Taxable Income Responses to Taxes

131 Undergraduate Public Economics

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TAXABLE INCOME ELASTICITIES

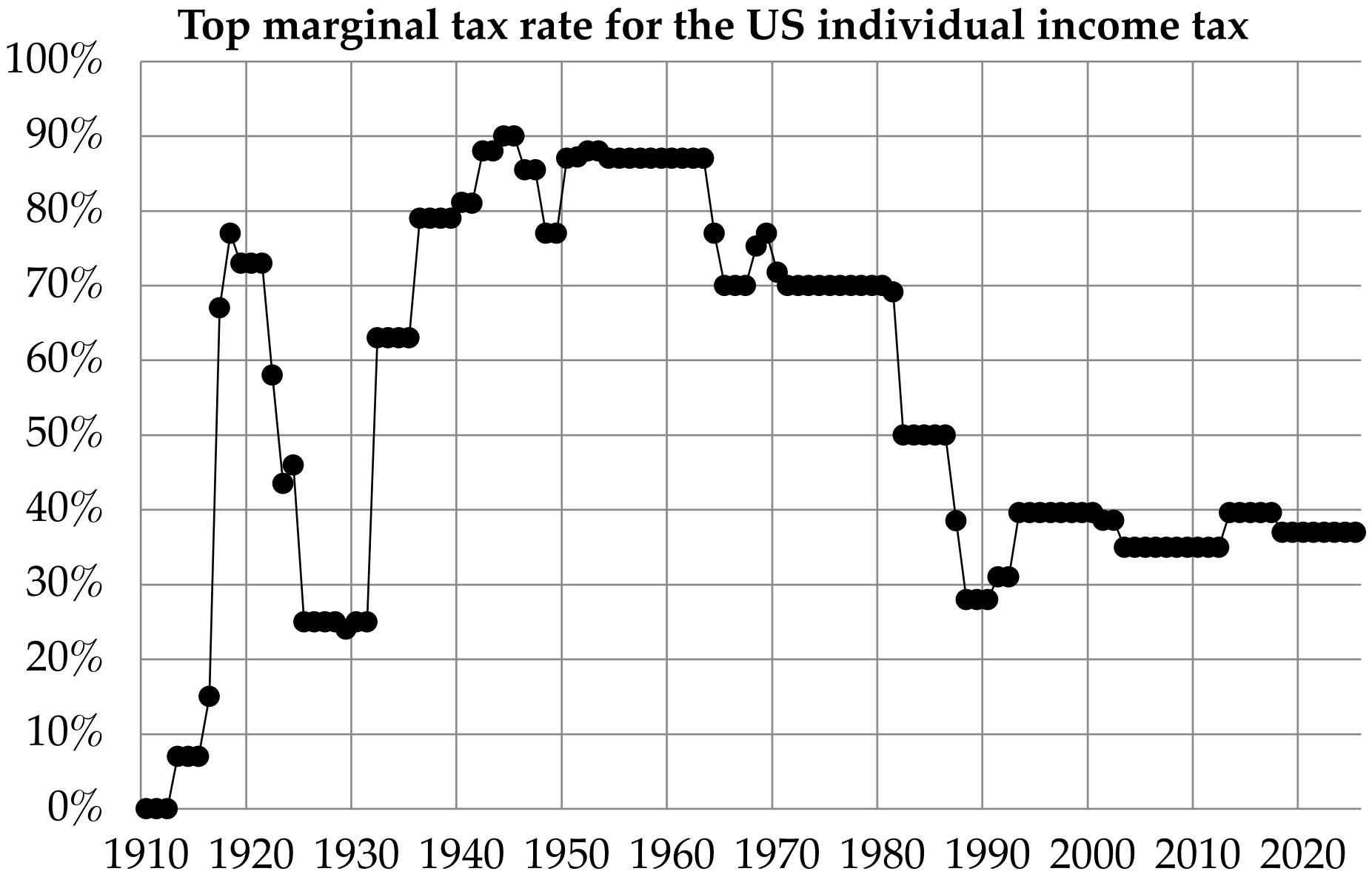
Modern public finance literature focuses on taxable income elasticities instead of hours/participation elasticities

Two main reasons:

1) What matters for policy is the total behavioral response to tax rates (not only hours of work but also occupational choices, tax avoidance and evasion, etc.)

2) Data availability: taxable income is precisely measured in tax return data

Recent overview of this literature: Saez-Slemrod-Giertz JEL'12


Top marginal tax rate for the US individual income tax
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020

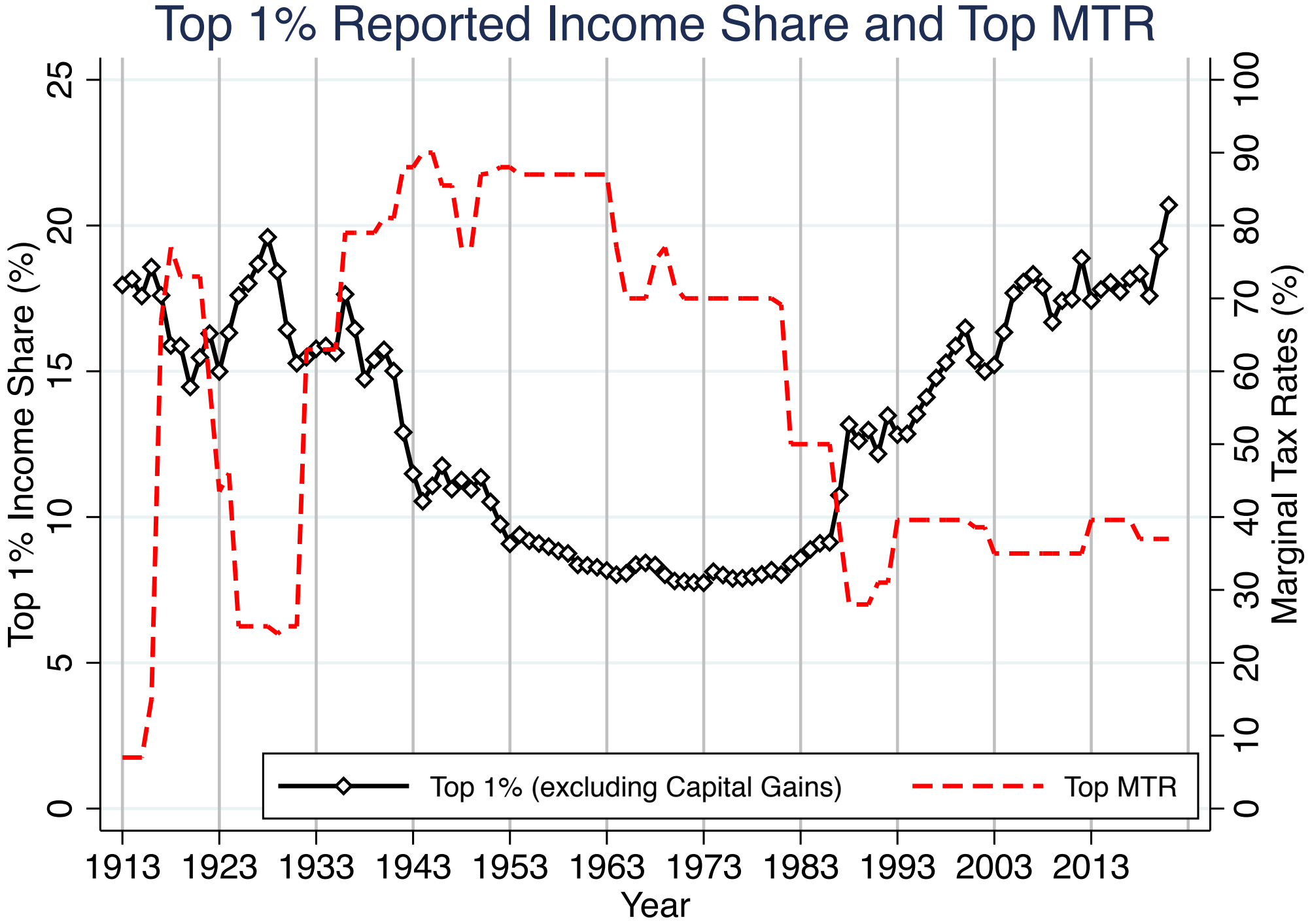
LONG-RUN EVIDENCE IN THE US

Goal: evaluate whether top **pre-tax** incomes respond to changes in one minus the marginal tax rate (=net-of-tax rate)

Focus is on **pre-tax** income before deductions and excluding realized capital gains (because they are taxed at lower separate rate)

Piketty-Saez QJE'03 estimate top income shares since 1913

Piketty-Saez-Stantcheva AEJ-EP'14 estimate the effect of top MTR on top income shares in the US since 1913


Top 1% Reported Income Share and Top MTR
Top 1% Income Share (%)
0
5
10
15
20
25
Marginal Tax Rates (%)
0
10
20
30
40
50
60
70
80
90
100
1913
1923
1933
1943
1953
1963
1973
1983
1993
2003
2013
Year
Top 1% (excluding Capital Gains)
Top MTR

INCOME SHARE BASED ELASTICITY ESTIMATION

1) **Tax Reform Episode:** Compare top **pre-tax** income shares at t_0 (before reform) and t_1 (after reform)

$$e = \frac{\log sh_{t_1} - \log sh_{t_0}}{\log(1-\tau_{t_1}) - \log(1-\tau_{t_0})}$$

where sh_t is pre-tax top income share and τ_t is the average MTR for top group in year t

Identification assumption: absent tax change, $sh_{t_0} = sh_{t_1}$

Example: $t_0 = 1986, t_1 = 1988$, $e = \log(13\%/9\%)/\log(.72/.5) = 1$

2) **Full Time Series:** Run regression:

$$\log sh_t = \alpha + e \cdot \log(1-\tau_t) + \varepsilon_t$$

and adding time controls to capture non-tax related top income share trends delivers $e \simeq .5$

Identification assumption: non-tax related changes in $sh_t \perp \tau_t$

LONG-RUN EVIDENCE IN THE US

1) Clear correlation between top incomes and top income rates both in several short-run tax reform episodes and in the long-run: estimated elasticities are large: around .5 for long-run, and sometimes about 1 for short-run episodes (such as '86-'88).

2) Correlation between tax rates and income shares largely absent below the top 1% (such as the next 9%)

3) Top income shares sometimes do not respond to large tax rate cuts [e.g., Kennedy Tax Cuts of early 1960s]

2) and 3) suggest that context matters (such as opportunities to respond / avoid taxes matter), response unlikely to be due to a universal labor supply elasticity

TAX AVOIDANCE

Behavioral response to income tax comes not only from reduced work effort and economic activity but also from tax avoidance. Two main forms of tax avoidance:

1) Intertemporal substitution: Shift income over time to take advantage of tax changes: Example: If tax rates increase next year, shift income from next year into this year.

2) Income shifting: Shift income to another tax base that is taxed less. Example: shift business profits from corporate tax base to the individual tax base if this is tax advantageous

Such tax avoidance affect tax revenue through these other tax bases and such revenue effects need to be accounted for in optimal tax analysis

Intertemporal Substitution: Realized Capital Gains

Realized capital gains occur when individual sells asset at a higher price than buying price

Individuals have flexibility in the timing of asset sales and capital gains realizations

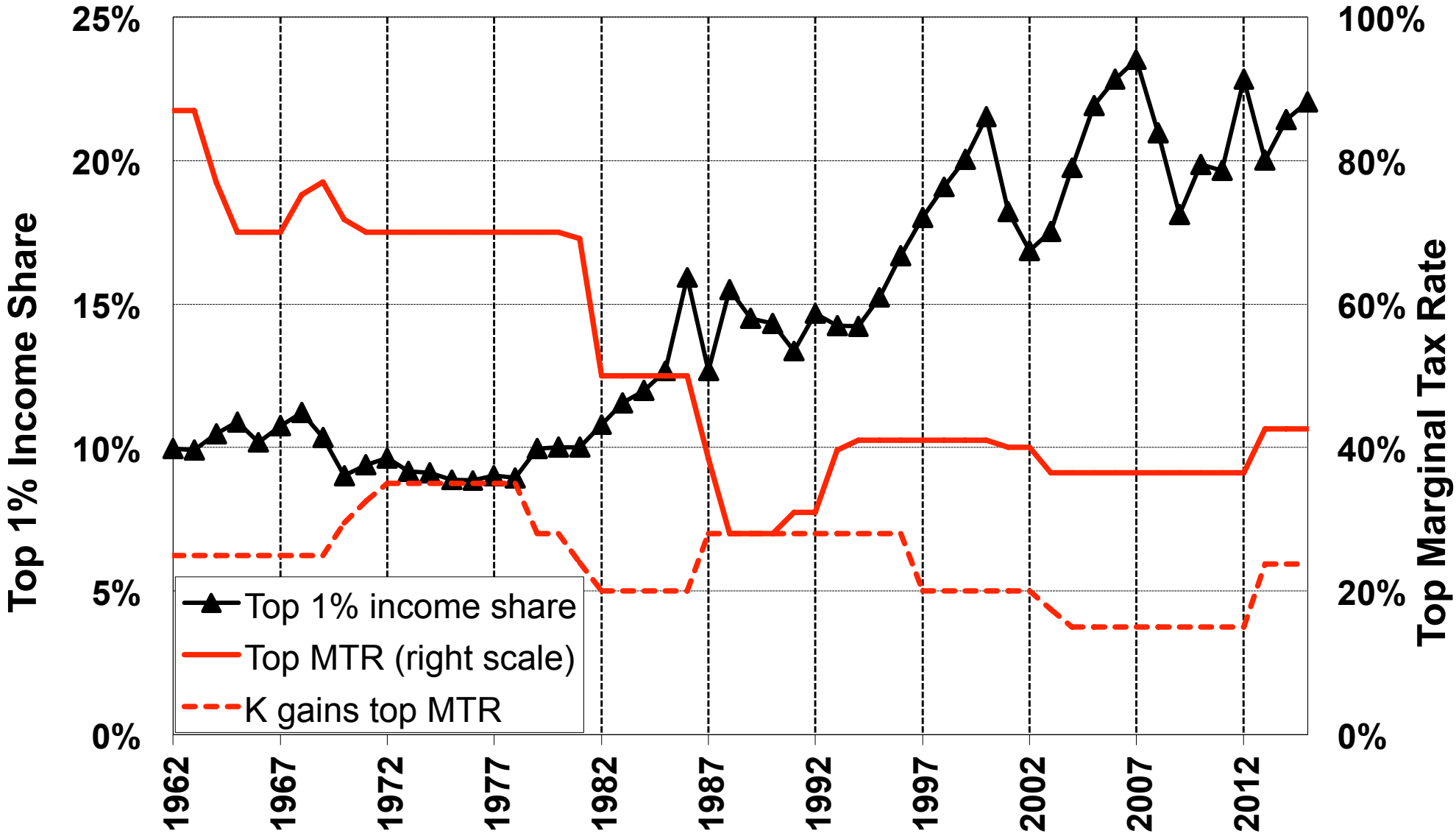
TRA'86 lowered the top tax rate on ordinary income from 50% to 28% but increased the top tax rate on realized capital gains from 20% to 28%

2013: tax rate on capital gains increased from 15% to 20%+3.8%

$\Rightarrow$ Surge in capital gains realizations in 1986 and 2012 [and depressed capital gains in 1987 and 2013]

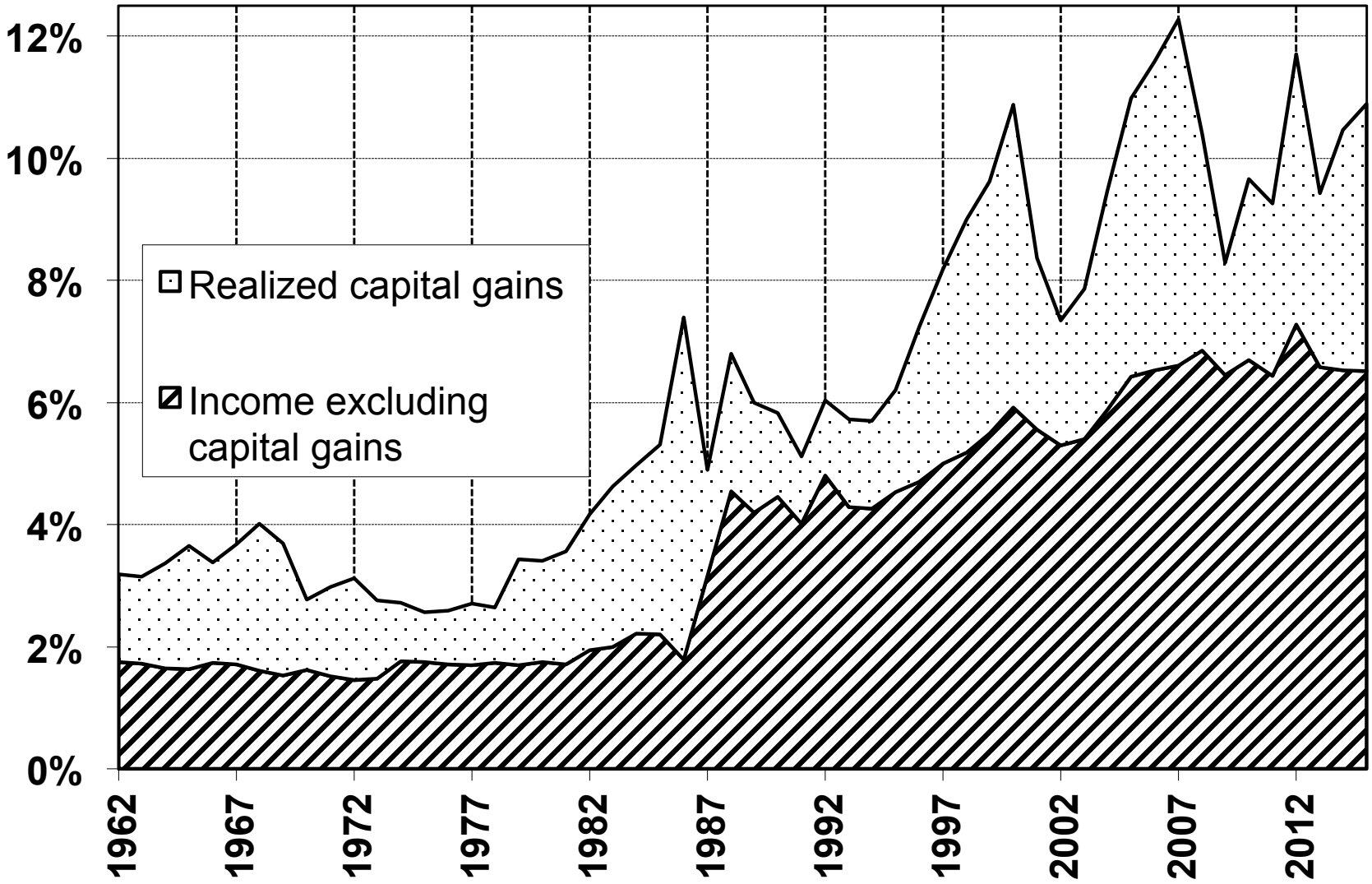
$\Rightarrow$ Short-term elasticity is very large but long-term elasticity is certainly much smaller

Top 1% pre-tax income share and top tax rates



Source: Top 1% income share: Piketty and Saez, 2003 updated to 2015, series including realized capital gains. Top MTR include Federal individual tax + uncapped FICA payroll tax.

US Top 0.1% Income Share and Composition



Source: Piketty and Saez, 2003 updated to 2015. Series based on pre-tax cash market income including realized capital gains, and always excluding government transfers.

Income Shifting: Corporate vs. Individual Tax Base

Businesses can be organized as **C-corporations** or **pass-throughs**

For **passthrough** businesses (sole proprietorships, partnerships, S-corporations) profits are taxed directly and solely as individual income (with top tax rate $\tau_i = 37\%$)

C-corporation profits first taxed by corporate tax [$\tau_c = 21\%$]

Net-of-tax profits are taxed again at rate τ_{distrib} when finally distributed to shareholders. Two distribution options:

a) dividends [tax rate $\tau_d = 20\%$ today]

b) retained profits increase stock price: shareholders realize capital gains when finally selling the stock [tax rate $\tau_{cg} = 20\%$]

But distributions can be deferred so that $\tau_{\text{distrib}} << \tau_d, \tau_{cg}$

CORPORATE AND INDIVIDUAL TAX BASE

Corporate form best if $(1-\tau_c)\cdot(1-\tau_{\text{distrib}}) > 1-\tau_i$

US fed taxes in 2018+: $\tau_c = 21\%$, $\tau_{cg} = \tau_d = 20\%$, (but $\tau_{\text{distrib}} << 20\%$ if distribution deferred), $\tau_i = 37\%$ or 30%

After 2018 Trump tax cut: corporate form is best, especially if wealthy business owner can defer distribution

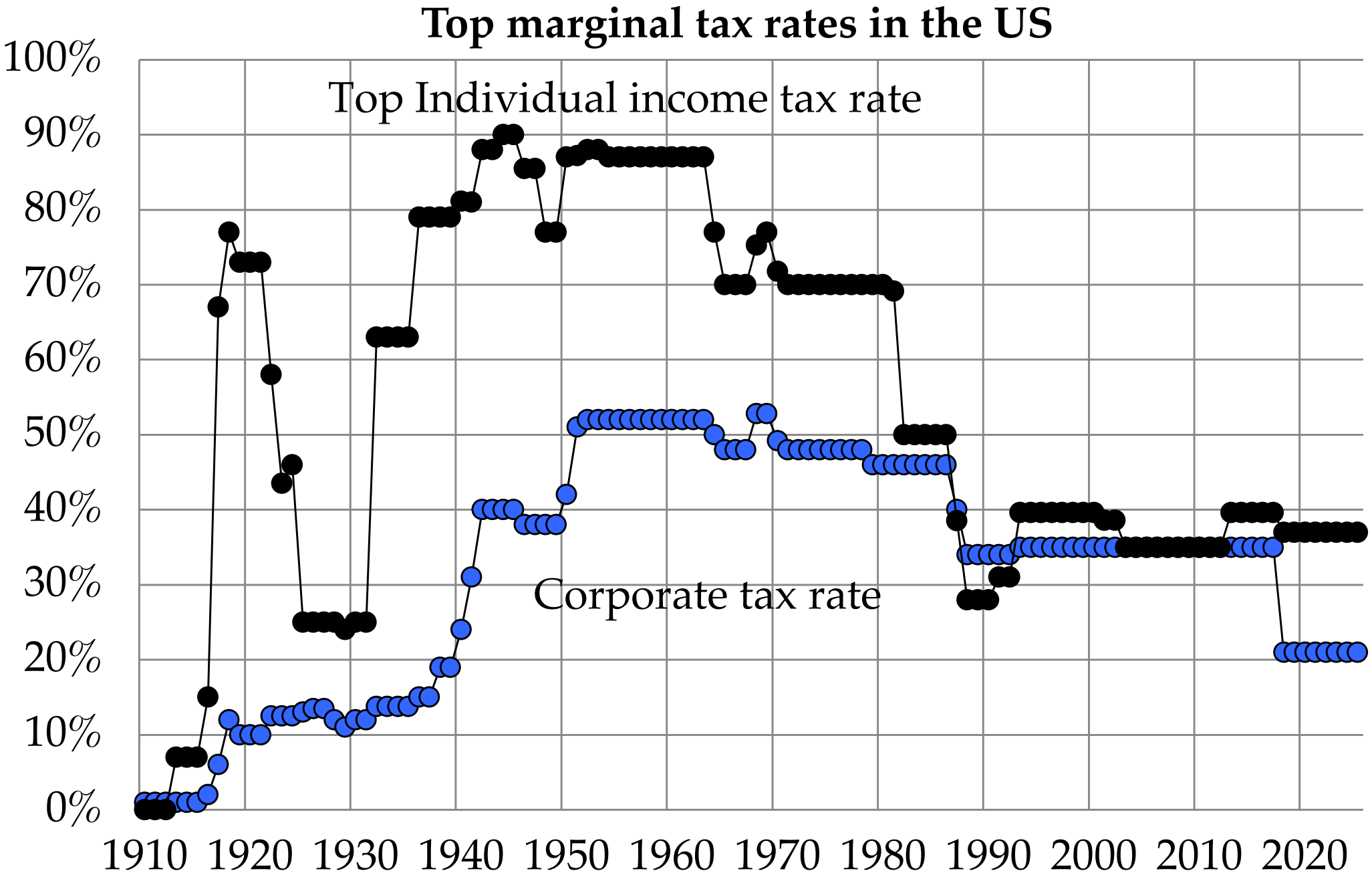
Pre 2018, $\tau_c = 35\%$ and $\tau_i = 39.6\% \Rightarrow$ individual form better

$\Rightarrow$ the rich are likely to incorporate their businesses in '18+

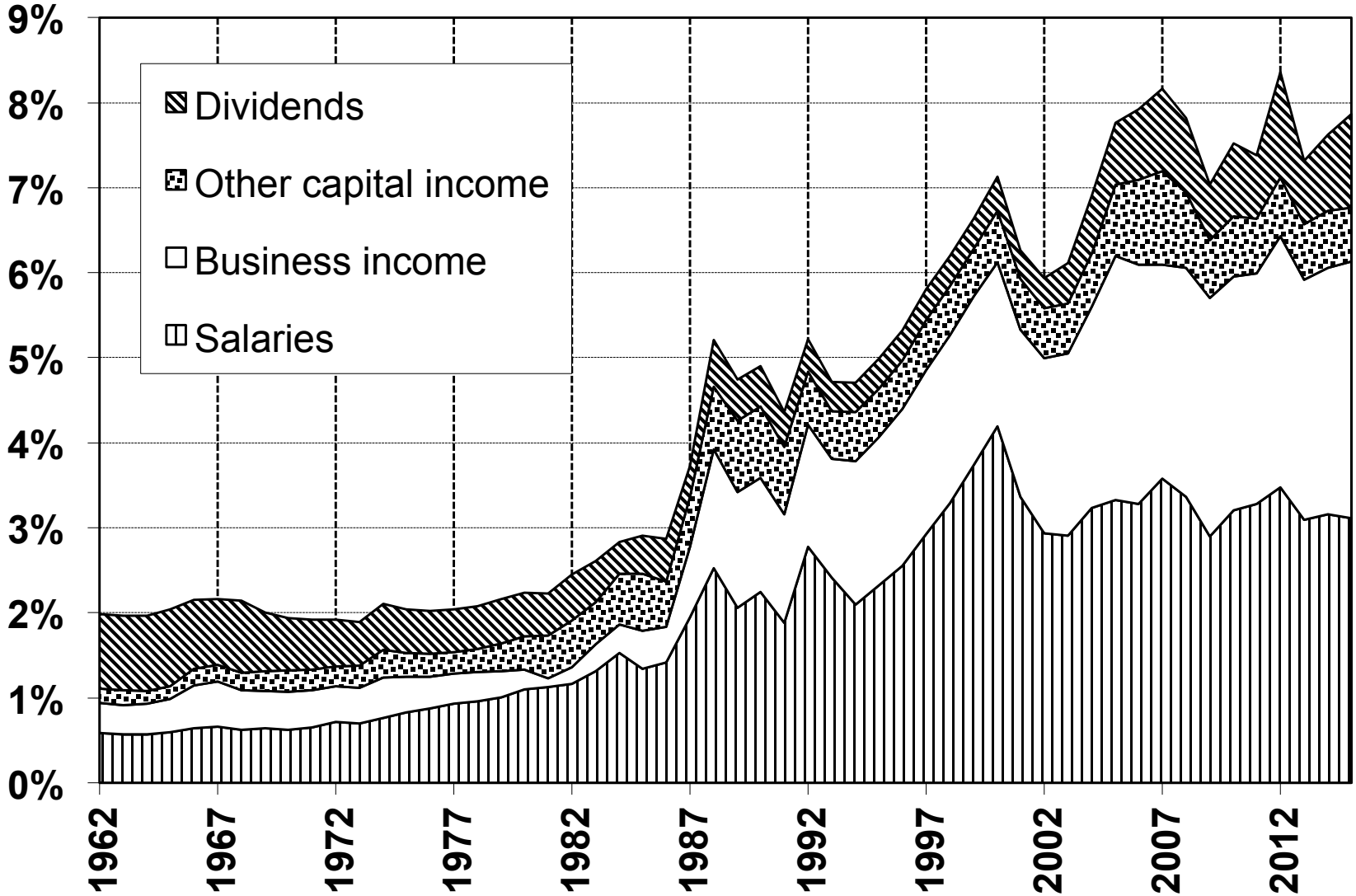
Before 1986 (and especially before 1981), top individual rate τ_i was much higher than τ_c so corporate form was best

Shifts from corporate to individual base increases individual income at the top at the expense of corporate profits

Large part of 1986 response is due to such shifting


Top marginal tax rates in the US
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Top Individual income tax rate
Corporate tax rate
1910
1920
1930
1940
1950
1960
1970
1980
1990
2000
2010
2020

US Top 0.1% Income Share and Composition (excl. K gains)



Source: Piketty and Saez, 2003 updated to 2015. Series based on pre-tax cash market income ex cluding realized capital gains, and always excluding government transfers.

Bottom Line on Behavioral Responses to Taxes

1) Clear evidence of strong responses to tax changes due to re-timing or income shifting

2) Heterogeneity in tax responses due to heterogeneity in shifting opportunities [e.g., Kennedy tax cuts of '61 vs. TRA'86]

3) Top income shares can change drastically without changes in tax rates [e.g., 1993-2000]

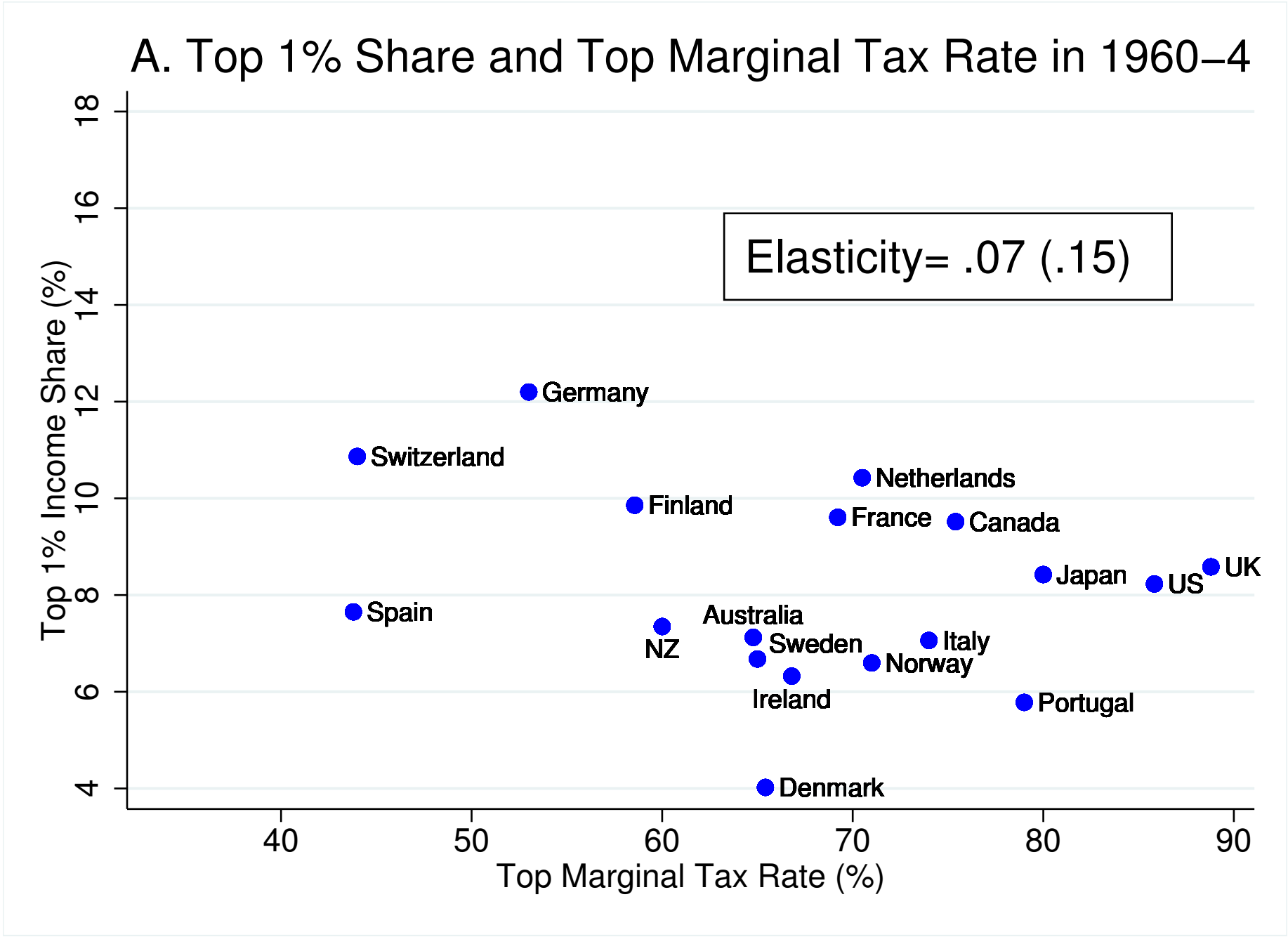
4) Difficult to know from single country time series the role played by top tax rate cuts in the surge of top incomes $\Rightarrow$ International evidence can cast further useful evidence

TOP RATES AND TOP INCOMES INTERNATIONAL EVIDENCE

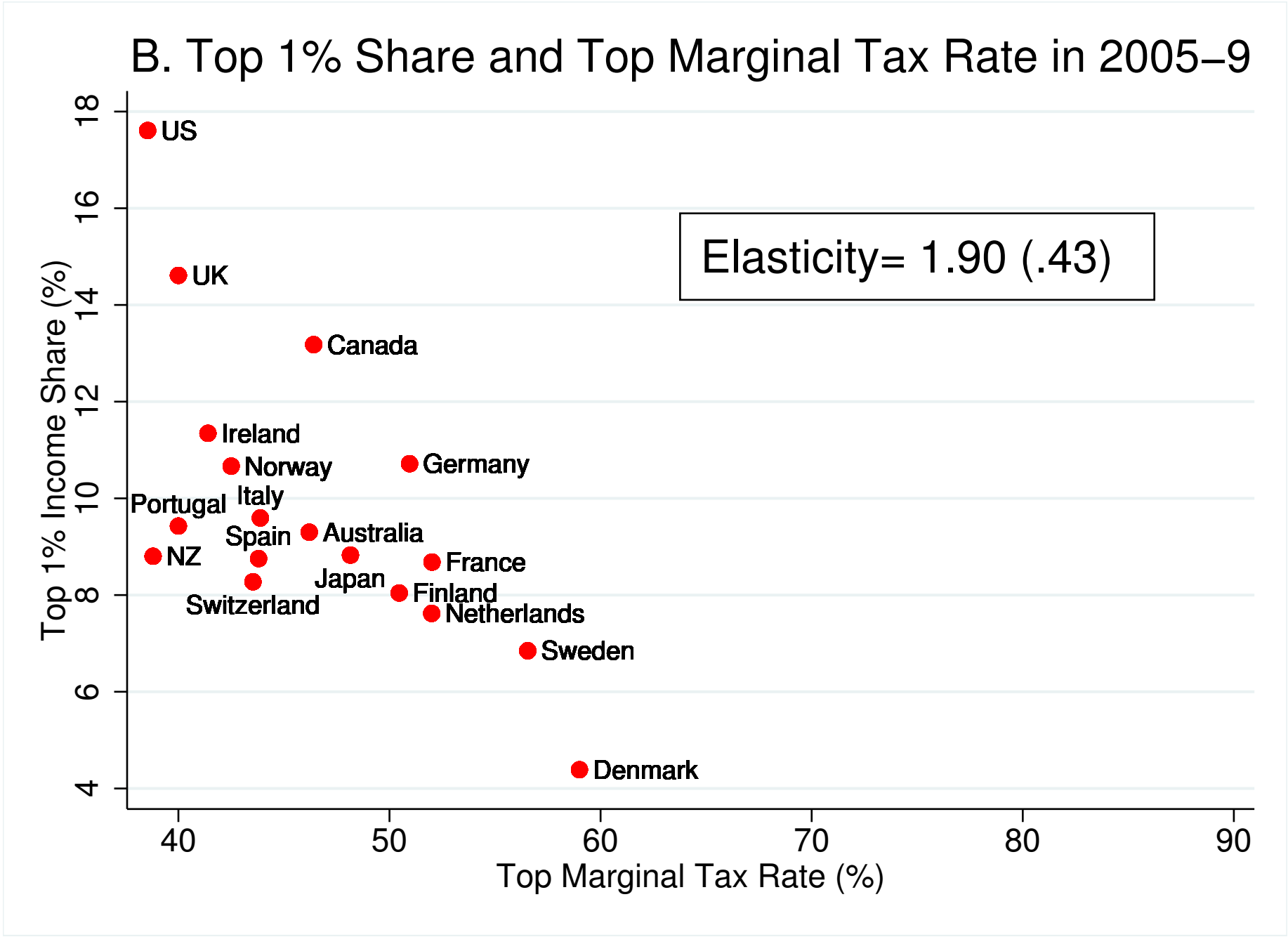
1) Use pre-tax top 1% income share data from 18 OECD countries since 1960 using the **World Top Incomes Database**

2) Compute top (statutory) individual income tax rates using OECD data [including both central and local income taxes].

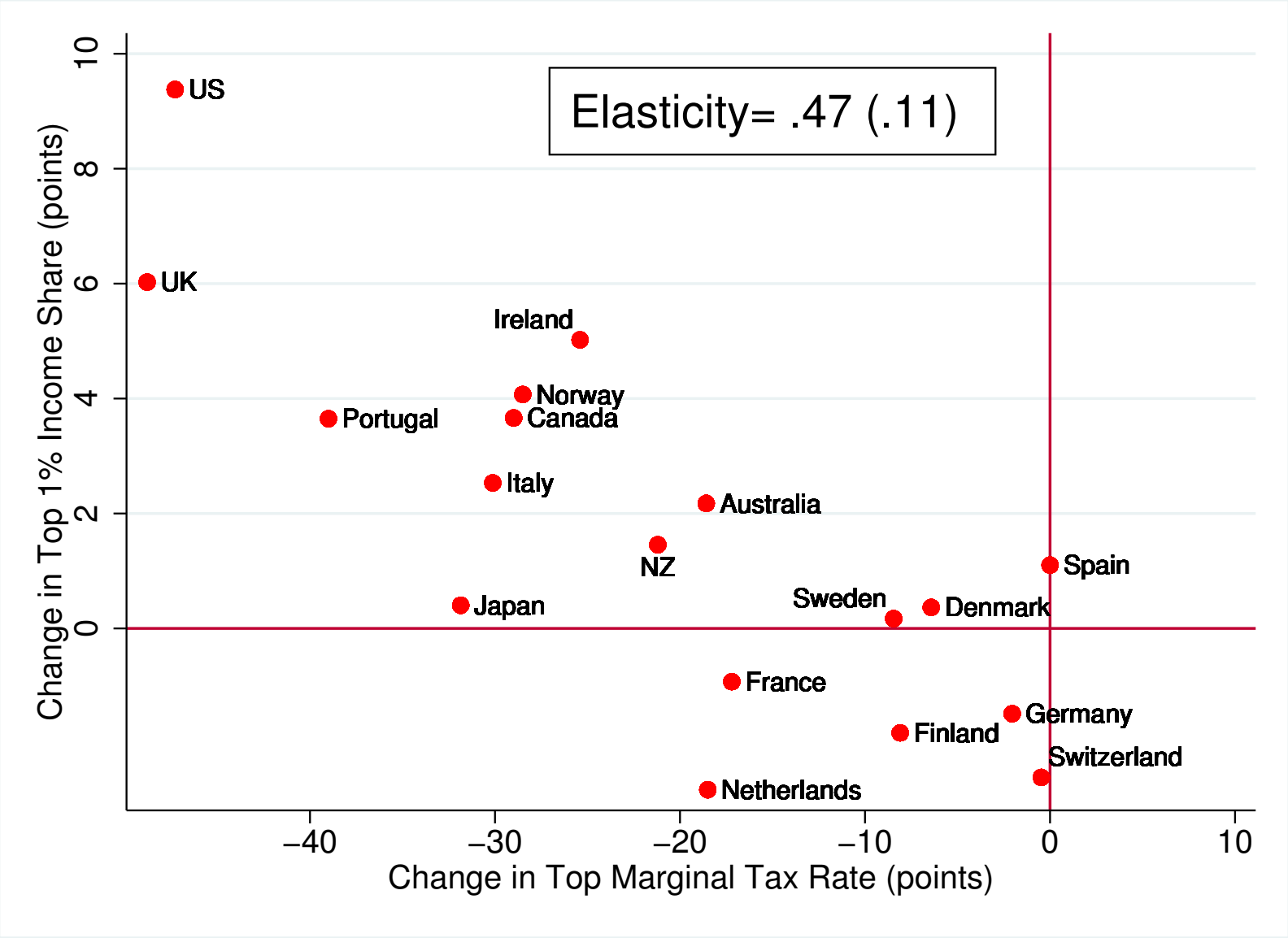
Plot top 1% pre-tax income share against top MTR in 1960-4, in 2005-9, and 1960-4 vs. 2005-9



Source: Piketty, Saez & Stantcheva (2011)



Source: Piketty, Saez & Stantcheva (2011)



Change in Top Tax Rate and Top 1% Share, 1960-4 to 2005-9

Source: Piketty, Saez & Stantcheva (2011)

TOP RATES AND TOP INCOMES EVIDENCE

1) Pre-tax Top income shares have increased significantly in some but not all countries [Atkinson-Piketty-Saez JEL'11]

2) Top tax rates have come down significantly in a number of countries since 1960s

3) Correlation between 1) and 2) is strong but not perfect: lower top tax rates are a necessary but not sufficient condition for surge in top incomes

ECONOMIC EFFECTS OF TAXING THE TOP 1%

Strong empirical evidence that **pre-tax** top incomes are affected by top tax rates

3 potential scenarios with very different policy consequences

1) Supply-Side: Top earners work less and earn less when top tax rate increases $\Rightarrow$ Top tax rates should not be too high

2) Tax Avoidance/Evasion: Top earners avoid/evade more when top tax rate increases

$\Rightarrow$ a) Eliminate loopholes, b) Then increase top tax rates

3) Rent-seeking: Top 1% earners extract more income (at the expense of the 99%) when top tax rates are low $\Rightarrow$ High top tax rates are desirable

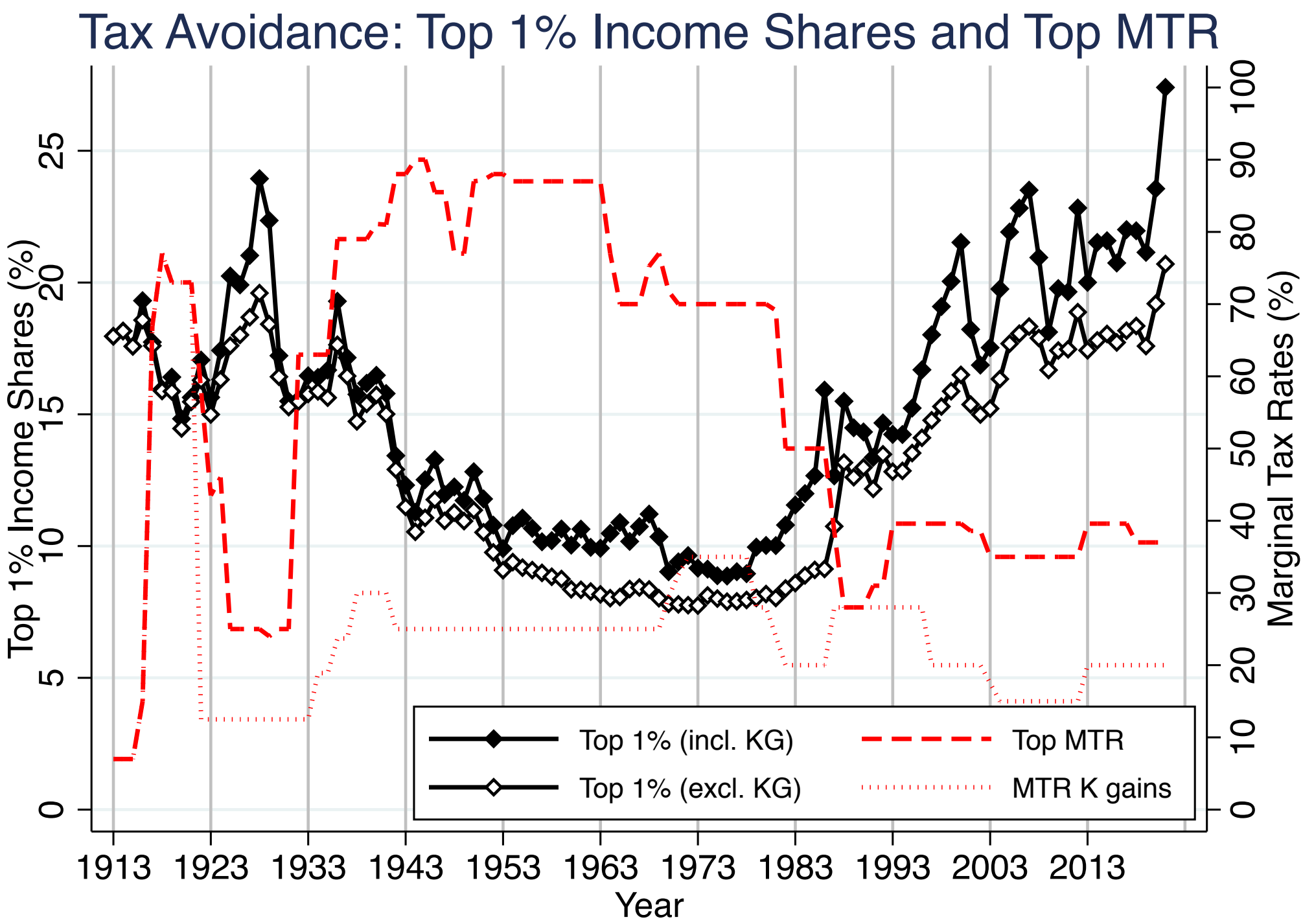
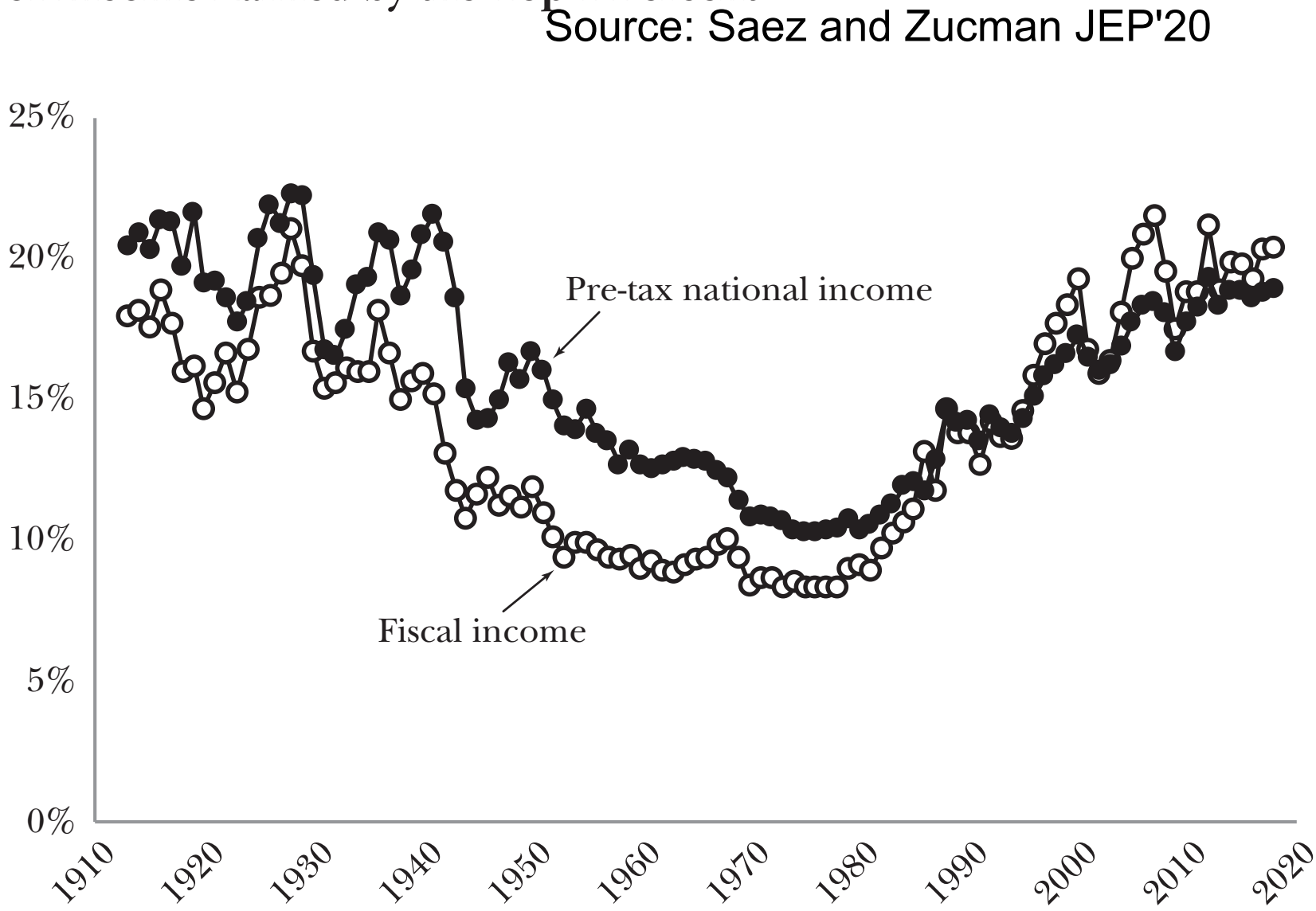

Tax Avoidance: Top 1% Income Shares and Top MTR
Top 1% Income Shares (%)
0
5
10
15
20
25
Marginal Tax Rates (%)
0
10
20
30
40
50
60
70
80
90
100
1913
1923
1933
1943
1953
1963
1973
1983
1993
2003
2013
Year
Top 1% (incl. KG)
Top 1% (excl. KG)
Top MTR
MTR K gains

Figure 3

Share of Income Earned by the Top 1 Percent



Note: This figure compares the share of fiscal income earned by the top 1 percent tax units (from Piketty and Saez 2003, updated series including capital gains in income to compute shares but not to define ranks, to smooth the lumpiness of realized capital gains) to the share of pre-tax national income earned by the top 1 percent equal-split adults (from Piketty, Saez, and Zucman 2018, updated September 2020, available on WID.world).

Real changes vs. tax Avoidance? Charitable giving

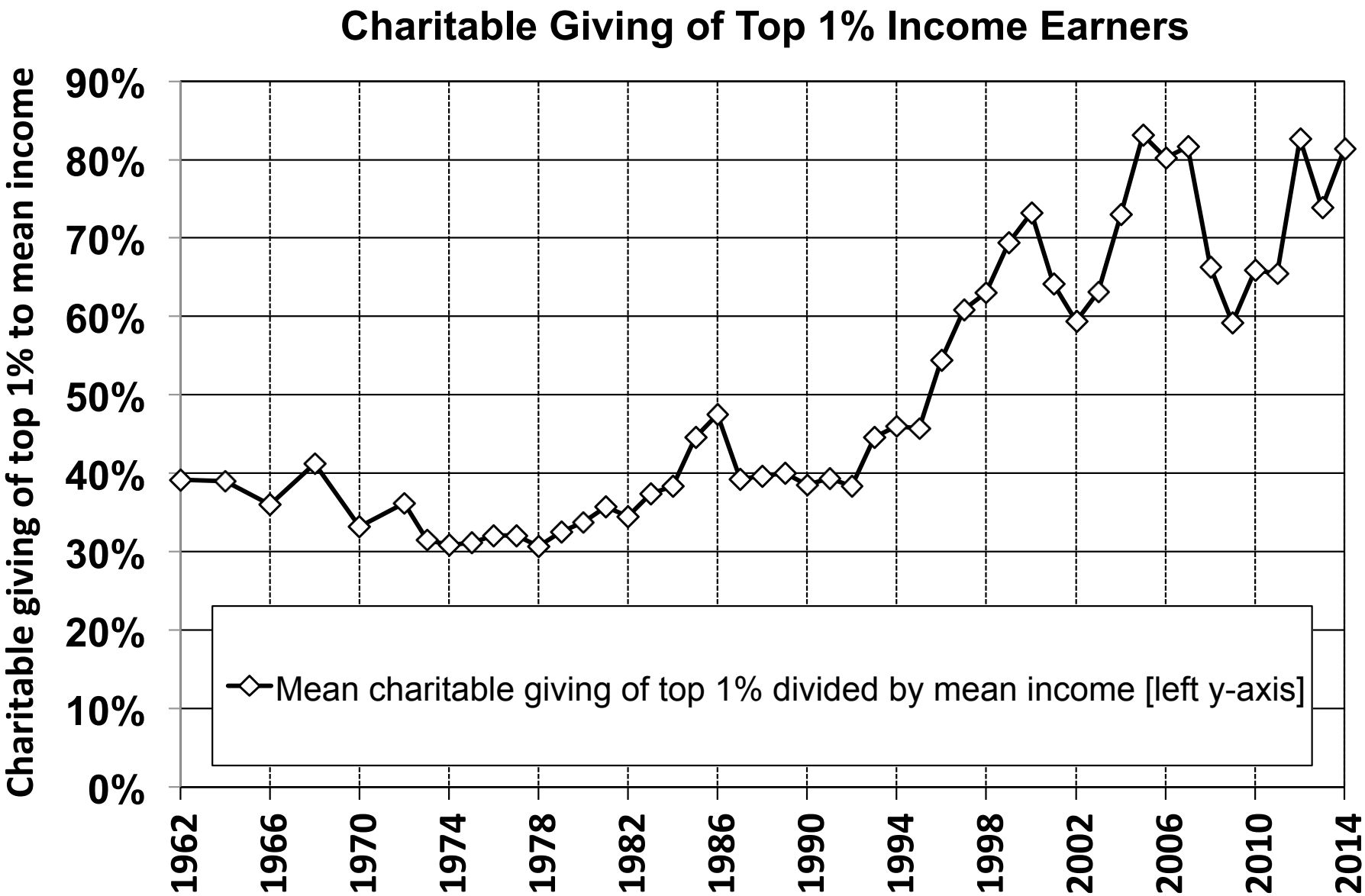
Test using charitable giving behavior of top income earners (Saez TPE '17)

Because charitable is tax deductible, incentives to give are stronger when tax rates are higher

Under the tax avoidance scenario, reported incomes and reported charitable giving should move in opposite directions

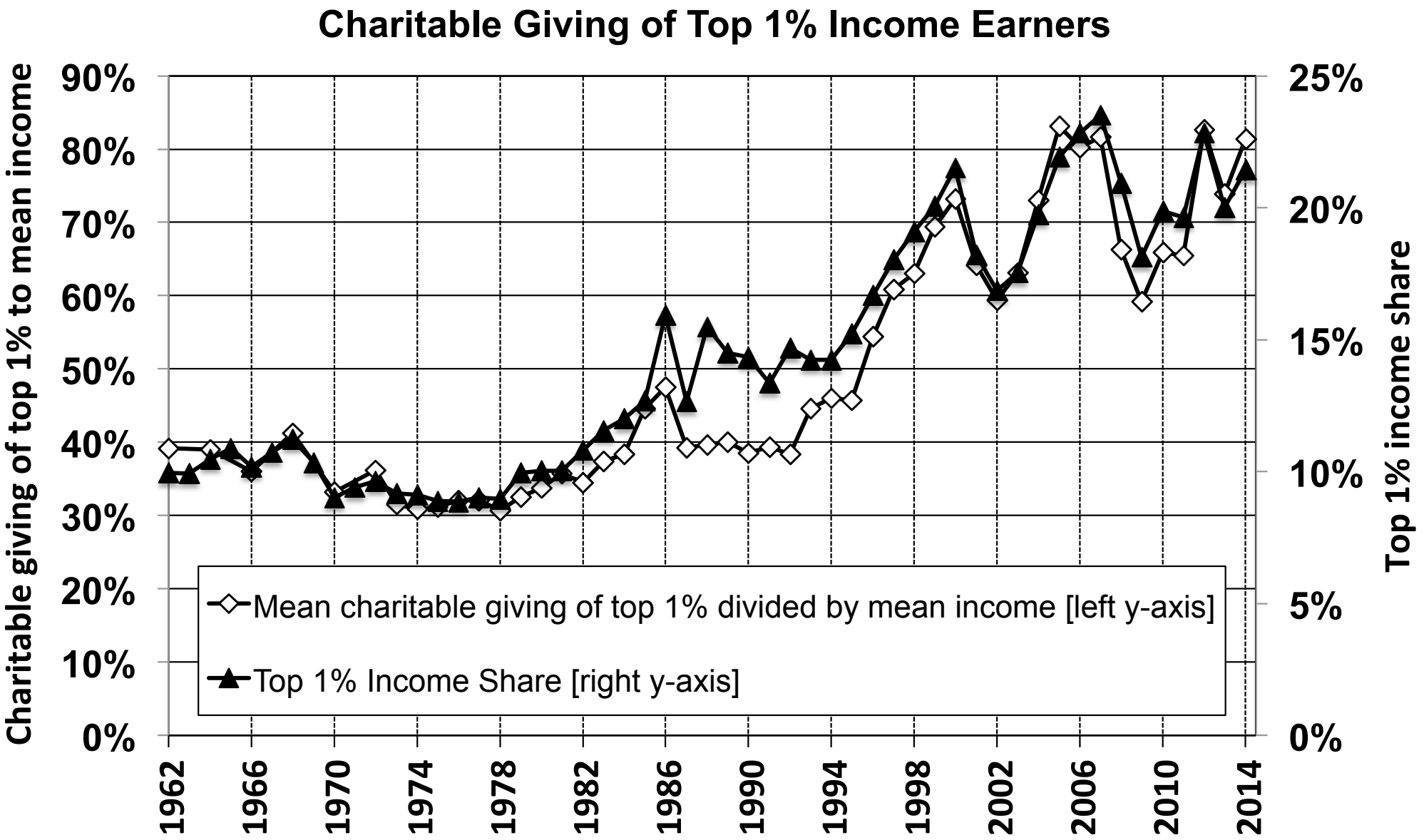
Empirically, charitable giving of top income earners has grown in close tandem with top incomes

$\Rightarrow$ Incomes at the top have grown for real



Source: The figure depicts average charitable giving of top 1% incomes (normalized by average income per family) on the left y-axis.

Source: Saez TPE 2017



Source: The figure depicts average charitable giving of top 1% incomes (normalized by average income per family) on the left y-axis. For comparison, the figure reports the top 1% income share (on the right y-axis).

Source: Saez TPE 2017

Supply-Side or Rent-Seeking? (Piketty-Saez-Stantcheva AEJ'13)

Correlation between **pre-tax** top incomes and top tax rates

If rent-seeking: growth in top 1% incomes should come at the expense of bottom 99% (and conversely). Two macro tests:

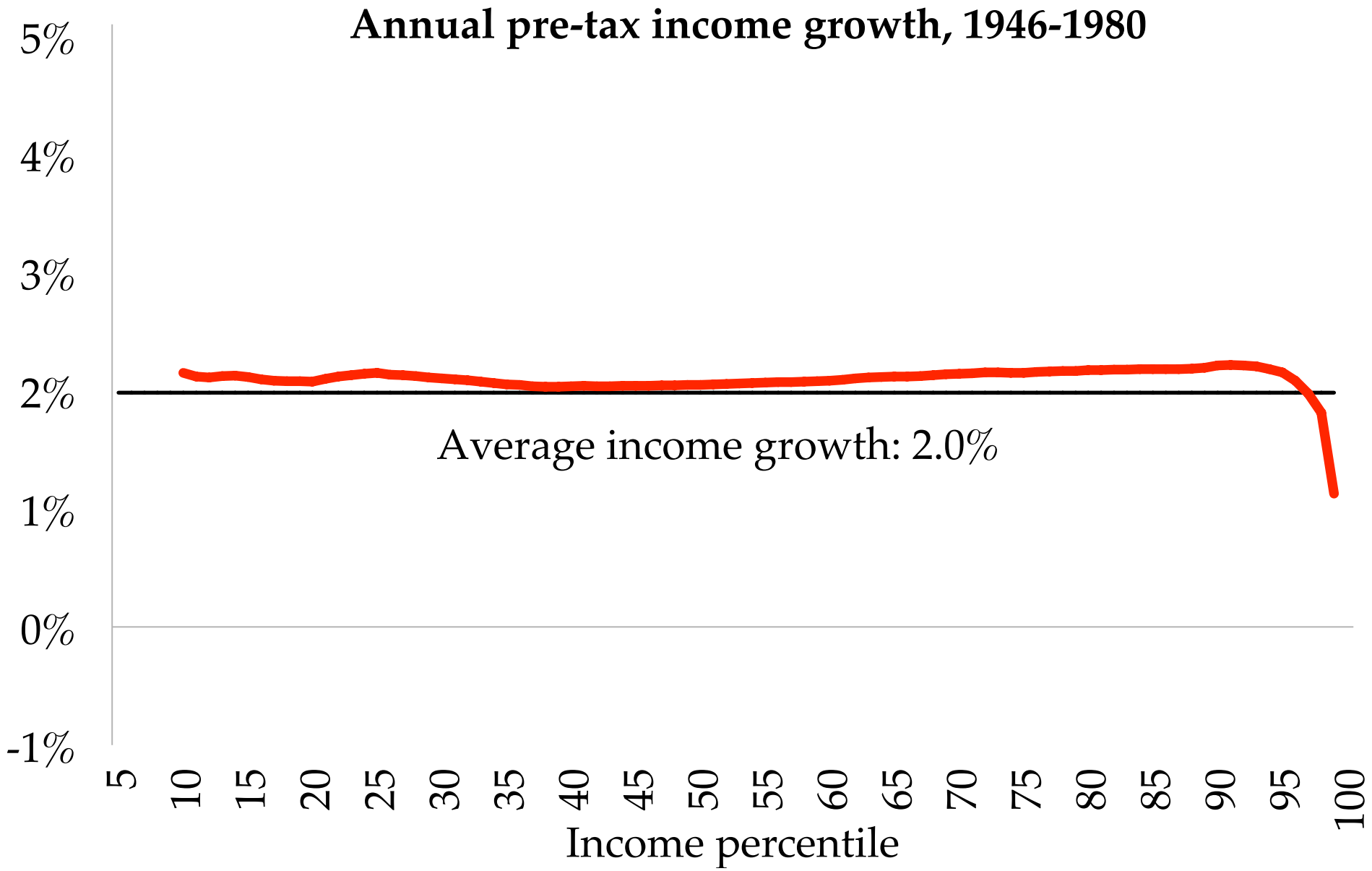
1) US evidence:

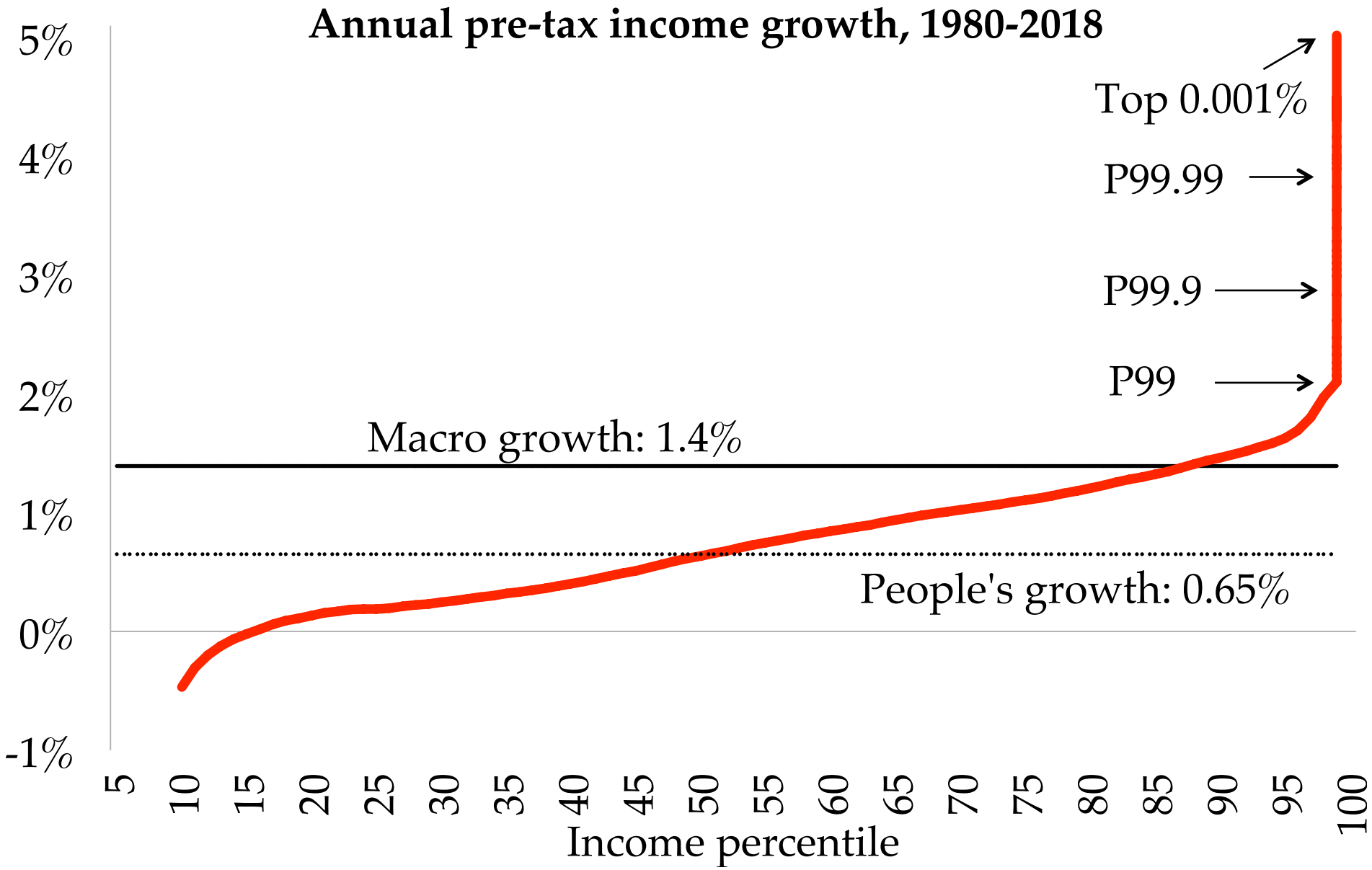
a) Income growth was high and broadly distributed from 1946-1980 when top tax rates were high.

b) Growth has been weaker and skewed toward the rich after 1980 when top tax rates went down

$\Rightarrow$ Consistent with rent-seeking effects

2) Look at cross-country correlation between economic growth and top tax rate cuts $\Rightarrow$ No correlation supports rent-seeking


Annual pre-tax income growth, 1946-1980
5%
4%
3%
2%
1%
0%
-1%
Average income growth: 2.0%
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Income percentile


Annual pre-tax income growth, 1980-2018
5%
4%
3%
2%
1%
0%
-1%
Top 0.001%
P99.99
P99.9
P99
Macro growth: 1.4%
People's growth: 0.65%
5
10
15
20
25
30
35
40
45
50
55
60
65
70
75
80
85
90
95
100
Income percentile

INTERNATIONAL MIGRATION

Public debate concern that top skilled individuals move to low tax countries (e.g., in EU context) or low tax states (within US Federation)

Migration concern bigger in public debate than supply-side concern within a country

Interesting variation due to proliferation of low tax schemes for highly paid foreigners in Europe (Flamant et al. 21)

Kleven-Landais-Saez AER'13 look at **football players** in Europe (highly mobile group, many tax reforms) $\Rightarrow$ Find significant migration responses to taxes after European football market was de-regulated in '95

Akcigit-Baslandze-Stantcheva AER'16 look at **innovators** (using patent data) mobility and find significant tax effects for top innovators

Various US states studies: Moretti-Wilson '17 , '19, Rauh-Shyu '19 (big effects), Young et al. '16 (modest effects)

KLEVEN-LANDAIS-SAEZ-SCHULTZ QJE'14

Exploit the 1991 tax scheme in Denmark: immigrants with high earnings ($\geq 103,000$ Euros/year) taxed at flat 25% rate (instead of regular tax with top 59% rate) for 3 years

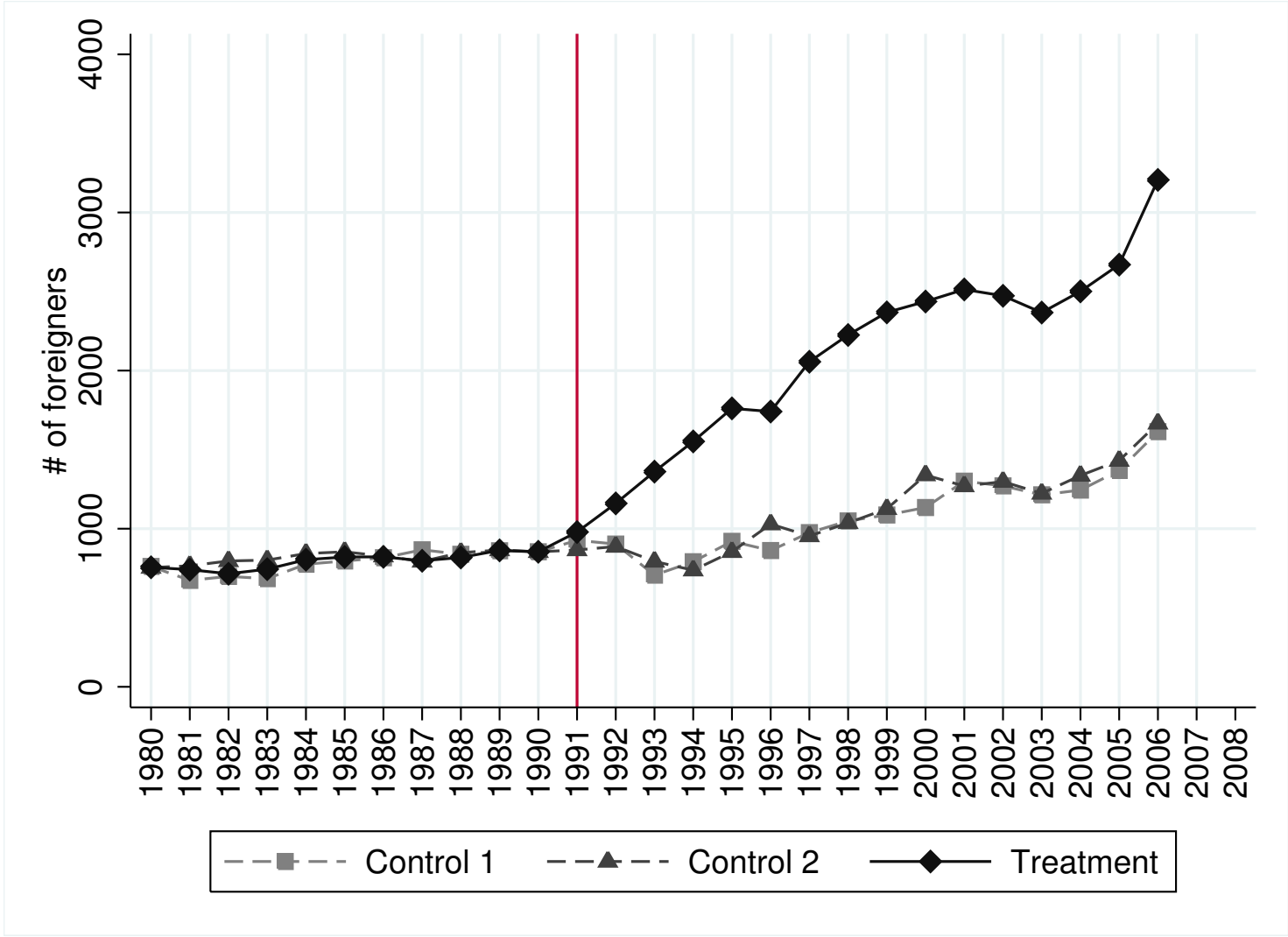
Use population wide Danish tax data and DD strategy: compare immigrants above eligibility earnings threshold (treatment) to immigrants slightly below threshold (control)

Key Finding: Scheme doubles the number of highly paid foreigners in Denmark relative to controls

$\Rightarrow$ Aggressive tax competition can be desirable from a one country perspective but undermines tax progressivity in other countries

$\Rightarrow$ Tax coordination will be key to preserve progressive taxation in the European Union

Figure 3: Total number of foreigners in different income groups



Control 1= annualized income between .8 and .9 of threshold
Control 2= annualized income between .9 and .995 of threshold.

Source: Kleven, Henrik Jacobsen, et al (2013)

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