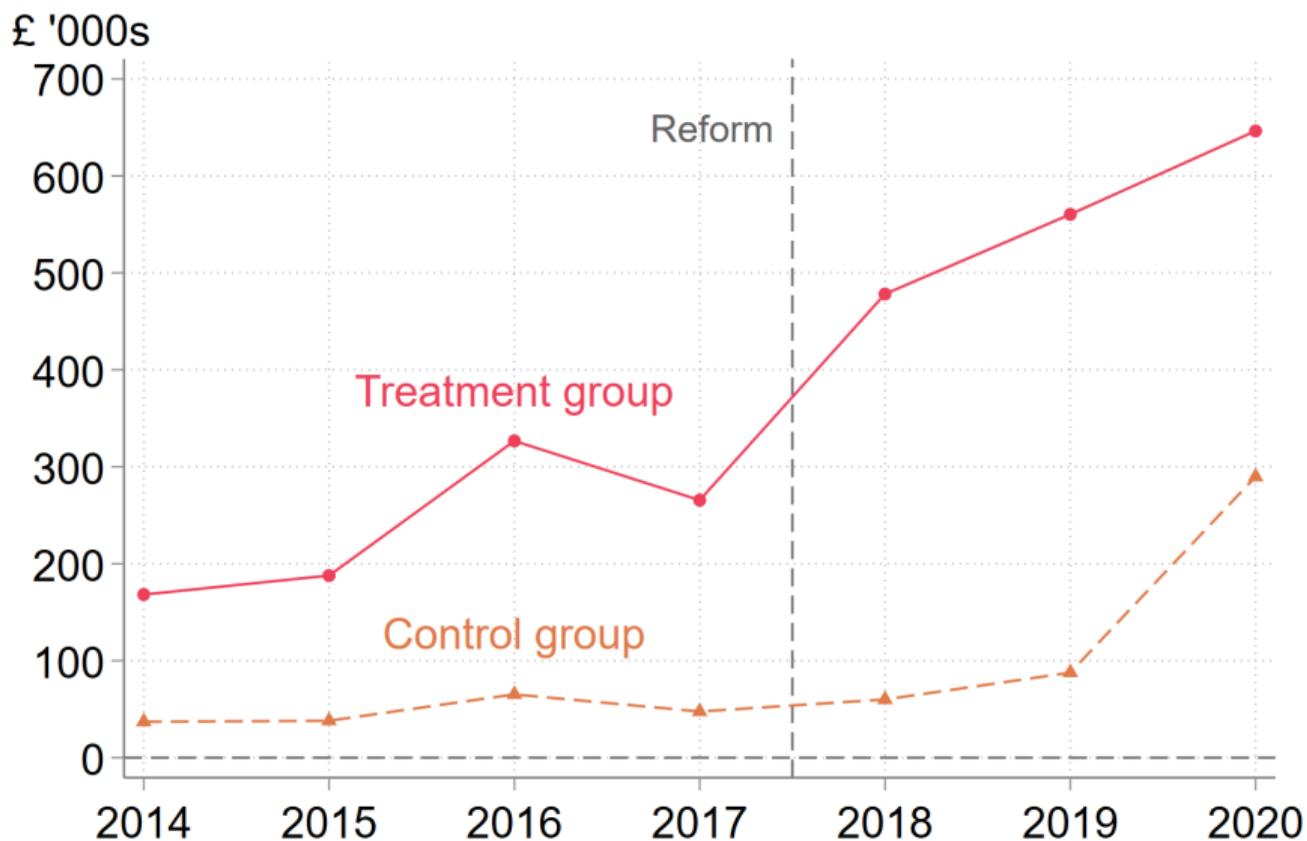


# Impact of Condition B reform: stayers and leavers (1-year)

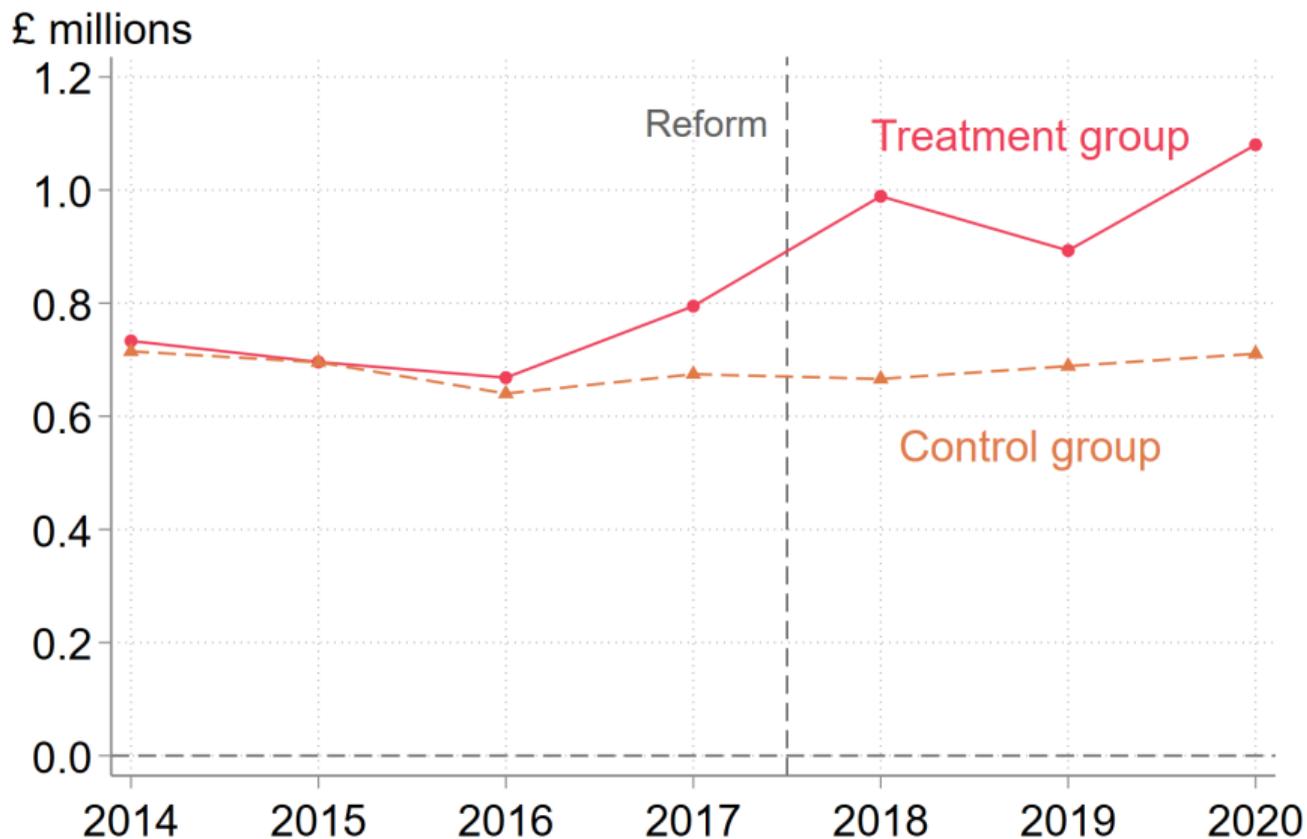
Share leaving and staying in UK (%)



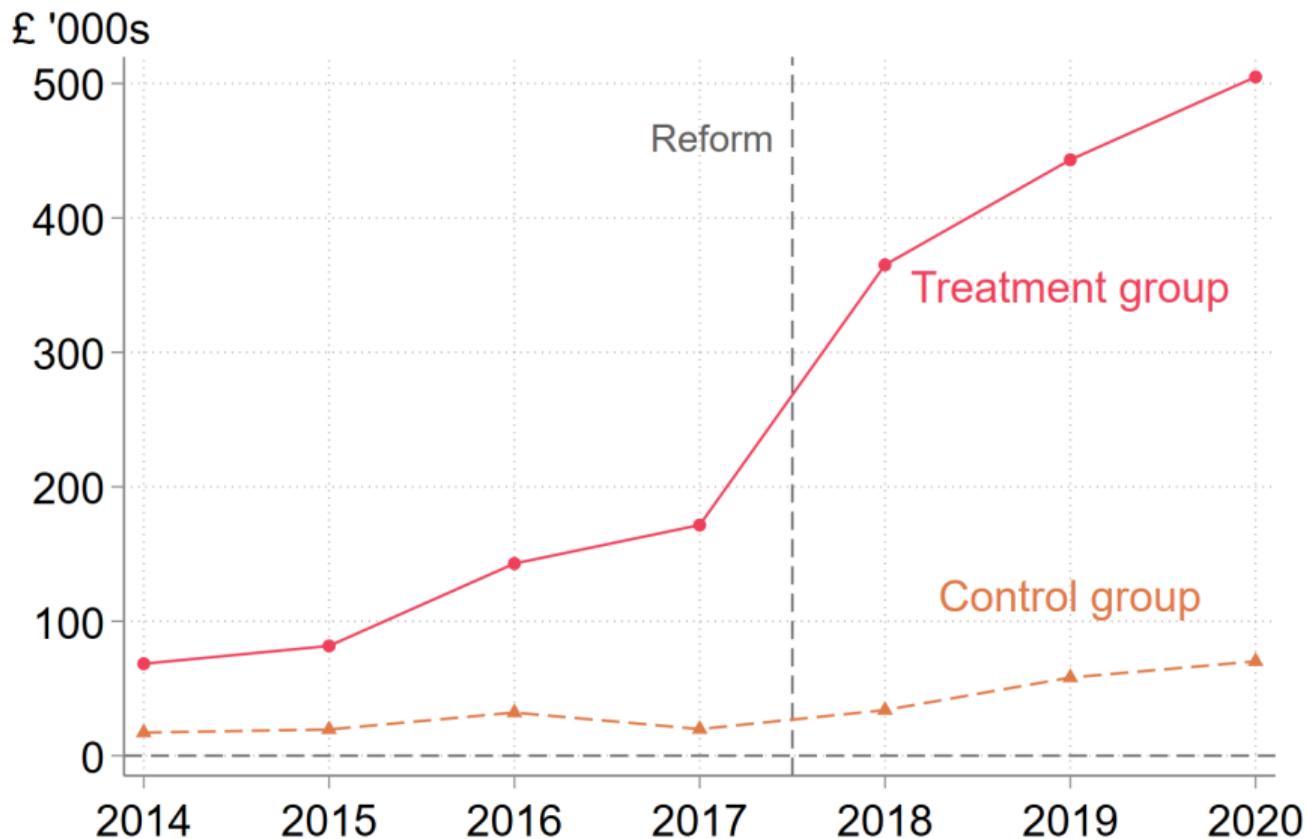
# Mean investment income



# Mean earned income

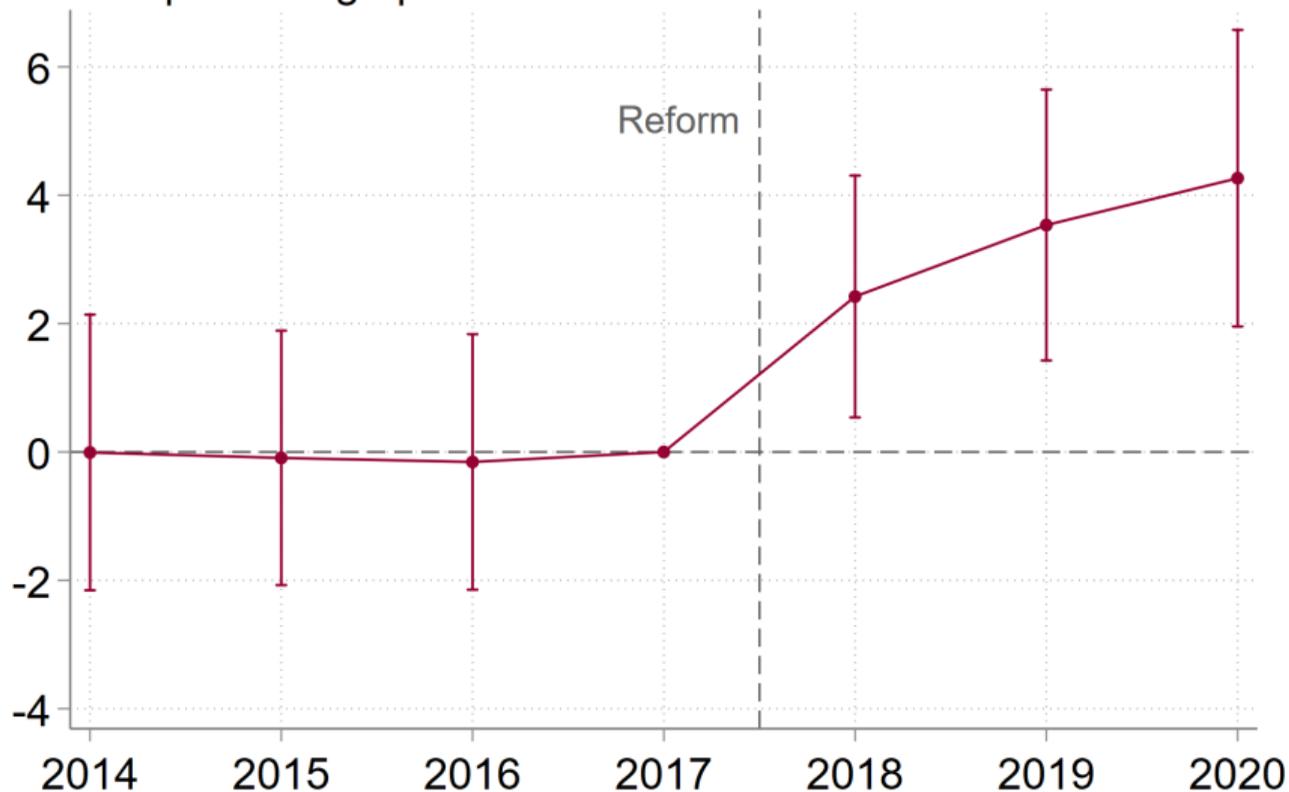


# Mean foreign-source investment income

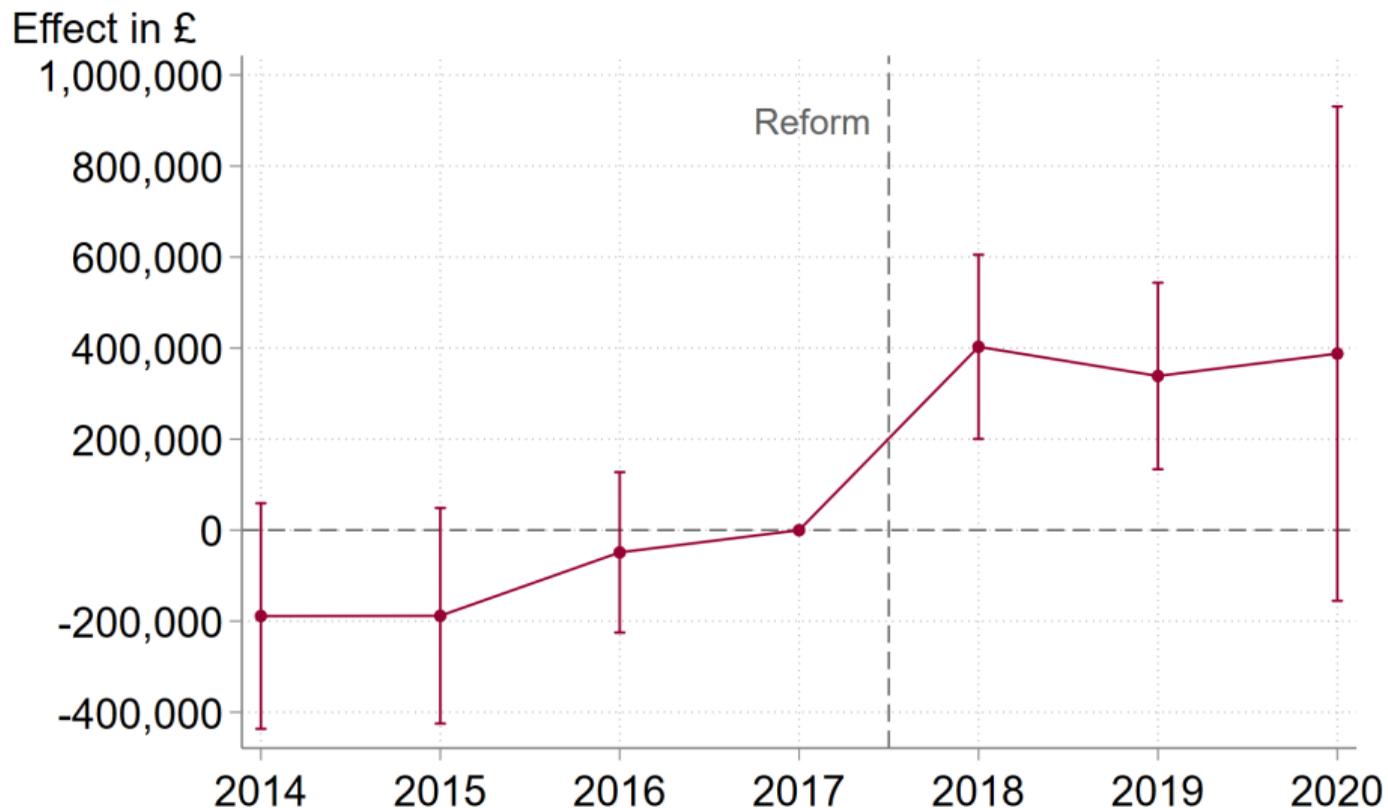


# Extensive margin effect on total income reported in UK

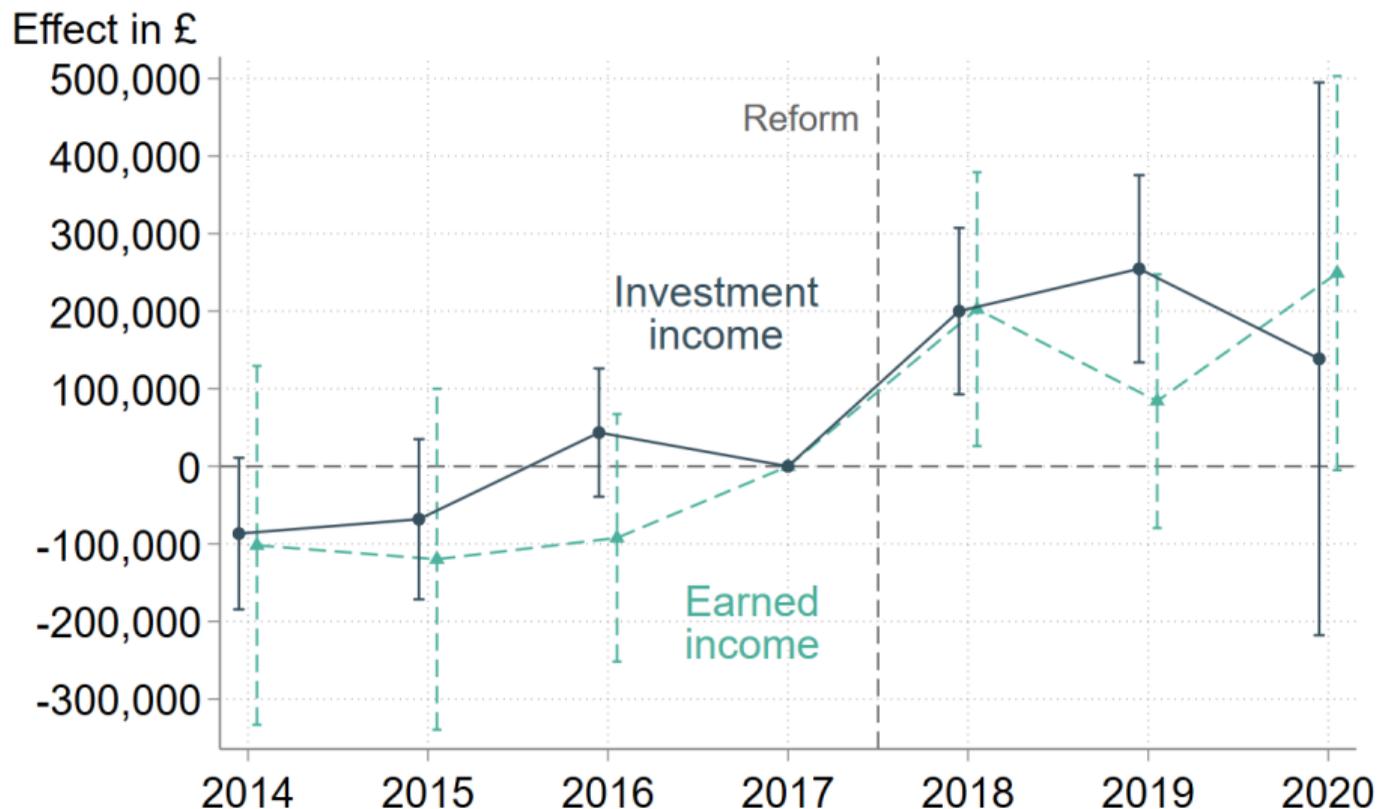
Effect in percentage points



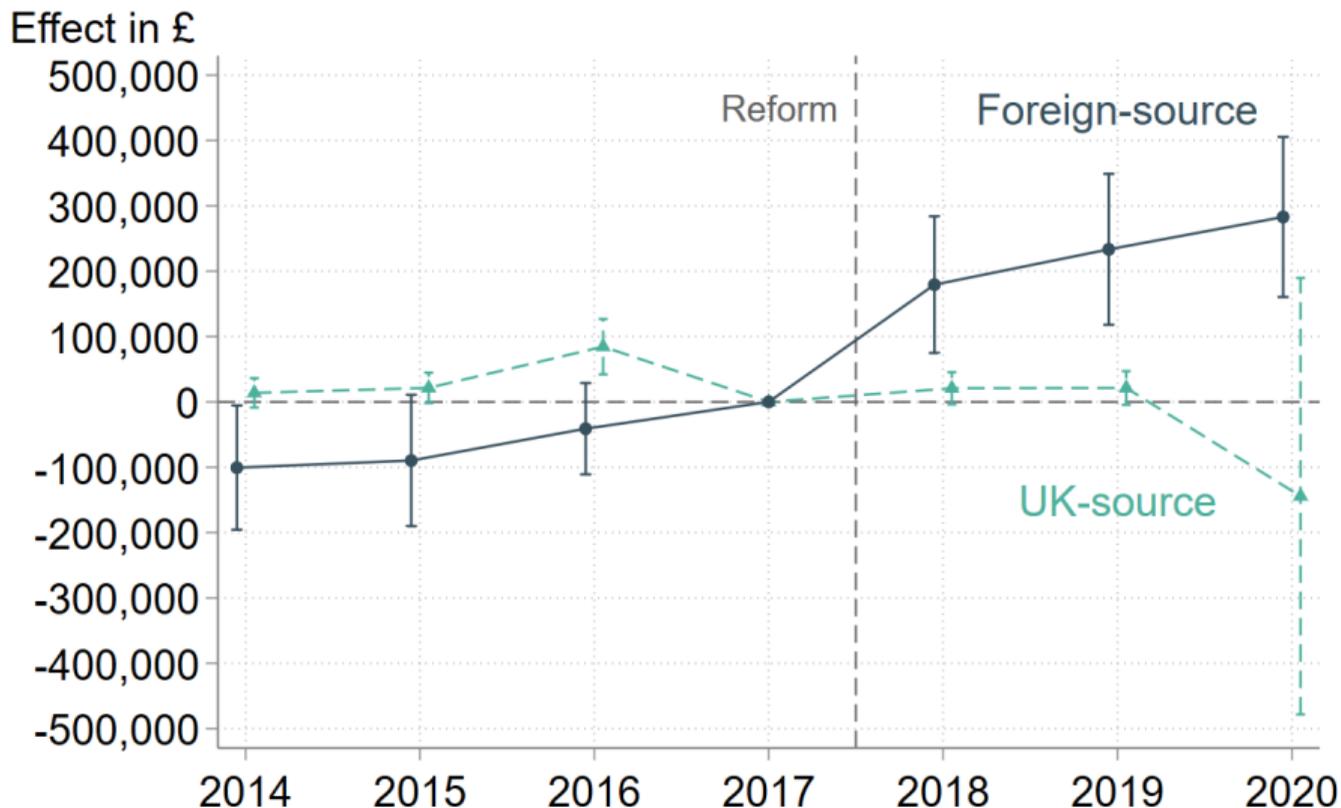
## Effect on level of UK-reported income



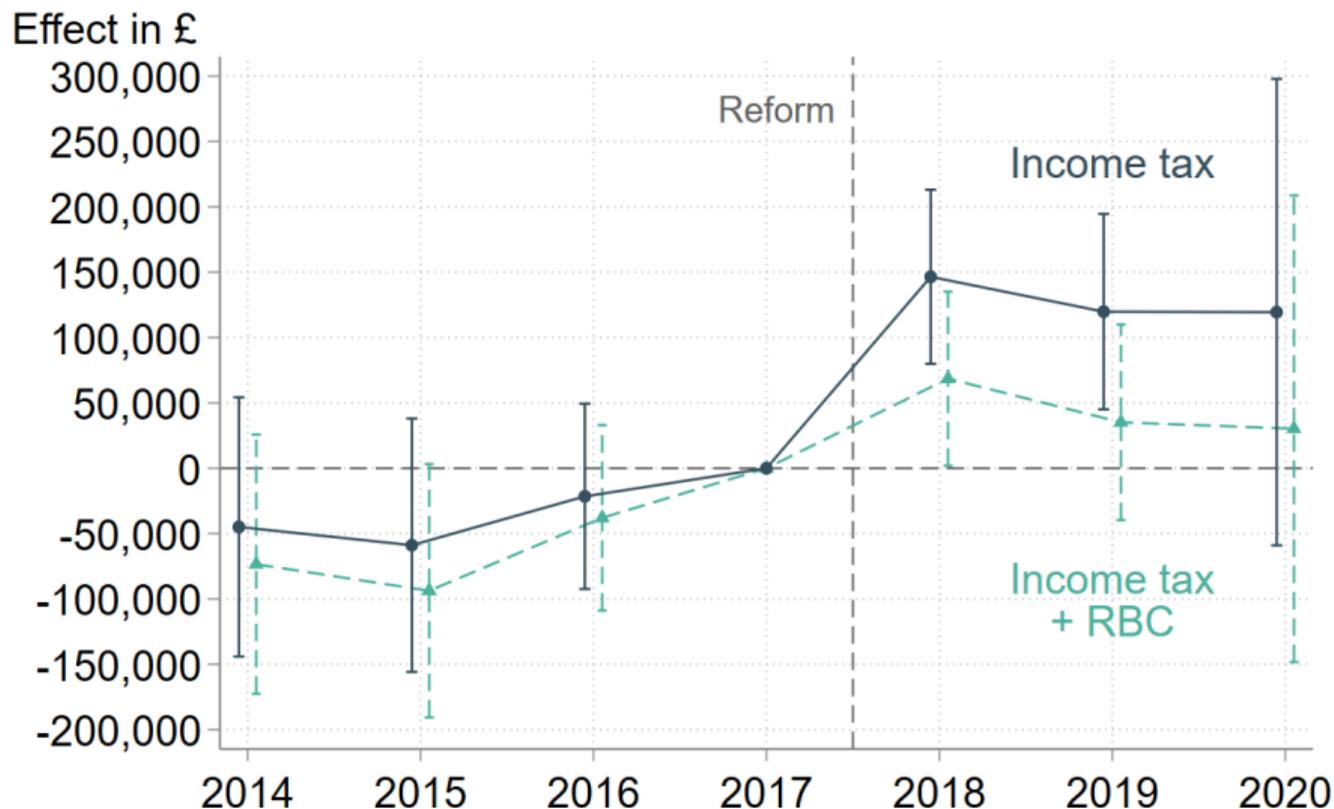
# Effect on level of investment income and earned income



## Effect on foreign-source & UK-source investment income

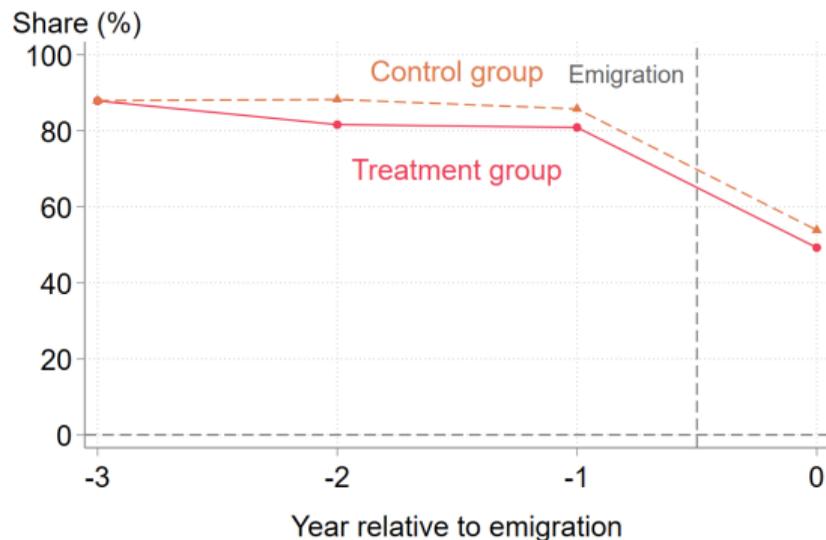


## Effect on income tax & remittance basis charge paid in UK

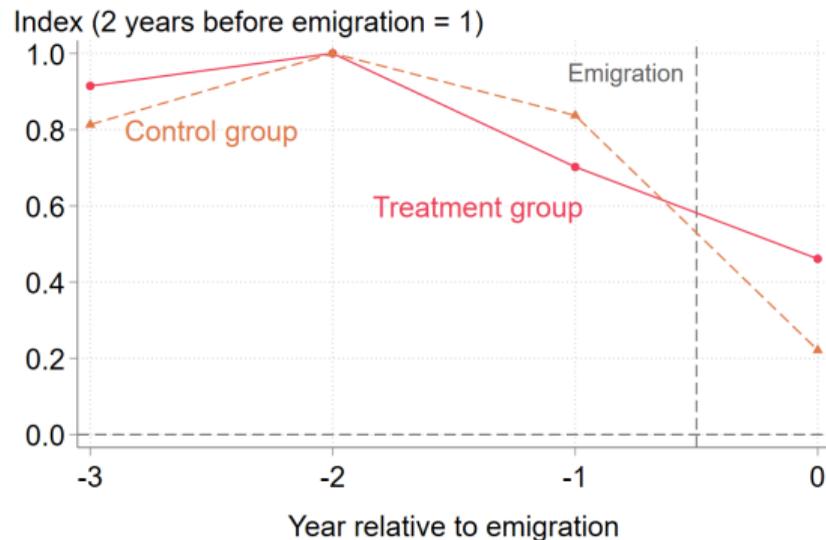


# Income tax payments of emigrants (excluding ghosts)

(a) Share with positive value



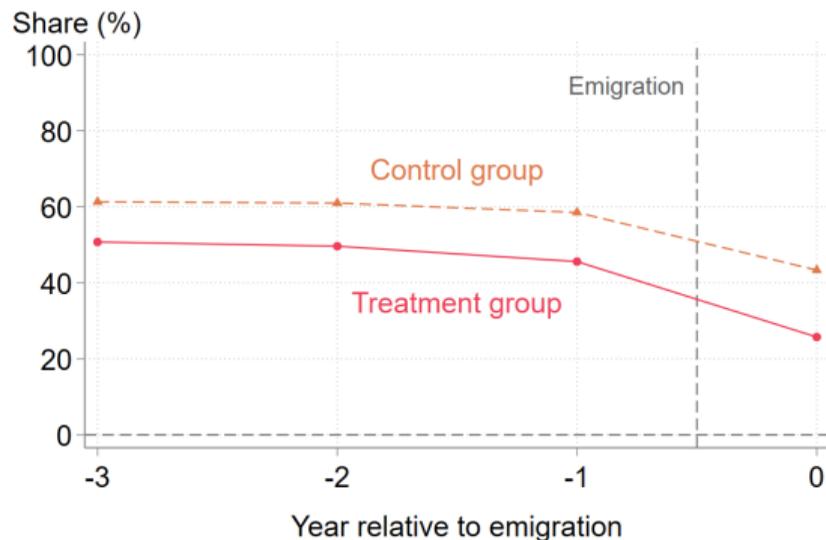
(b) Levels (indexed)



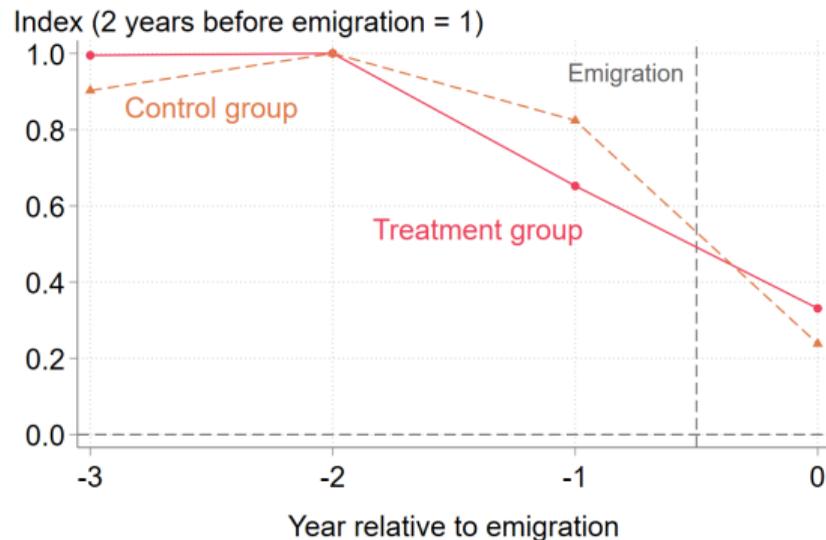
N = 595. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. Here we exclude emigrants who disappear from data.

# UK employment income of emigrants (excluding ghosts)

(a) Share with positive value



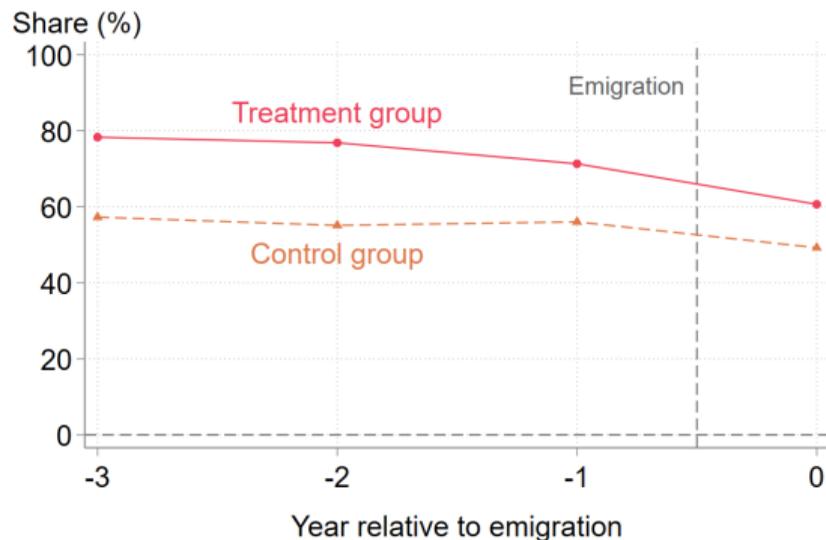
(b) Levels (indexed)



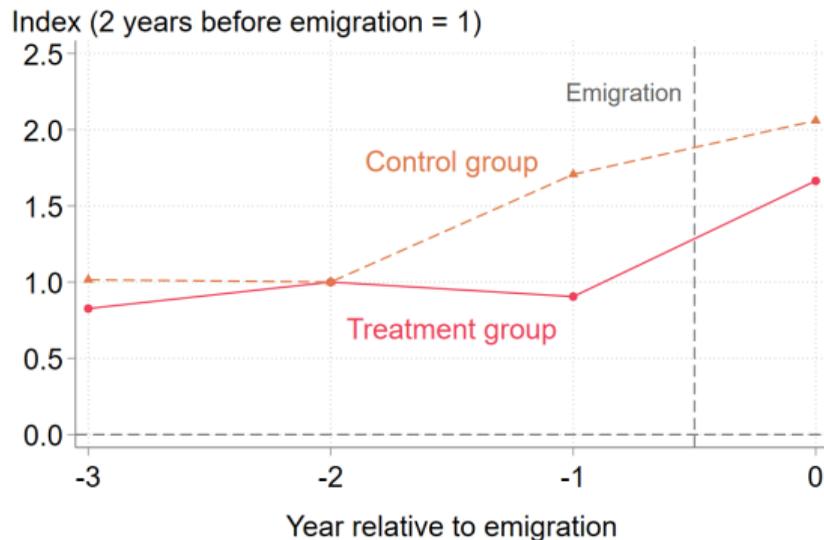
N = 595. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. Here we exclude emigrants who disappear from data.

# UK investment income of emigrants (excluding ghosts)

## (a) Share with positive value



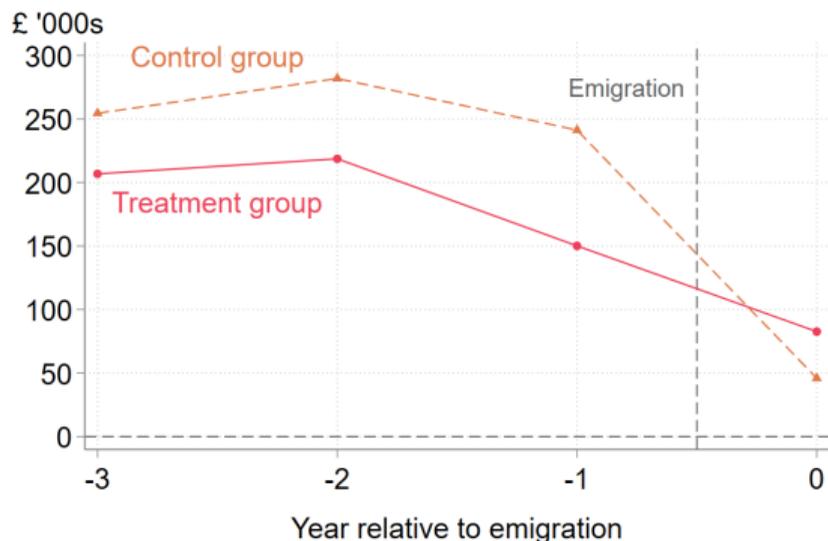
## (b) Levels (indexed)



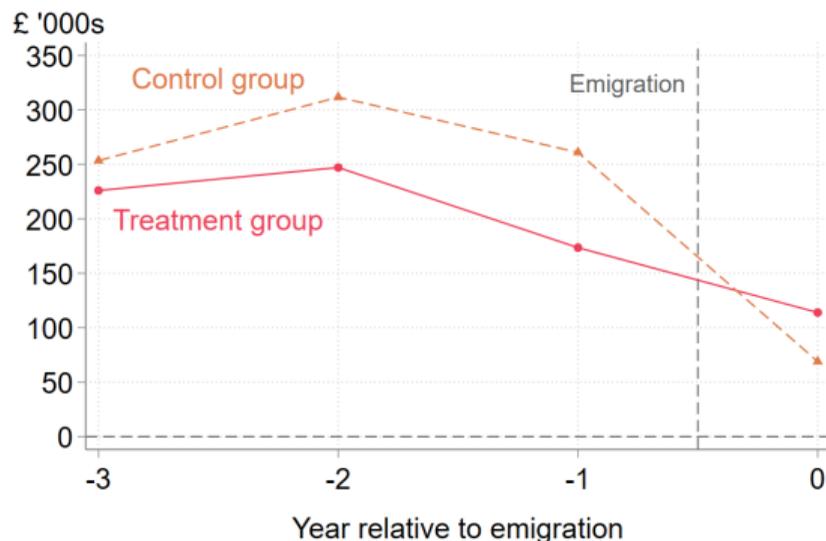
N = 595. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. Here we exclude emigrants who disappear from data.

# Absolute level of UK income tax payments of emigrants

## (a) Including ghosts



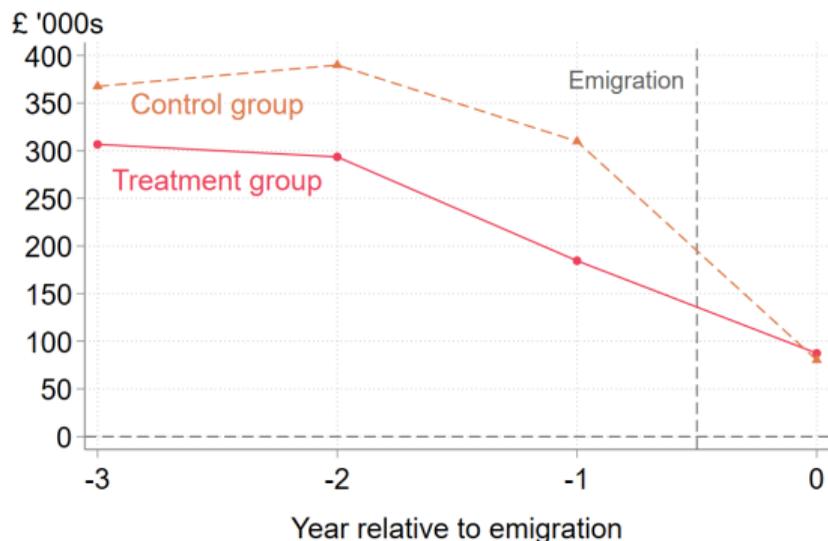
## (b) Excluding ghosts



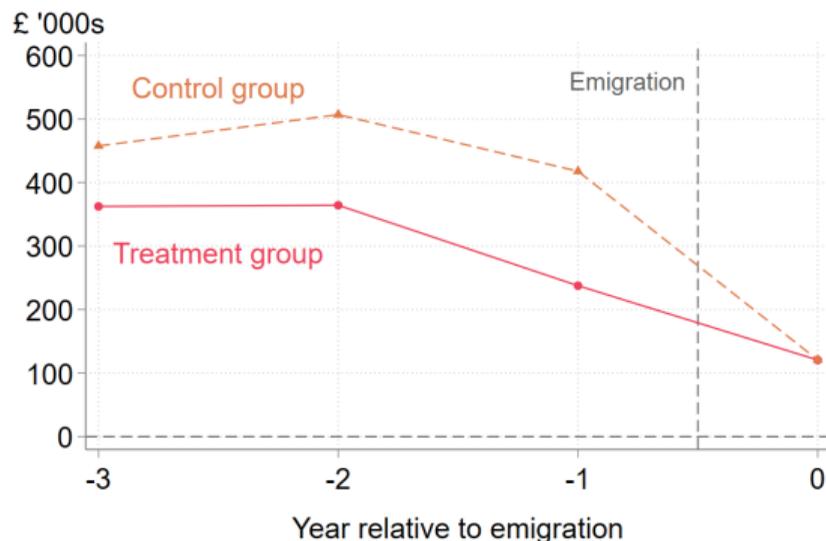
Notes: 'Ghosts' refers to emigrants who disappear from data. If we include them, we impute zero values for them.

# Absolute level of UK employment income of emigrants

(a) Including ghosts



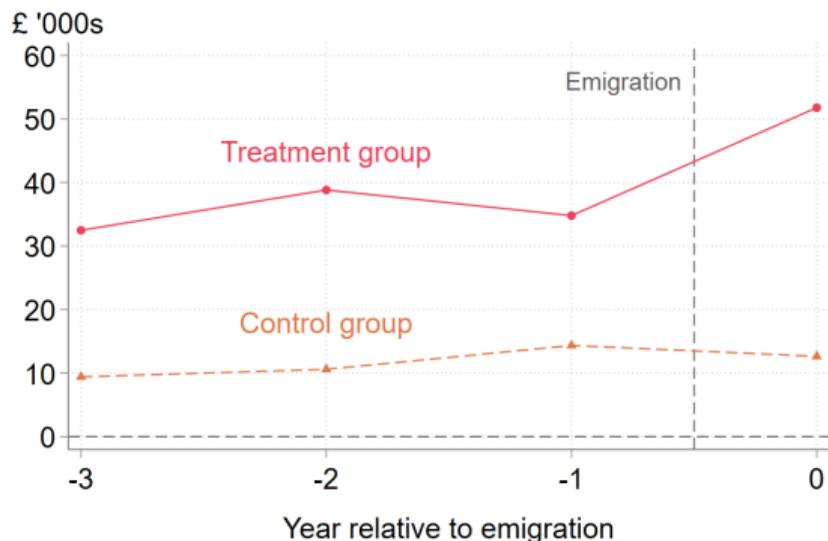
(b) Excluding ghosts



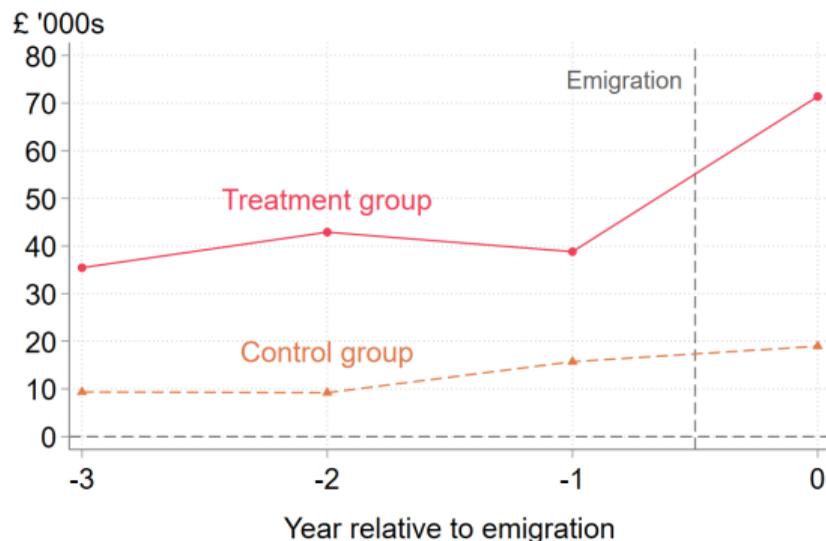
Notes: 'Ghosts' refers to emigrants who disappear from data. If we include them, we impute zero values for them.

# Absolute level of UK investment income of emigrants

(a) Including ghosts



(b) Excluding ghosts



Notes: 'Ghosts' refers to emigrants who disappear from data. If we include them, we impute zero values for them.