Income Inequality:
Evidence and Policy Implications

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Arrow Lecture, Stanford

January 2013

INTRODUCTION

Free market economies generate substantial inequality

$\Rightarrow$ Main criticism of capitalism

Raises 2 important issues for economists:

1) Measuring and understanding inequality: What is the level of inequality? How does it change overtime? What factors drive inequality?

2) Should the government reduce inequality using redistributive policies such as taxes, transfer programs, and other regulations?

TOP INCOME SHARES

Simple way to measure inequality: what share of total **pre-tax market income** goes to the top 10%, top 1%, etc.

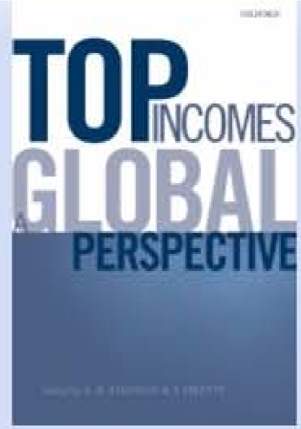
Income tax statistics are a valuable resource to construct such inequality series over long time periods and across countries [best source for top incomes]

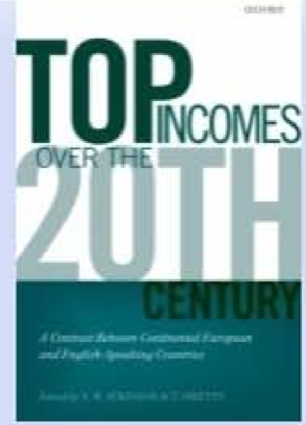
Piketty and Saez (2003) have analyzed US since 1913

25 countries have now been analyzed

Studies summarized in Atkinson-Piketty-Saez JEL'11 and data online in **The World Top Incomes Database**

The Top Incomes Database





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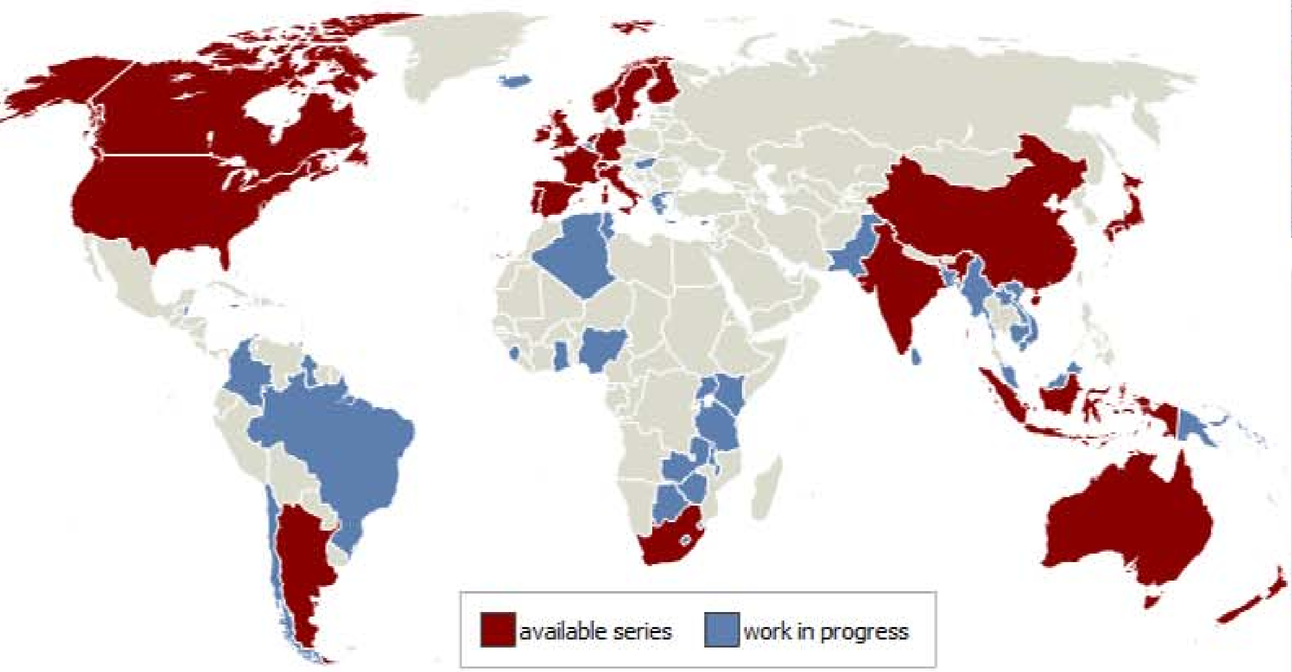

PARIS SCHOOL OF ECONOMICS

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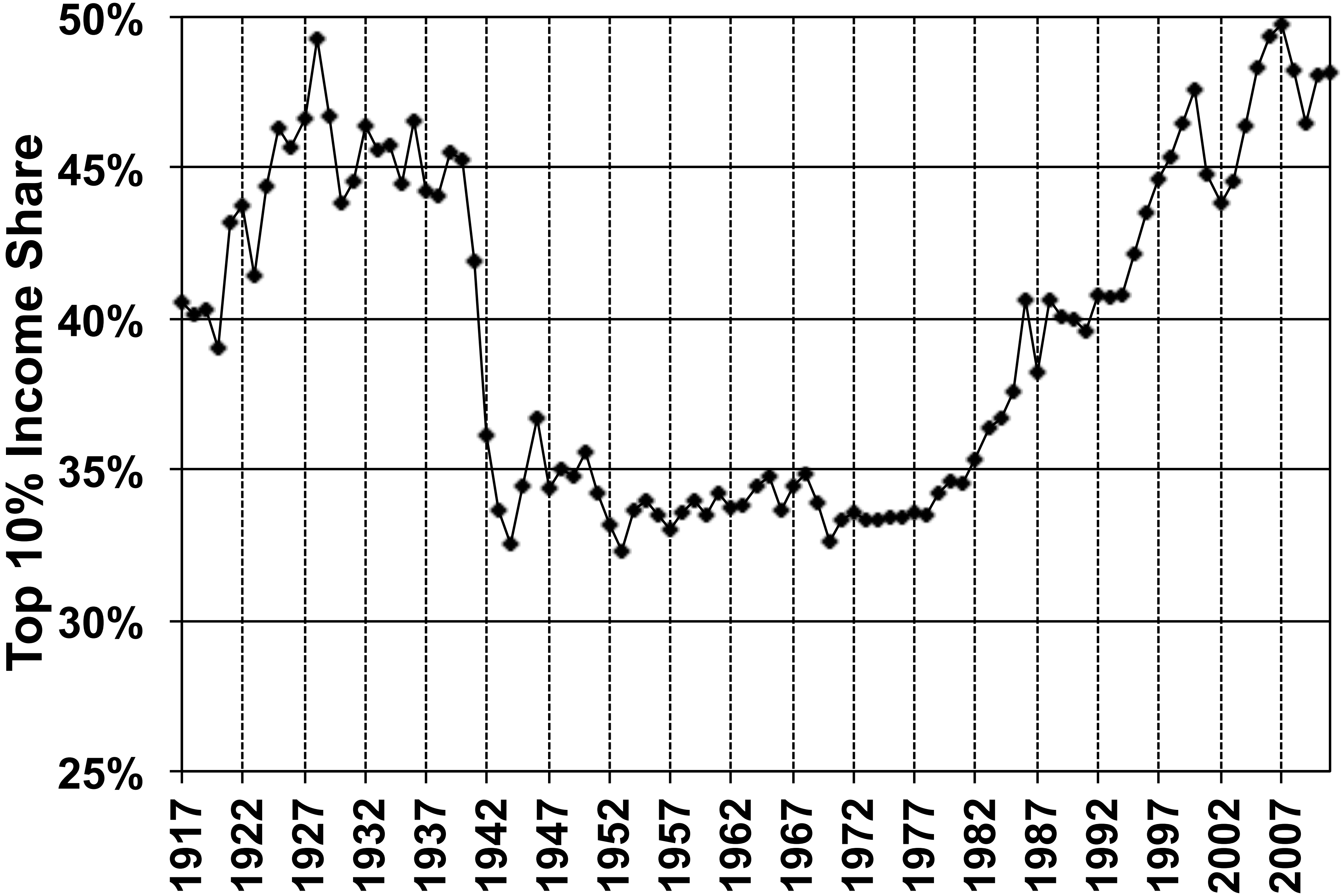
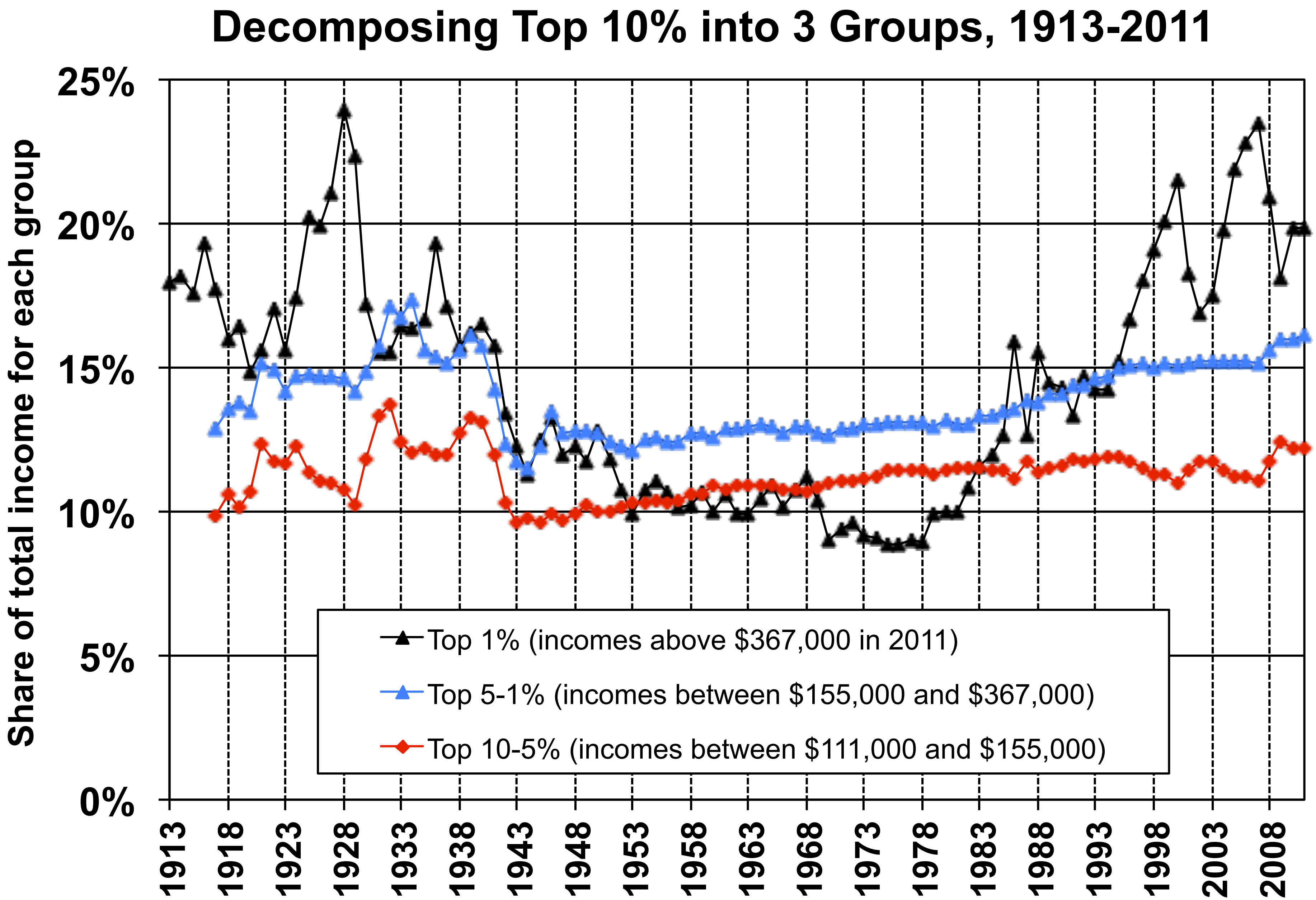
CENTER FOR EQUITABLE GROWTH

INSTITUTE FOR ECONOMIC MODELLING

Top 10% Pre-tax Income Share in the US, 1917-2011

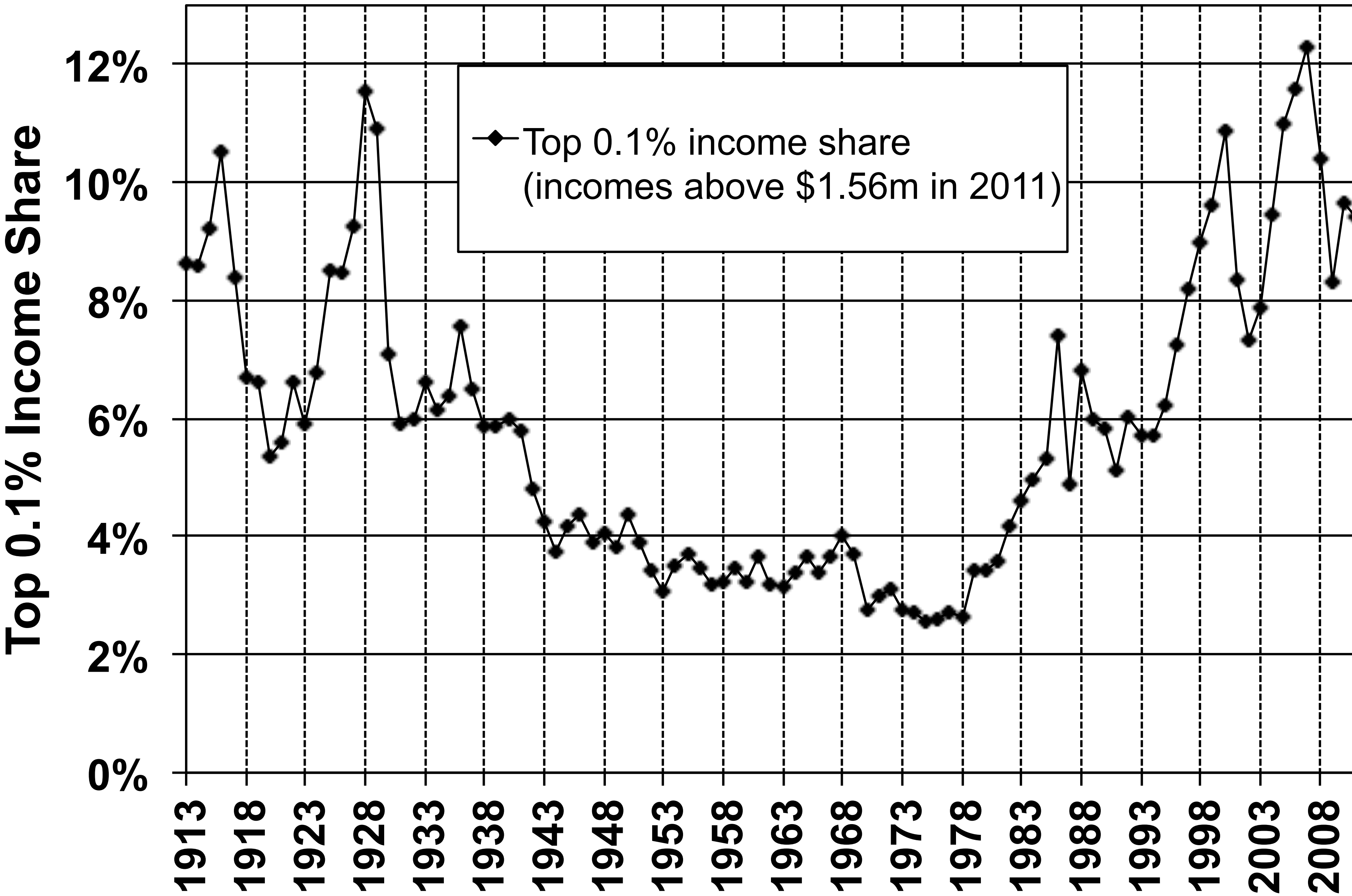


Source: Piketty and Saez, 2003 updated to 2011. Series based on pre-tax cash market income including realized capital gains and excluding government transfers.



Source: Piketty and Saez, 2003 updated to 2011. Series based on pre-tax cash market income including realized capital gains and excluding government transfers.

Top 0.1% US Pre-Tax Income Share, 1913-2011



Source: Piketty and Saez, 2003 updated to 2011. Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers.

WHY DO TOP INCOME SHARES MATTER?

1) Inequality matters because people evaluate their economic well-being relative to others, not in absolute terms

$\Rightarrow$ Public cares about inequality

2) Surge in US top 1% income share so large that income growth of bottom 99% is only half of average income growth

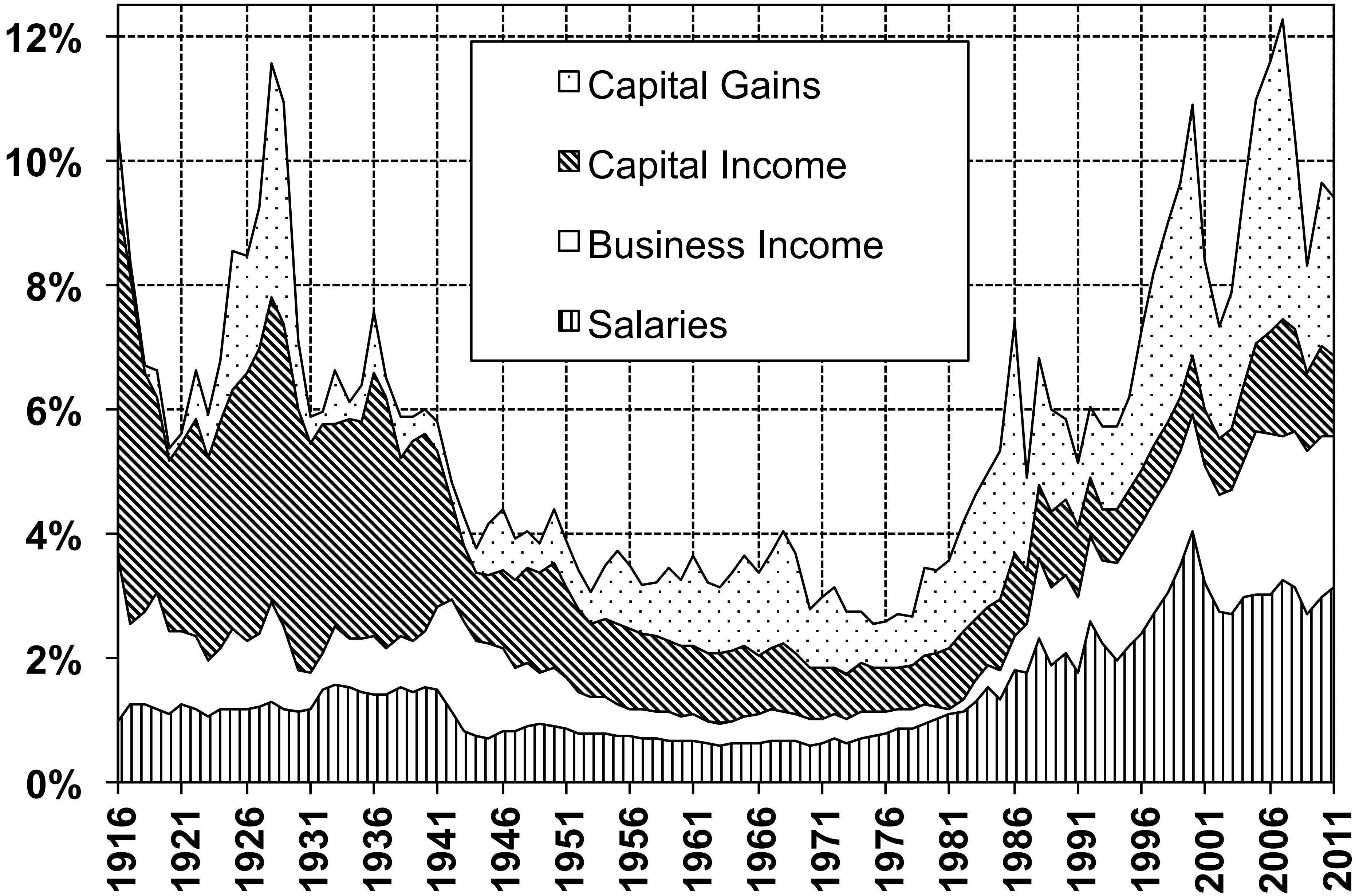
3) Surge in top incomes gives top earners more ability to influence political process (think-tanks, lobbying, campaign funds)

Table 1. Real Income Growth by Groups

	Average Income Real Growth (1)	Top 1% Incomes Real Growth (2)	Bottom 99% Incomes Real Growth (3)	Fraction of total growth (or loss) captured by top 1% (4)
Full period 1993-2011	**13.1%**	**57.5%**	**5.8%**	**62%**
Clinton Expansion 1993-2000	31.5%	98.7%	20.3%	45%
2001 Recession 2000-2002	-11.7%	-30.8%	-6.5%	57%
Bush Expansion 2002-2007	16.1%	61.8%	6.8%	65%
Great Recession 2007-2009	-17.4%	-36.3%	-11.6%	49%
Recovery 2009-2011	1.7%	11.2%	-0.4%	121%

Computations based on family market income including realized capital gains (before individual taxes).
Incomes exclude government transfers (such as unemployment insurance and social security) and non-taxable fringe benefits.
Incomes are deflated using the Consumer Price Index.

US Top 0.1% Pre-Tax Income Share and Composition



Source: Piketty and Saez, 2003 updated to 2011. Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers.

SUMMARY OF US RESULTS

1) Dramatic reduction in income concentration during the first part of the 20th century

2) No Recovery in the 3 decades following World War II

3) Sharp increase in top 1% income share since 1970s

4) Top 1% income share today is similar to top 1% share in 1920s but "working rich" have partly replaced "rentiers"

WHAT TO EXPECT NEXT?

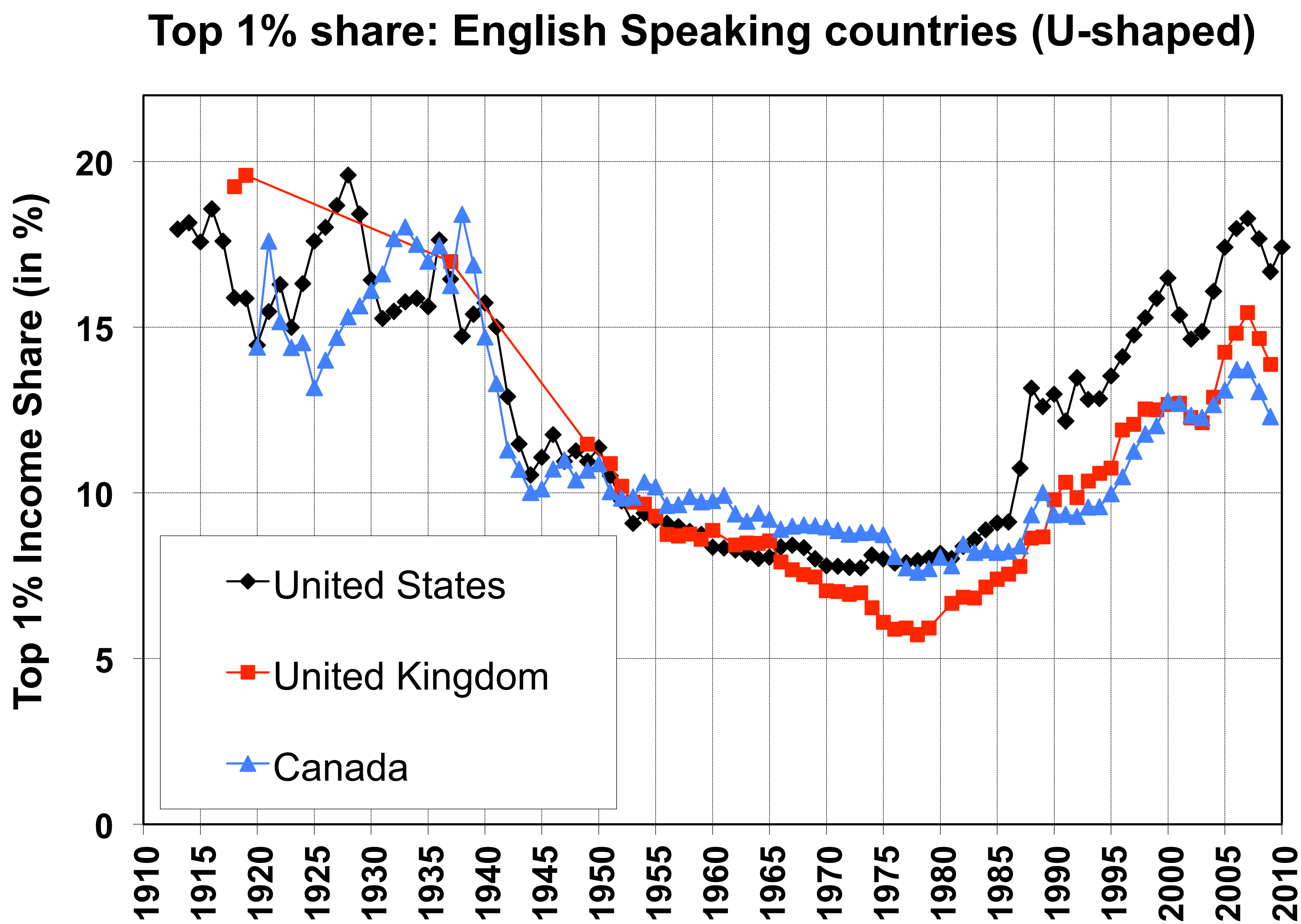
1) Short Run: Top 1% income shares have fallen during Great Recession because capital gains, stock-options, business profits collapse (wage earners in P90-99 do well)

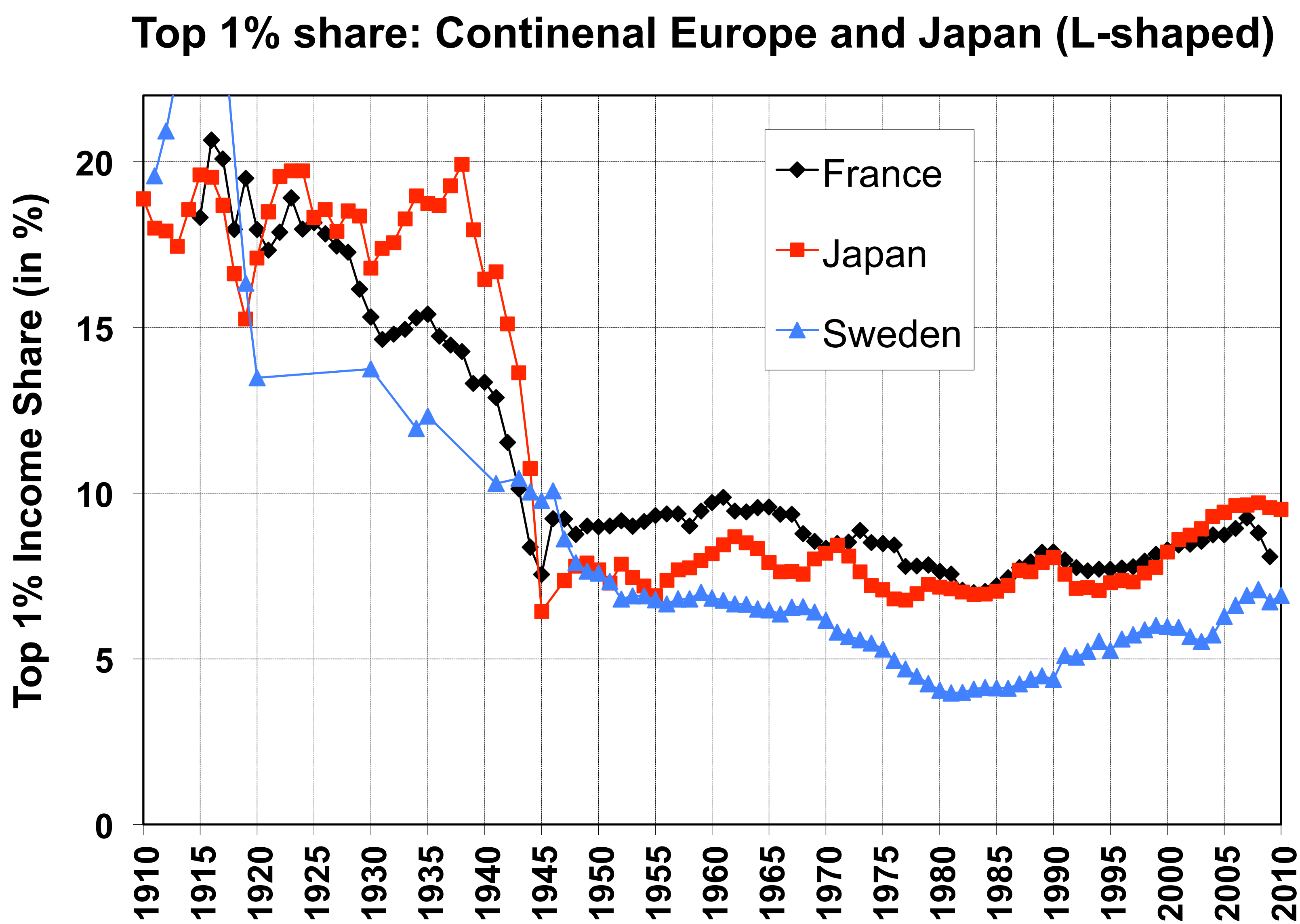
2) Medium Run: Based on historical record

a) Top 1% incomes recover faster than bottom 99% income if there is no drastic change in tax and regulation policies

b) Top incomes do not recover after Great Depression because of large tax and regulatory **New Deal** changes

US today seems more in scenario a) than b)


Top 1% share: English Speaking countries (U-shaped)
Top 1% Income Share (in %)
0
5
10
15
20
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
United States
United Kingdom
Canada


Top 1% share: Continenal Europe and Japan (L-shaped)
Top 1% Income Share (in %)
0
5
10
15
20
1910
1915
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
2010
France
Japan
Sweden

RESULT 1: DROP IN TOP CAPITAL INCOMES

All advanced countries had very high income concentration one century ago

Most countries experience sharp reduction in income concentration during the first part of the 20th century

1) This is a capital income phenomenon

2) War and depression shocks hit top capital earners (drop follows each country specific history)

3) Government policies–regulations and very progressive income and inheritance taxation–make this drop permanent

RESULT 2: RECENT SURGE IN TOP INCOMES MAINLY IN ENGLISH SPEAKING COUNTRIES

1) Driven primarily by surge in top **labor** incomes $\Rightarrow$ Difference across countries rules out pure technical change explanation

2) Right-wing view: market for top earners hindered by regulations which have disappeared in the US, UK, Canada but not Continental Europe and Japan

3) Left-wing view: US top earners have increased their ability to extract rents at the expense of others because policy/regulation changes have favored the rich

$\Rightarrow$ Let us examine next the role of top tax rates

TOP INCOMES AND TAXES

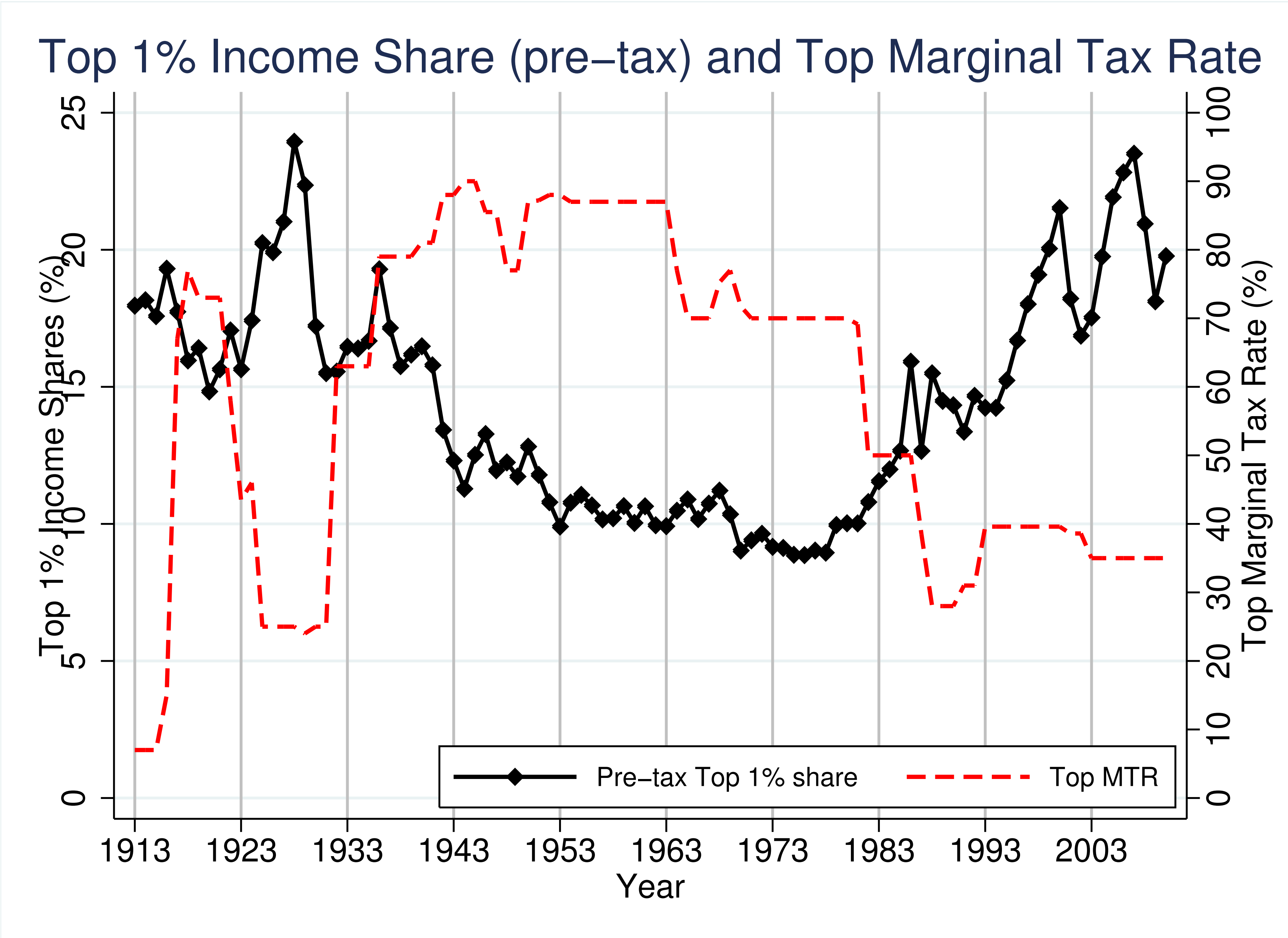
Pre-tax top US incomes have surged in recent decades: top 1% income share increased from 9% in 1970 to 20% in 2010

In 2010, top 1% income earners paid average Federal individual tax rate of 22% = 2.6 GDP points

Increasing the Federal individual tax rate on top 1% from 22% to 33% would raise revenue by 1.3 GDP points = $200bn/year

In 2013, top 1% tax increases by .4 GDP points

$\Rightarrow$ Top 1% has large potential tax capacity but higher taxes might discourage economic activity / encourage tax avoidance



Top 1% Income Share (pre–tax) and Top Marginal Tax Rate
Top 1% Income Shares (%)
0
5
10
15
20
25
Top Marginal Tax Rate (%)
0
10
20
30
40
50
60
70
80
90
100
1913
1923
1933
1943
1953
1963
1973
1983
1993
2003
Year
Pre–tax Top 1% share
Top MTR

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 earners extract more pay (at the expense of the 99%) when top tax rates are low $\Rightarrow$ High top tax rates are desirable

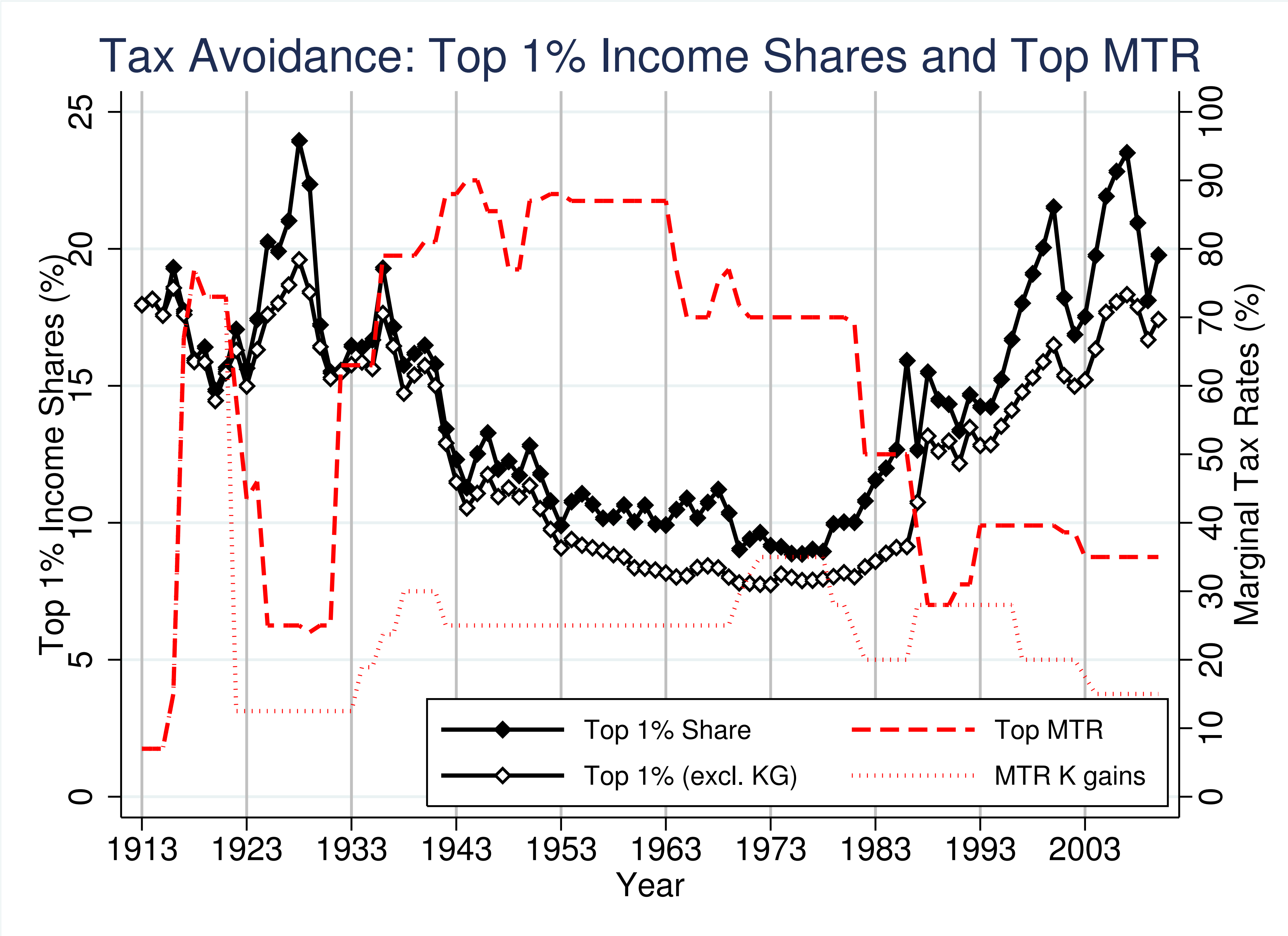
Real changes vs. tax Avoidance?

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

If this is due to tax avoidance, real top income shares were as high as today in the 1960s-70s but top earners reported a smaller fraction of their incomes

$\Rightarrow$ correlation should be much stronger when using narrow taxable income definition than when using comprehensive income definition (including realized capital gains)

Empirical correlation is very similar ruling out the pure tax avoidance scenario


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

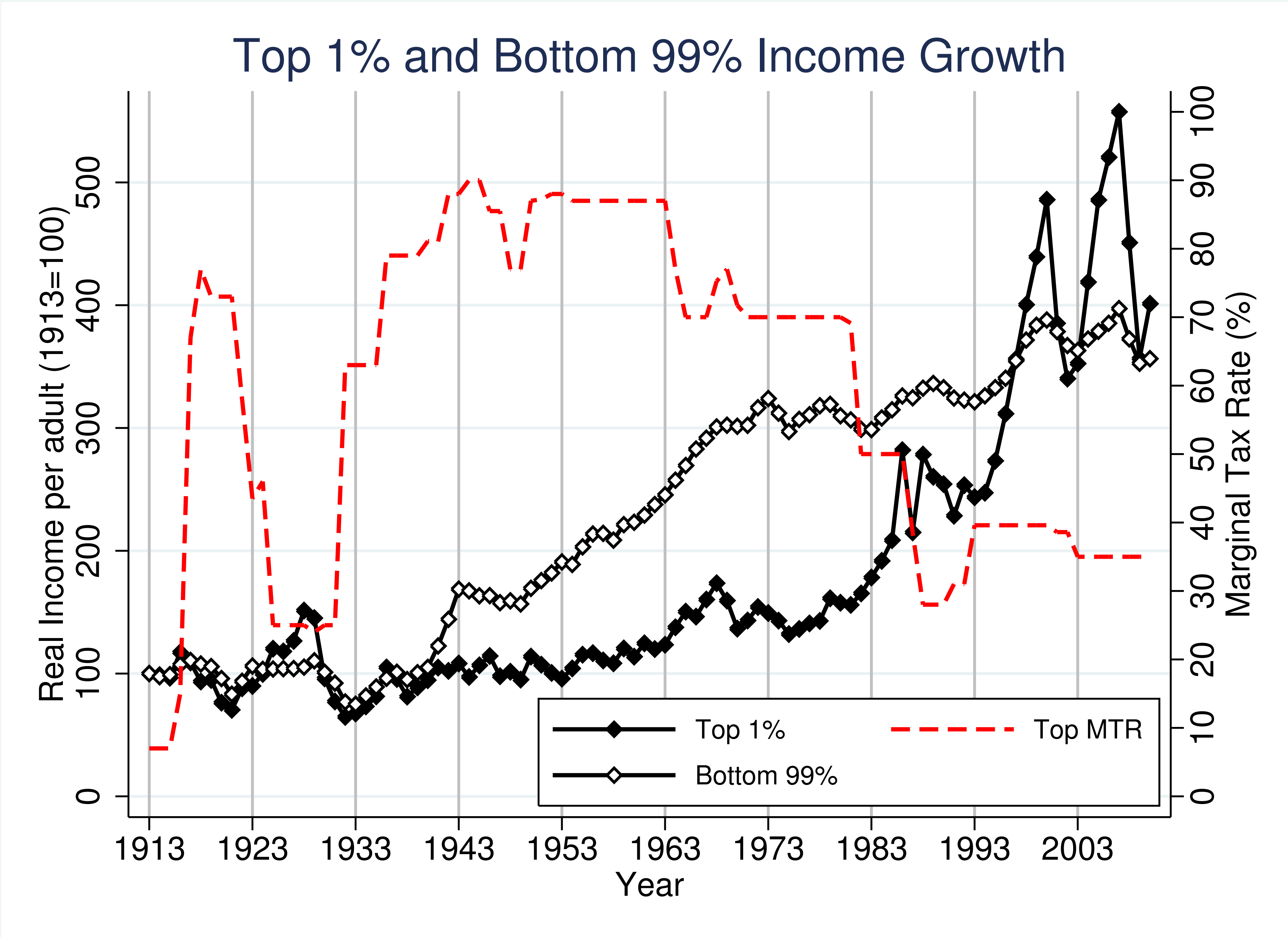
Supply-Side or Rent-Seeking?

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)

In the US, top 1% incomes grow slowly from 1933 to 1975 and fast afterwards. Bottom 99% incomes grow fast from 1933 to 1975 and slowly afterwards

$\Rightarrow$ Consistent with rent-seeking effects



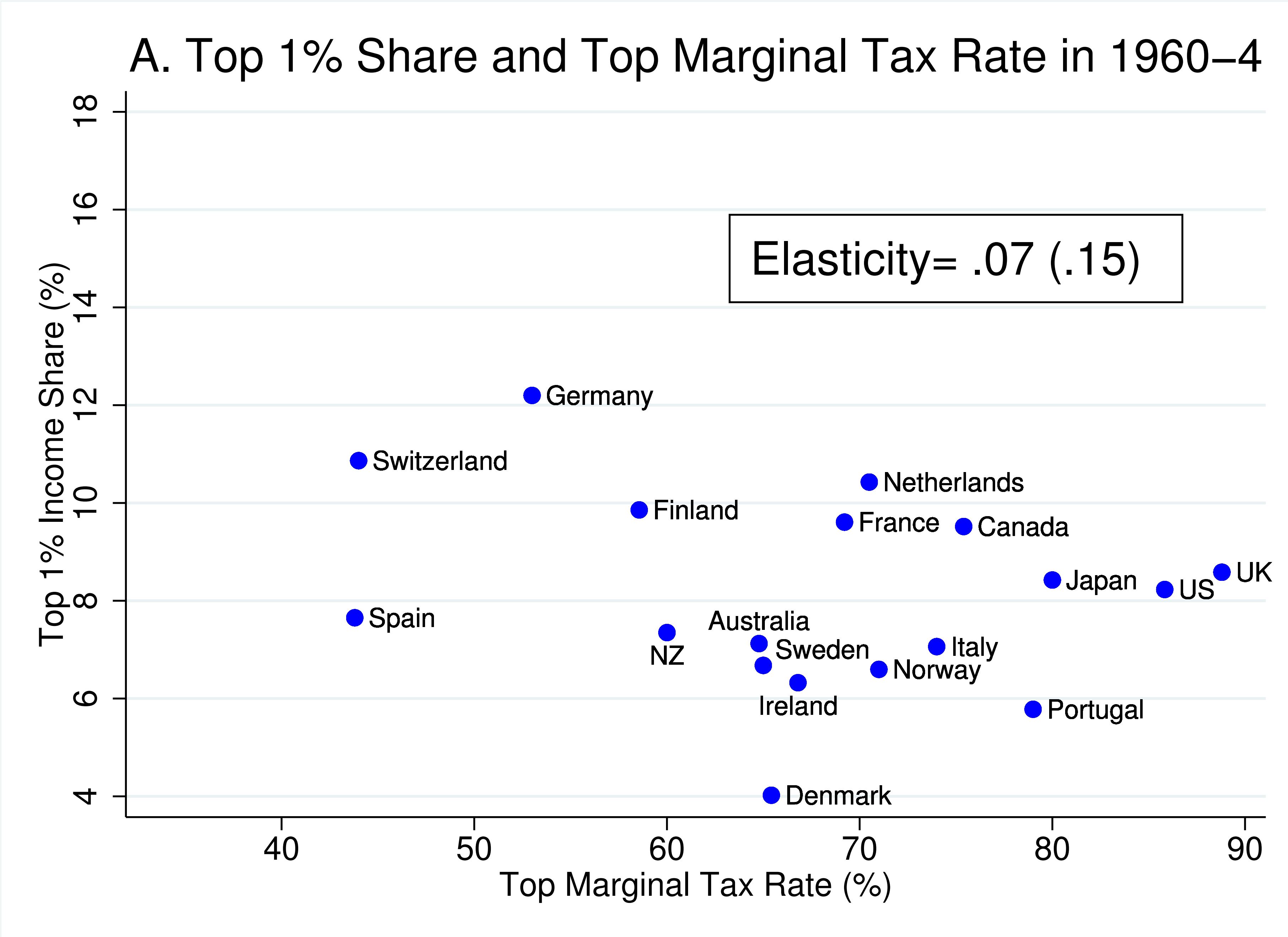
Top 1% and Bottom 99% Income Growth
Real Income per adult (1913=100)
0
100
200
300
400
500
Marginal Tax Rate (%)
0
10
20
30
40
50
60
70
80
90
100
1913
1923
1933
1943
1953
1963
1973
1983
1993
2003
Year
Top 1%
Bottom 99%
Top MTR

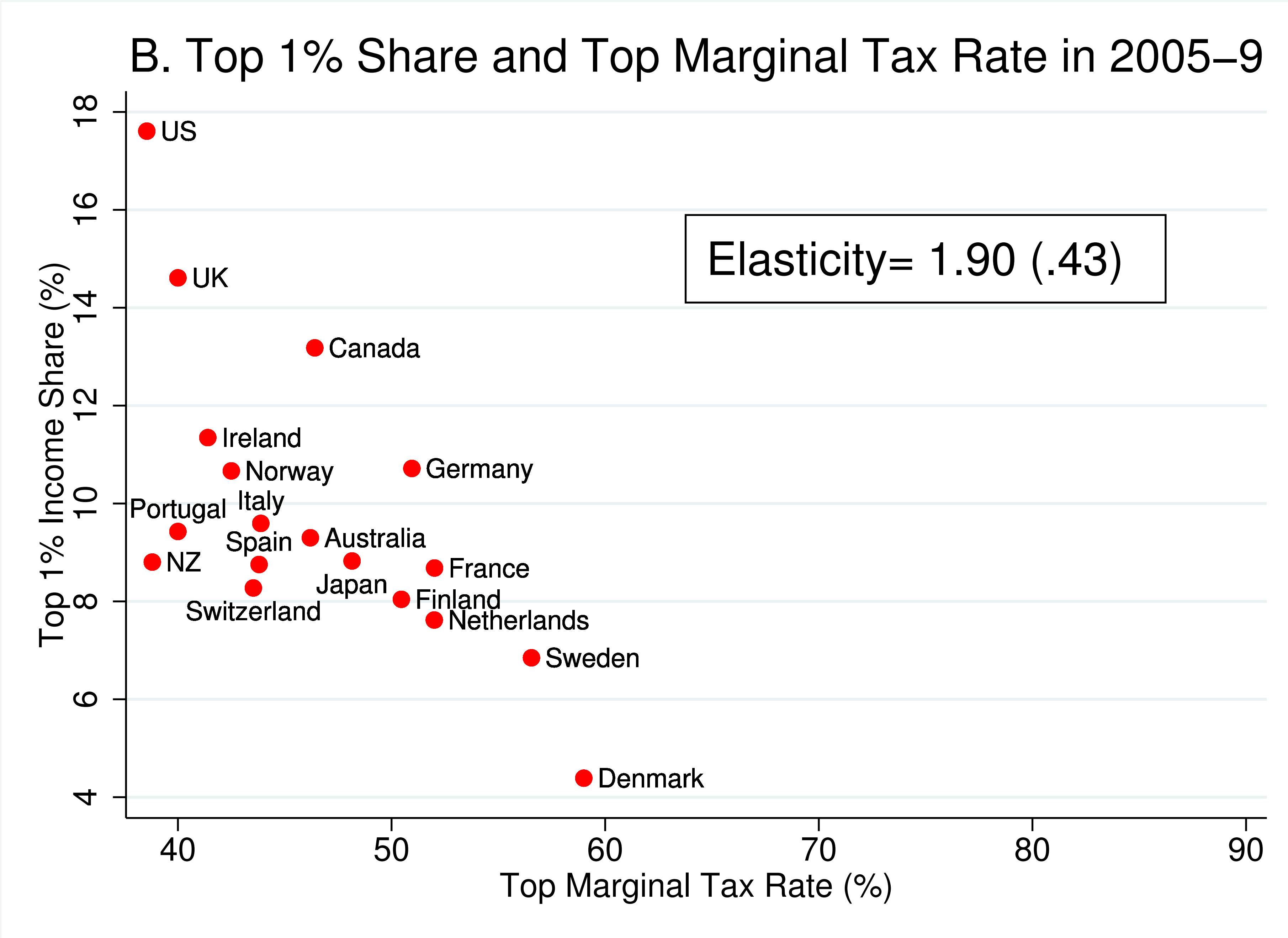
TOP RATES AND TOP INCOMES INTERNATIONAL EVIDENCE

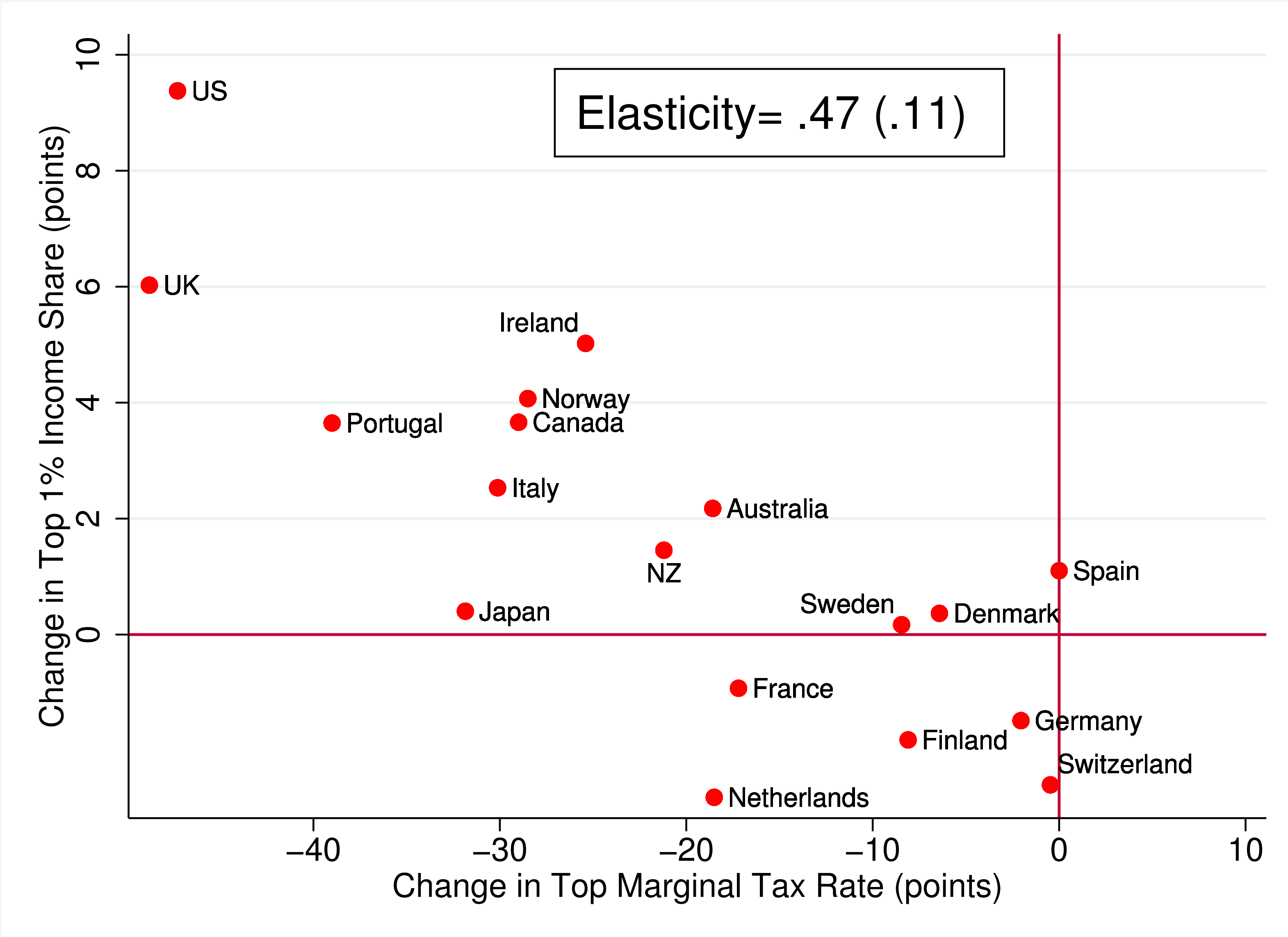
1) Use pre-tax top 1% income share data from 18 OECD countries since 1960 using the **World Top Incomes Database**

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


A. Top 1% Share and Top Marginal Tax Rate in 1960–4
Elasticity= .07 (.15)
Top 1% Income Share (%)
Top Marginal Tax Rate (%)
4
6
8
10
12
14
16
18
40
50
60
70
80
90
Germany
Switzerland
Netherlands
Finland
France
Canada
Japan
UK
US
Spain
Australia
NZ
Sweden
Italy
Norway
Ireland
Portugal
Denmark


B. Top 1% Share and Top Marginal Tax Rate in 2005–9
Elasticity= 1.90 (.43)
Top 1% Income Share (%)
Top Marginal Tax Rate (%)
4
6
8
10
12
14
16
18
40
50
60
70
80
90
US
UK
Canada
Ireland
Norway
Germany
Portugal
Italy
Spain
Australia
NZ
France
Japan
Finland
Switzerland
Netherlands
Sweden
Denmark



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

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

$\Rightarrow$ Total elasticity is large but could be a mix of real effects, avoidance effects, or bargaining effects

DOES THE 1% GAIN AT THE EXPENSE OF 99%?

Supply-Side Scenario:

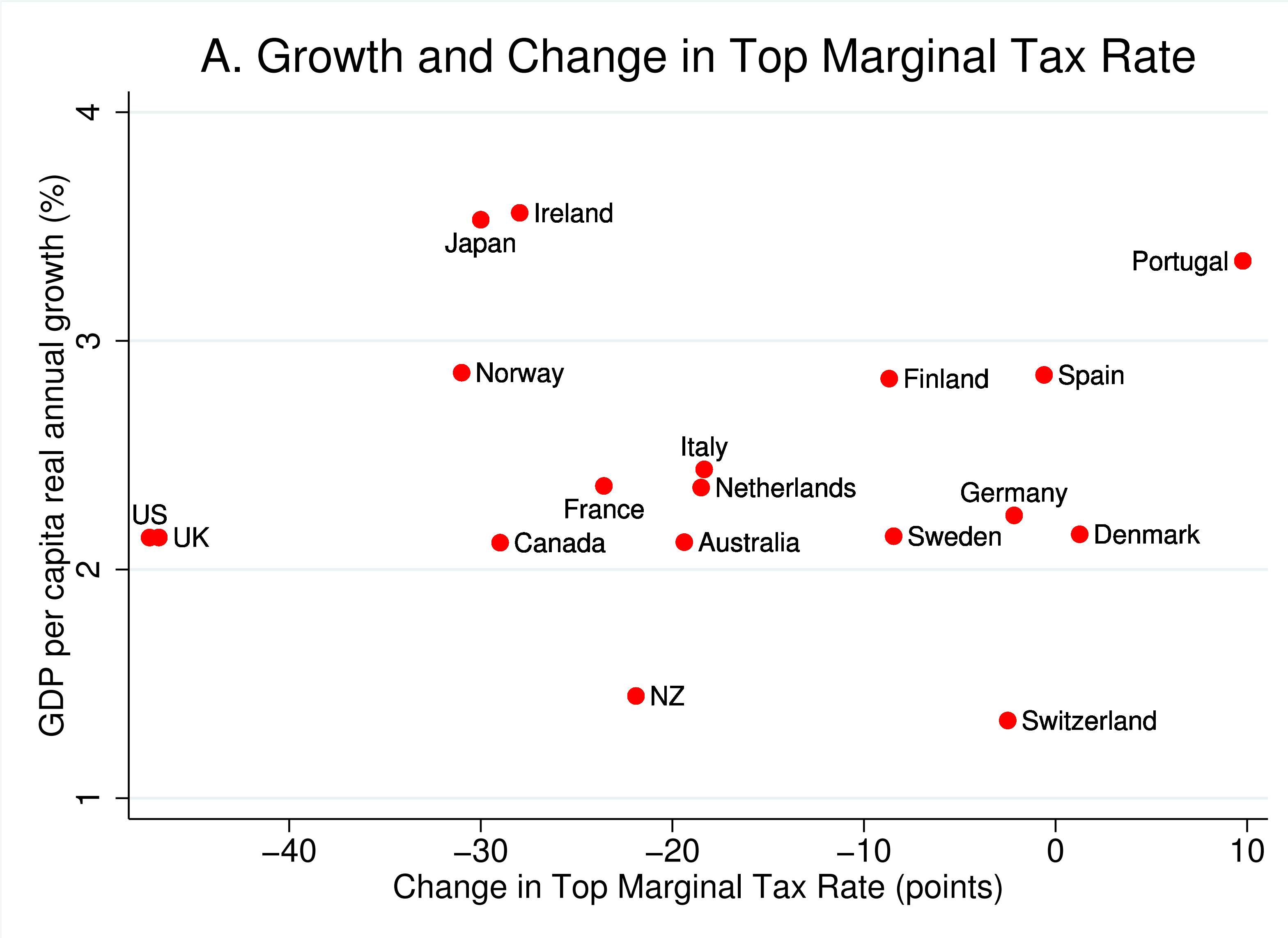
Lower top tax rates $\Rightarrow$ more economic activity among upper incomes benefits broader economy (job creators)

$\Rightarrow$ Surge in top income shares should come with more economic growth $\Rightarrow$ Low top tax rates are desirable

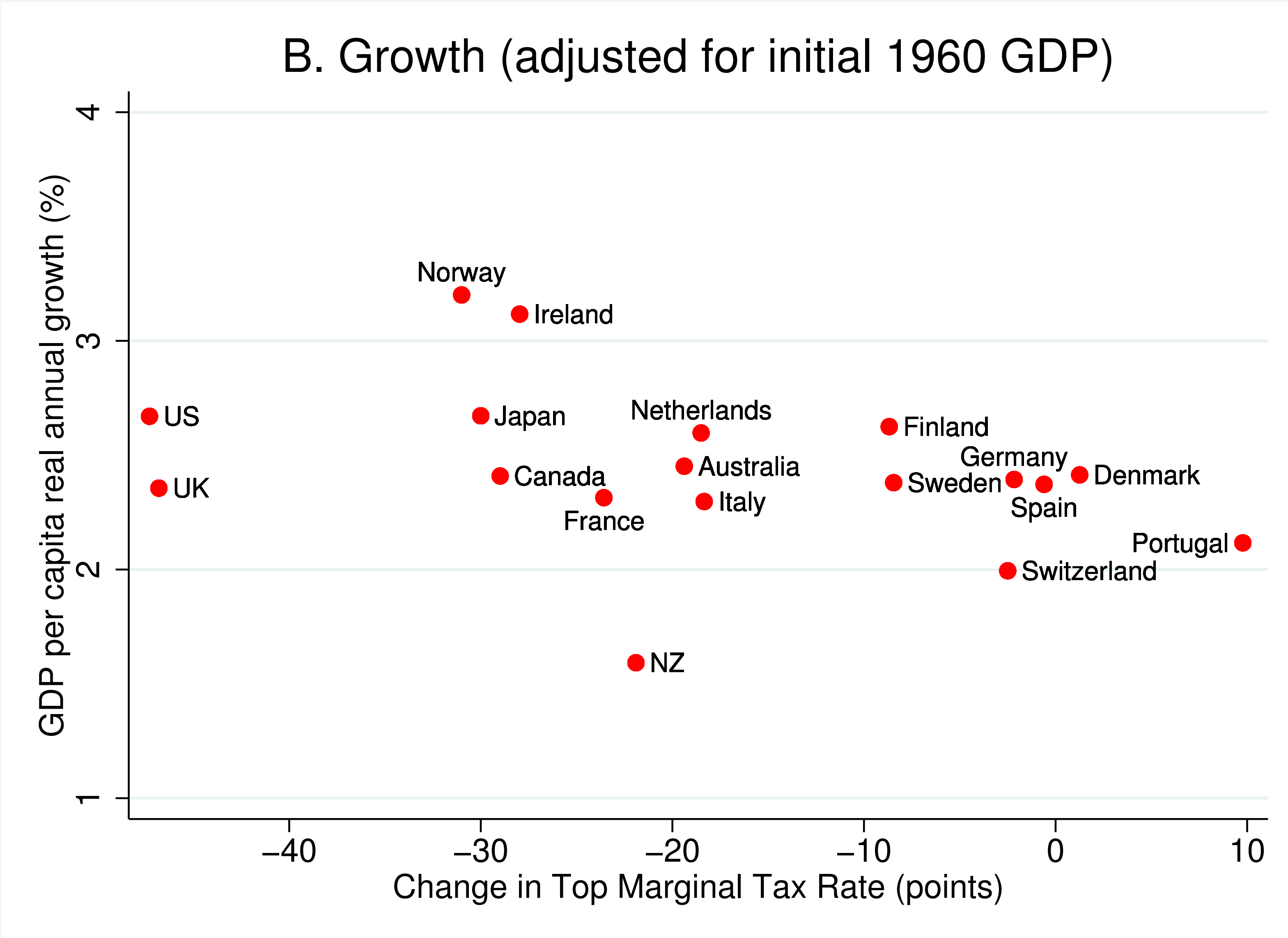
Rent-Seeking Scenario:

Lower top tax rates $\Rightarrow$ Upper incomes extract more compensation at the expense of others

$\Rightarrow$ Surge in top income shares should not be associated with more economic growth $\Rightarrow$ High top tax rates are desirable



Change in Top Tax Rate and GDP per capita growth since 1960



Change in Top Tax Rate and GDP per capita growth since 1960

POLICY CONCLUSIONS

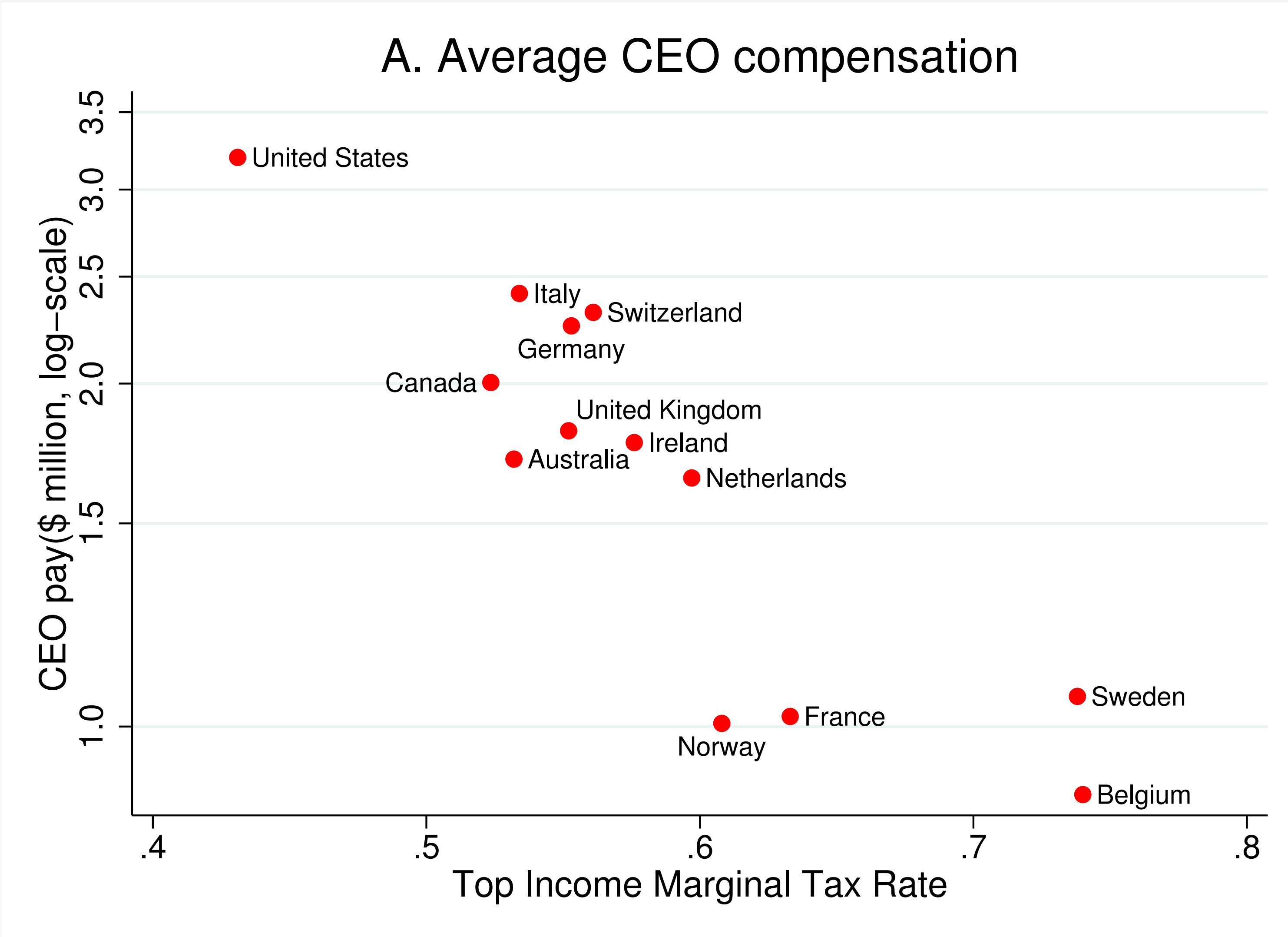
1) US historical evidence and international evidence shows that tax policy plays a key role in the shaping the income gap

2) High top tax rates reduce the **pre-tax** income gap without visible effect economic growth

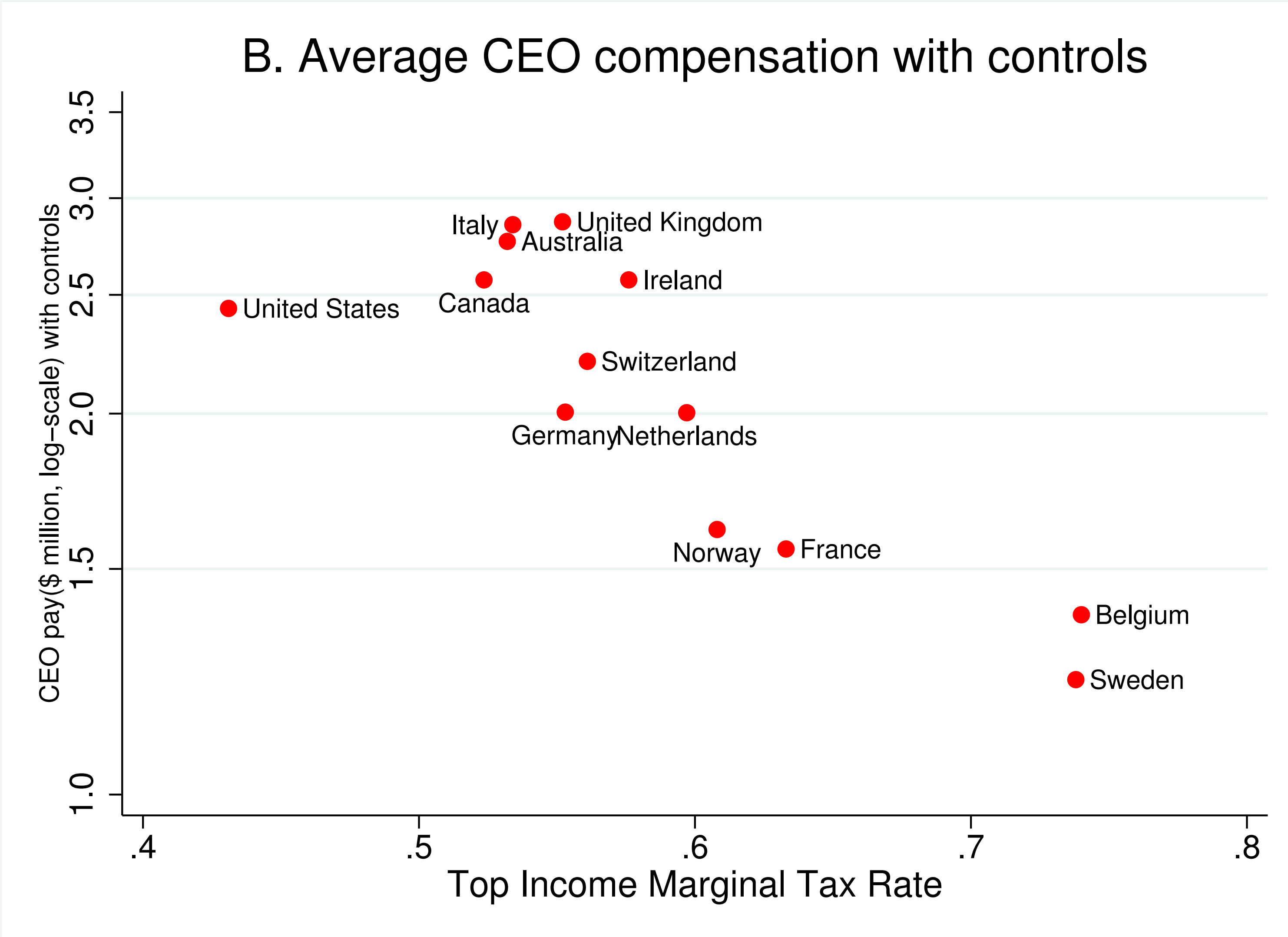
3) In globalized world, progressive taxation will require international coordination to keep tax avoidance/evasion low

4) Public will favor more progressive taxation only if it is convinced that top income gains are detrimental to the 99%

EXTRA SLIDES



Link between top tax rate and CEO pay in 2006 across countries



Controlling for firm profitability, governance, size, and industry