

Taxation and Migration by the Super-rich

Arun Advani
University of Warwick

David Burgherr
University of Zurich

Andy Summers
LSE

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Motivation

- Perception that international migration is key constraint on national governments seeking to raise more tax from very top
- International coordination increasingly seen as pre-requisite for progressive taxes on global super-rich
 - Piketty (2014): global wealth tax
 - Saez, Zucman & Landais (2020): European wealth tax
 - EU Tax Observatory, G20 Summit (2024): global minimum tax on billionaires
- But: limited quantitative evidence on **international** migration responses of the **super-rich** → open question whether national policies can work
 - Specific professions: Kleven, Landais & Saez (2013); Akcigit, Baslandze & Stantcheva (2016)
 - Top-earners: Kleven, Landais, Saez & Schultz (2014); Muñoz (2023)
 - Wealthy: Jakobsen, Kleven, Kolsrud, Landais & Muñoz (2024)

This paper

How responsive to tax is international migration of the *super-rich*?

Context

- UK 'non-doms' who use preferential tax regime ('remittance basis')
 - Super-rich: all are in top 1% by offshore investment income alone
 - Globally connected: foreign ties and high baseline mobility (4% emigration rate)
- Very large tax increase
 - Access to remittance basis removed for some non-doms in 2017 reform
 - Decreases effective net-of-average-tax rate on worldwide income by 20%
- Compelling identification
 - Reform provides variation *within* super-rich (by years spent in UK)

Results

Modest emigration response

- Elasticity: number of super-rich decreases by 0.3% in response to a 1% decrease in net-of-tax rate; can rule out elasticity >0.45
- Smallest response by 'City' workers (finance/professional services); largest response by those paying little tax pre-reform (relying on offshore wealth)

Large and positive fiscal effect of reform

- Stayers increase income reported and tax paid in the UK by $>150\%$
- Mostly driven by bringing foreign-source investment income into UK tax

'Tax migrants' are more likely to retain economic ties to UK

- Treated emigrants spend more time in UK after leaving compared to control
- Smaller fall in UK investment and employment income for treated emigrants compared to control

Contributions

1. Tax-induced migration at the top

- International migration by (specific) top-income groups (Kleven, Landais & Saez, 2013; Kleven, Landais, Saez & Schultz, 2014; Akcigit, Baslandze & Stantcheva, 2016; Kleven, Landais, Muñoz & Stantcheva, 2020; Giarola, Marie, Cörvers & Schmeets, 2023) and high-wealth individuals (Jakobsen, Kleven, Kolsrud, Landais & Muñoz, 2024)
- *Intra*-national migration by top-income (Rauh, 2022; Young & Lurie, 2022) and top-wealth individuals (Brülhart, Gruber, Krapf & Schmidheiny, 2022; Agrawal, Foremny & Martínez-Toledano, 2023; Baselgia & Martínez, 2024; Moretti & Wilson, 2023)

2. Nascent literature on economic impacts of tax migration

- Firm-level impacts of emigration by wealthy business owners (Jakobsen, Kleven, Kolsrud, Landais & Muñoz, 2024)

3. Policy design: who should be taxed? (Boskin & Sheshinski, 1983; Piggott & Whalley, 1996)

- Connecting factors for tax: residence, domicile, citizenship, etc.

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- Our contribution: *suggestive evidence that effects of tax-induced migration differs from baseline (non-tax) migration*

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- Connecting factors for tax: residence, domicile, citizenship, etc.
- Our contribution: boundaries of tax residency significant for policy design

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 income** (dividends, interest, rent, capital gains, earnings) as long as it is kept abroad
 - Typically, people won't pay tax on unremitted income 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
 - Personal characteristics: sex, age, residential location, migrant status incl. year of arrival and origin country
- **Challenge:** remittance basis users do not report unremitted foreign income and gains
 - Imputation using individuals who do not have access to the regime [▶ Details](#)

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
▶ Figure
2. RBUs do vast majority of their investments abroad ▶ Figure
3. RBUs do have a lot of earnings from work (despite high wealth) → mostly working in 'City-type' jobs (finance, law, consulting, accounting) ▶ Figure
4. RBUs come from a large range of countries, but US, Western Europe, and India dominate ▶ Figure
5. Baseline international mobility among RBUs is high ▶ Figure

▶ Counts

▶ Industry

▶ Location

Identification strategy

- Reform was announced in July 2015 and implemented in April 2017
- Removed access to remittance basis for those who have been resident in the UK for ≥ 15 of last 20 years
 - Affects a large number of remittance basis users (around 3,000)
 - Splits up remittance basis user population into natural treatment and control group by number of years spent in UK
- We use a difference-in-differences approach 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 this reform only affects those who have been living in the UK for a long time, we cannot study effect on immigration (Advani, Poux & Summers, 2024)
- Possibility of anticipation response in control group
 - Seems to not be substantial because we get similar results when we use people who are going to be affected in 2-5 years as control group

Estimation of emigration elasticity

Aggregate-level IV difference-in-differences approach

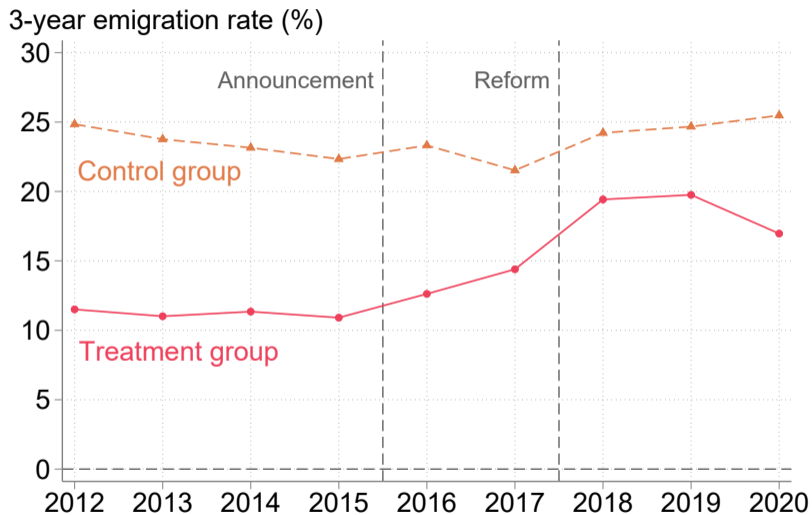
- Collapse observations into group-year cells
- Regress emigration rate on log net-of-average-tax rate and group + year FEs:

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

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

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

Emigration rate clearly increases in response to reform



▶ Tax variation

▶ Stayers

▶ 1-year rate

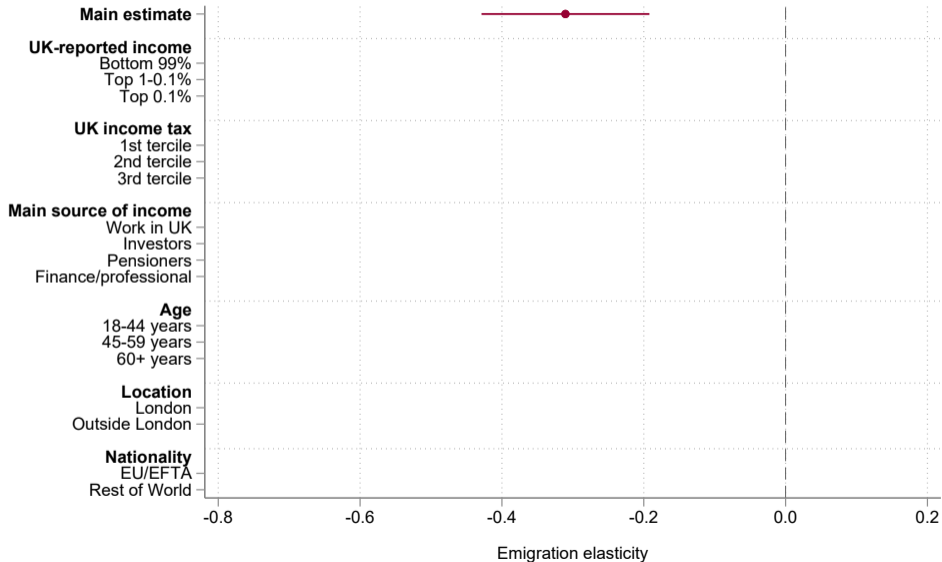
▶ 2-year rate

Emigration elasticity

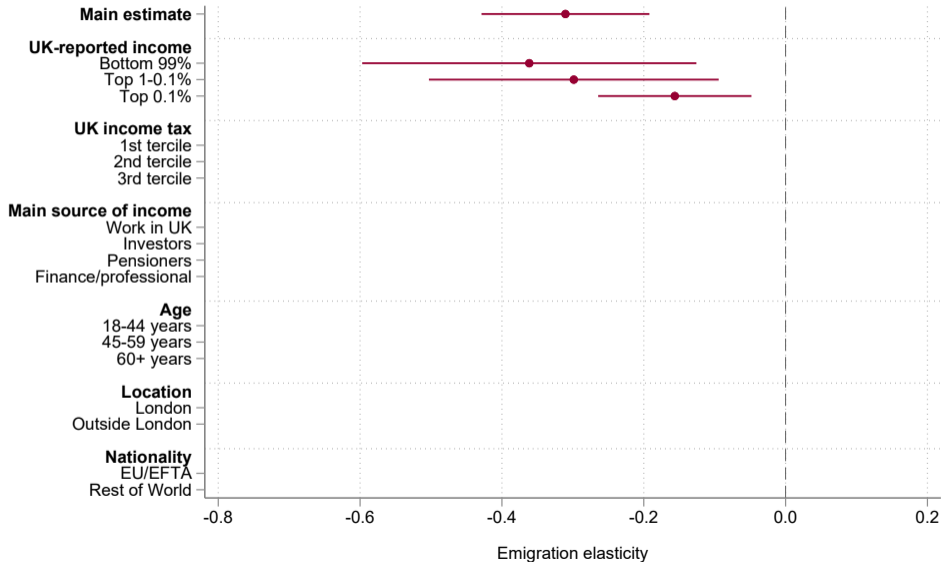
	First stage: net-of-average-tax rate (1)	Reduced form: emigration rate (2)	2SLS: semi-elasticity (3)
Treated \times post-2018	-0.202*** (0.015)	0.063*** (0.011)	
Semi-elasticity			-0.310*** (0.046)
Group-year cells	14	14	14
Individual-year obs.	34,870	34,870	34,870

► Robustness

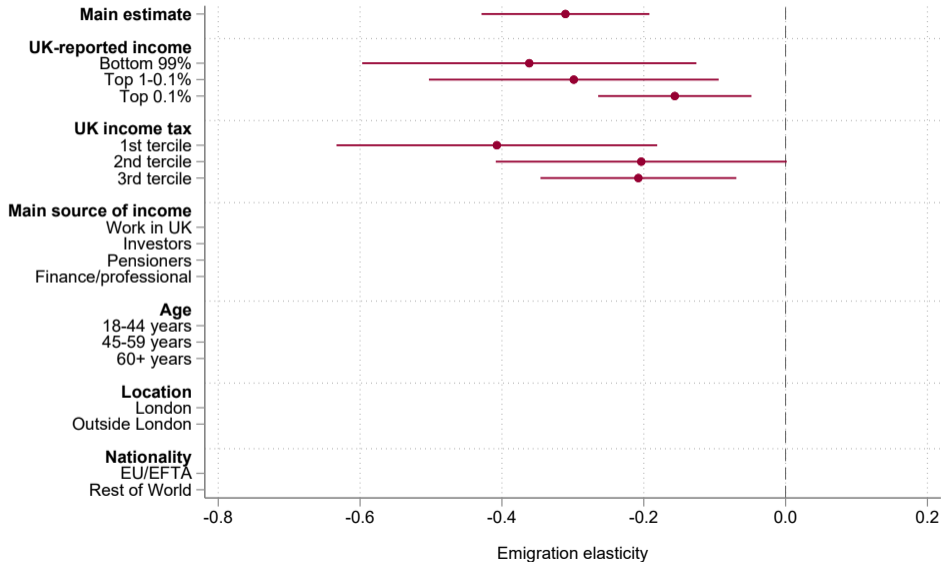
Heterogeneity in emigration elasticity



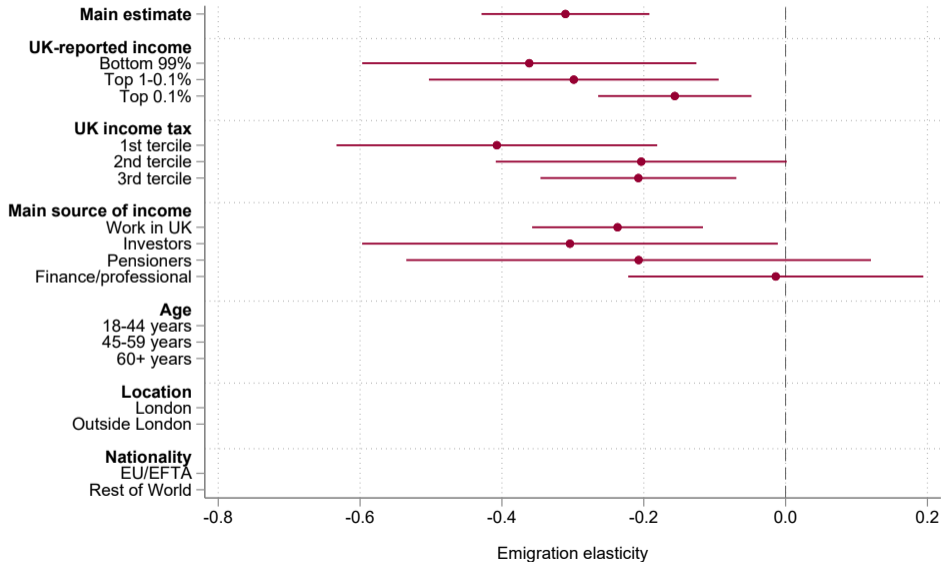
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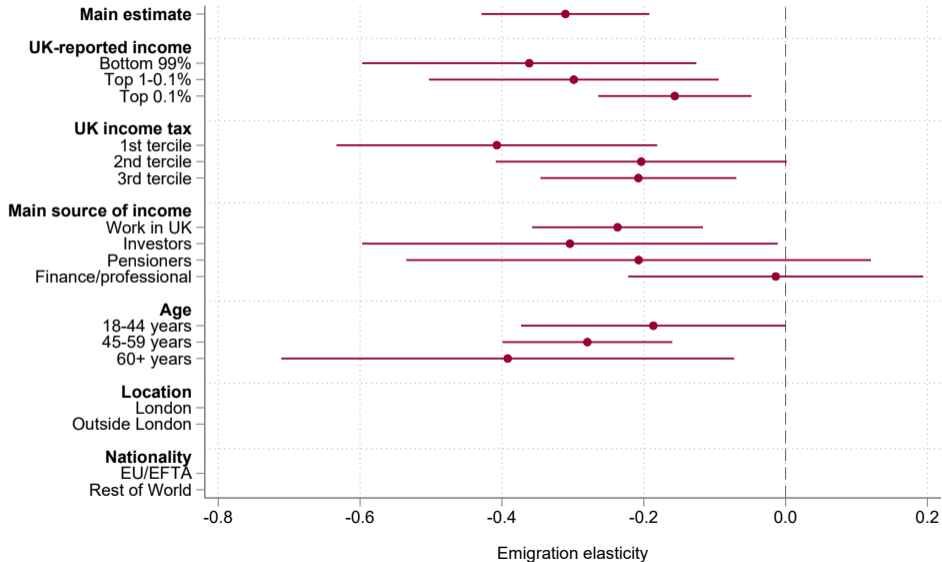
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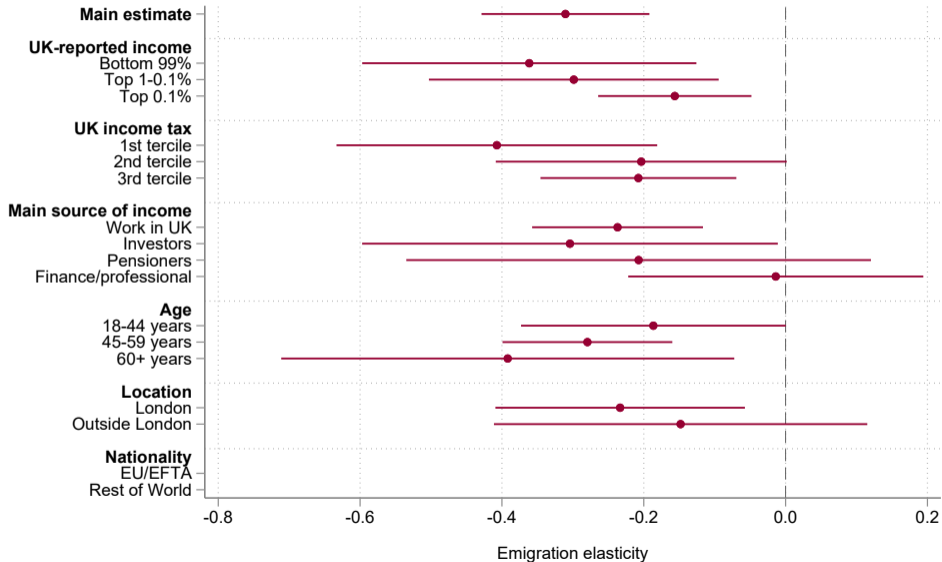
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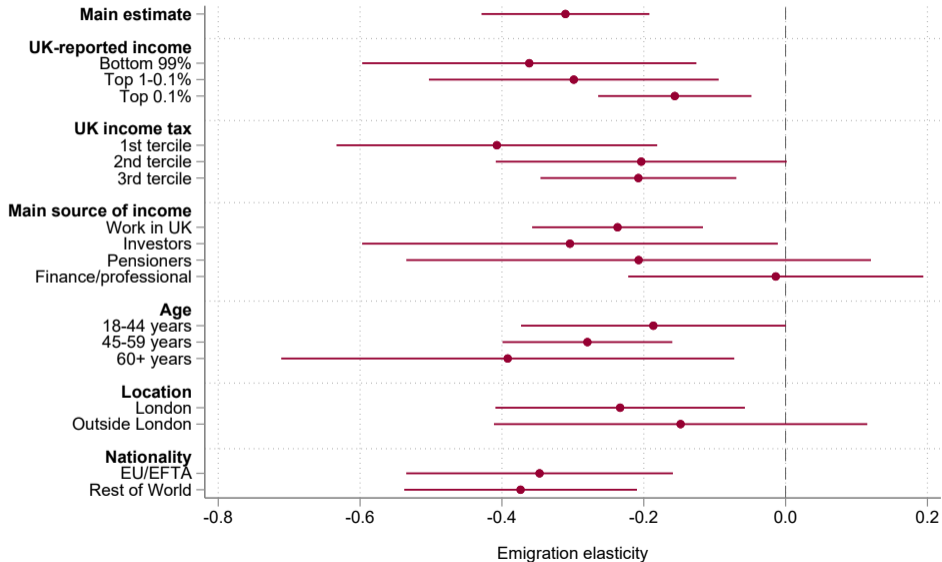
Heterogeneity in emigration elasticity



Heterogeneity in emigration elasticity



Heterogeneity in emigration elasticity



Effects on stayers' incomes, tax payments, and investments

Individual-level difference-in-differences approach

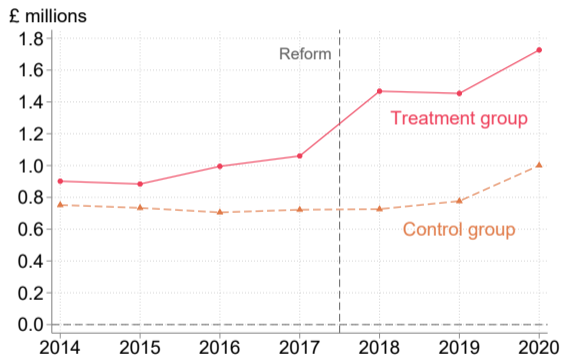
- Restrict to RBUs in 2017 who remain UK-resident after reform
- Regress outcome of interest on treatment group indicator interacted with year dummies, and individual + year FEs:

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

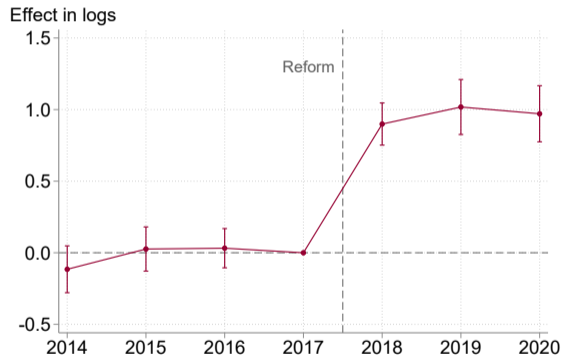
where Y_{it} = outcome of interest of individual i in year t

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

(a) Mean UK-reported income

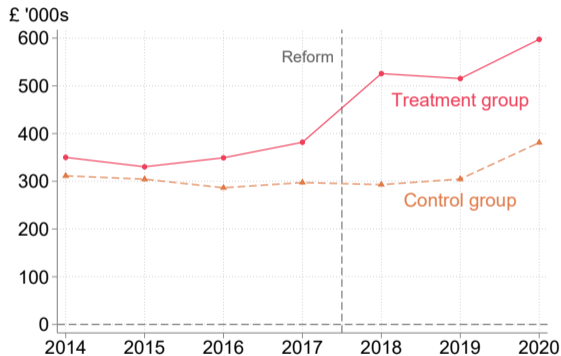


(b) DiD effect estimates

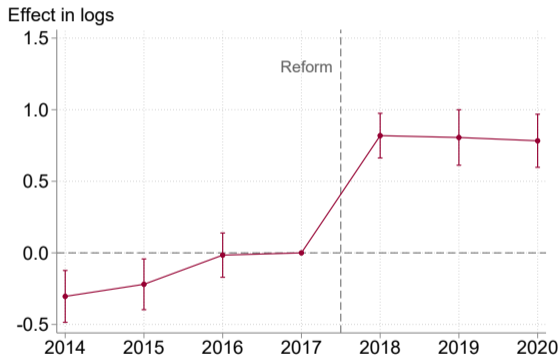


...which directly translates into tax paid (155% increase)

(a) Mean UK income tax



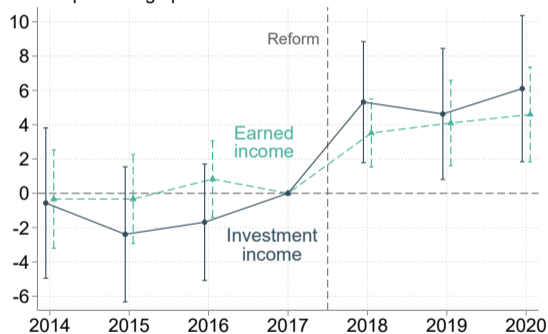
(b) DiD effect estimates



Effect on UK-reported investment income and earned income

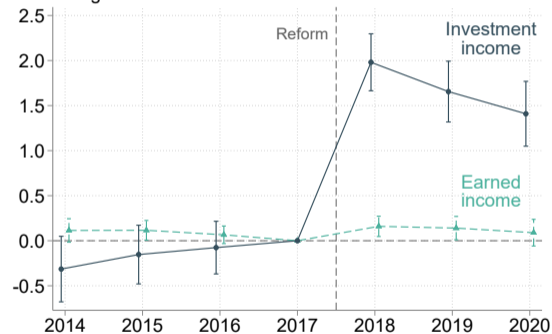
(a) Extensive margin

Effect in percentage points



(b) Intensive margin

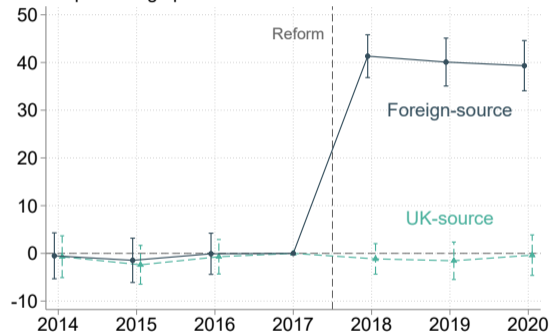
Effect in logs



Investment onshoring vs. reporting responses

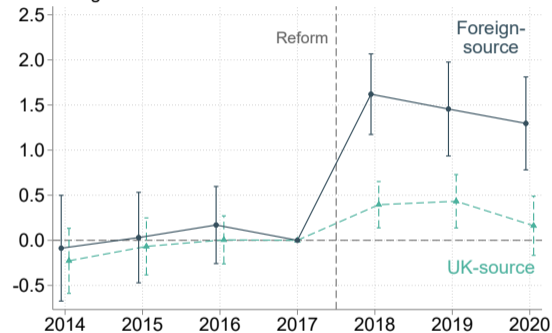
(a) Extensive margin

Effect in percentage points



(b) Intensive margin

Effect in logs



► Descriptives

► Effects on levels

Do emigrants retain an economic footprint in the UK?

Descriptive analysis (causal evidence coming soon!)

- Pool remittance basis users (RBUs) who emigrate in 2018, 2019, or 2020 to increase power
- As before, compare emigrating RBUs affected by the 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 (except for number of days spent in UK)

Results on UK economic footprint of emigrants

1. Bunching in number of days spent in UK below threshold determining tax residency among emigrants affected by reform [▶ Figure](#)
2. Emigrants' tax payments fall by (only) 60% after leaving [▶ Figure](#)
3. UK employment income falls by 70% after emigration [▶ Figure](#)
4. UK investment income **increases** by 30% after emigration [▶ Figure](#)

Conclusion

- We tackle longstanding challenge in estimation of international migration responses to taxation among the super-rich
- We have a setting with:
 - Detailed data on the globally connected super-rich
 - Very large tax increase
 - Variation in tax rate within group of super-rich and across time
- We find a modest migration elasticity in our setting, in line with existing estimates for international mobility and lower than for intra-national mobility
 - Responsiveness decreasing in attachment to UK labour market
 - Those who do leave remain more connected to UK than emigrants whose departure was not tax-induced

Appendix

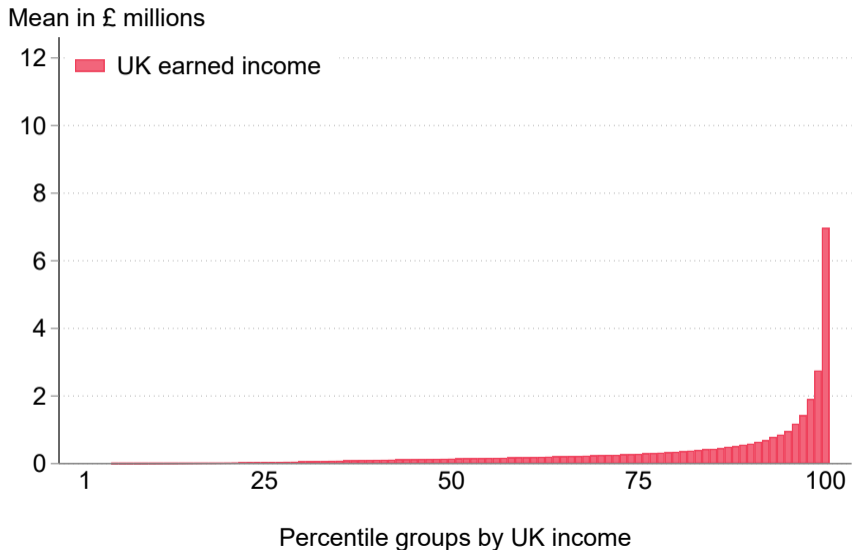
Measuring foreign income and gains

- 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

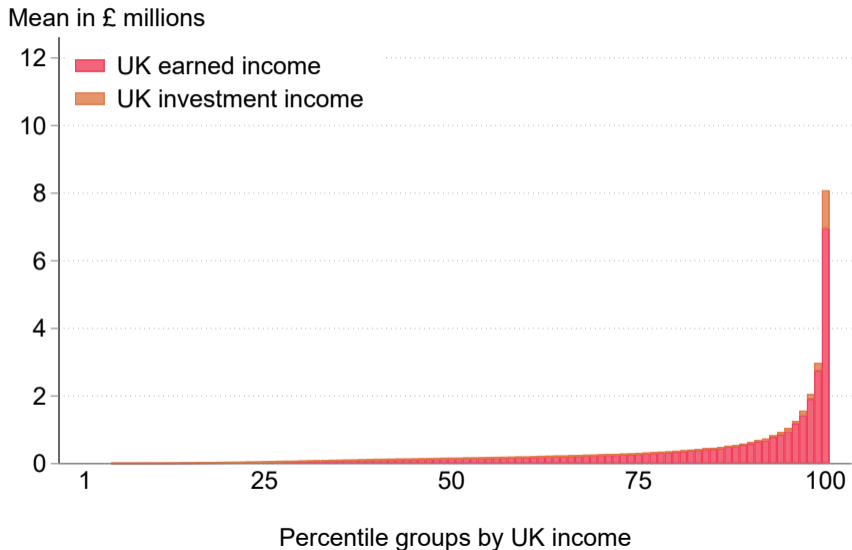
Imputation details

- 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

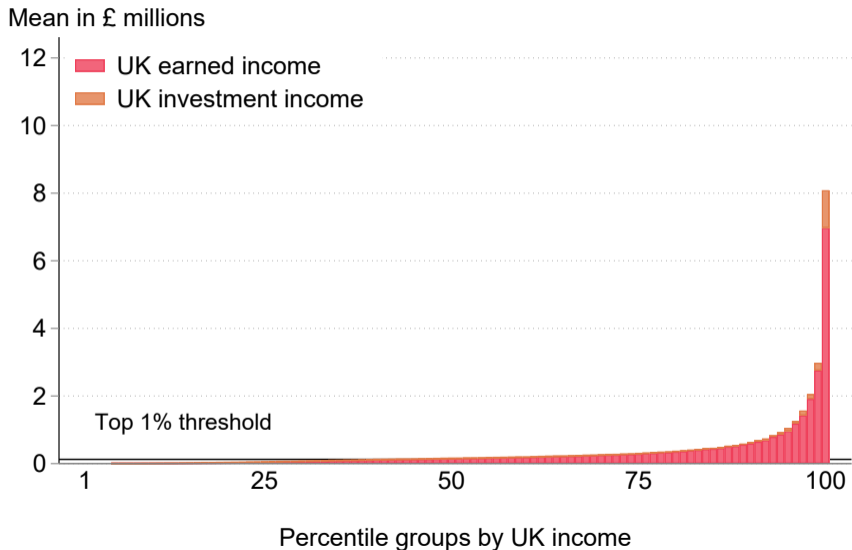
RBUs have high UK earnings...



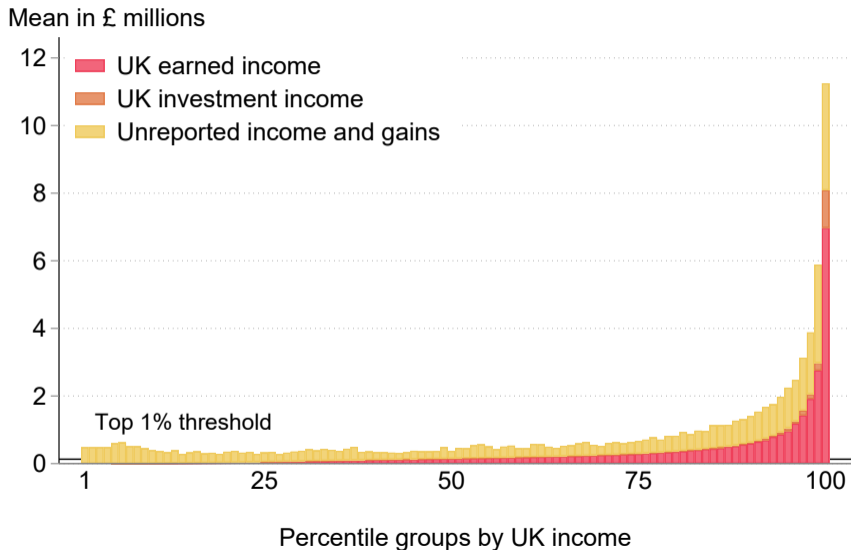
RBUs have high UK incomes...



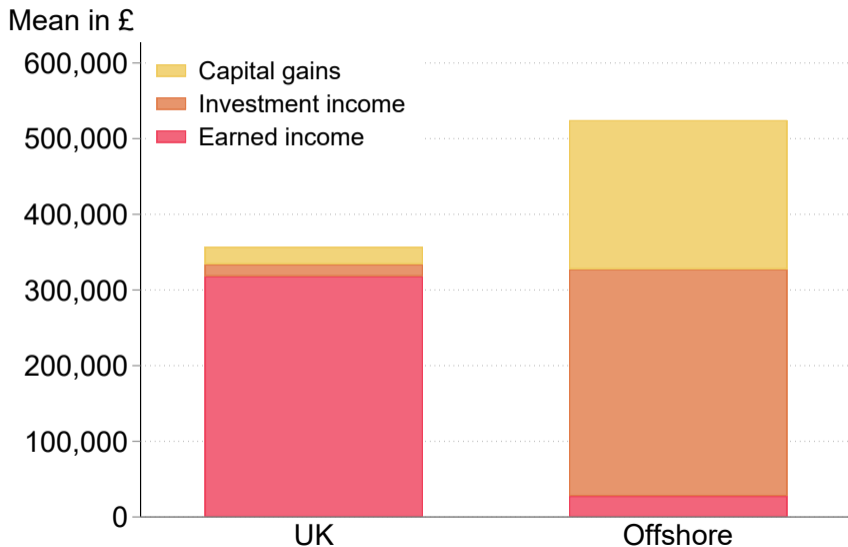
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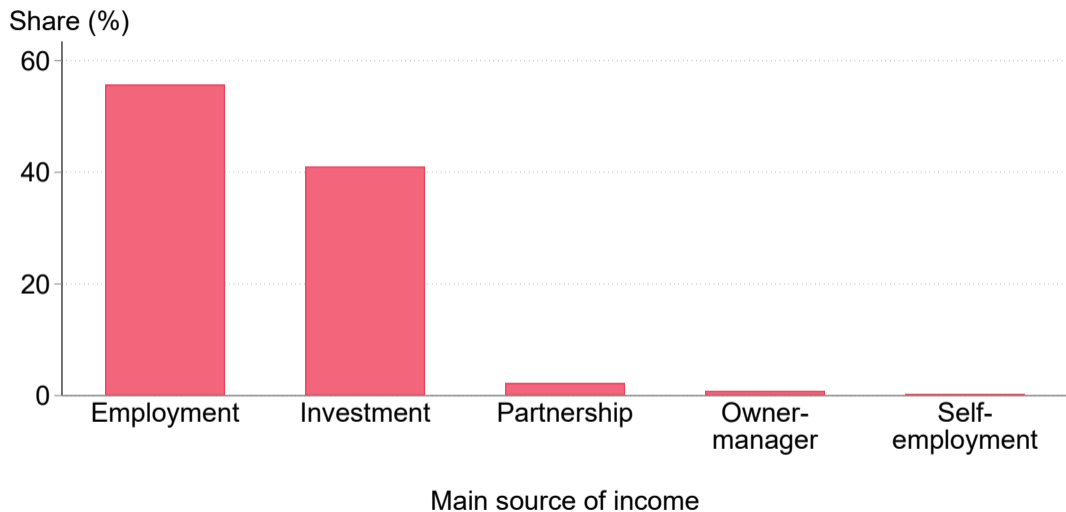
...and high returns on investment overseas (i.e., high foreign wealth)



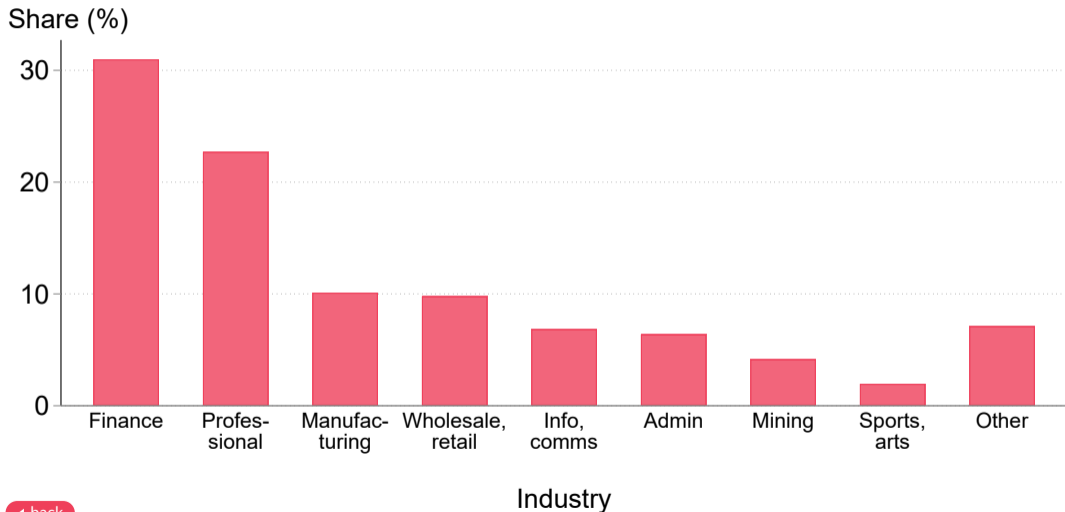
Most of RBU investment is abroad, consistent with tax incentives



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



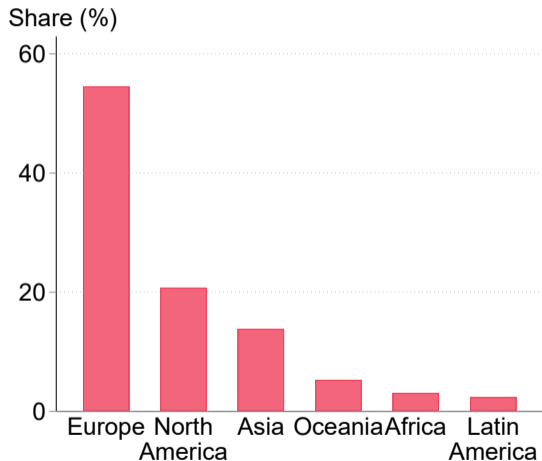
...particularly in finance and professional services



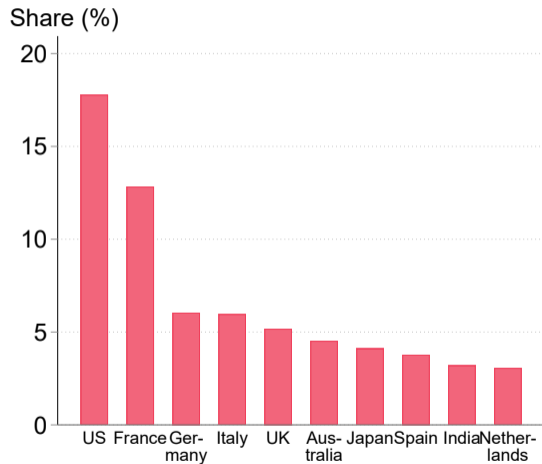
◀ back

RBUs come from Europe, US, India & former colonies

(a) Nationality by world region



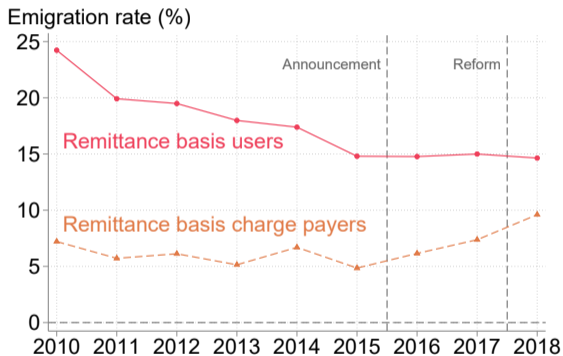
(b) Nationality, top 10 countries



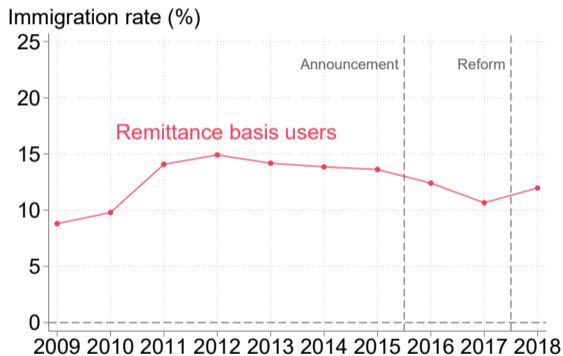
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Baseline mobility among RBUs is high

(a) Emigration rate

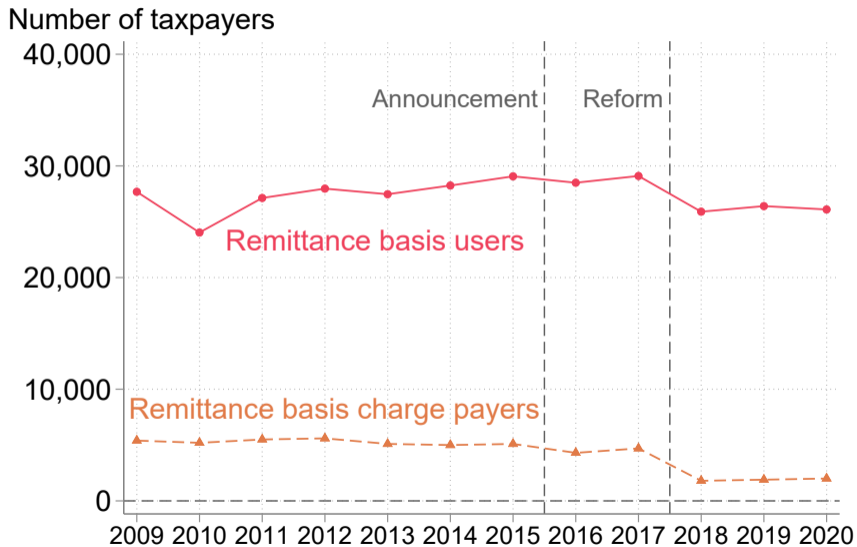


(b) Immigration rate



◀ back

Number of RBUs has been relatively steady

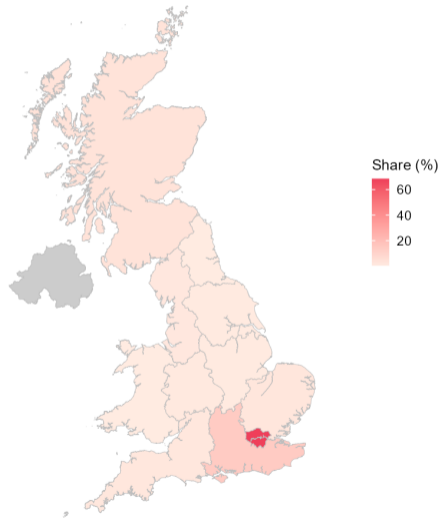


Top 20 5-digit industries among RBUs

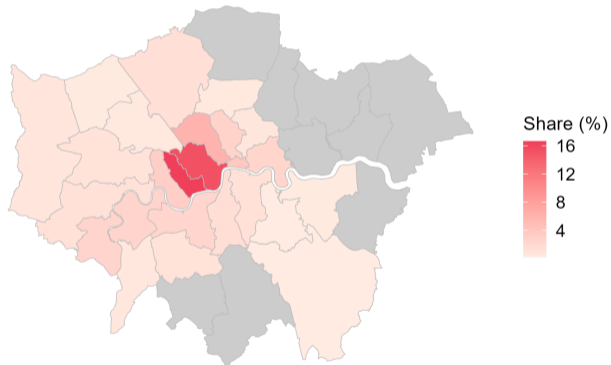
Rank	Industry (SIC code)	Number	Share (%)
1	Banks (K64191)	3,006	13.86
2	Activities auxiliary to financial intermediation (K66190)	1,440	6.64
3	Management consultancy (M70229)	1,302	6.00
4	Other business support services (N82990)	1,066	4.91
5	Mineral oil refining (C19201)	802	3.70
6	Fund management (K66300)	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

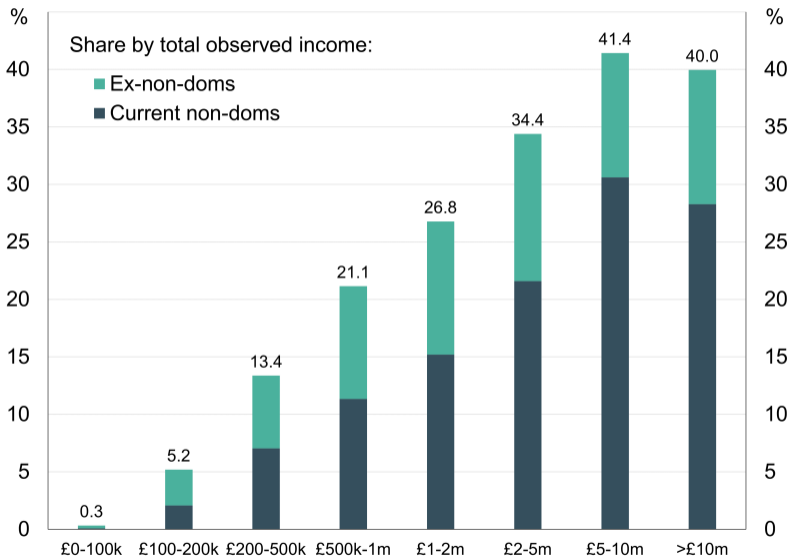


(b) Share by London Borough

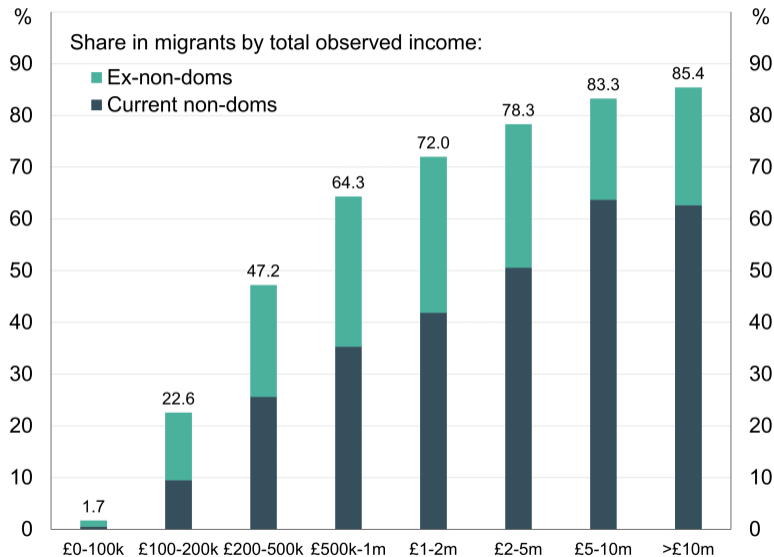


[◀ back](#)

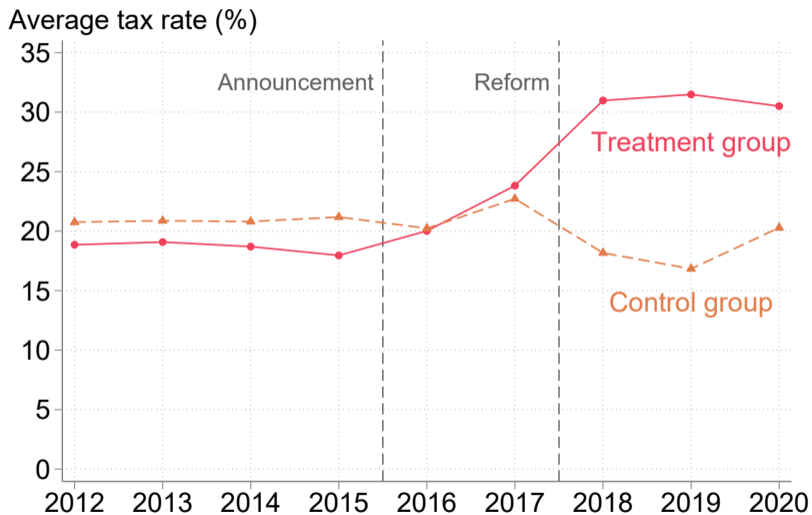
Large share of high-income people are non-doms



Majority of high-income migrants are non-doms

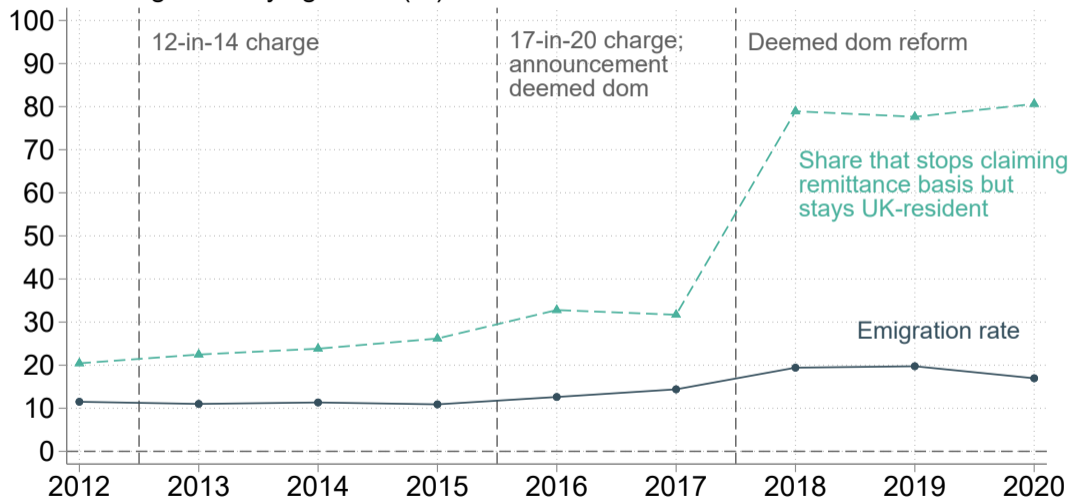


Impact of reform: tax (3-year emigration analysis)

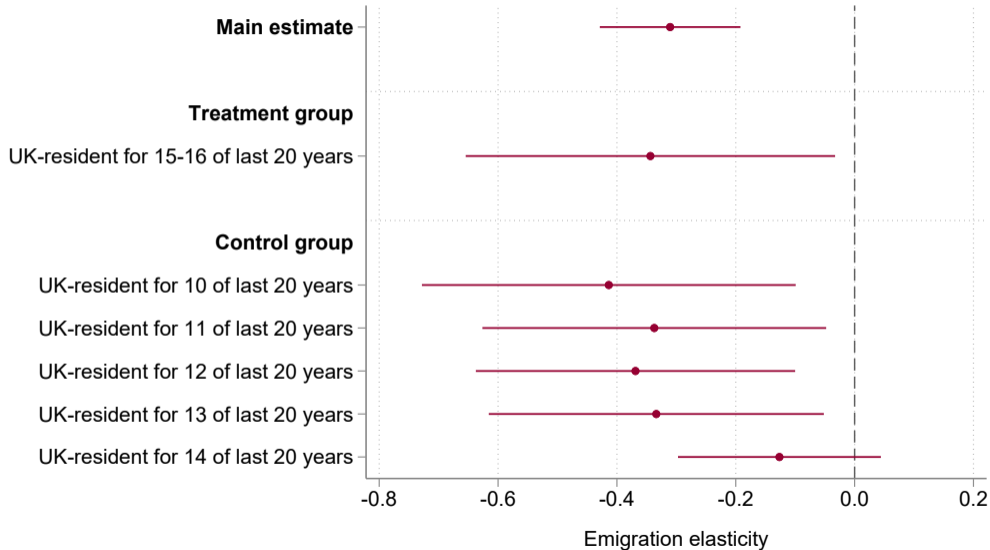


Impact of reform: stayers and leavers (3-year)

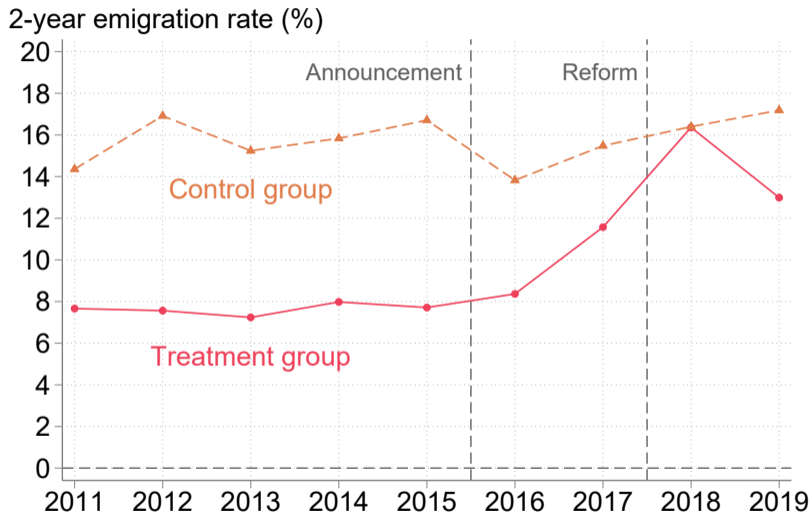
Share leaving and staying in UK (%)



Robustness of emigration elasticity estimate



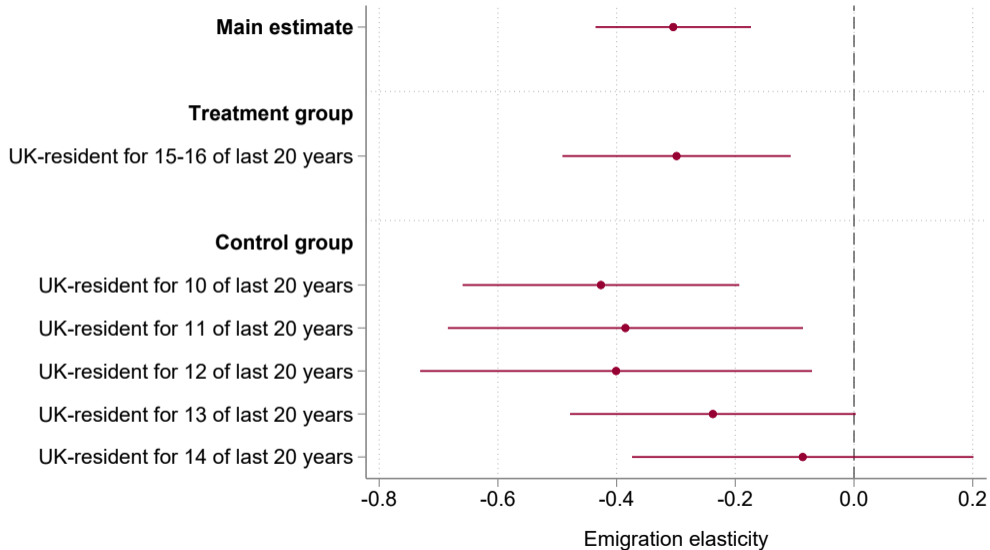
Impact of reform: 2-year emigration rate



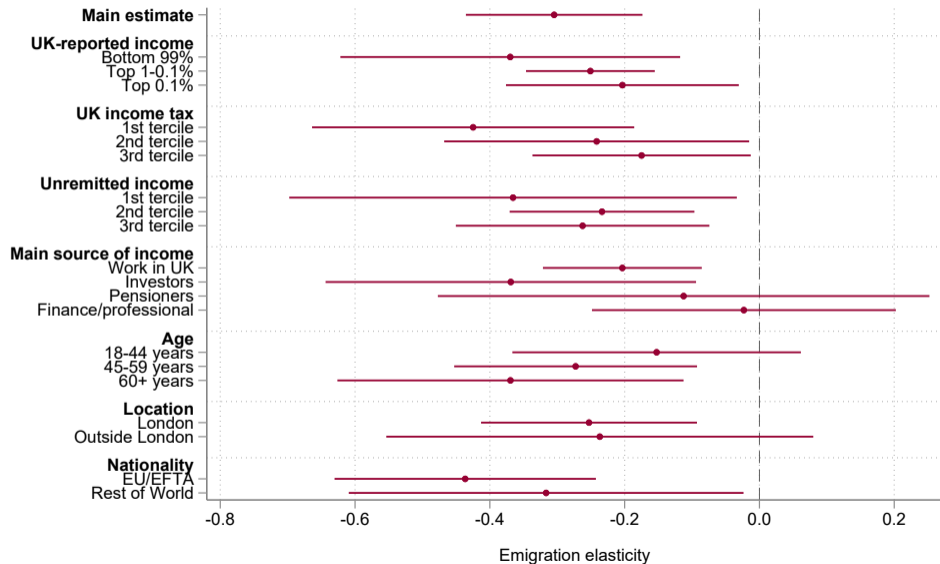
Emigration elasticity: 2-year emigration rate

	First stage: net-of-average-tax rate (1)	Reduced form: emigration rate (2)	2SLS: semi-elasticity (3)
Panel A: treatment group UK-resident for 17–20 of last 20 years			
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
Panel B: treatment group UK-resident for 15–16 of last 20 years			
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

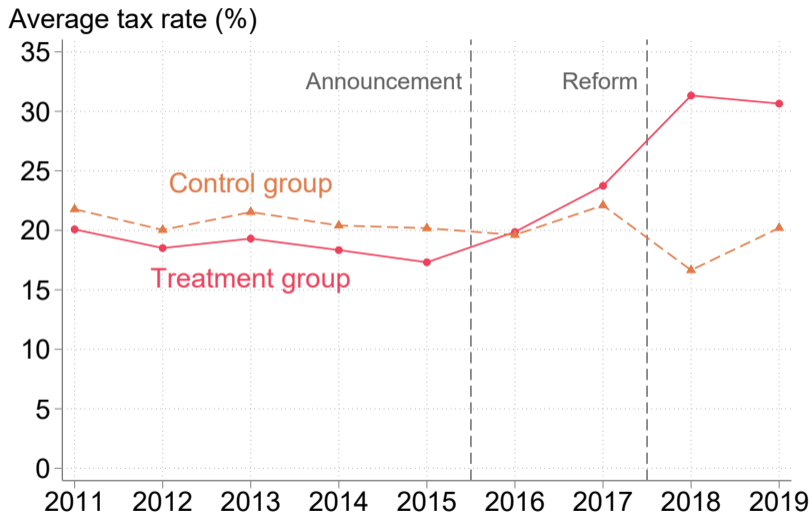
Robustness of emigration elasticity estimate: 2-year emigration rate



Heterogeneity in emigration elasticity: 2-year emigration rate

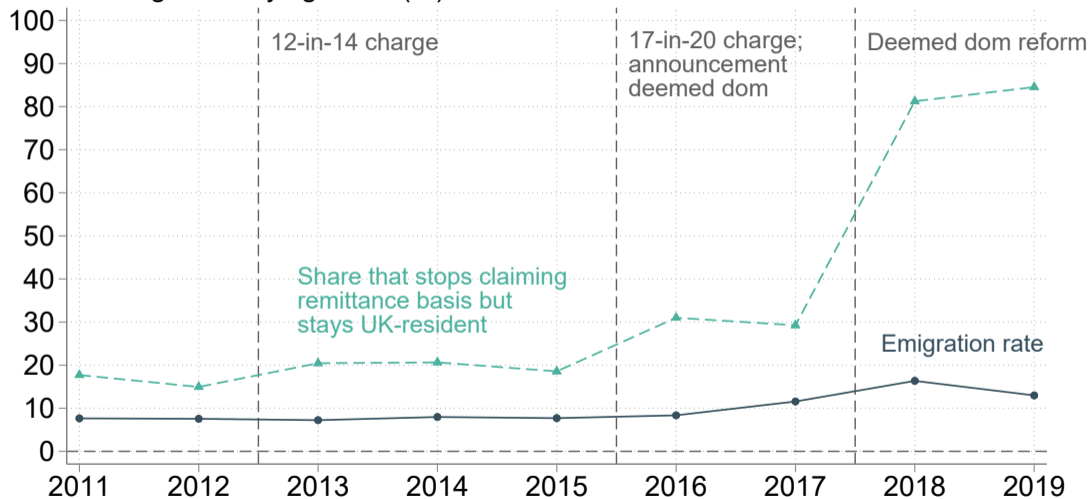


Impact of reform: tax (2-year emigration analysis)

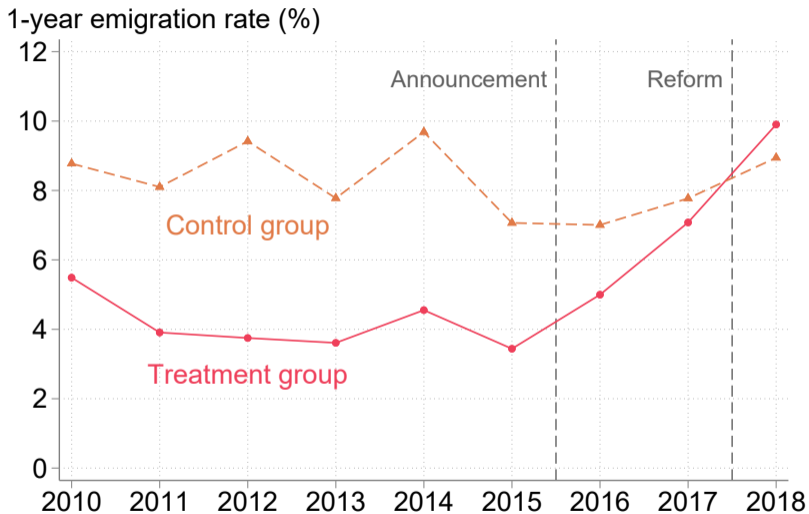


Impact of reform: stayers and leavers (2-year)

Share leaving and staying in UK (%)



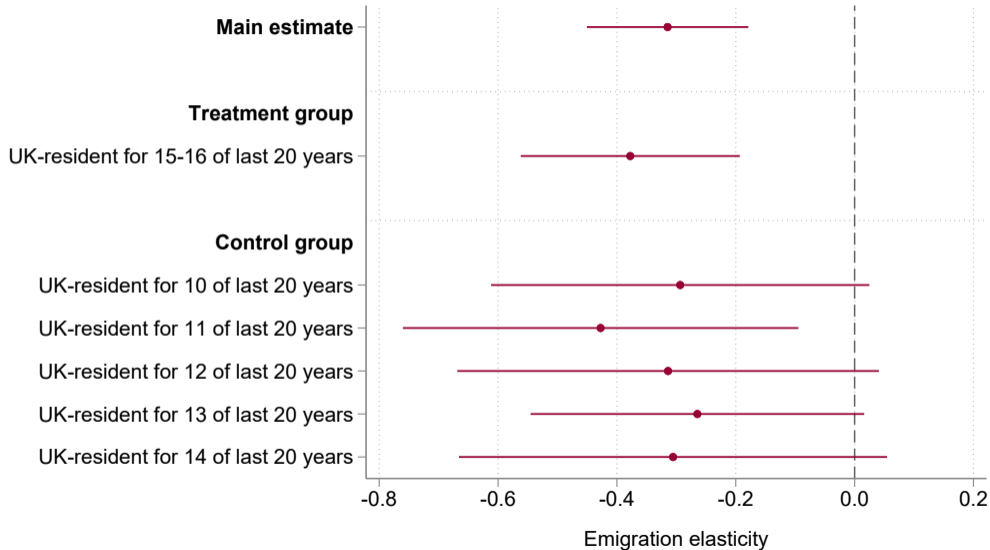
Impact of reform: 1-year emigration rate



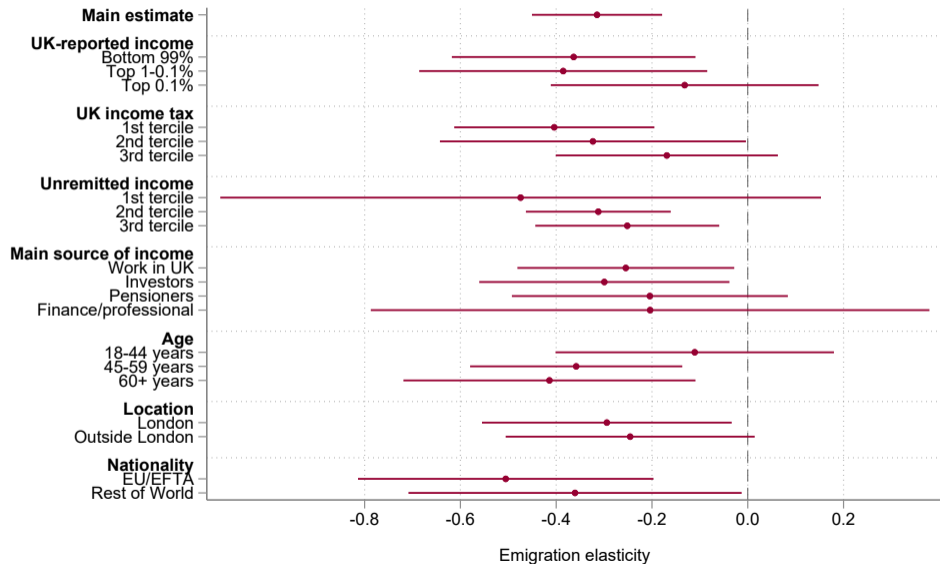
Emigration elasticity: 1-year emigration rate

	First stage: net-of-average-tax rate (1)	Reduced form: emigration rate (2)	2SLS: semi-elasticity (3)
Panel A: treatment group UK-resident for 17–20 of last 20 years			
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
Panel B: treatment group UK-resident for 15–16 of last 20 years			
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

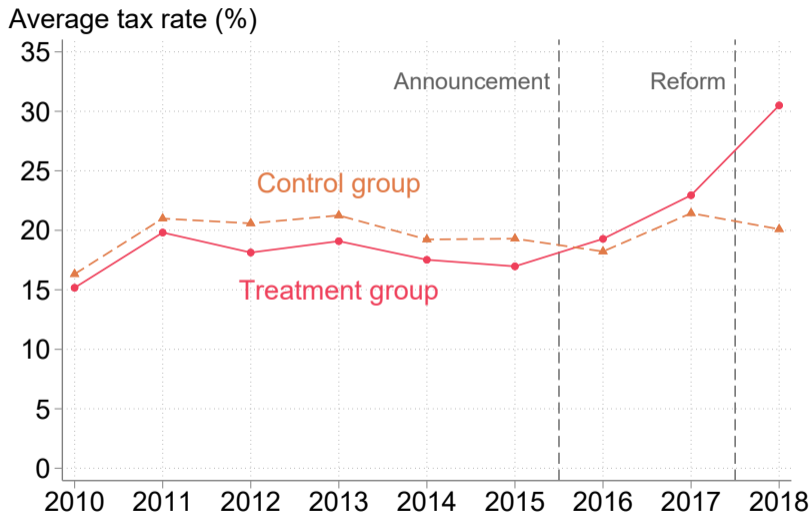
Robustness of emigration elasticity estimate: 1-year emigration rate



Heterogeneity in emigration elasticity: 1-year emigration rate

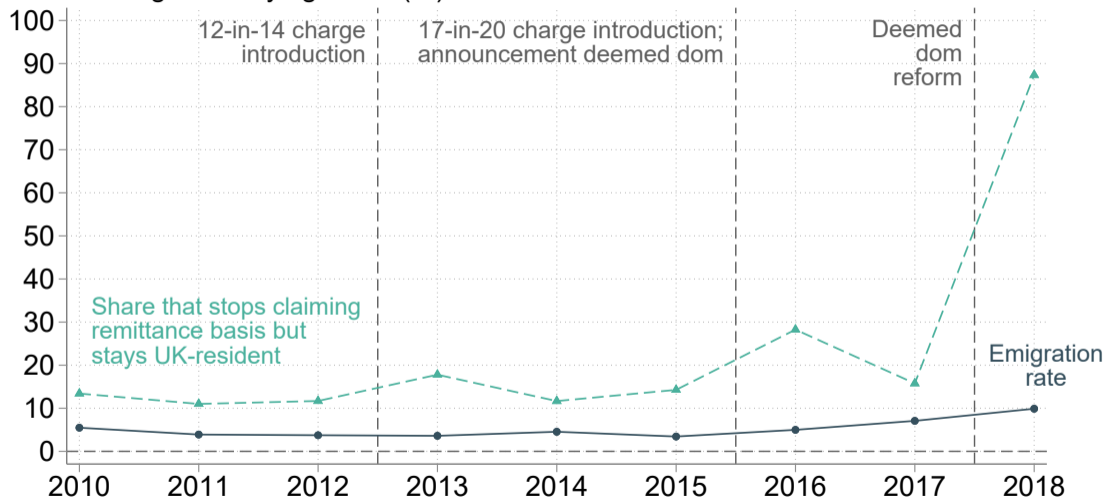


Impact of reform: tax (1-year emigration analysis)

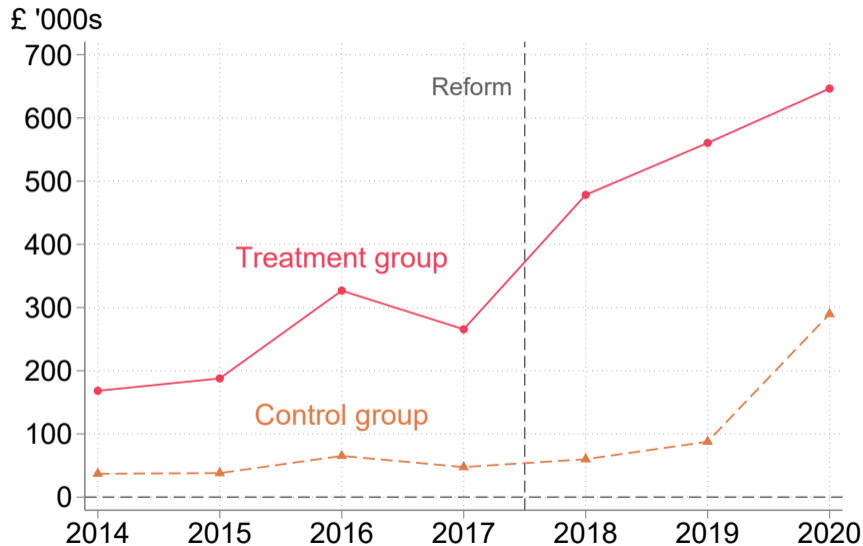


Impact of reform: stayers and leavers (1-year)

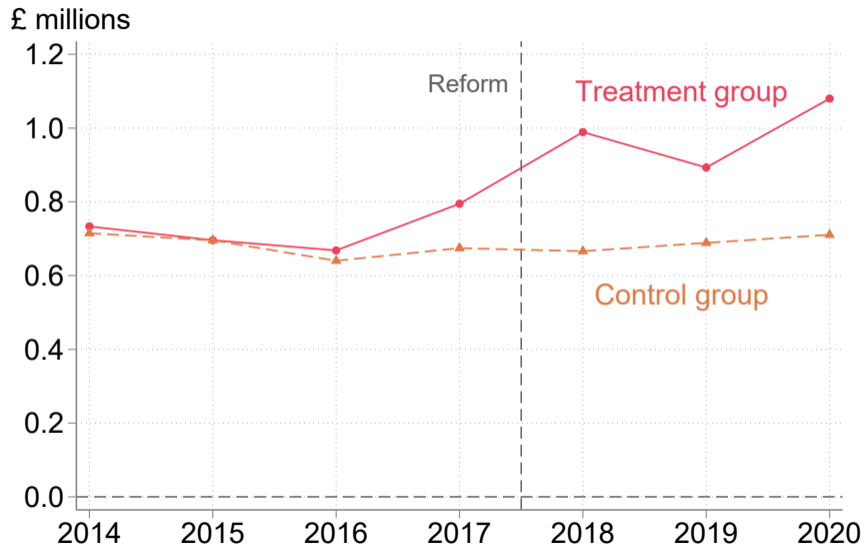
Share leaving and staying in UK (%)



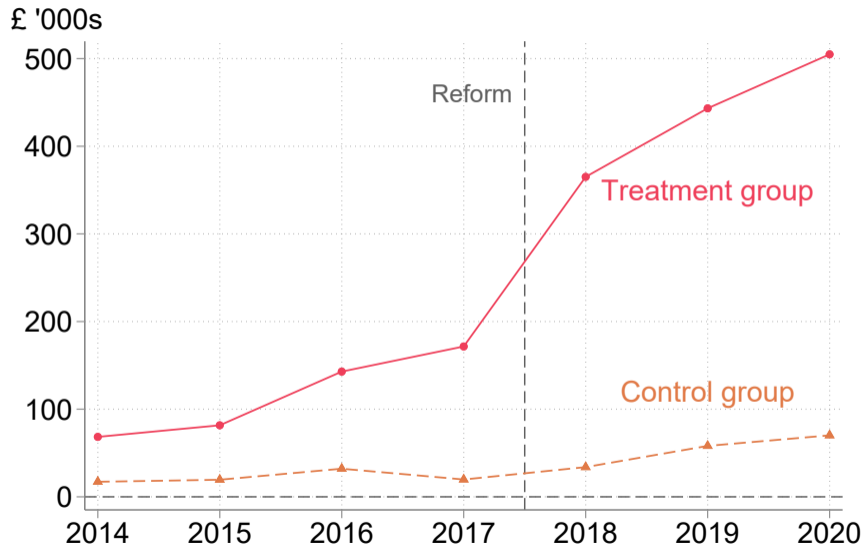
Mean investment income



Mean earned income

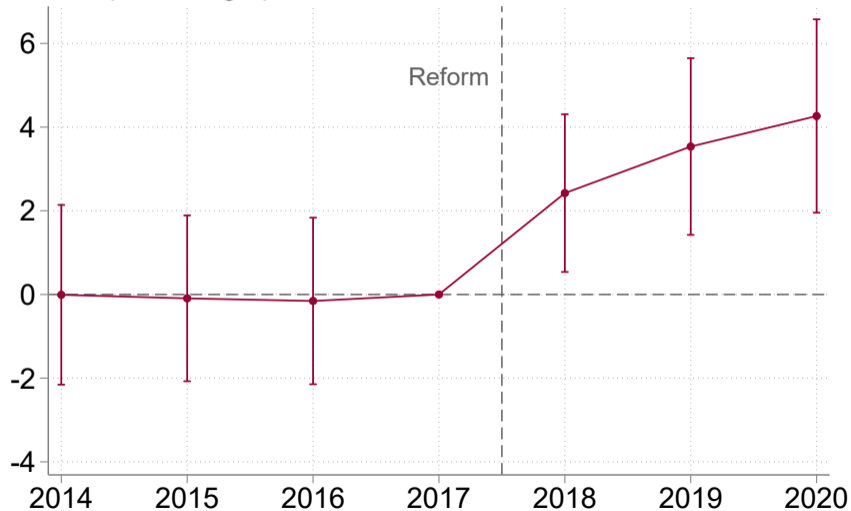


Mean foreign-source investment income

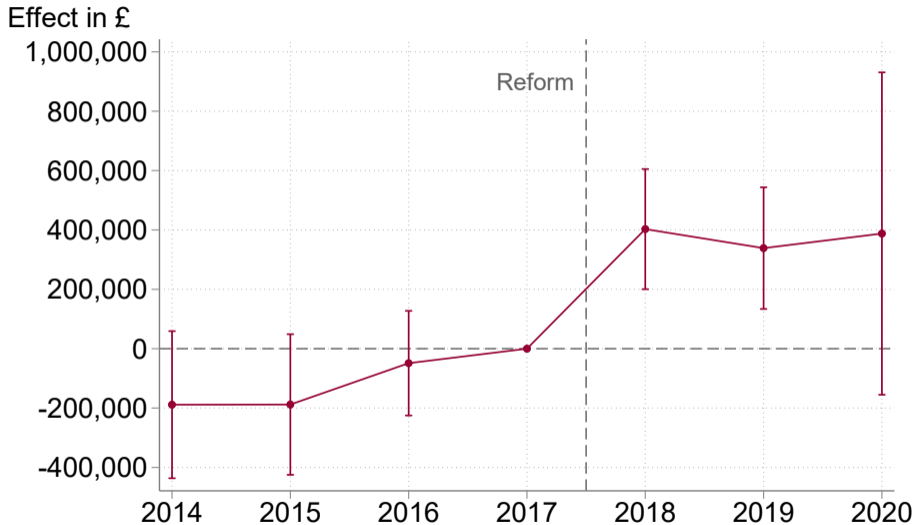


Extensive margin effect on total income reported in UK

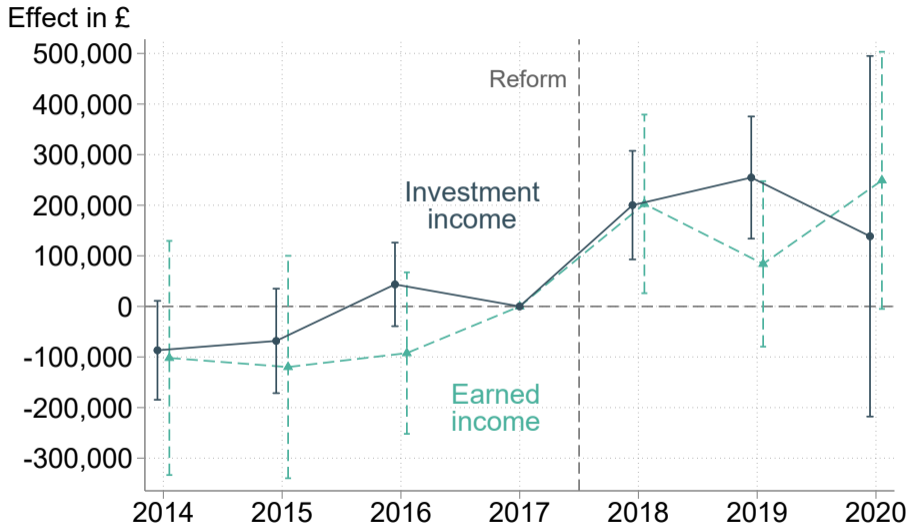
Effect in percentage points



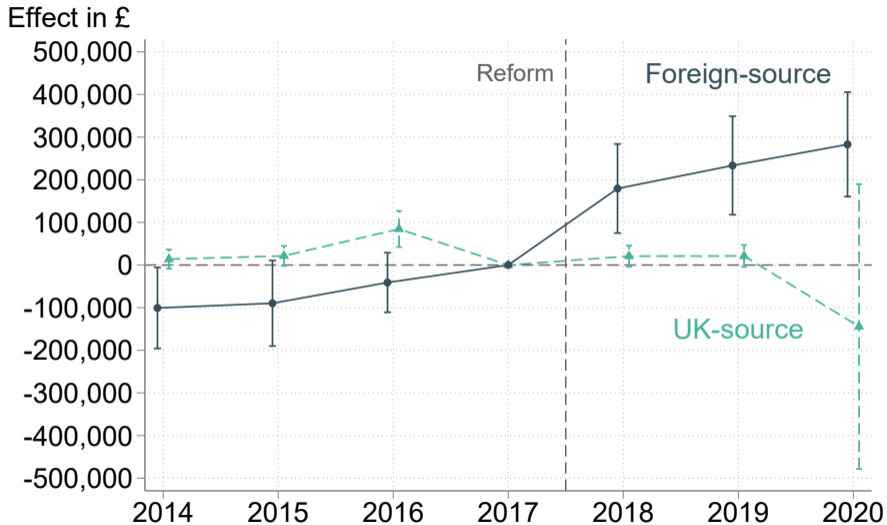
Effect on level of UK-reported income



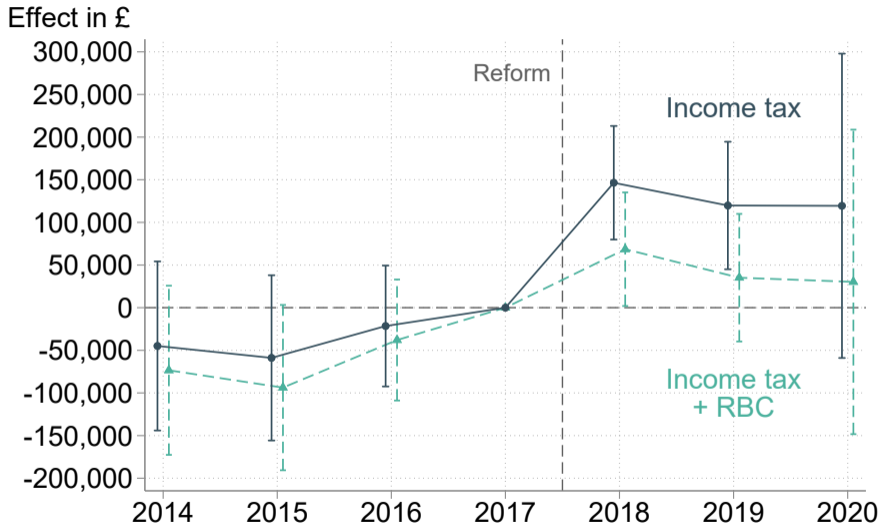
Effect on level of investment income and earned income



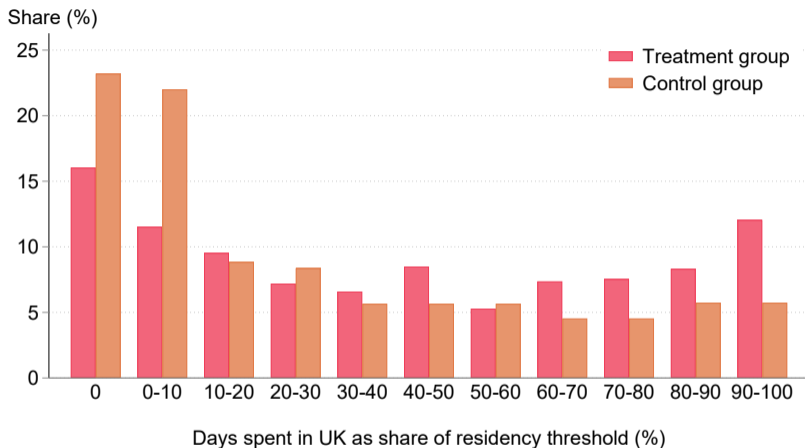
Effect on foreign-source & UK-source investment income



Effect on income tax & remittance basis charge paid in UK



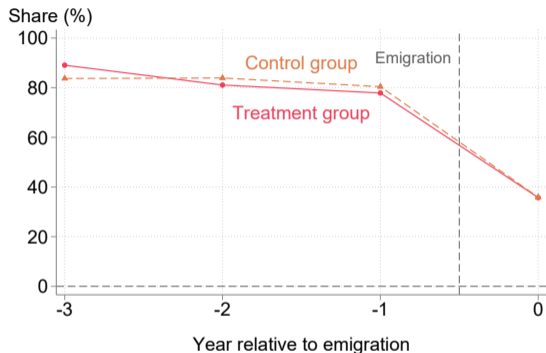
Number of days spent in UK after emigration



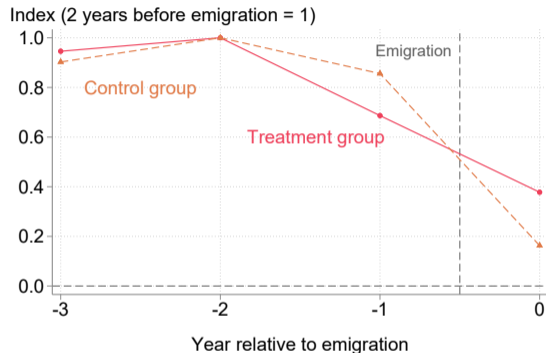
N = 1571. Note: disaggregated bins 30-60, 60-80, 80-100 in control group assuming equal split.

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

(a) Share with positive value



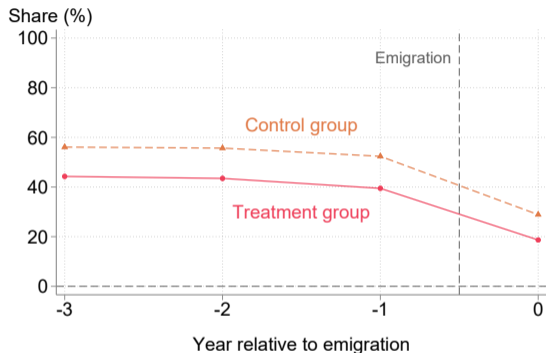
(b) Levels (indexed)



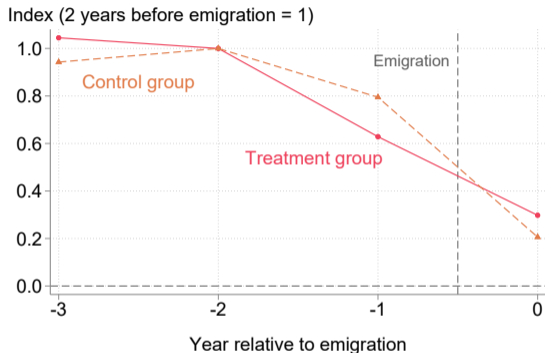
N = 860. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. We include emigrants who disappear from data, imputing zeros.

UK employment income falls by 70% after emigration

(a) Share with positive value



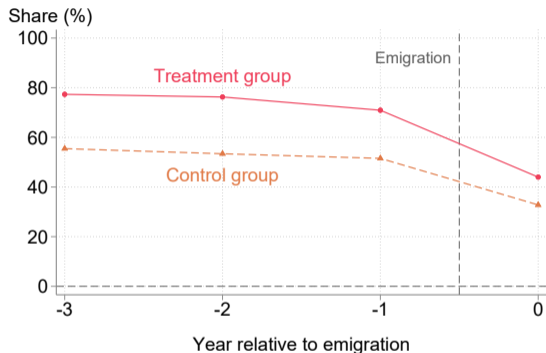
(b) Levels (indexed)



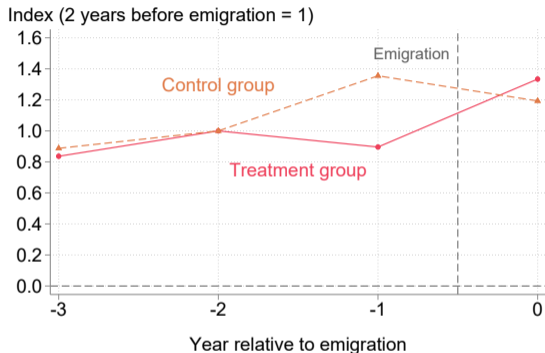
N = 860. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. We include emigrants who disappear from data, imputing zeros.

UK investment income increases by 30% after emigration

(a) Share with positive value



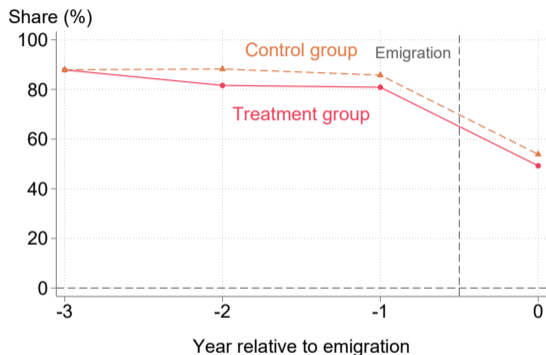
(b) Levels (indexed)



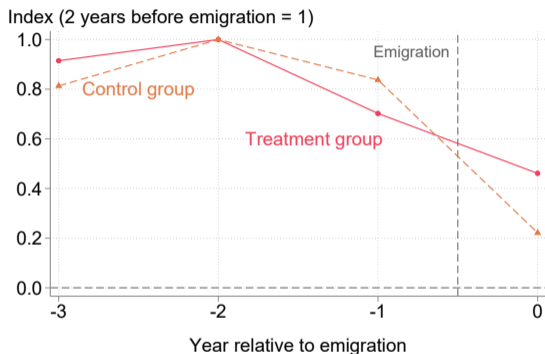
N = 860. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. We include emigrants who disappear from data, imputing zeros.

Income tax payments of emigrants (excluding ghosts)

(a) Share with positive value



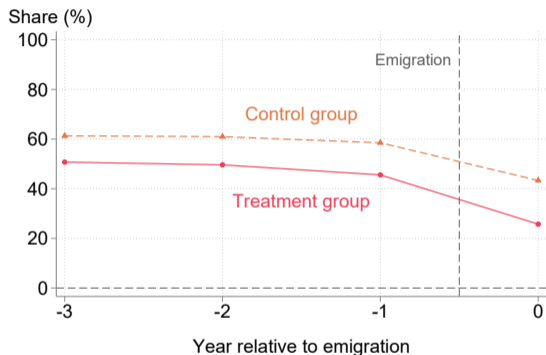
(b) Levels (indexed)



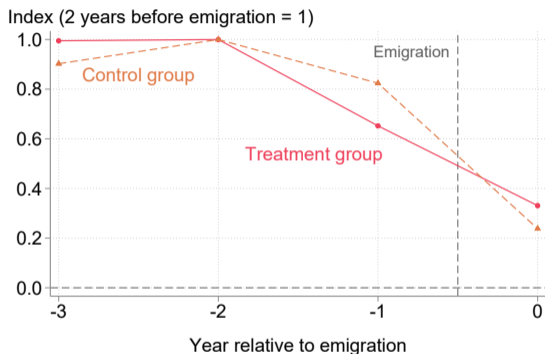
N = 595. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. Here we exclude emigrants who disappear from data.

UK employment income of emigrants (excluding ghosts)

(a) Share with positive value



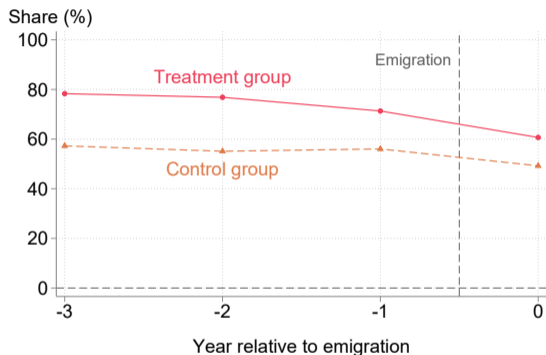
(b) Levels (indexed)



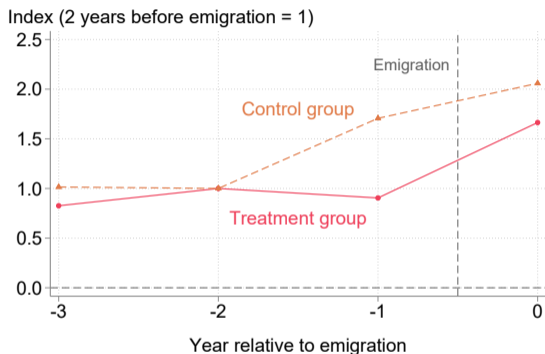
N = 595. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. Here we exclude emigrants who disappear from data.

UK investment income of emigrants (excluding ghosts)

(a) Share with positive value



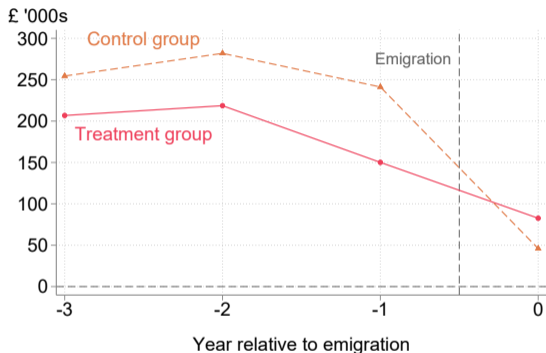
(b) Levels (indexed)



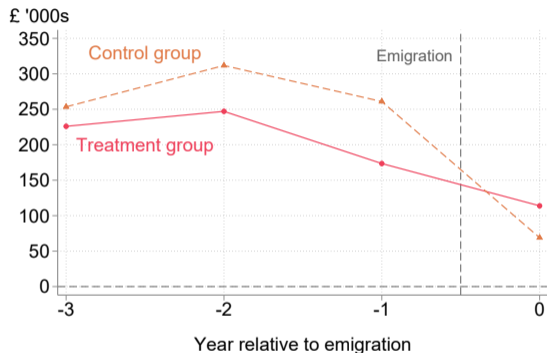
N = 595. Notes: Levels indexed to 2 years before emigration because people might leave part way through final year before emigration. Here we exclude emigrants who disappear from data.

Absolute level of UK income tax payments of emigrants

(a) Including ghosts



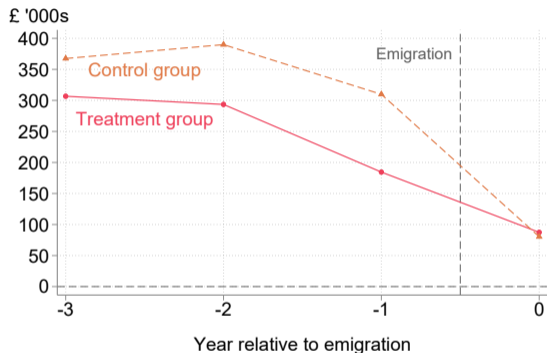
(b) Excluding ghosts



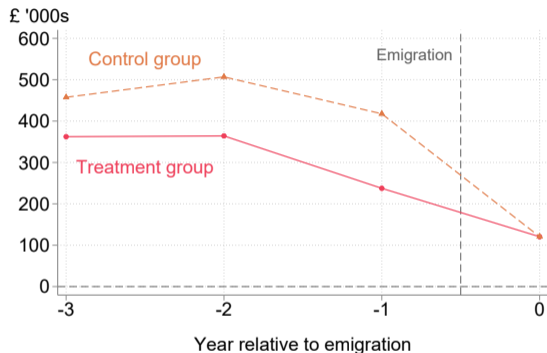
Notes: 'Ghosts' refers to emigrants who disappear from data. If we include them, we impute zero values for them.

Absolute level of UK employment income of emigrants

(a) Including ghosts



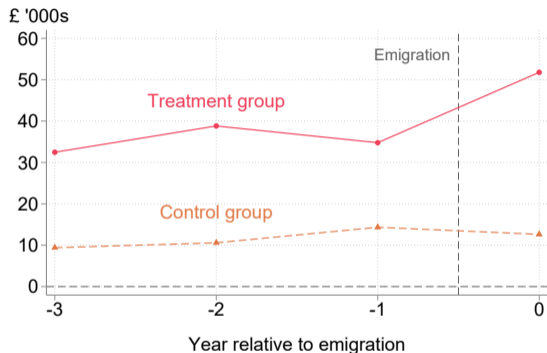
(b) Excluding ghosts



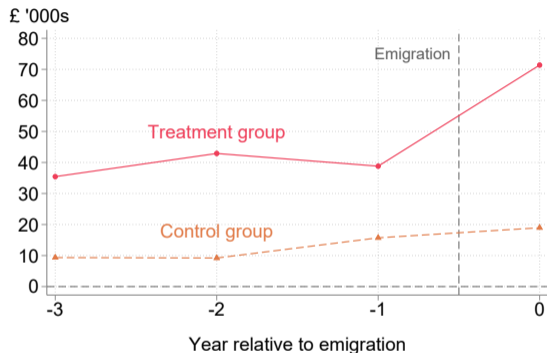
Notes: 'Ghosts' refers to emigrants who disappear from data. If we include them, we impute zero values for them.

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.