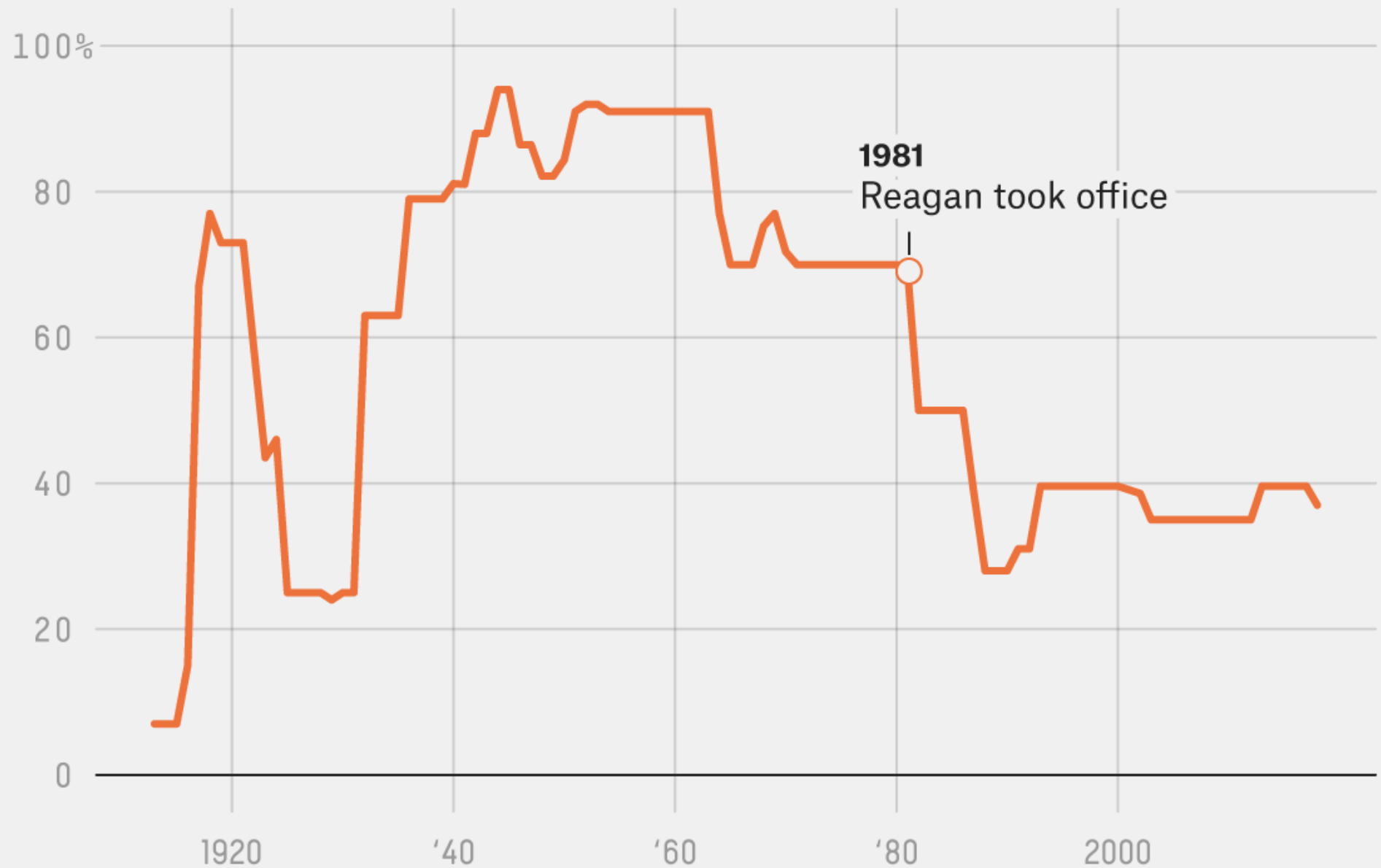
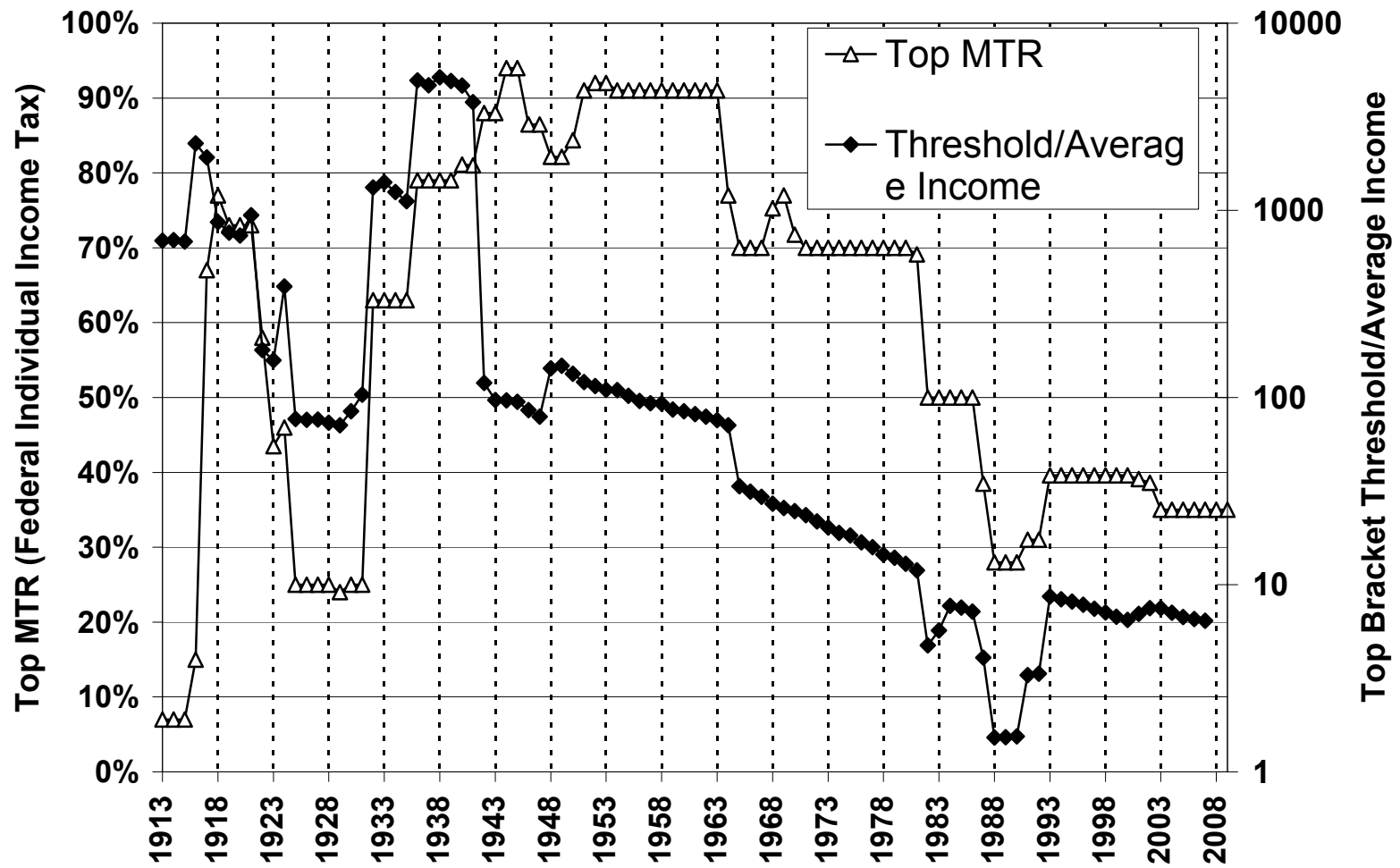


Historically, a 70 percent marginal tax rate is not unusual

The top marginal income tax rates from 1913 to 2018



US Top Marginal Tax Rate and Top Bracket Threshold



US Top MTR ordinary income vs. capital gains

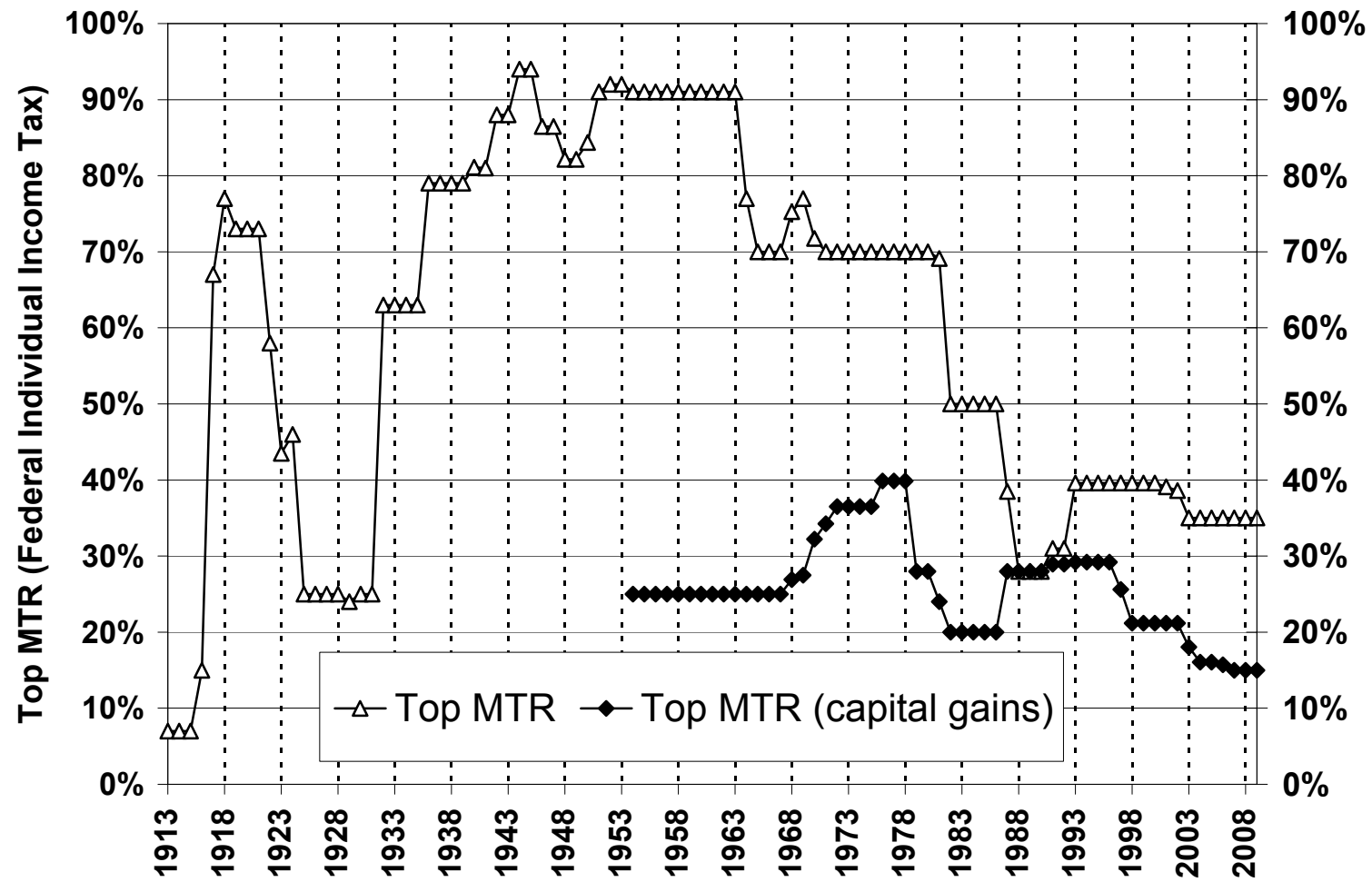
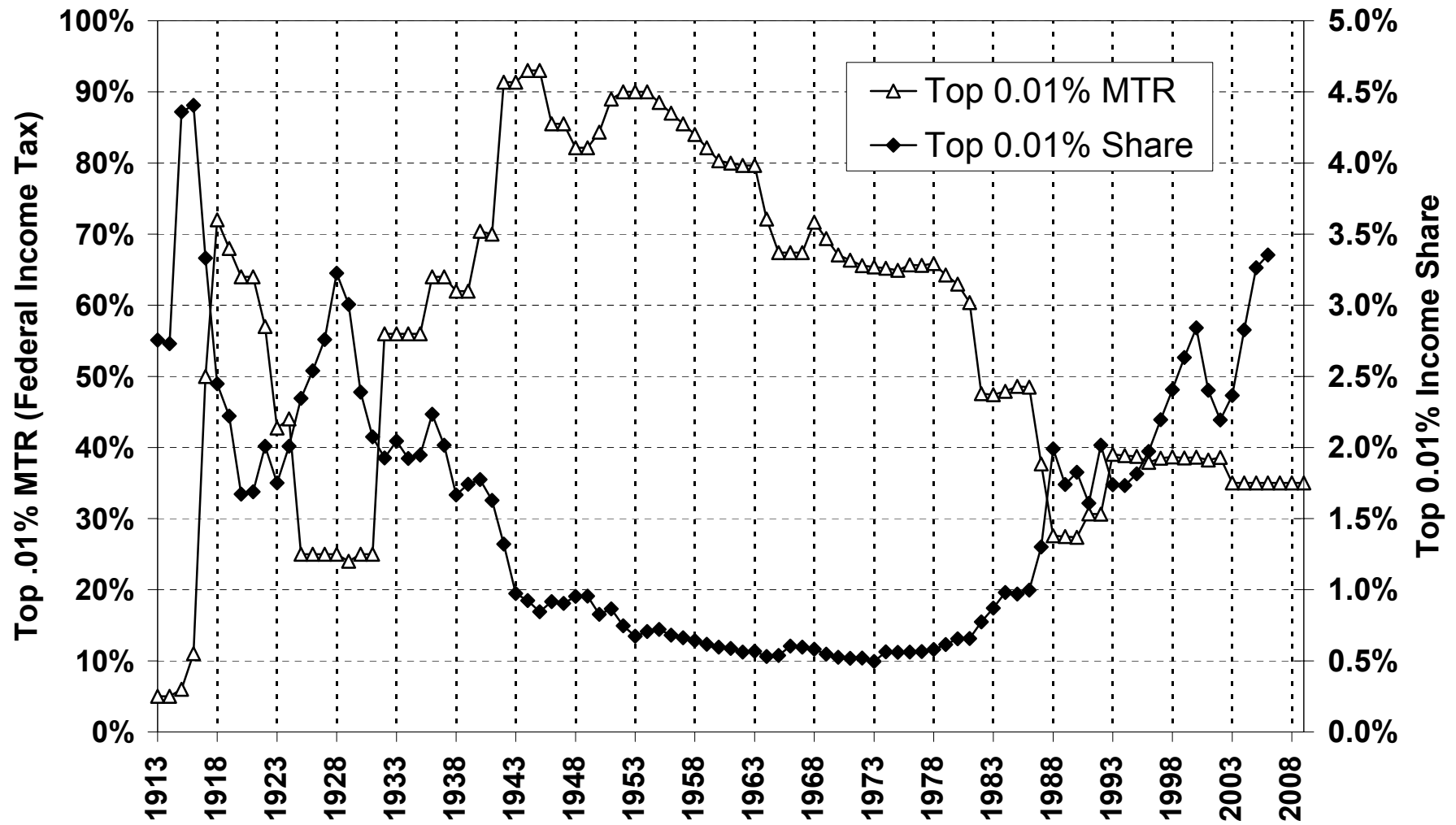


Table A1.
Top Federal Marginal Tax Rates

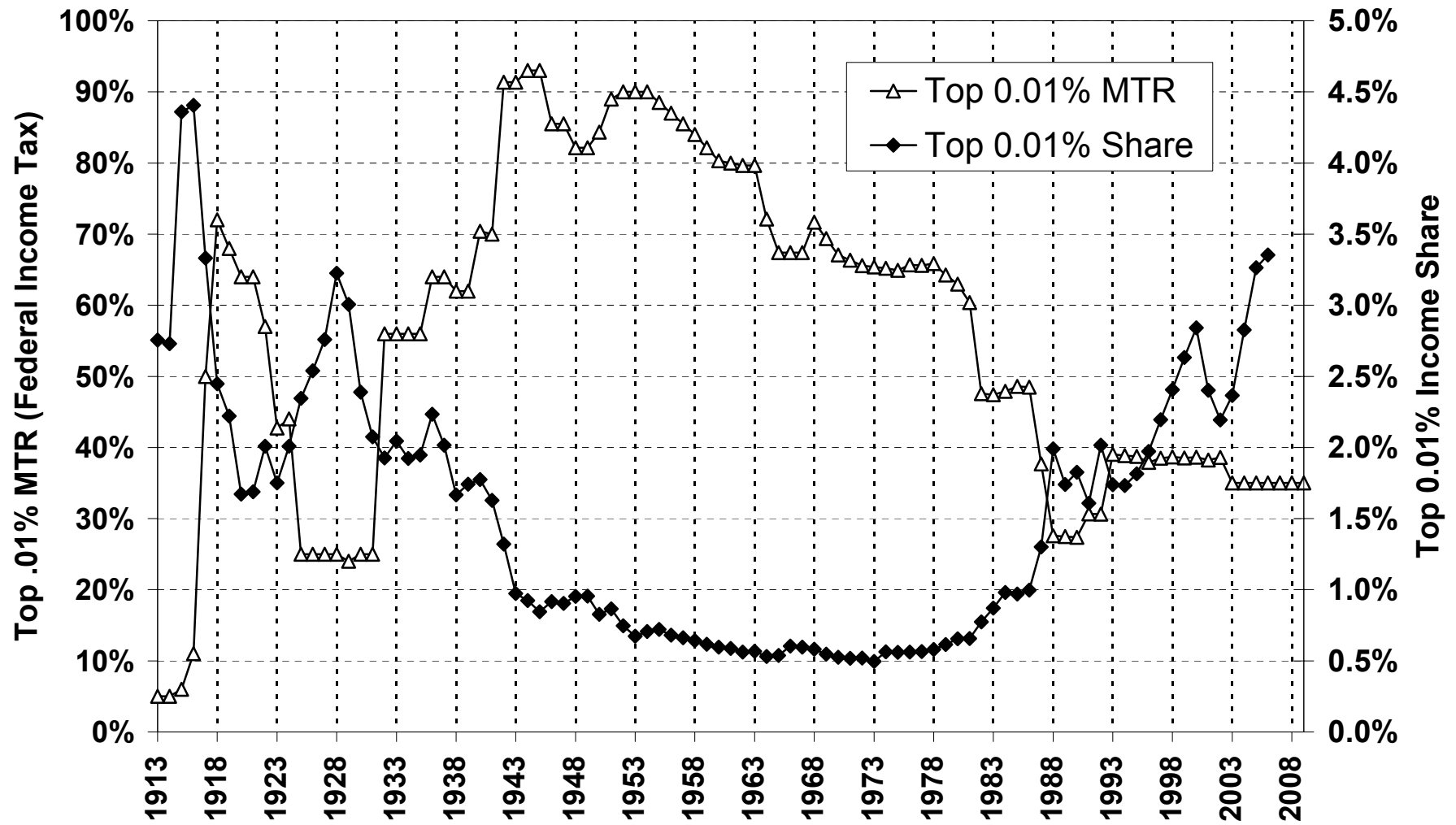
	Ordinary Income	Earned Income	Capital Gains	Corporate Income
Year	(1)	(2)	(3)	(4)
1952-1963	91.0	91.0	25.0	52
1964	77.0	77.0	25.0	50
1965-1967	70.0	70.0	25.0	48
1968	75.3	75.3	26.9	53
1969	77.0	77.0	27.9	53
1970	71.8	71.8	32.3	49
1971	70.0	60.0	34.3	48
1972-1975	70.0	50.0	36.5	48
1976-1978	70.0	50.0	39.9	48
1979-1980	70.0	50.0	28.0	46
1981	68.8	50.0	23.7	46
1982-1986	50.0	50.0	20.0	46
1987	38.5	38.5	28.0	40
1988-1990	28.0	28.0	28.0	34
1991-1992	31.0	31.0	28.0	34
1993	39.6	39.6	28.0	35
1994-2000	39.6	42.5	28.0	35
2001	39.1	42.0	20.0	35
2002	38.6	41.5	20.0	35
2003-2009	35.0	37.9	15.0	35

Notes: MTRs apply to top incomes. In some instances, lower income taxpayers may face higher MTRs because of income caps on payroll taxes or the so-called 33 percent "bubble" bracket following TRA 86. From 1952 to 1962, a 87% maximum average tax rate provision made the top marginal tax rate 87% instead of 91% for many very top income earners. From 1968 to 1970, rates include surtaxes. For earned income, MTRs include the Health Insurance portion of the payroll tax beginning with year 1994. Rates exclude the effect of phaseouts, which effectively raise top MTRs for many high-income filers. MTRs on realized capital gains are adjusted to reflect that, for some years, a fraction of realized gains were excluded from taxation. Since 2003, dividends are also tax favored with a maximum tax rate of 15%.

US Top 0.01% Income Share and MTR (Piketty-Saez and Landais)



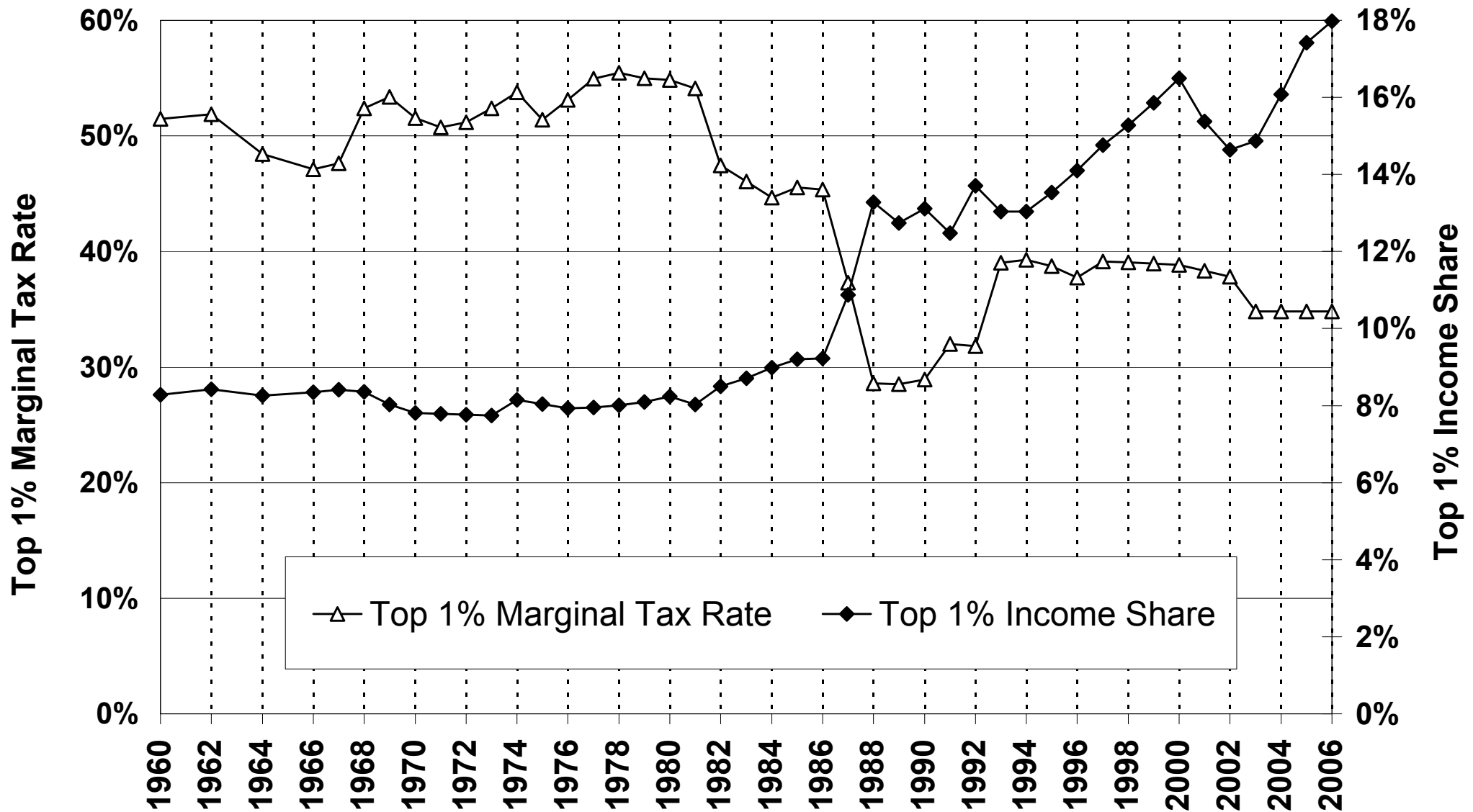
US Top 0.01% Income Share and MTR (Piketty-Saez and Landais)



$$\log(\text{share}) = a + 0.617 (0.077) * \log(1 - \text{MTR}) + e$$

$$\log(\text{share}) = a + b * t + 0.666 (0.071) * \log(1 - \text{MTR}) + e$$

A. Top 1% Income Share and Marginal Tax Rate



Source: statistics computed by the author

B. Next 9% Income Share and Marginal Tax Rate

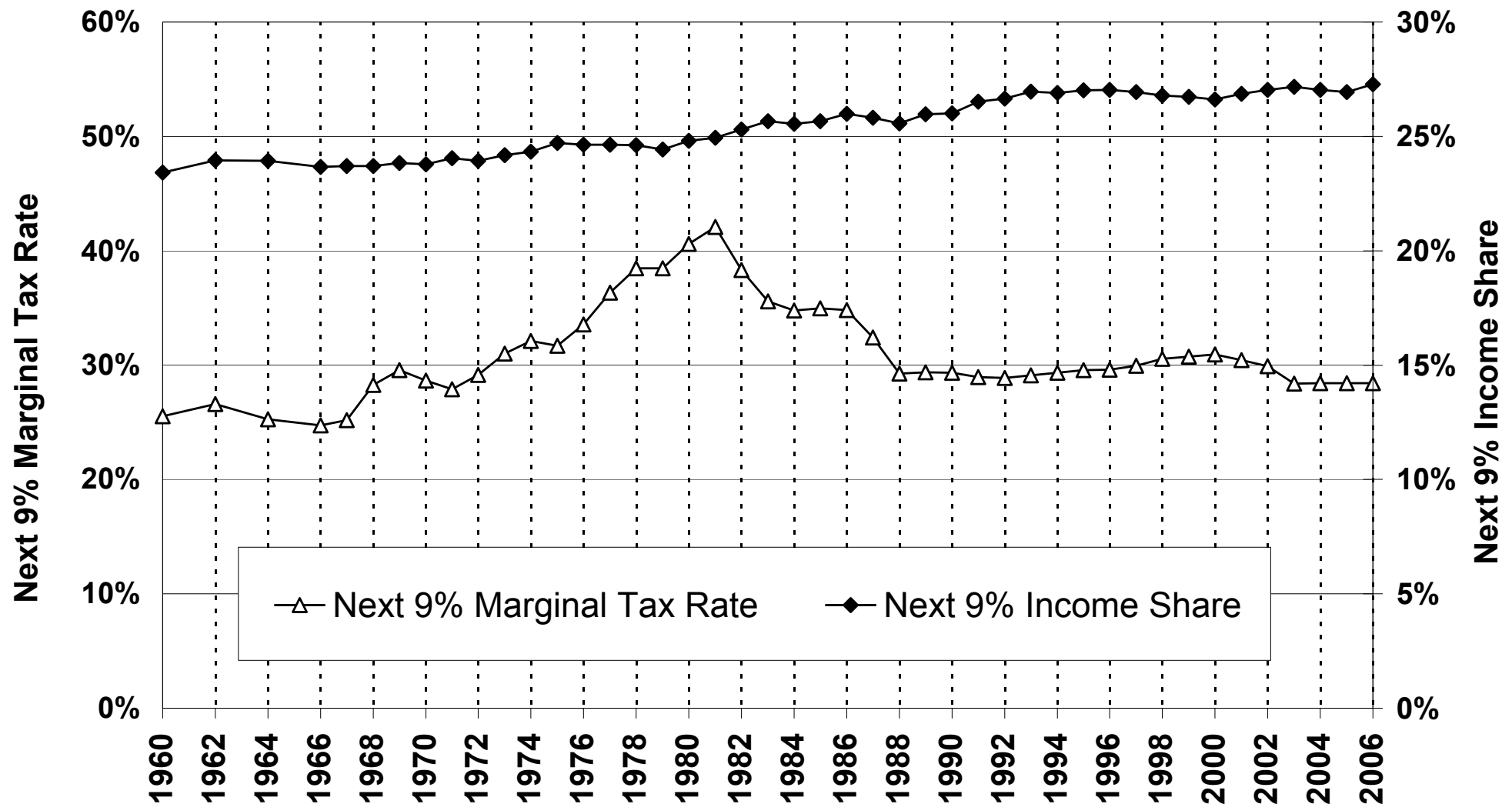


FIGURE 1
Top Income Shares and Marginal Tax Rates, 1960-2006

Source: Updated version of Figure 8 in Saez (2004). Computations based on income tax return data. Income excludes realized capital gains, as well as Social Security and unemployment insurance benefits. The figure displays the income share (right y-axis) and the average marginal tax rate (left y-axis) (weighed by income) for the top 1% (Panel A) and for the next 9% (Panel B) income earners.

Table 1.
Elasticity estimates using top income share time series

	Top 1%	Next 9%
	(1)	(2)
A. Tax Reform Episodes		
1981 vs. 1984 (ERTA 1981)	0.60	0.21
1986 vs. 1988 (TRA 1986)	1.36	-0.20
1992 vs. 1993 (OBRA 1993)	0.45	
1991 vs. 1994 (OBRA 1993)	-0.39	
B. Full Time Series 1960-2006		
No time trends	1.71 (0.31)	0.01 (0.13)
Linear time trend	0.82 (0.20)	-0.02 (0.02)
Linear and square time trends	0.74 (0.06)	-0.05 (0.03)
Linear, square, and cube time trends	0.58 (0.11)	-0.02 (0.02)

Notes: Estimates in panel A are obtained using series from Figure 1 and using the formula $e = [\log(\text{income share after reform}) - \log(\text{income share before reform})] / [\log(1 - \text{MTR after reform}) - \log(1 - \text{MTR before reform})]$

Source: Saez et al. (2010)

Estimates in Panel B are obtained by time-series regression of log(top 1% income share) on a constant, log (1 - average marginal tax rate), and polynomials time controls from 1960 to 2006 (44 observations). OLS regression. Standard Errors from Newey-West with 8 lags.

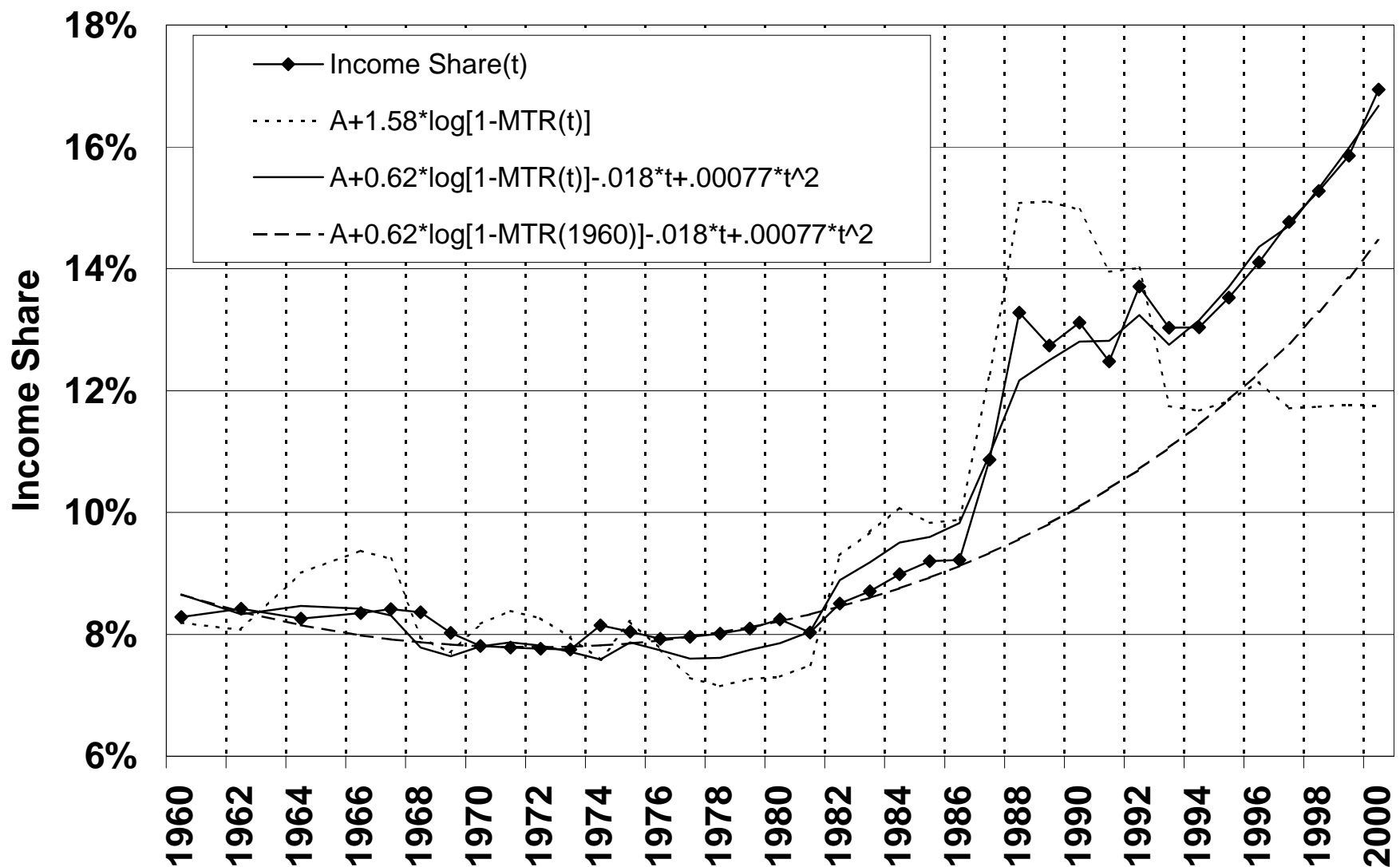


FIGURE 5.

The Top 1% Income Share and fitted Values from Elasticity Regressions

Source: Series based on regression analysis presented in Table 3, columns (1) and (5).

The diamond line is the top 1% income share. The dotted line is the fitted regression curve including only the net-of-tax rate. The solid line is the fitted regression curve including time controls.

The dashed line is the same fitted regression curve but freezes the marginal tax rate at the 1960 value.

TABLE 1

RESPONSE OF TAXABLE INCOME OF NONAGED MARRIED TAXPAYERS TO CHANGES IN MARGINAL TAX RATES BETWEEN 1985 AND 1988

1985 MARGINAL TAX RATE	1985 AGI (\$000) (1)	OBSERVATIONS (2)	PERCENTAGE CHANGES OF				
			Net of Tax Rate (3)	Adjusted Full AGI (4)	Adjusted AGI Excluding Capital Gains (5)	Adjusted Taxable Income (6)	Adjusted Taxable Income Plus Gross Loss (7)
22	30.7	800	9.0	9.4	8.4	13.6	13.4
25	36.1	909	13.3	4.5	2.4	3.5	3.7
28	42.7	713	16.3	3.9	4.7	6.0	5.0
33	51.5	771	8.7	2.2	2.2	2.5	2.5
38	67.5	345	16.1	8.0	8.1	9.6	8.8
42	94.3	152	24.1	18.8	14.7	22.0	22.3
45	126.9	45	30.9	12.4	14.8	18.5	15.3
49	177.7	35	41.2	27.1	29.6	42.7	33.9
50	479.0	22	44.0	18.4	70.6	92.4	51.1
22-38		3,538	12.2	5.1	4.6	6.2	6.4
42-45		197	25.6	17.0	14.7	21.0	20.3
49-50		57	42.2	21.3	53.7	71.6	44.8

NOTE.—All observations pertain to married taxpayers under age 65 who filed joint tax returns for 1985 and 1988 with no age exemption in 1988. Taxpayers who created a subchapter S corporation between 1985 and 1988 are eliminated from the sample.

TABLE 2
ESTIMATED ELASTICITIES OF TAXABLE INCOME WITH RESPECT TO NET-OF-TAX RATES

Taxpayer Groups Classified by 1985 Marginal Rate	Net of Tax Rate (1)	Adjusted Taxable Income (2)	Adjusted Taxable Income Plus Gross Loss (3)
Percentage Changes, 1985–88			
1. Medium (22–38)	12.2	6.2	6.4
2. High (42–45)	25.6	21.0	20.3
3. Highest (49–50)	42.2	71.6	44.8
Differences of Differences			
4. High minus medium	13.4	14.8	13.9
5. Highest minus high	16.6	50.6	24.5
6. Highest minus medium	30.0	65.4	38.4
Implied Elasticity Estimates			
7. High minus medium		1.10	1.04
8. Highest minus high		3.05	1.48
9. Highest minus medium		2.14	1.25

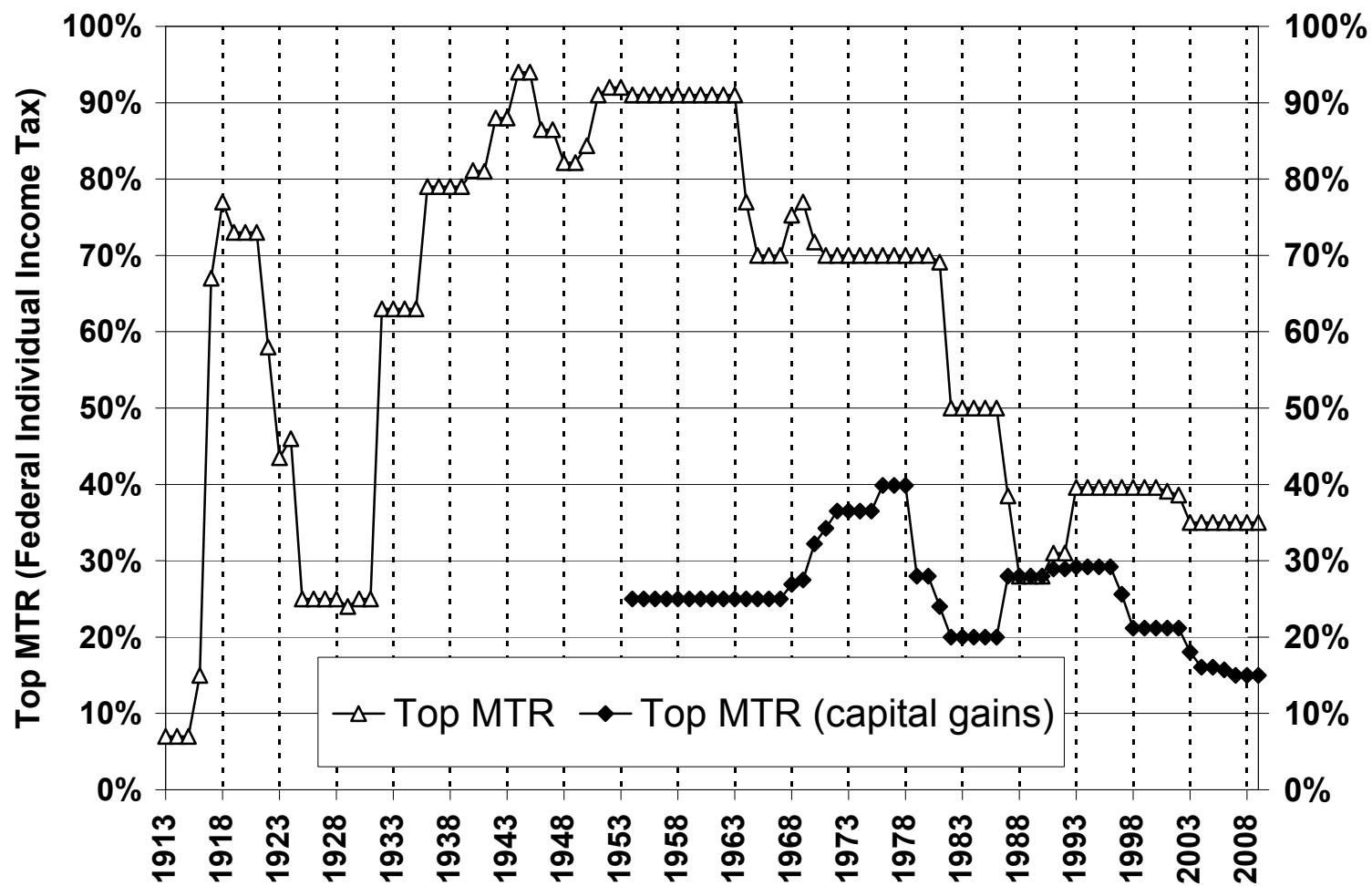
NOTE.—The calculations in this table are based on observations for married taxpayers under age 65 who filed joint tax returns for 1985 and 1988 with no age exemption in 1988. Taxpayers who created a subchapter S corporation between 1985 and 1988 are eliminated from the sample.

Table 4
 Basic elasticity results^a

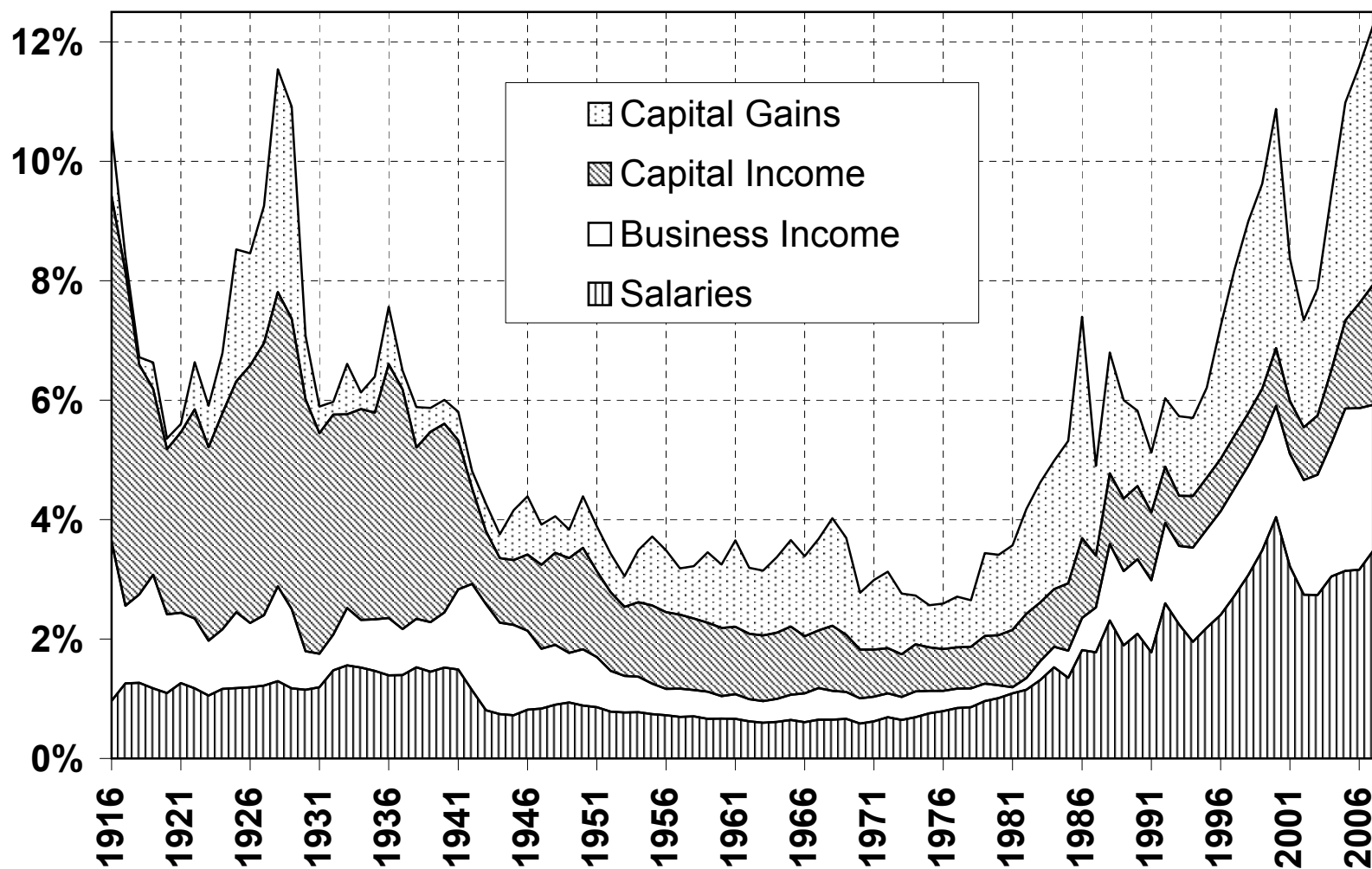
Income controls	None		Log income		Log income 10-piece spline	
	Broad income (1)	Taxable income (2)	Broad income (3)	Taxable income (4)	Broad income (5)	Taxable income (6)
Elasticity	−0.300 (0.120)	−0.462 (0.194)	0.170 (0.106)	0.611 (0.144)	0.120 (0.106)	0.400 (0.144)
Dummy for marrieds	−0.008 (0.010)	−0.062 (0.018)	0.045 (0.014)	0.049 (0.023)	0.050 (0.012)	0.055 (0.021)
Dummy for singles	−0.037 (0.012)	−0.053 (0.019)	−0.034 (0.013)	−0.032 (0.022)	−0.036 (0.013)	−0.027 (0.021)
Log(income) control			−0.083 (0.015)	−0.167 (0.021)		

Source: Gruber and Saez 2002

US Top MTR ordinary income vs. capital gains



US Top 0.1% Income Share and Composition



Source: Piketty and Saez QJE'03, updated to 2007

TABLE 2
AVERAGE COMPENSATION BY TYPE FOR HIGH-INCOME EXECUTIVES
(in Thousands)

	1991	1992	1993	1994	1995
Taxable income	911	1,153	974	965	1,173
Salary	347	336	336	351	373
Bonus	198	207	241	284	330
LTIP payout	57	72	57	64	89
Options exercised	268	496	293	235	381
Other income (nontaxed)	36	37	66	54	78

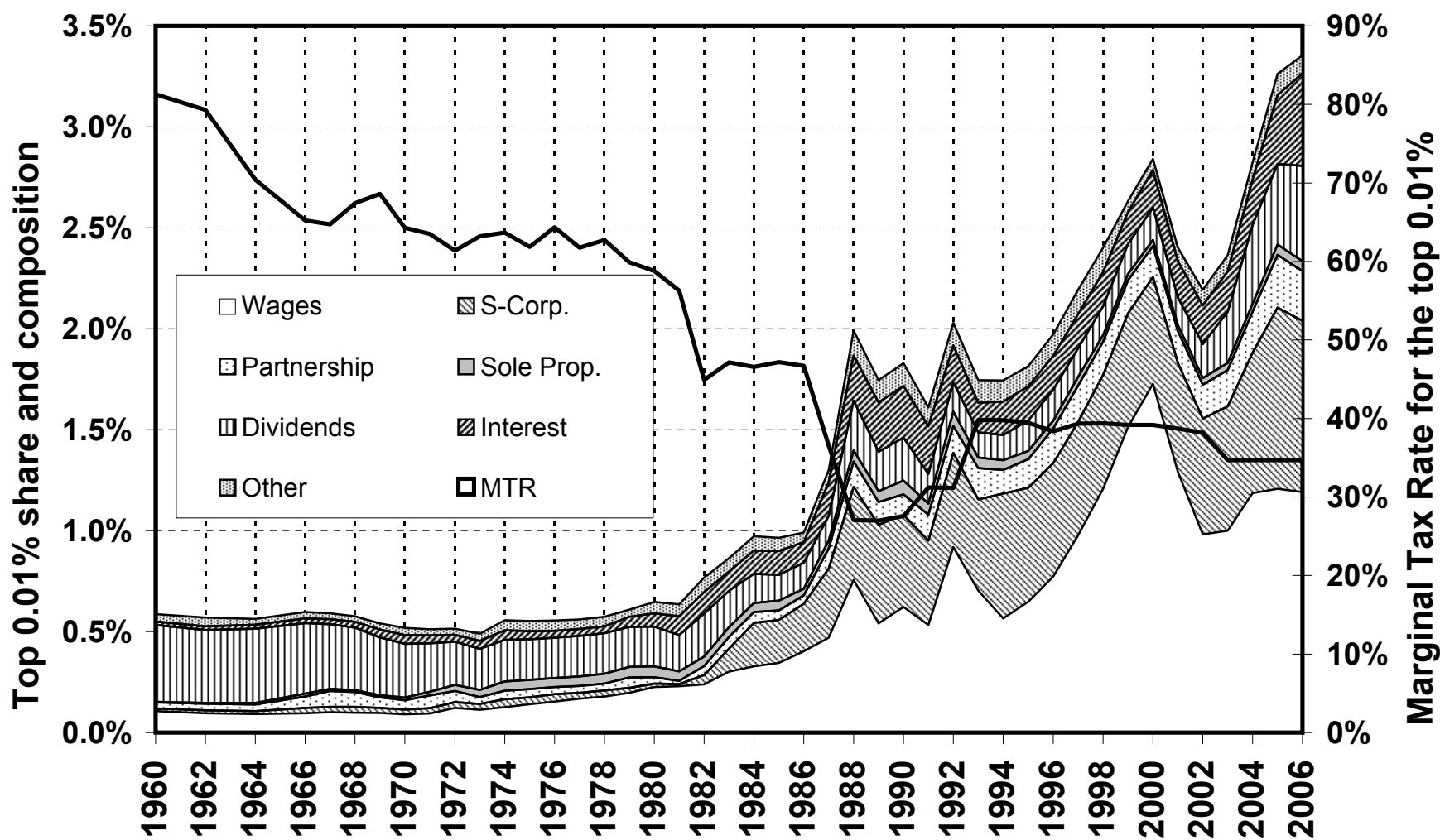
SOURCE.—Author's calculations for executives with permanent income greater than \$275,000 per year.

TABLE 3
RESPONSE OF TAXABLE INCOME

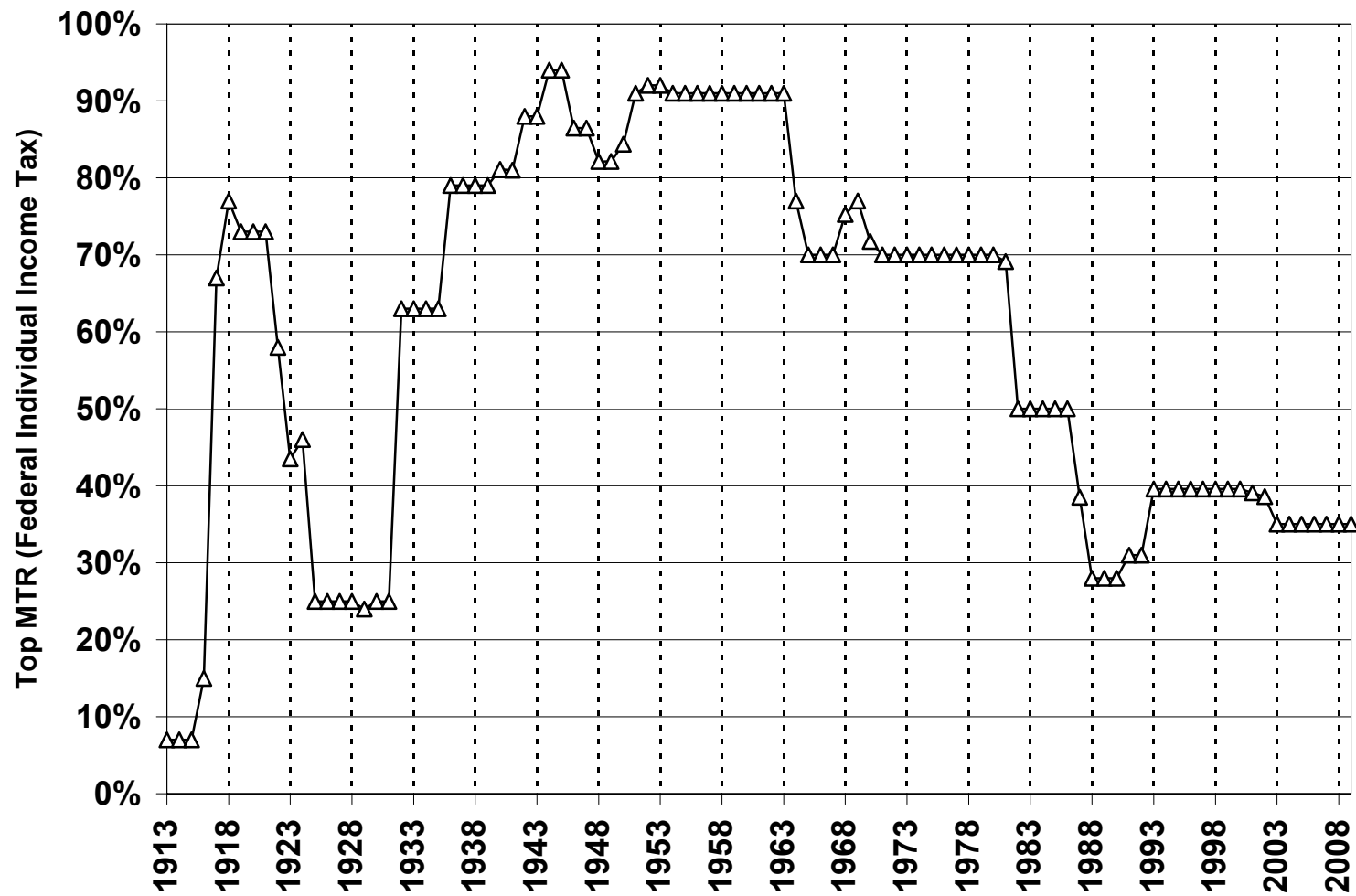
	FIRST DIFFERENCE						
	No (1)	No (2)	No (2A)	Yes (3)	No (4)	No (5)	Yes (6)
$\ln(1 - \text{tax}_t)$	1.288 (.126)	1.159 (.119)	1.113 (.123)	1.224 (.107)	.873 (.324)	1.152 (.316)	1.427 (.338)
$\ln(1 - \text{tax}_{t+1})$		-.763 (.106)	-.893 (.109)	-.887 (.118)		-1.325 (.350)	-1.356 (.385)
$\ln(1 - \text{tax}_c) \times [I > 0]$.282 (.140)	.314 (.139)	.123 (.198)		.322 (.133)	.189 (.187)
$\ln(\text{market value})$.610 (.014)	.592 (.014)	.261 (.010)		.212 (.022)	.094 (.017)
Earnings/assets		.510 (.056)	.549 (.058)	.191 (.062)		.132 (.120)	-.048 (.128)
Time	.169 (.007)	.077 (.008)	.071 (.008)	.084 (.009)	
[Top-bracket] \times time					.055 (.010)	-.008 (.010)	.008 (.015)
[Top-bracket] \times market value						.408 (.025)	.174 (.019)
[Top-bracket] \times earnings						.345 (.131)	.202 (.140)
Year dummies	no	no	no	no	yes	yes	yes
Observations	16,895	16,477	13,835	11,493	21,807	21,299	14,429
R^2	.73	.77	.77	.07	.82	.84	.07

NOTE.—The sample in each regression pertains to 1991–95. The dependent variable is either the log of taxable income or the first difference of log taxable income. Cols. 1–3 look at executives with permanent income greater than \$275,000 per year. Cols. 4–6 look at all executives. Col. 2A uses tax rates calculated with permanent income including perquisites. All regressions in levels include individual fixed effects. The term $\ln(1 - \text{tax}_c) \times [I > 0]$ gives the net-of-corporate-tax share for individuals with more than \$1 million in salary in a year previous to the nondeductibility rule. The other variables are defined in the text and are first-differenced in cols. 3 and 6. The time variable is a time trend in the levels regressions and a constant in the first-difference regressions. The top-bracket terms are the variables interacted with a dummy indicating that the executive has permanent income greater than \$275,000. Standard errors are in parentheses.

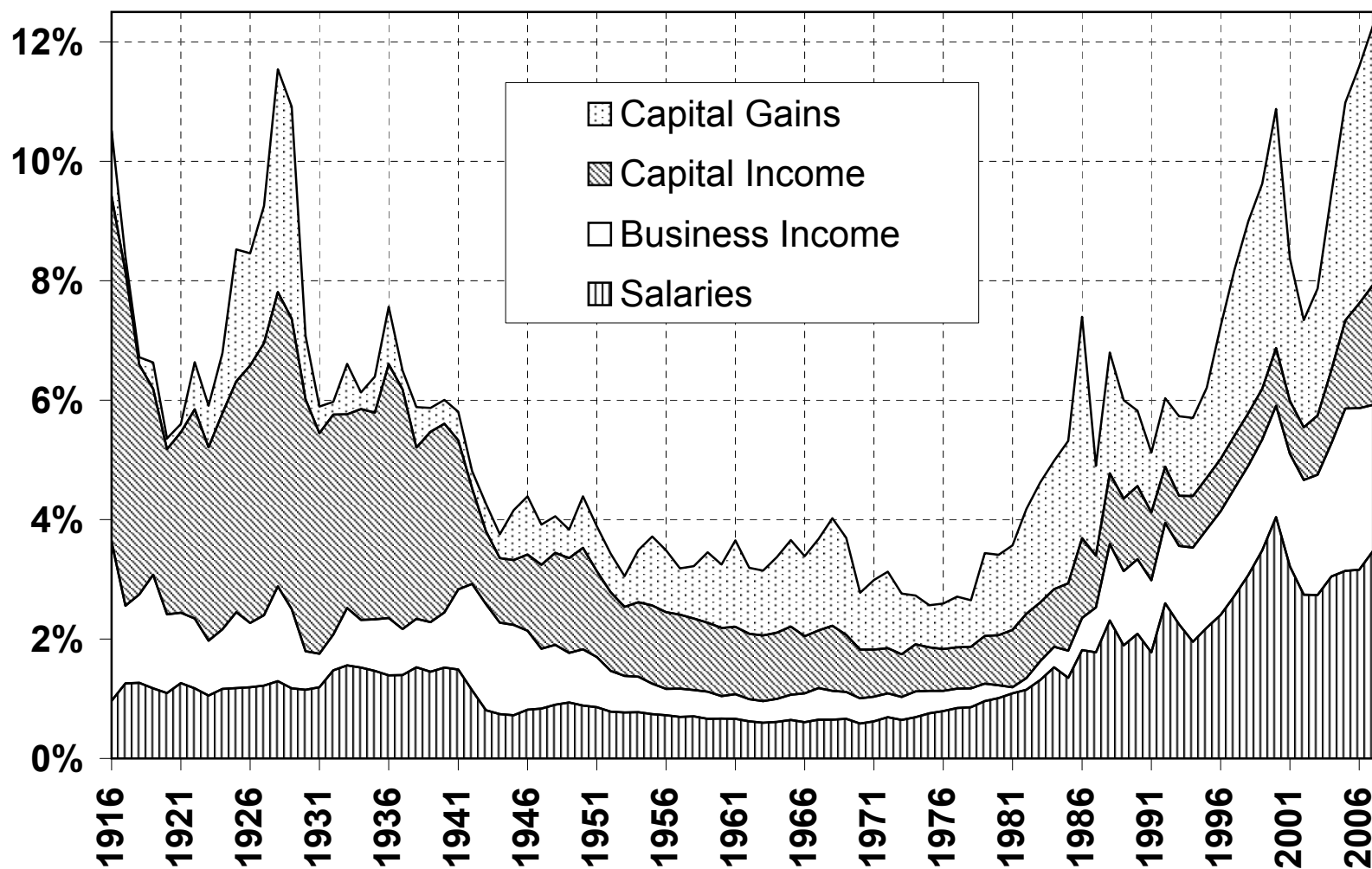
The Top 0.01% US Income Share, Composition, and MTR



US Top Marginal Tax Rate (Federal Individual Income Tax)

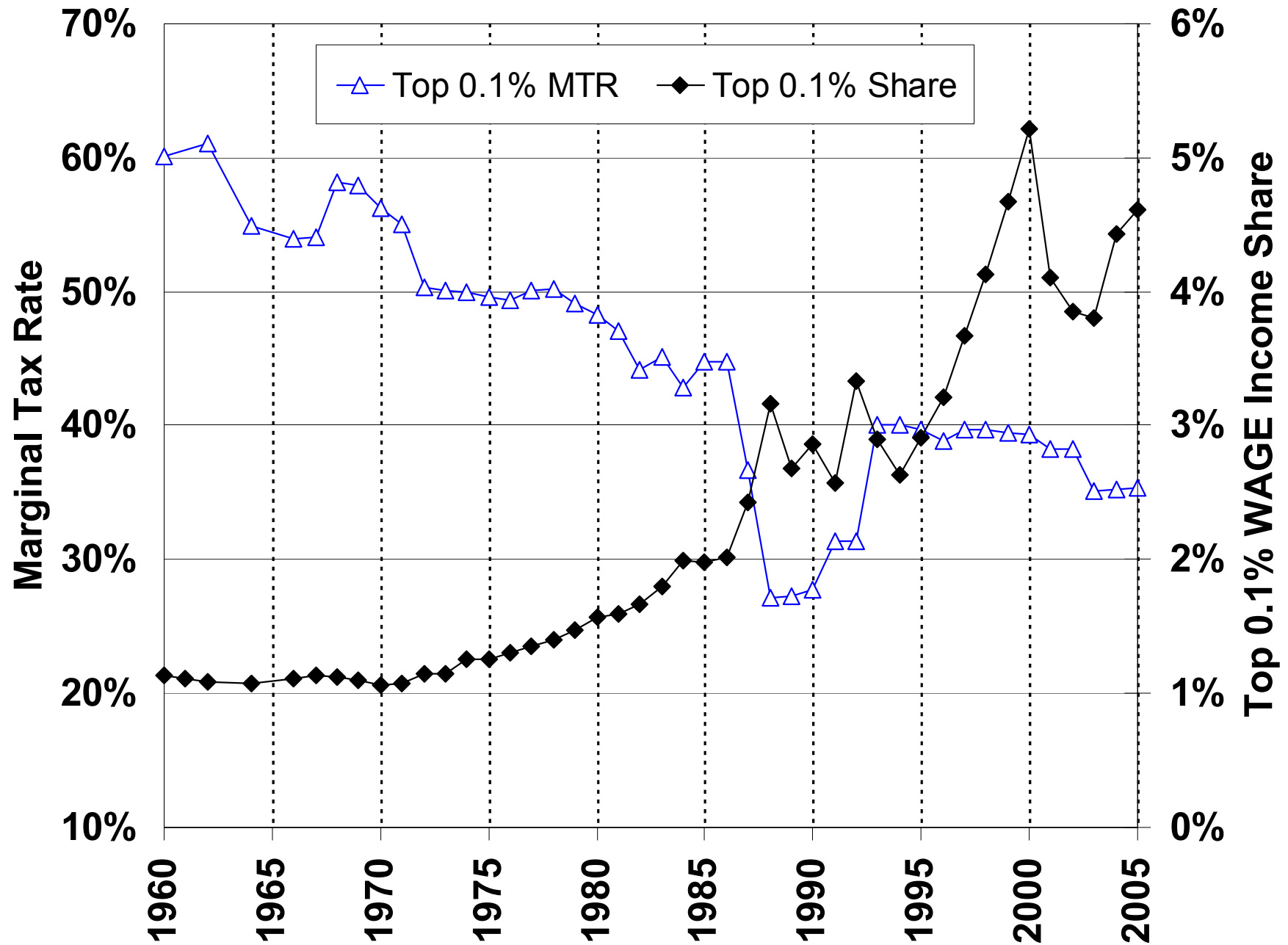


US Top 0.1% Income Share and Composition



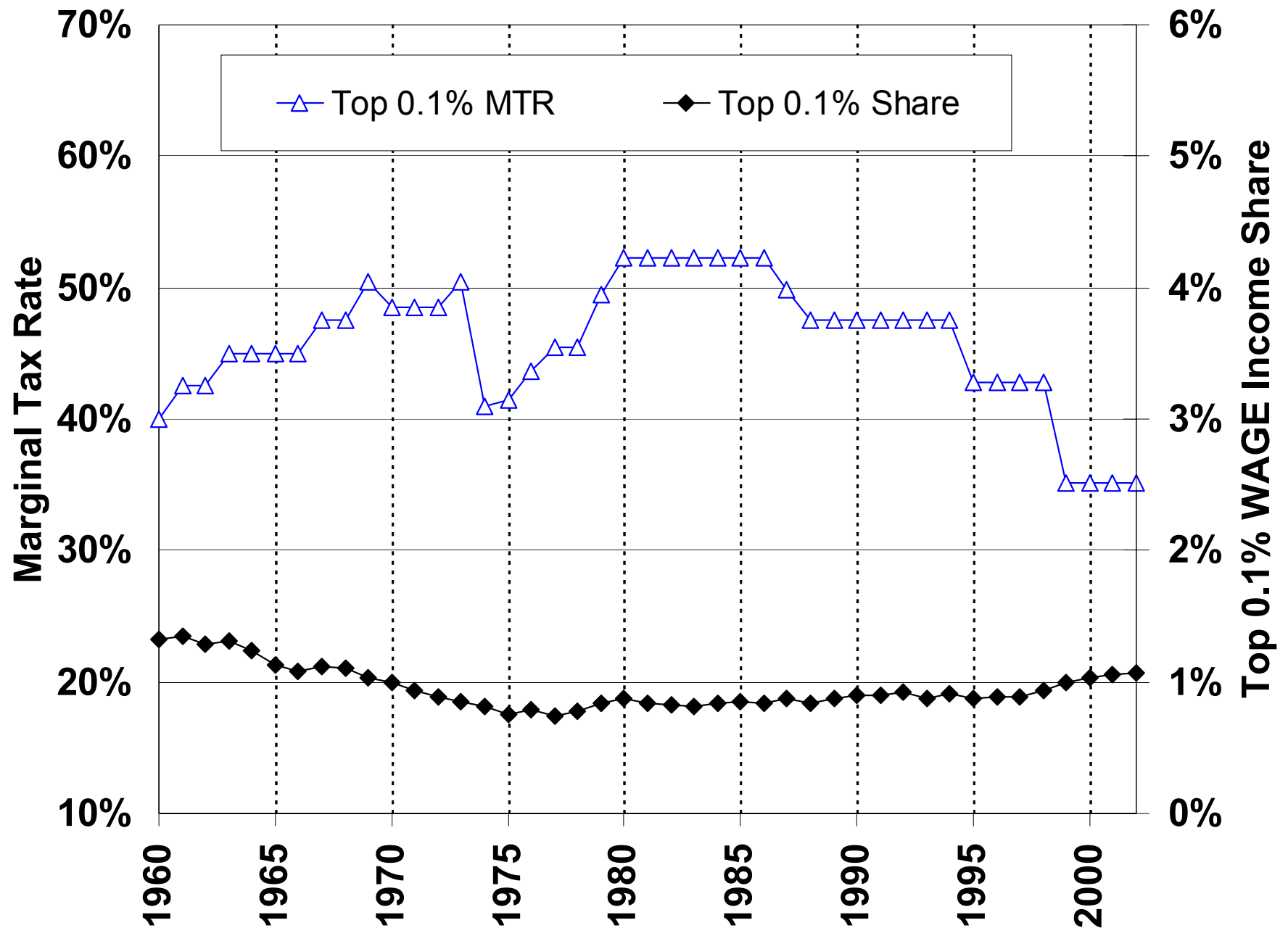
Source: Piketty and Saez QJE'03, updated to 2007

Top 0.1% WAGE Share and Marginal Tax Rate in US



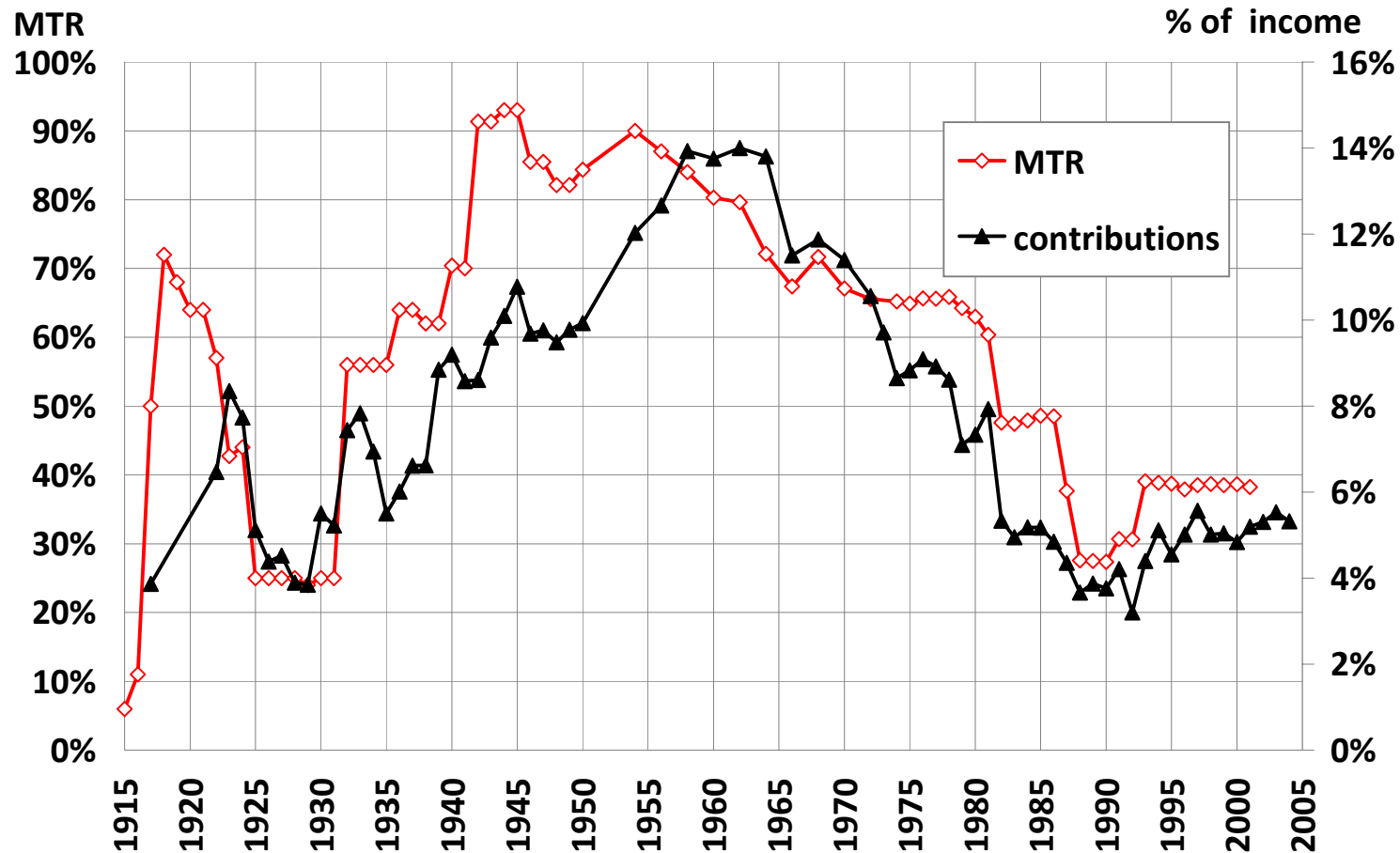
Source: statistics computed by the author

Top 0.1% WAGE income Share and MTR in Japan



Source: statistics computed by the author

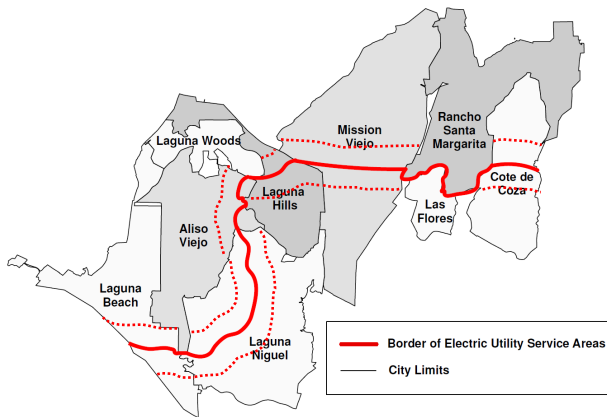
SOURCE IS LANDAIS '09
Charitable contributions as a % of total income and MTR on ordinary income
Top .01% tax units, United States, 1915-2005
(fractiles computed by total income excluding capital gains)



Note: MTR is for Federal Income Tax only

I specifically focus on households located within 1 mile of the utility border

Edison (Southern California Edison) provides electricity for the north side

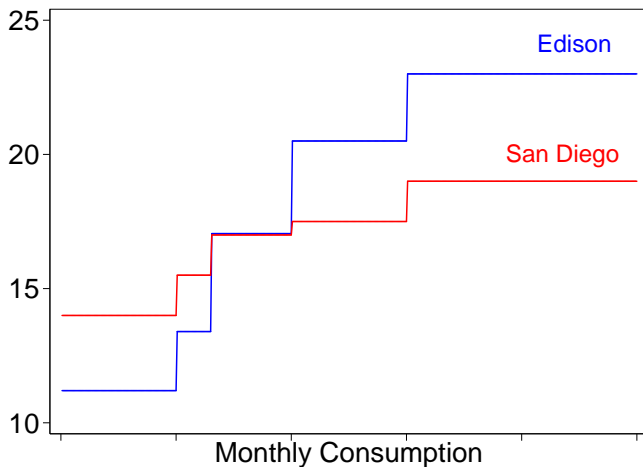


San Diego (San Diego Gas & Electric) provides electricity for the south side

Source: Ito, (2011)

In contrast, they experience substantially different nonlinear pricing

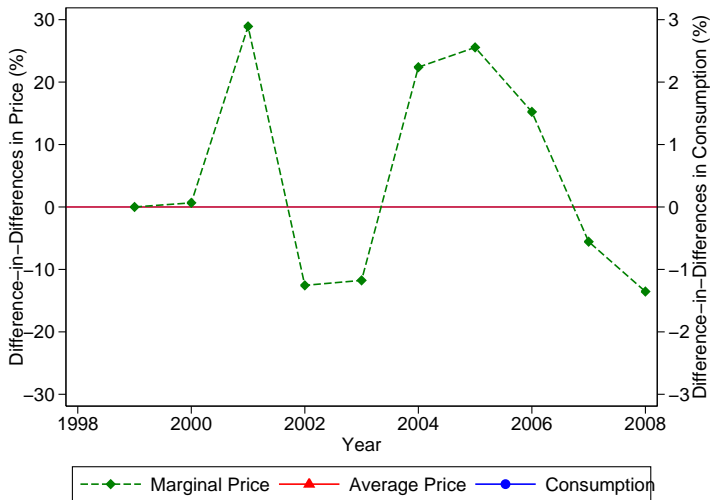
- Edison and San Diego: Cents per kWh in 2002



Source: Ito, 2011

- $DD = (\text{mean \% change in San Diego}) - (\text{mean \% change in Edison})$
- Relative changes for SDG&E customers relative to SCE customers.

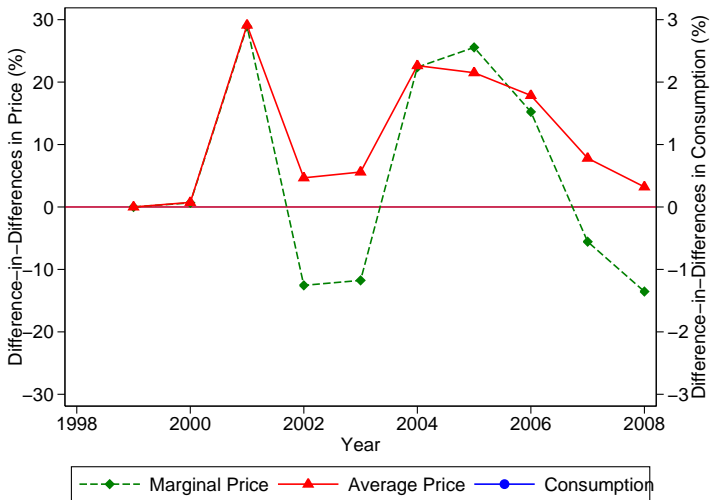
Panel A: Top Decile (90% - 100%) of Consumption Distributions



Source: Ito, 2011

- $DD = (\text{mean \% change in San Diego}) - (\text{mean \% change in Edison})$
- Relative changes for SDG&E customers relative to SCE customers.

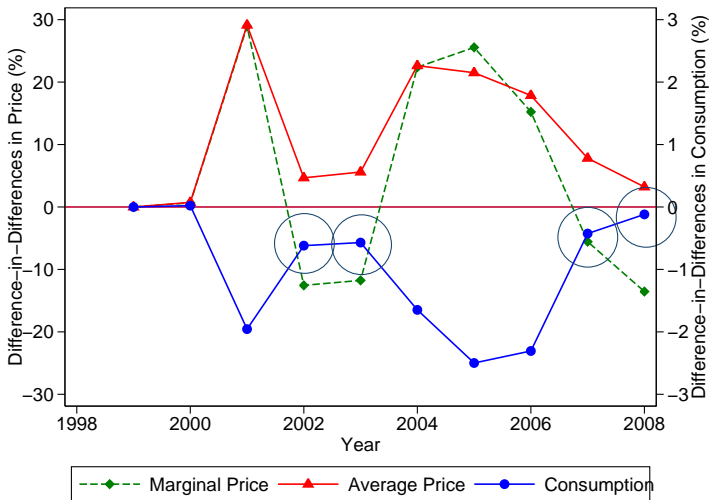
Panel A: Top Decile (90% - 100%) of Consumption Distributions



Source: Ito, 2011

- $DD = (\text{mean \% change in San Diego}) - (\text{mean \% change in Edison})$
- Relative changes for SDG&E customers relative to SCE customers.

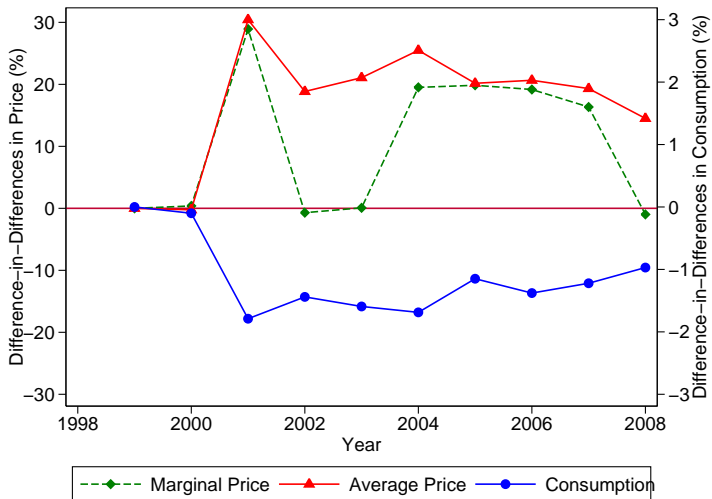
Panel A: Top Decile (90% - 100%) of Consumption Distributions



Source: Ito, 2011

- DD = (mean % change in San Diego) - (mean % change in Edison)
- Relative changes for SDG&E customers relative to SCE customers.

Panel B. Fifth Decile (40% - 50%) of Consumption Distributions



Source: Ito, 2011

Estimation results: Marginal Price v.s. Average Price

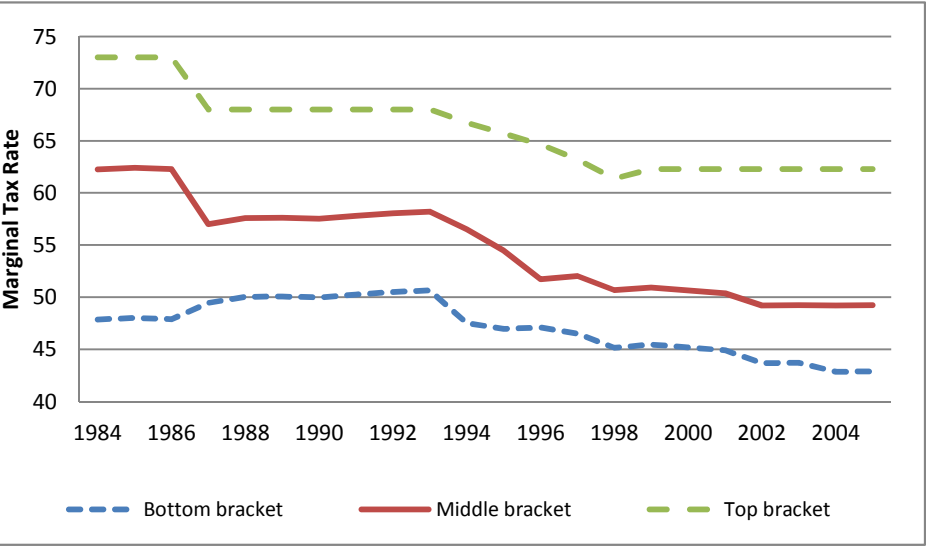
2SLS Estimates: Marginal Price vs. Average Price

Distance from border	1 mile			0.5 mile		
	(1)	(2)	(3)	(4)	(5)	(6)
ln(MP)	-.087 (.007)		-.007 (.015)	-.092 (.011)		-.009 (.020)
ln(AP)		-.112 (.006)	-.108 (.013)		-.121 (.011)	-.114 (.017)
Observations	6,513,600			3,520,320		

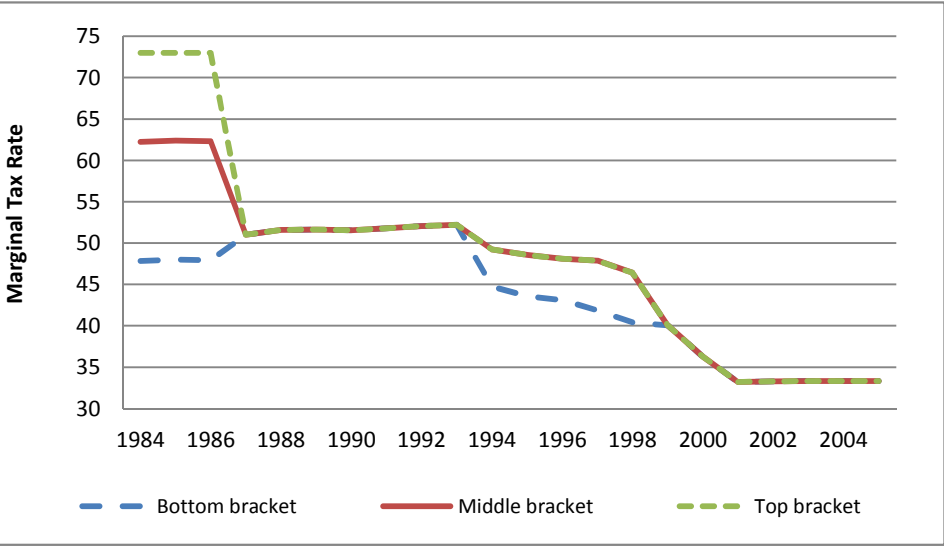
- Dependent variable: ln(Electricity consumption)
- Standard errors are clustered at city-deciles levels

Figure 2. Two Decades of Danish Tax Reform

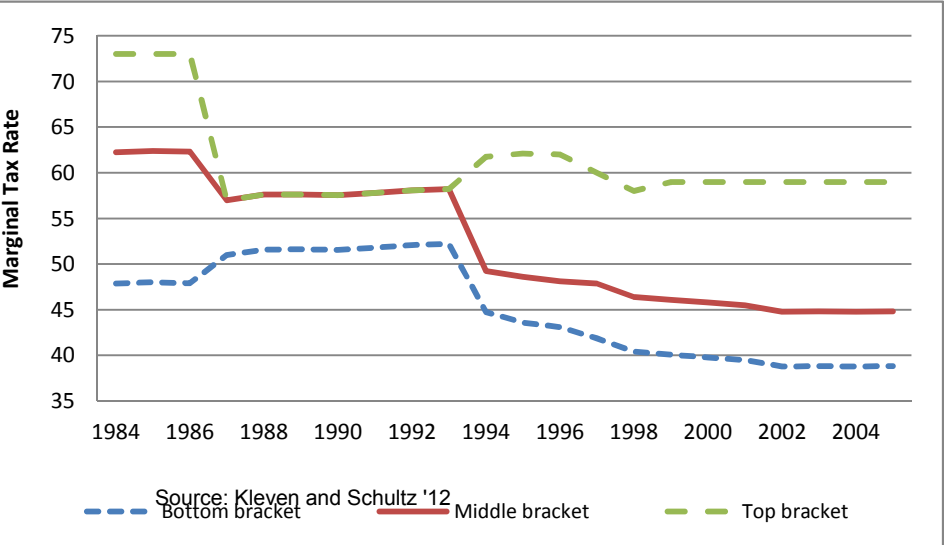
Panel A. Marginal Tax Rate on Labor Income



Panel B. Marginal Tax Rate on Negative Capital Income



Panel C. Marginal Tax Rate on Positive Capital Income



Panel D. Share of Taxpayers in the Three Tax Brackets

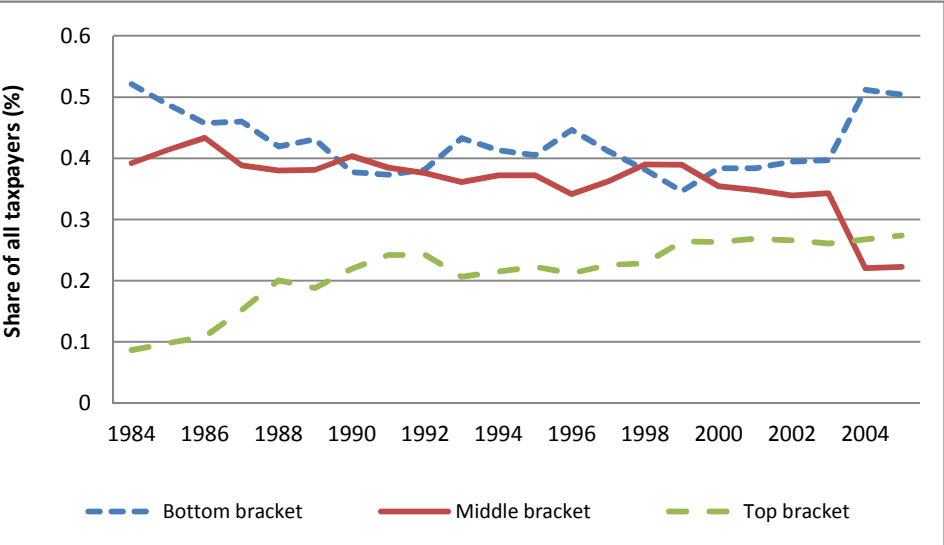
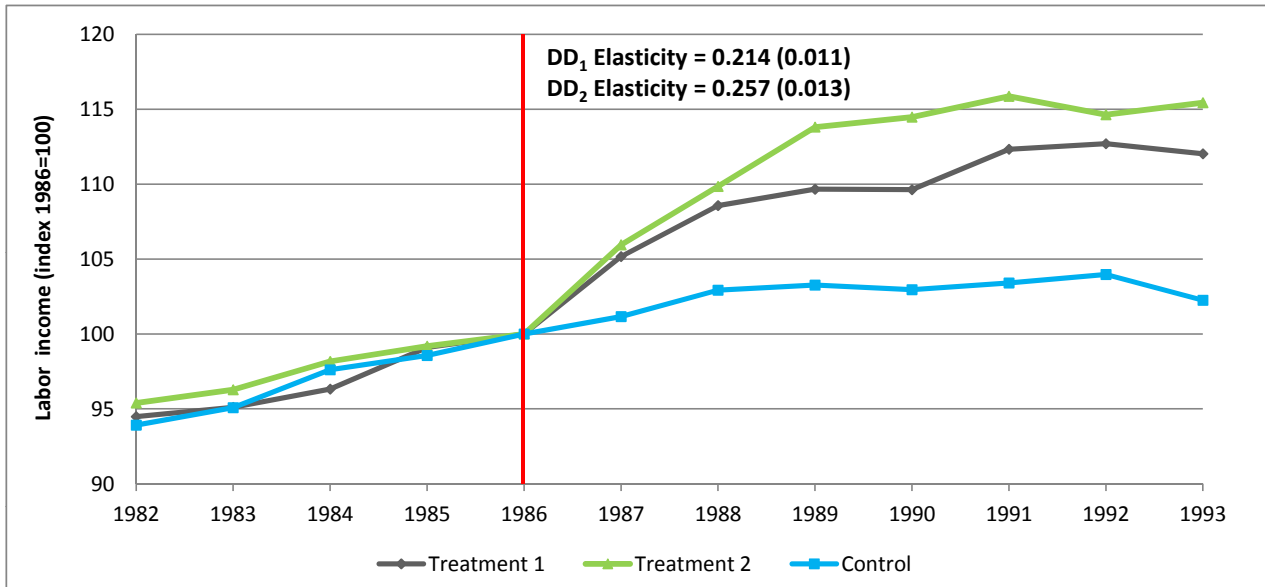


Figure 6. Graphical Evidence on the Effects of the 1987-reform on Taxable Income

Source: Kleven and Schultz '12

Panel A. Labor Income



Panel B. Positive Capital Income

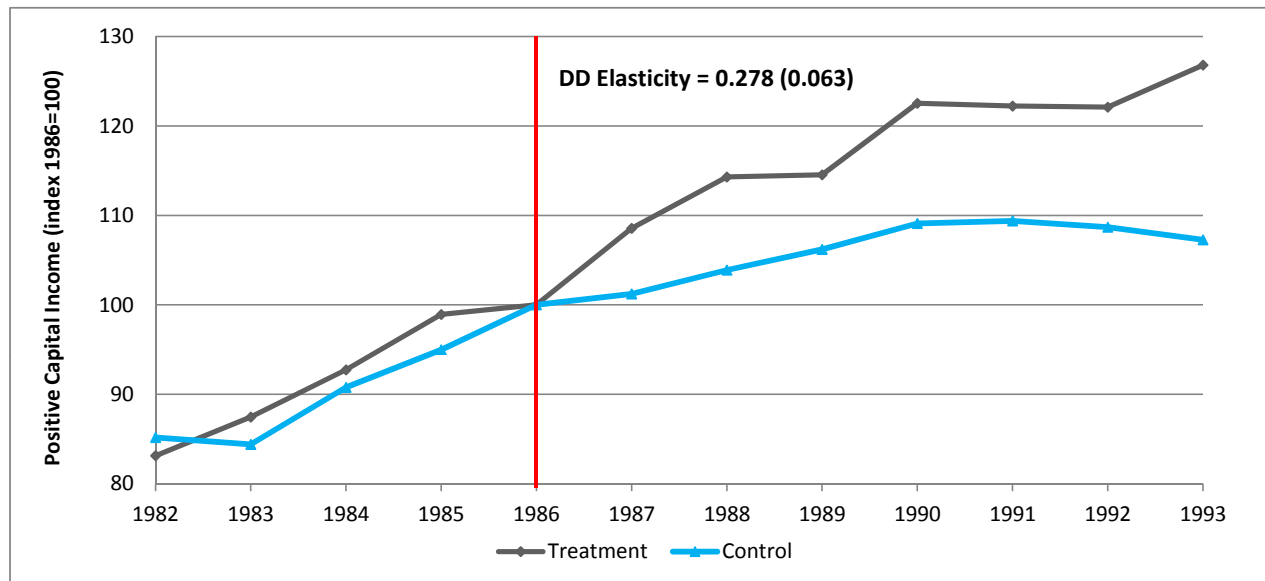
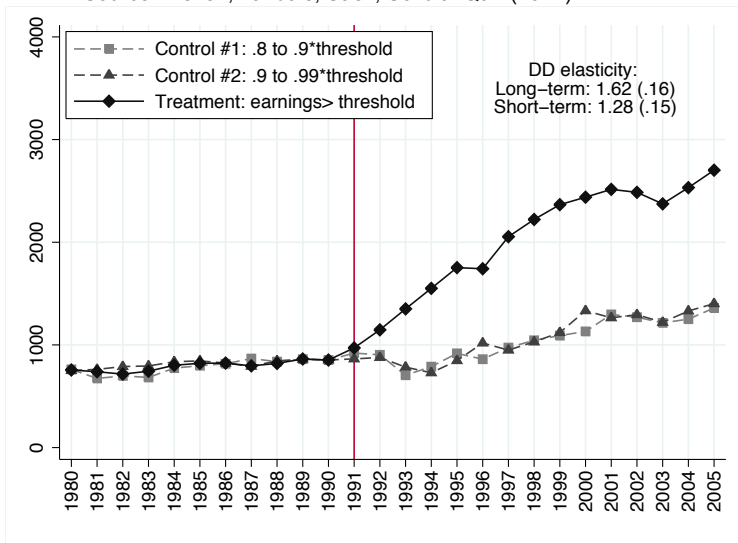


Figure 1 : Total number of foreigners in different income groups

Source: Kleven, Landais, Saez, Schultz QJE (2014)

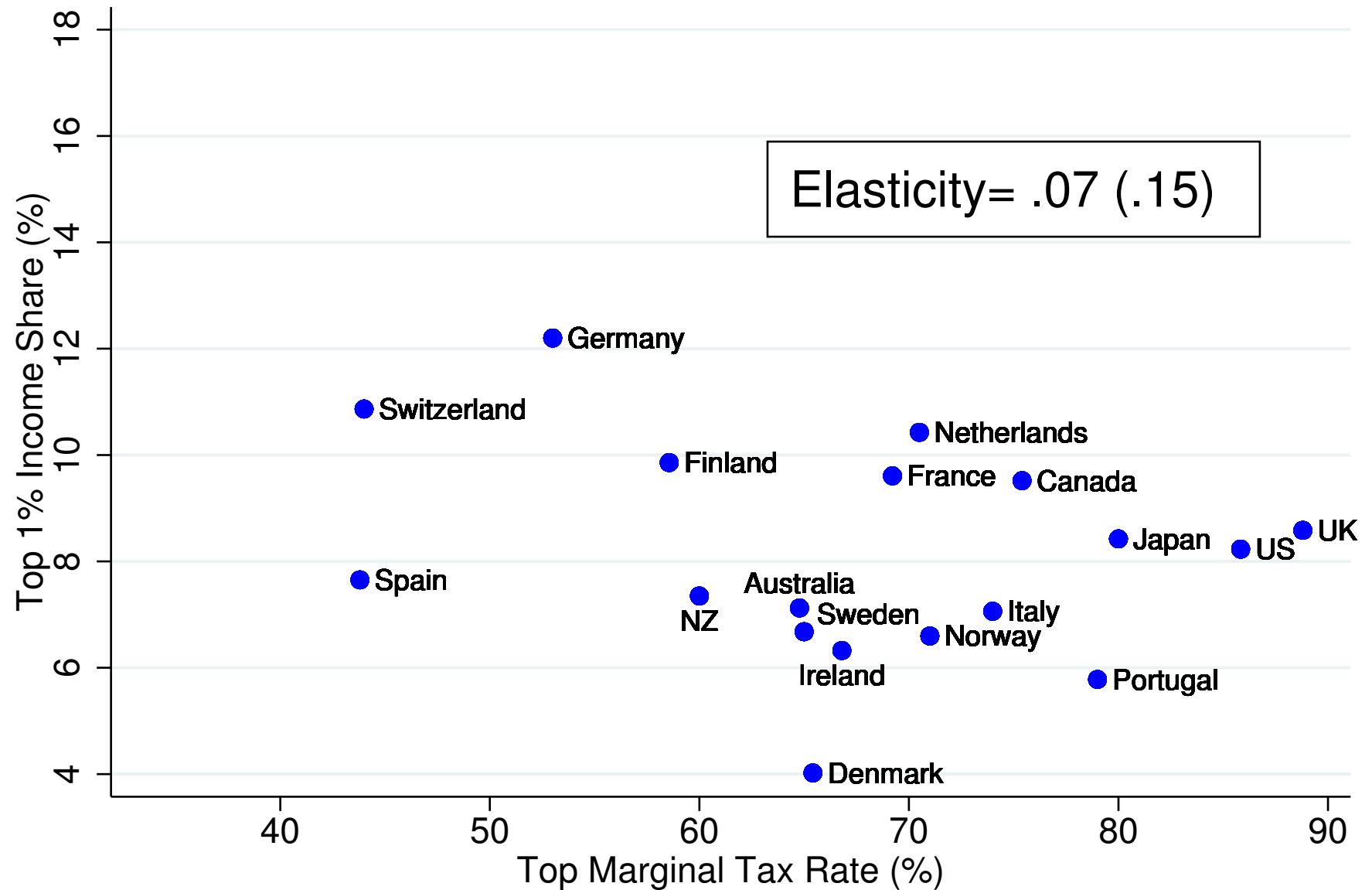


Control 1= annualized income between .8 and .9 of threshold

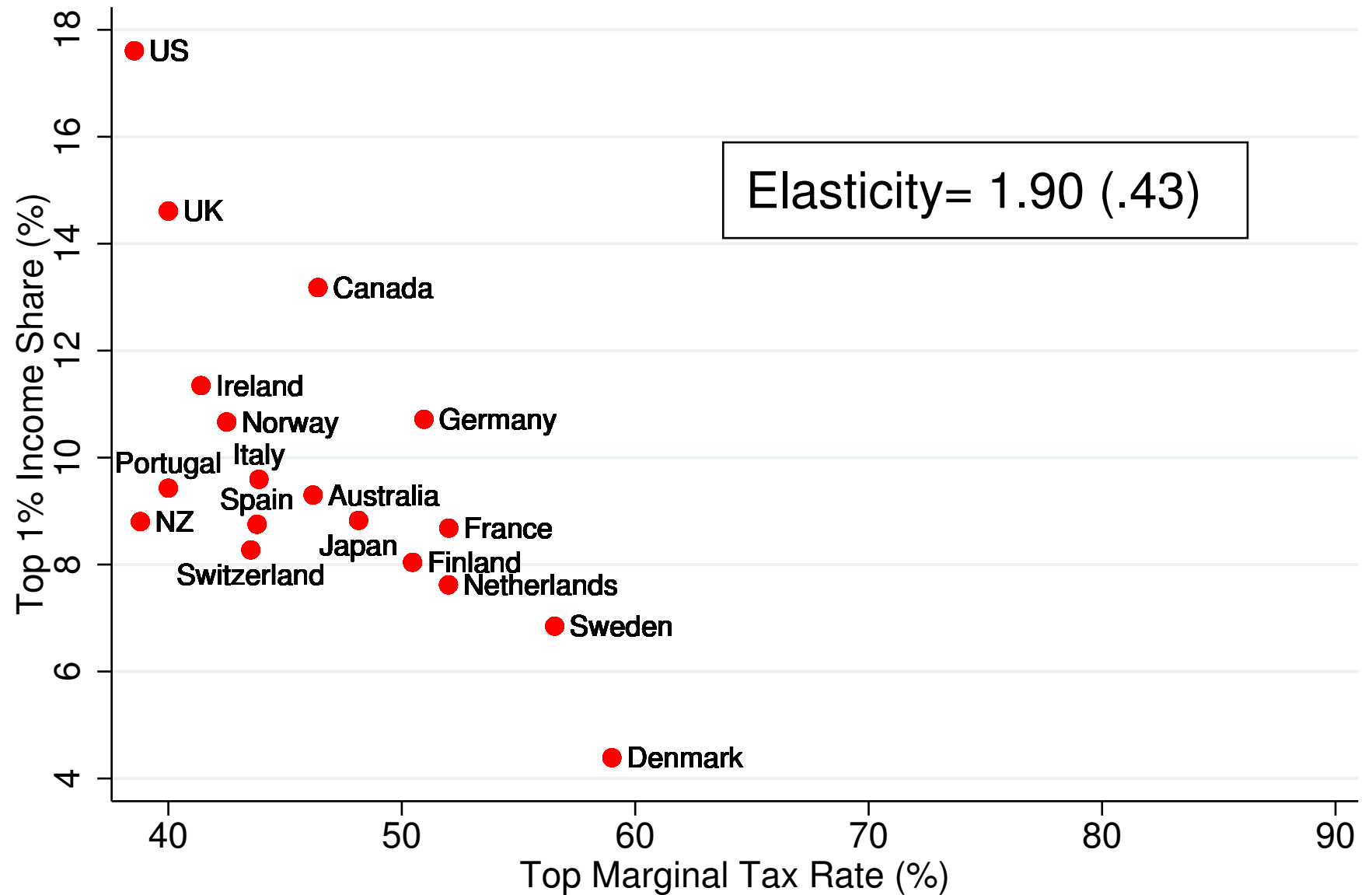
Control 2= annualized income between .9 and .995 of threshold.

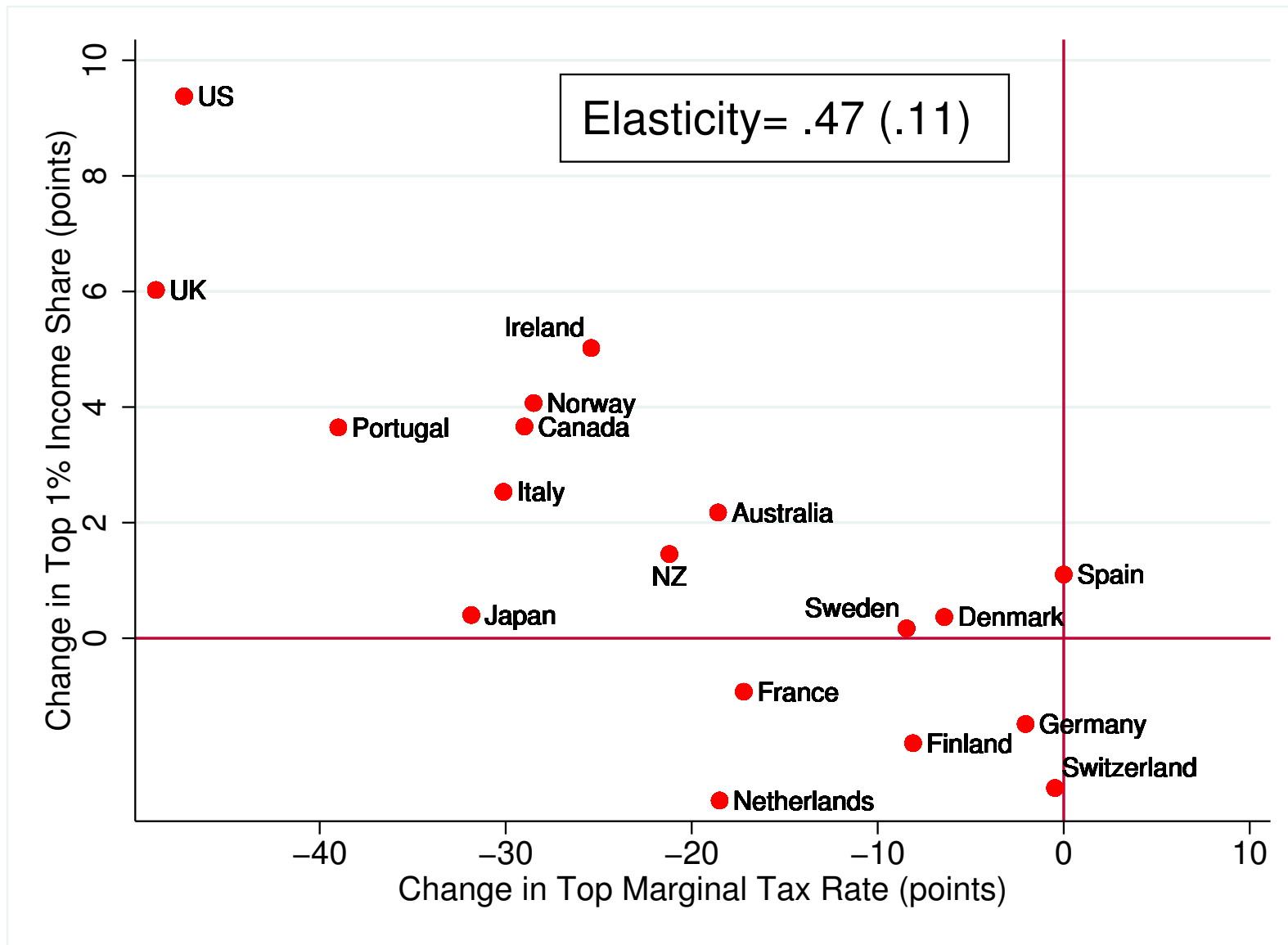
► DD specifications

A. Top 1% Share and Top Marginal Tax Rate in 1960–4



B. Top 1% Share and Top Marginal Tax Rate in 2005–9





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

Top tax rates and top 1% income share 1960-2009

Table 2: International Evidence on Top Income Elasticities

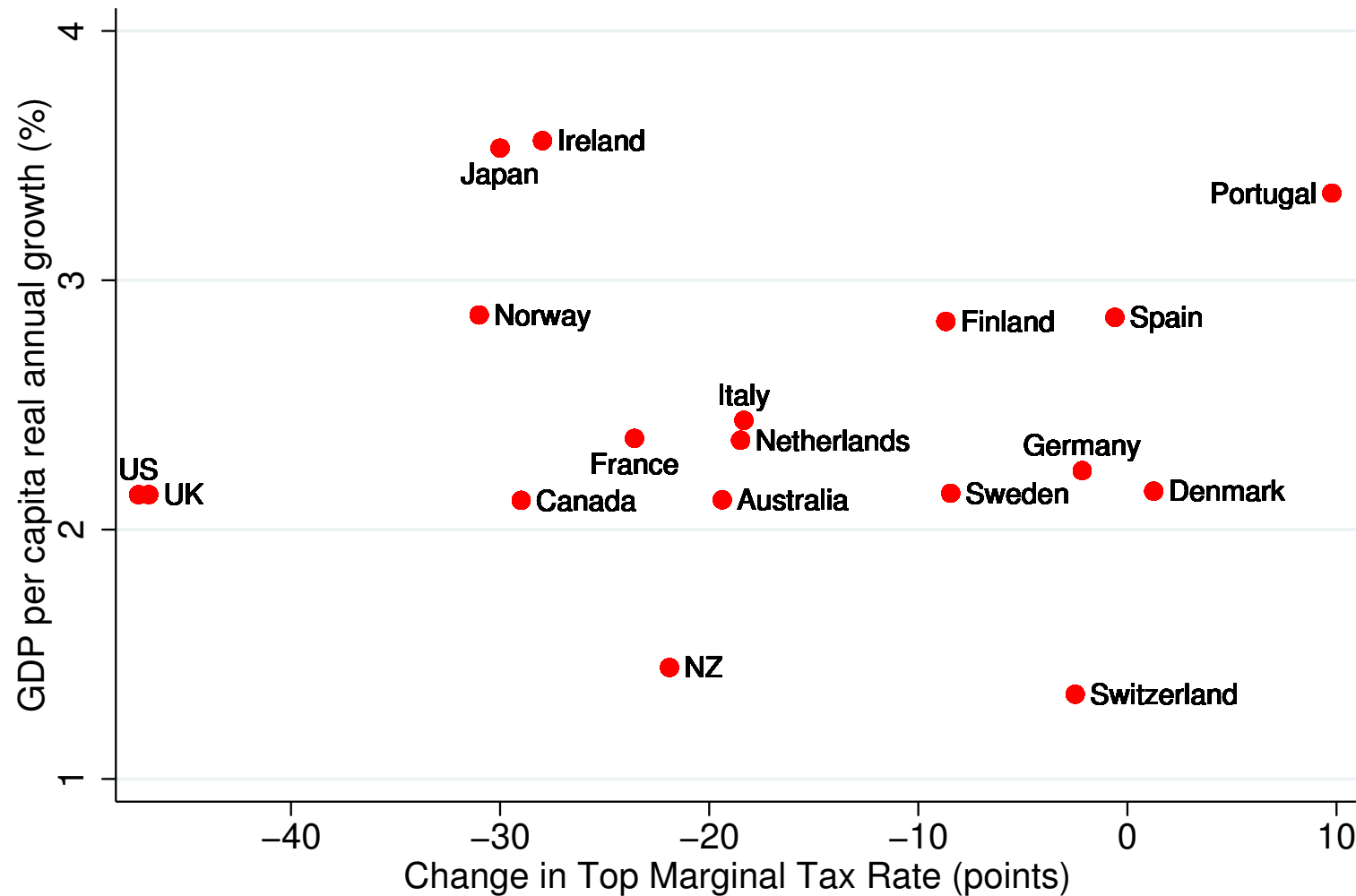
All 18 countries and fixed periods			Bootstrapping period and country set		
1960-2010	1960-1980	1981-2010	Median	5th percentile	95th percentile
(1)	(2)	(3)	(4)	(5)	(6)

A. Effect of the Top Marginal Income Tax Rate on Top 1% Income Share

Regression: $\log(\text{Top 1\% share}) = a + e \cdot \log(1 - \text{Top MTR}) + \varepsilon$

No controls	0.324 (0.034)	0.163 (0.039)	0.803 (0.053)	0.364 (0.043)	0.128 (0.085)	0.821 (0.032)
Time trend control	0.375 (0.042)	0.182 (0.030)	0.656 (0.056)	0.425 (0.045)	0.191 (0.091)	0.761 (0.032)
Country fixed effects	0.314 (0.025)	0.007 (0.039)	0.626 (0.044)	0.267 (0.035)	0.008 (0.070)	0.595 (0.026)
Number of observations	774	292	482	286	132	516

A. Growth and Change in Top Marginal Tax Rate



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

B. Growth (adjusted for initial 1960 GDP)



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

Top tax rates and average growth 1960-2009

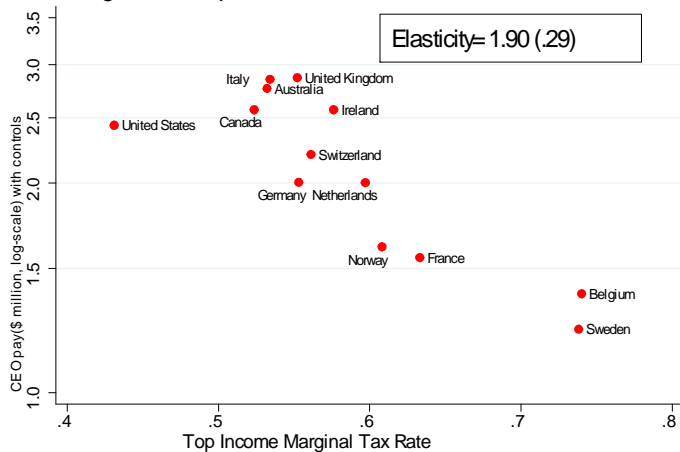
Table 2: International Evidence on Top Income Elasticities

	All 18 countries and fixed periods			Bootstrapping period and country set		
	1960-2010	1960-1980	1981-2010	Median	5th percentile	95th percentile
	(1)	(2)	(3)	(4)	(5)	(6)
B. Effect of the Top Marginal Income Tax Rate on real GDP per capita						
Regression: $\log(\text{real GDP per capita}) = a + b \cdot \log(1 - \text{Top MTR}) + c \cdot \text{time} + \varepsilon$						
No country fixed effects	-0.064 (0.033)	-0.018 (0.041)	-0.097 (0.043)	0.002 (0.042)	-0.214 (0.080)	0.173 (0.026)
Country fixed effects	-0.029 (0.014)	-0.082 (0.016)	0.037 (0.019)	-0.004 (0.016)	-0.087 (0.031)	0.071 (0.011)
Initial GDP per capita	-0.095 (0.019)	-0.025 (0.016)	-0.023 (0.014)	-0.054 (0.017)	-0.149 (0.030)	0.022 (0.011)
Initial GDP per capita, time*initial GDP per cap	-0.088 (0.017)	0.004 (0.011)	-0.037 (0.014)	-0.060 (0.016)	-0.160 (0.030)	0.012 (0.011)
Country fixed effects, time*initial GDP per cap	-0.018 (0.011)	0.000 (0.014)	0.008 (0.017)	-0.015 (0.013)	-0.069 (0.031)	0.040 (0.009)
Number of observations	918	378	540	317	152	576

A Average CEO compensation



B. Average CEO compensation with controls

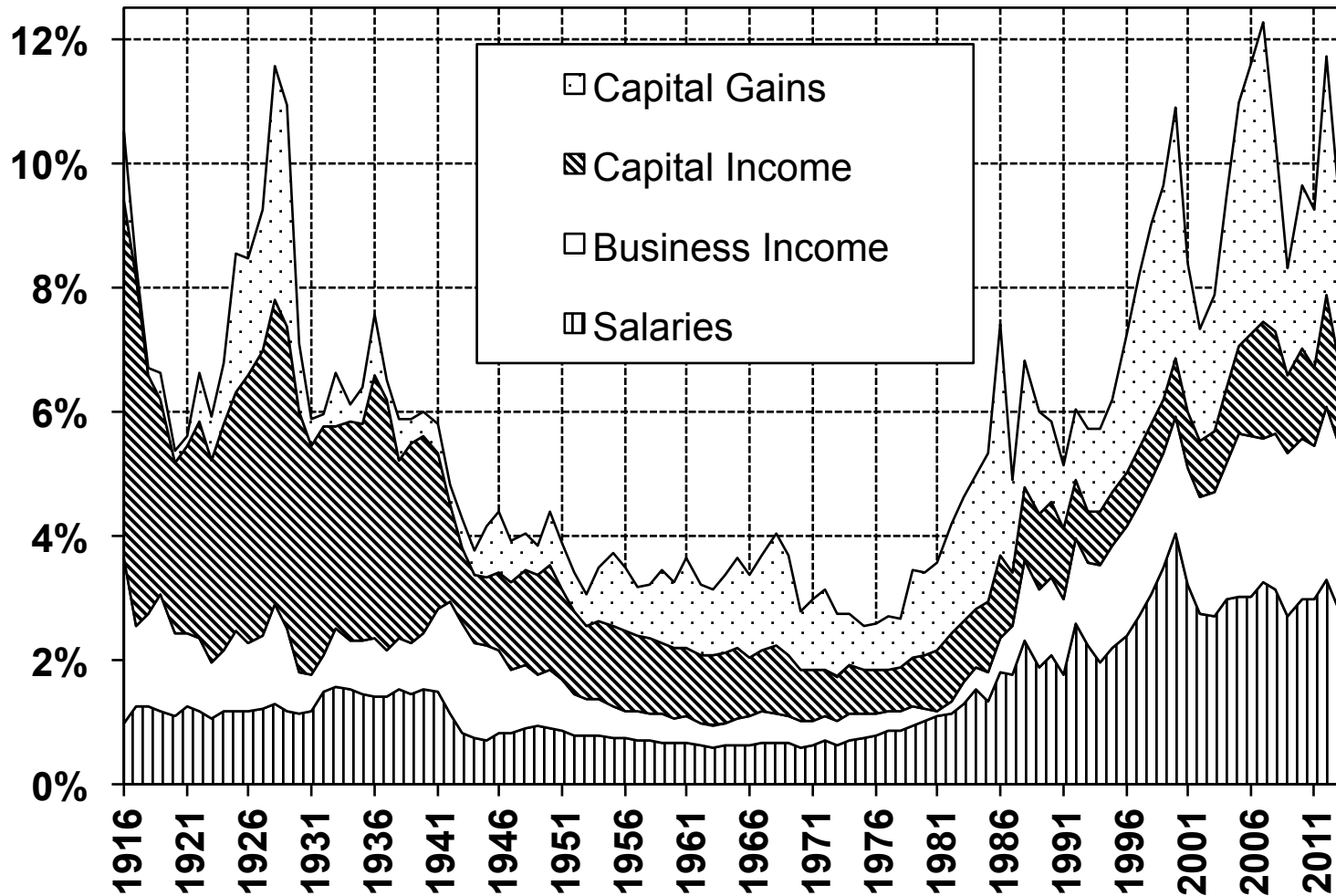


International CEO Pay: Governance

Table 4: International CEO Pay Evidence

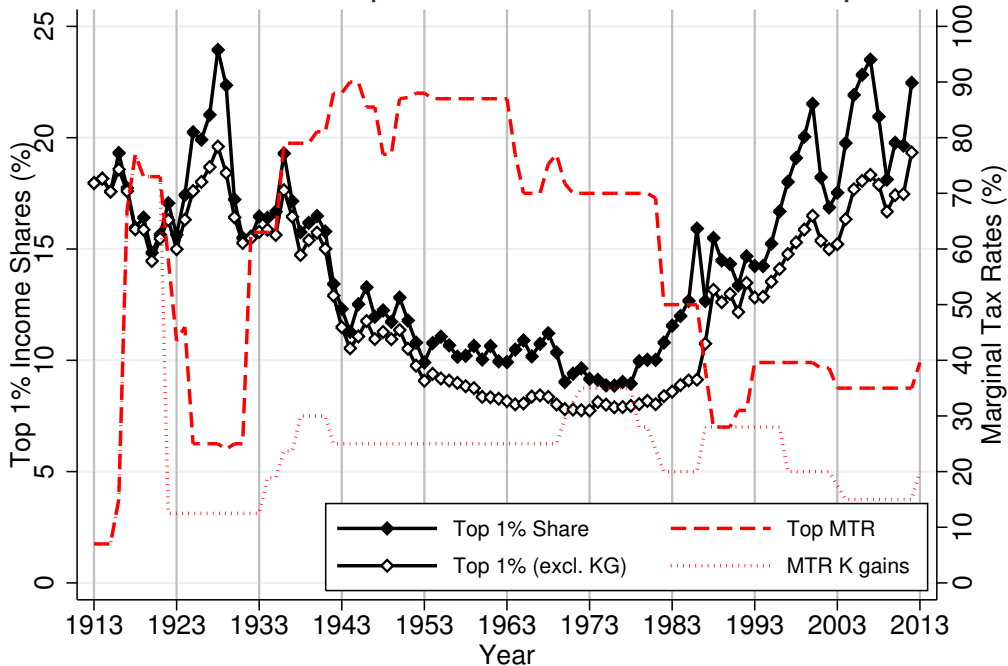
Outcome (LHS variable)	Log(CEO pay)	Log(CEO pay)	Log(CEO pay)	Log(CEO pay)	Log(CEO salary)	Log(CEO bonus and equity pay)
	(1)	(2)	(3)	(4)	(5)	(6)
Explanatory variables (RHS variables)						
log(1-Top MTR)	1.97*** (0.27)	1.90*** (0.286)	1.92*** (0.336)	1.90*** (0.328)	0.35* (0.189)	4.68*** (0.782)
Governance index			-0.10*** (0.020)	-0.19*** (0.038)	-0.02 (0.072)	-0.26 (0.201)
log(1-Top MTR)*Governance index				-0.13** (0.057)	0.06 (0.089)	-0.03 (0.281)
Firm and CEO controls	no	yes	yes	yes	yes	yes
Number of observations	2,959	2,844	2,711	2,711	2,691	2,711

US Top 0.1% Pre-Tax Income Share and Composition

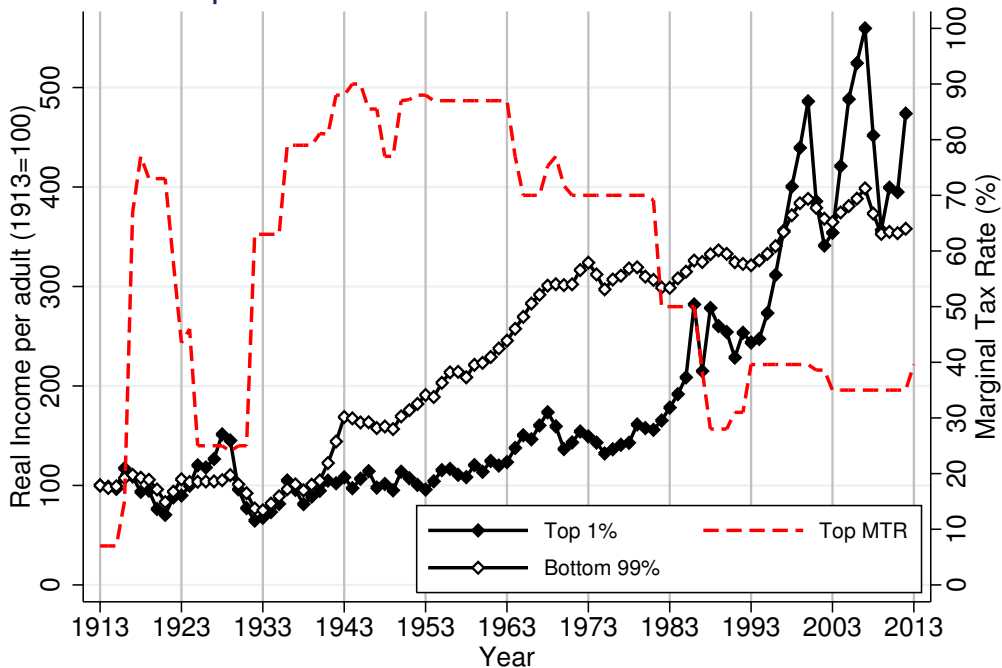


Source: Piketty and Saez, 2003 updated to 2013. Series based on pre-tax cash market income including or excluding realized capital gains, and always excluding government transfers.

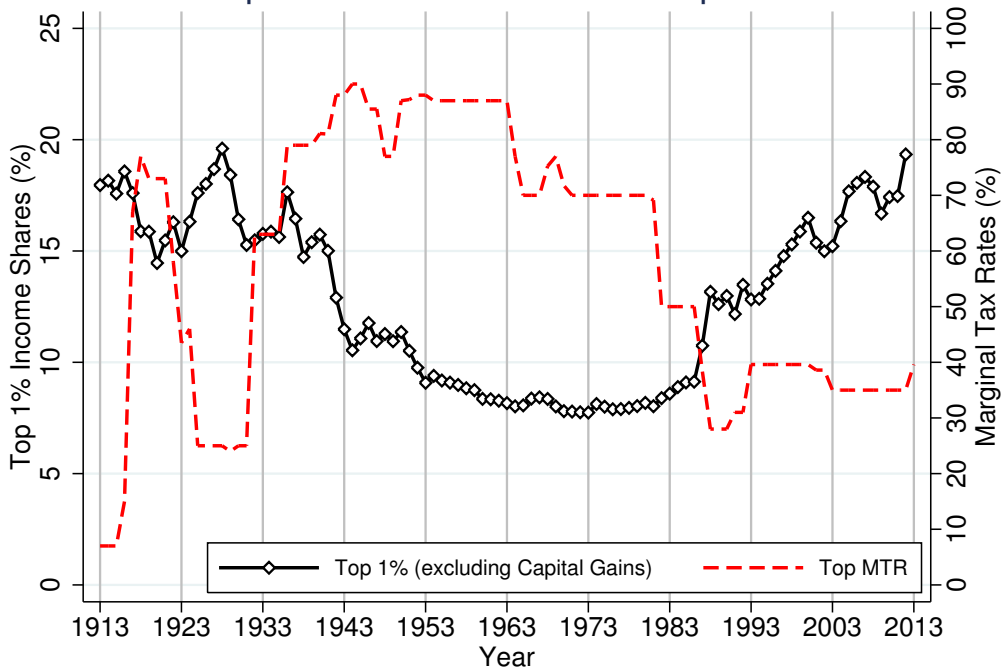
Tax Avoidance: Top 1% Income Shares and Top MTR



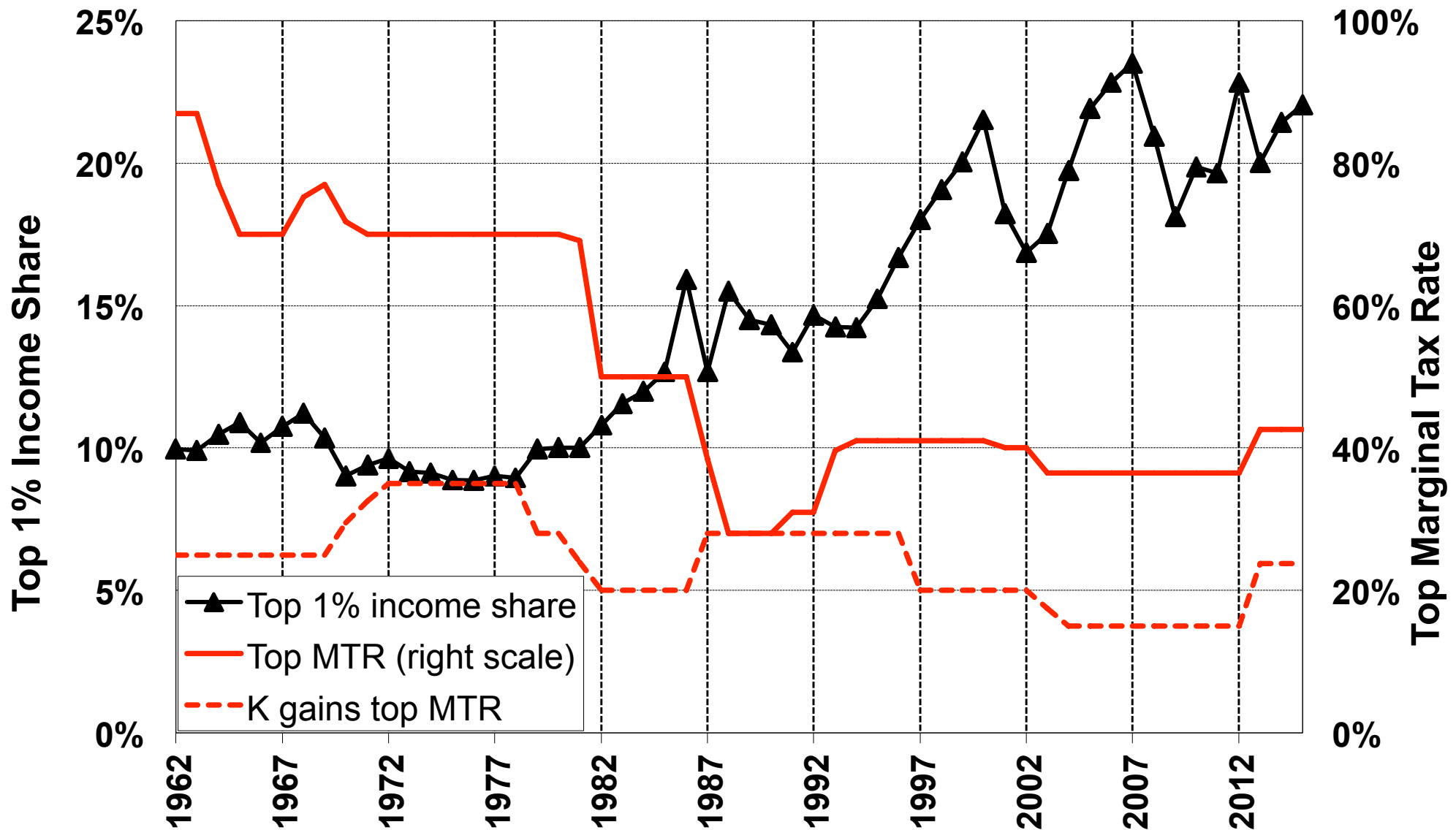
Top 1% and Bottom 99% Income Growth



Top 1% Income Share and Top MTR

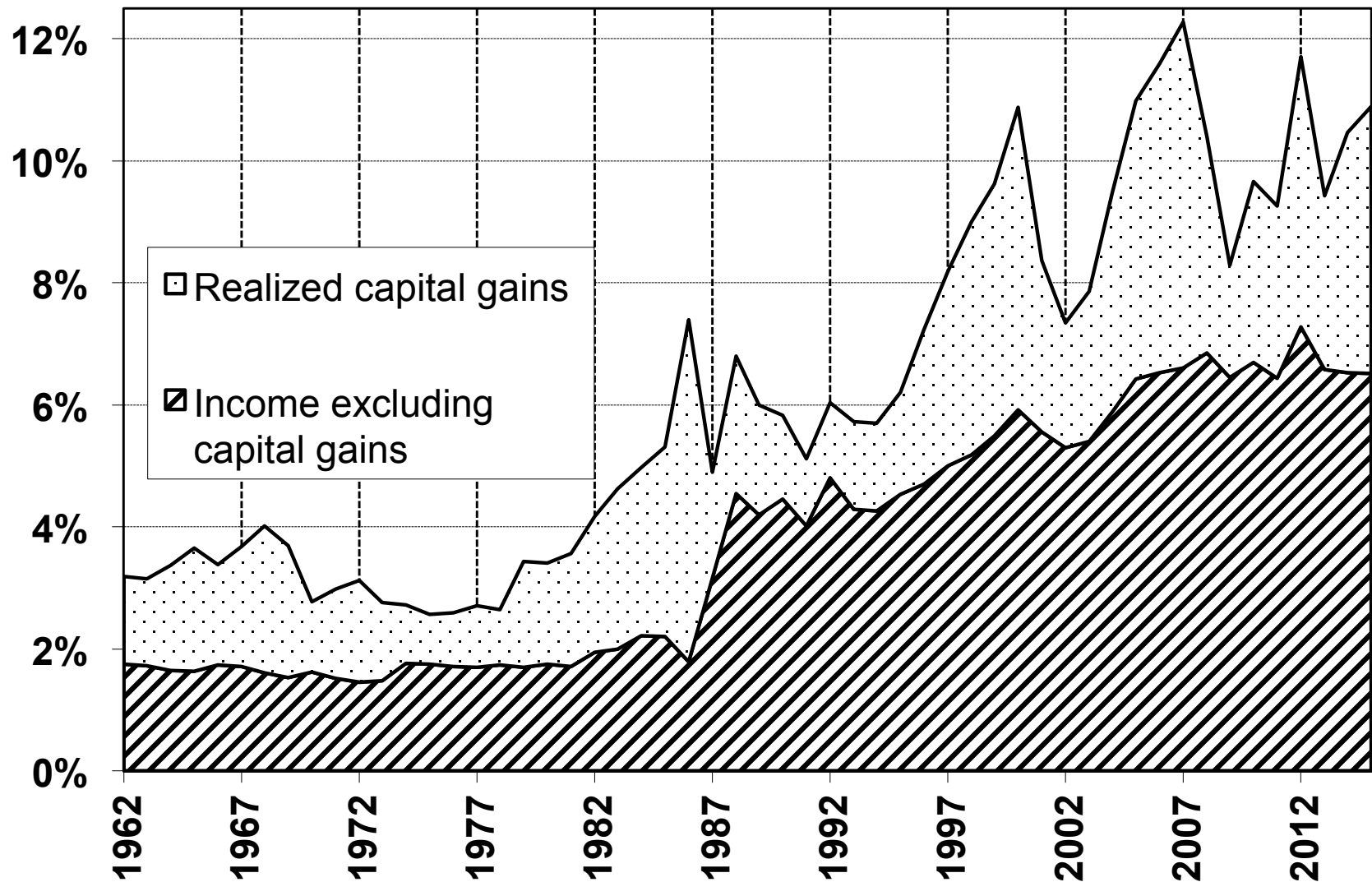


Top 1% pre-tax income share and top tax rates



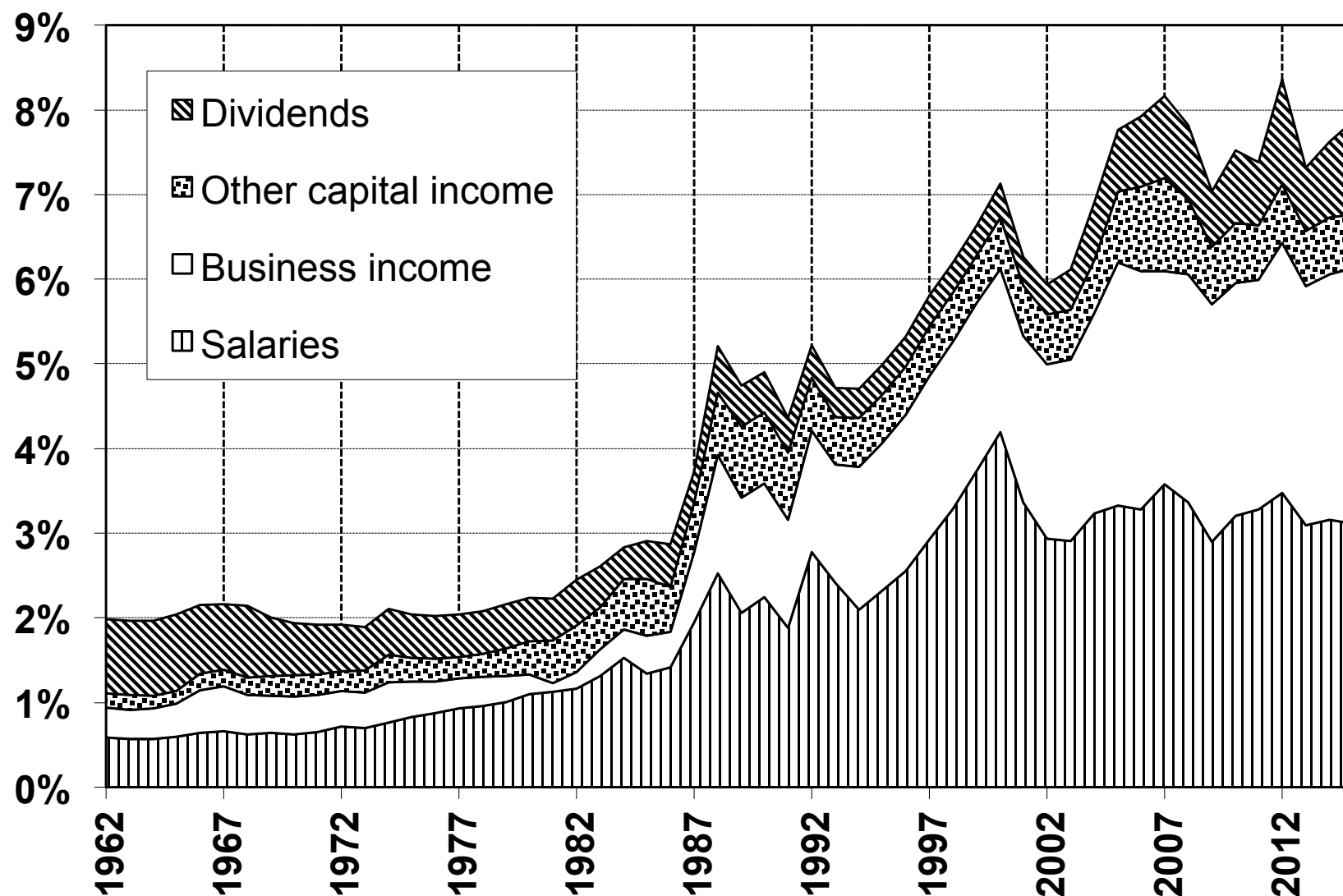
Source: Top 1% income share: Piketty and Saez, 2003 updated to 2015, series including realized capital gains. Top MTR include Federal individual tax + uncapped FICA payroll tax.

US Top 0.1% Income Share and Composition



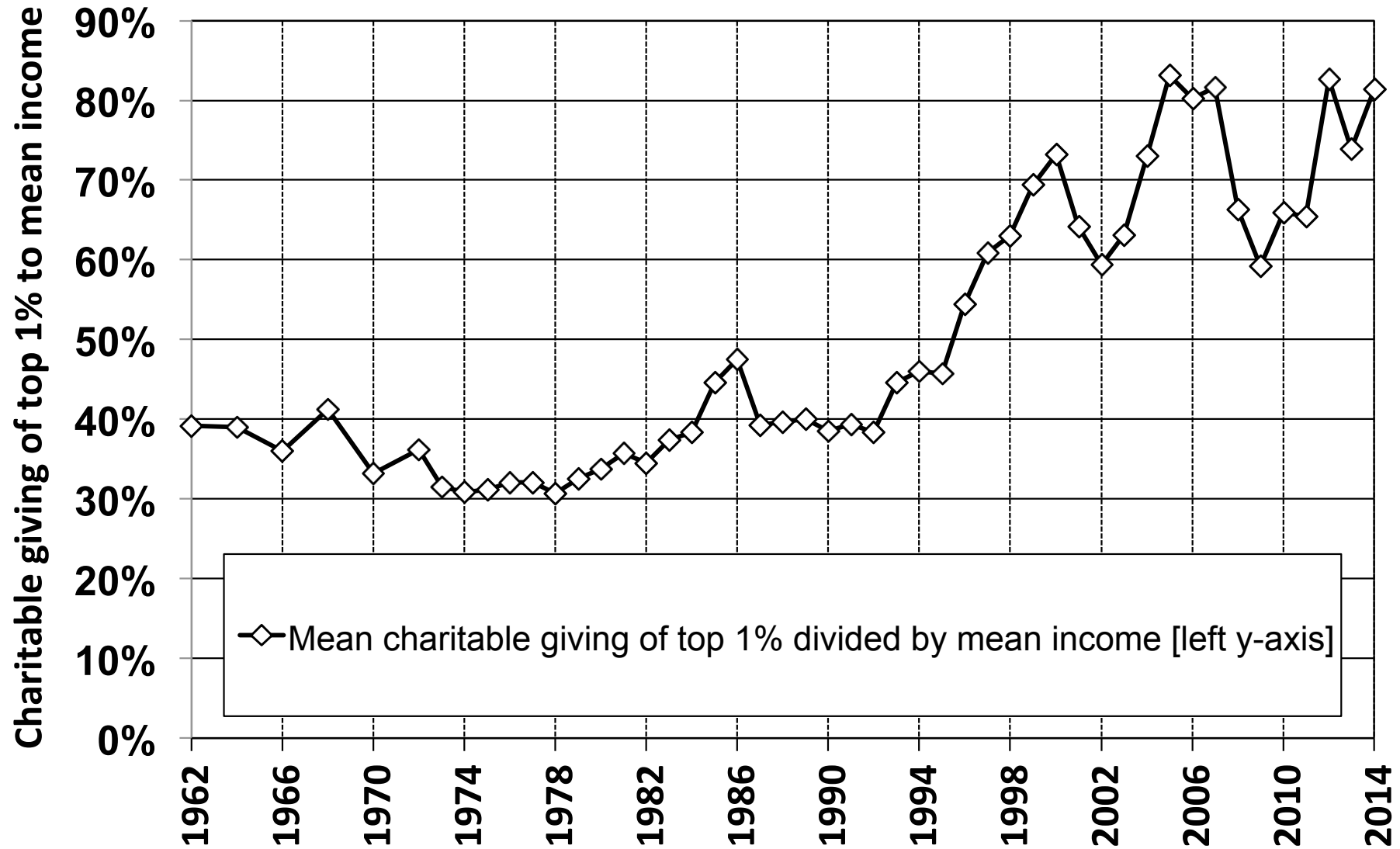
Source: Piketty and Saez, 2003 updated to 2015. Series based on pre-tax cash market income including realized capital gains, and always excluding government transfers.

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



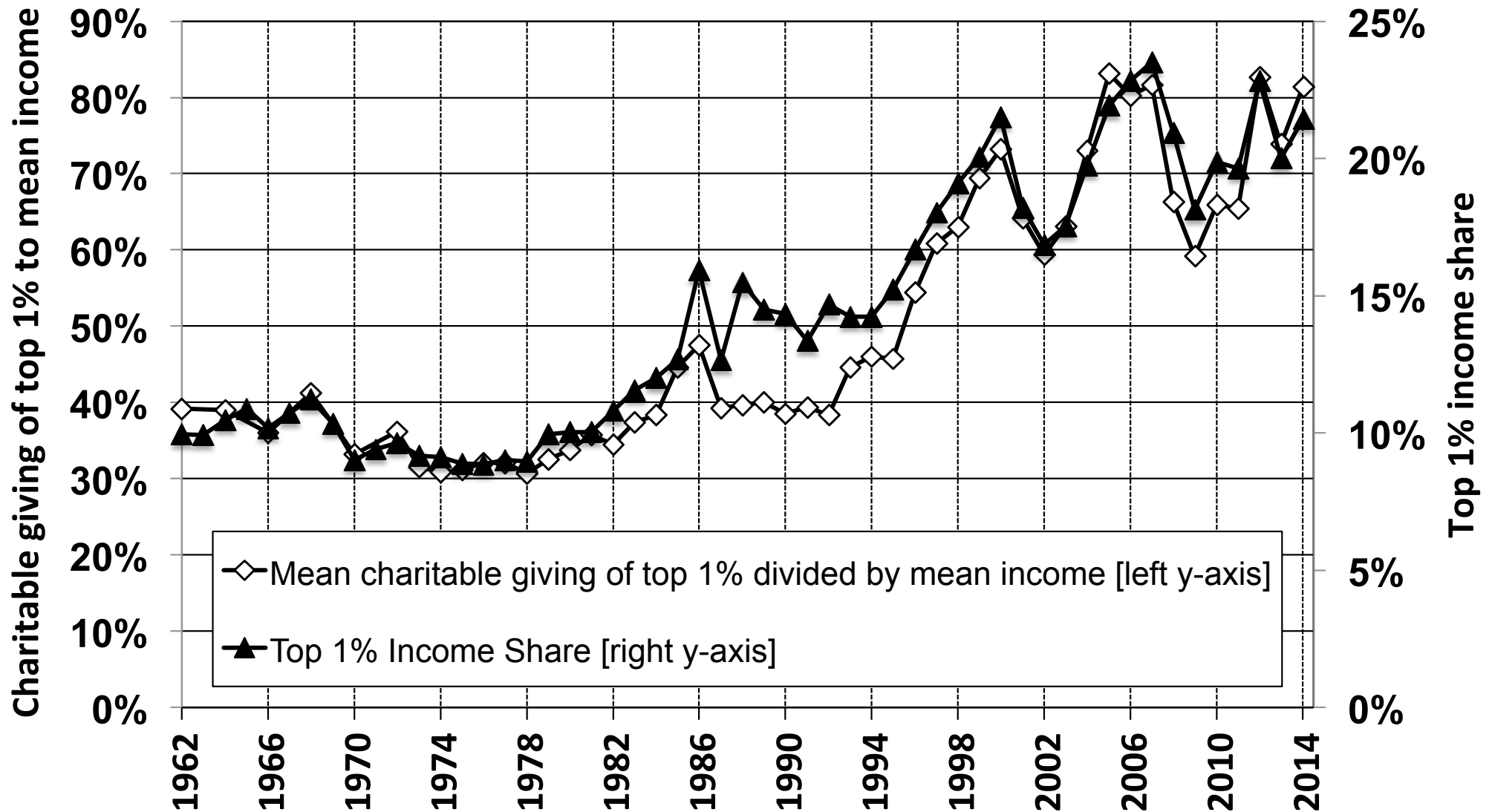
Source: Piketty and Saez, 2003 updated to 2015. Series based on pre-tax cash market income excluding realized capital gains, and always excluding government transfers.

Charitable Giving of Top 1% Income Earners



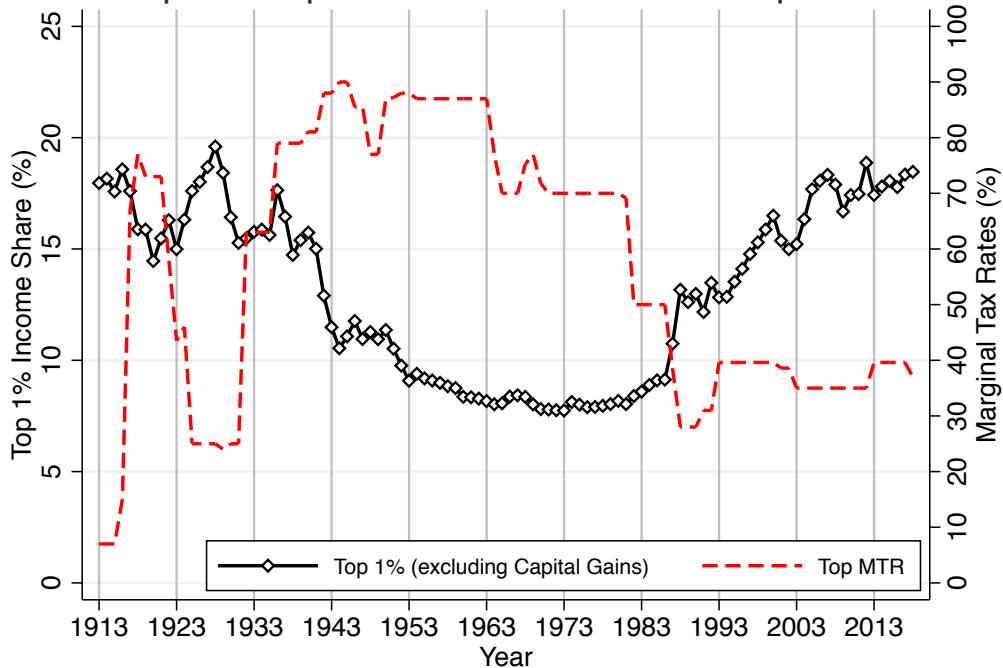
Source: The figure depicts average charitable giving of top 1% incomes (normalized by average income per family) on the left y-axis.

Charitable Giving of Top 1% Income Earners

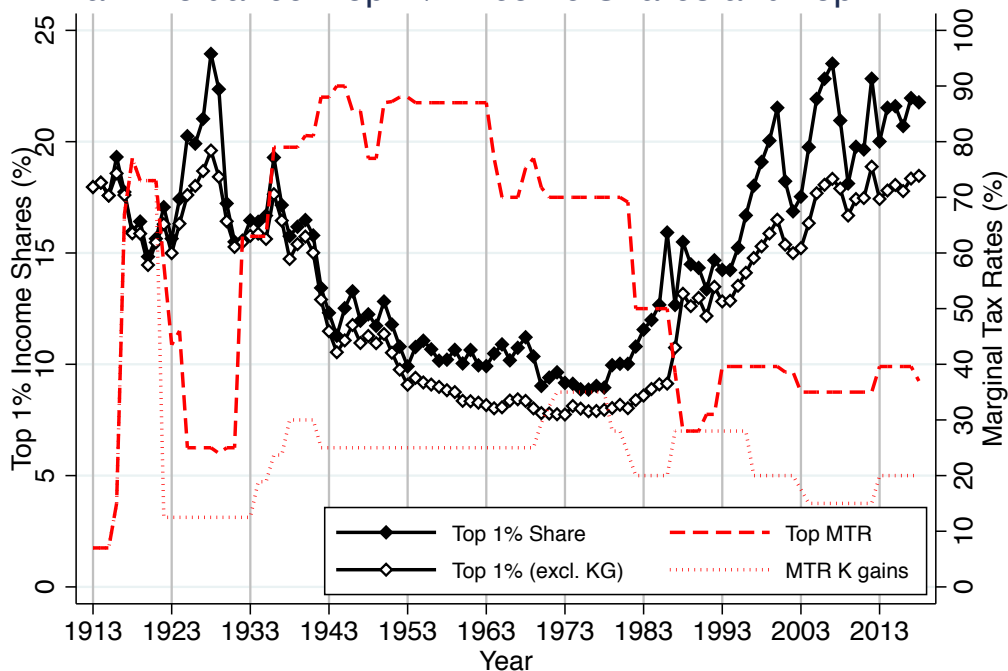


Source: The figure depicts average charitable giving of top 1% incomes (normalized by average income per family) on the left y-axis. For comparison, the figure reports the top 1% income share (on the right y-axis).

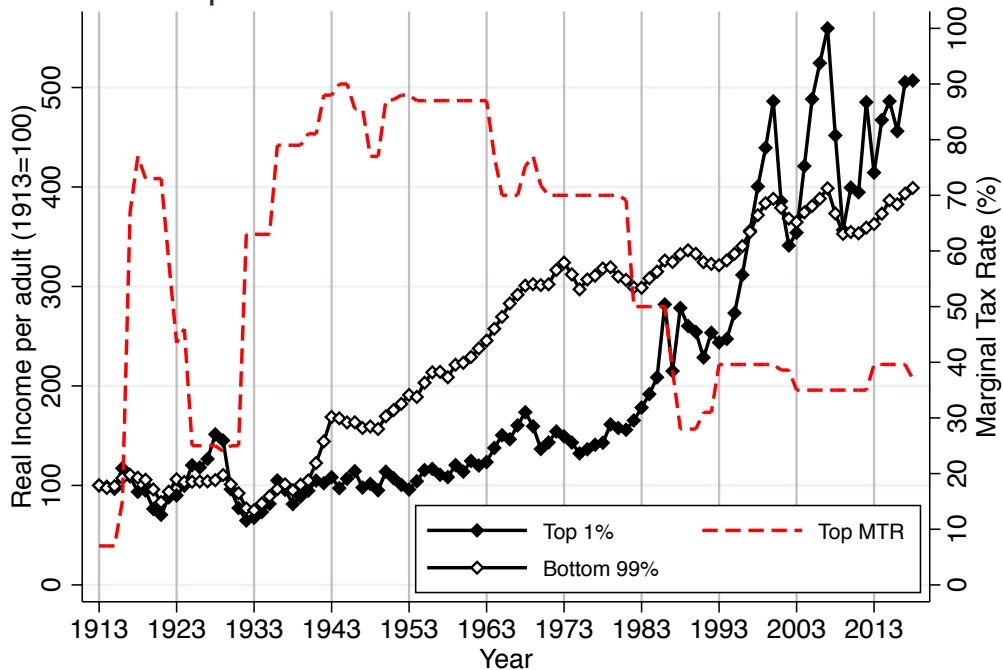
Top 1% Reported Income Share and Top MTR



Tax Avoidance: Top 1% Income Shares and Top MTR



Top 1% and Bottom 99% Income Growth



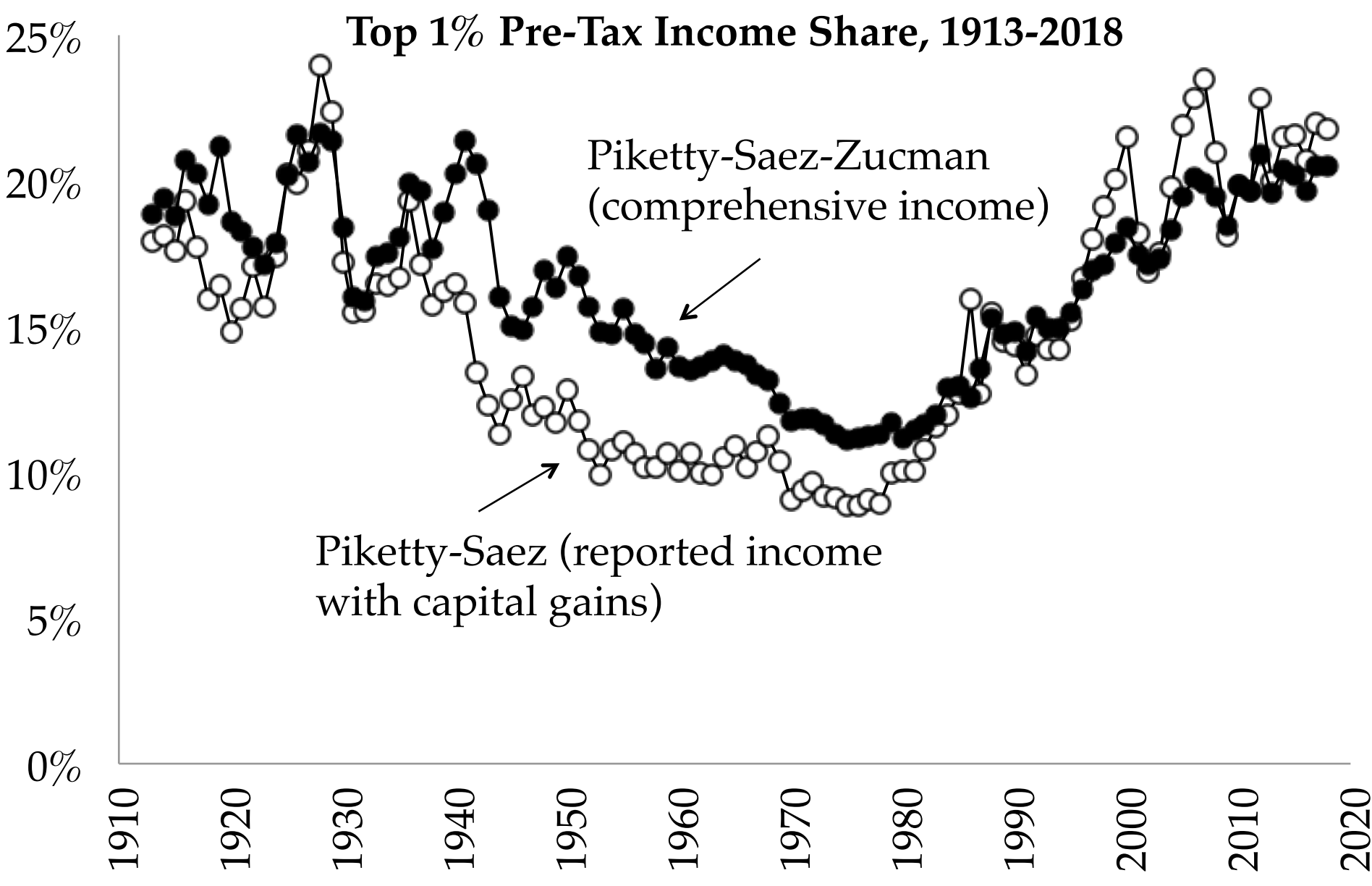
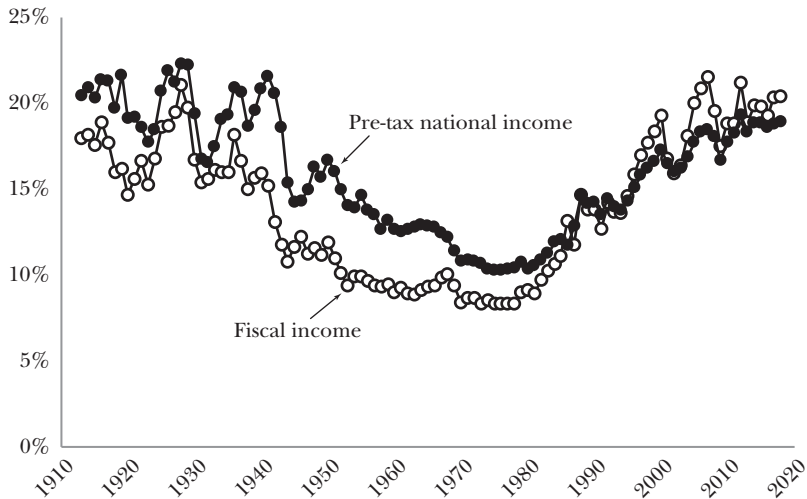




Figure 3

Share of Income Earned by the Top 1 Percent

Source: Saez and Zucman JEP'20



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).