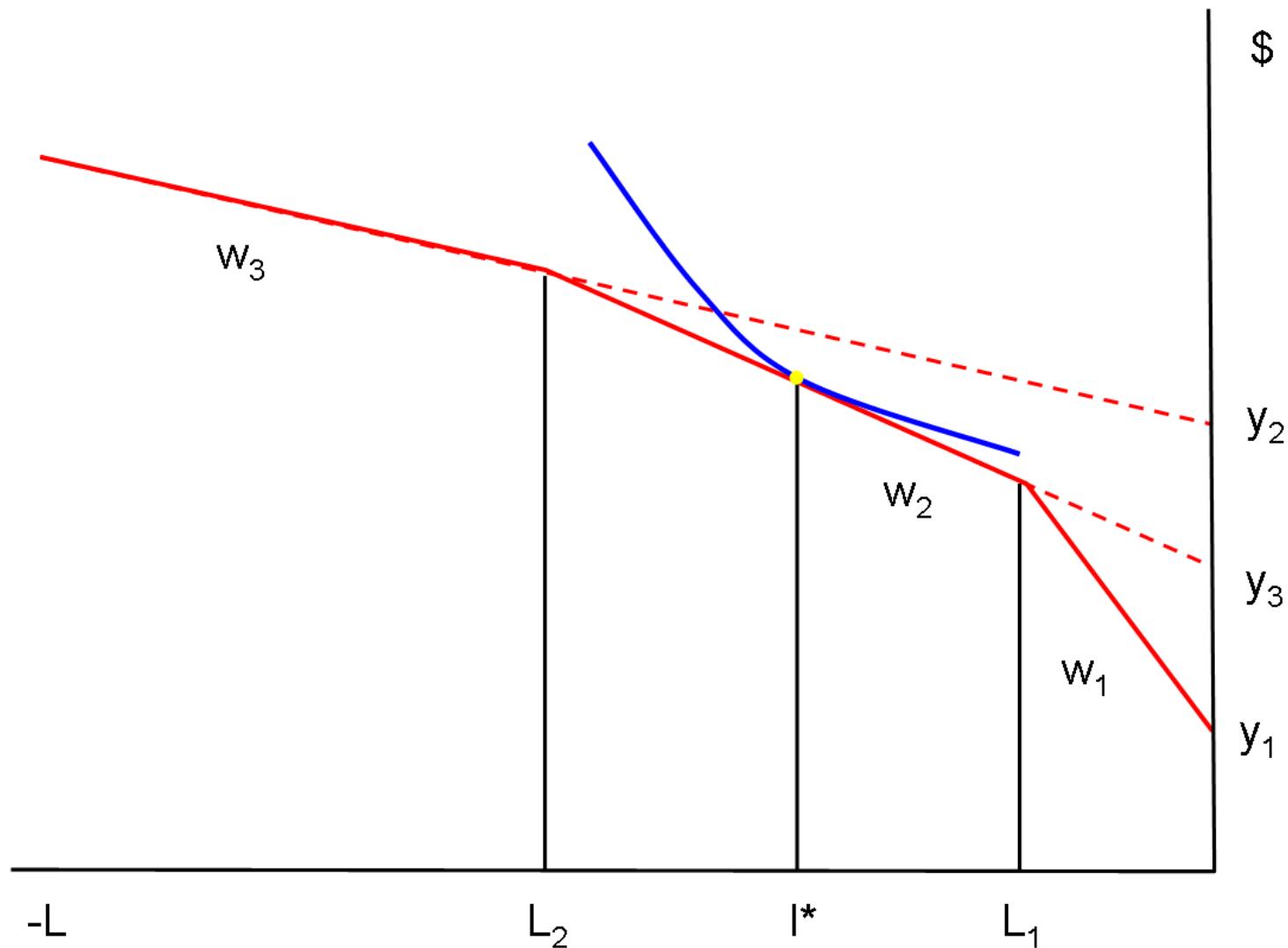
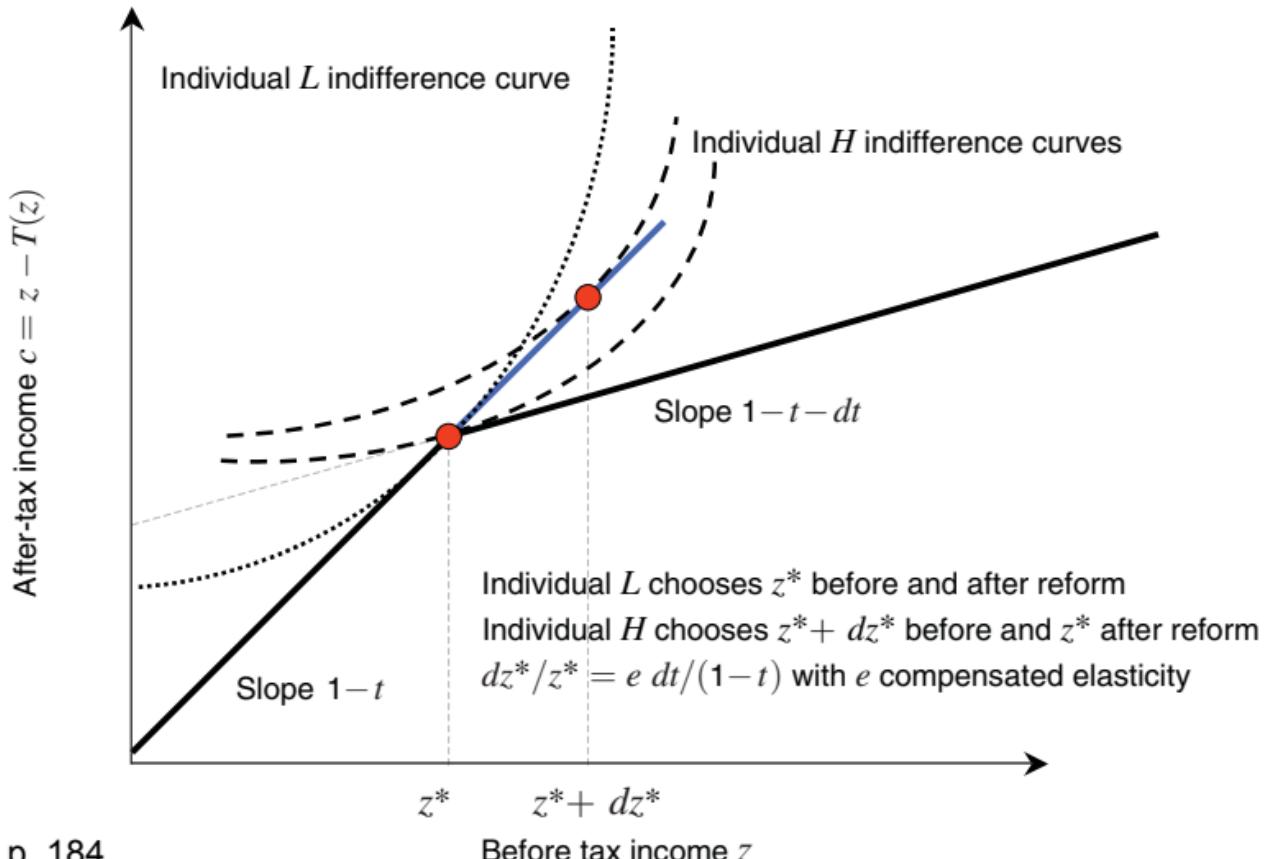


Non-Linear Budget Set Estimation: Virtual Incomes



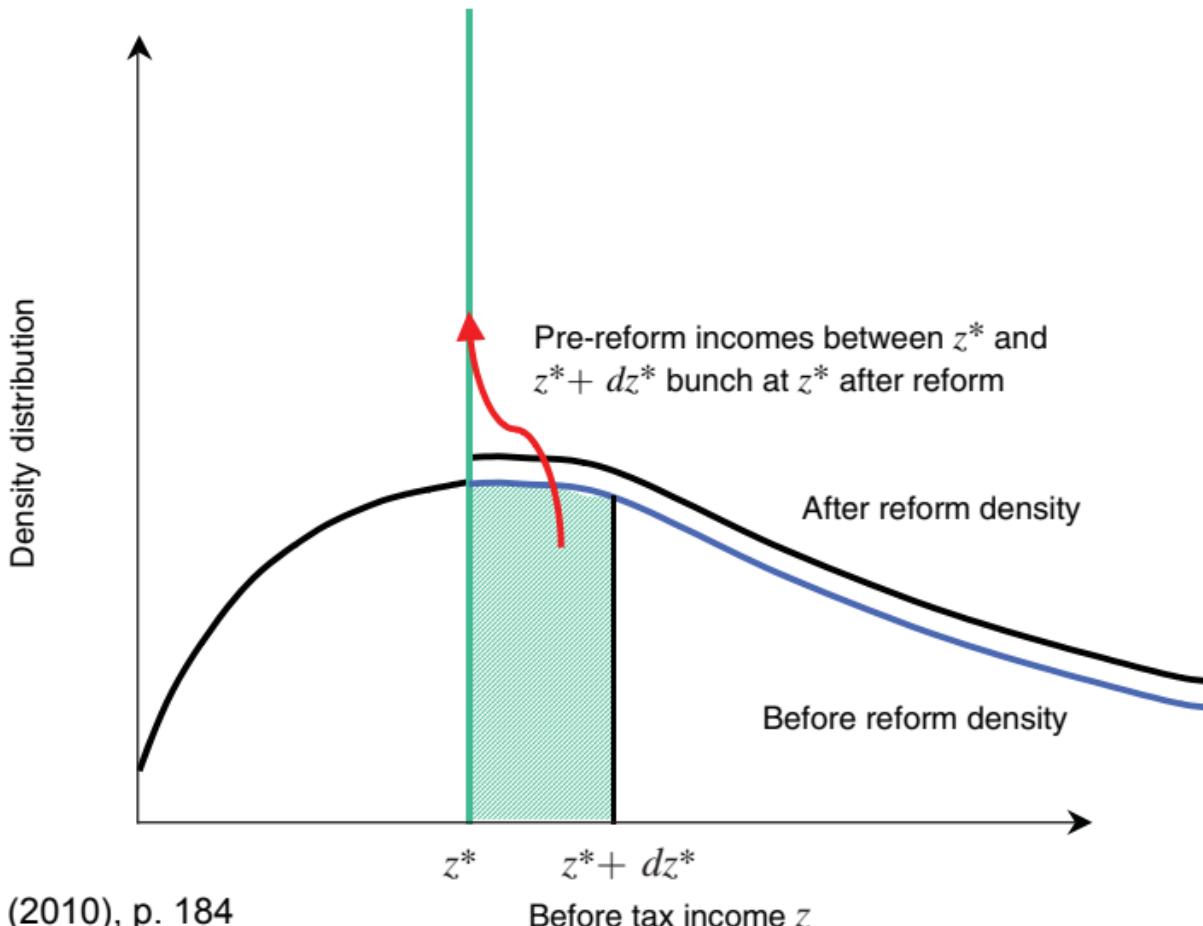
Source: Hausman (Hbk 1985)

Panel A. Indifference curves and bunching



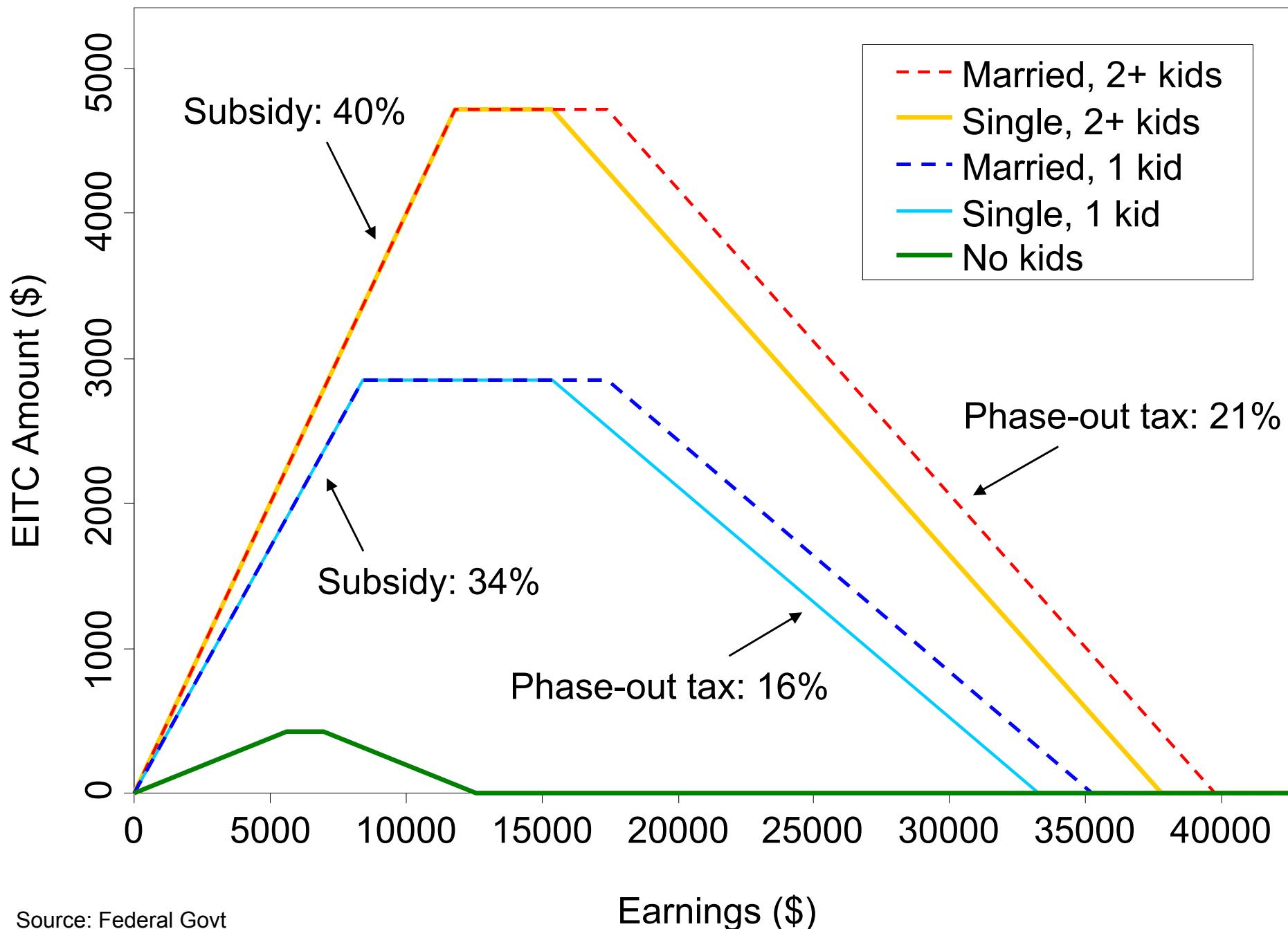
Source: Saez (2010), p. 184

Panel B. Density distributions and bunching

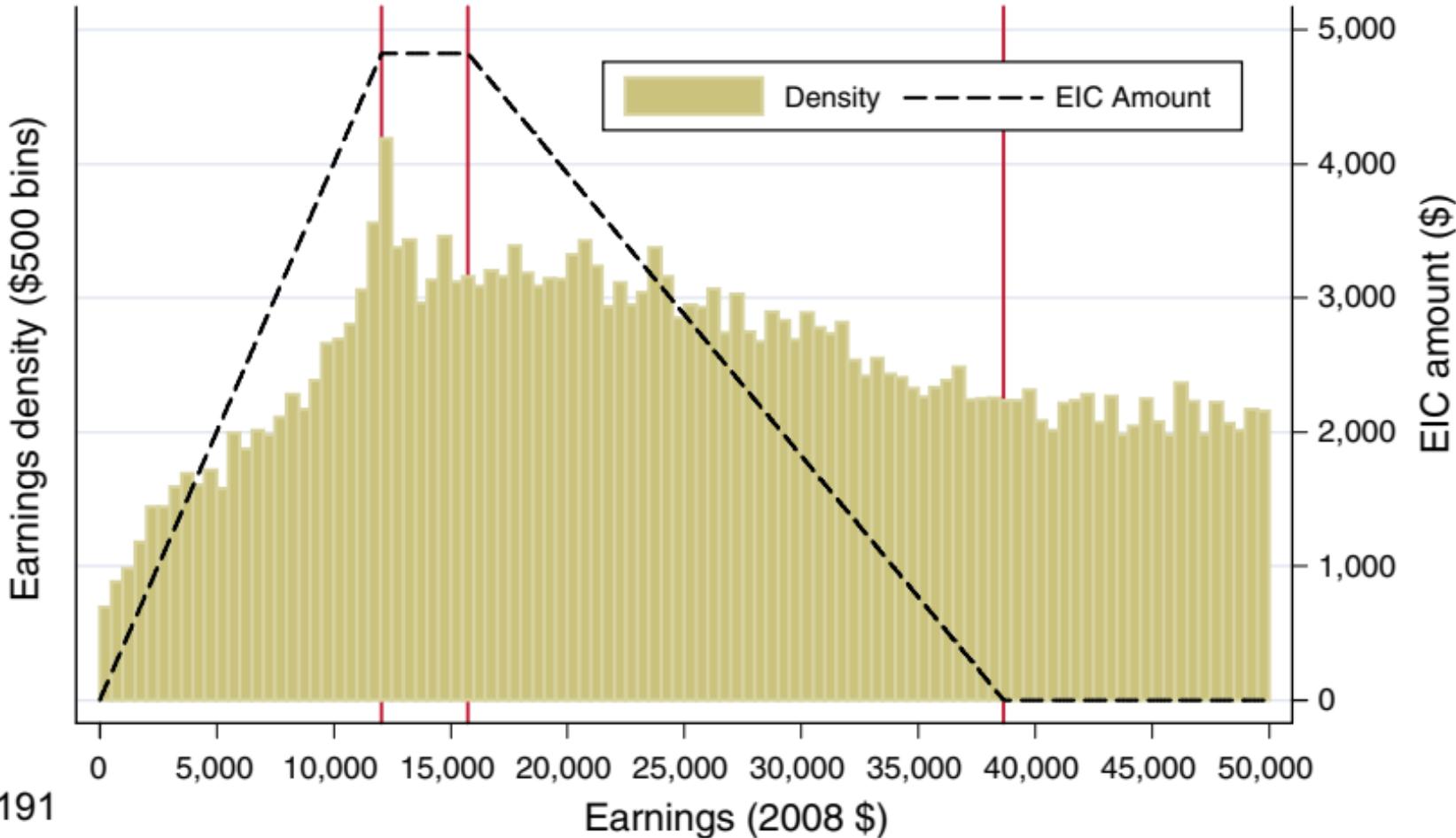


Source: Saez (2010), p. 184

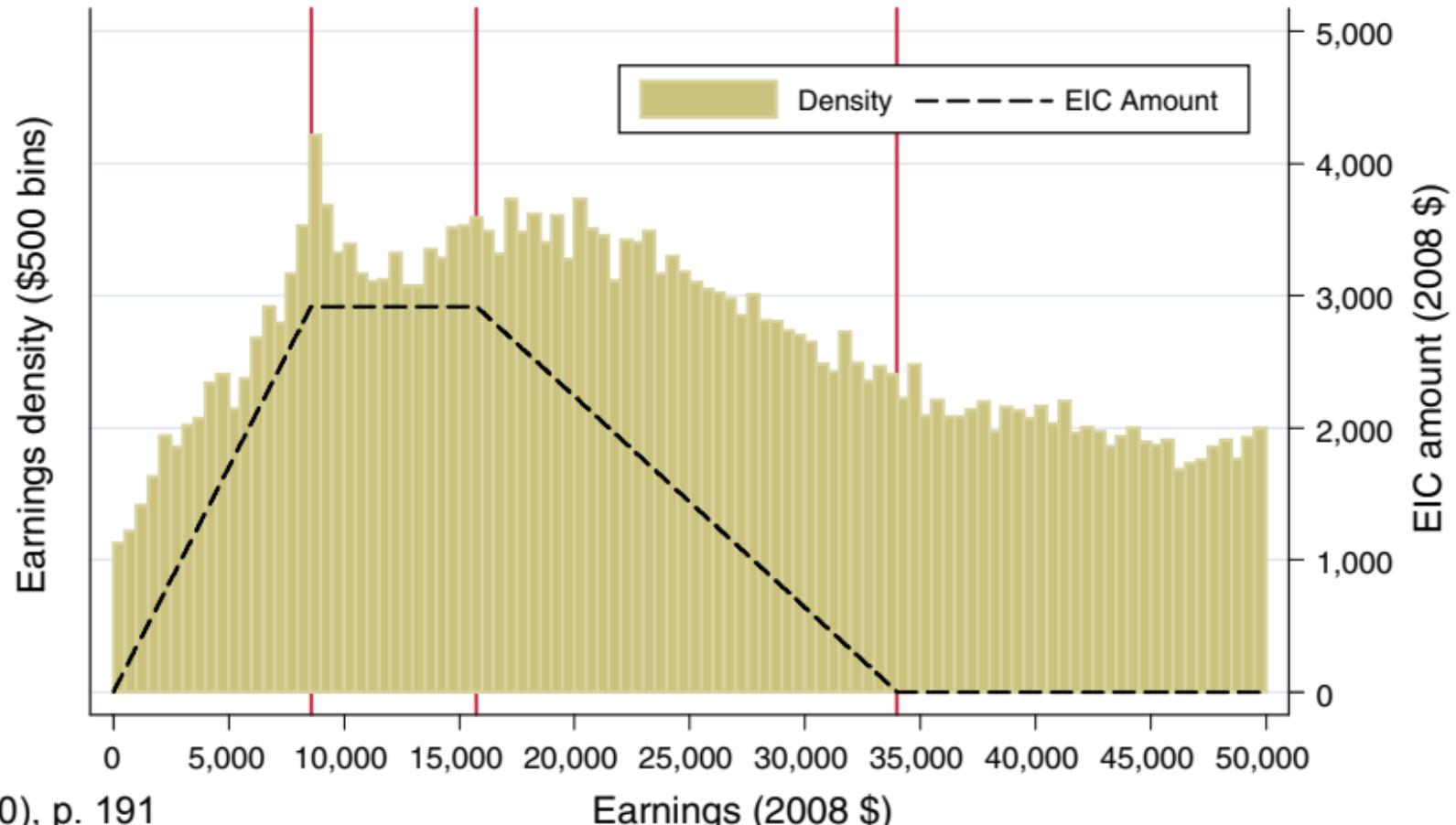
EITC Amount as a Function of Earnings



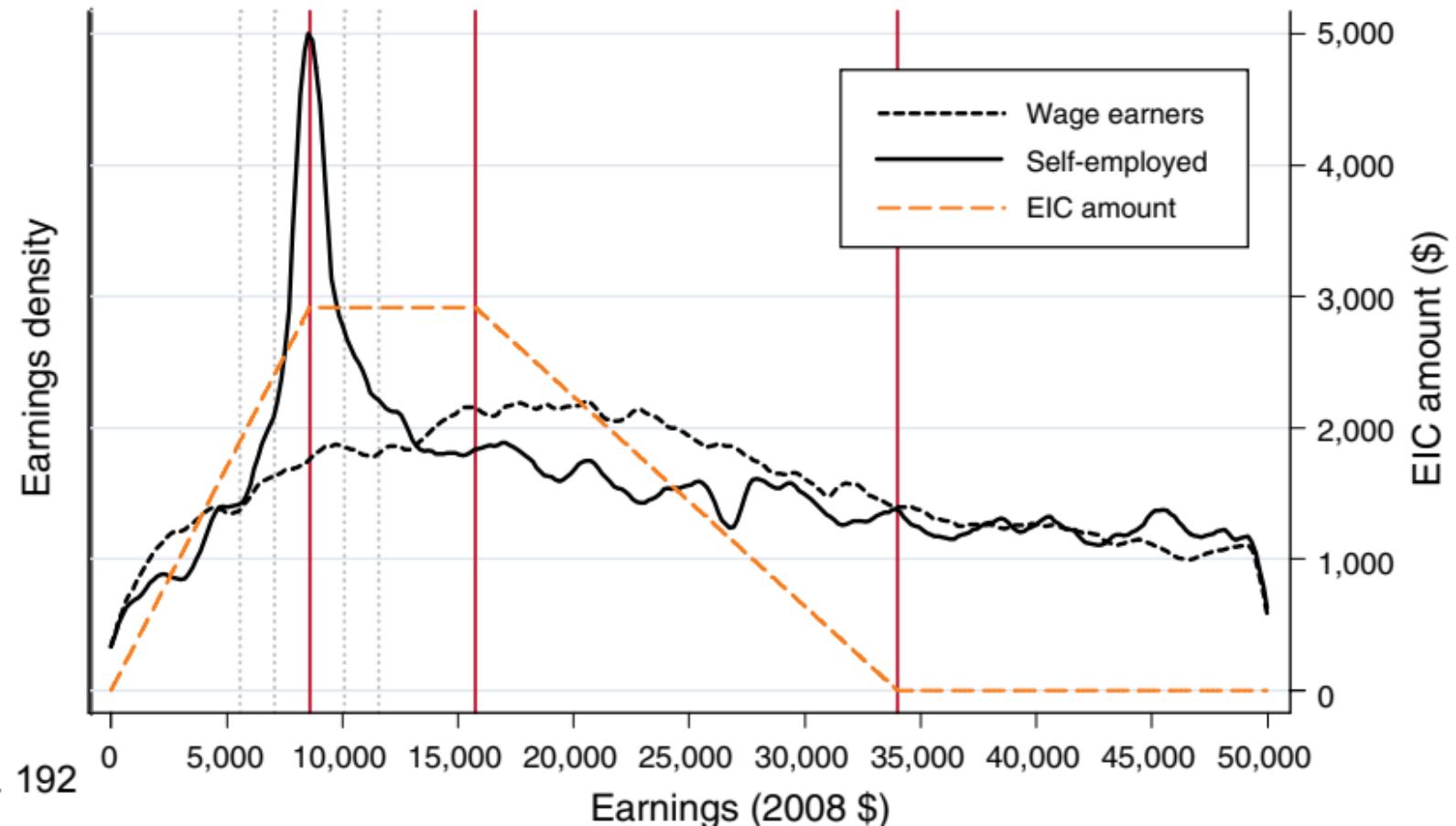
B. Two children or more



Panel A. One child



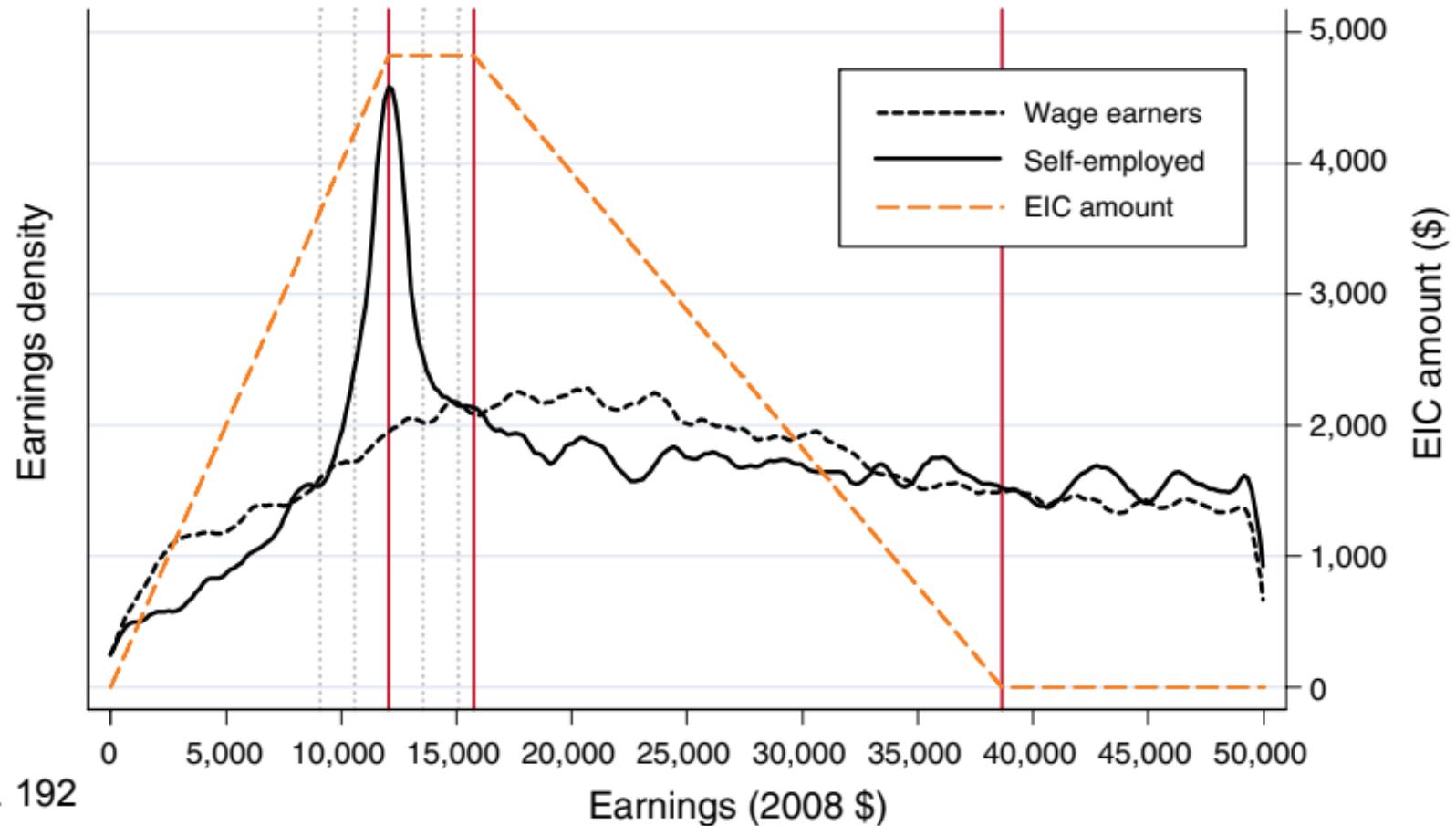
Panel A. One child



Source: Saez (2010), p. 192

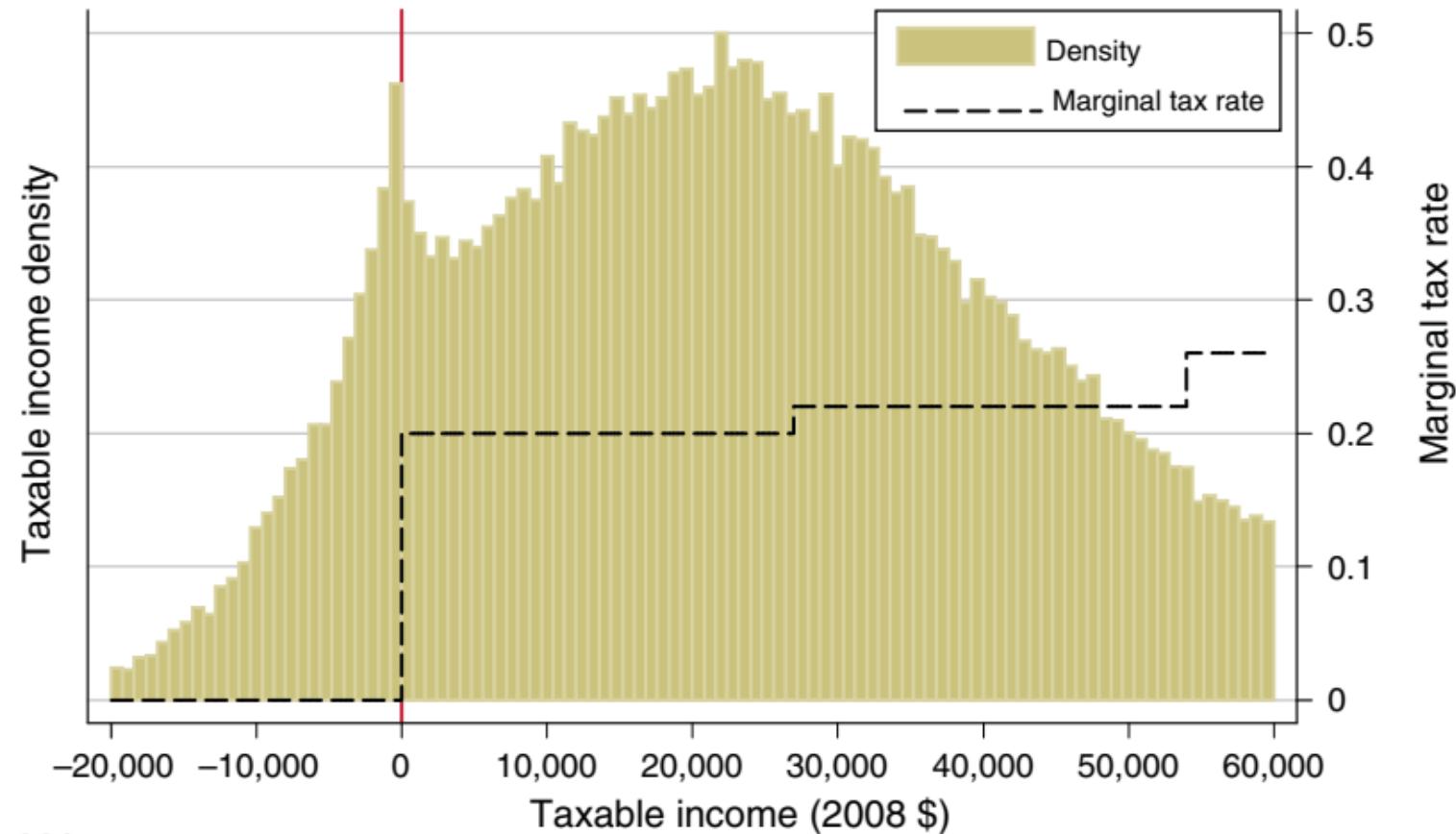
Earnings (2008 \$)

Panel B. Two or more children



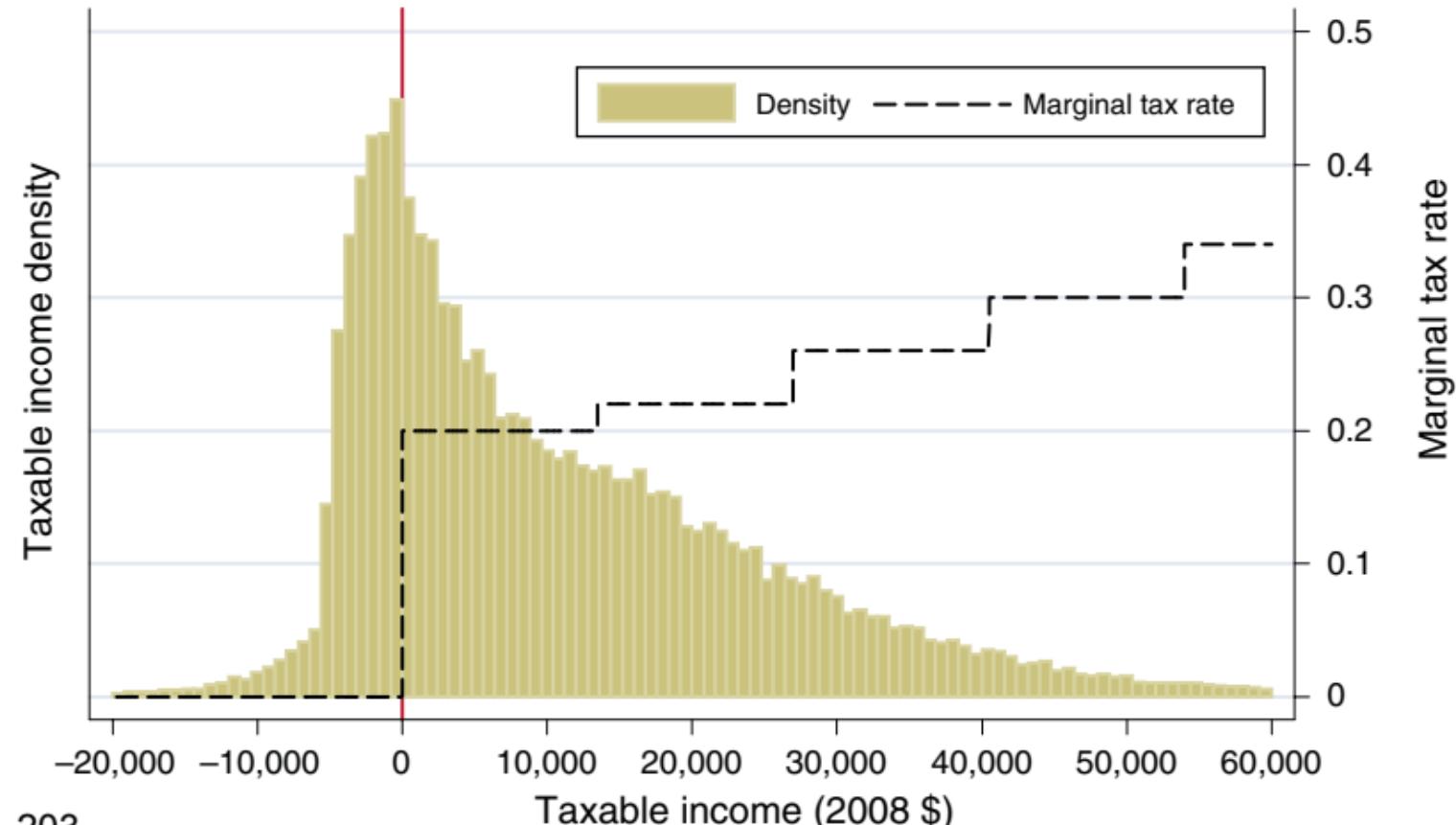
Source: Saez (2010), p. 192

Panel A. Married tax filers



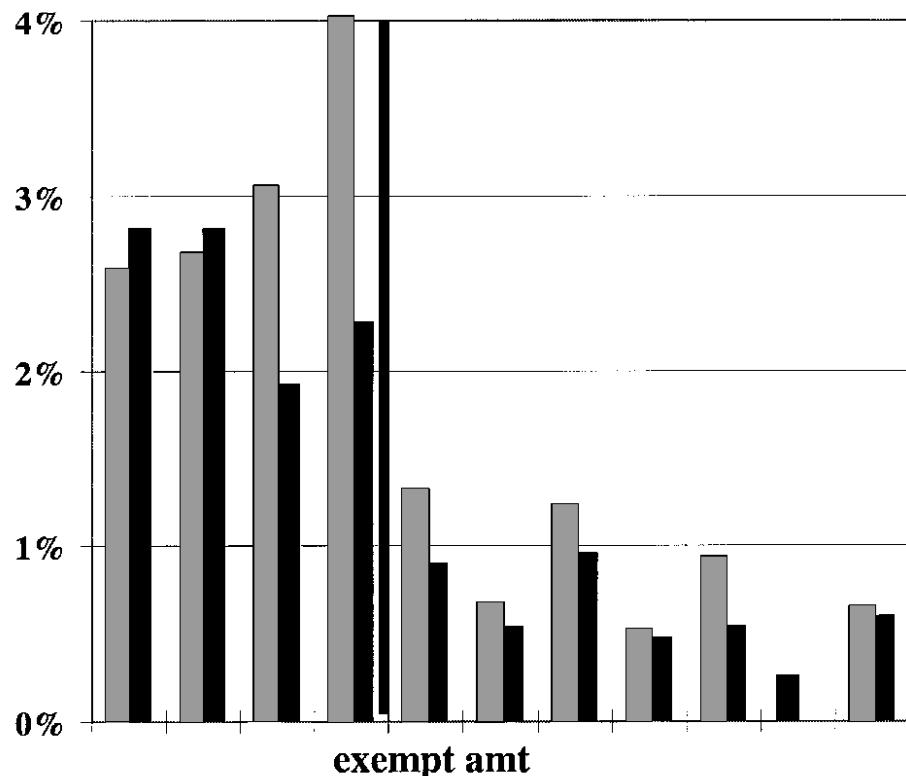
Source: Saez (2010), p. 203

Panel B. Single tax filers



EFFECTS OF THE SOCIAL SECURITY EARNINGS TEST

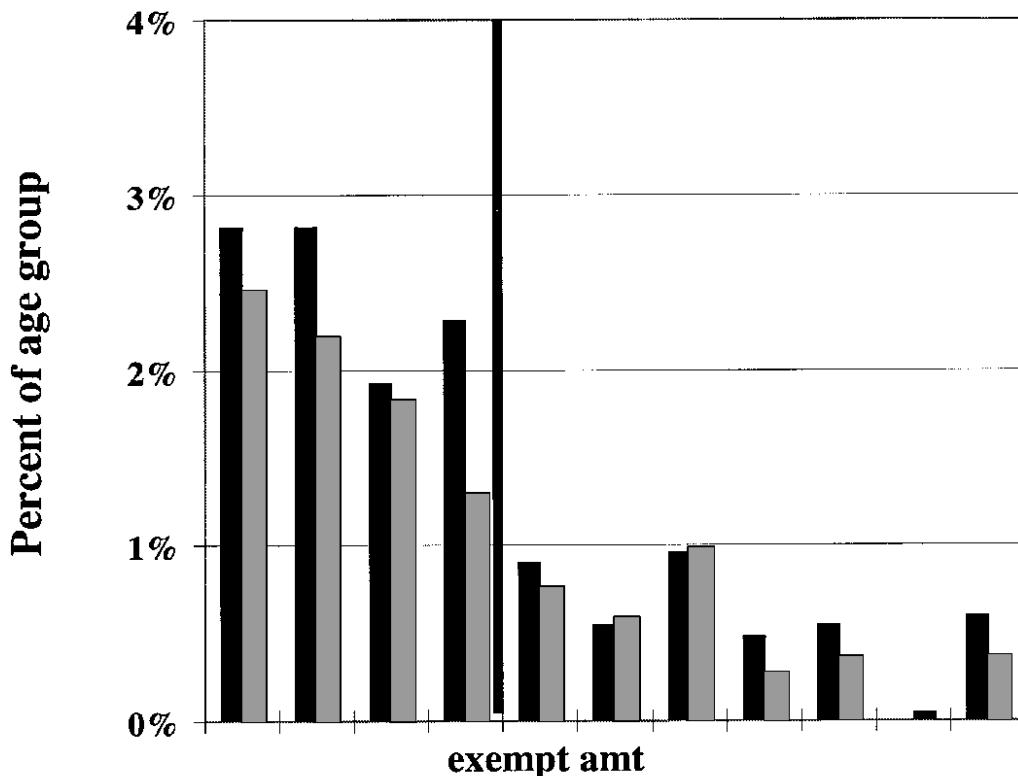
FIGURE 3-A.—EARNINGS DISTRIBUTION, 1980–81



Earnings in \$1000 intervals relative to the
exempt amount

■ Age 67-69 ■ Age 71-72

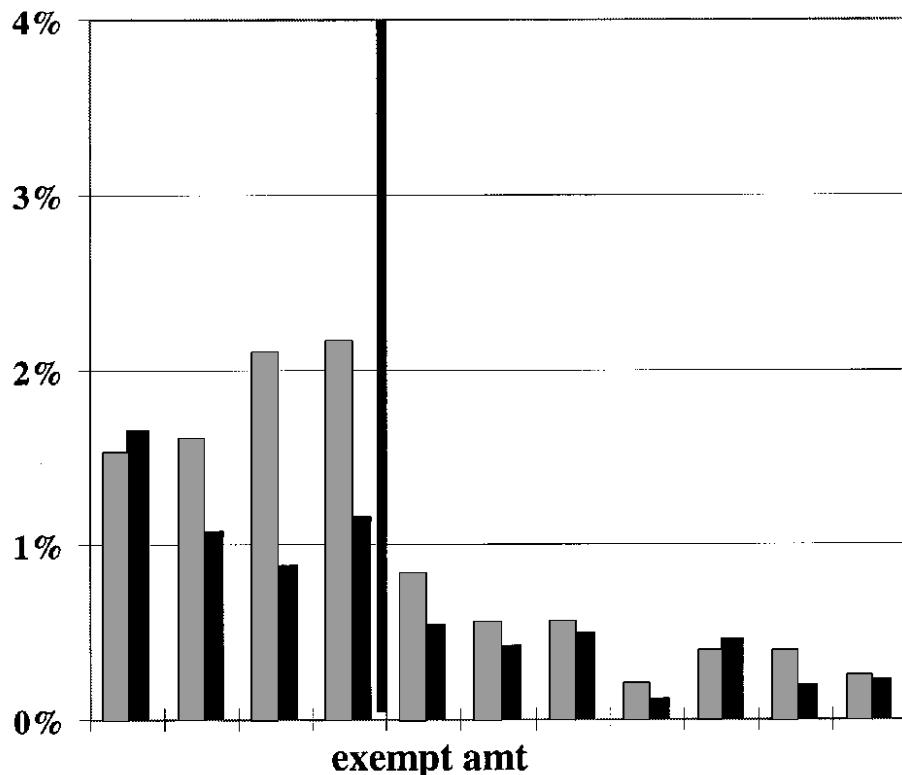
FIGURE 3-B.—EARNINGS DISTRIBUTION, 1980–81



Earnings in \$1000 intervals relative to the
exempt amount

■ Age 71-72 ■ Age 73-75

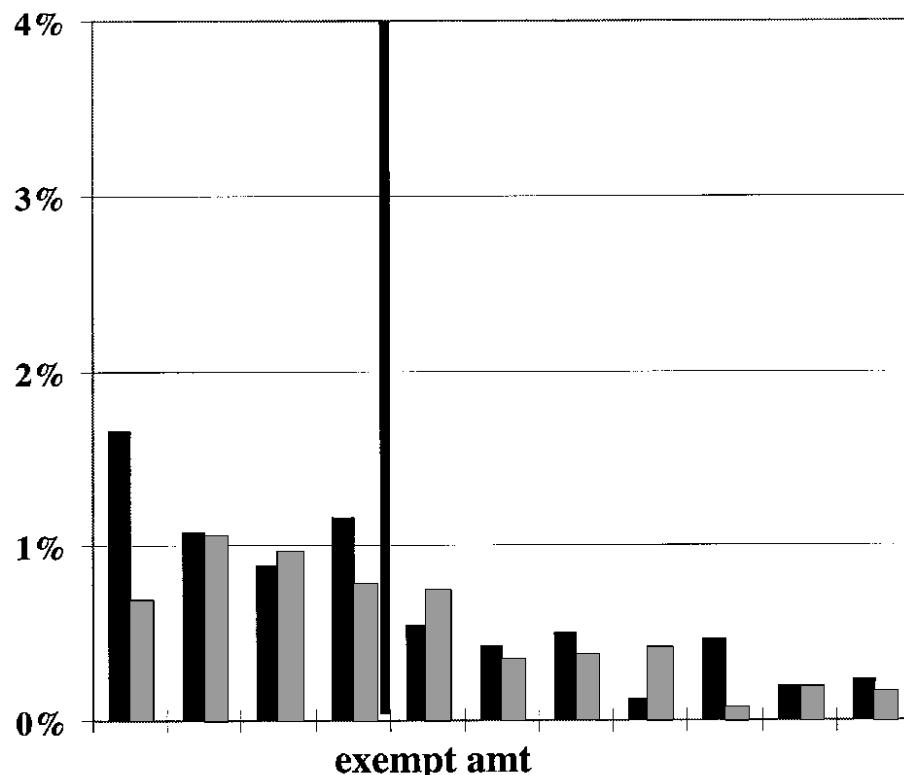
FIGURE 3-C.—EARNINGS DISTRIBUTION, 1984–86



Earnings in \$1000 intervals relative to the
exempt amount

■ Age 67-69 ■ Age 71-72

FIGURE 3-D.—EARNINGS DISTRIBUTION, 1984–86

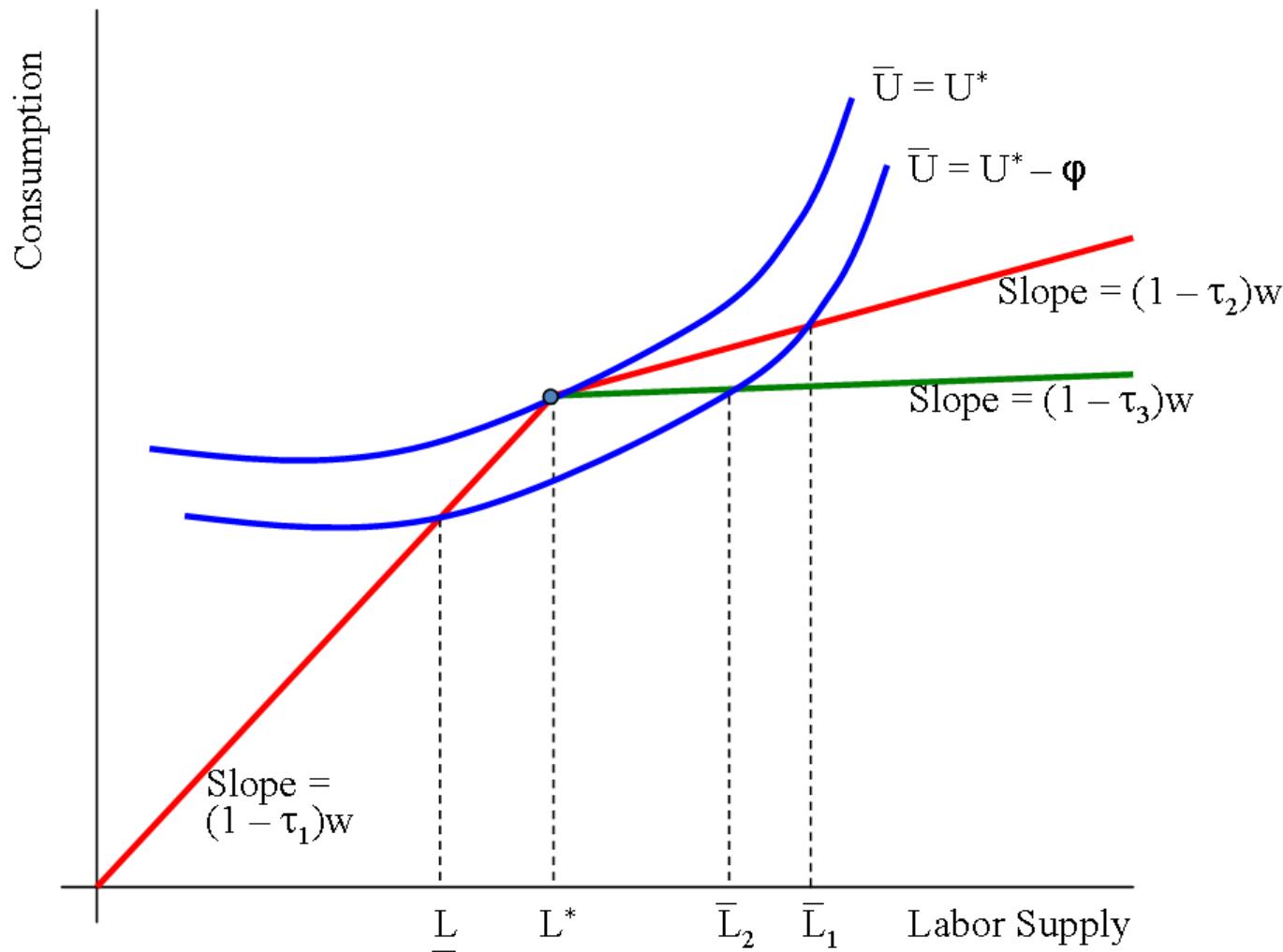


Earnings in \$1000 intervals relative to the
exempt amount

■ Age 71-72 ■ Age 73-75

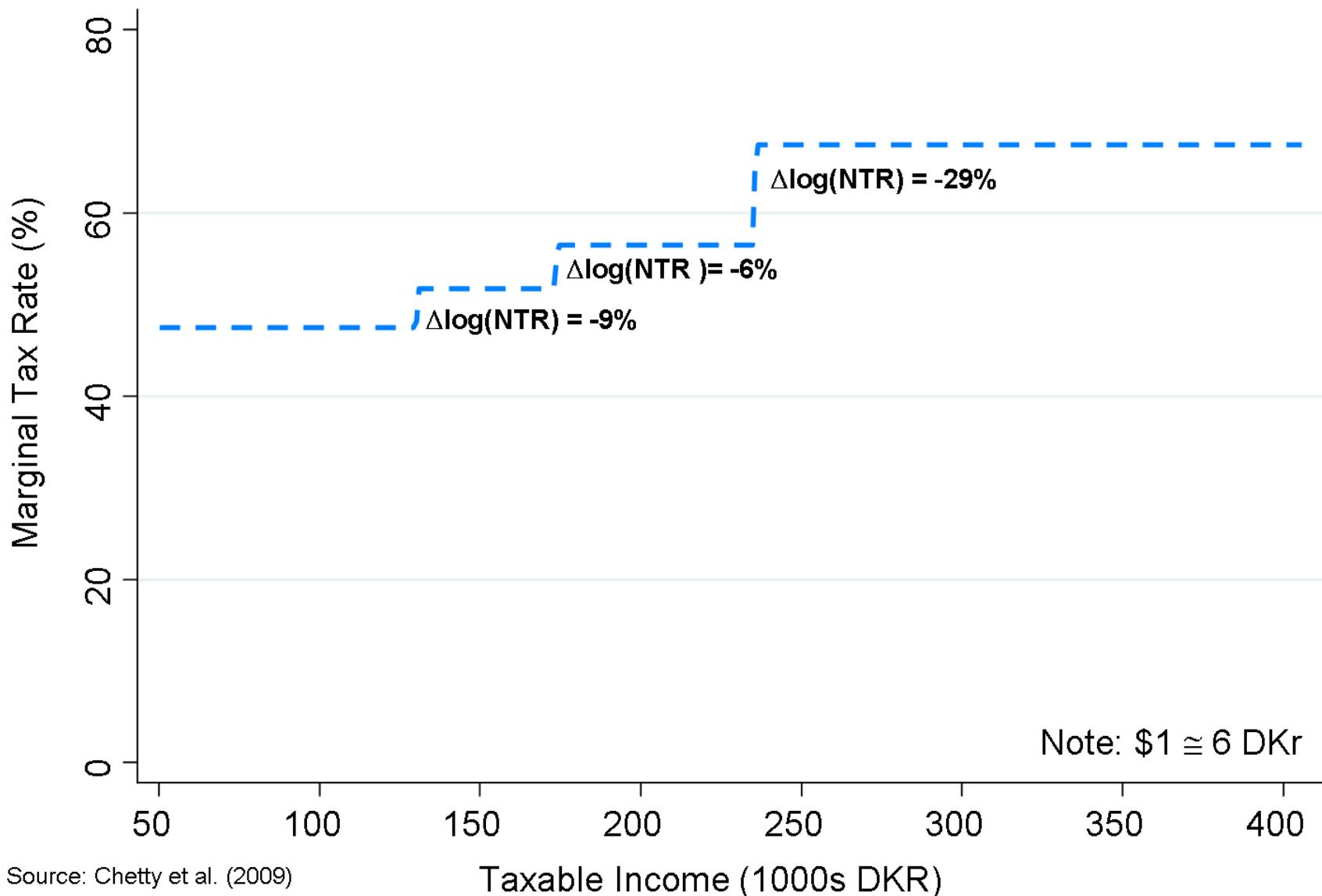
Note: In 1983 the earnings test was eliminated for 70-71 year olds (71-72 year olds in the following March CPS) but was not changed for 62-69 year olds. See Figure 2 note.

Cost of Bunching at Bracket Cutoff Points in Tax Schedule

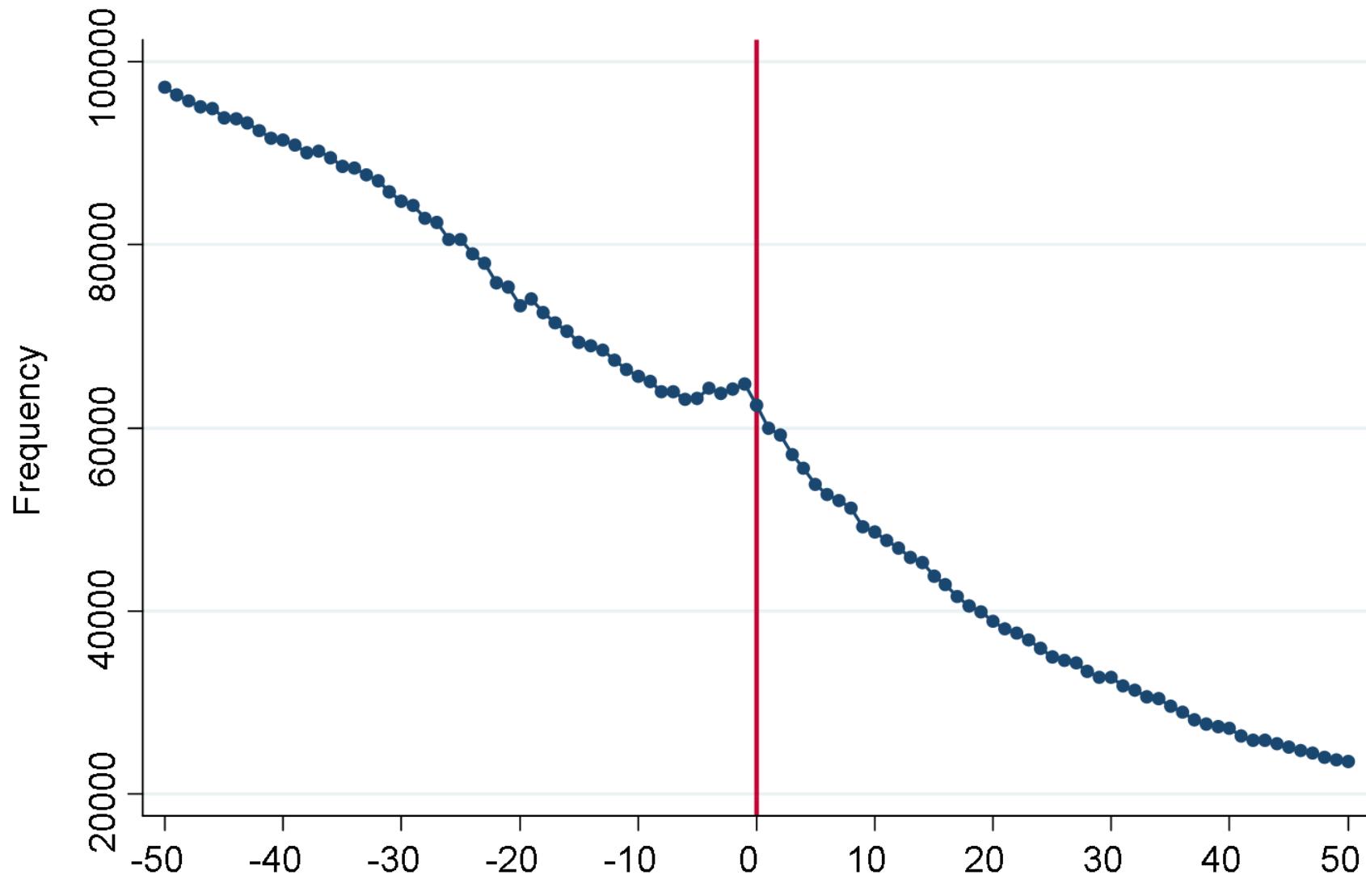


Source: Chetty et al. (2009)

Marginal Tax Rates in Denmark in 1995



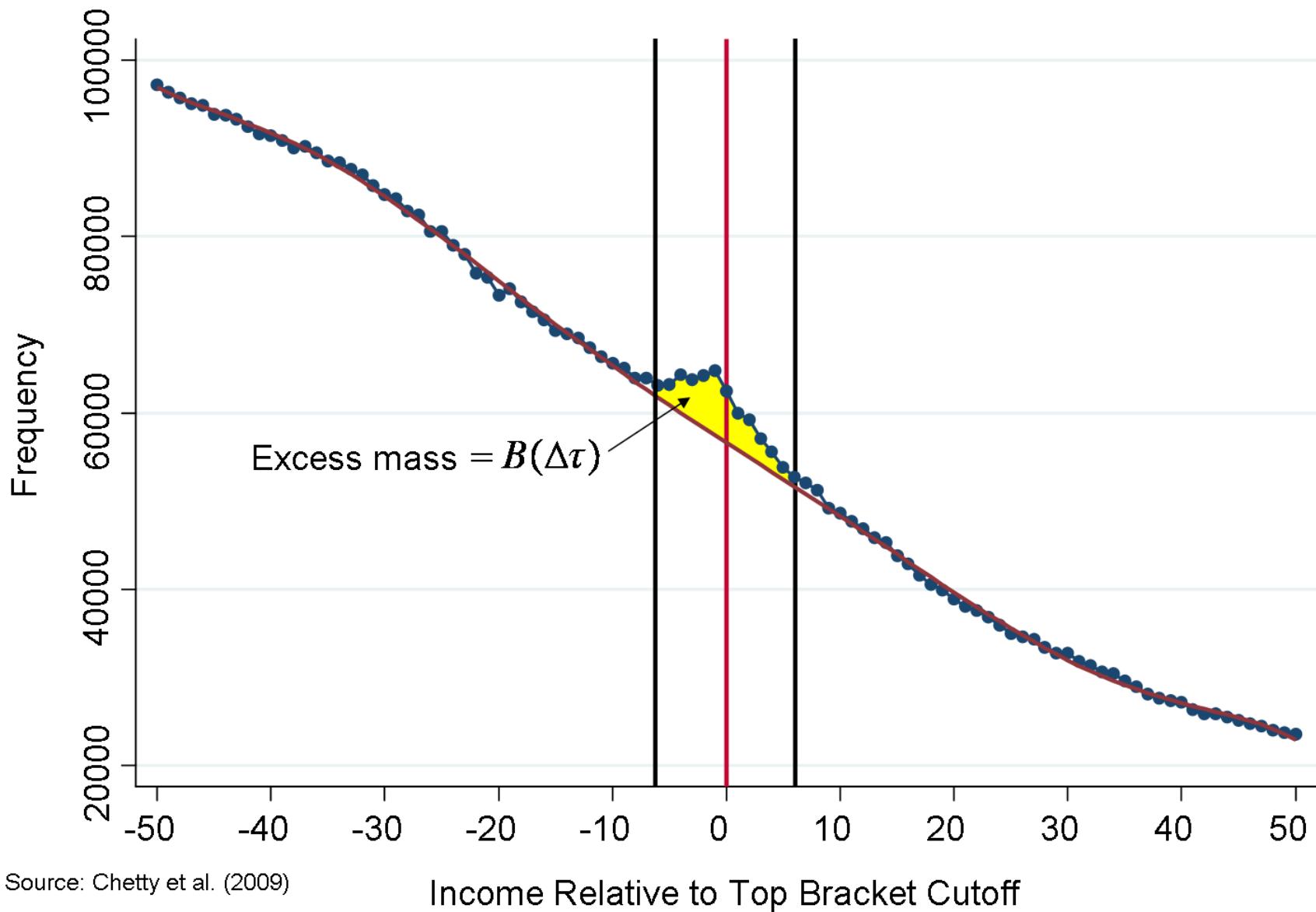
Income Distribution for Wage Earners Around Top Kink (1994-2001)



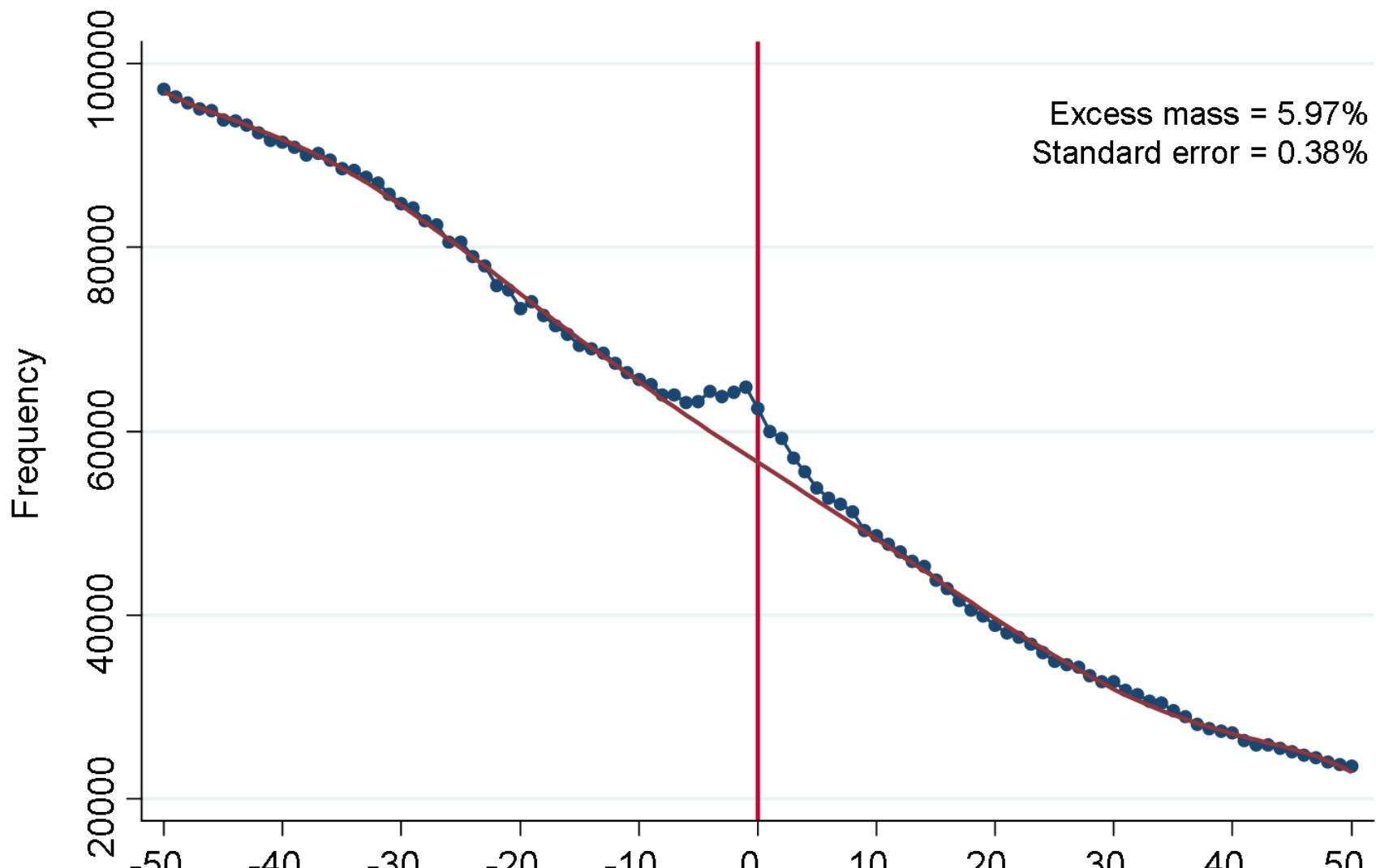
Source: Chetty et al. (2009)

Income Relative to Top Bracket Cutoff

Income Distribution for Wage Earners Around Top Kink (1994-2001)



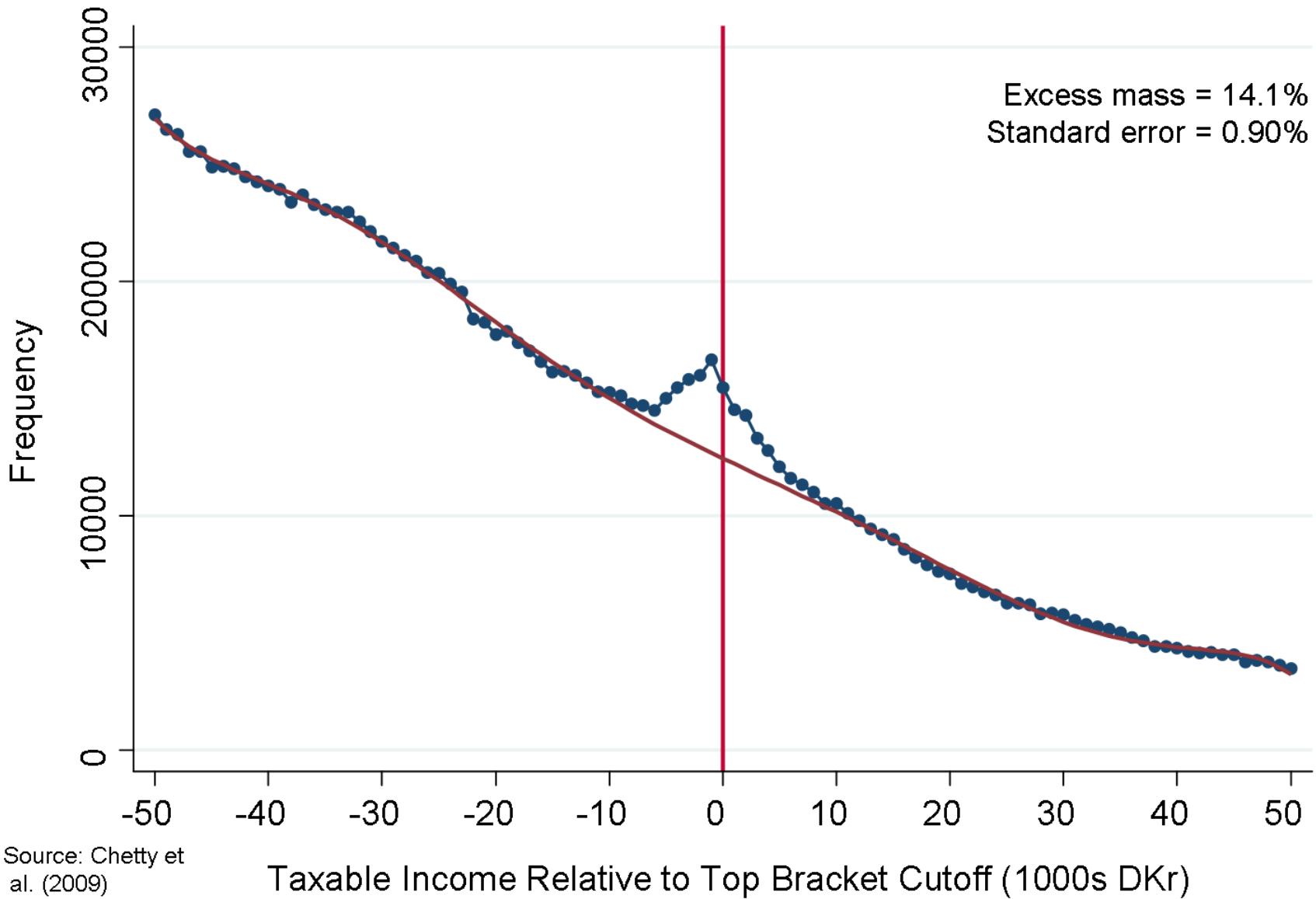
Income Distribution for Wage Earners Around Top Kink (1994-2001)



Source: Chetty et al. (2009)

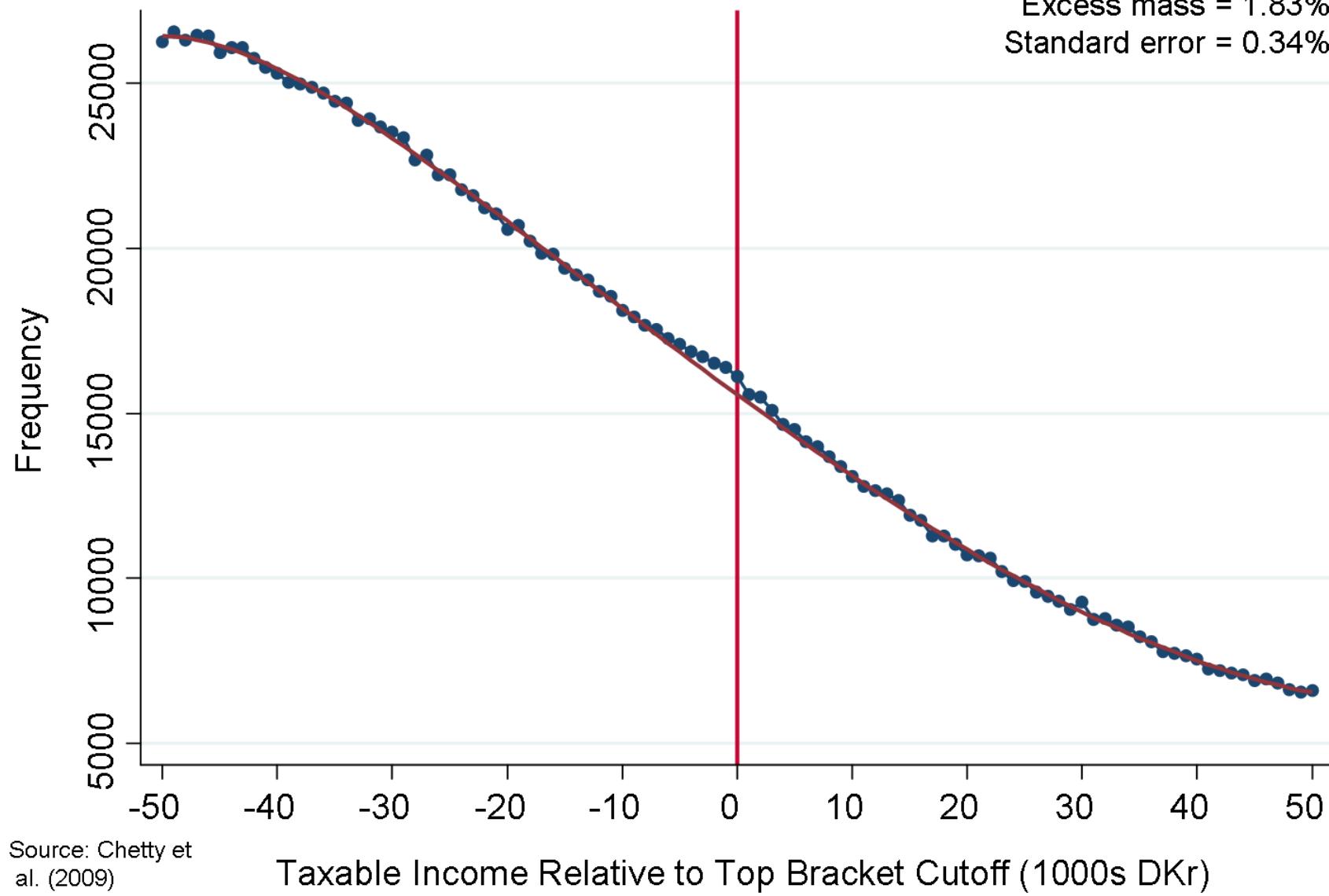
Taxable Income Relative to Top Bracket Cutoff (1000s DKr)

Married Women

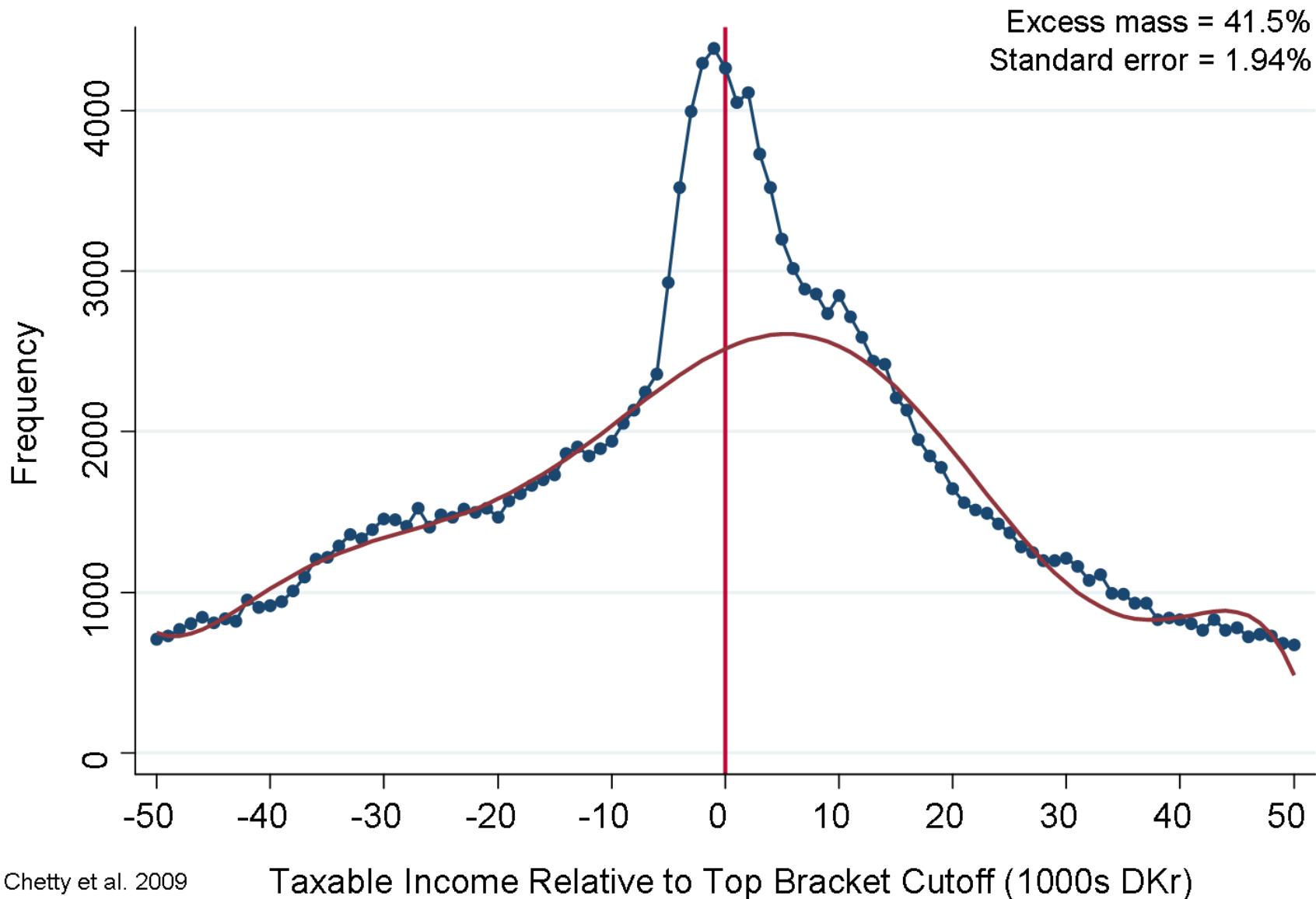


Single Men

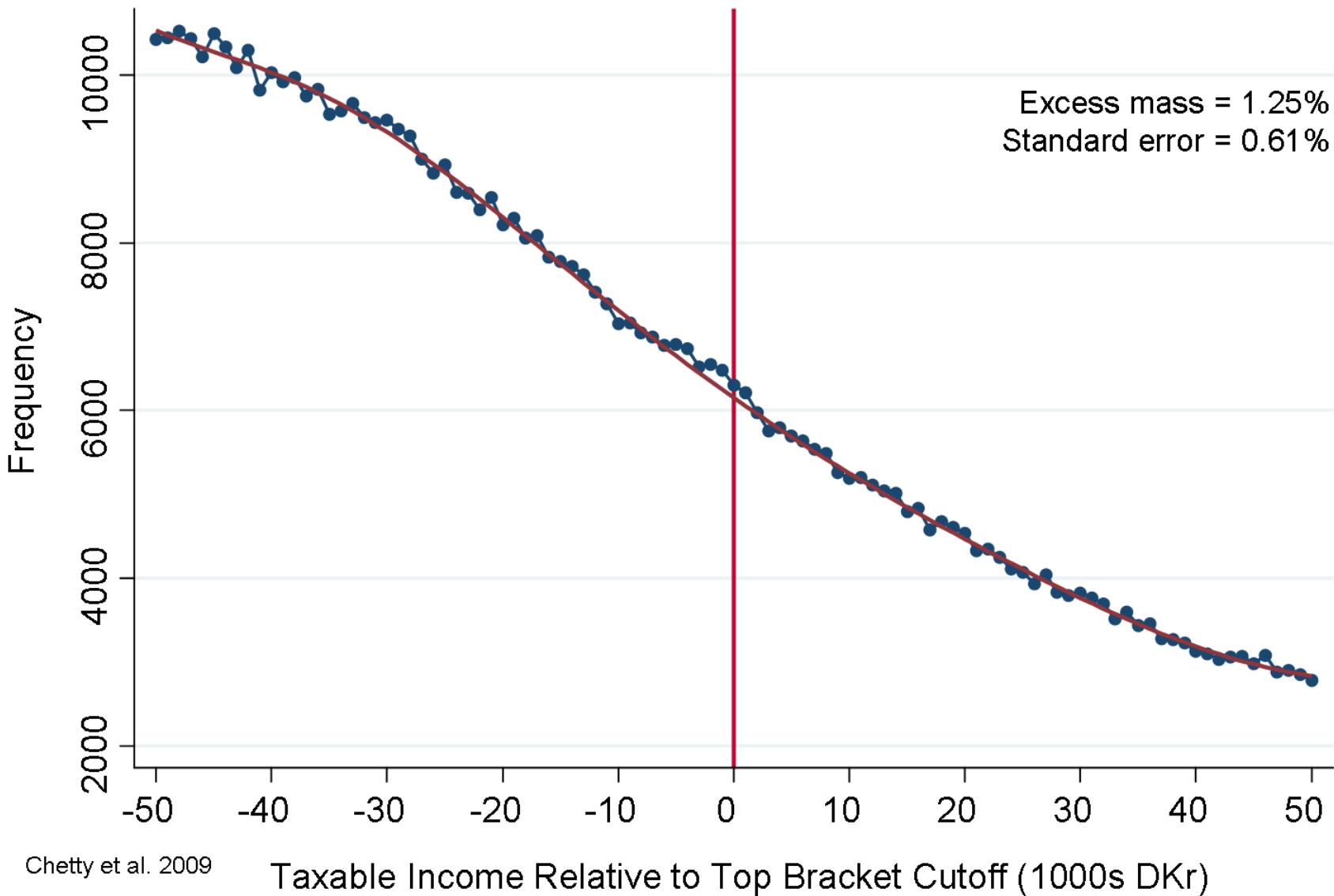
Excess mass = 1.83%
Standard error = 0.34%



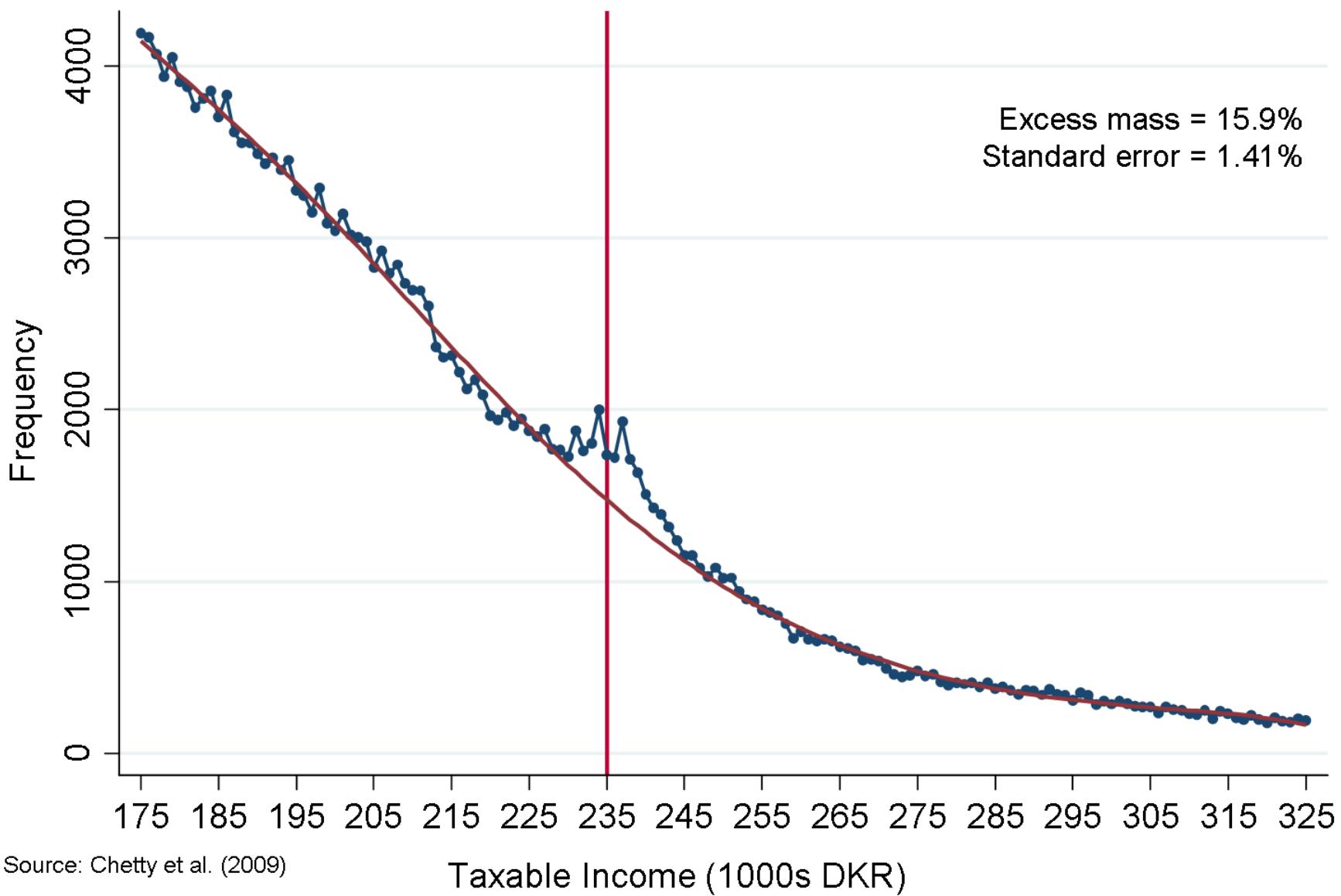
Married Female Professionals with Above Median Experience



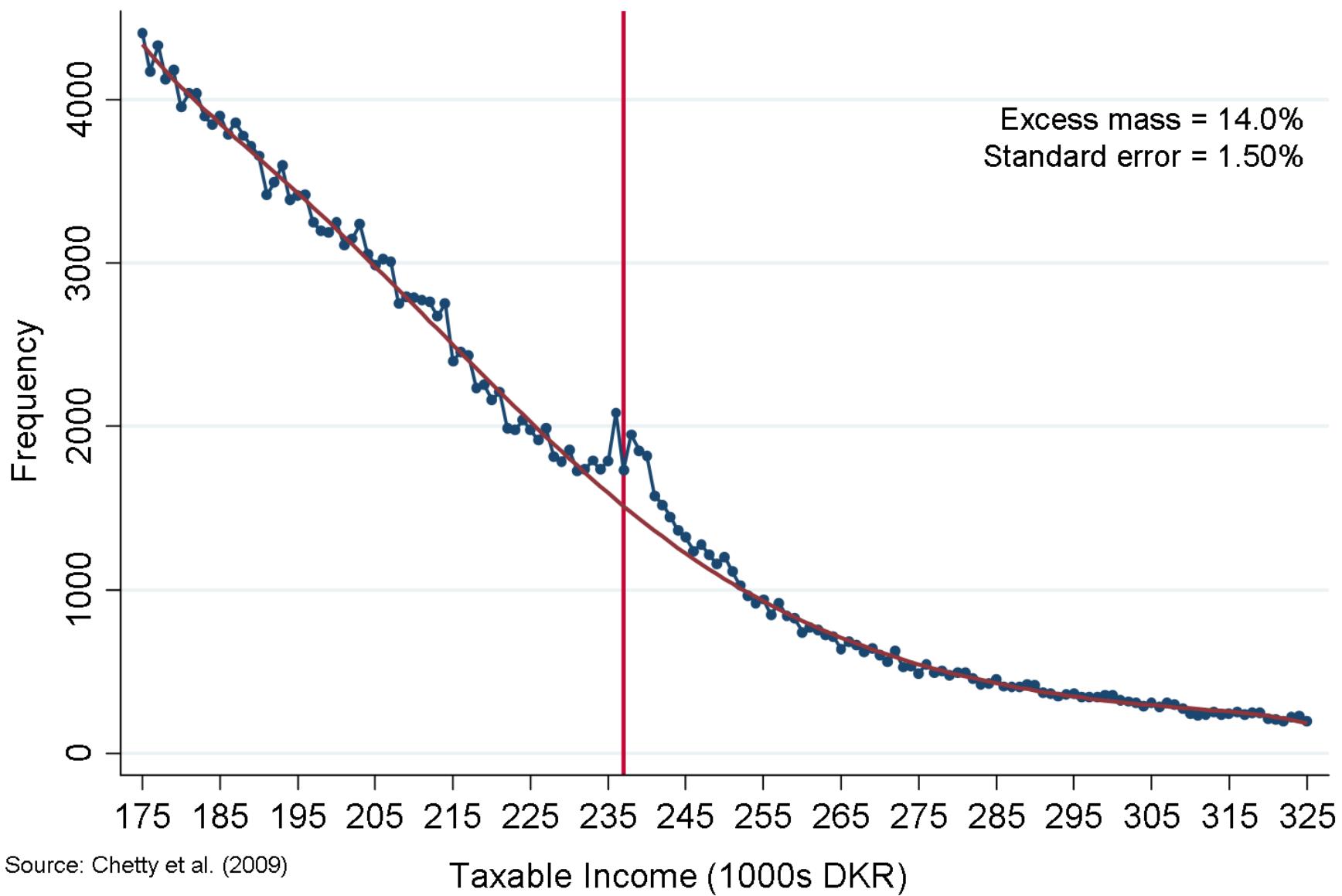
Military



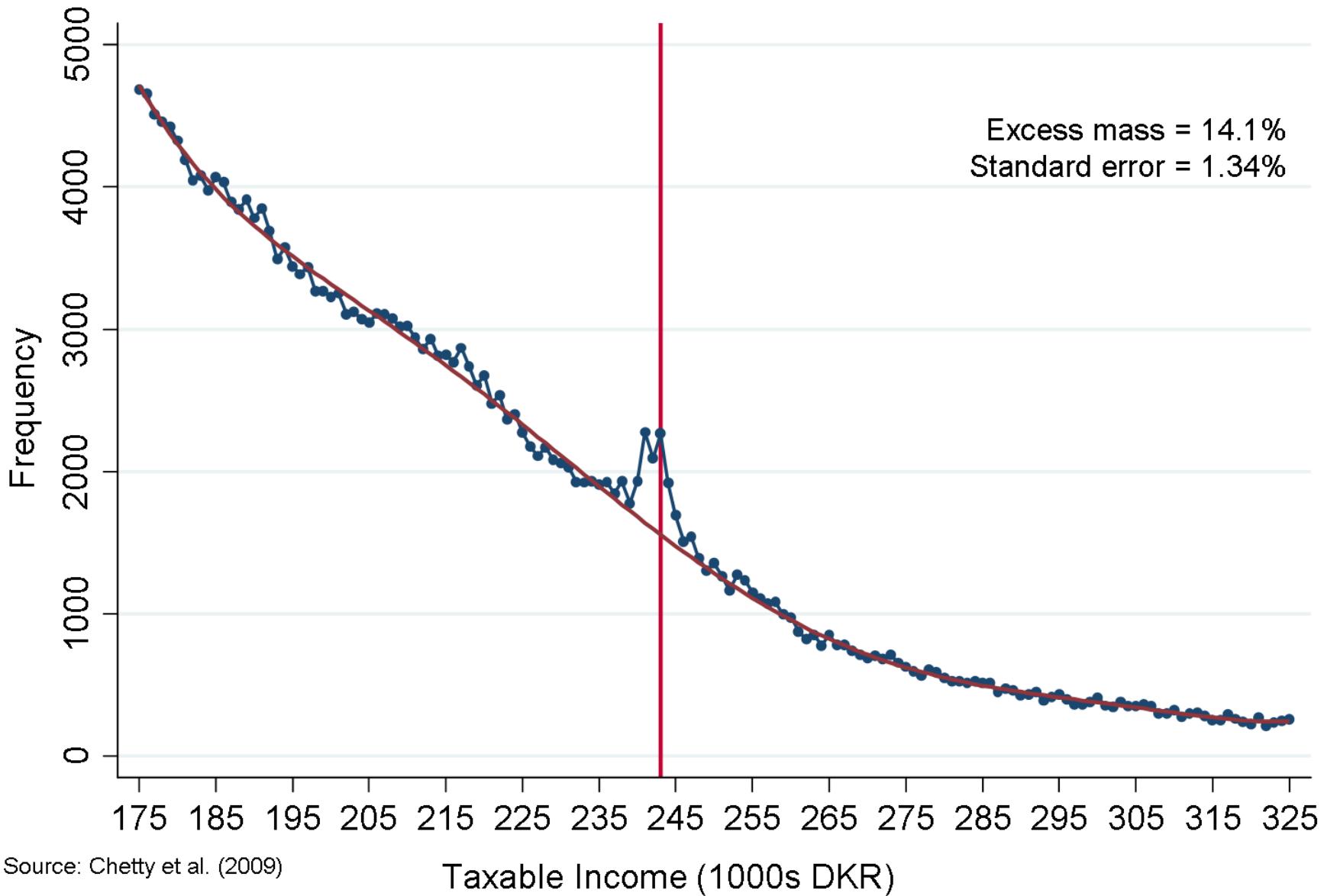
Married Women, 1994



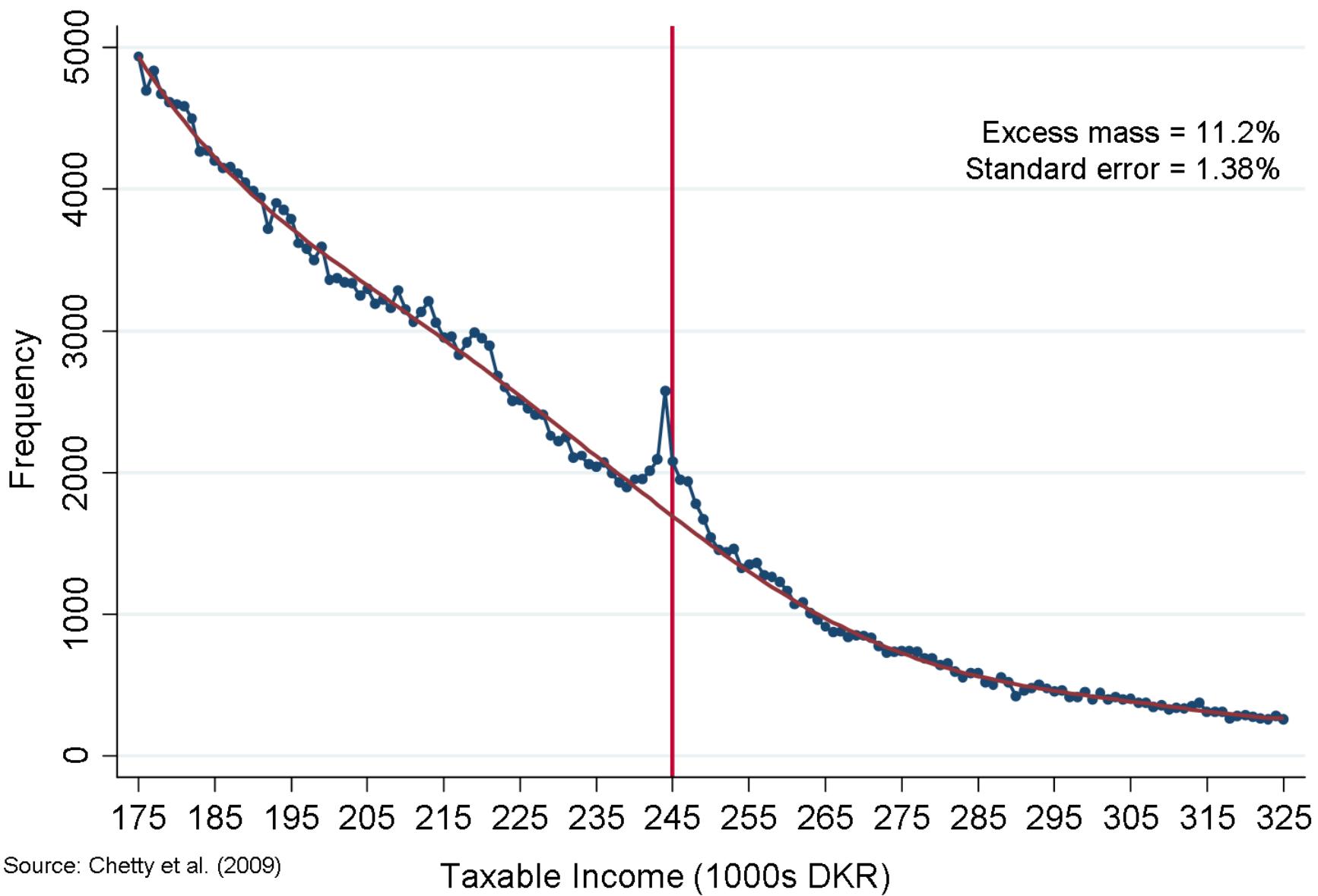
Married Women, 1995



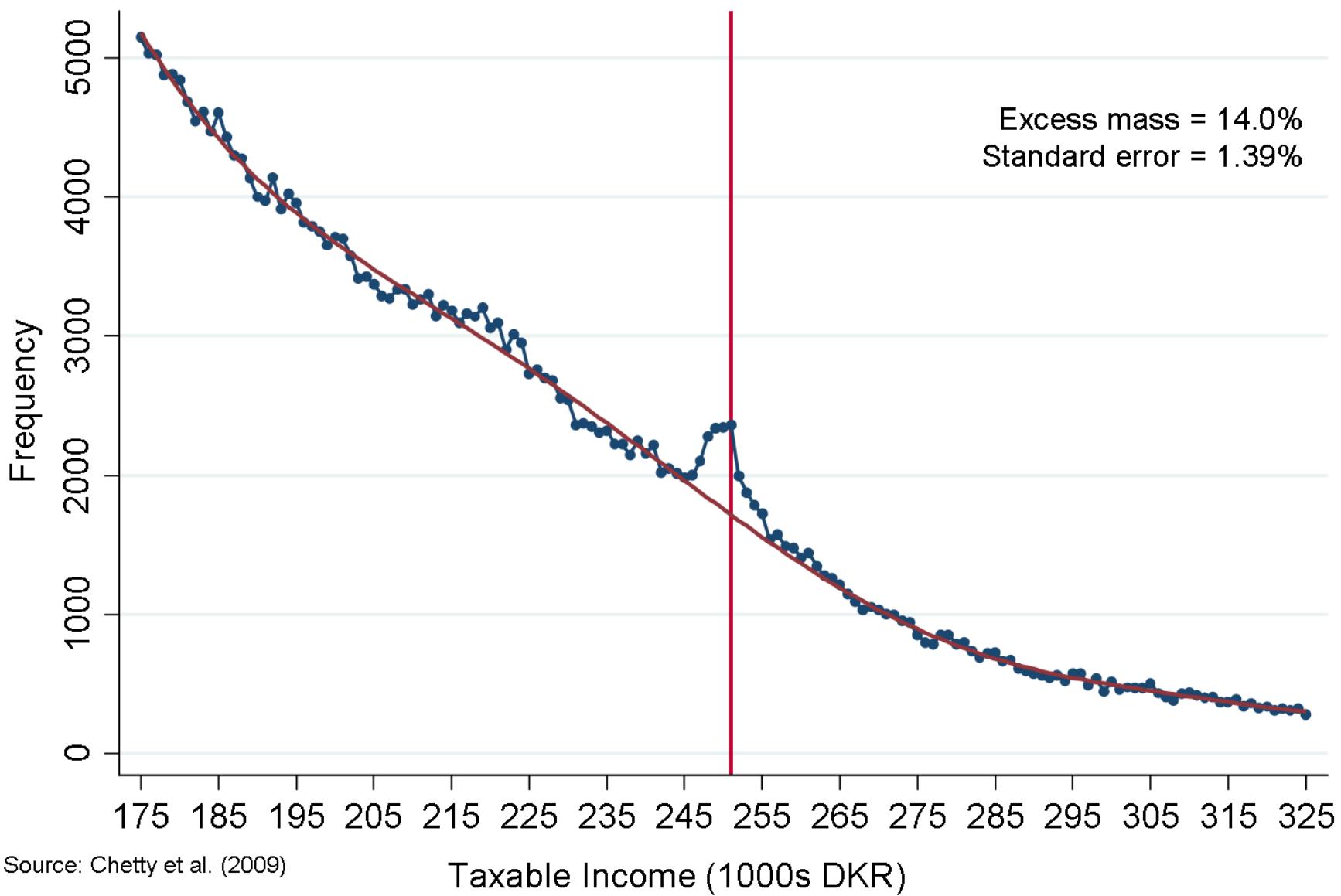
Married Women, 1996



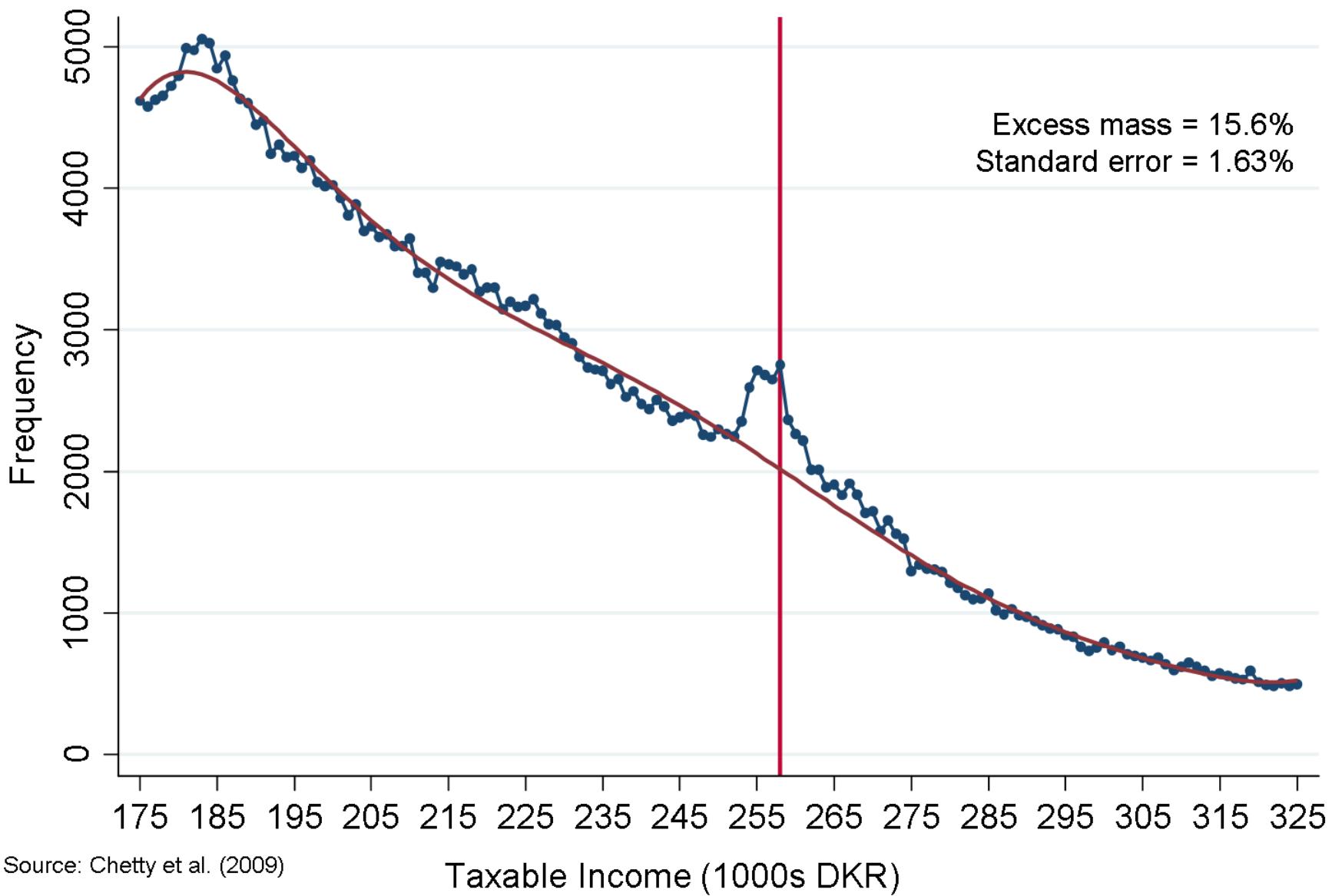
Married Women, 1997



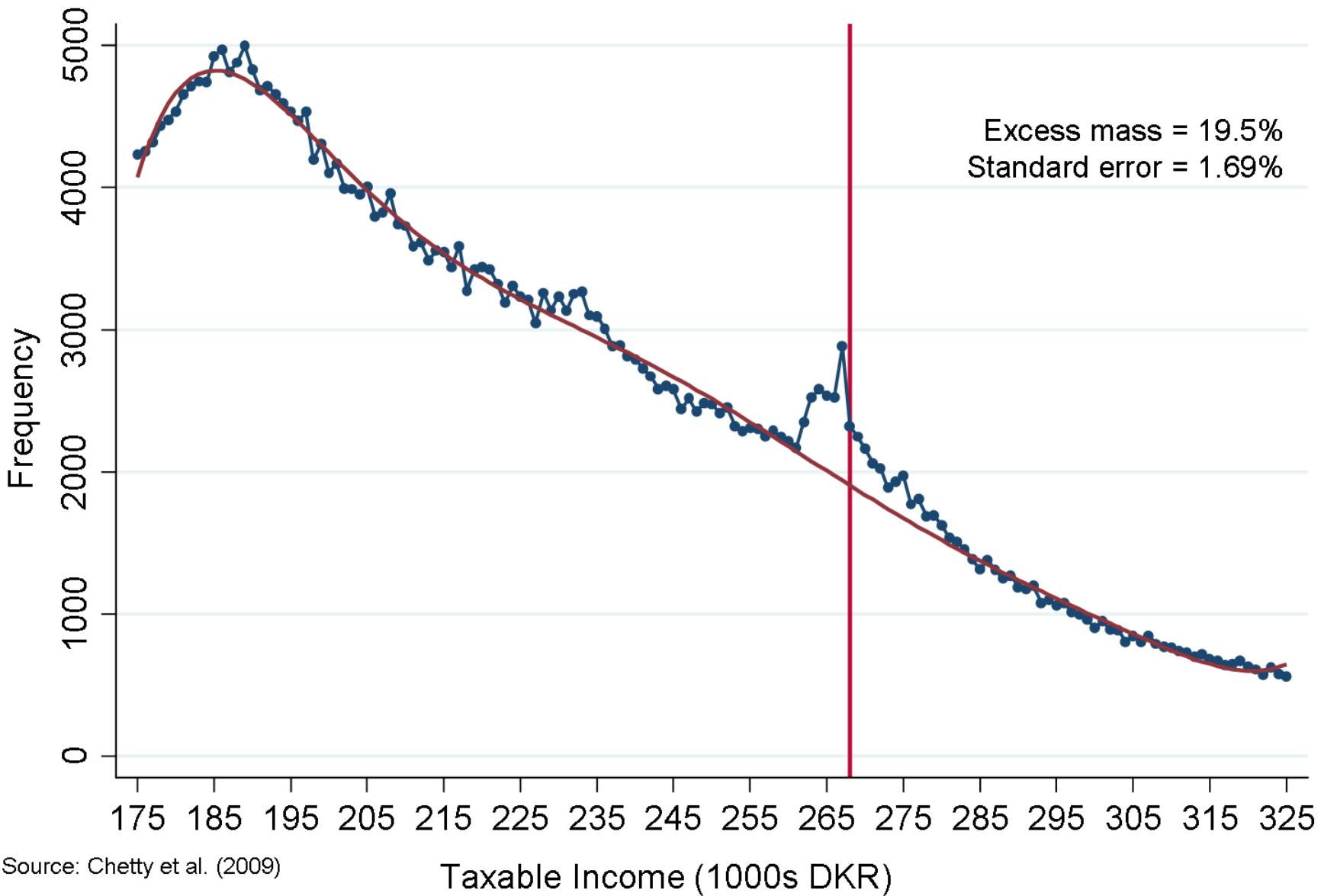
Married Women, 1998



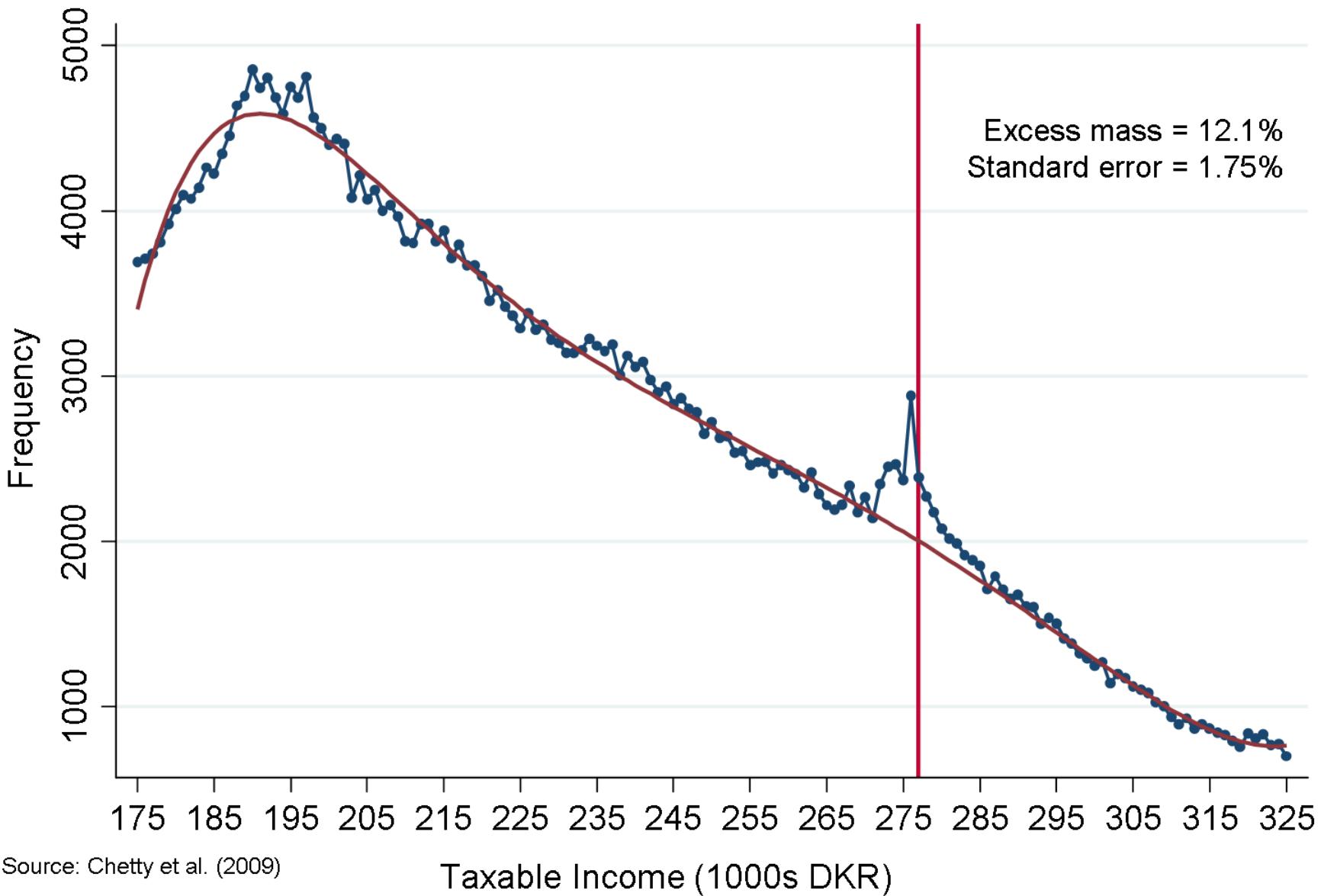
Married Women, 1999



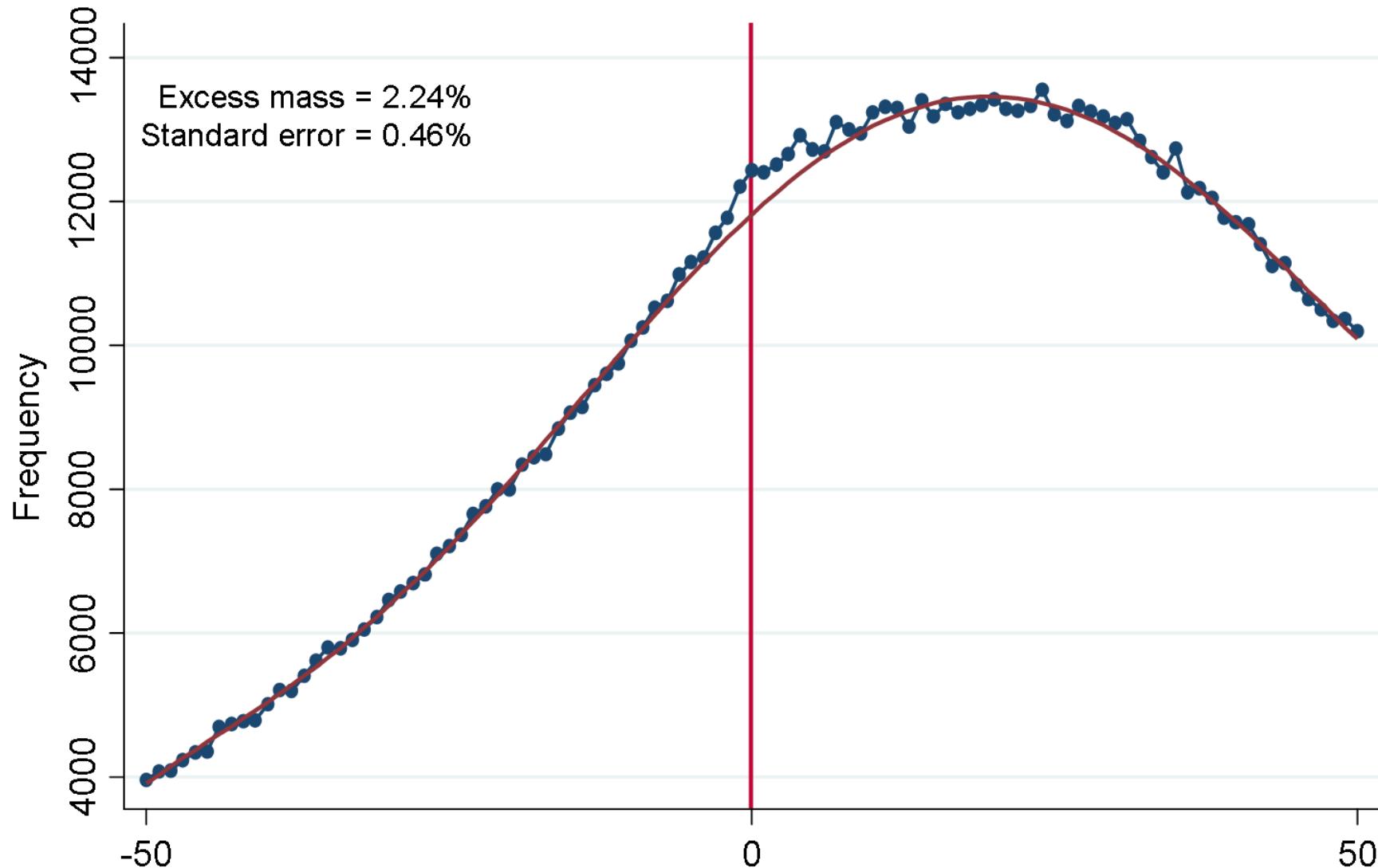
Married Women, 2000



Married Women, 2001



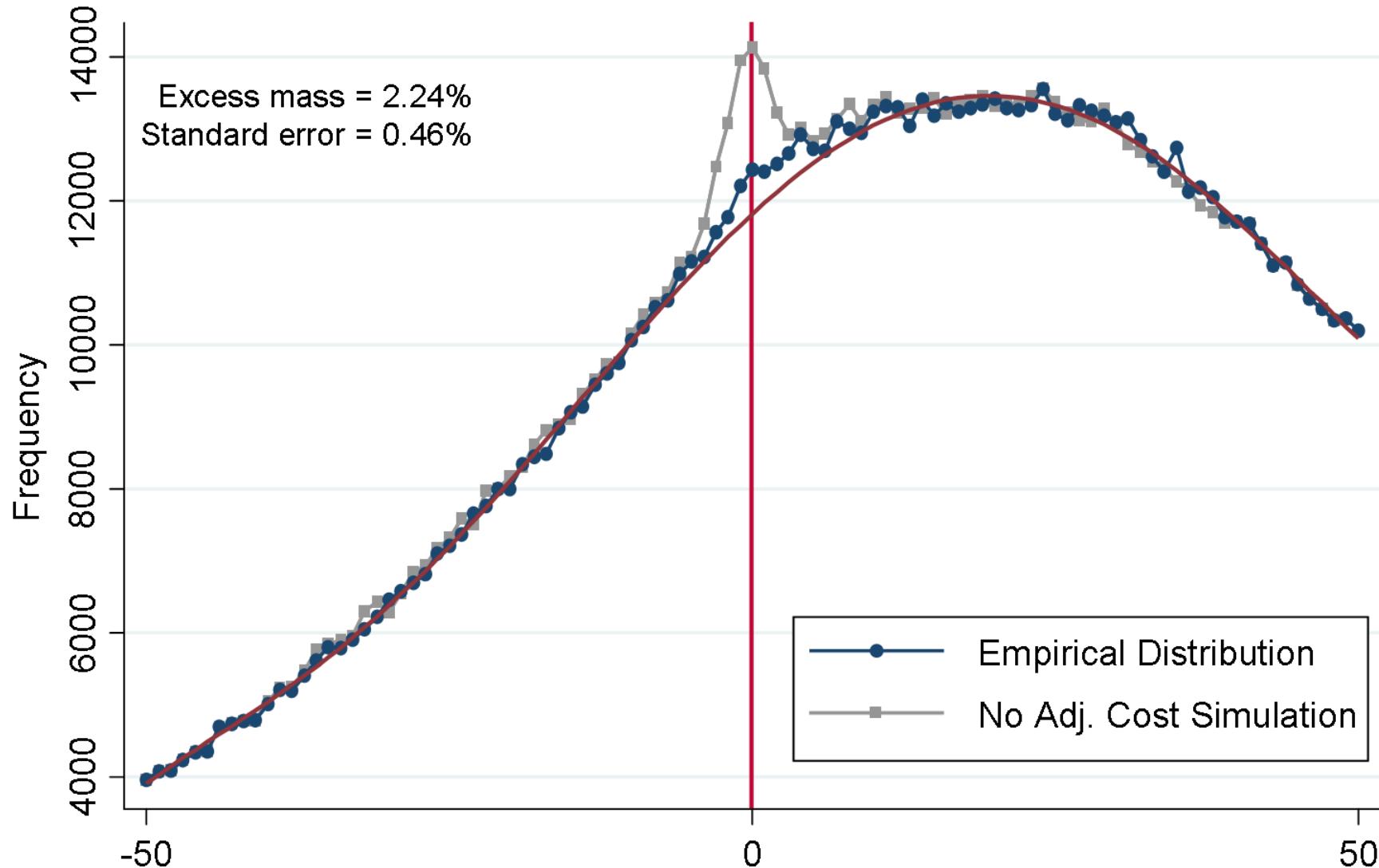
Married Women at the Middle Tax: 10% Tax Kink



Source: Chetty et
al. (2009)

Taxable Income Relative to Top Bracket Cutoff (1000s DKK)

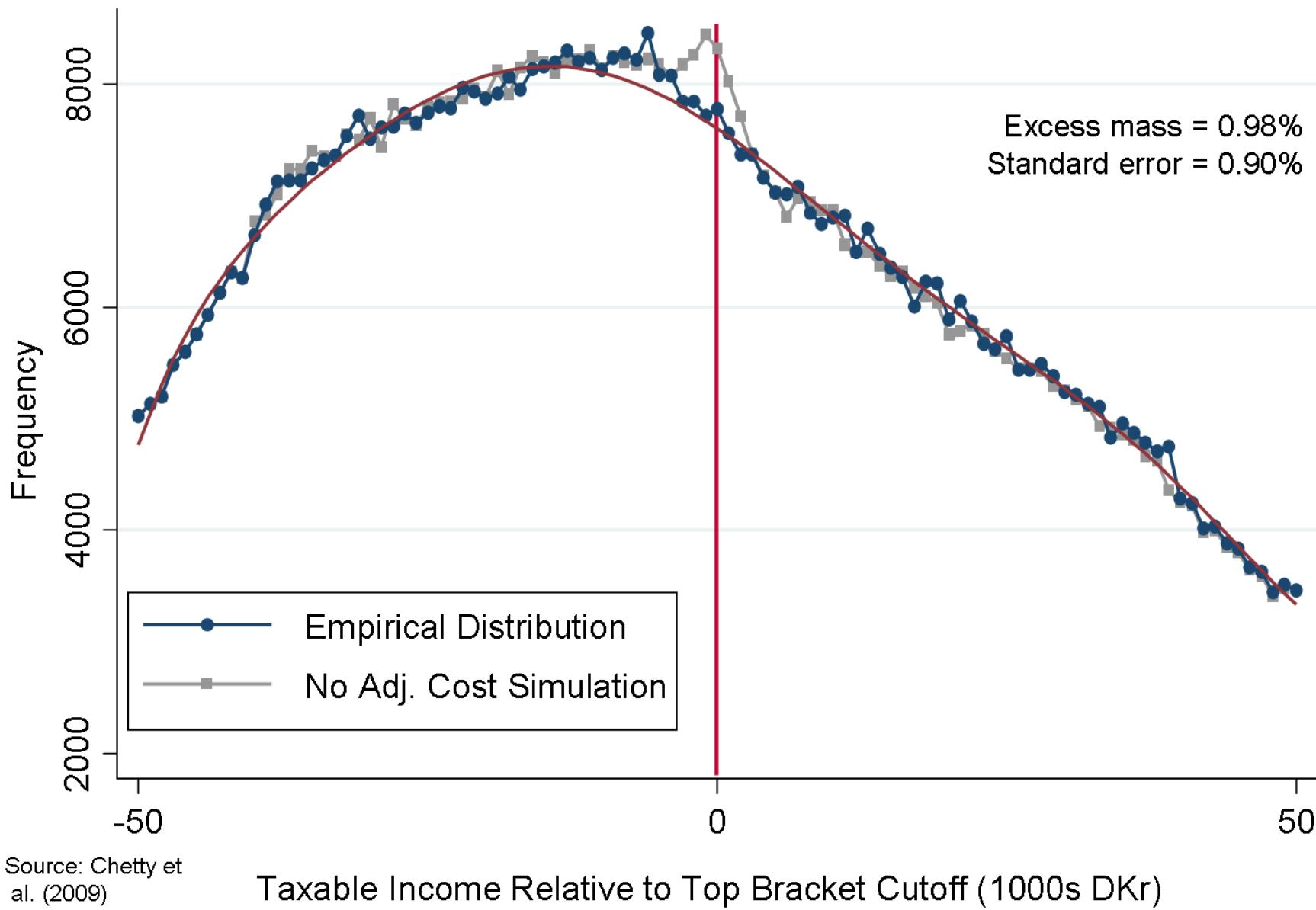
Married Women at the Middle Tax: 10% Tax Kink



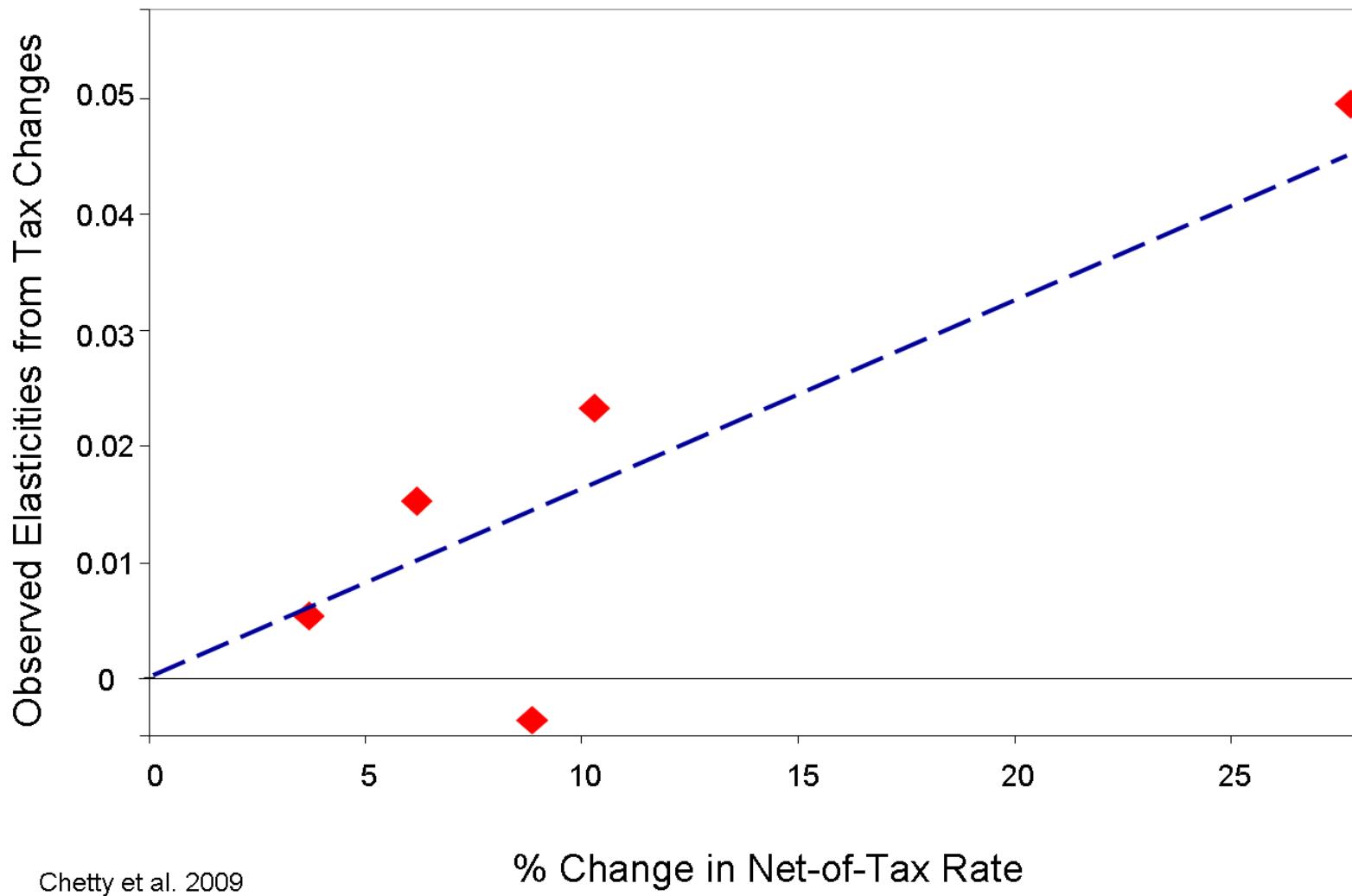
Source: Chetty et al. (2009)

Taxable Income Relative to Top Bracket Cutoff (1000s DKr)

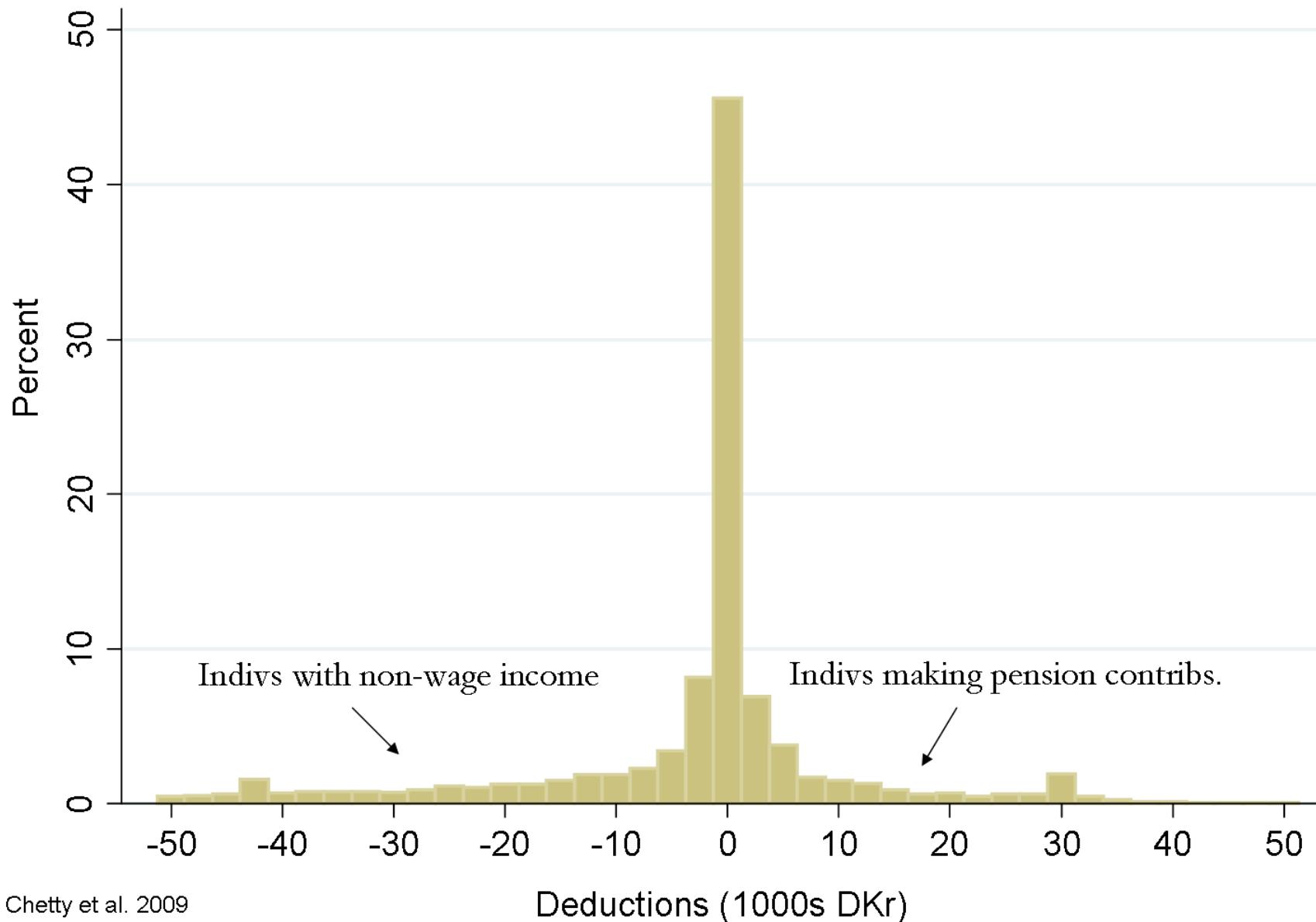
Married Women at the Middle Tax: 6% Tax Kink



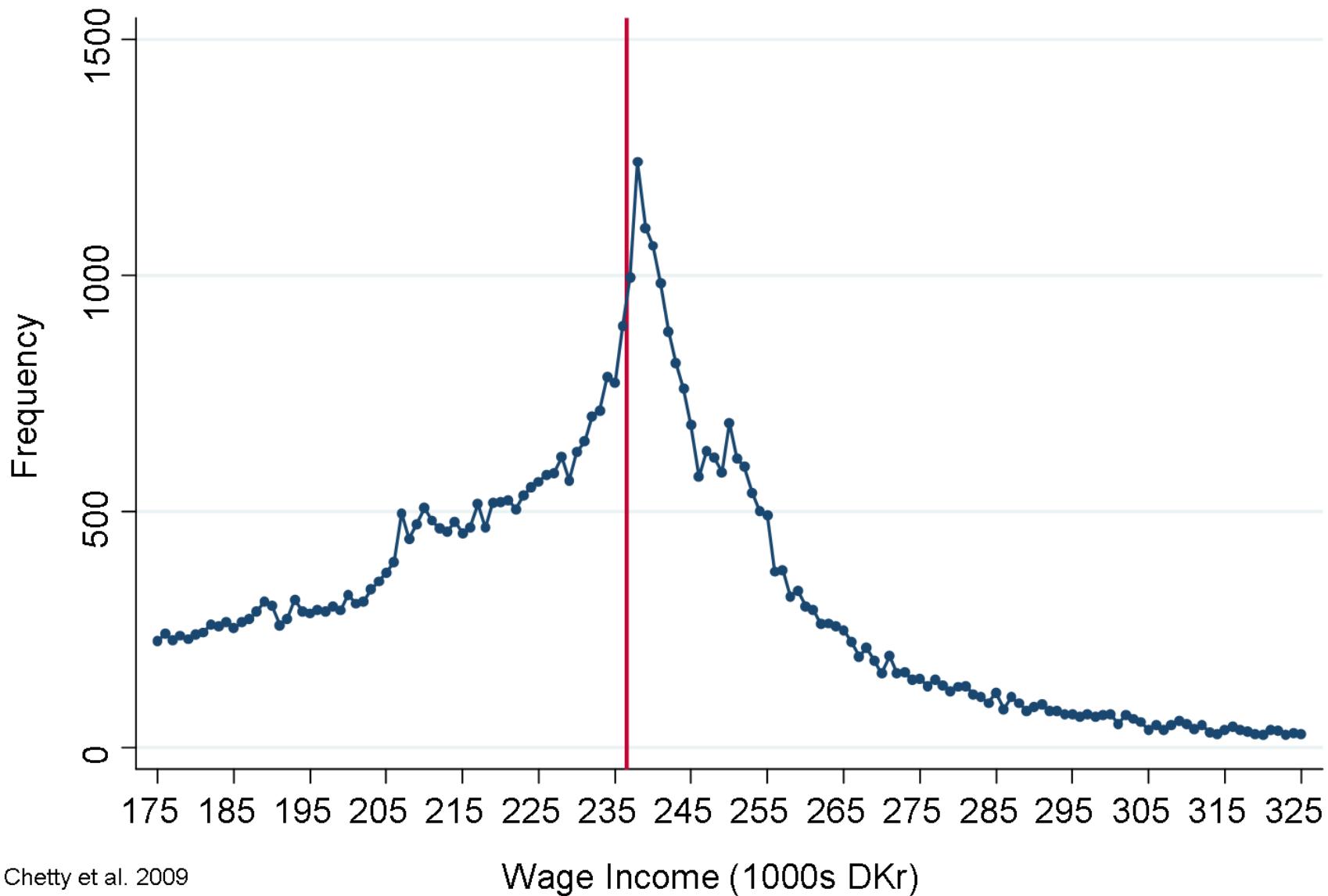
Observed Elasticity vs. Size of Tax Change Married Female Wage Earners



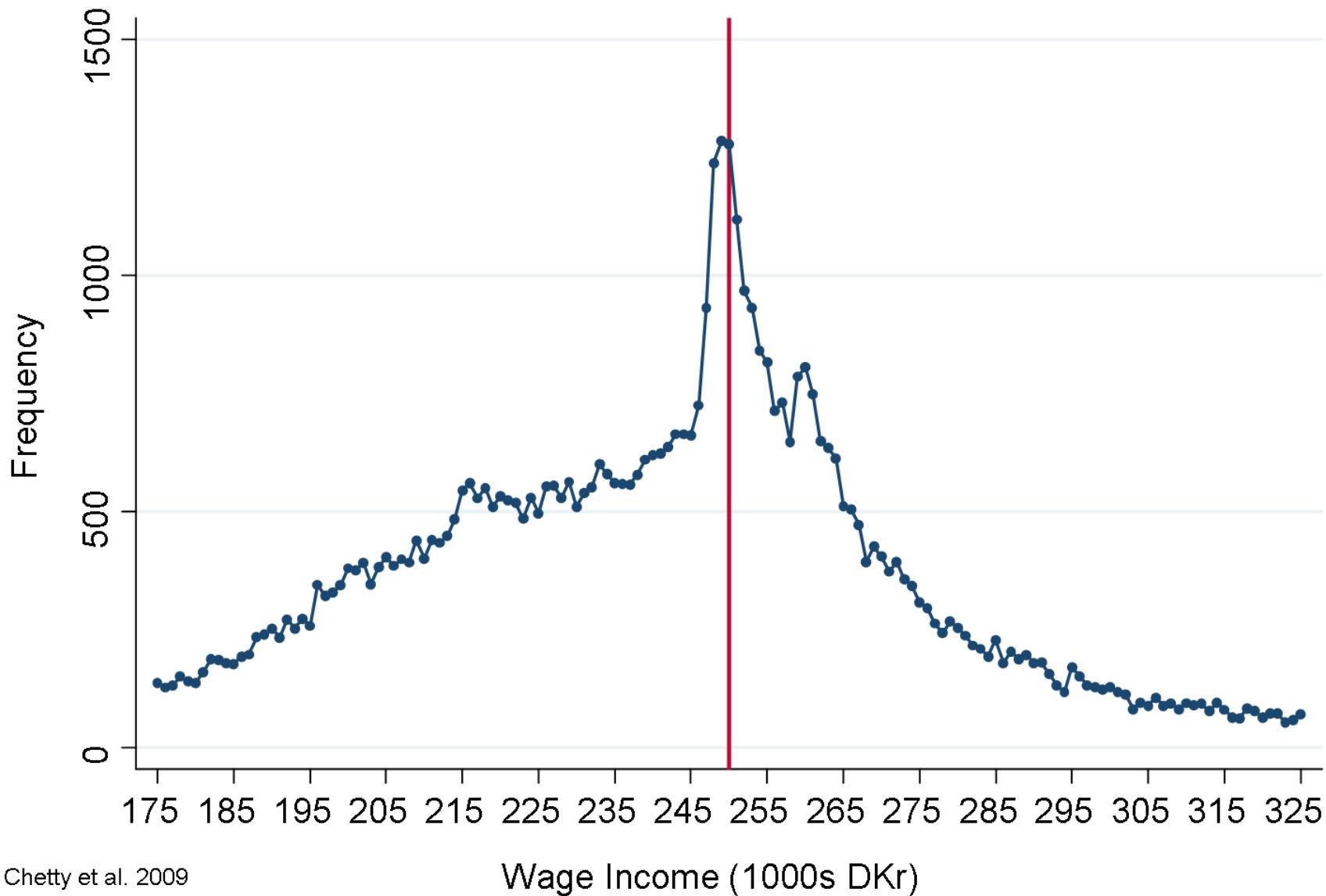
Distribution of Individuals' Deductions in 1995



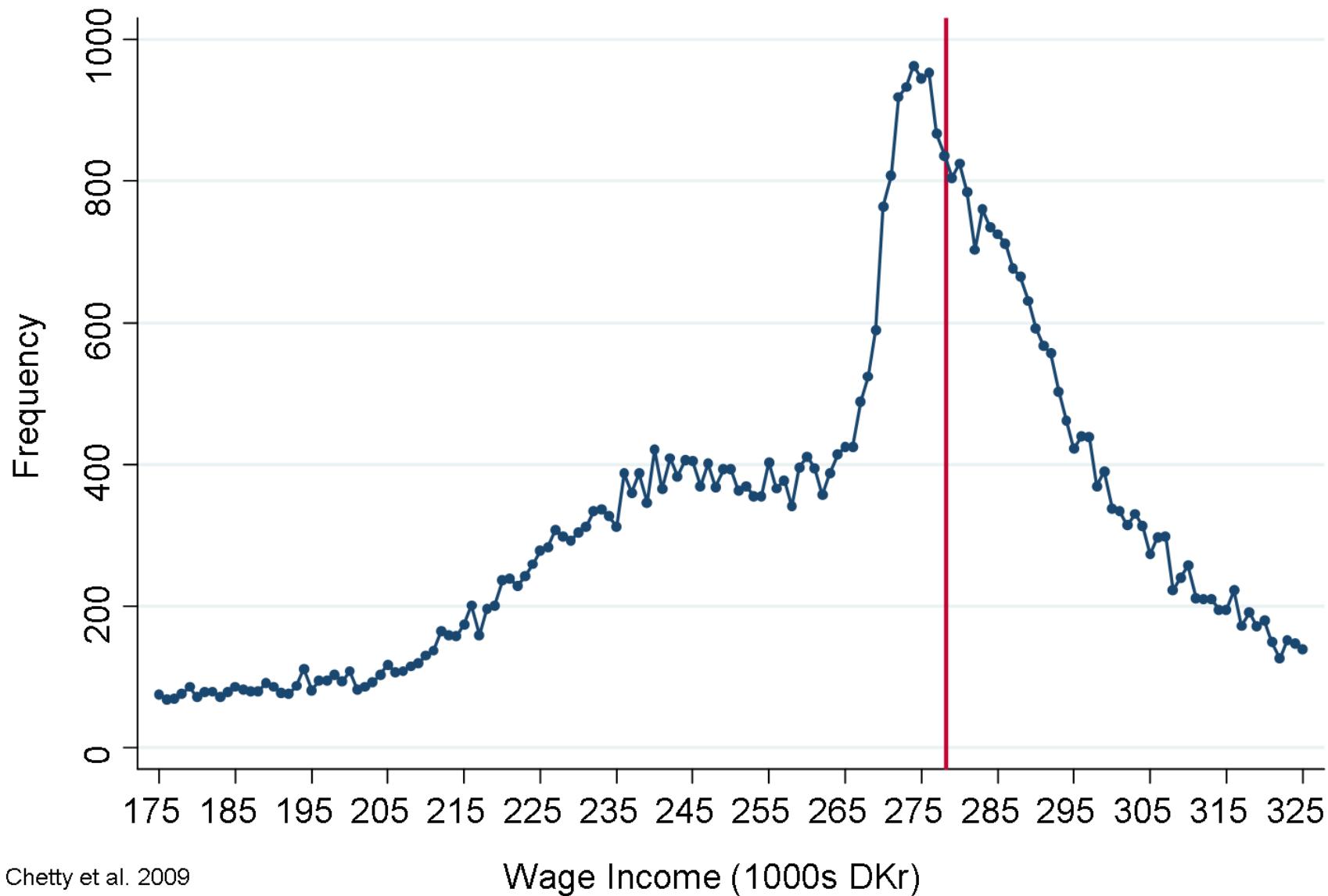
Teachers Wage Earnings: 1995



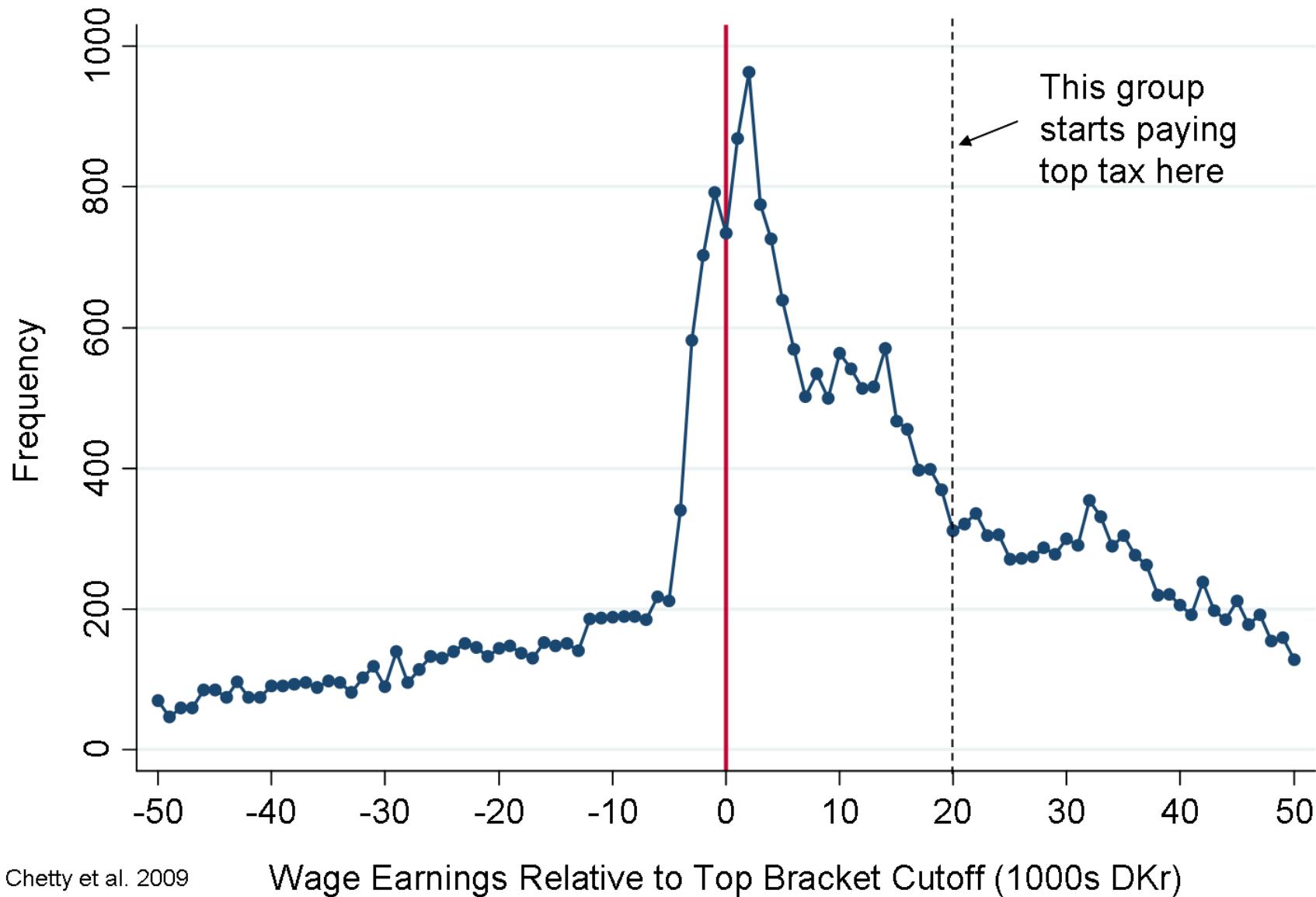
Teachers Wage Earnings: 1998



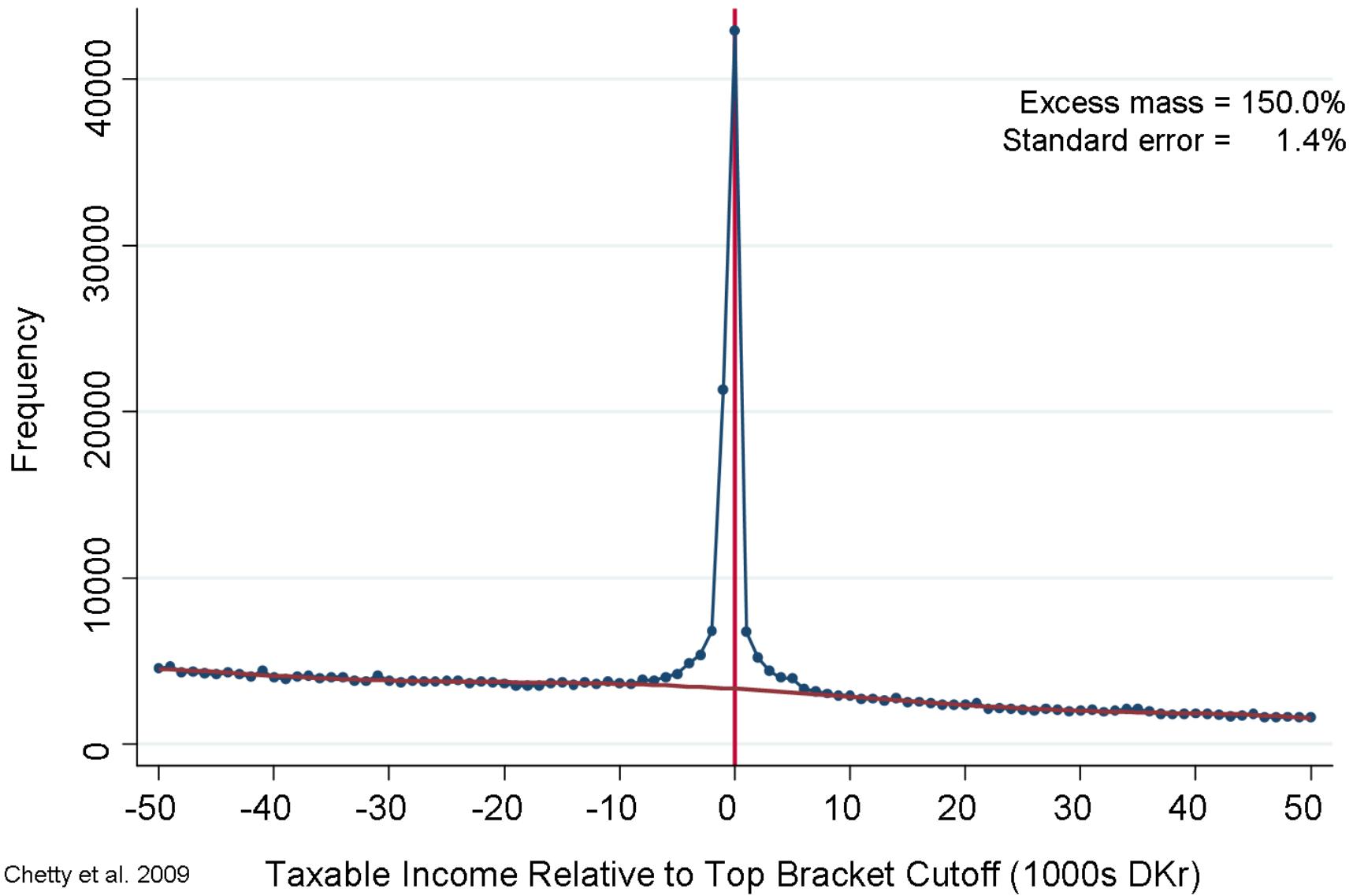
Teachers Wage Earnings: 2001



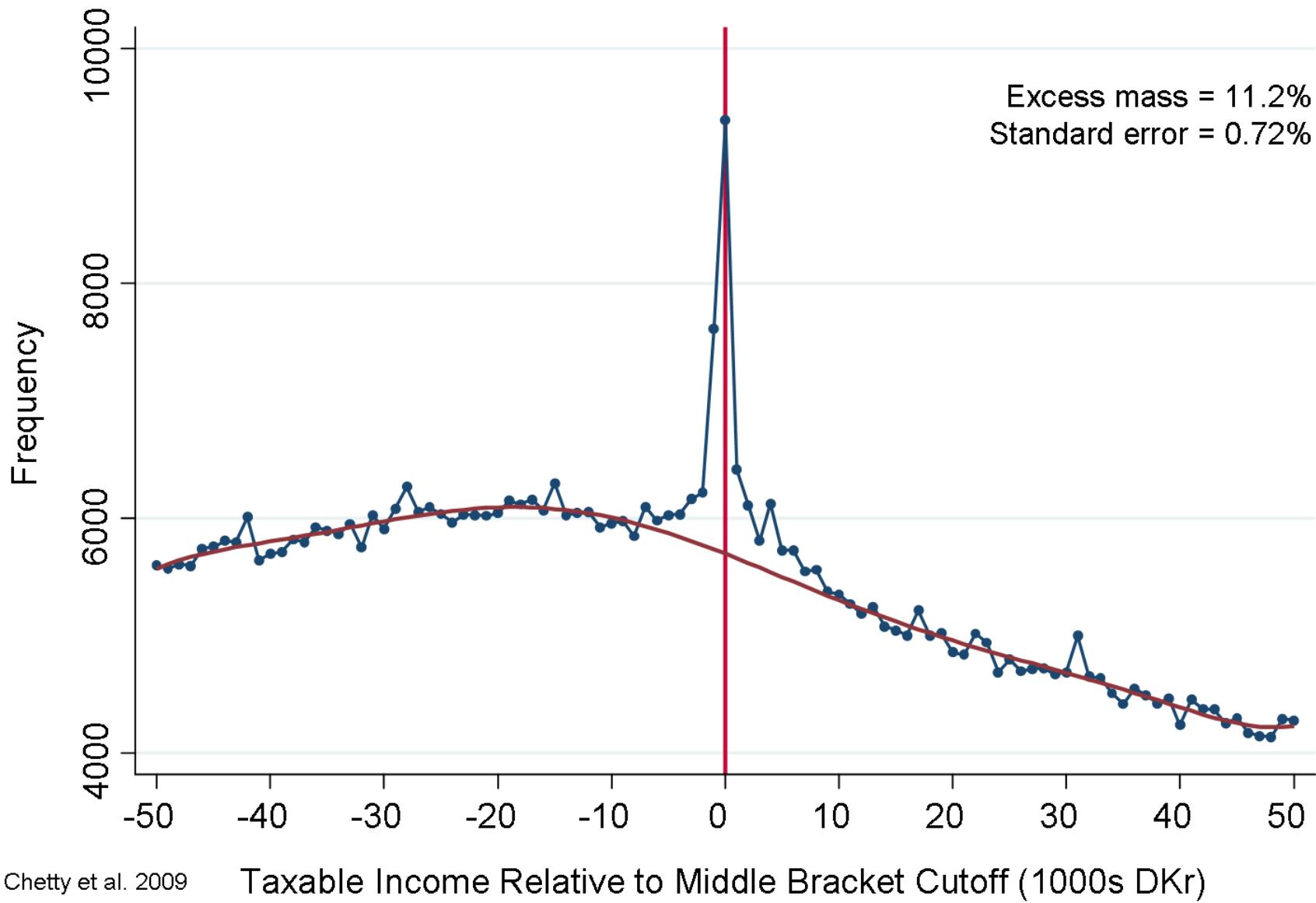
Wage Earnings: Teachers with Deductions > DKr 20,000



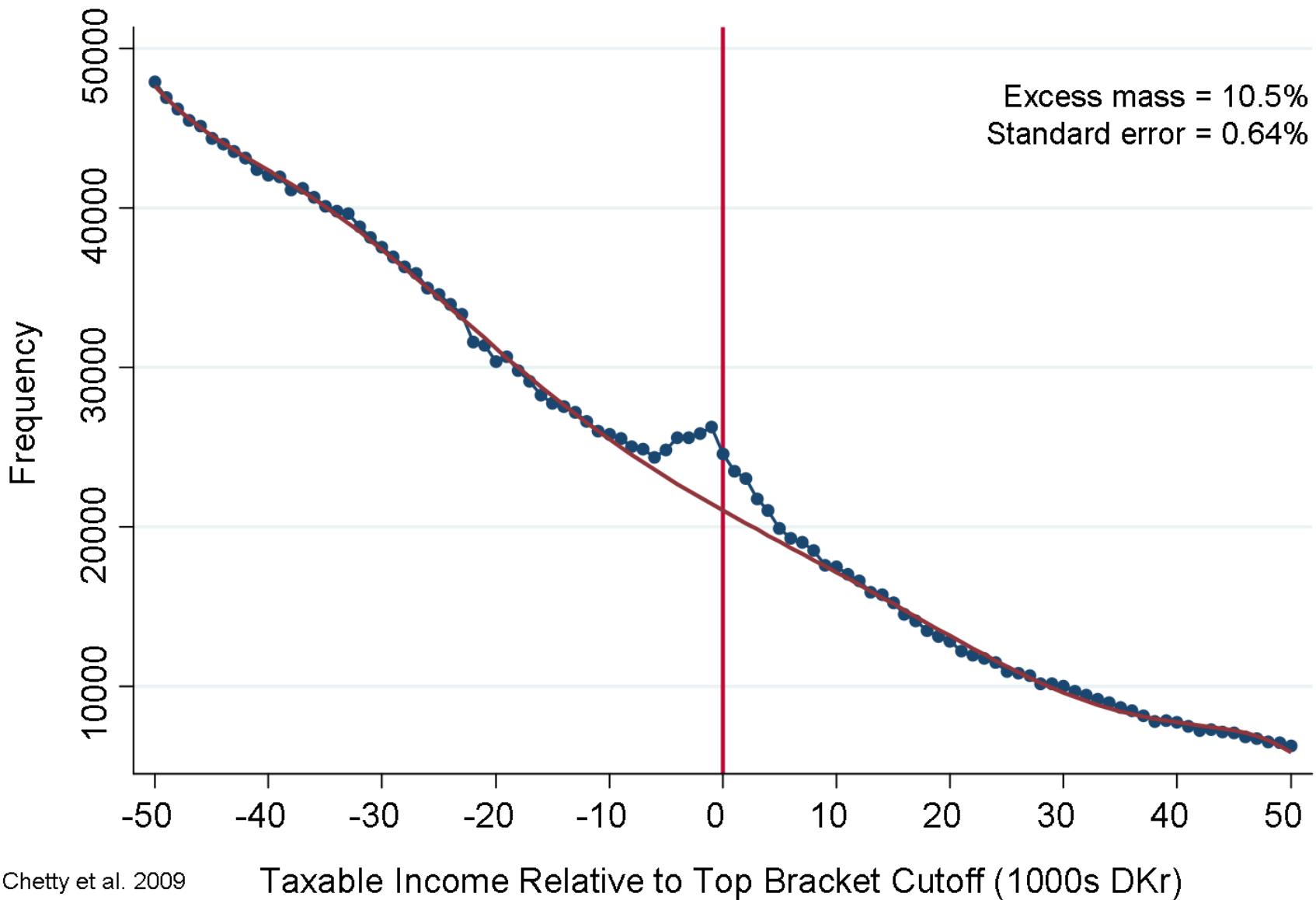
Self Employed: Top Kink



Self-Employed: Middle Kink



All Female Wage Earners



All Male Wage Earners

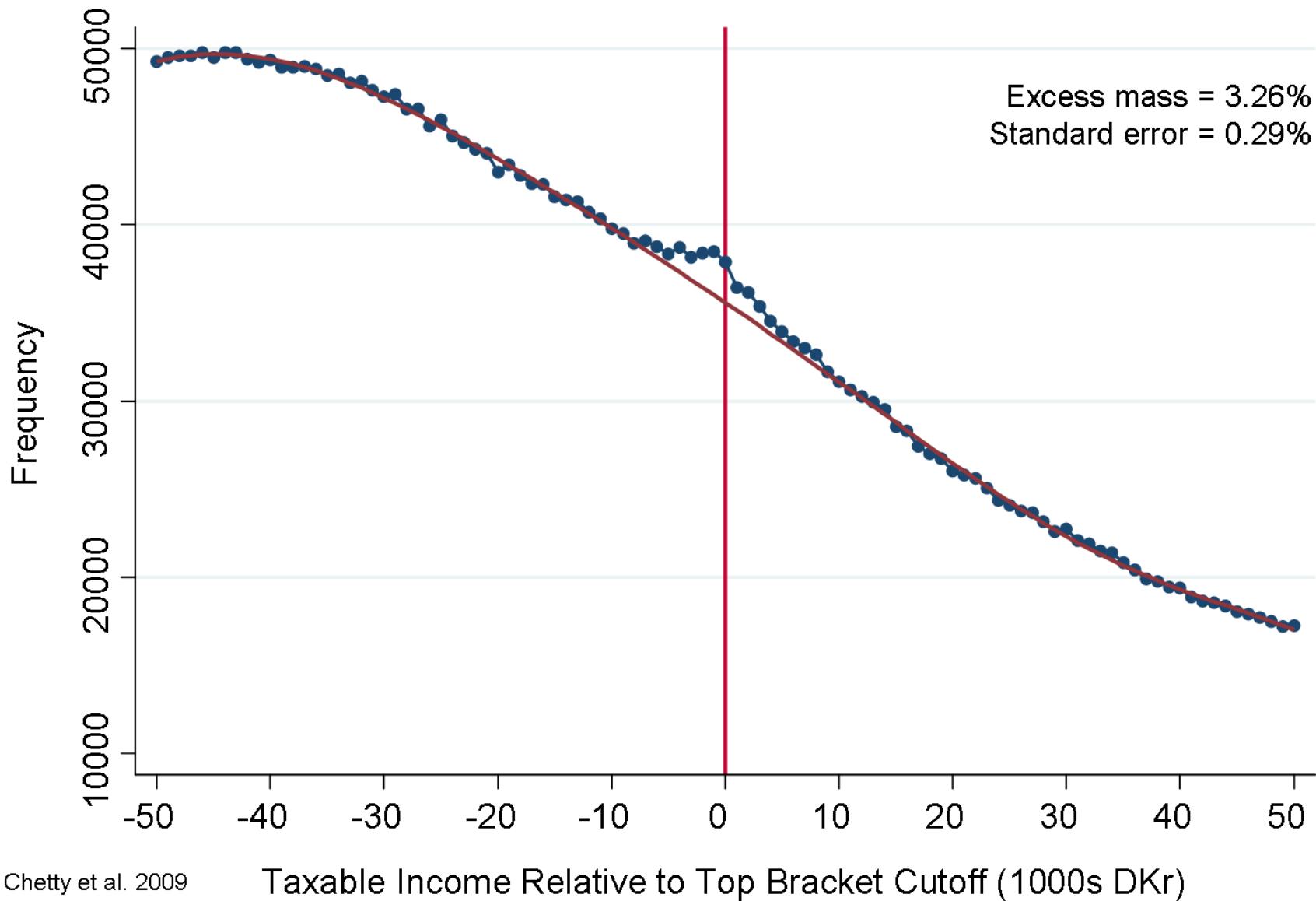


Table 1
Parameters of the 11 Negative Income Tax Programs

Program Number	G (\$)	τ	Declining Tax Rate	Break-even Income (\$)
1	3,800	.5	No	7,600
2	3,800	.7	No	5,429
3	3,800	.7	Yes	7,367
4	3,800	.8	Yes	5,802
5	4,800	.5	No	9,600
6	4,800	.7	No	6,857
7	4,800	.7	Yes	12,000
8	4,800	.8	Yes	8,000
9	5,600	.5	No	11,200
10	5,600	.7	No	8,000
11	5,600	.8	Yes	10,360

Table 3
**Experimental Payment minus Predicted Control Payment for 3-Year
 Dual-headed Experimental Families, Attrition Families Excluded
 (Standard Errors in Parentheses)**

G (\$)	τ	Declining Tax Rate	Preexperimental Payment (\$)	Payments for Year of Experiment (\$)			Postexperimental Payment (\$)
				1	2	3	
3,800	.5	No	193.78 (143.45)	248.46 (149.58)	368.95* (170.75)	389.24* (182.99)	138.56 (188.20)
3,800	.7	No	124.96 (223.77)	185.18 (237.91)	317.28 (252.99)	218.37 (325.57)	-47.85 (314.66)
3,800	.7	Yes	-33.37 (178.05)	68.94 (176.07)	158.44 (213.59)	324.84 (230.50)	29.28 (222.42)
3,800	.8	Yes	75.40 (229.44)	336.06 (237.18)	221.54 (245.92)	160.83 (264.53)	91.52 (261.84)
4,800	.5	No	52.02 (192.31)	85.17 (184.85)	294.55 (201.73)	337.23 (221.73)	70.22 (219.58)
4,800	.7	No	220.76 (160.04)	288.33 (169.04)	496.85* (197.88)	543.25* (204.50)	178.32 (194.03)
4,800	.7	Yes	136.99 (127.36)	281.98* (137.19)	423.30* (157.51)	348.03* (162.38)	23.96 (140.58)
4,800	.8	Yes	-16.87 (175.54)	305.09 (209.24)	417.90 (234.32)	317.39 (274.11)	121.47 (239.59)
5,600	.5	No	-163.12 (252.05)	200.75 (258.13)	664.41* (283.28)	717.15* (280.65)	124.93 (287.04)
5,600	.7	No	-59.97 (164.95)	23.34 (156.41)	386.12 (200.59)	744.94* (263.80)	267.69 (259.45)
5,600	.8	Yes	-27.64 (121.47)	-51.03 (126.67)	117.85 (138.52)	273.44 (157.96)	121.53 (169.26)

NOTE.—Terms are explained in text.

* Denotes mean is more than twice its standard error.

Table 4
**Experimental Payment minus Predicted Control Payment for 5-Year Dual-headed Experimental Families,
Attrition Families Excluded (Standard Errors in Parentheses)**

G (\$)	τ	Declining Tax Rate	Preexperimental Payment (\$)	Payment for Year of Experiment (\$)					Postexperimental Payment (\$)
				1	2	3	4	5	
3,800	.5	No	102.24 (185.55)	345.68 (221.42)	526.02 (241.53)	110.30 (265.28)	390.07 (307.01)	169.82 (286.76)	229.70 (309.06)
3,800	.7	No	81.16 (309.85)	23.30 (316.06)	-99.33 (330.14)	98.20 (383.52)	-16.42 (388.07)	-122.01 (352.95)	-406.46 (314.40)
3,800	.7	Yes	6.99 (234.01)	490.00 (288.13)	176.14 (272.87)	23.22 (300.28)	324.70 (386.93)	-59.79 (331.68)	-598.09* (102.72)
3,800	.8	Yes	-130.30 (271.23)	349.73 (286.56)	189.80 (280.63)	329.94 (365.58)	1207.82* (463.10)	1108.49* (487.83)	307.38 (453.29)
4,800	.5	No	-23.66 (183.73)	30.15 (208.90)	160.40 (199.26)	399.28 (236.33)	419.73 (247.25)	434.30 (254.52)	251.09 (242.45)
4,800	.7	No	-129.98 (185.46)	25.71 (208.14)	-4.47 (211.44)	569.10 (314.73)	493.42 (357.32)	219.74 (340.60)	-38.46 (228.01)
4,800	.7	Yes	75.66 (234.21)	224.96 (280.43)	387.66 (367.56)	340.71 (404.05)	-130.10 (308.90)	34.61 (445.67)	189.49 (491.52)
4,800	.8	Yes	467.89 (252.40)	325.17 (276.31)	599.43* (274.39)	398.62 (280.50)	537.21 (365.56)	506.95 (351.98)	346.28 (337.43)
5,600	.5	No	-224.97 (286.39)	560.51 (298.21)	723.08* (306.90)	782.53* (327.39)	592.40 (366.88)	313.82 (387.31)	-53.07 (325.66)
5,600	.7	No	-158.74 (239.17)	500.18 (311.24)	1194.68* (416.25)	890.38* (391.61)	825.39 (467.76)	435.01 (609.49)	588.91 (510.52)
5,600	.8	Yes	-6.48 (175.15)	193.54 (199.51)	617.29* (255.89)	906.13* (315.98)	888.72 (337.38)	877.71 (398.38)	75.21 (216.12)

NOTE.—Terms are explained in text.

* Denotes mean is more than twice its standard error.

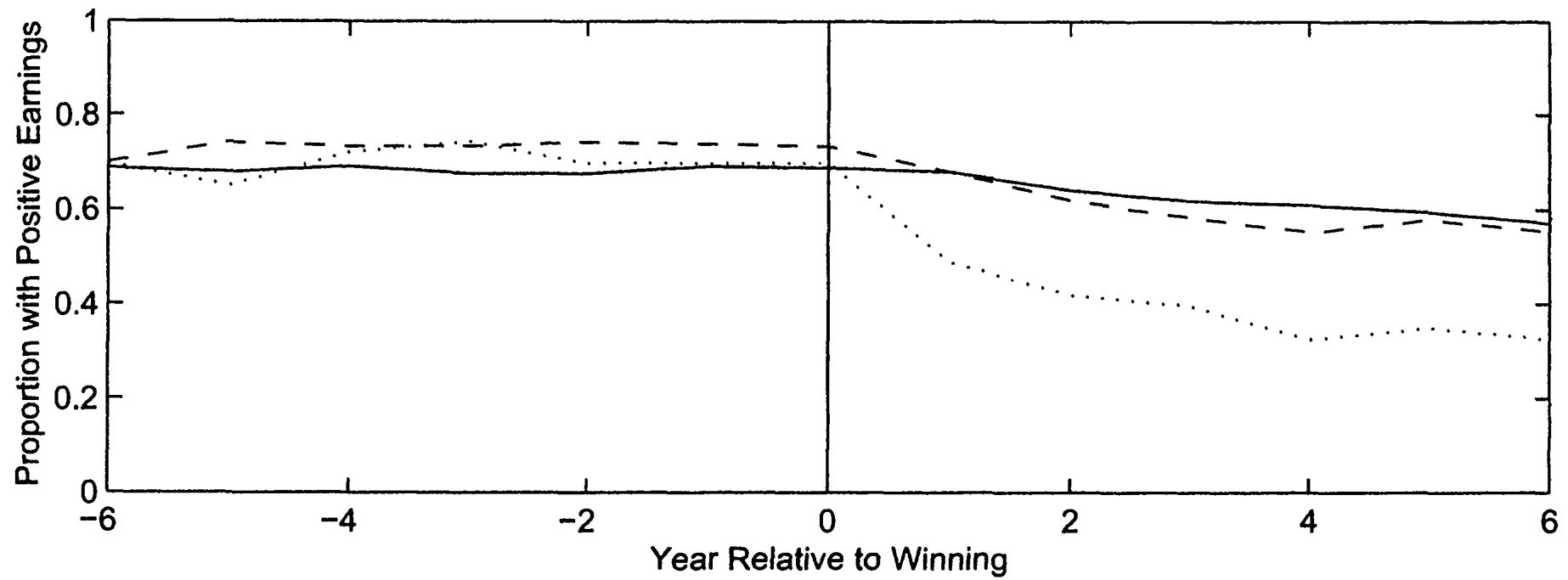


FIGURE 2. PROPORTION WITH POSITIVE EARNINGS FOR NONWINNERS, WINNERS, AND BIG WINNERS

Note: Solid line = nonwinners; dashed line = winners; dotted line = big winners.

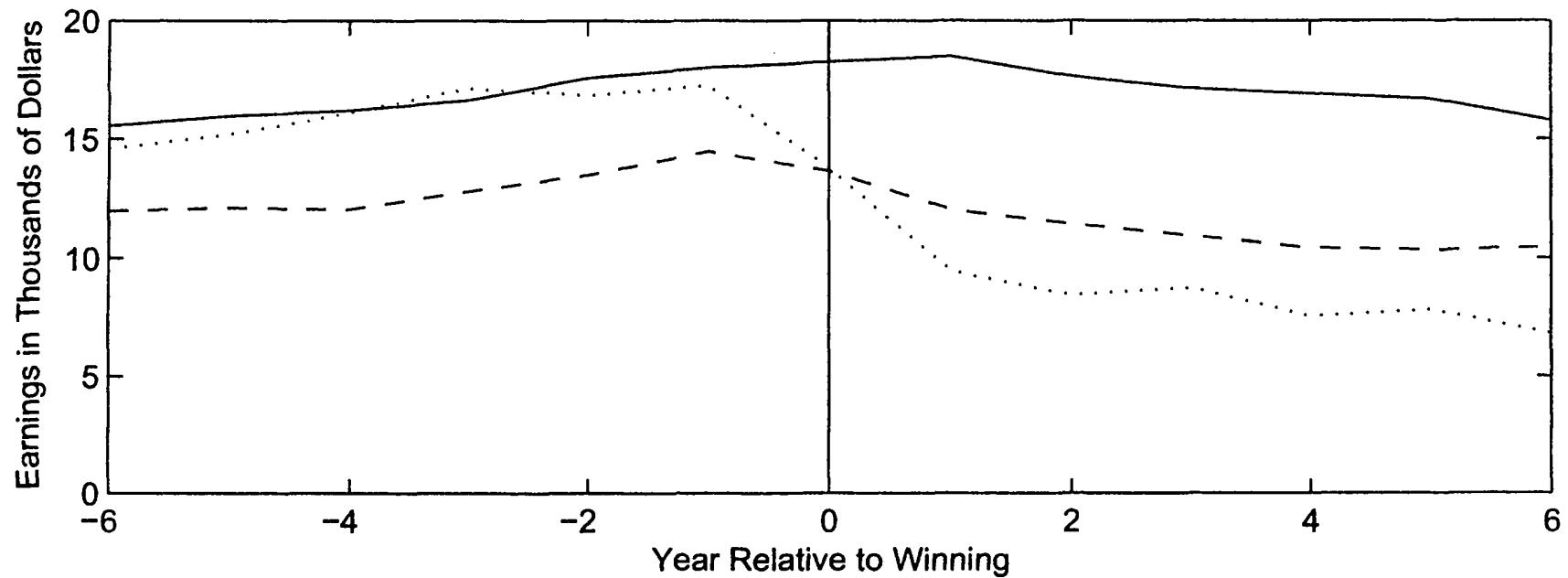
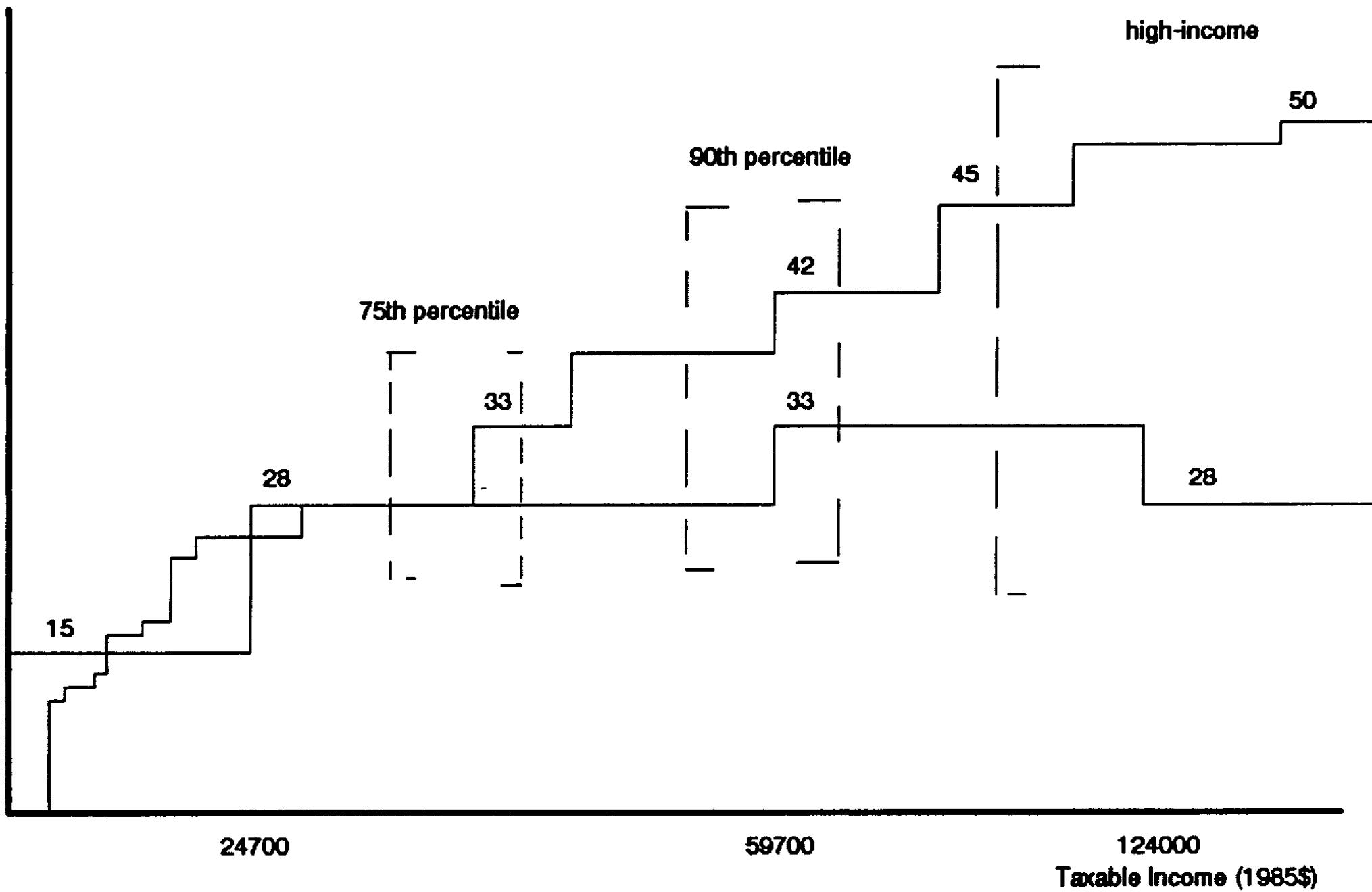


FIGURE 1. AVERAGE EARNINGS FOR NONWINNERS, WINNERS, AND BIG WINNERS

Note: Solid line = nonwinners; dashed line = winners; dotted line = big winners.

marginal
tax rate

Figure II



Source: Federal Govt

Table IIa
Marginal Tax Rate

Group	Before TRA86	After TRA86	Change	Relative Change
High	.521 (.002)	.382 (.001)	-.139 (.002)	
75 th Percentile	.365 (.001)	.324 (.001)	-.041 (.001)	-.098 (.002)
90 th Percentile	.430 (.001)	.360 (.001)	-.07 (.001)	-.069 (.002)

The marginal tax rate is calculated using family wage and salary, self-employment, interest, dividend, farm and social-security income. I assume all couples file jointly, and that all itemize their deductions. Itemized deductions and capital gains are imputed using Statistics of Income data. These figures include the secondary earner deduction, as well as social security taxes. Standard errors are in parentheses. Before TRA86 is tax years 1983-1985; After TRA86 is tax years 1989-1991.

Table III
 Differences-in-Differences Estimates
 CPS Married Women Before and After TRA86

A: Labor Force Participation

Group	Before TRA86	After TRA86	Change	Difference-in- Difference
High	0.464 (.018) [756]	0.554 (.018) [718]	0.090 (.025) {19.5 %}	
75 th Percentile	0.687 (.010) [3799]	0.740 (.010) [3613]	0.053 (.010) {7.2 %}	0.037 (.028) {12.3 %}
90 th Percentile	0.611 (.010) [3765]	0.656 (.010) [3584]	0.045 (.010) {6.5 %}	0.045 (.028) {13 %}

Source: Eissa 1995

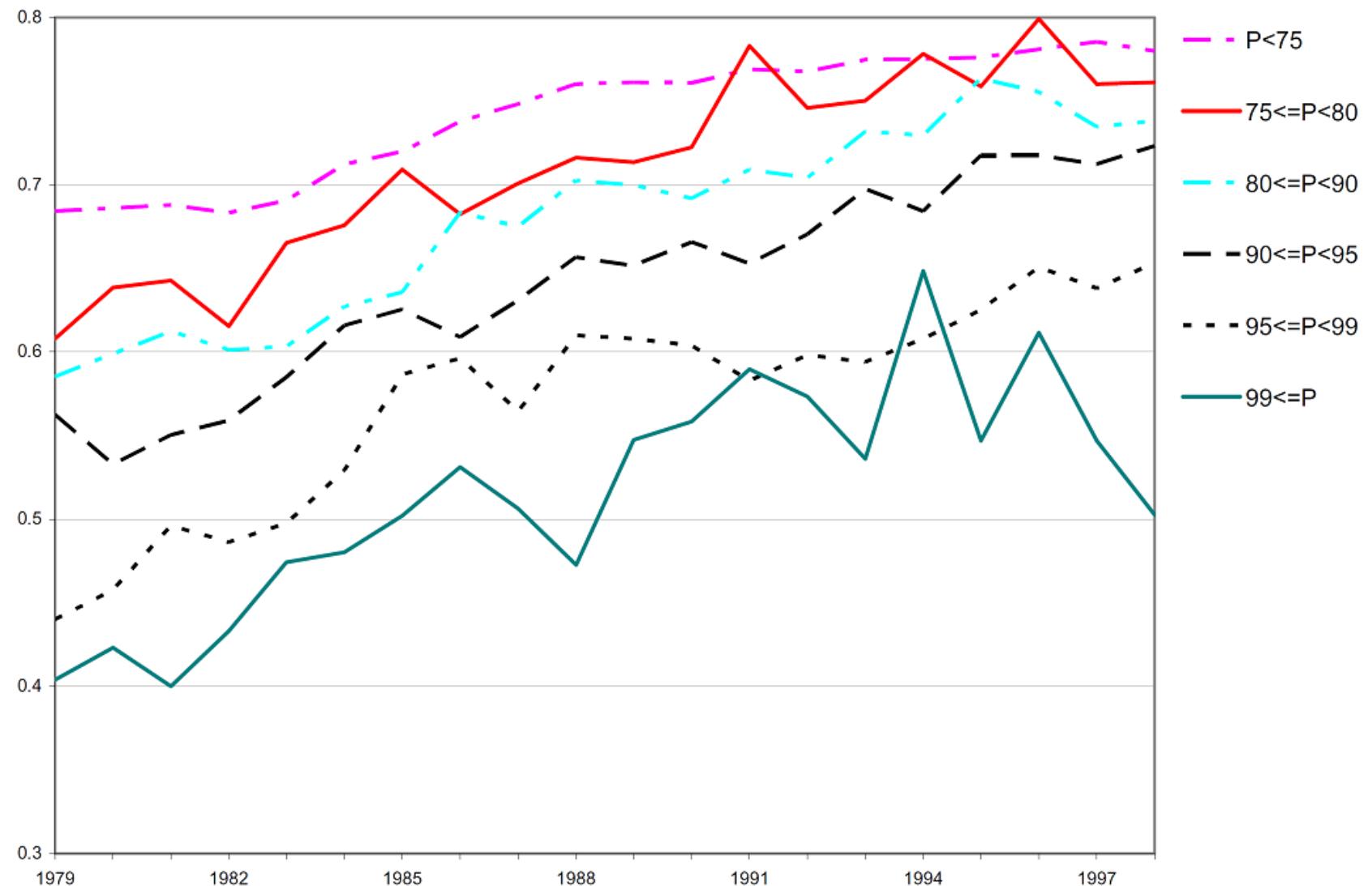
B: Hours Conditional on Employment

Group	Before TRA86	After TRA86	Change	Difference-in- Difference
High	1283.0 (46.3) [351]	1446.3 (41.1) [398]	163.3 (61.5) {12.7%}	
75 th Percentile	1504.1 (14.3) [2610]	1558.9 (13.9) [2676]	54.8 (20.0) {3.6%}	108.6 (65.1) {9.4%}
90 th Percentile	1434.1 (16.4) [2303]	1530.1 (15.9) [2348]	96.0 (22.8) {6.8%}	67.3 (64.8) {6.2%}

Each cell contains the mean for that group, along with standard errors in (), number of observations in [], and % increase in {}. Means are unweighted.

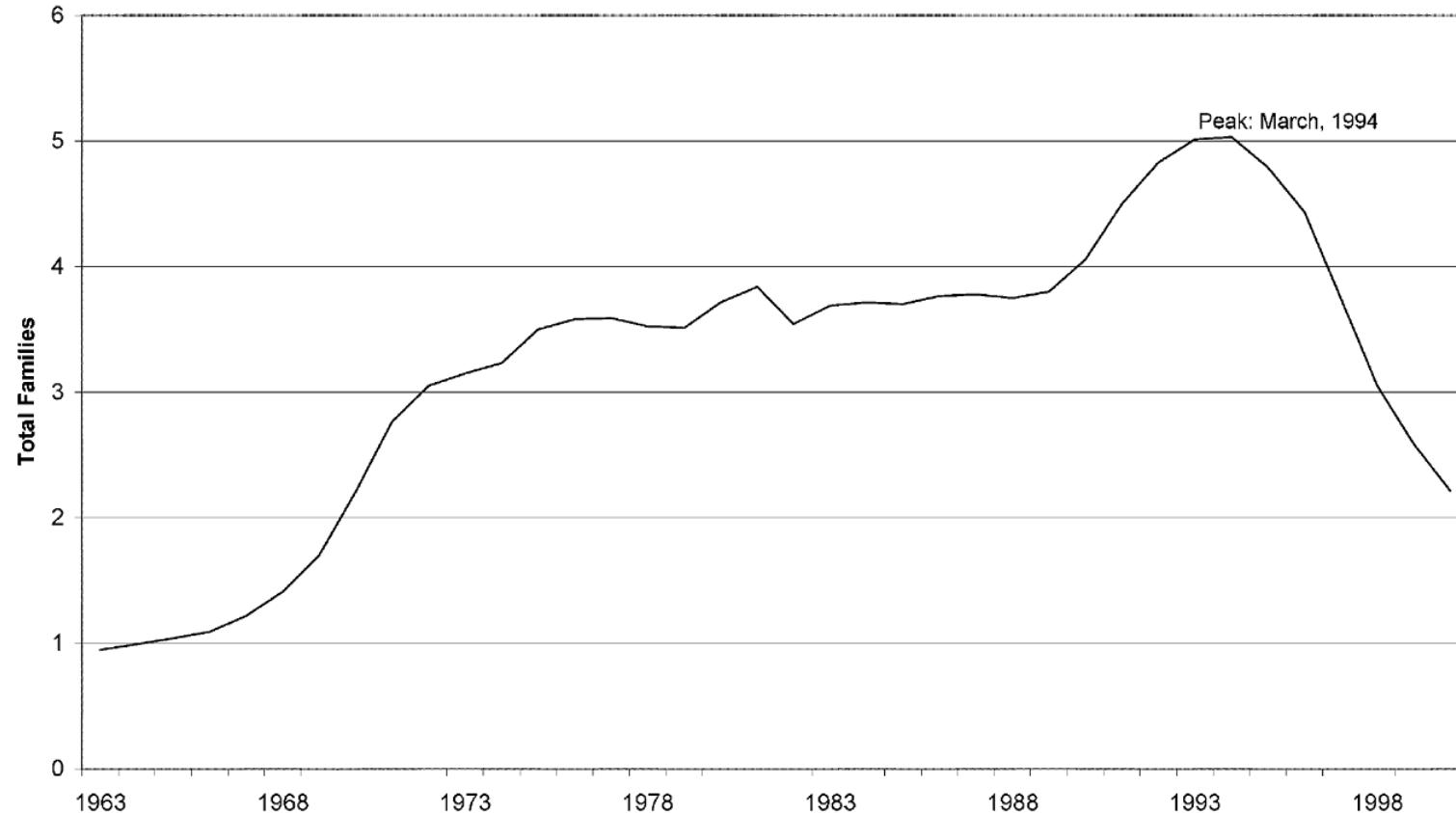
Source: Eissa 1995

Figure 10
 Fraction of Married Women with Positive Annual Earnings by Income Group
 in March CPS



Notes: Groups are based on other household income (husband's earnings plus asset income) as described in Eissa (1995). Group 1 \leq 75th percentile. Group 75 is $>$ 75th percentile and \leq 80th percentile. Group 80 is $>$ 80th and \leq 90th. Group 90 is $>$ 90th and \leq 95th. Group 95 is $>$ 95th and \leq 99th. Group 99 is $>$ 99th.

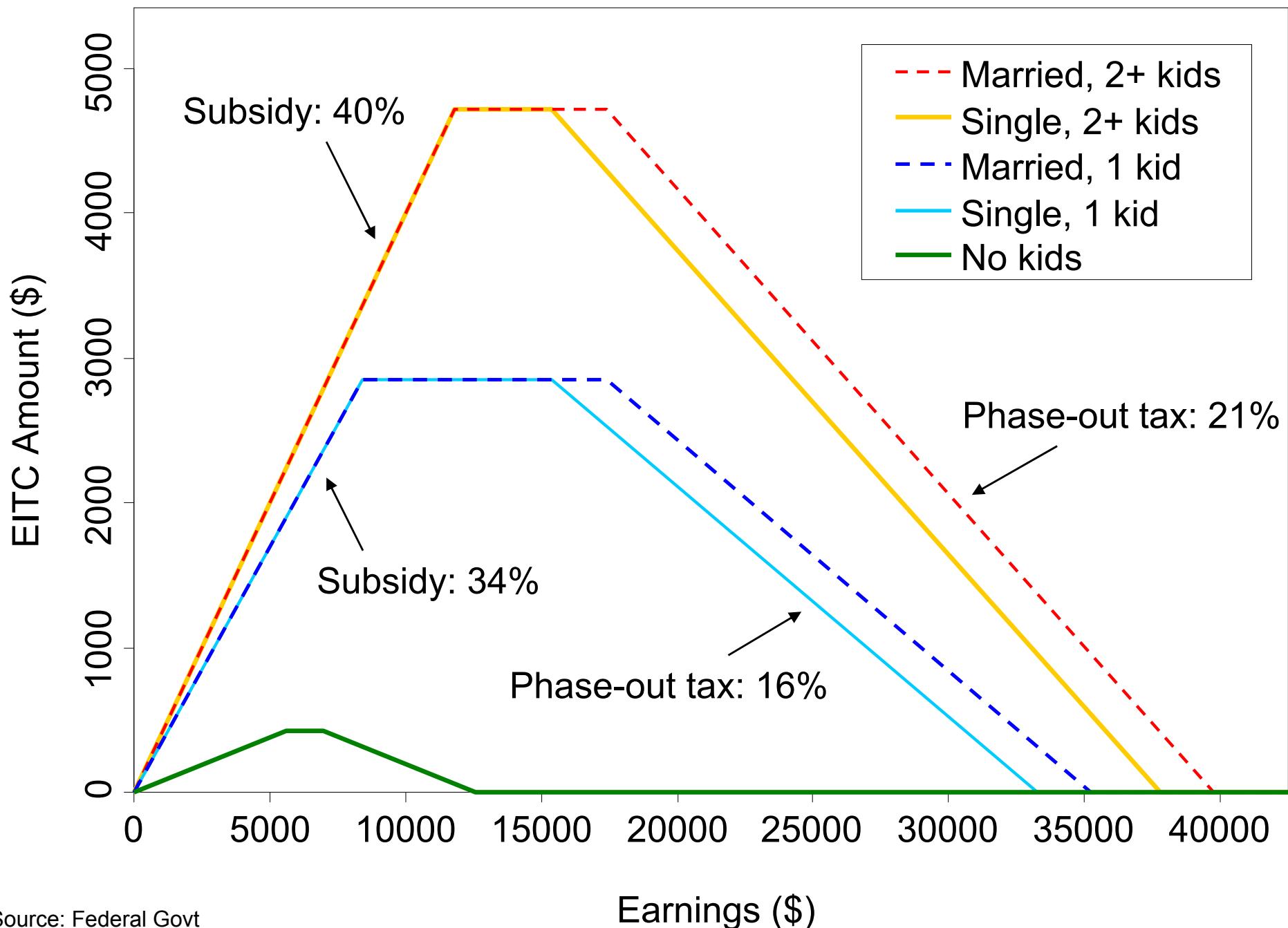
Source: Liebman and Saez (2006)



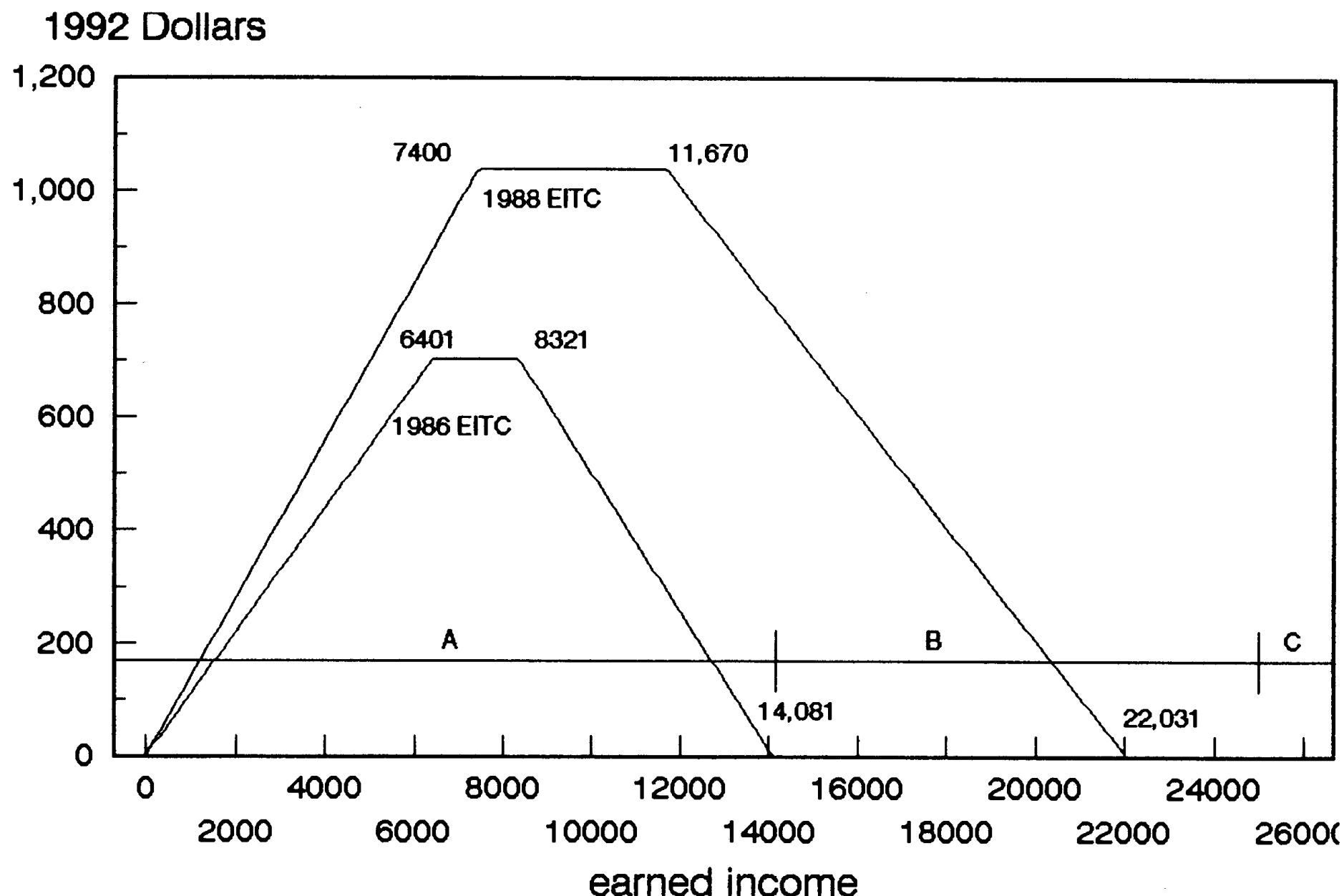
Source: Meyer and Sullivan (2004), p. 1391

Fig. 1. Average monthly AFDC/TANF caseloads (1963–2000) (in millions).

EITC Amount as a Function of Earnings



Source: Federal Govt



Source: Eissa and Liebman (1996), p. 631

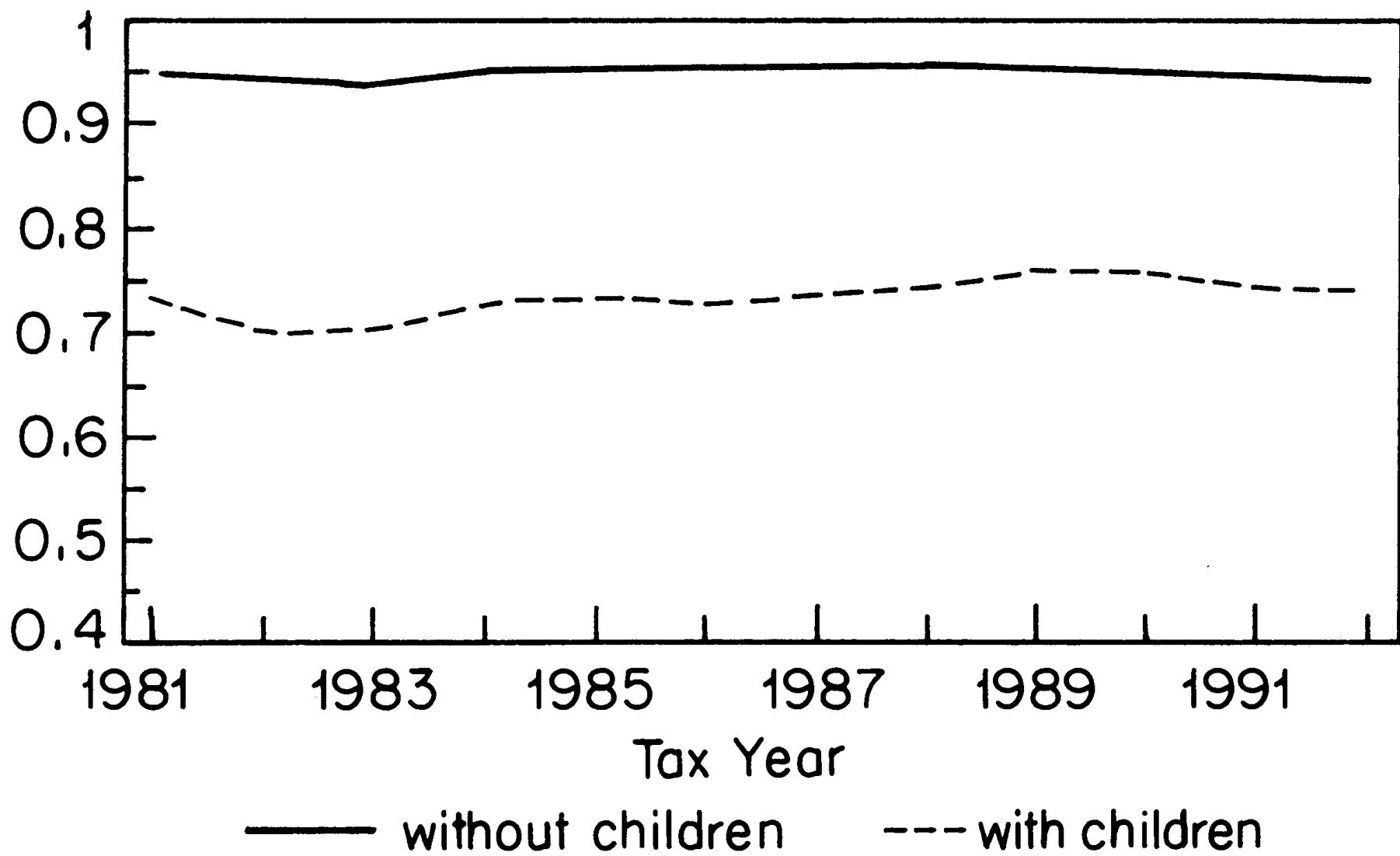
FIGURE IV
1986 and 1988 Earned Income Tax Credit

TABLE II
LABOR FORCE PARTICIPATION RATES OF UNMARRIED WOMEN

	Pre-TRA86 (1)	Post-TRA86 (2)	Difference (3)	Difference-in- differences (4)
A. Treatment group:				
With children [20,810]	0.729 (0.004)	0.753 (0.004)	0.024 (0.006)	
<i>Control group:</i>				
Without children [46,287]	0.952 (0.001)	0.952 (0.001)	0.000 (0.002)	0.024 (0.006)
B. Treatment group:				
Less than high school, with children [5396]	0.479 (0.010)	0.497 (0.010)	0.018 (0.014)	
<i>Control group 1:</i>				
Less than high school, without children [3958]	0.784 (0.010)	0.761 (0.009)	-0.023 (0.013)	0.041 (0.019)
<i>Control group 2:</i>				
Beyond high school, with children [5712]	0.911 (0.005)	0.920 (0.005)	0.009 (0.007)	0.009 (0.015)
C. Treatment group:				
High school, with children [9702]	0.764 (0.006)	0.787 (0.006)	0.023 (0.008)	
<i>Control group 1:</i>				
High school, without children [16,527]	0.945 (0.002)	0.943 (0.003)	-0.002 (0.004)	0.025 (0.009)
<i>Control group 2:</i>				
Beyond high school, with children [5712]	0.911 (0.005)	0.920 (0.005)	0.009 (0.007)	0.014 (0.011)

Data are from the March CPS, 1985–1987 and 1989–1991. Pre-TRA86 years are 1984–1986. Post-TRA86 years are 1988–1990. Labor force participation equals one if annual hours are positive, zero otherwise. Standard errors are in parentheses. Sample sizes are in square brackets. Means are weighted with CPS March supplement weights.

All Unmarried Females



Unmarried Males With Less Than High School Education

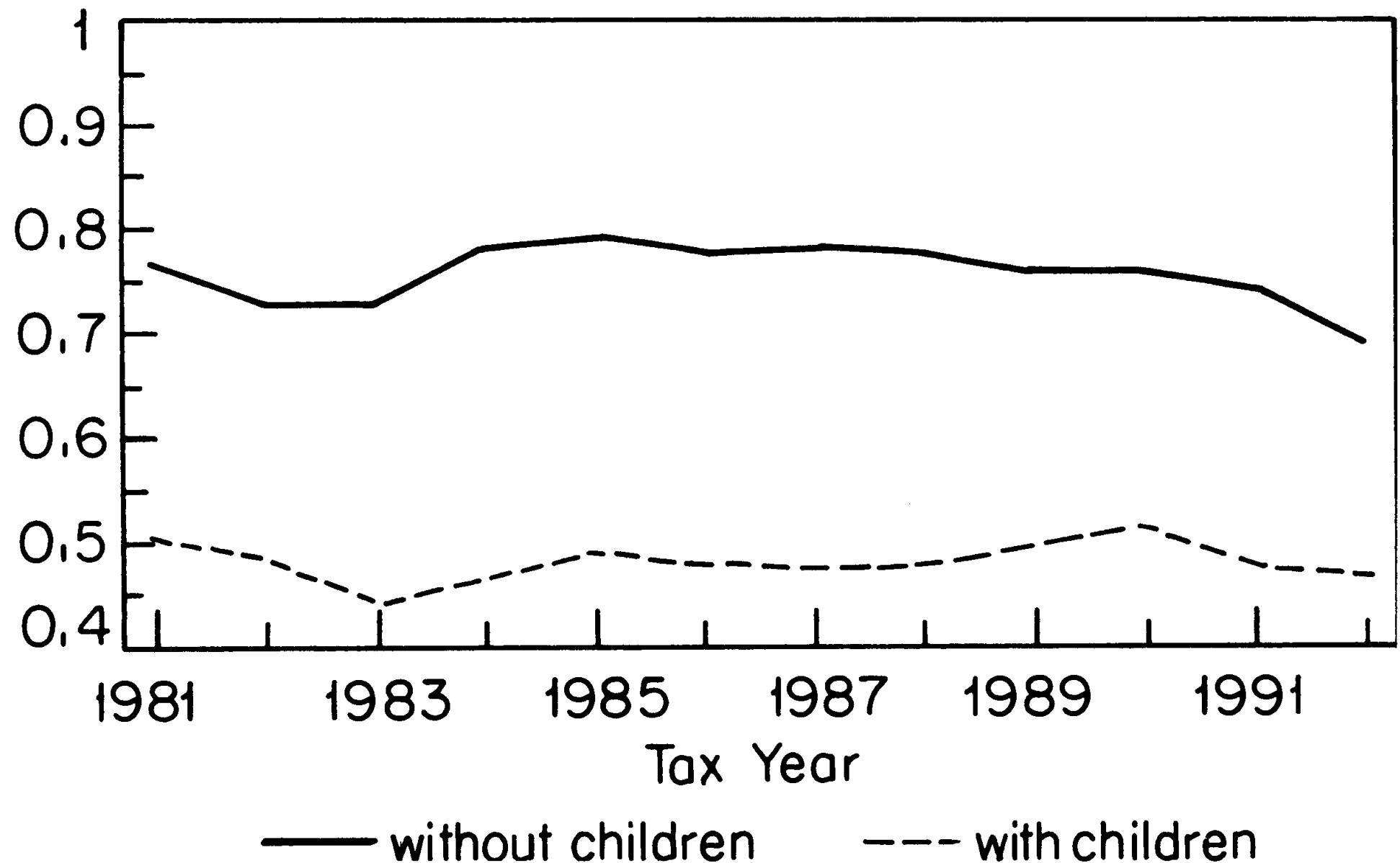
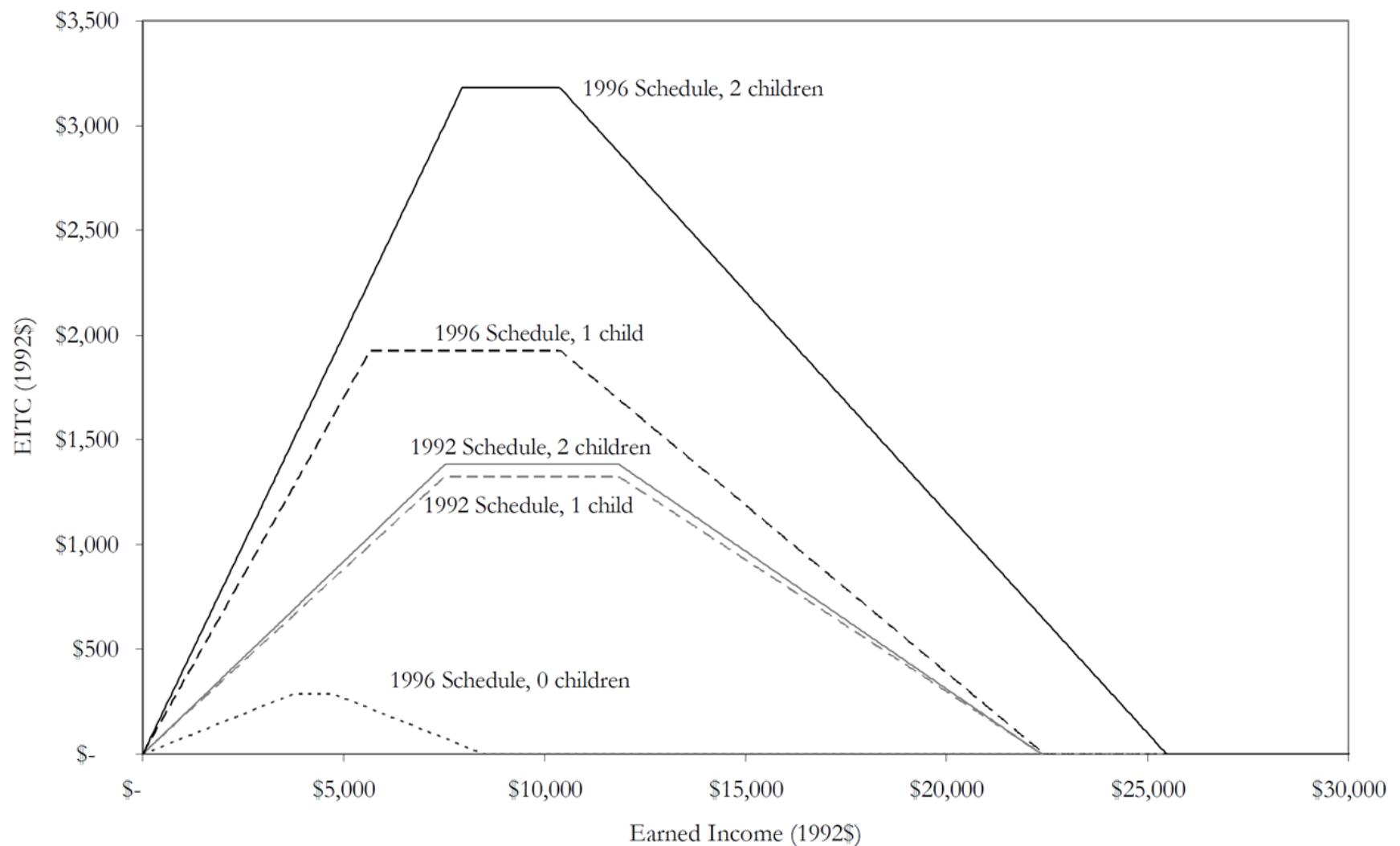


FIGURE II

Labor Force Participation Rates 1981 to 1992, Unmarried Females Ages 16–44

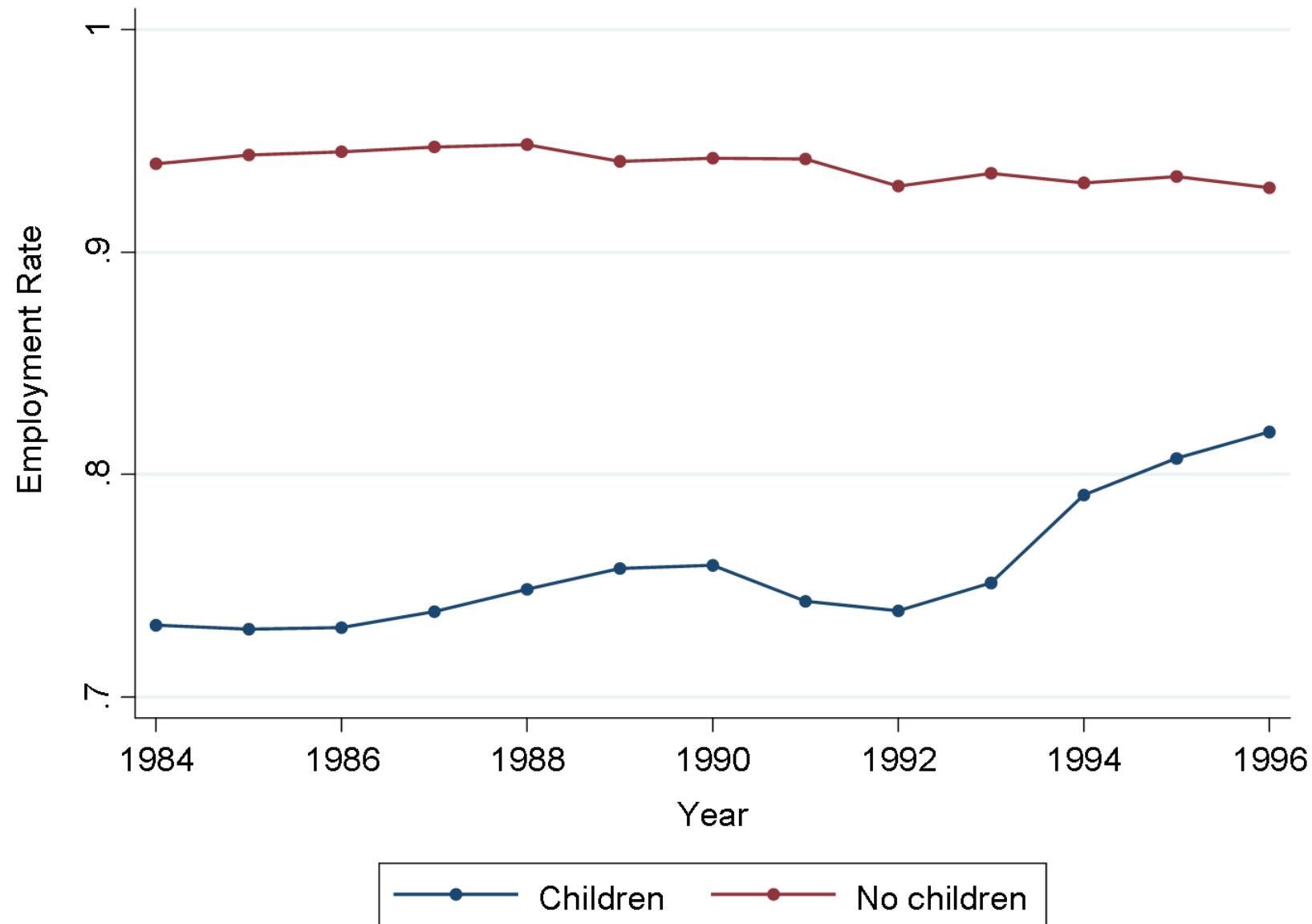
Source: Eissa and Liebman (1996), p. 624

Figure 1. EITC Schedule, 1992 and 1996 by number of children



Source: Rothstein 2005

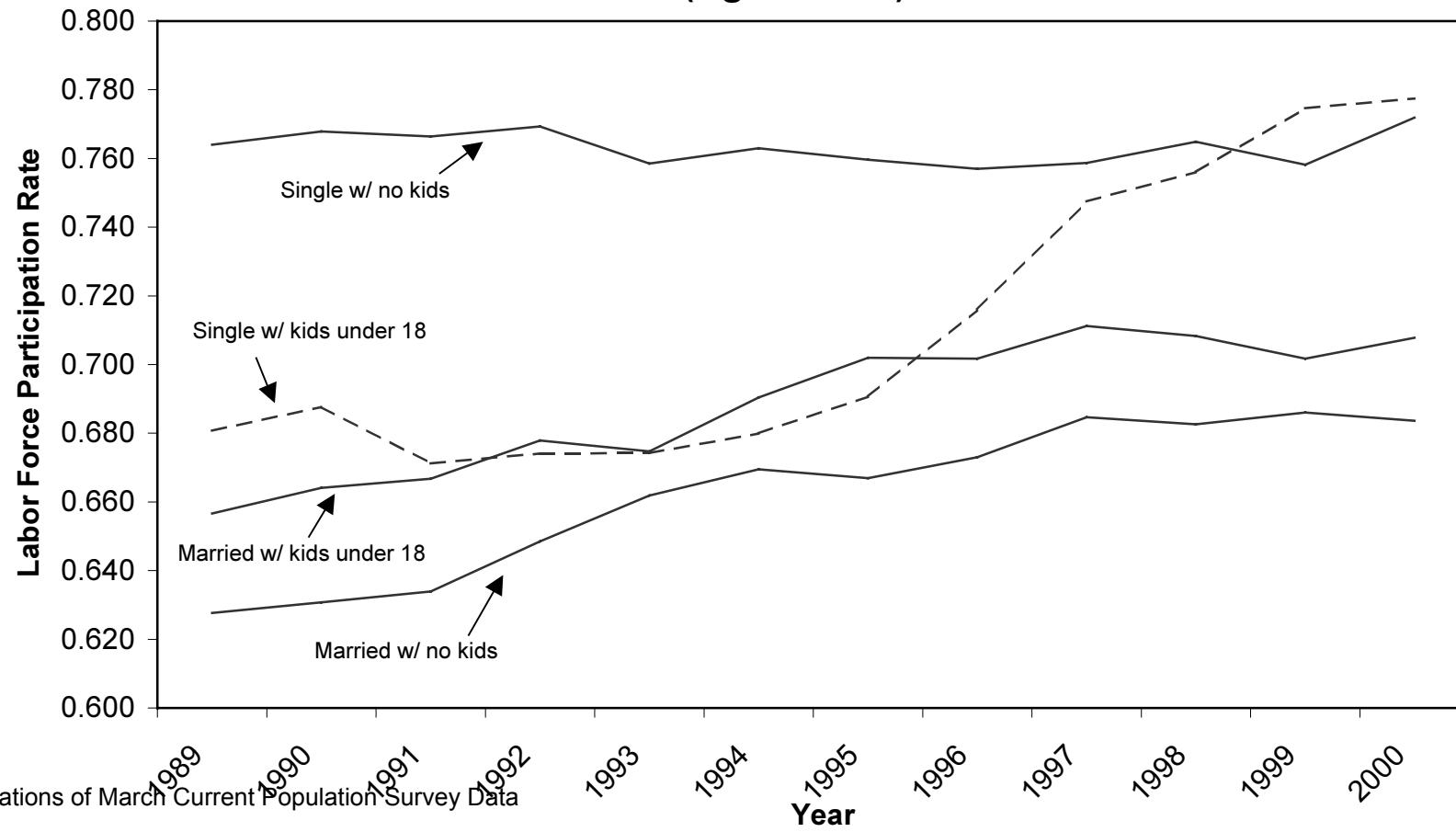
Employment Rates for Single Women with and without Children



Source: Meyer and Rosenbaum 2001

Figure 4

Labor Force Participation Rates for Women by Marital Status and Children (Ages 20-65)



Source: Tabulations of March Current Population Survey Data

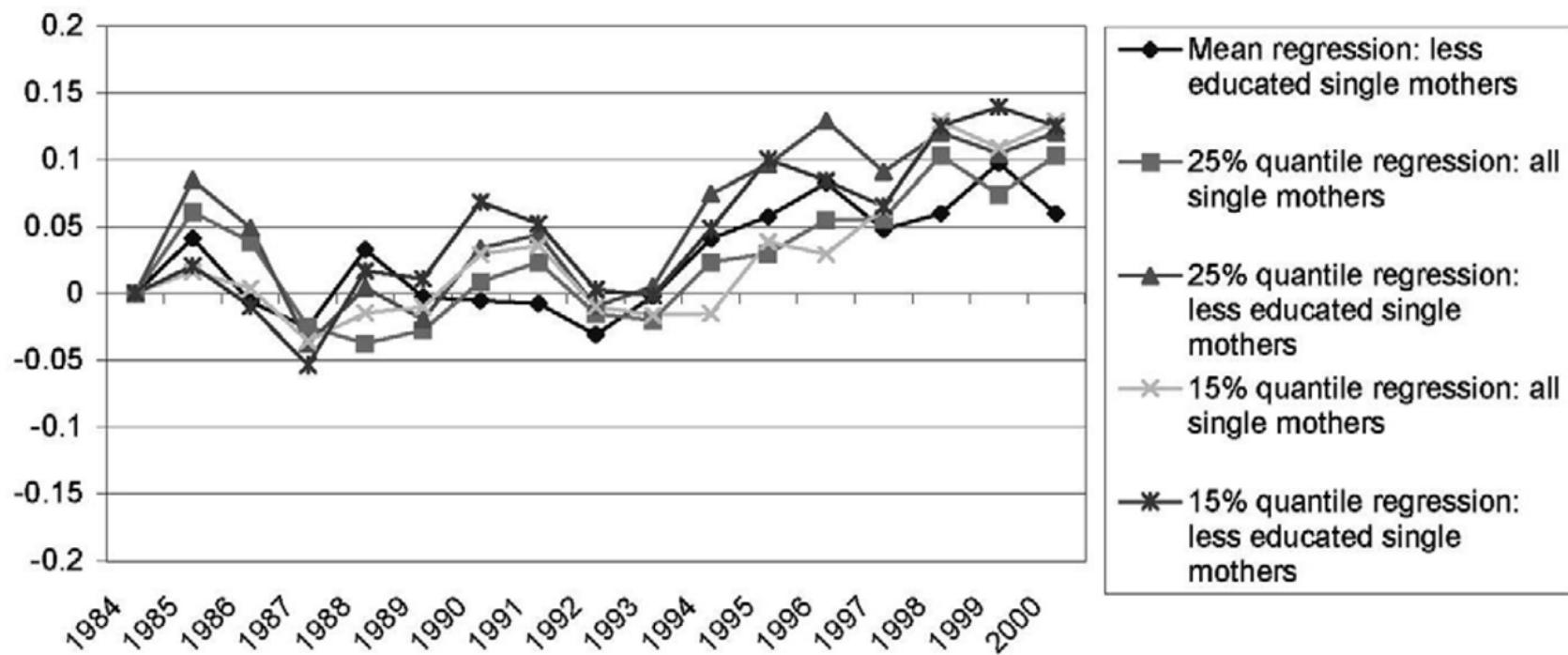


Fig. 2. Total consumption: single mothers, 1984–2000.

Source: Meyer and Sullivan (2004), p. 1407

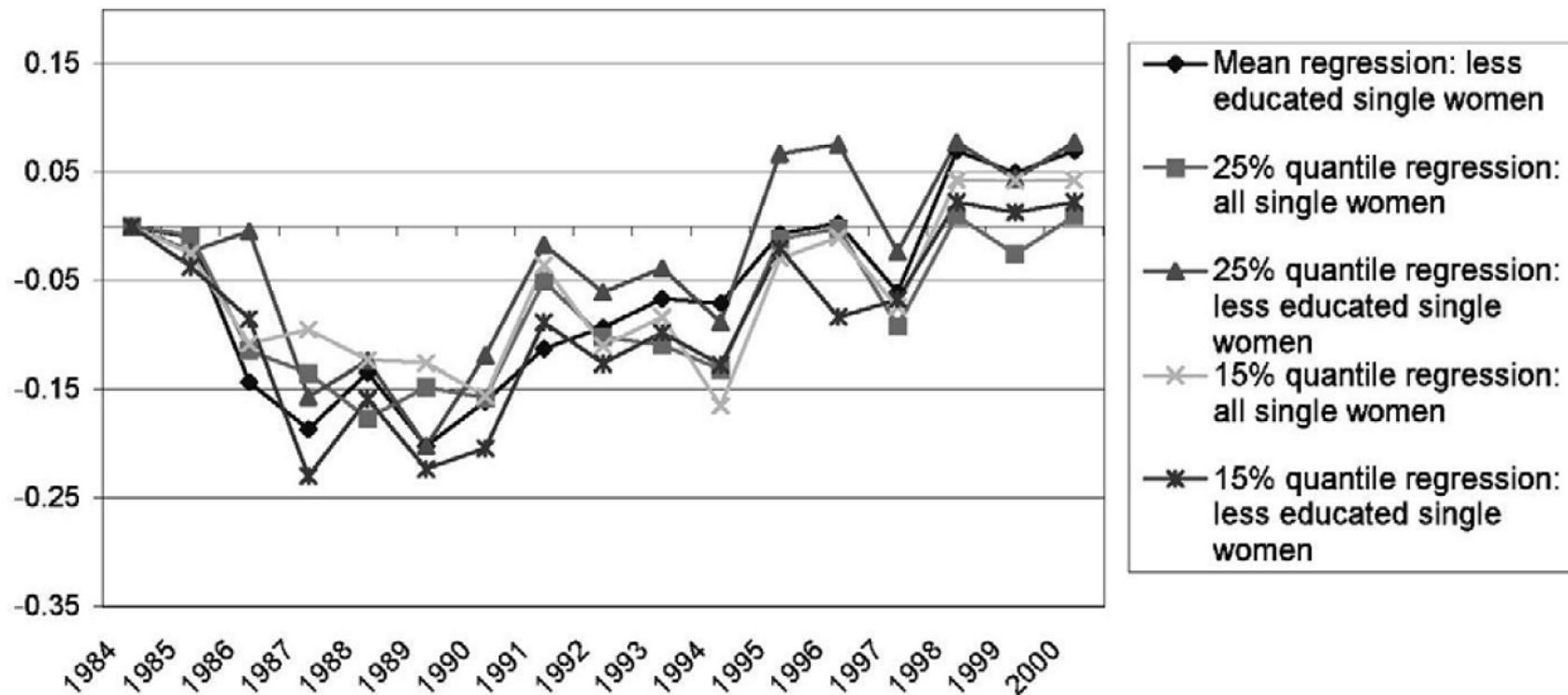


Fig. 3. Relative total consumption: single mothers vs. single women without children, 1984–2000.

Source: Meyer and Sullivan (2004), p. 1414

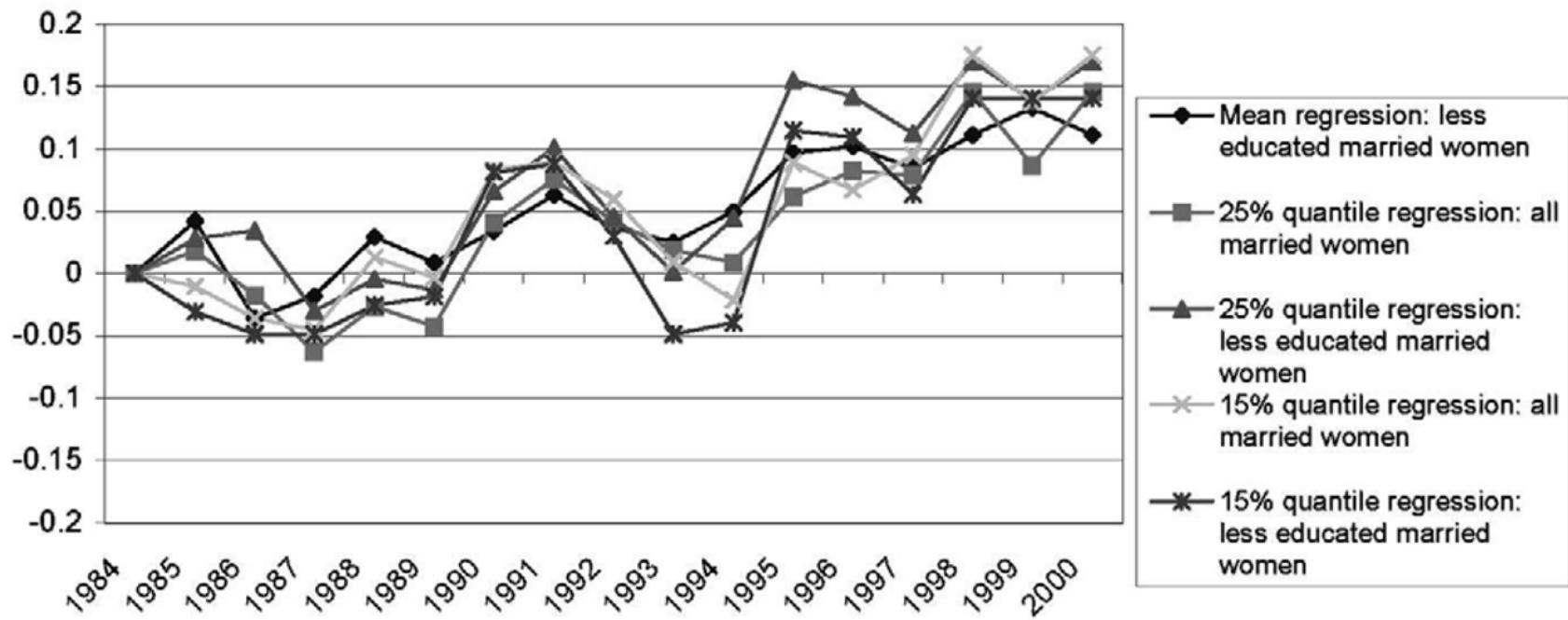


Fig. 4. Relative total consumption: single mothers vs. married mothers, 1984–2000.

Source: Meyer and Sullivan (2004), p. 1414

Explaining EIC: 4 steps

Single With Two or More Children

The EIC (Earned Income Credit) is a tax refund that gives families as much as \$4,500 per year.

We want to explain how the EIC works to help you decide how much to work and earn this year.

In 2006, you made \$ **10,000** → you are getting an EIC of \$ **4,000** in your refund.

- Your earnings this year (in 2007) will determine the size of your EIC refund next year
- The EIC has 3 ranges: 1) Increasing, 2) Peak, 3) Decreasing



You are in the **increasing** range of the EIC. Think about it like this:

- (increasing) Suppose you earn \$10 an hour, then you are really making \$14.00 an hour.
- (peak) Your earnings are maxing-out the EIC amount
- (decreasing) If you earn \$10 more, your EIC is reduced by \$2.10

3. Table

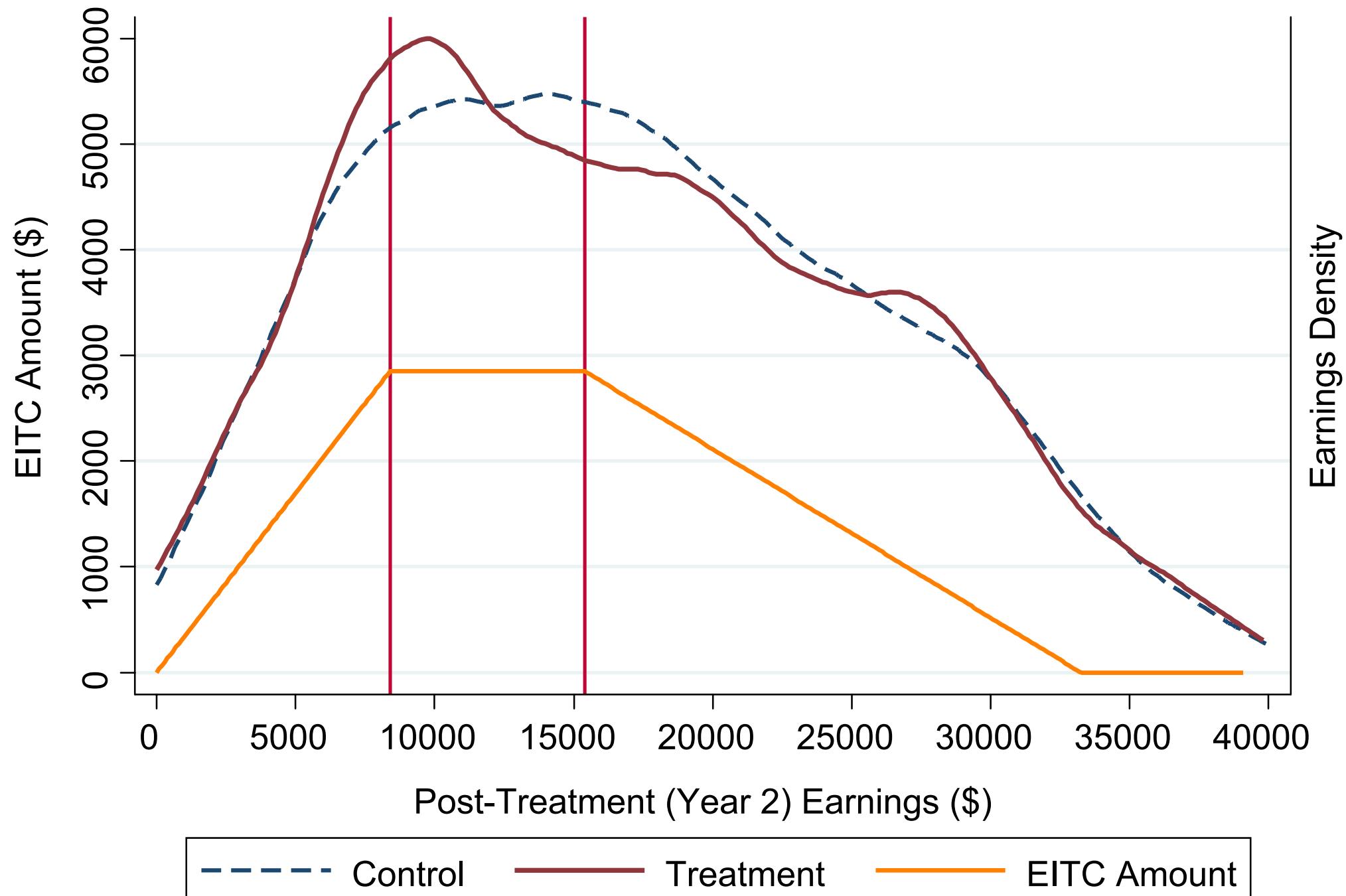
EIC Range	If you earn between	EIC refund will be	If you earn \$10 more, the EIC...
Increasing	\$0-\$11,790	\$0 up to \$4,716	Increases by \$4
Peak	\$11,790-\$15,390	\$4,716	Stays the same
Decreasing	\$15,390-\$37,780	\$4,716 down to \$0	Decreases by \$2.10

1. Fill in earnings, EIC amount

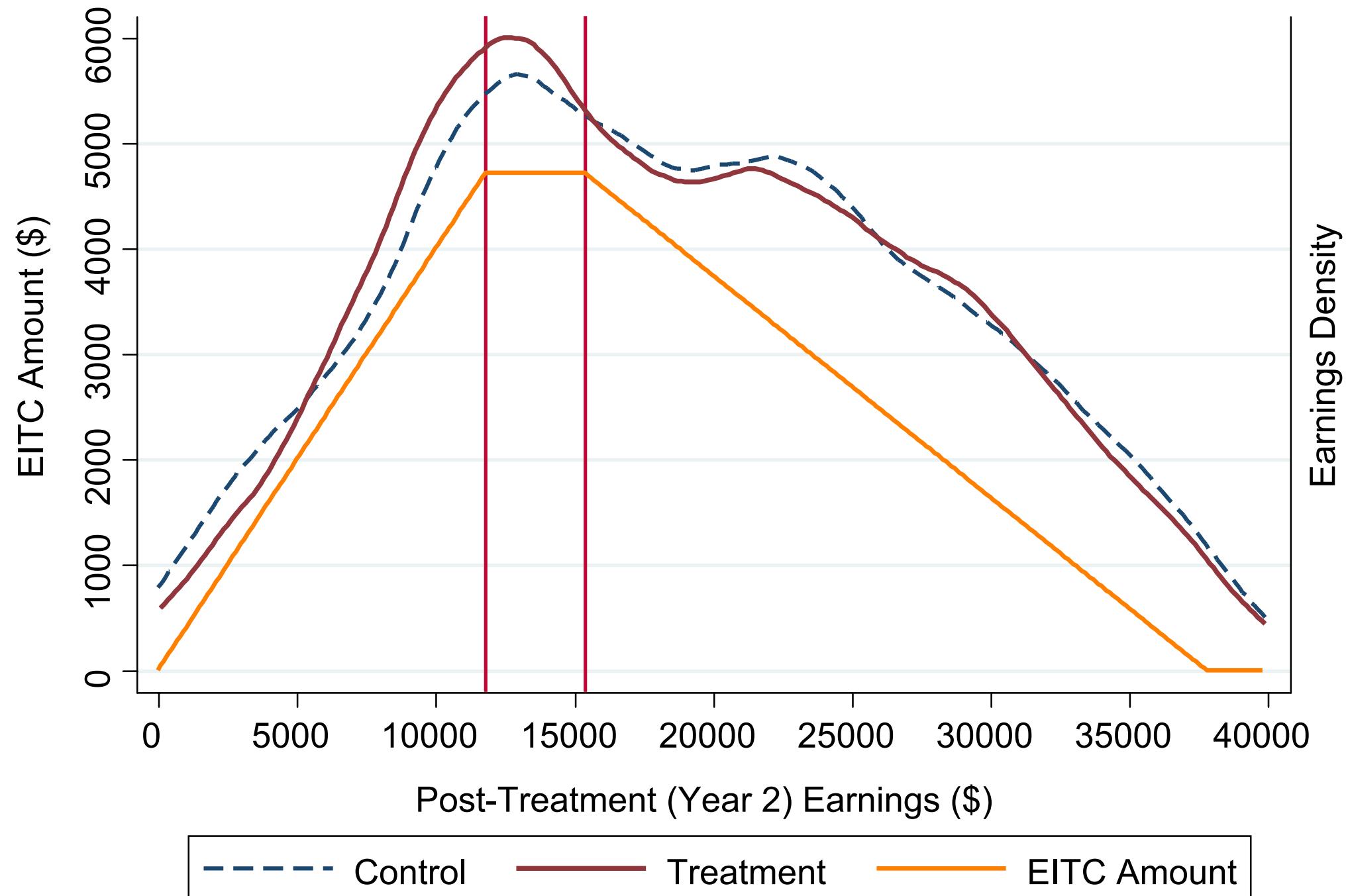
2. Explain and dot graph

4. Take-home Message

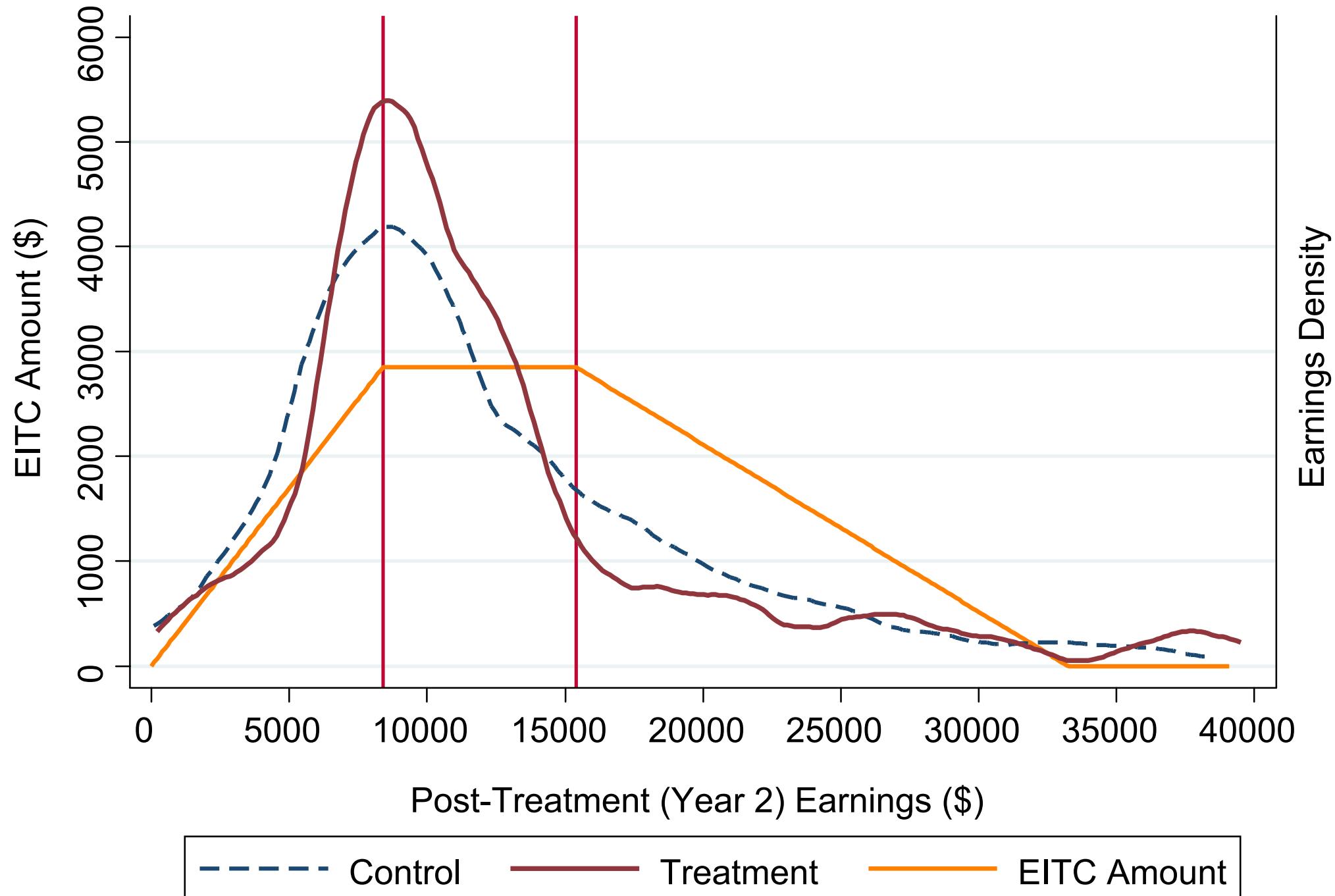
Year 2 Earnings Distributions: 1 Dep., Clients of Complying Tax Preparers



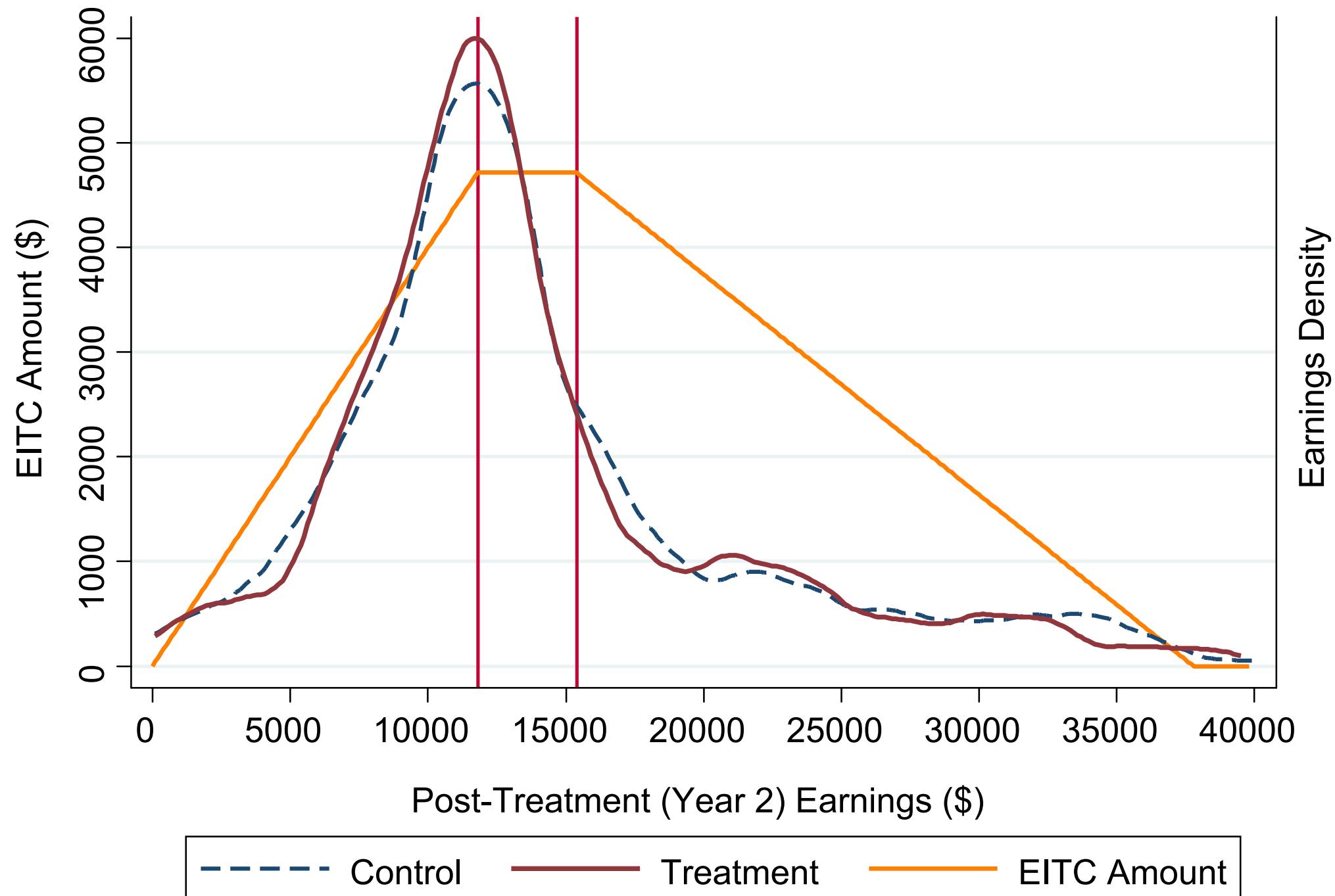
Year 2 Earnings Distributions: 2+ Deps., Complying Tax Preparers

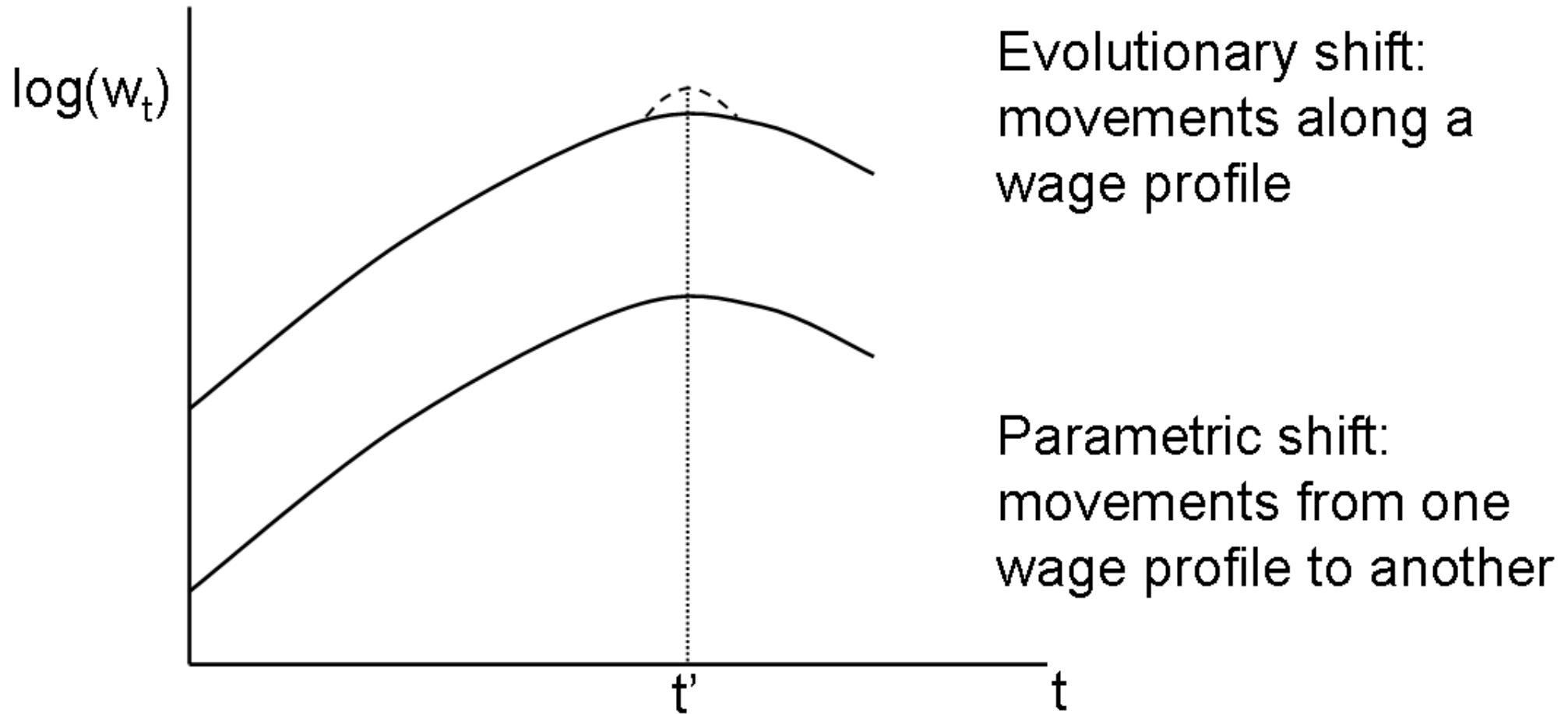


Self-Employed Clients of Complying Tax Professionals: 1 Dependent



Self-Employed Clients of Complying Tax Professionals: 2+ Dependents





Source: MaCurdy (1981), p. 1070

TABLE IV
ELASTICITIES: GROUPING INSTRUMENTS: COHORT AND EDUCATION

	Wage	Compensated Wage	Other Income	Group Means:		
				Hours	Wage	Income
No Children	0.140 (0.075)	0.140 (0.088)	0.000 (0.041)	32	2.97	88.63
Youngest Child 0-2	0.205 (0.128)	0.301 (0.144)	-0.185 (0.104)	20	3.36	129.69
Youngest Child 3-4	0.371 (0.150)	0.439 (0.159)	-0.173 (0.139)	18	3.10	143.64
Youngest Child 5-10	0.132 (0.117)	0.173 (0.127)	-0.102 (0.109)	21	2.86	151.13
Youngest Child 11 +	0.130 (0.107)	0.160 (0.117)	-0.063 (0.084)	25	2.83	147.31

Note: Asymptotic standard errors in parentheses.

Source: Blundell et al. (1998), p. 846

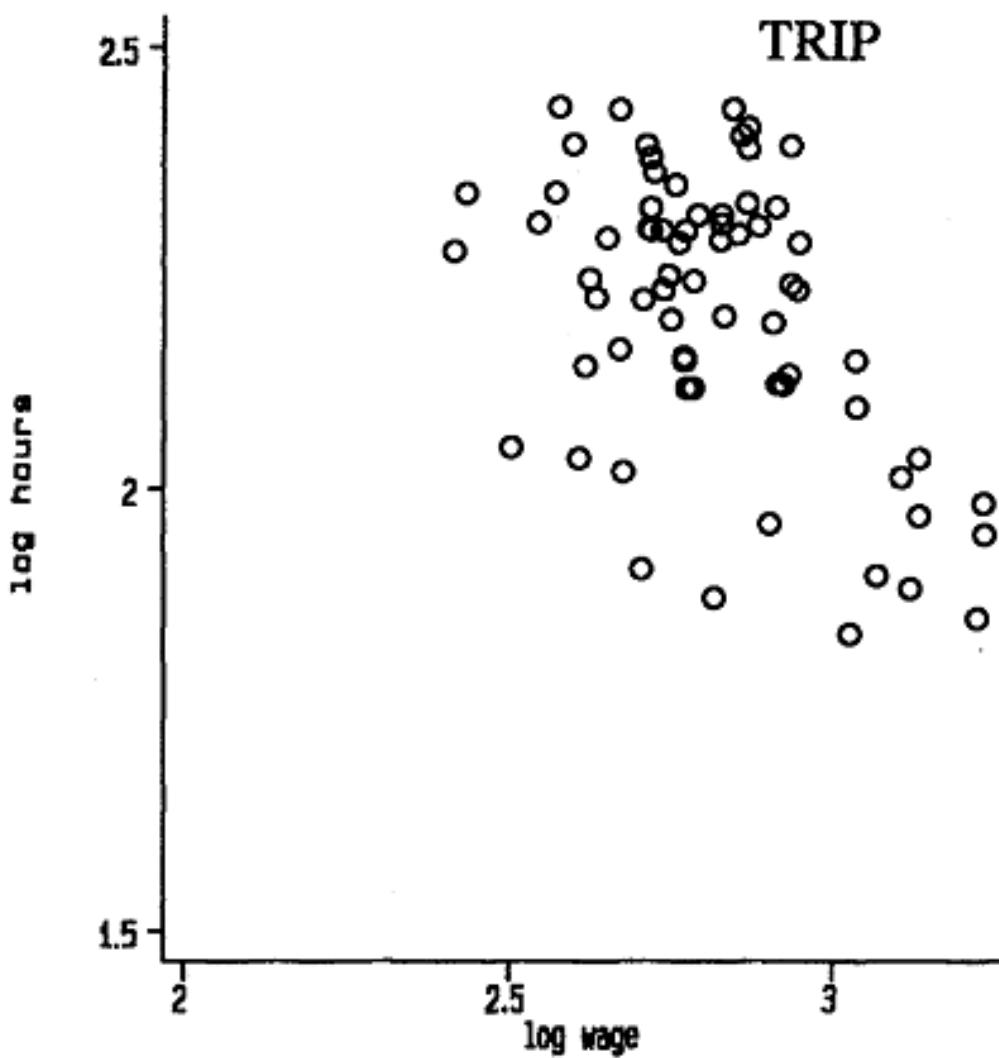


FIGURE I
Hours-Wage Relationships

Source: Camerer et al. (1997), p. 418

TABLE II
OLS LOG HOURS WORKED EQUATIONS

Sample	TRIP		TLC1	TLC2
Log hourly wage	-.411 (.169)	-.186 (.129)	-.501 (.063)	-.618 (.051)
High temperature	.000 (.002)	-.000 (.002)	.001 (.002)	.002 (.002)
Shift during week	-.057 (.019)	-.047 (.033)	-.004 (.035)	.030 (.042)
Rain	.002 (.035)	.015 (.035)	—	—
Night shift dummy	.048 (.053)	-.049 (.049)	-.127 (.034)	-.294 (.047)
Day shift dummy	—	—	.000 (.028)	.053 (.045)
Fixed effects	No	Yes	No	Yes
Adjusted R^2	.243	.484	.175	.318
Sample size	70	65	1044	794
Number of drivers	13	8	484	234
				712

Dependent variable is the log of hours worked. Standard errors are in parentheses and are corrected for the nonfixed effects estimates in columns 1 and 3 to account for the panel structure of the data. Explanatory variables are described in Appendix 1.

Table 2

Actual and Predicted Labor Supply

In Selected Countries in 1993–96 and 1970–74

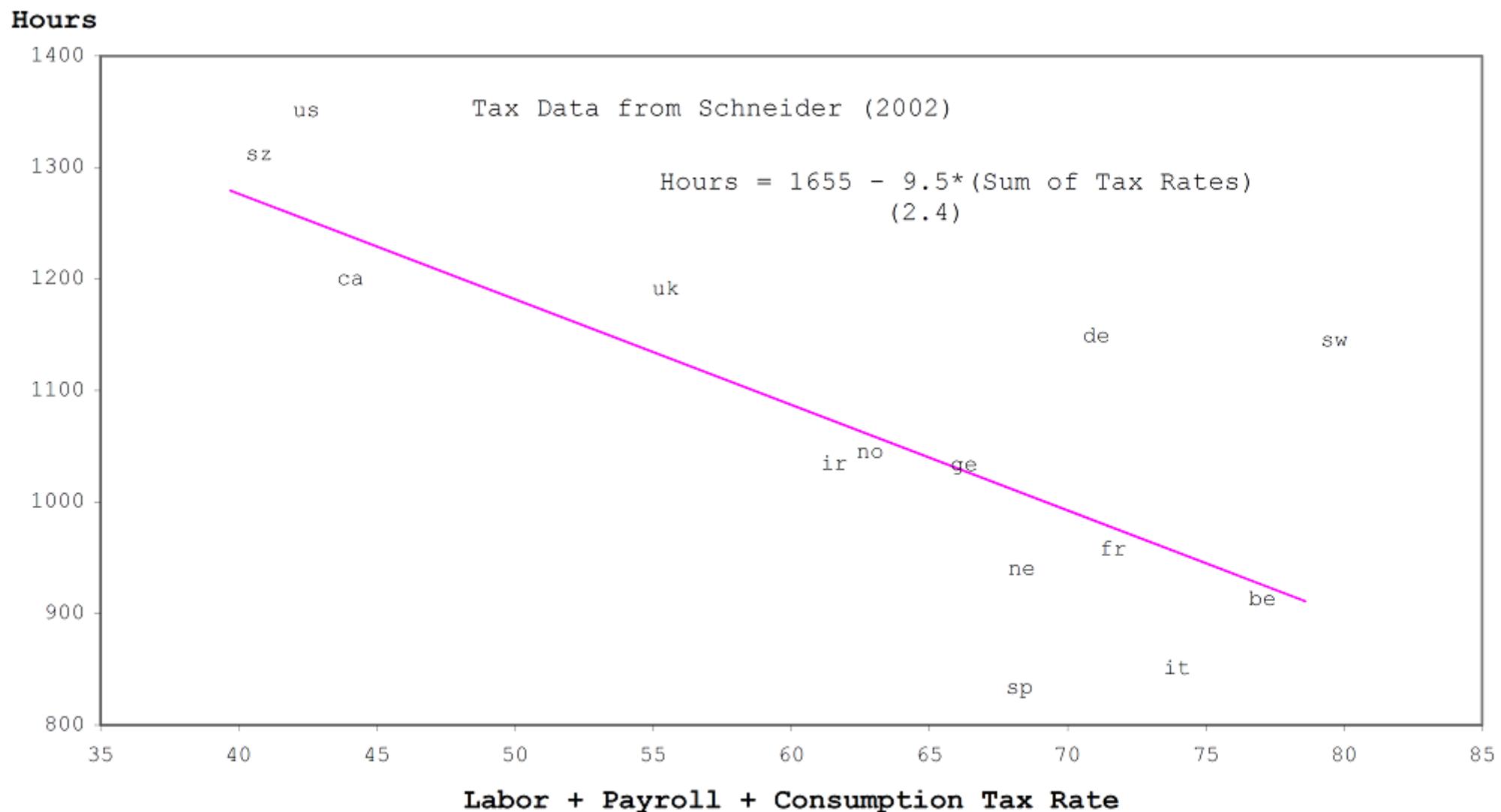
Period	Country	Labor Supply*		Differences (Predicted Less Actual)	Prediction Factors	
		Actual	Predicted		Tax Rate τ	Consumption/ Output (c/y)
1993–96	Germany	19.3	19.5	.2	.59	.74
	France	17.5	19.5	2.0	.59	.74
	Italy	16.5	18.8	2.3	.64	.69
	Canada	22.9	21.3	-1.6	.52	.77
	United Kingdom	22.8	22.8	0	.44	.83
	Japan	27.0	29.0	2.0	.37	.68
	United States	25.9	24.6	-1.3	.40	.81
1970–74	Germany	24.6	24.6	0	.52	.66
	France	24.4	25.4	1.0	.49	.66
	Italy	19.2	28.3	9.1	.41	.66
	Canada	22.2	25.6	3.4	.44	.72
	United Kingdom	25.9	24.0	-1.9	.45	.77
	Japan	29.8	35.8	6.0	.25	.60
	United States	23.5	26.4	2.9	.40	.74

*Labor supply is measured in hours worked per person aged 15–64 per week.

Sources: See Appendix.

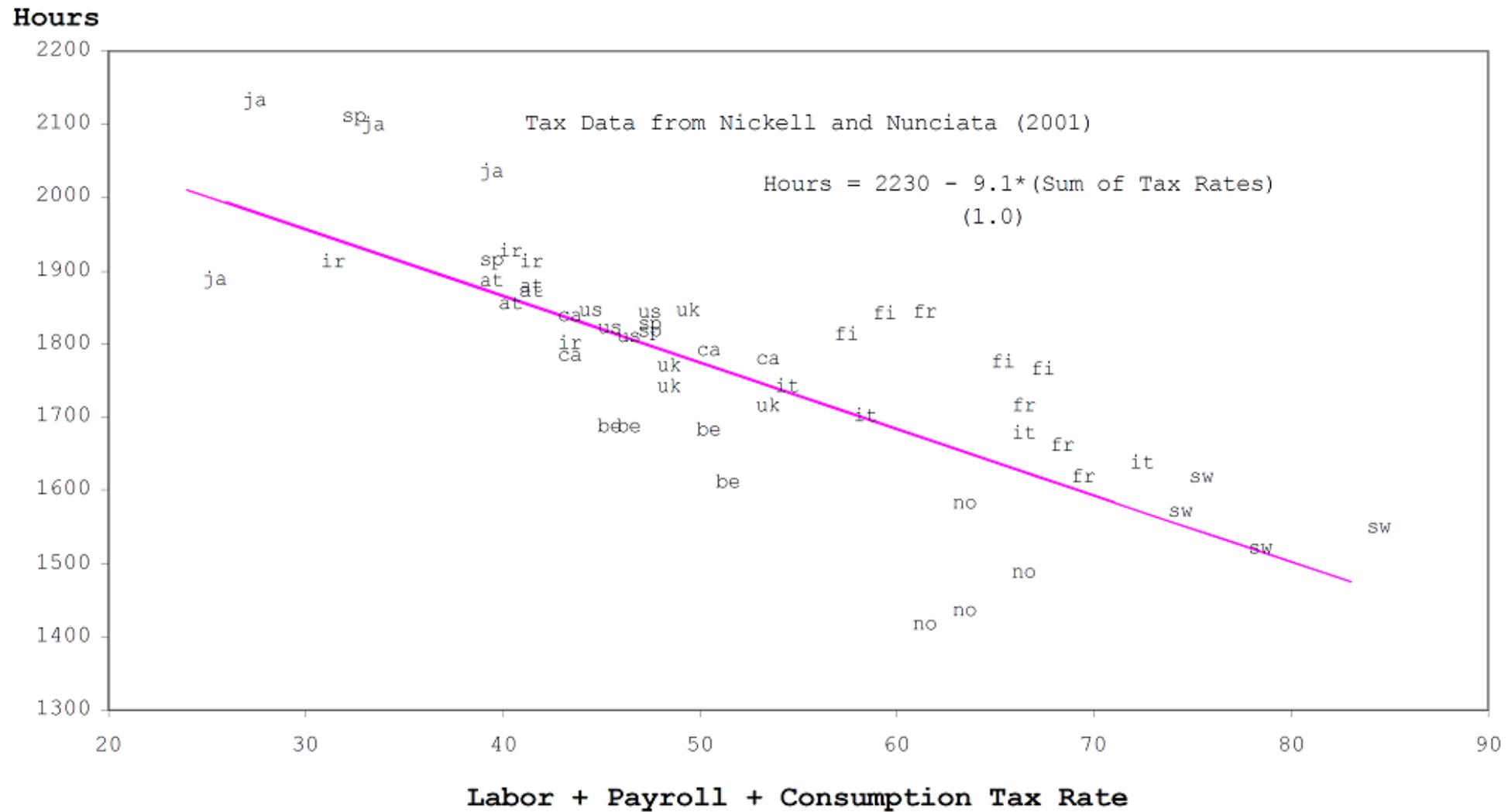
Source: Prescott (2004)

Figure 1: Tax Rates and Annual Work Hours Per Adult
Sample D: 14 Countries in 1995



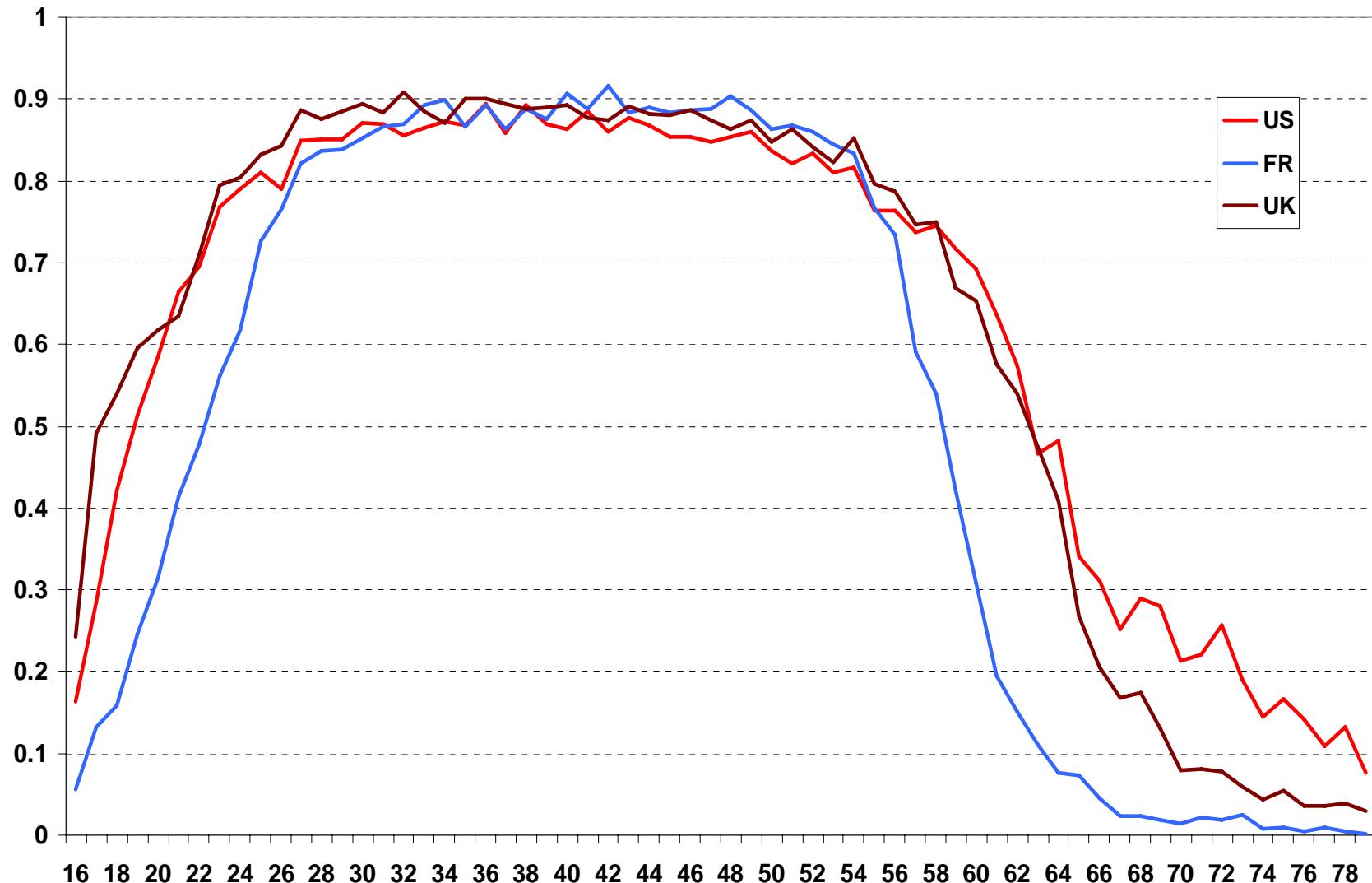
Source: Davis and Henrekson 2005

Figure 2: Tax Rates and Annual Hours Per Employed Person
Sample A: 13 Countries with Data for 1977, 1983, 1990 and 1995

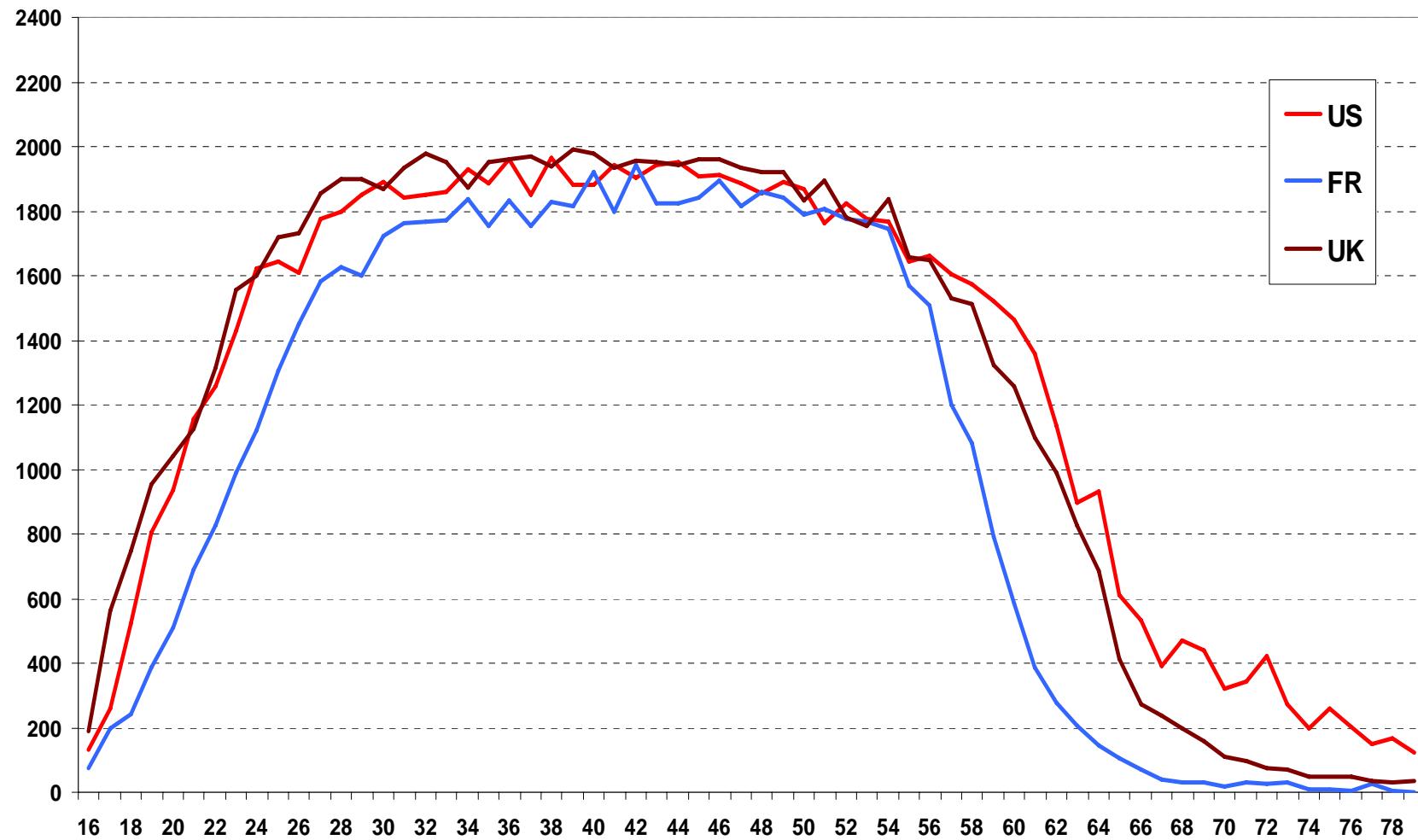


Source: Davis and Hennrekson 2005

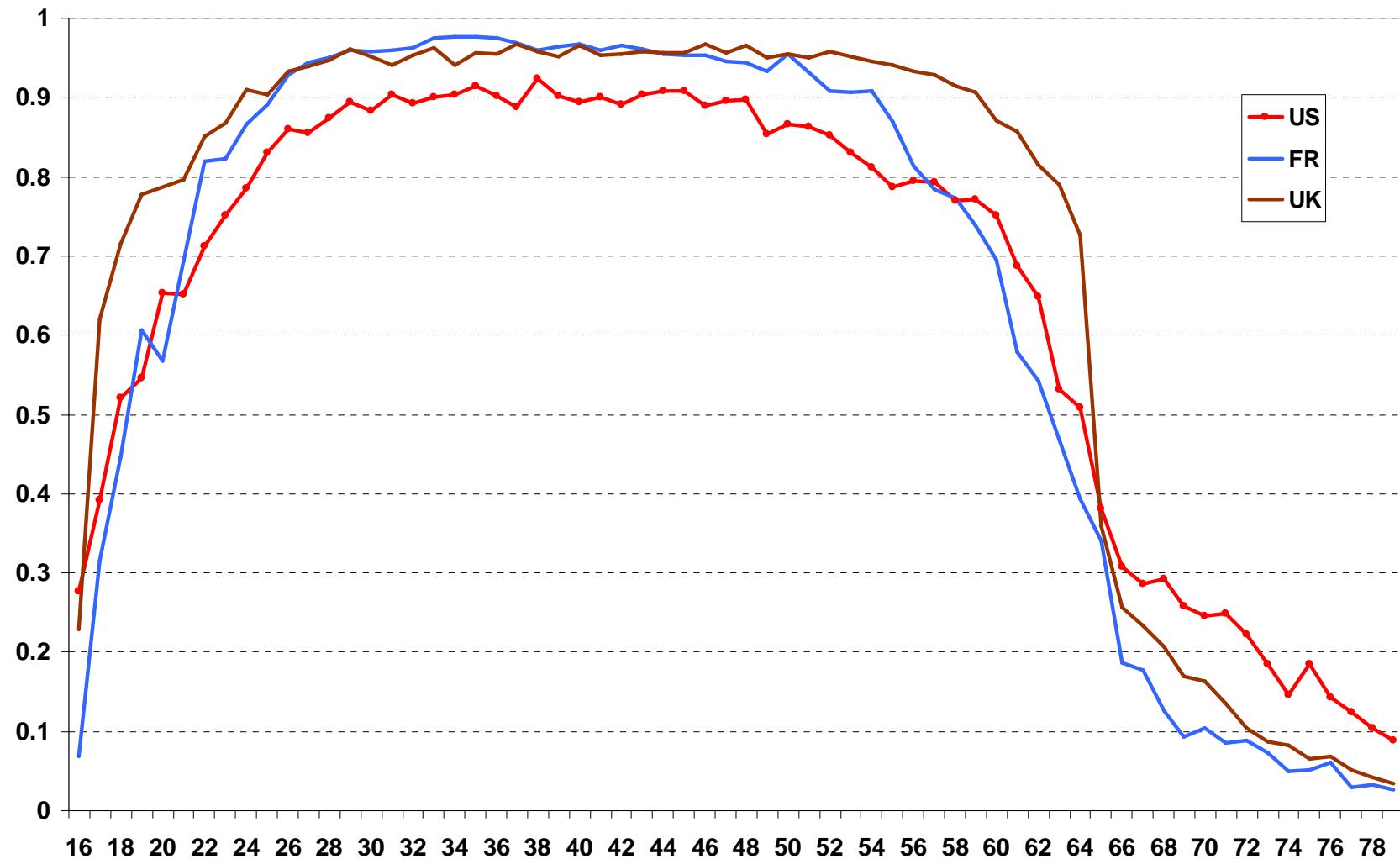
Male employment by age – US, FR and UK 2005



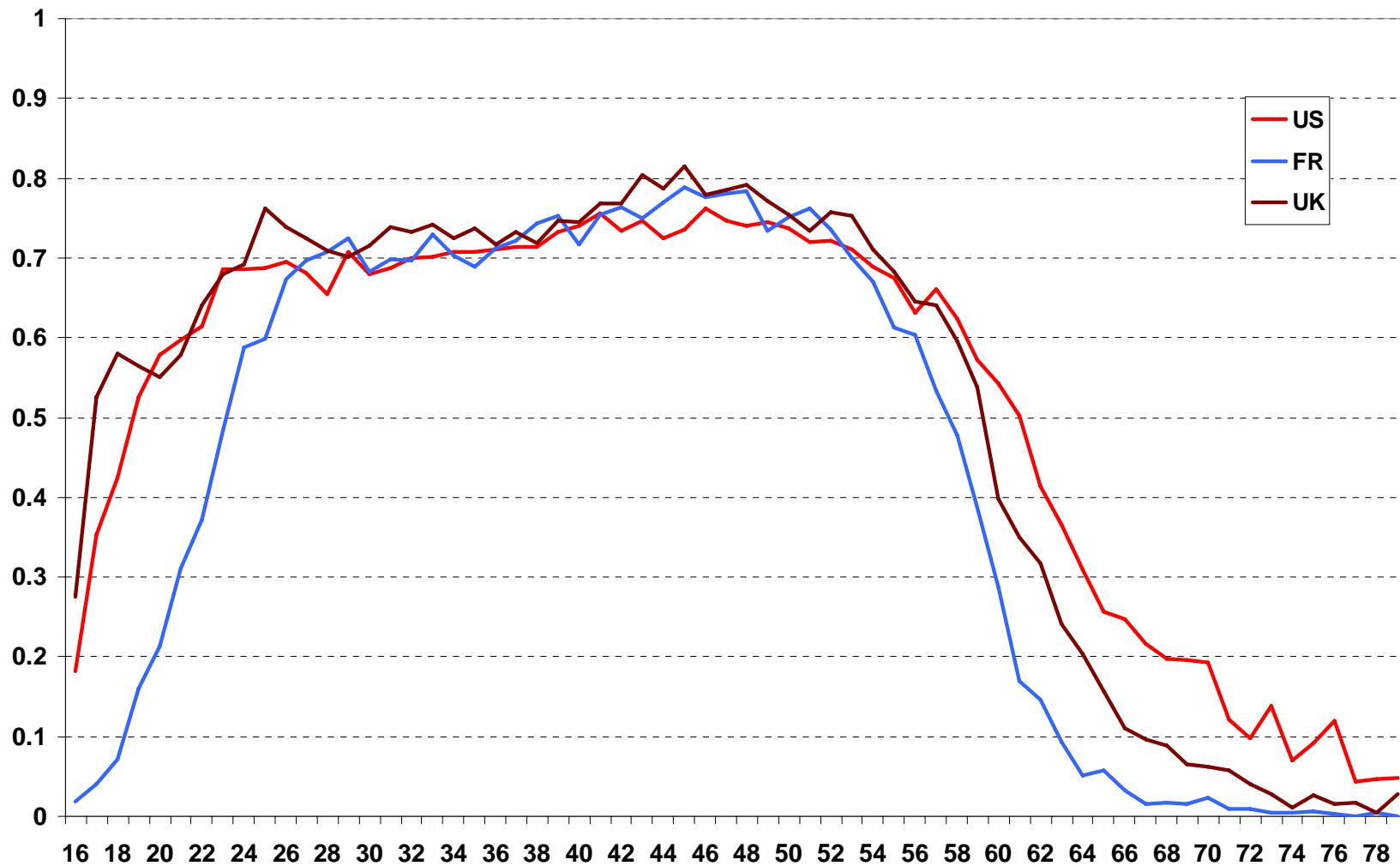
Male Hours by age – US, FR and UK 2005



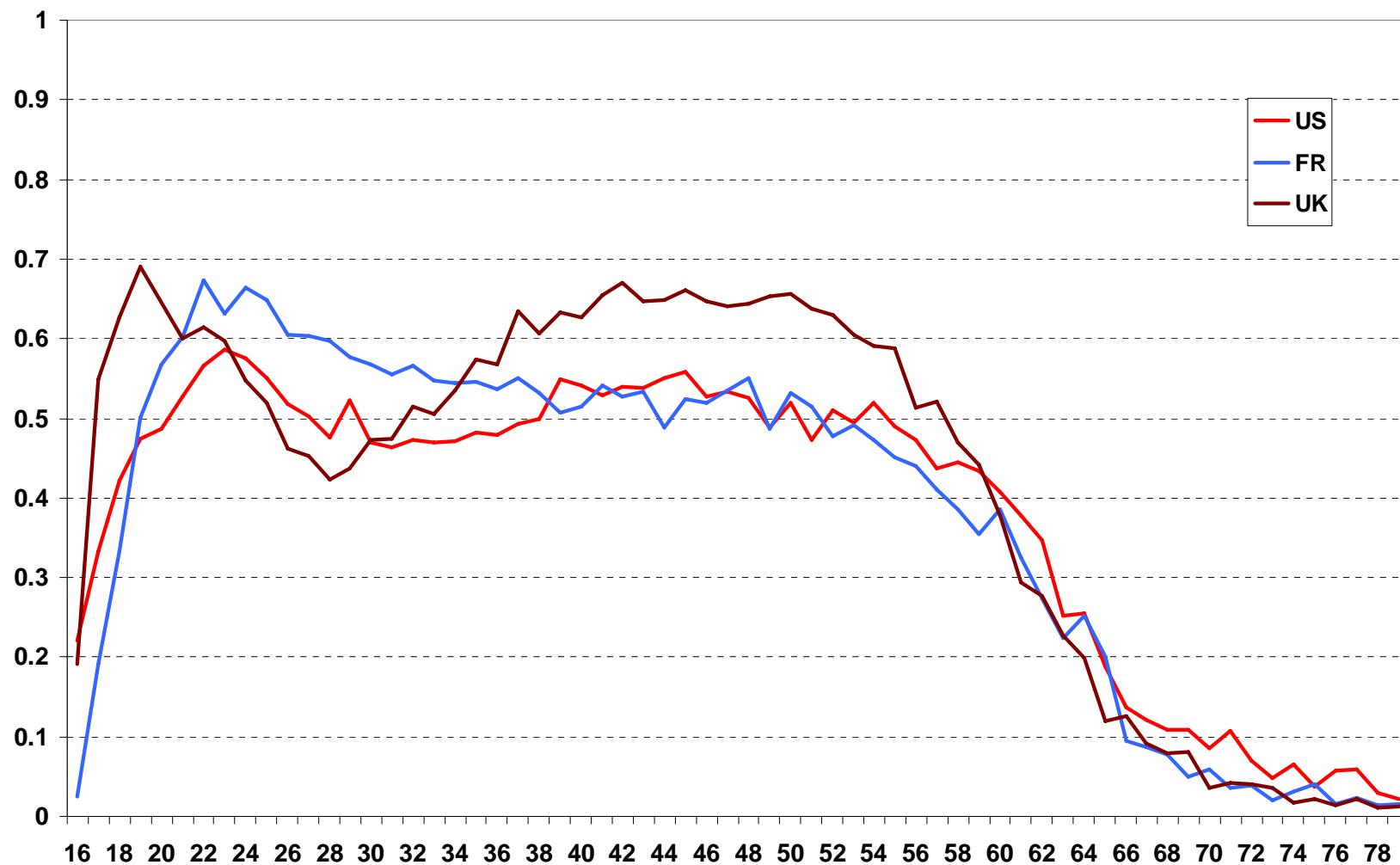
Male employment by age – US, FR and UK 1975



Female Employment by age – US, FR and UK 2005



Female Employment by age – US, FR and UK 1975



Female Hours by age – US, FR and UK 2005

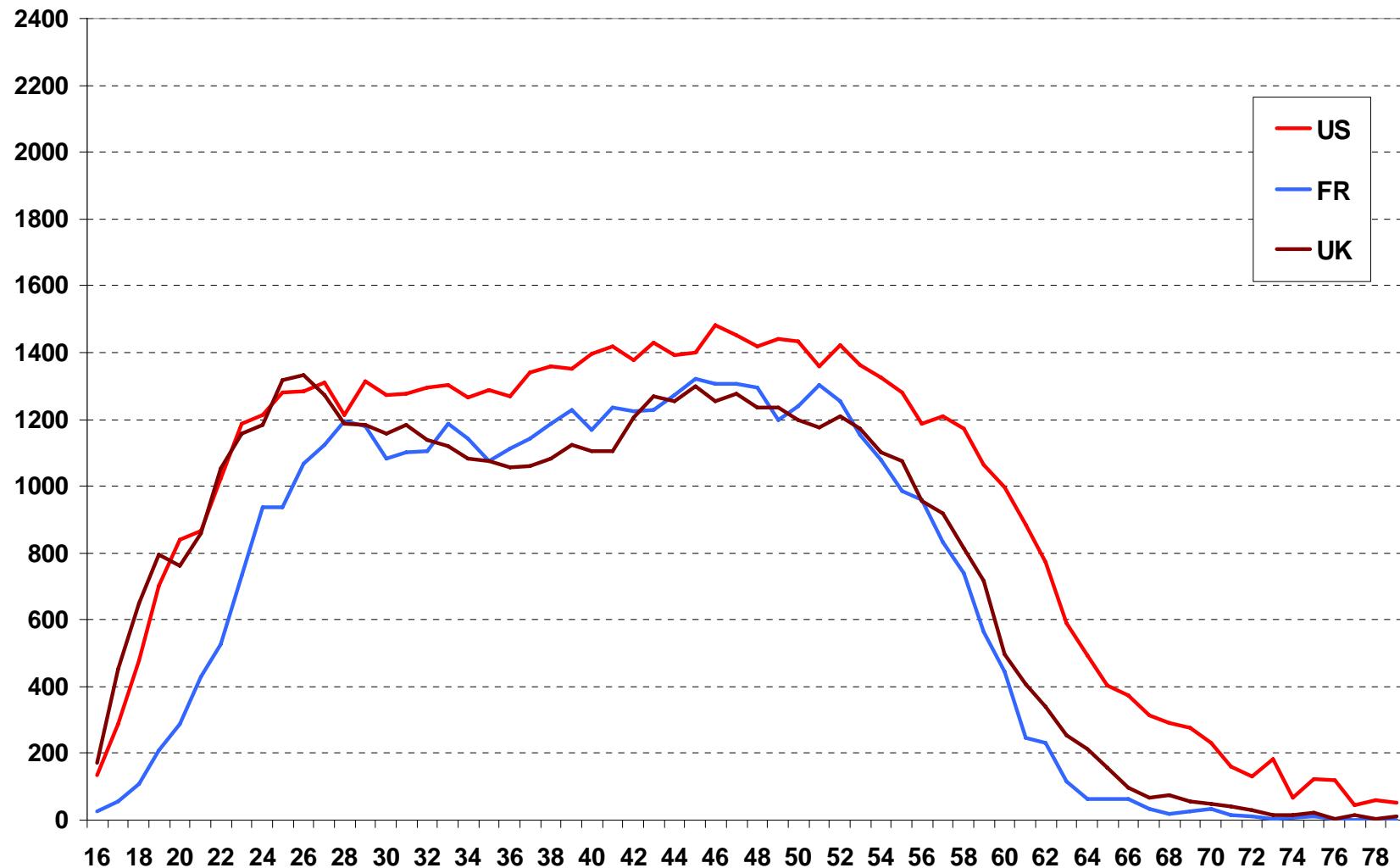
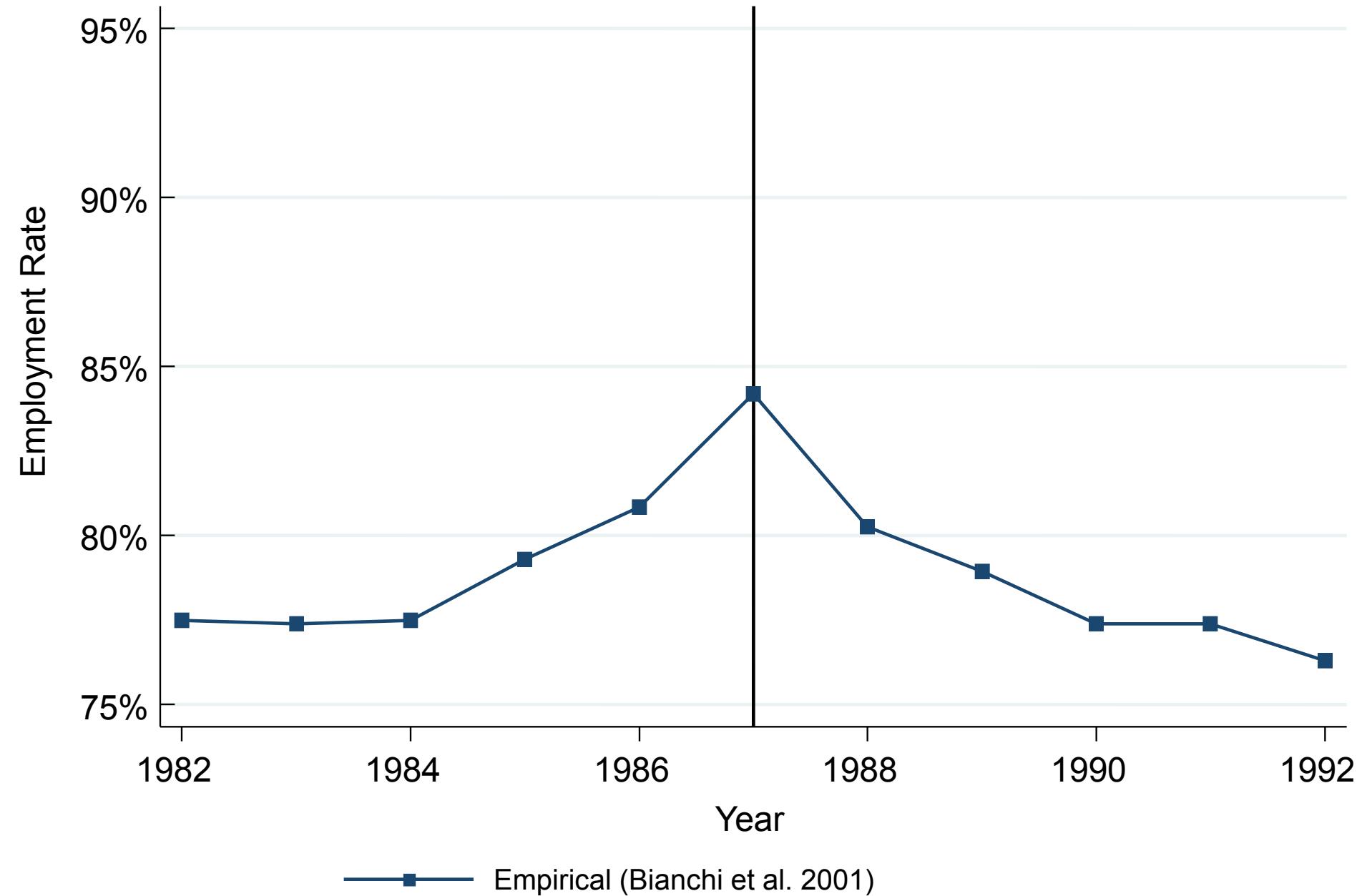


Figure 1a: 1987 Tax Holiday in Iceland



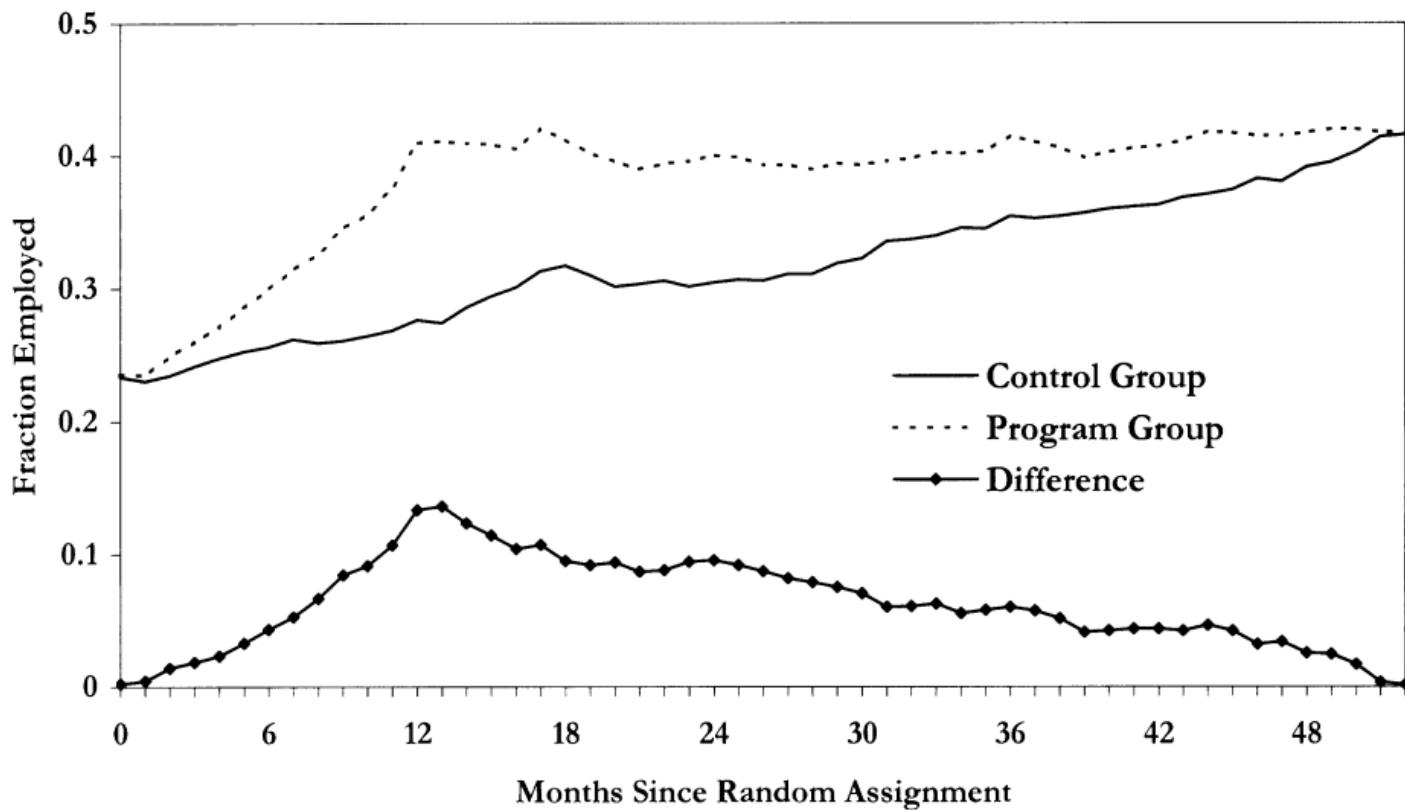
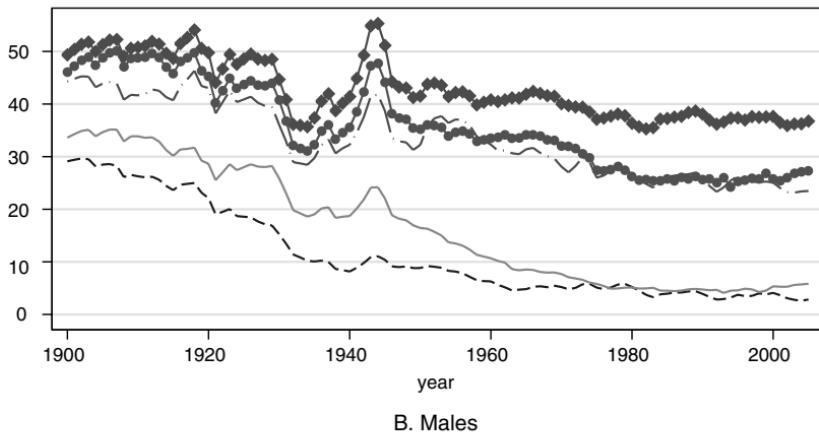
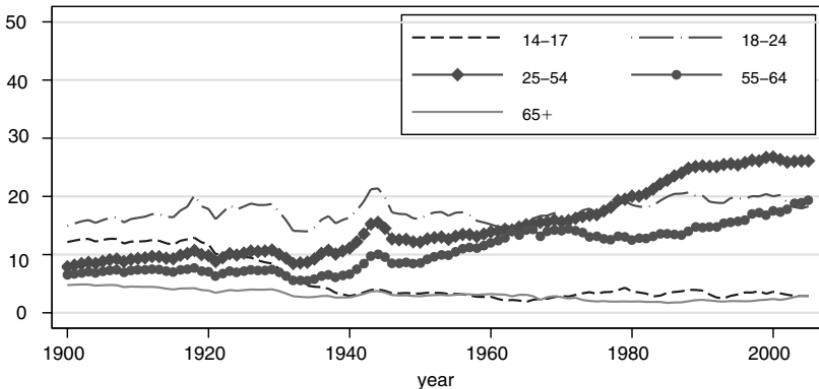


FIGURE 3.—Monthly employment rates.

Source: Card and Hyslop, 2005, p. 1734



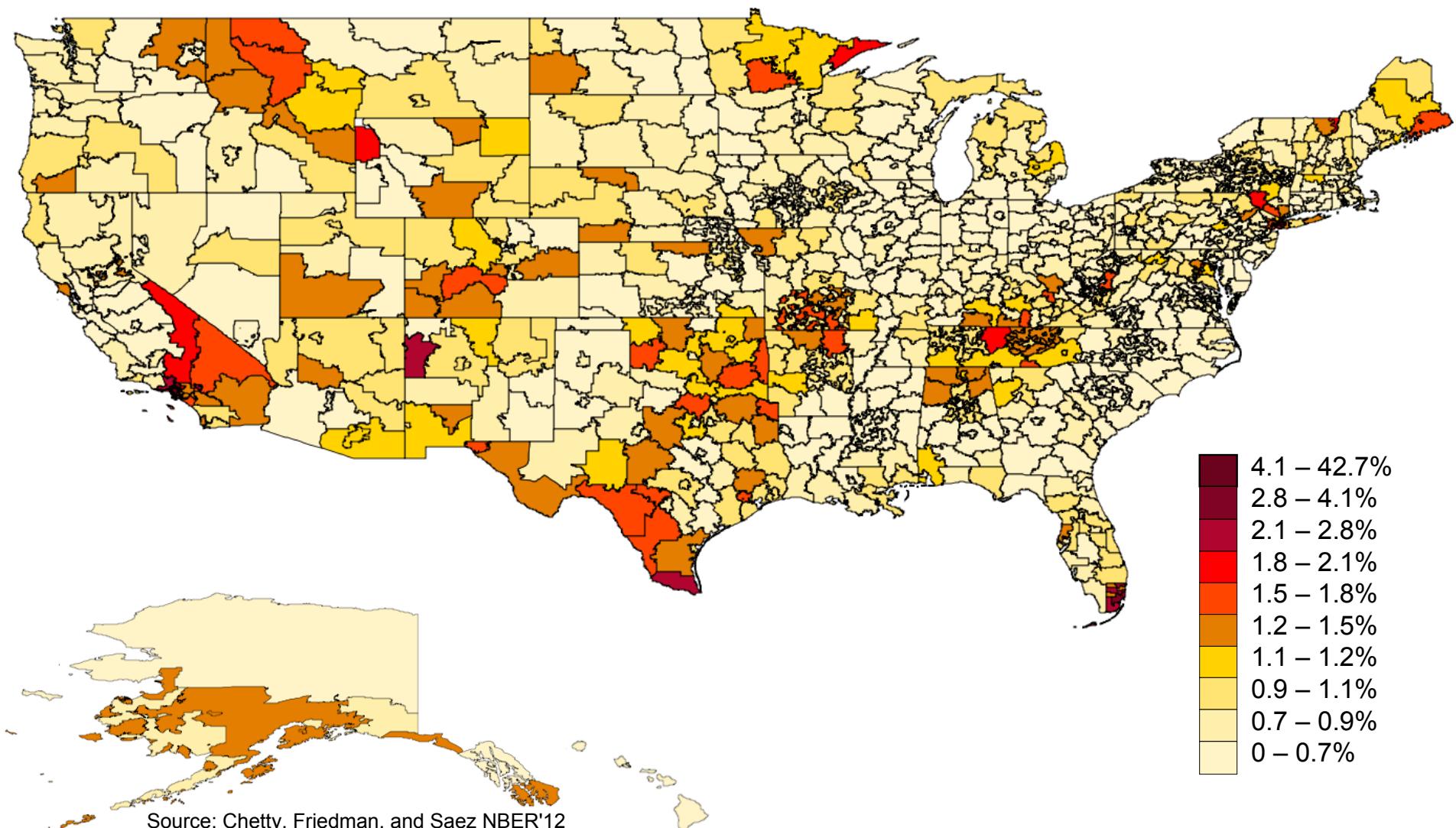
B. Males



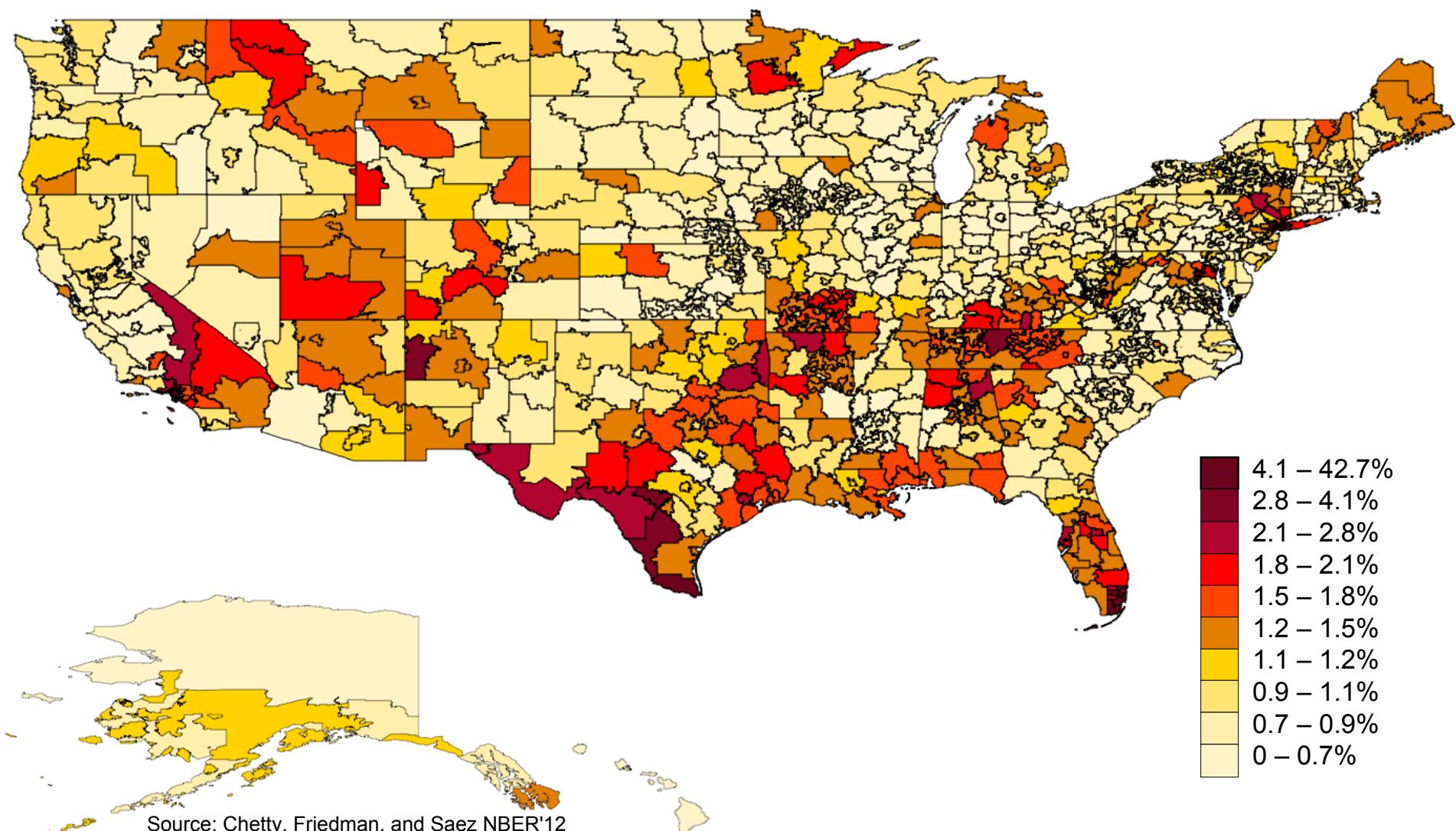
Ramey and Francis AEJ'09 C. Females

FIGURE 2. AVERAGE WEEKLY HOURS WORKED PER PERSON, BY AGE GROUP

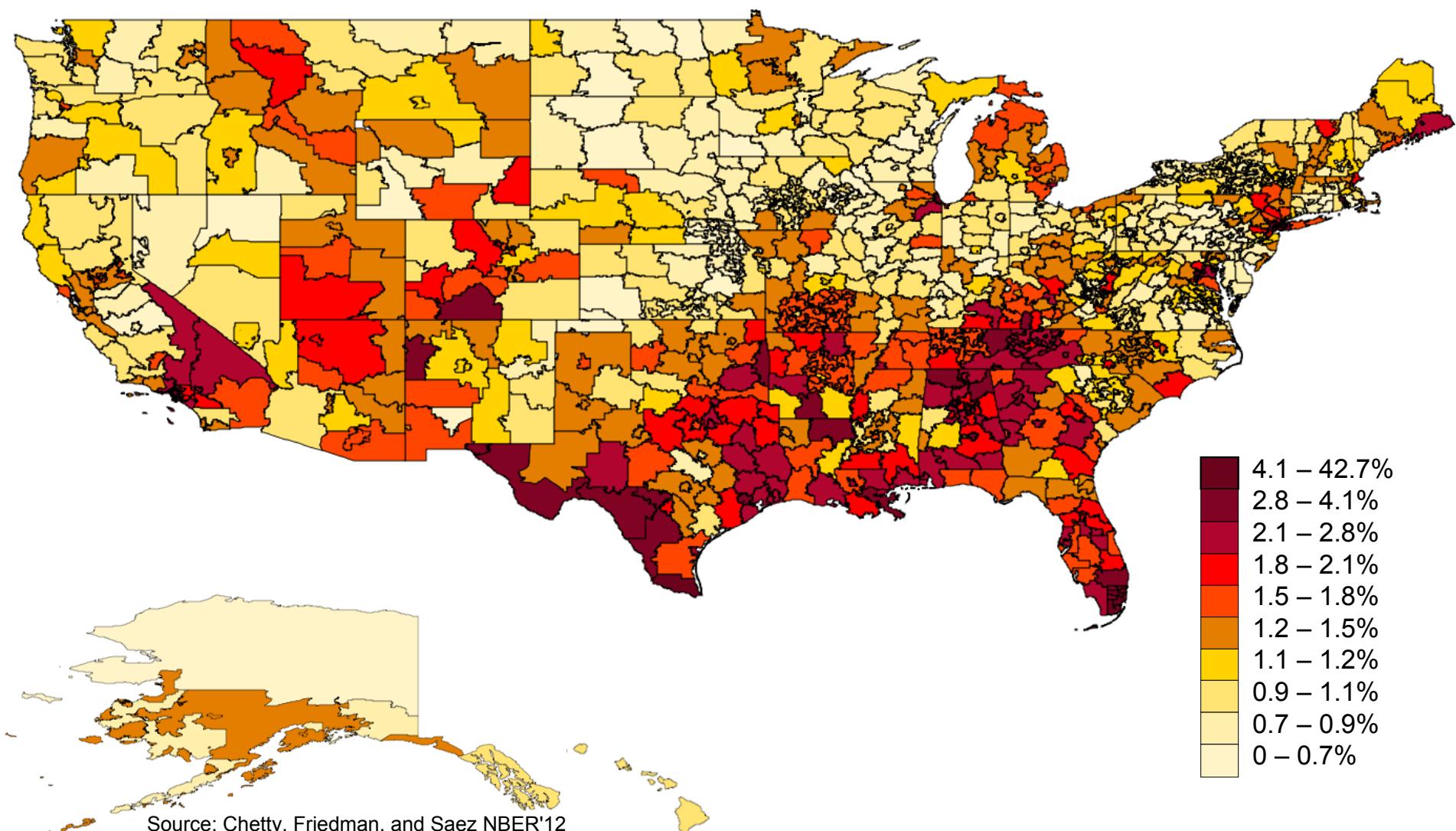
Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 1996



Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 1999

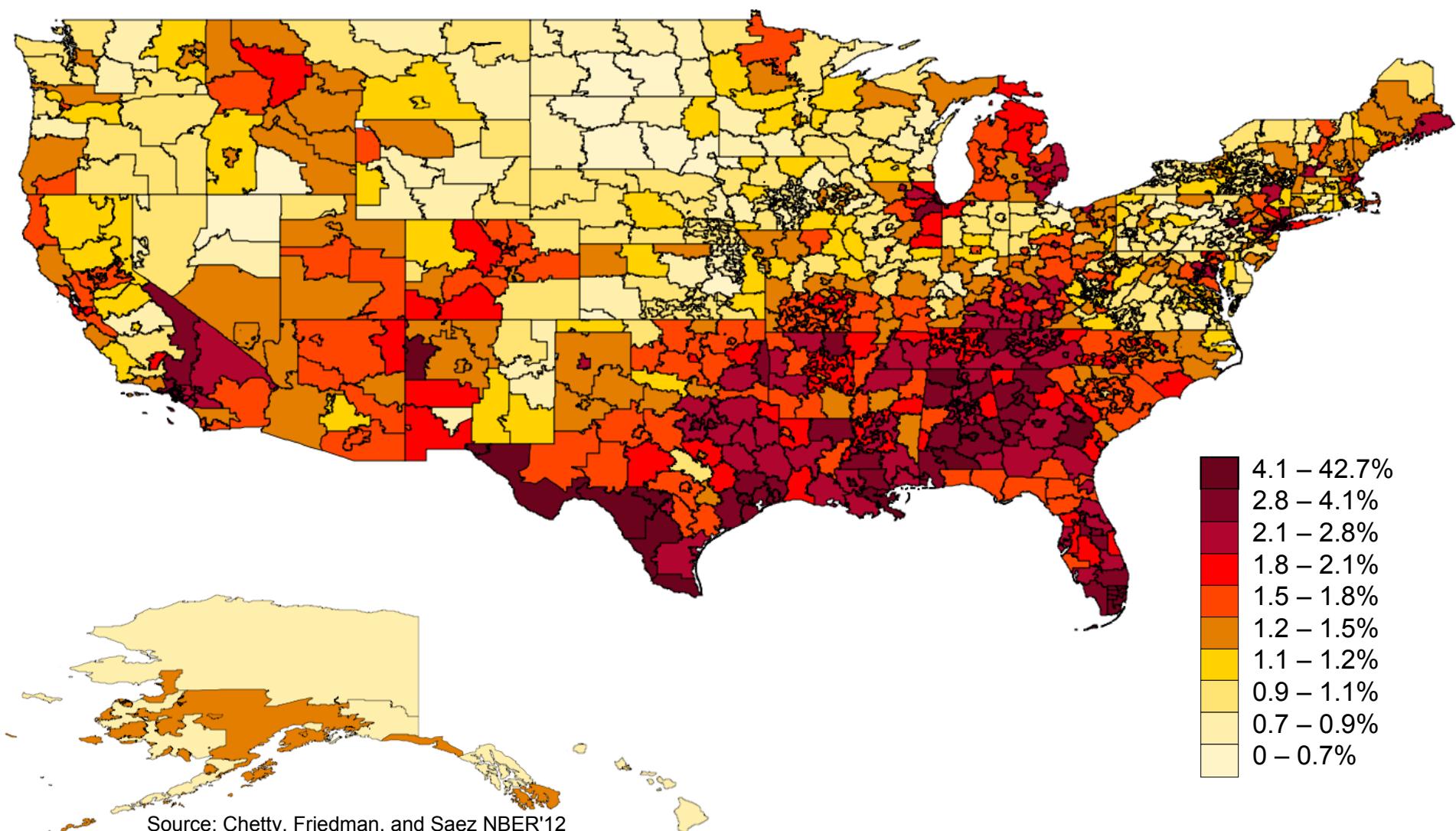


Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 2002



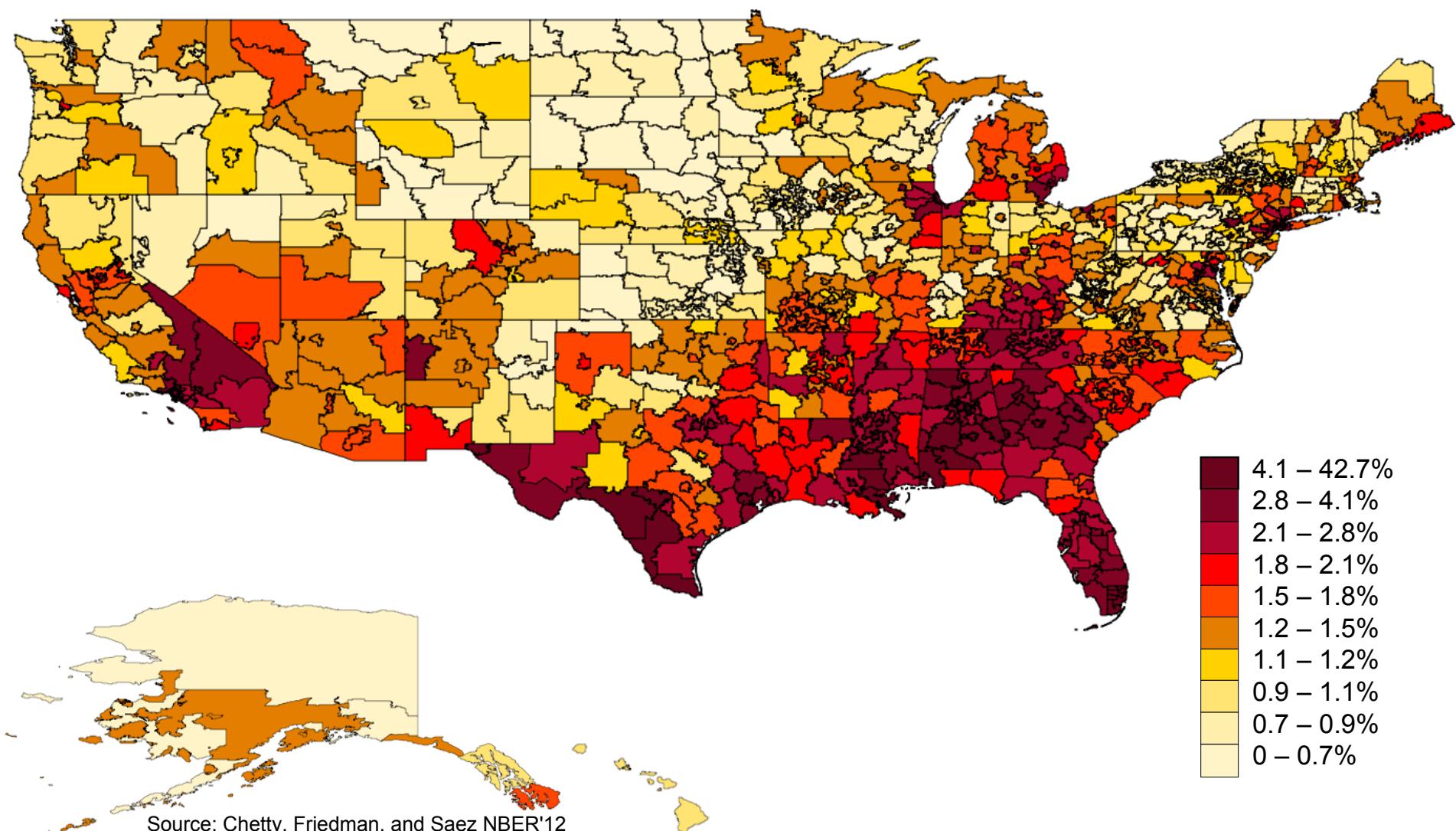
Source: Chetty, Friedman, and Saez NBER'12

Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 2005

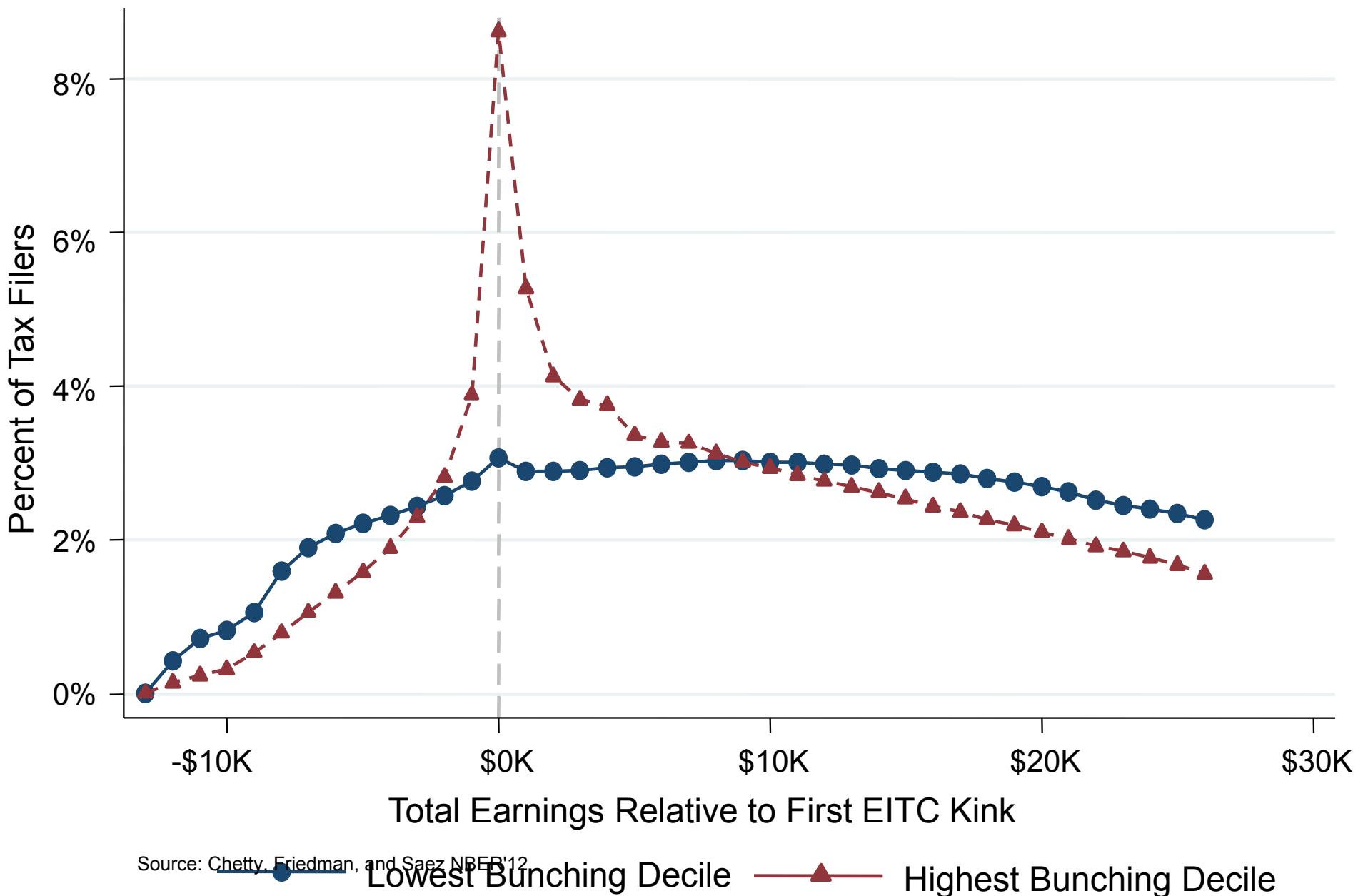


Source: Chetty, Friedman, and Saez NBER'12

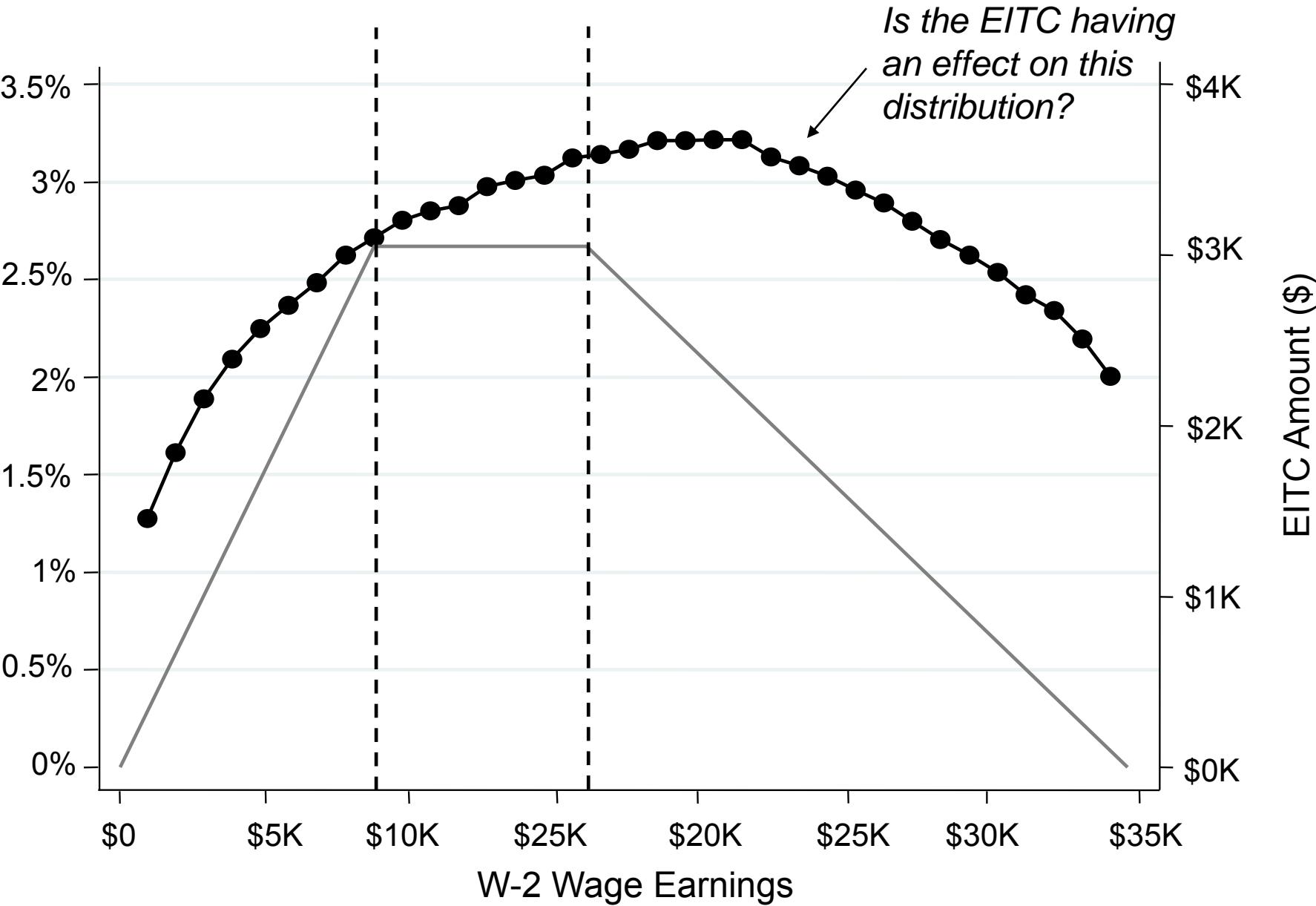
Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 2008



Earnings Distributions in Lowest and Highest Bunching Deciles

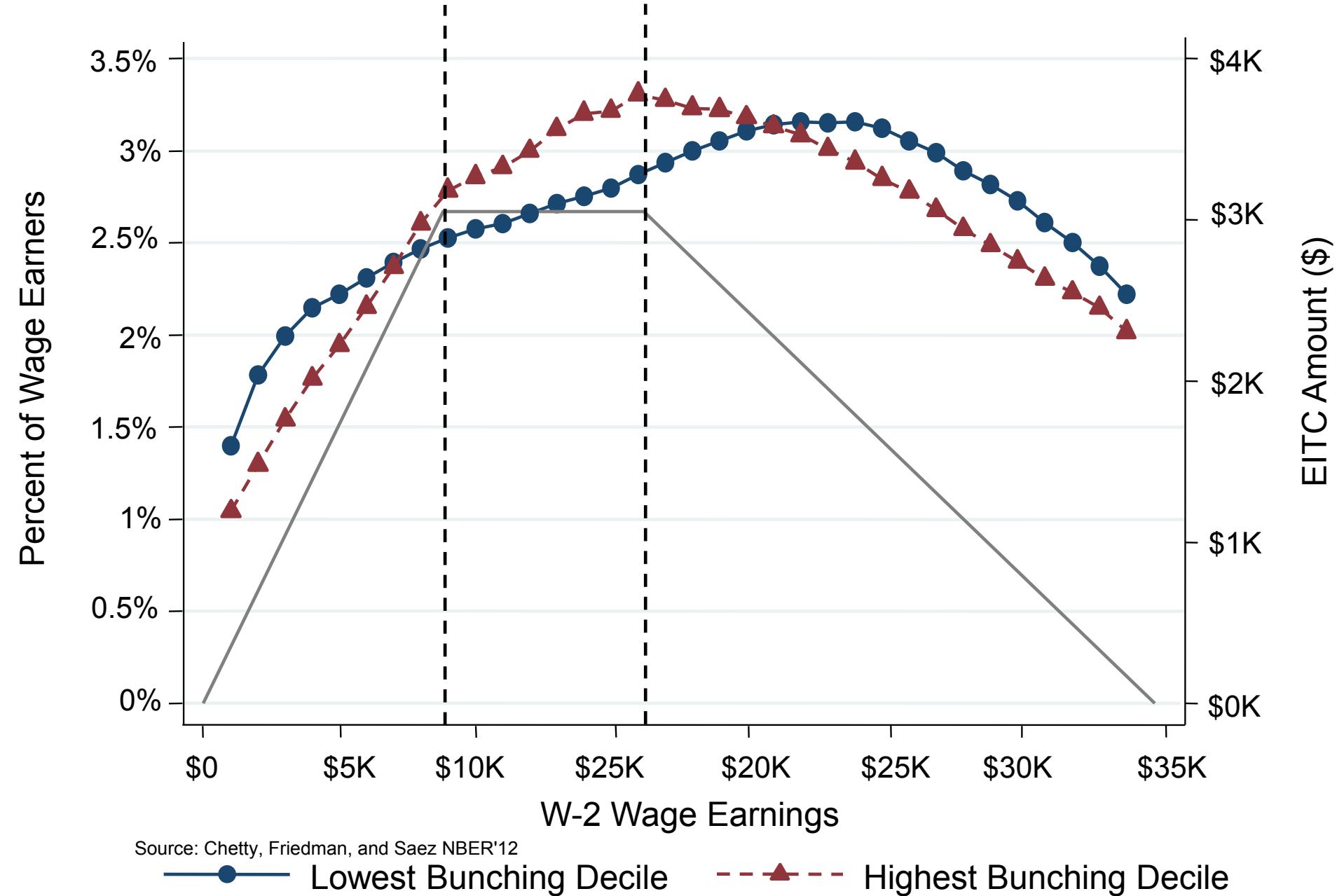


Income Distribution For Single Wage Earners with One Child

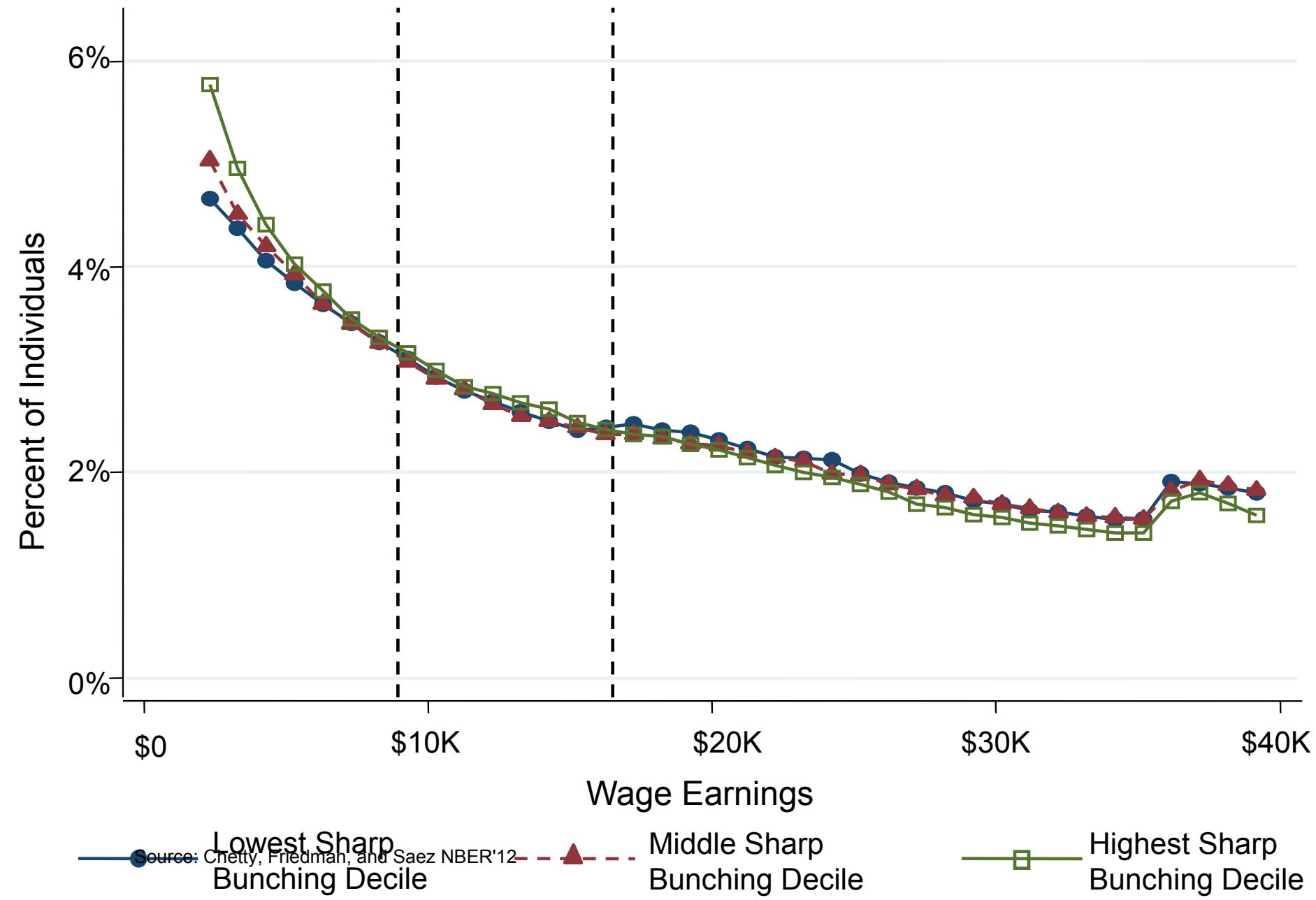


Source: Chetty, Friedman, and Saez NBER'12

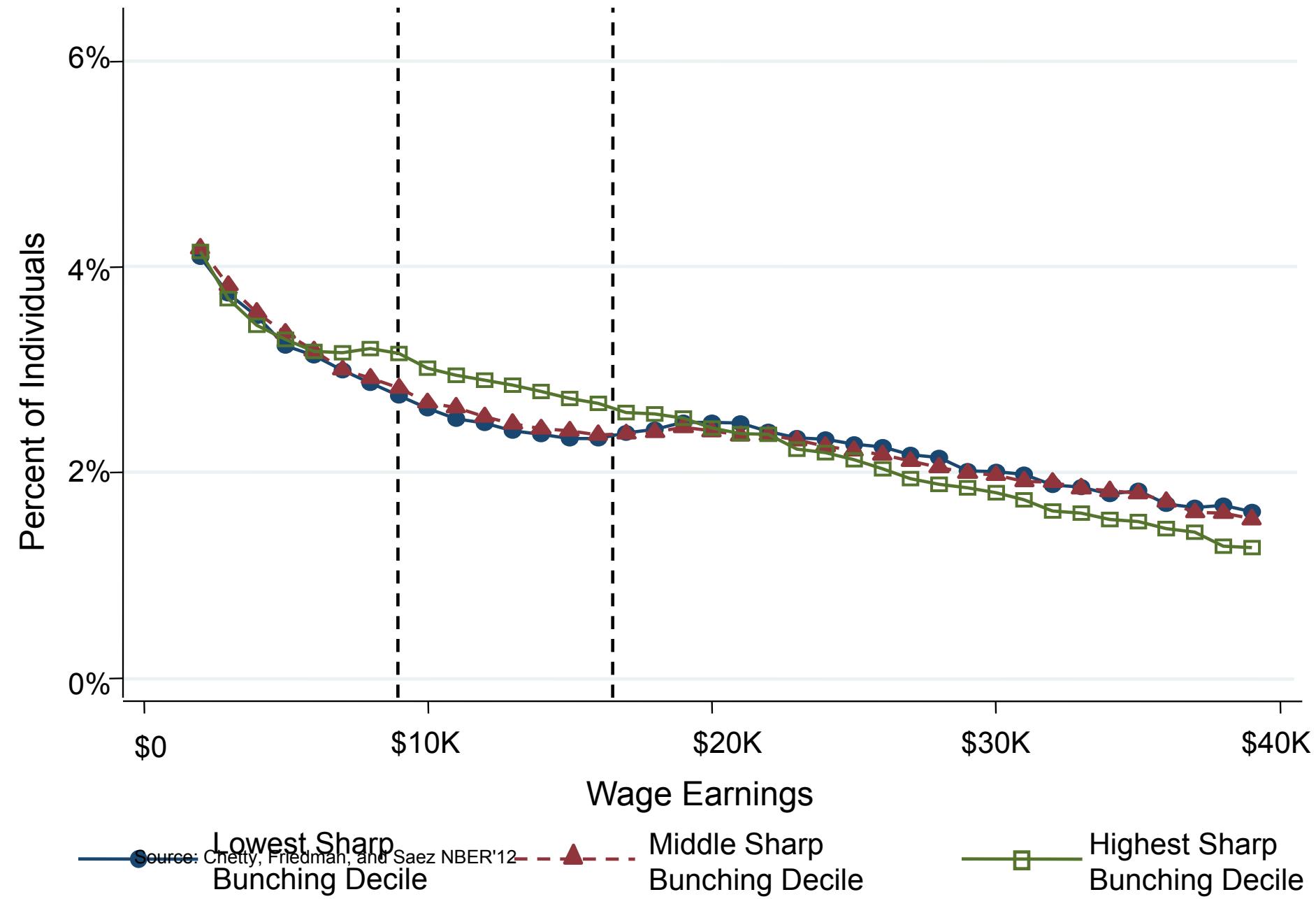
Income Distribution For Single Wage Earners with One Child High vs. Low Bunching Areas



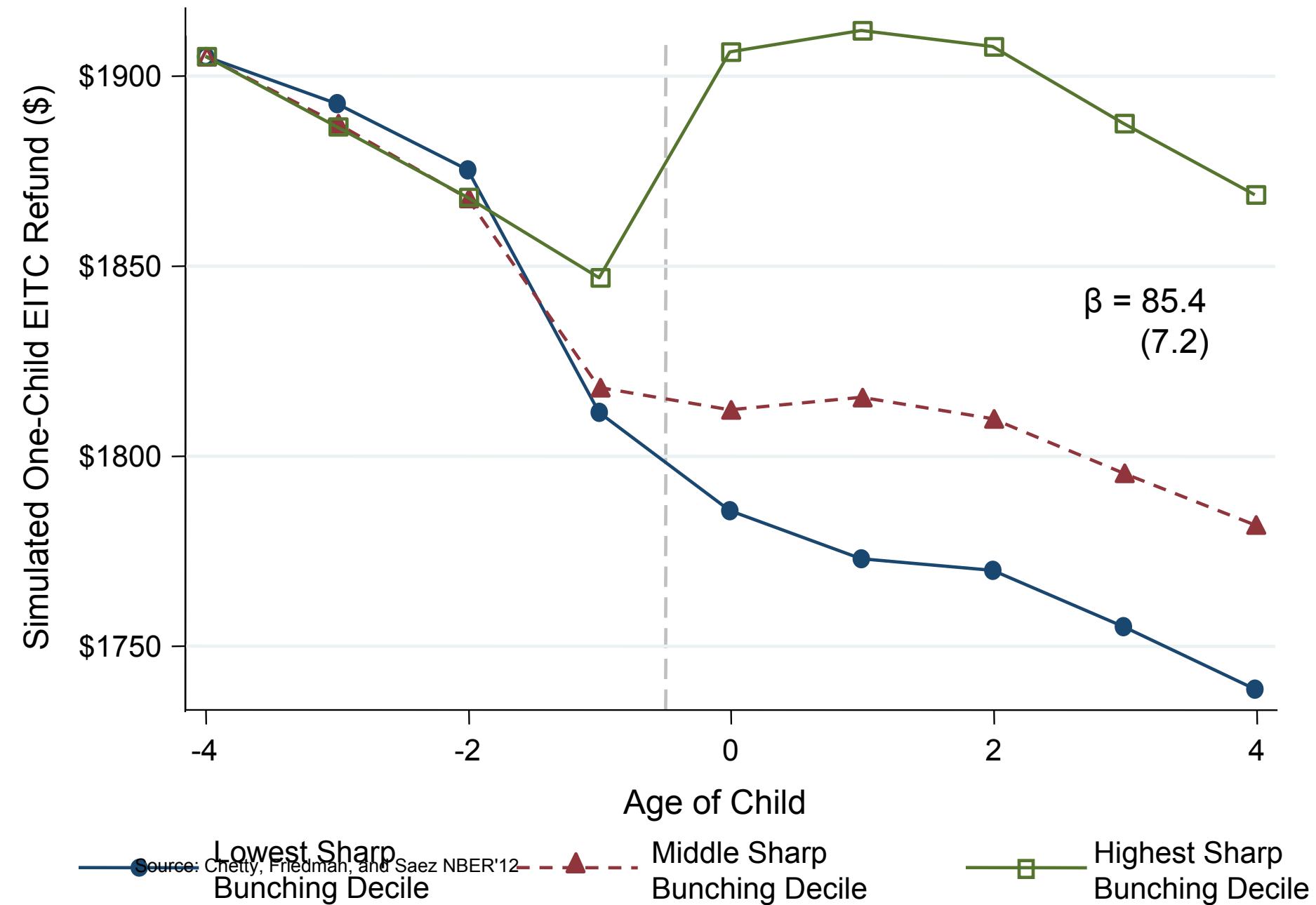
Earnings Distribution in the Year Before First Child Birth for Wage Earners



Earnings Distribution in the Year of First Child Birth for Wage Earners



Simulated EITC Credit Amount for Wage Earners Around First Child Birth



Number of EITC Qualifying Children Claimed Around Birth of 1st Child

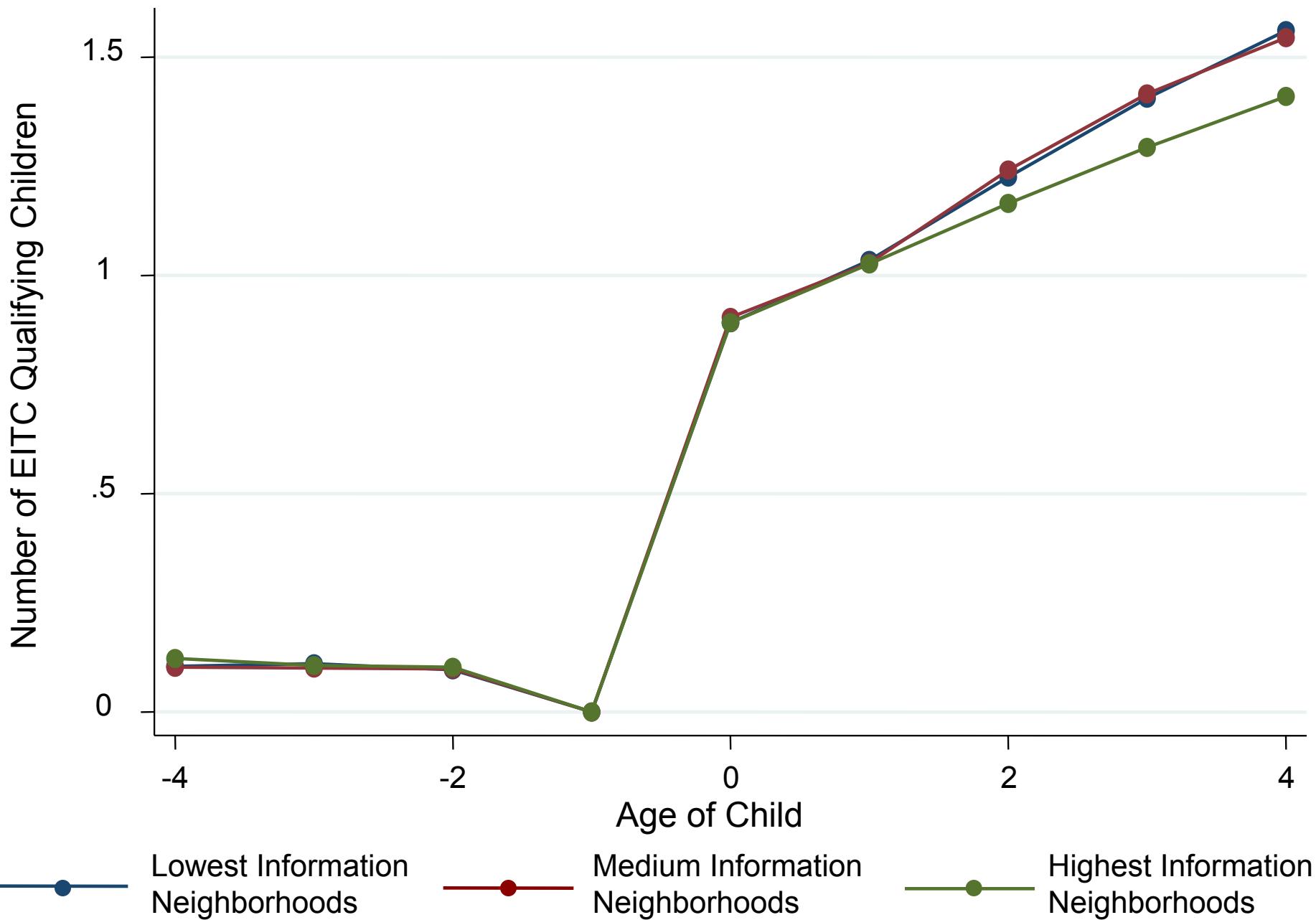
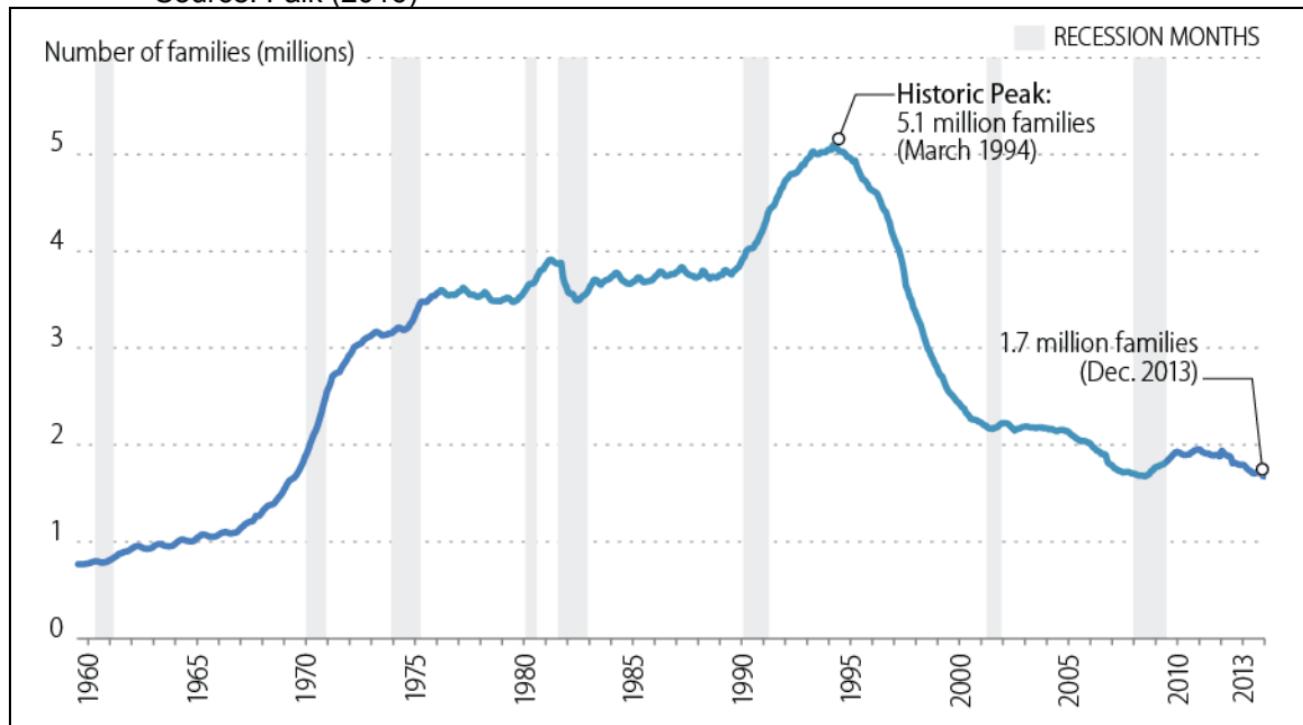


Figure I. Number of Families Receiving AFDC/TANF Cash Assistance, 1959-2013

Source: Falk (2016)

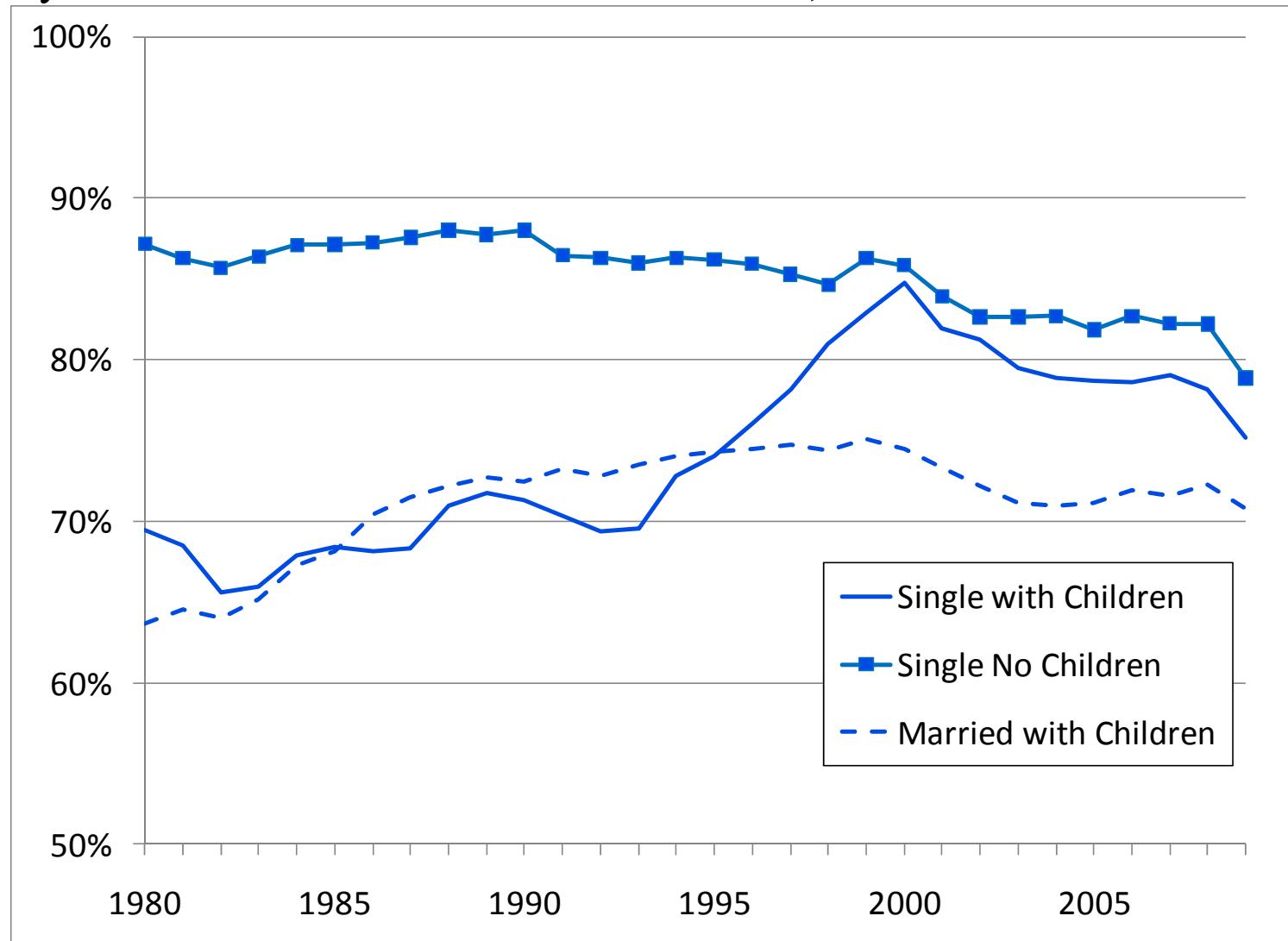
(Families in millions)



Source: Congressional Research Service (CRS), based on data from the U.S. Department of Health and Human Services (HHS).

Notes: Shaded areas represent recessionary periods. Families receiving TANF cash assistance since October 1, 1999, include families receiving cash assistance from separate state programs (SSPs) with expenditures countable toward the TANF maintenance of effort requirement (MOE).

Annual Employment Rates for Women By Marital Status and Presence of Children, 1980-2009



Source: Bitler and Hoynes, Brookings Papers on Economic Activity, 2011.

The landscape providing assistance to poor families with children has changed substantially

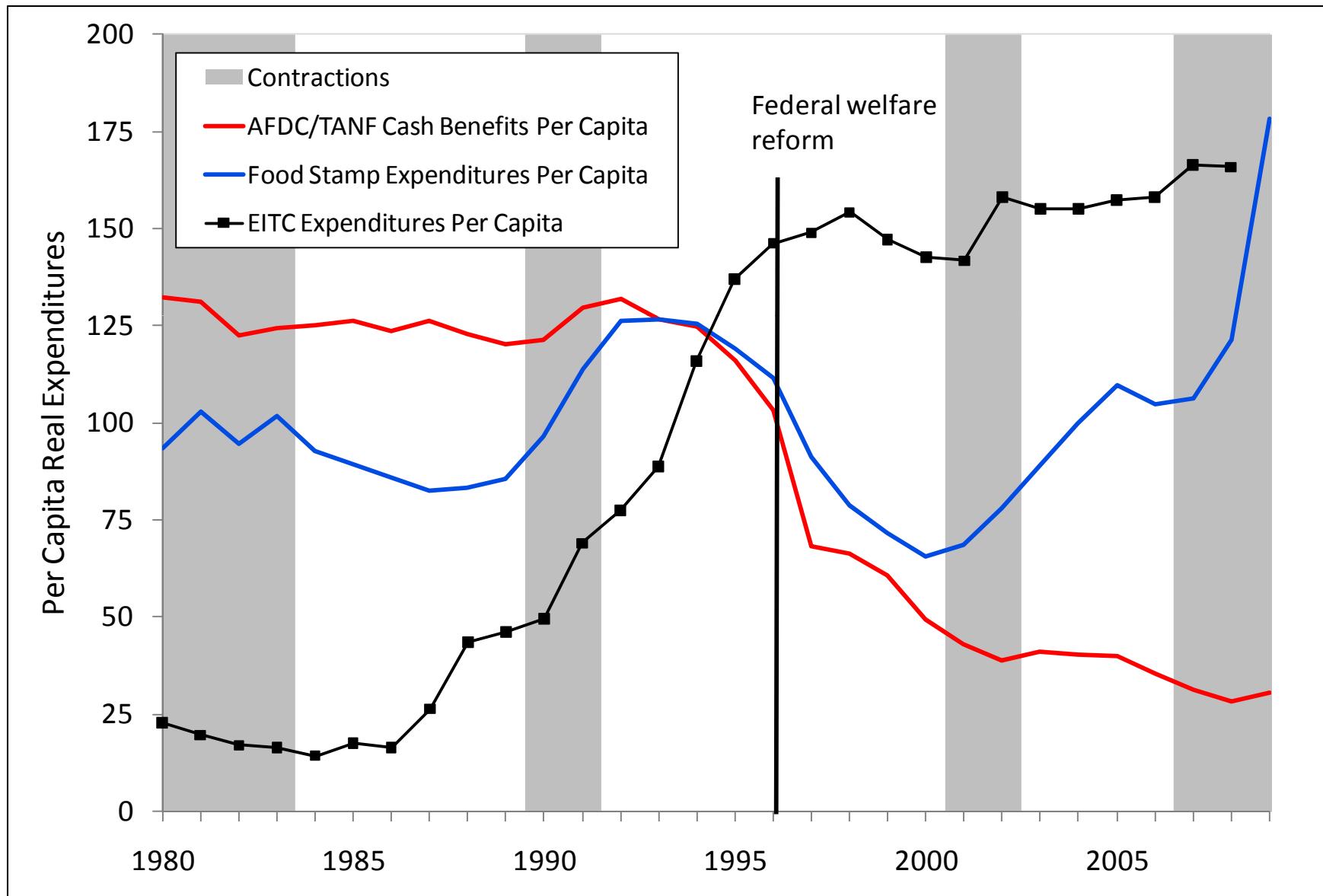
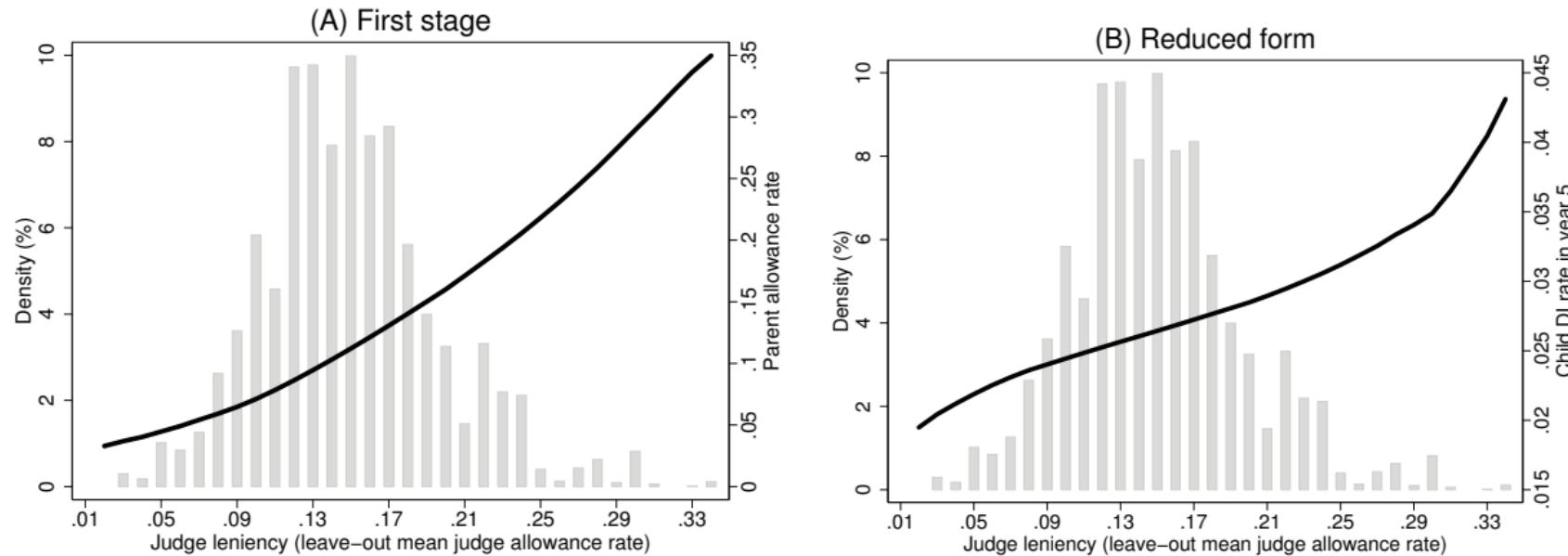


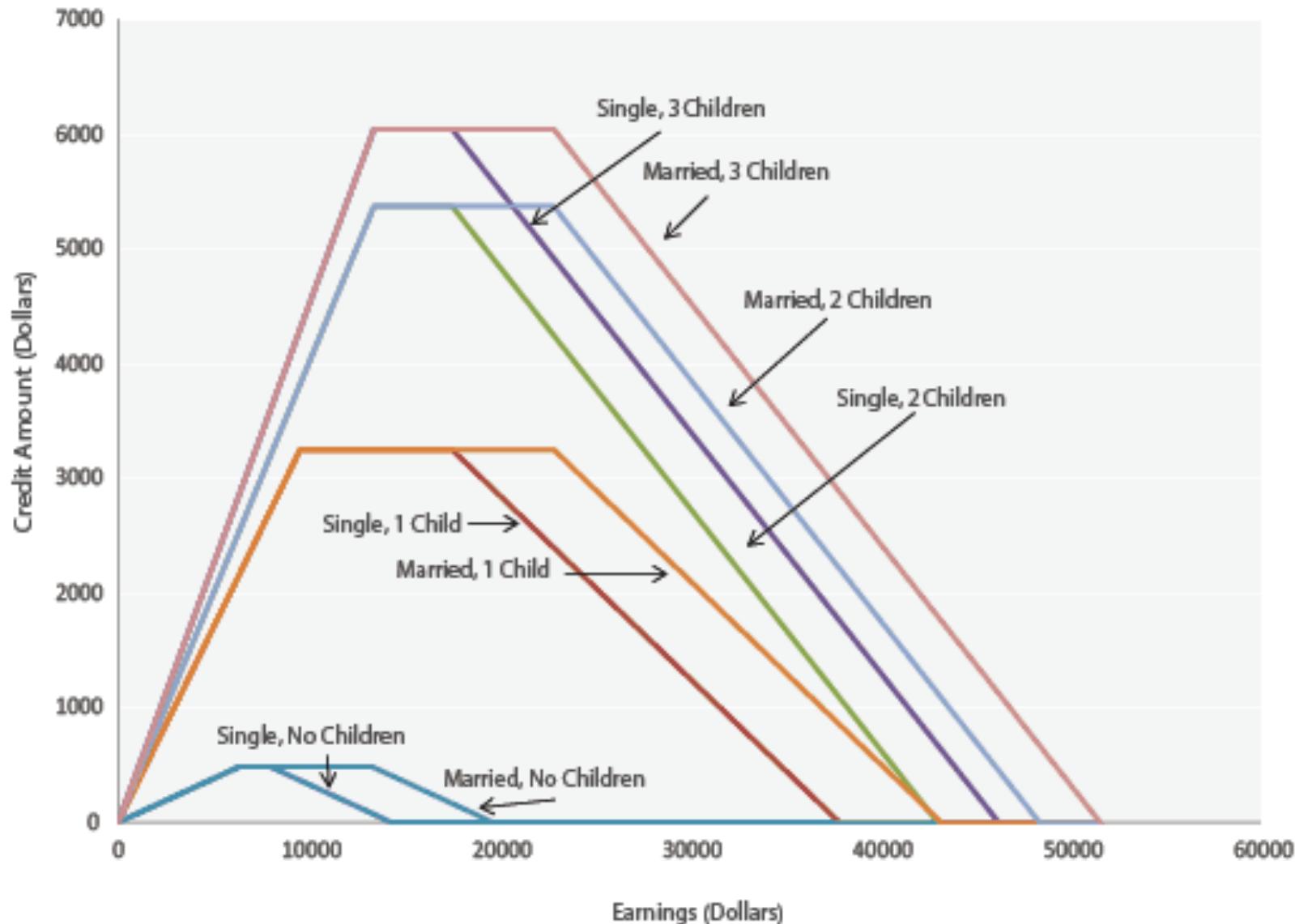
Figure 3: Effect of Judge Leniency on Parents (First Stage) and Children (Reduced Form).



Notes: Baseline sample, consisting of parents who appeal an initially denied DI claim during the period 1989-2005 (see Section 3 for further details). There are 14,893 individual observations and 79 different judges. Panel (A): Solid line is a local linear regression of parental DI allowance on judge leniency. Panel (B): Solid line is a local linear regression of child DI receipt on their parent's judge leniency measure. All regressions include fully interacted year and department dummies. The histogram of judge leniency is shown in the background of both figures (top and bottom 0.5% excluded from the graph).

Source: Dahl, Kostol, Mogstad (2013)

Figure 1: Earned Income Tax Credit by Number of Children and Filing Status, 2013



Source: 2013 EITC parameters taken from <http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?Docid=36>

FIGURE 1
Effect of Notch on Taxpayer Behavior

Panel A: Bunching at the Notch

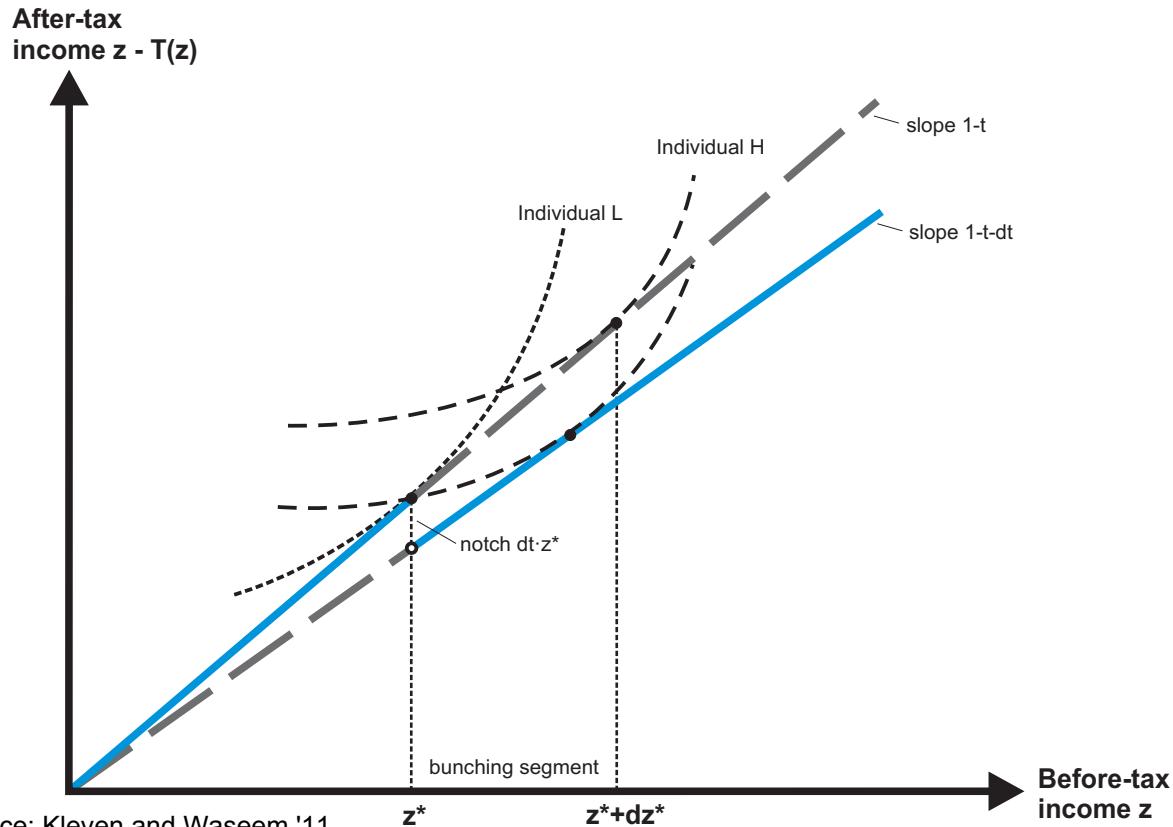
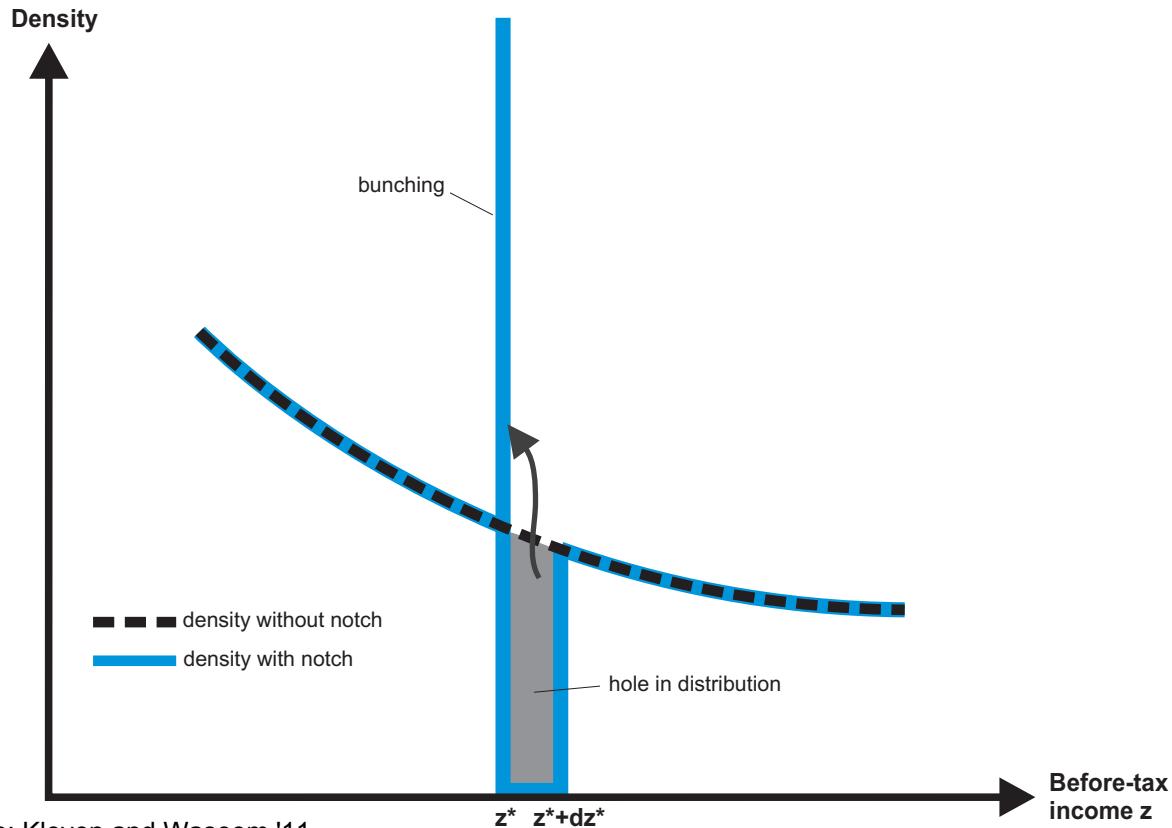


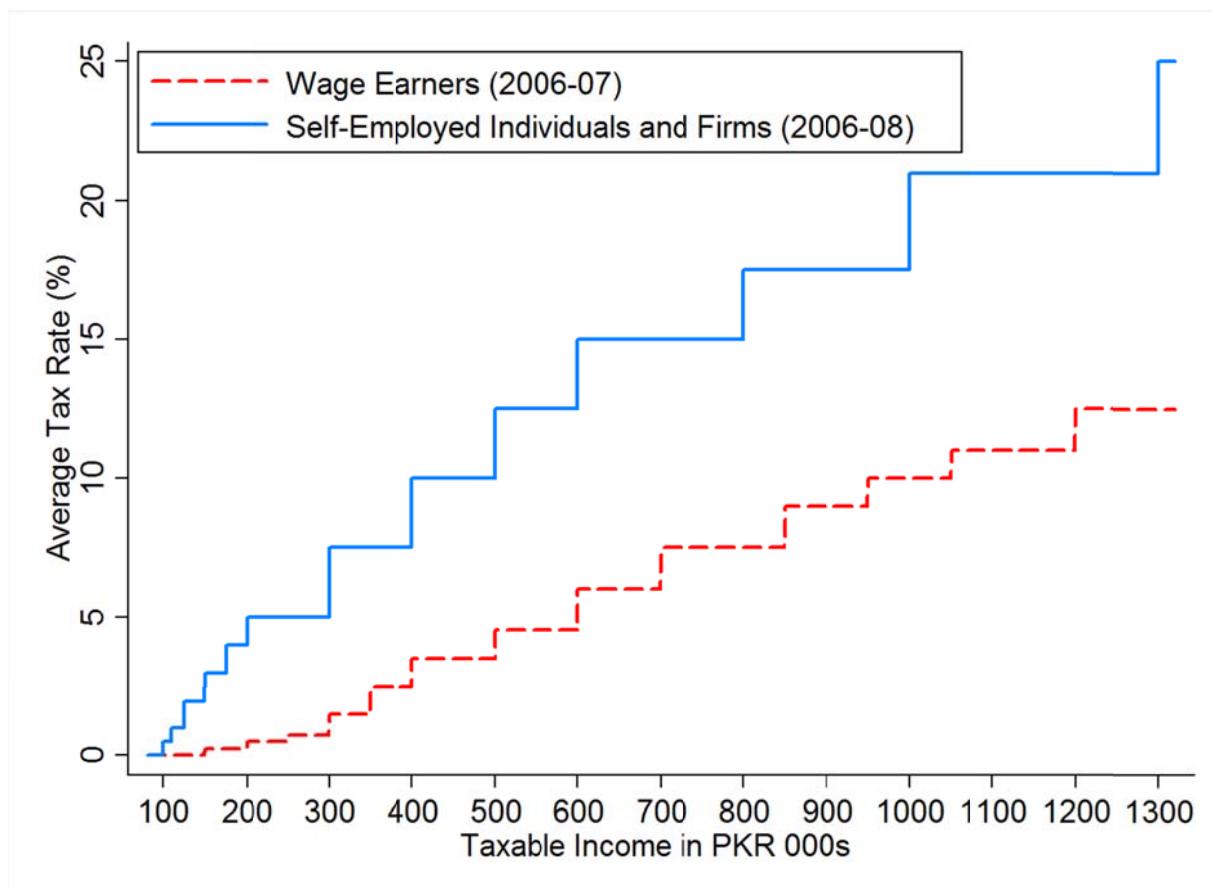
FIGURE 2
Effect of Notch on Density Distribution

Panel A: Theoretical Density Distributions



Source: Kleven and Waseem '11

FIGURE 3
Personal Income Tax Schedules in Pakistan

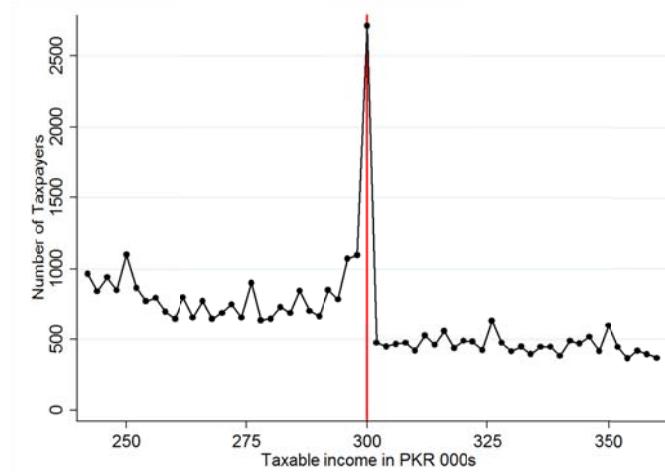


Notes: the figure shows the statutory (average) tax rate as a function of annual taxable income in the personal income tax schedules for wage earners (red dashed line) and self-employed individuals and unincorporated firms (blue solid line), respectively. Taxable income is shown in thousands of Pakistani Rupees (PKR), and the PKR-USD exchange rate is around 85 as of April 2011. The schedule for the self-employed applies to the full period of this study (2006-08), while the schedule for wage earners applies only to 2006-07 and was changed by a tax reform in 2008. The tax system classifies individuals as either wage earners or self-employed based on whether income from wages or self-employment constitute the larger share of total income, and then taxes total income according to the assigned schedule. The tax schedule for self-employed individuals and firms consists of 14 brackets, while the tax schedule for wage earners consists of 21 brackets (the first 14 of which are shown in the figure). Each bracket cutoff is associated with a notch, and the cutoff itself belongs to the tax-favored side of the notch.

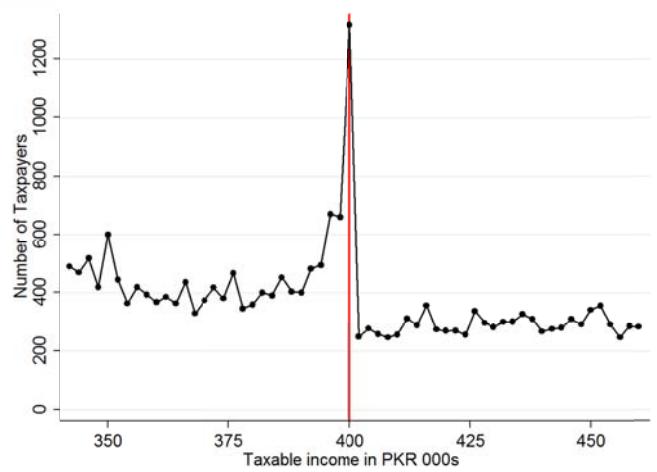
Source: Kleven and Waseem, 2011

FIGURE 5
Density Distribution around Middle Notches:
Self-Employed Individuals and Firms (Sophisticated Filers)

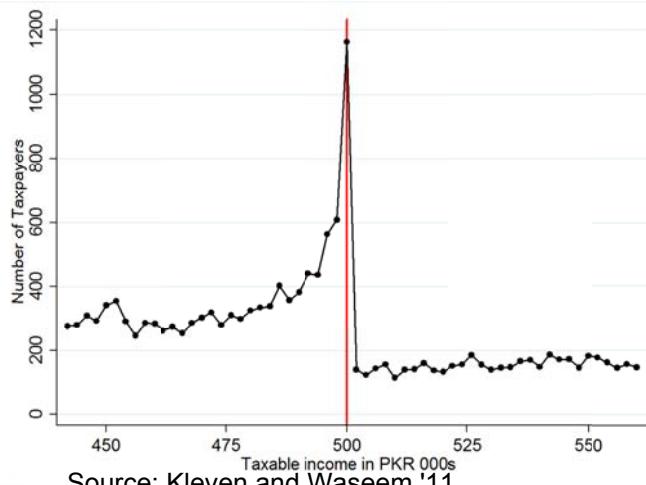
Panel A: Notch at 300k



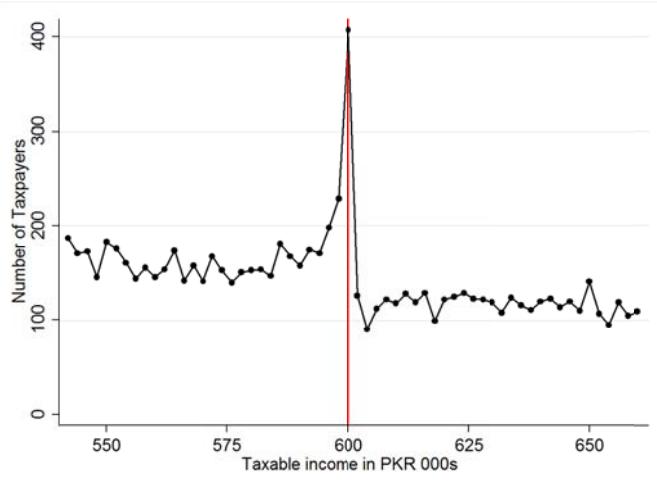
Panel B: Notch at 400k



Panel C: Notch at 500k

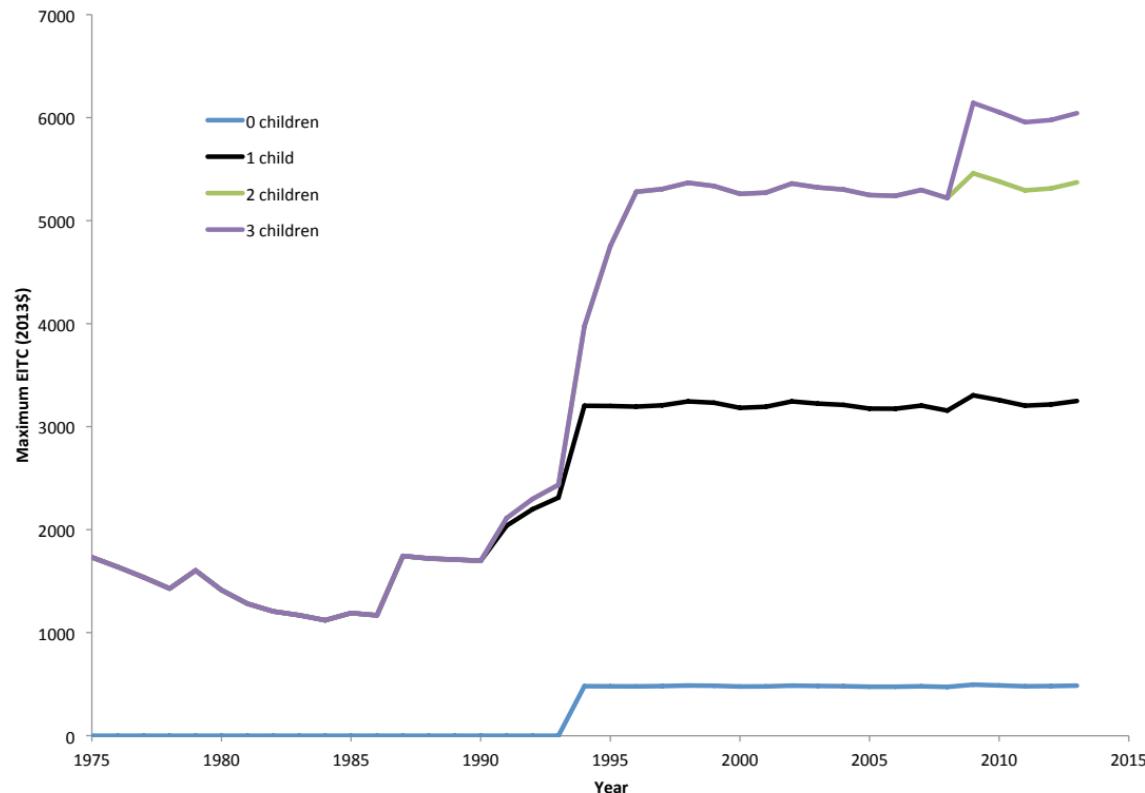


Panel D: Notch at 600k



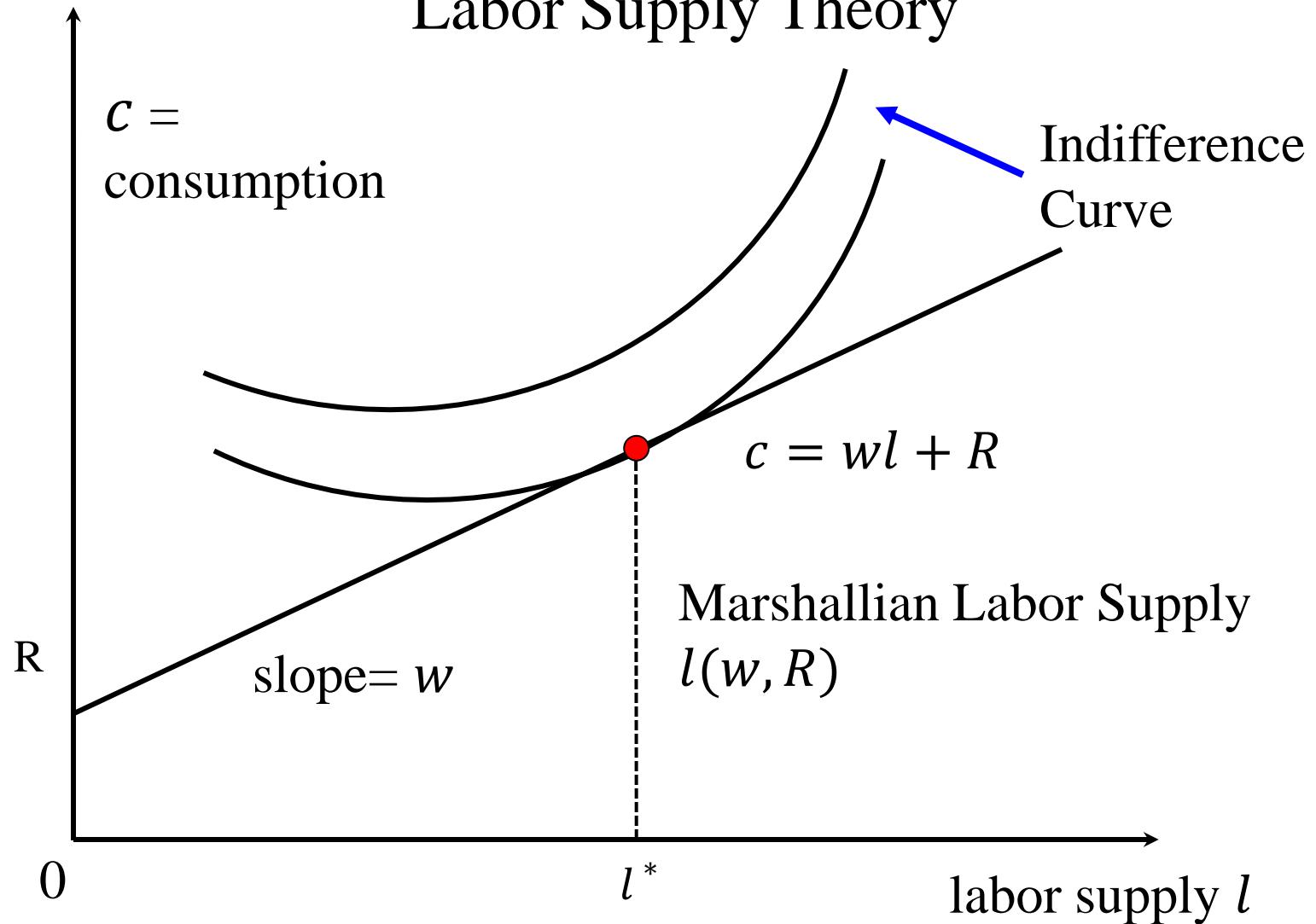
Source: Kleven and Waseem '11

Figure 2. Maximum credit over time, constant 2013 dollars, by number of children

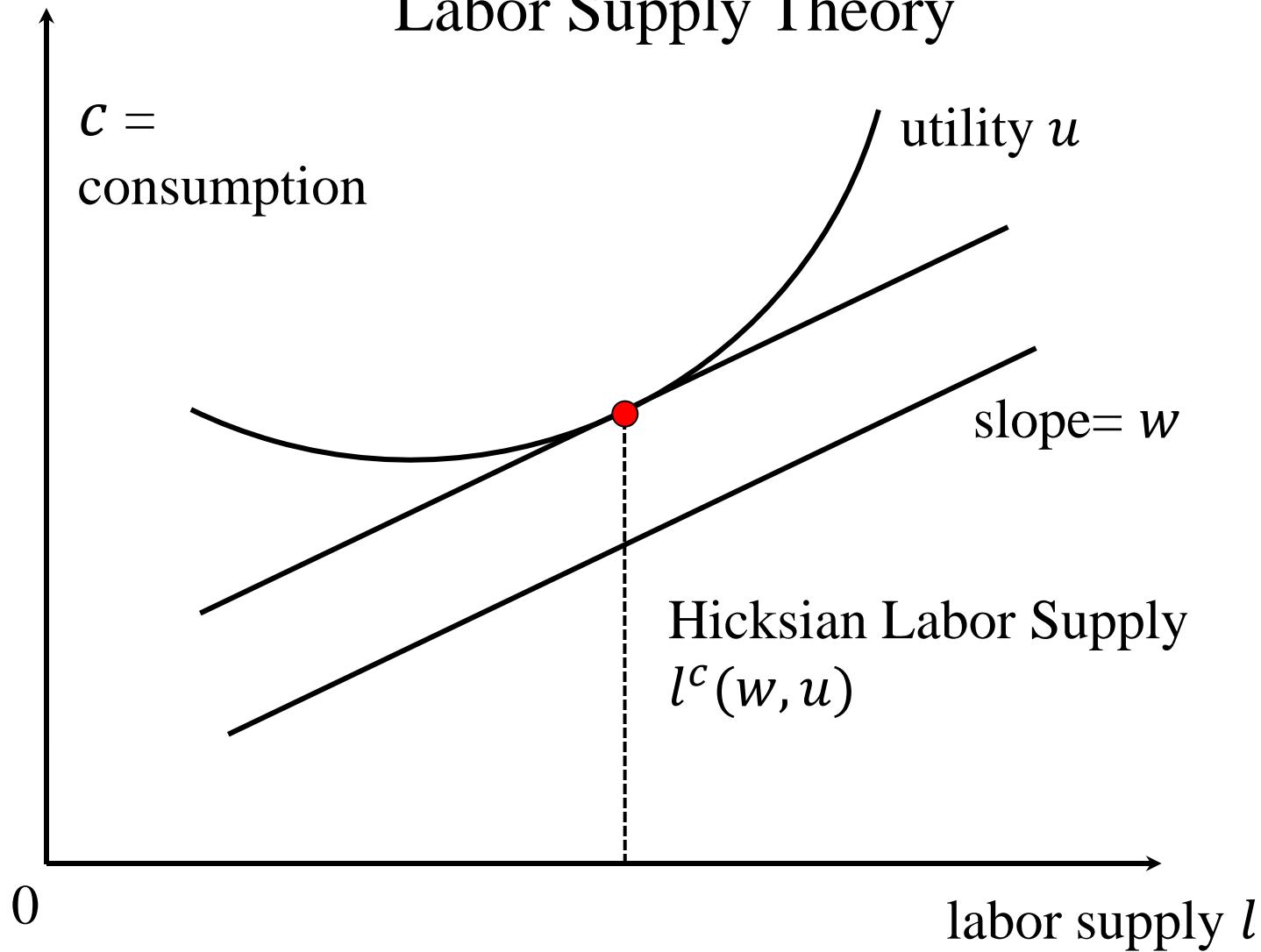


Source: Nichols and Rothstein (2015)

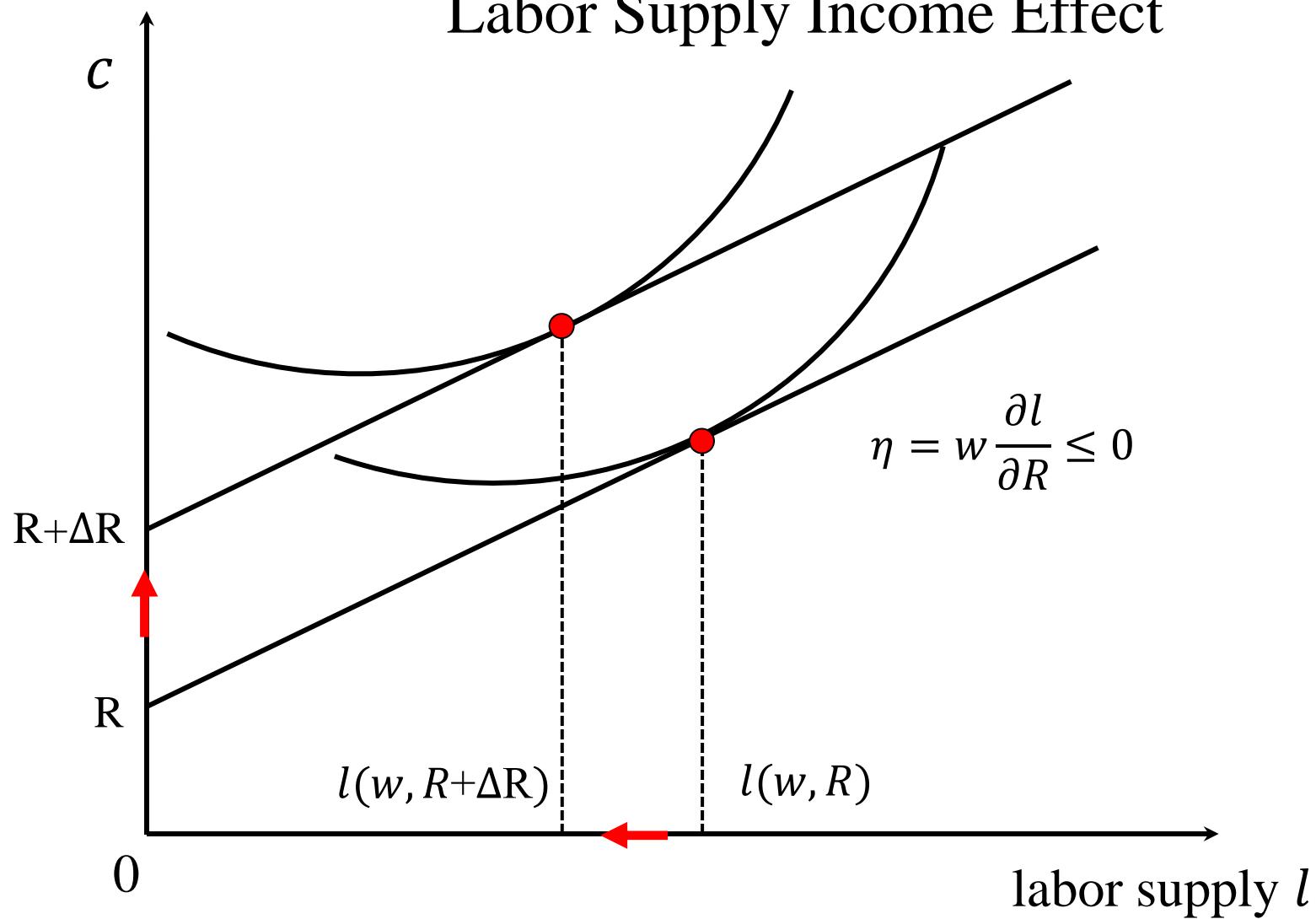
Labor Supply Theory



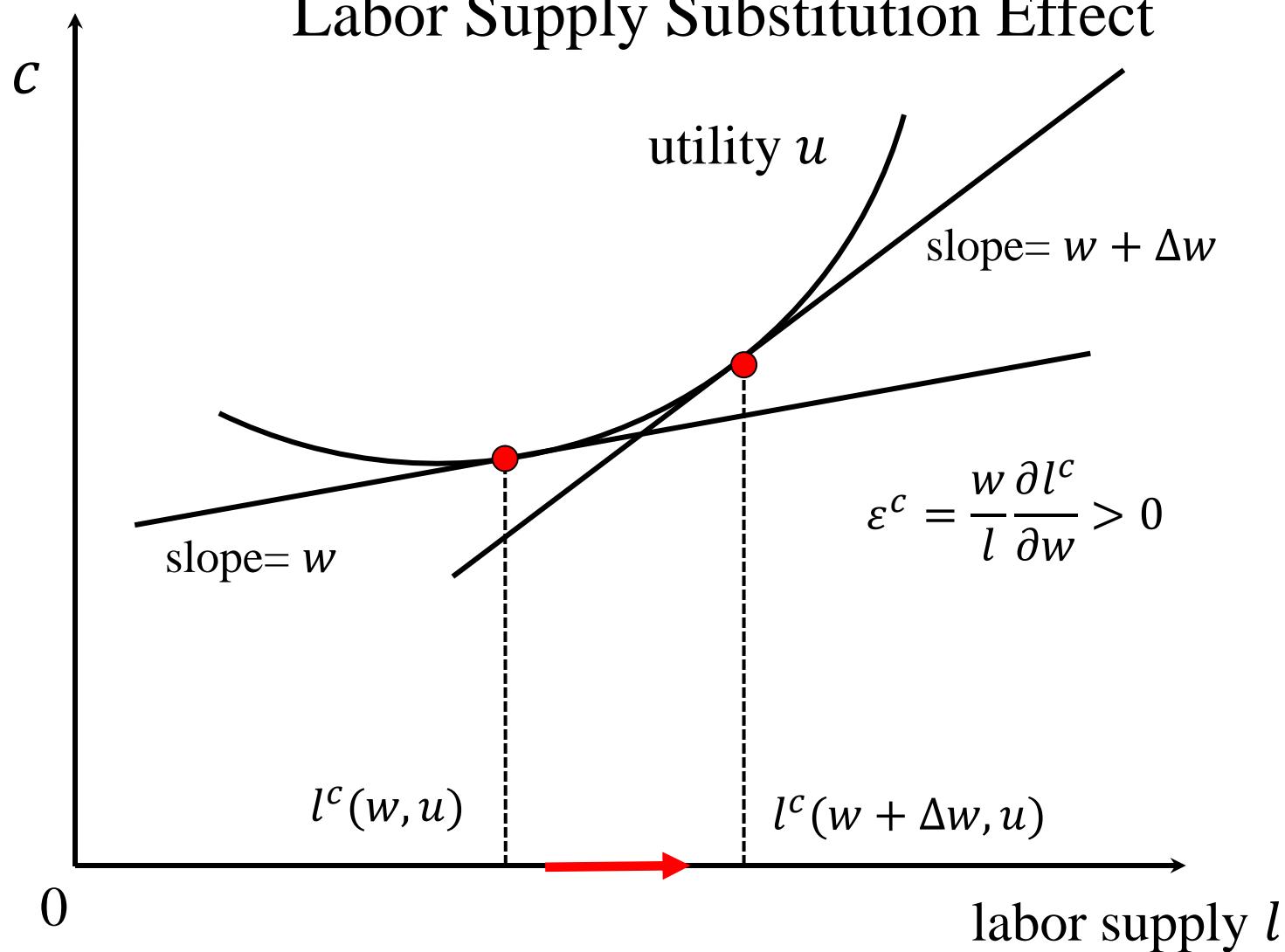
Labor Supply Theory



Labor Supply Income Effect



Labor Supply Substitution Effect



Uncompensated Labor Supply Effect

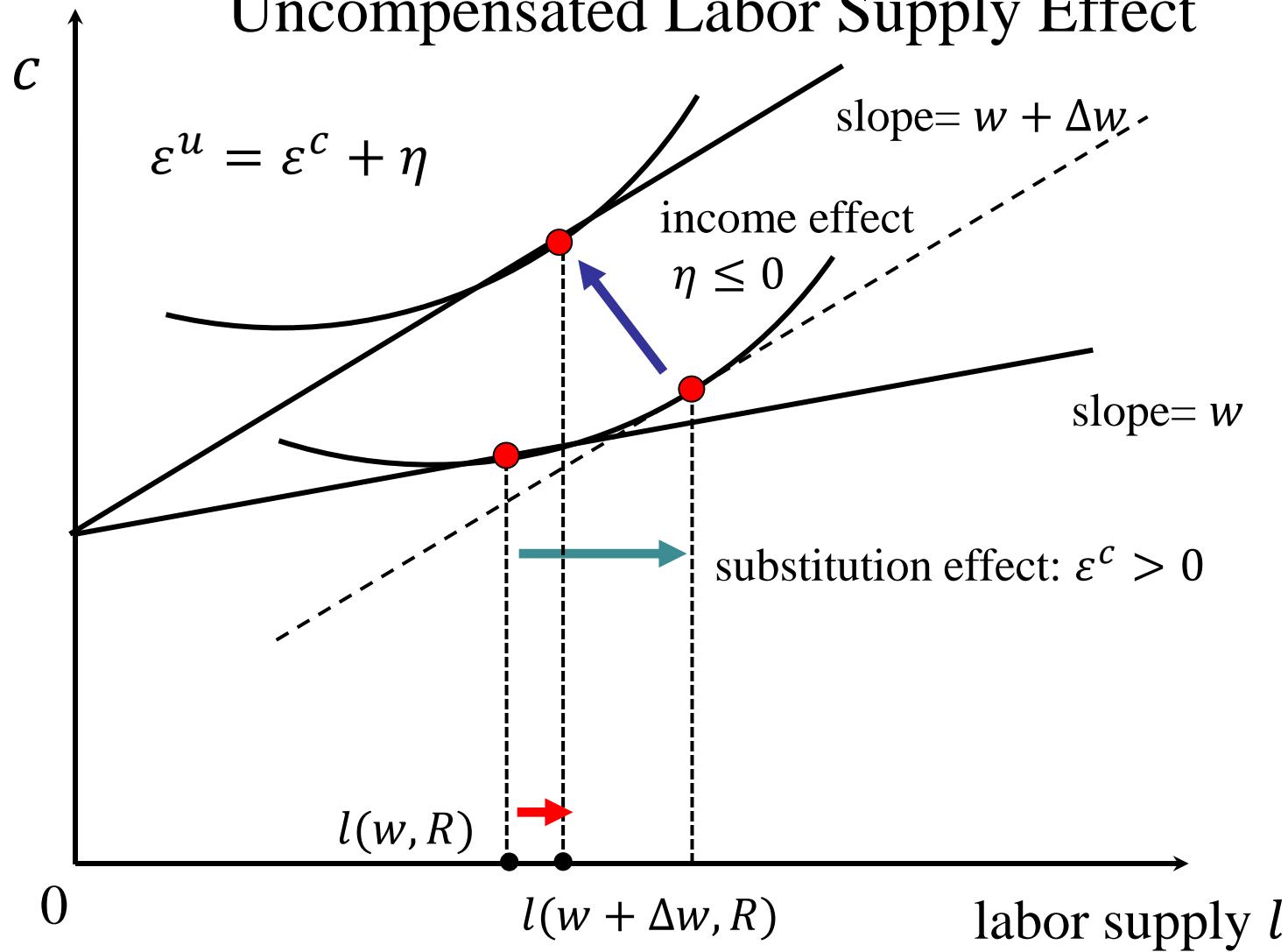
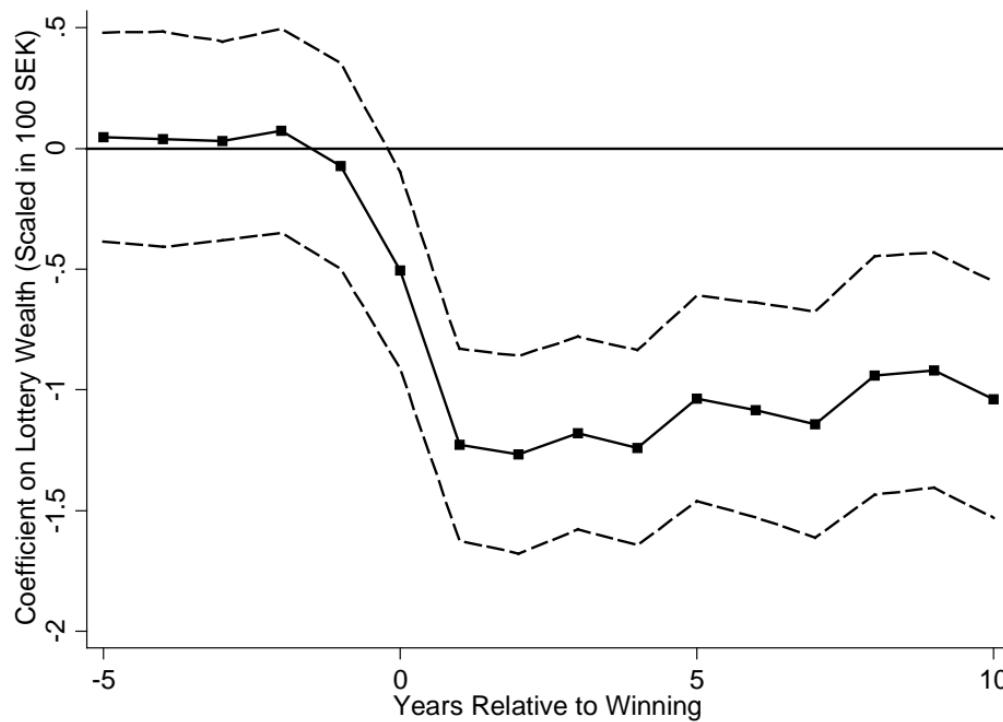


Table 1. Distribution of Prizes

	Pooled Sample		Individual Lottery Samples							
			PLS		Kombi		Triss-Lumpsum		Triss-Monthly	
	Count	Share	Count	Share	Count	Share	Count	Share	Count	Share
0 to 1K SEK	25,172	10.0%	0	0.0%	25,172	99.0%	0	0.0%	0	0.0%
1K to 10K SEK	204,626	81.3%	204,626	92.0%	0	0.0%	0	0.0%	0	0.0%
10K to 100K SEK	16,429	6.5%	15,520	7.0%	0	0.0%	909	27.8%	0	0.0%
100K to 500K SEK	3,685	1.5%	1,654	0.7%	0	0.0%	2,031	62.1%	0	0.0%
500K to 1M SEK	355	0.1%	195	0.1%	0	0.0%	160	4.9%	0	0.0%
≥1M SEK	1,481	0.6%	481	0.2%	263	1.0%	168	5.1%	569	100.0%
TOTAL	251,748		222,476		25,435		3,268		569	

Notes: This table reports the distribution of lottery prizes for the pooled sample and the four lottery subsamples.

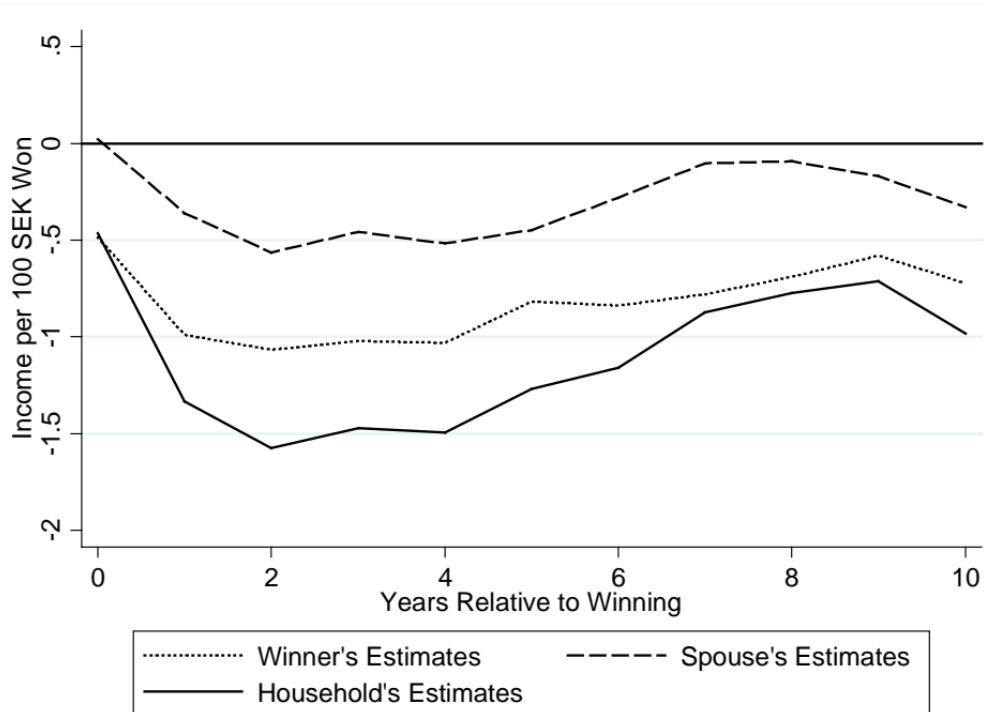
Figure 1: Effect of Wealth on Individual Gross Labor Earnings



Notes: This figure reports estimates obtained from equation (2) estimated in the pooled lottery sample with gross labor earnings as the dependent variable. A coefficient of 1.00 corresponds to an increase in annual labor earnings of 1 SEK for each 100 SEK won. Each year corresponds to a separate regression and the dashed lines show 95% confidence intervals.

Cesarini, Lindqvist, Notowidigdo, Östling NBER WP 2015

Figure 5: Effect of Wealth on Gross Labor Earnings of Winners and Spouses



Notes: This figure reports estimates obtained from equation (2) estimated separately for winners, their spouses, and the household. The dependent variable is gross labor earnings. Each year corresponds to a separate regression.

(b) Evolution of Statutory Annual Wealth Tax Rates by Bracket Cutoff
Tax rate τ

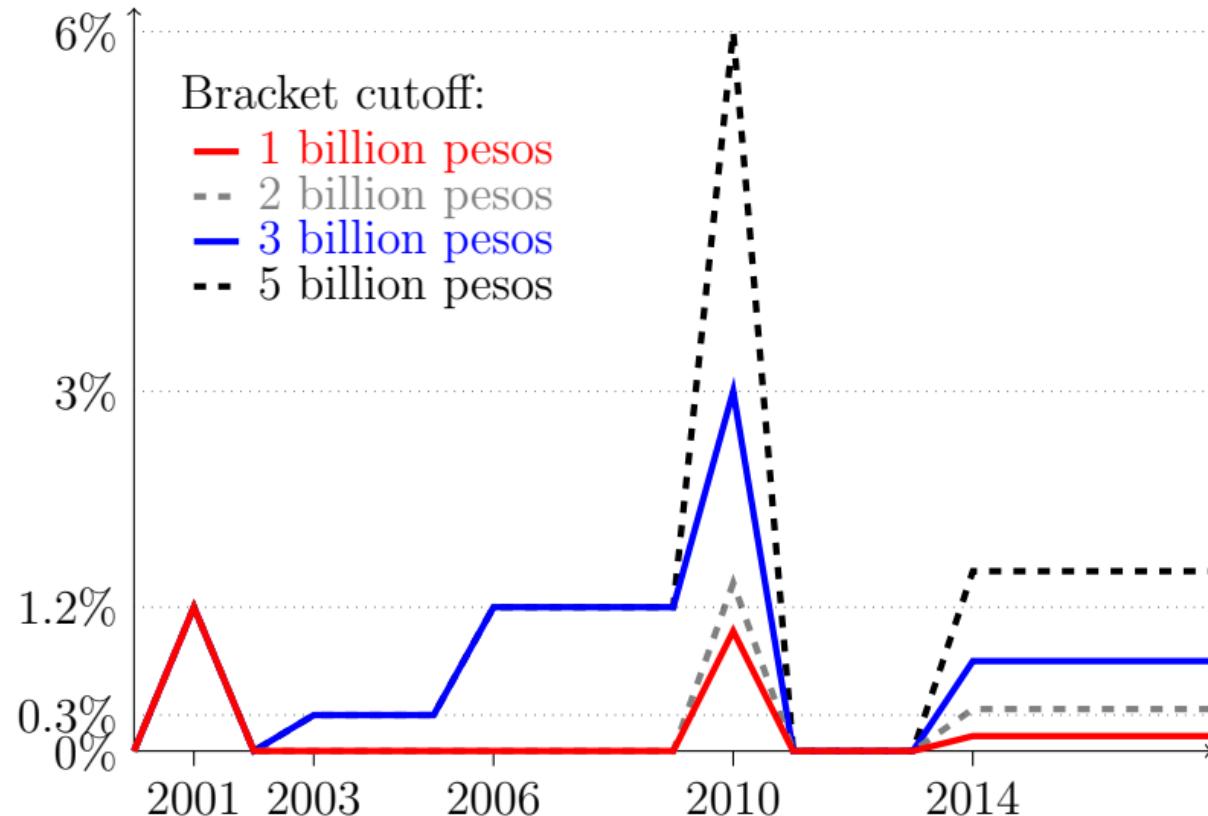
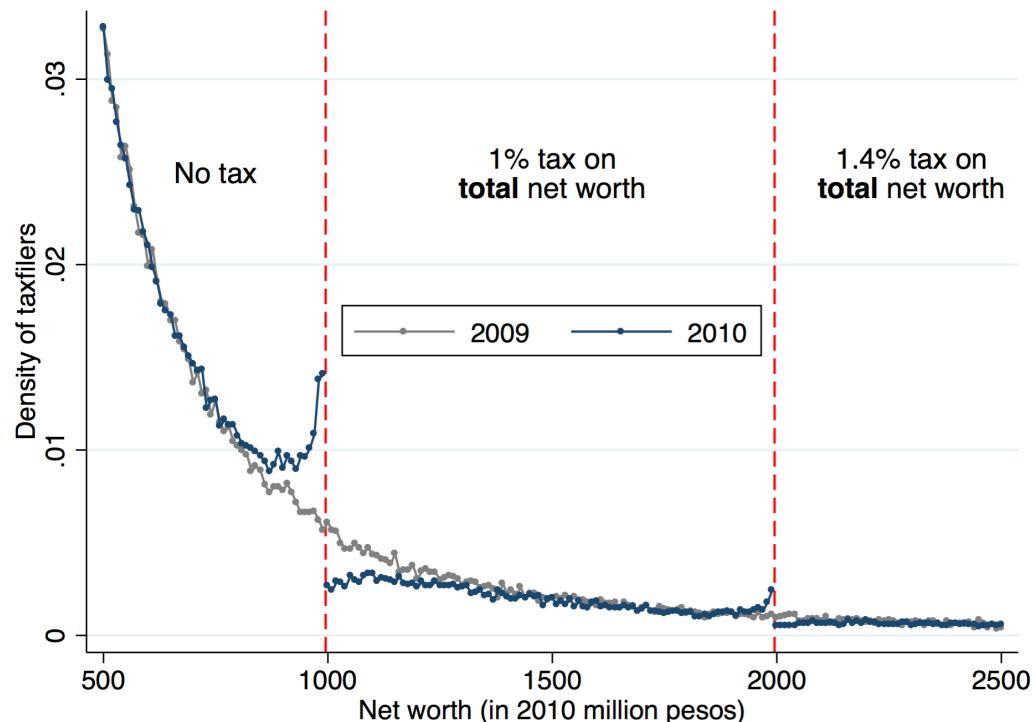


Figure 2: Distribution of Reported Net Worth in 2009 (Before Reform) and 2010 (After Reform)



Notes: This figure overlays the distribution of tax filers by reported net wealth before and after a reform introduced two wealth tax notches at 1 and 2 billion pesos (red vertical lines), as depicted in Figure 1. These notches imply that wealth tax liability jumps discontinuously, as illustrated in Figure 1. The figure shows that the distribution of individuals is smooth in the absence of wealth tax notches (2009). The two notches result in the immediate emergence of excess mass below the notch points, and corresponding missing mass just above them (2010). This

Figure 1: The Personal Wealth Tax Schedule in Colombia

(a) Wealth Tax Liability as a Function of Reported Net Wealth (FY 2010)

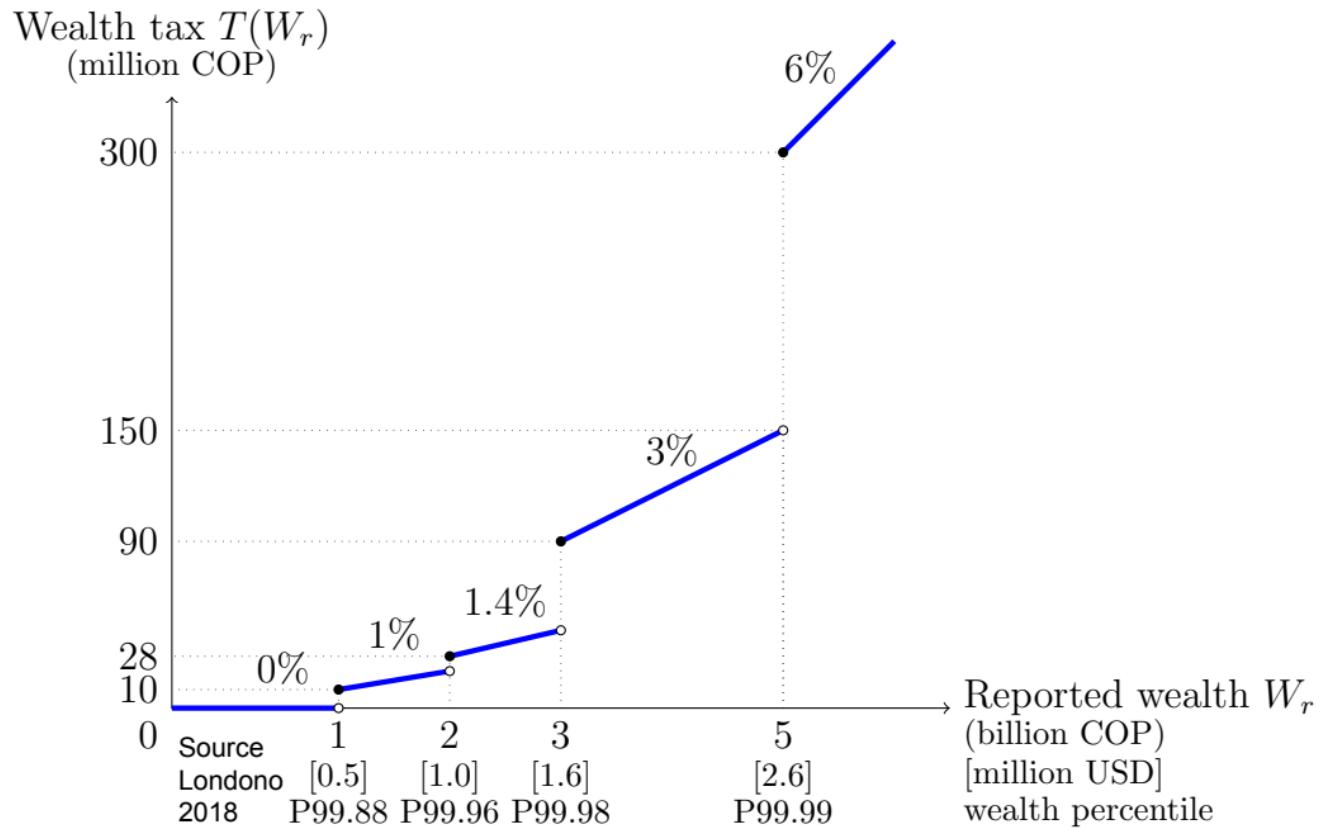


Figure 1: Costa Rica's Corporate Tax Schedule

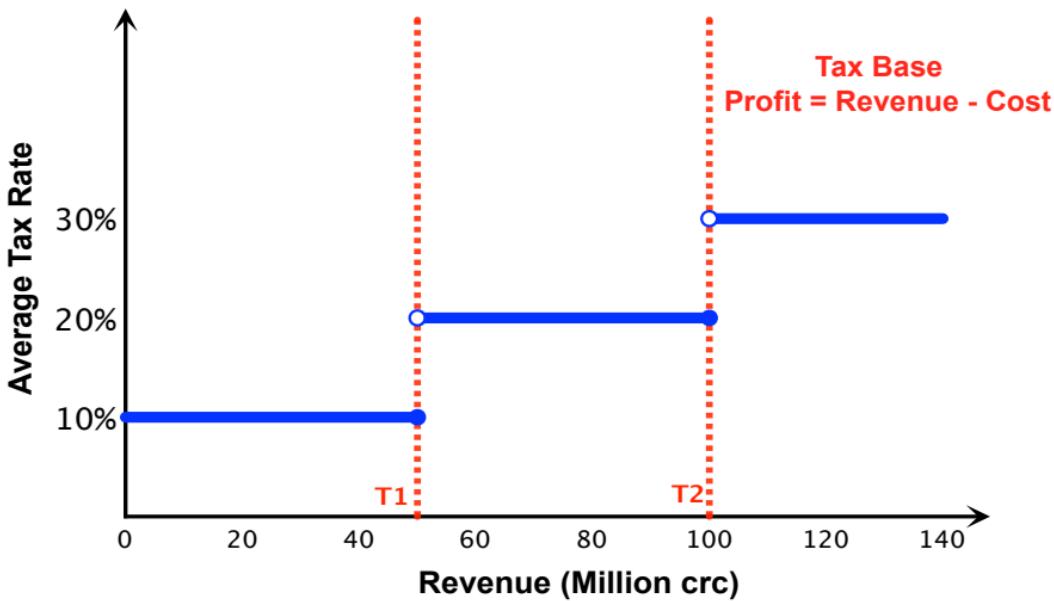
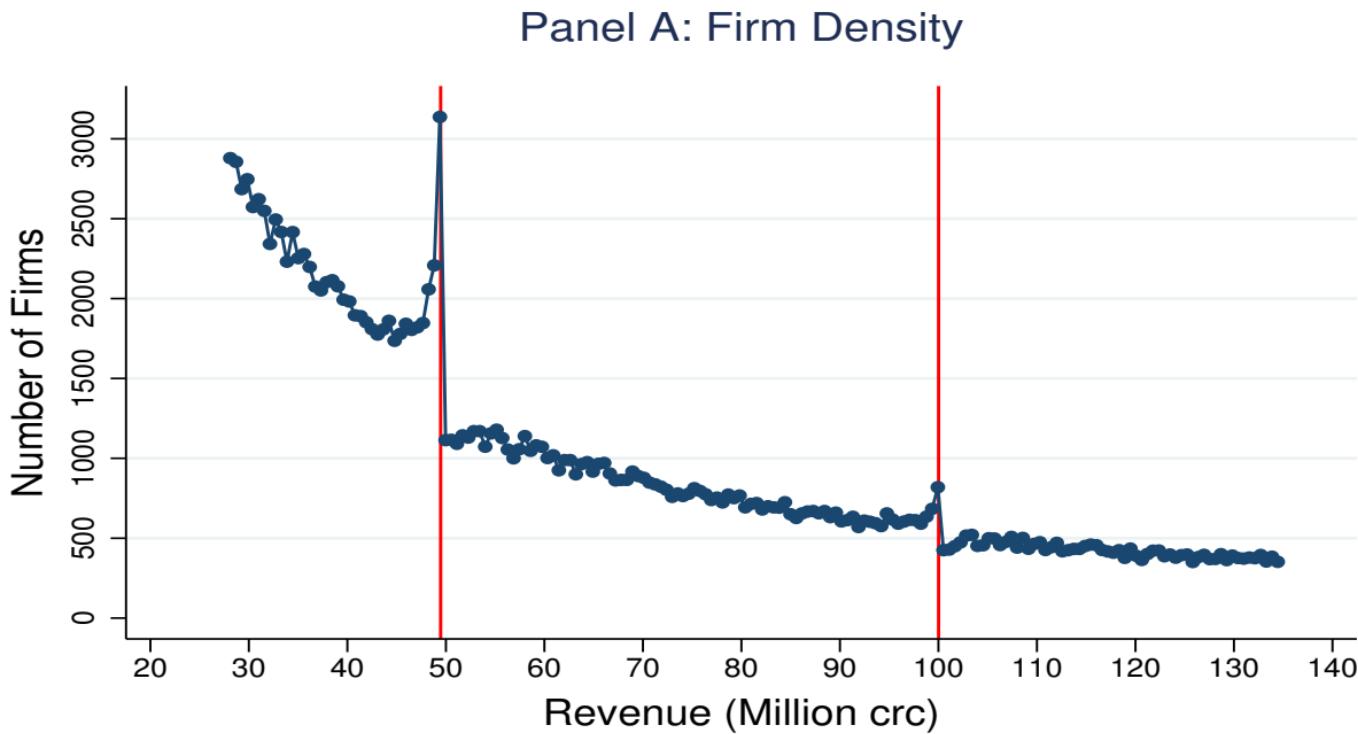
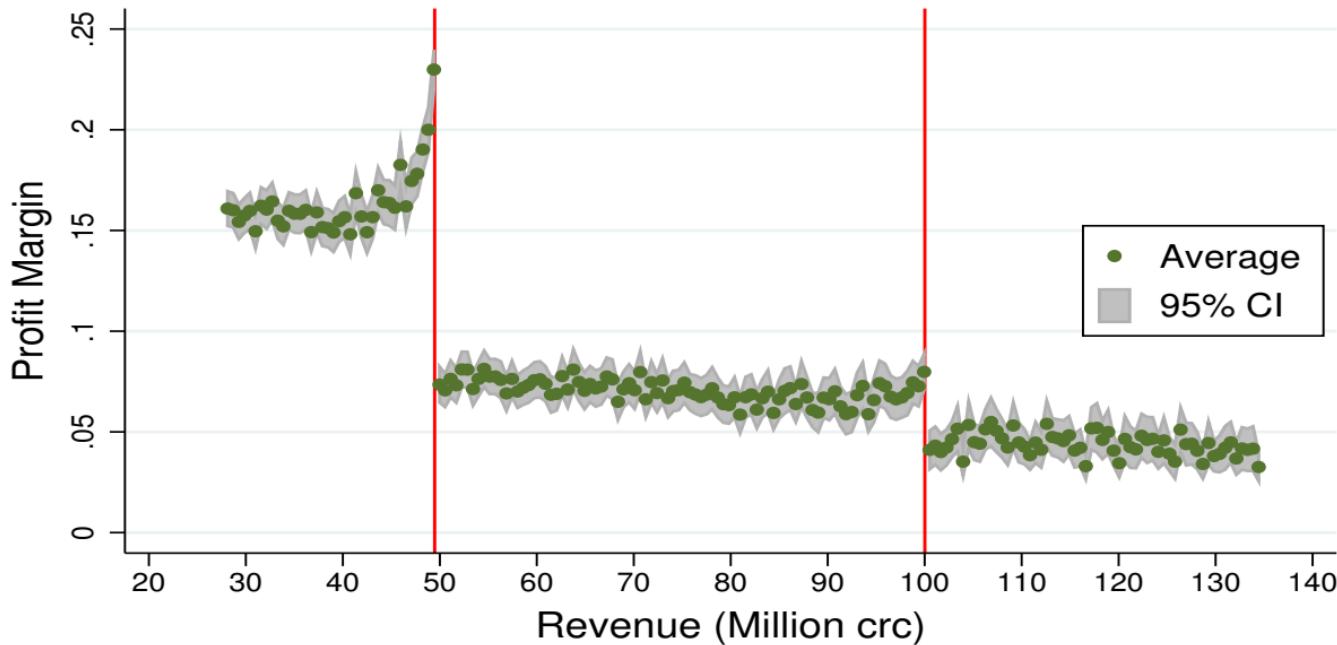


Figure 1 shows the design of the corporate income tax in Costa Rica, as discussed in section 2.1. Firms face increasing average tax rates on their profits (revenue minus cost) as a function of their revenue. When revenue exceeds the first threshold, the average tax rate jumps from 10% to 20% and from 20% to 30% past the second threshold. Thresholds are adjusted yearly for inflation.

Figure 3: Firm Density and Average Profit Margin



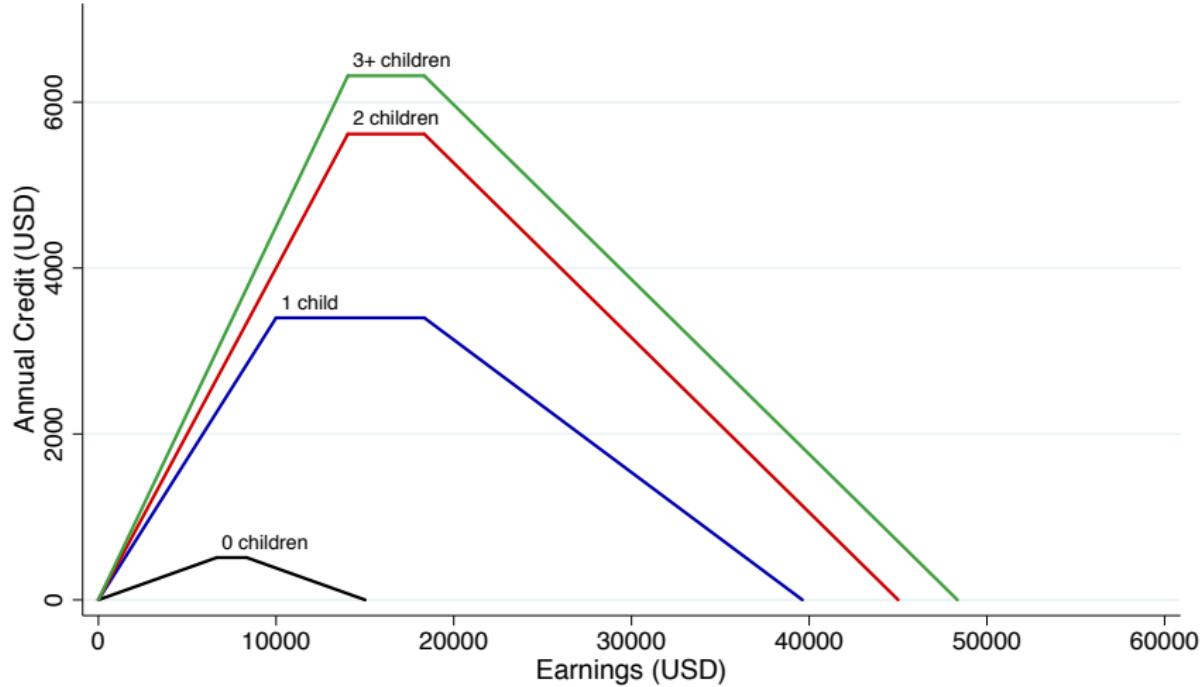
Panel B: Profit Margin



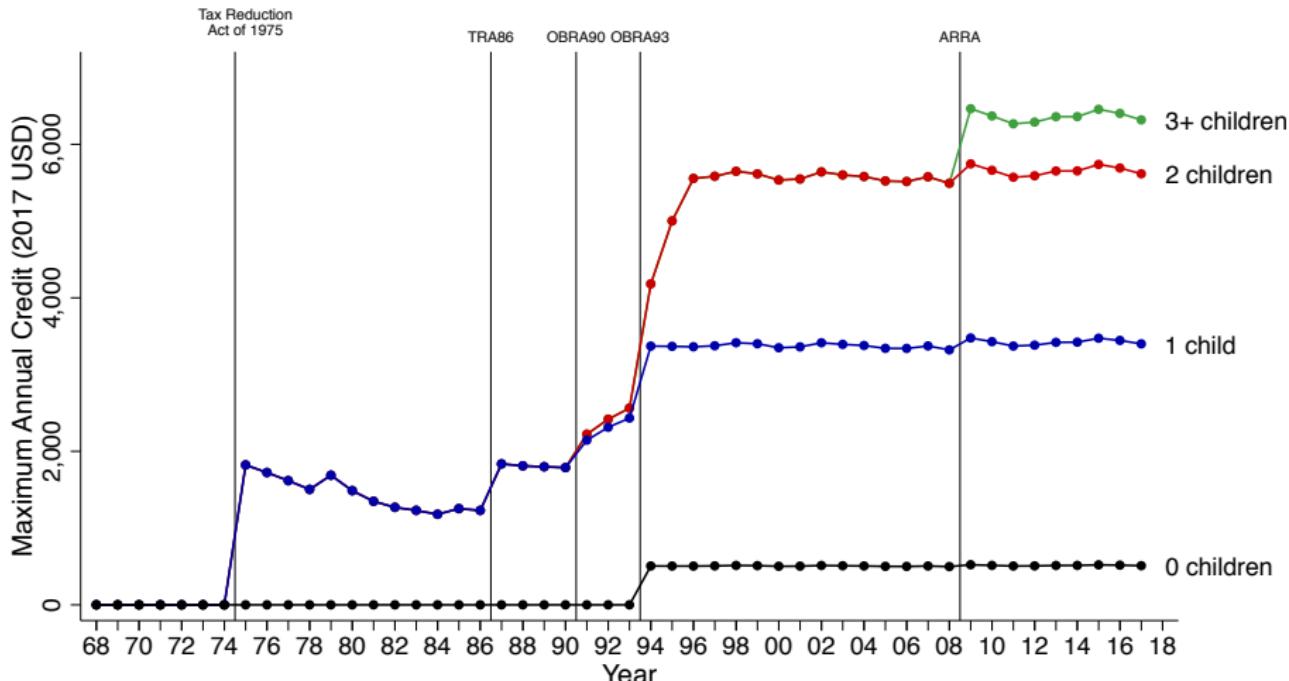
Source: Administrative data from the Ministry of Finance 2008-2014.

Figure 3 presents the key patterns of the corporate tax data, discussed in Section 3.1. The figure pulls together data from years 2008 to 2014. Panel A shows the density of firms by revenue. Panel B displays the average profit margin by revenue. Profit margin is defined as profits over revenue. The size of the revenue bins is 575,000 CRC.

EITC Schedule in 2017



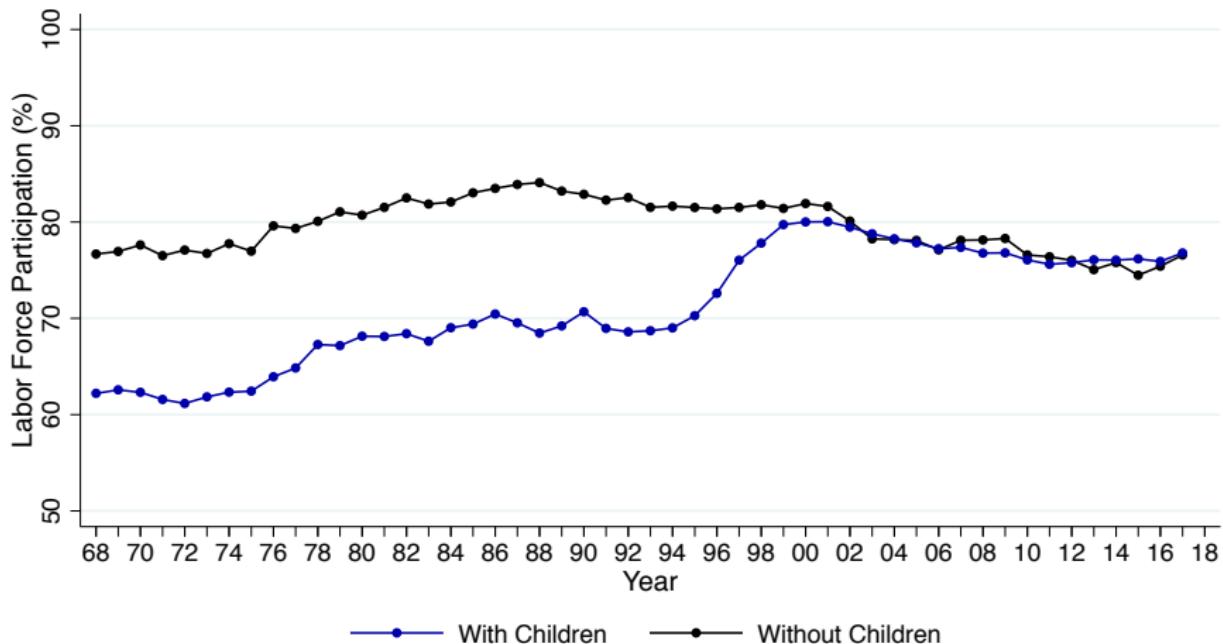
EITC Maximum Credit Over Time



Source: Kleven (2018)

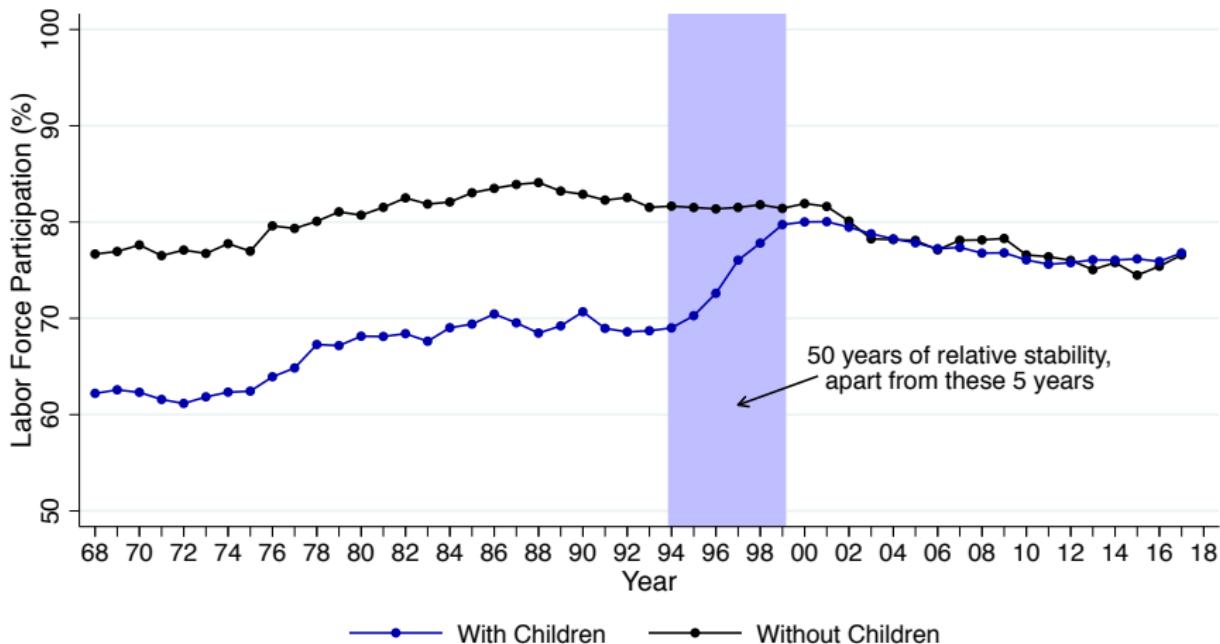
Labor Force Participation of Single Women

With and Without Children



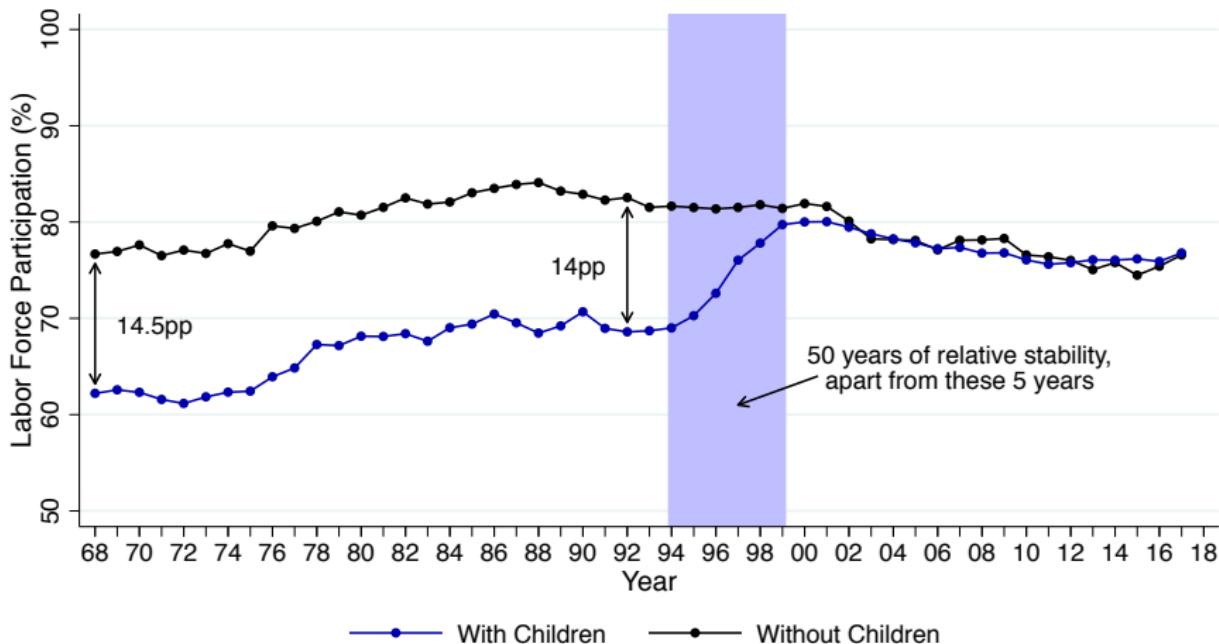
Labor Force Participation of Single Women

With and Without Children



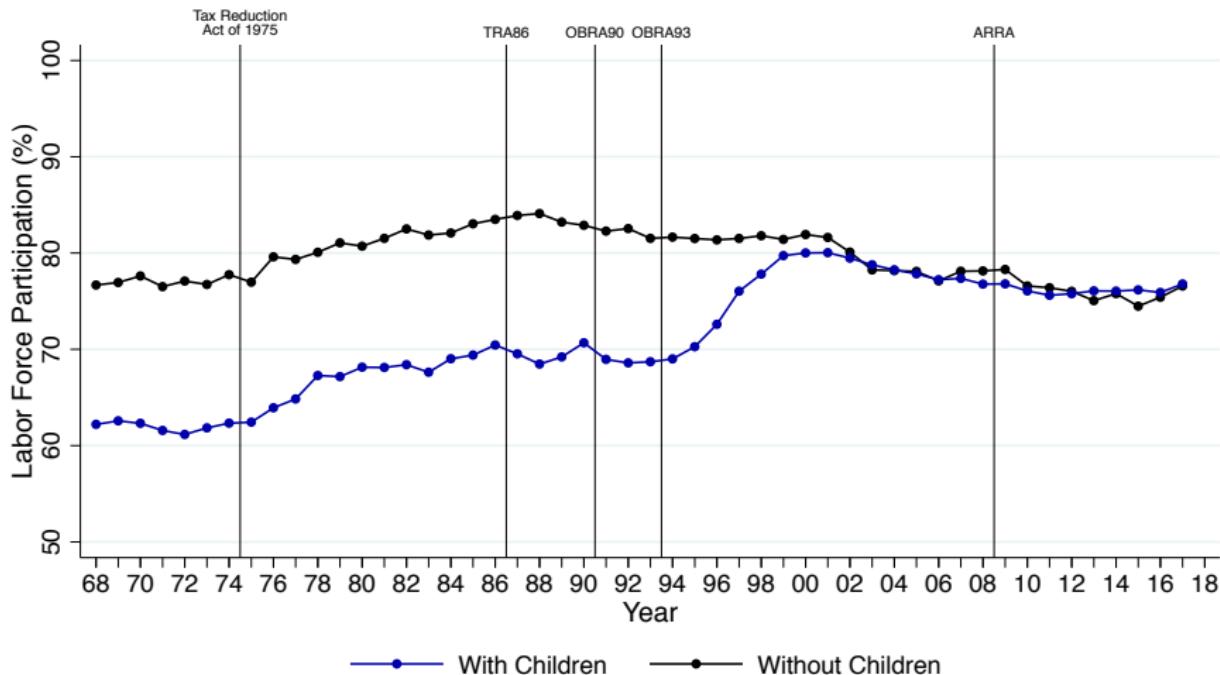
Labor Force Participation of Single Women

With and Without Children



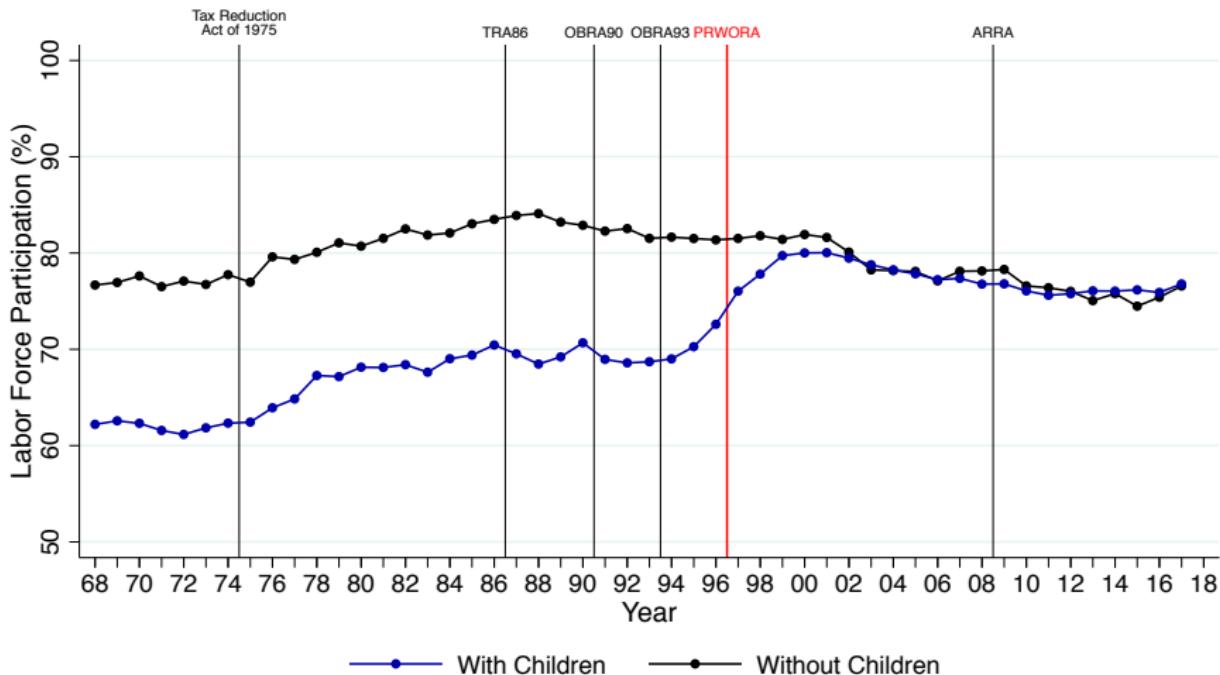
Labor Force Participation of Single Women

With and Without Children



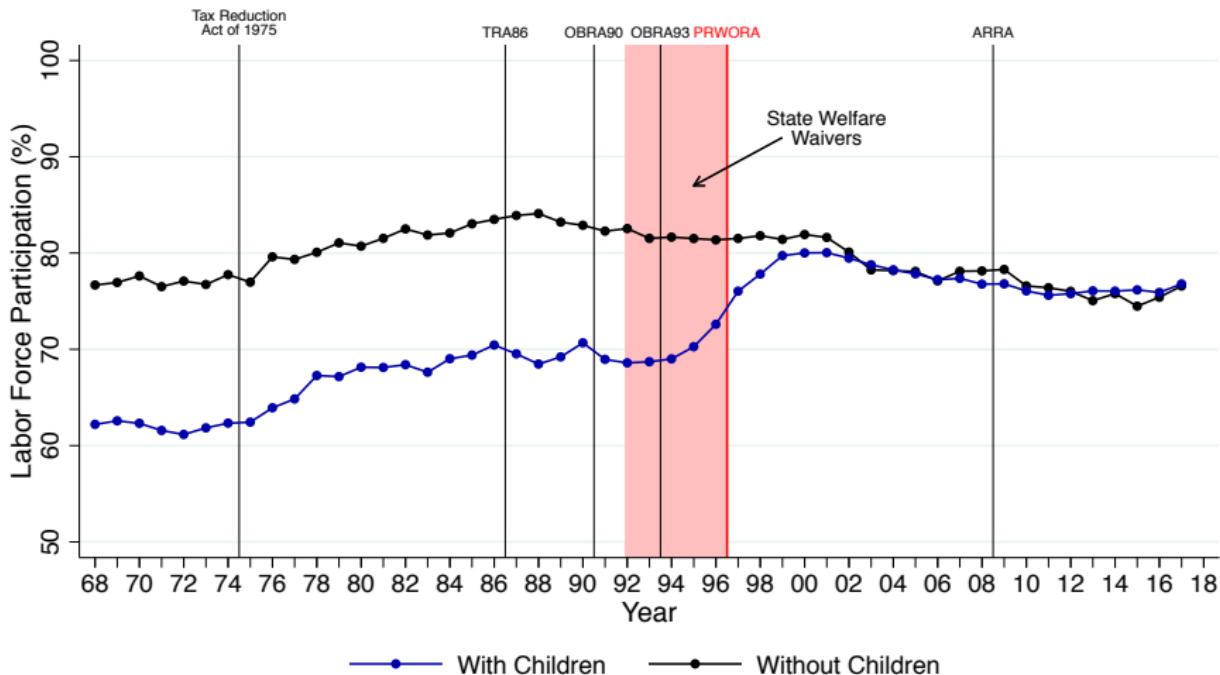
Labor Force Participation of Single Women

With and Without Children



Labor Force Participation of Single Women

With and Without Children

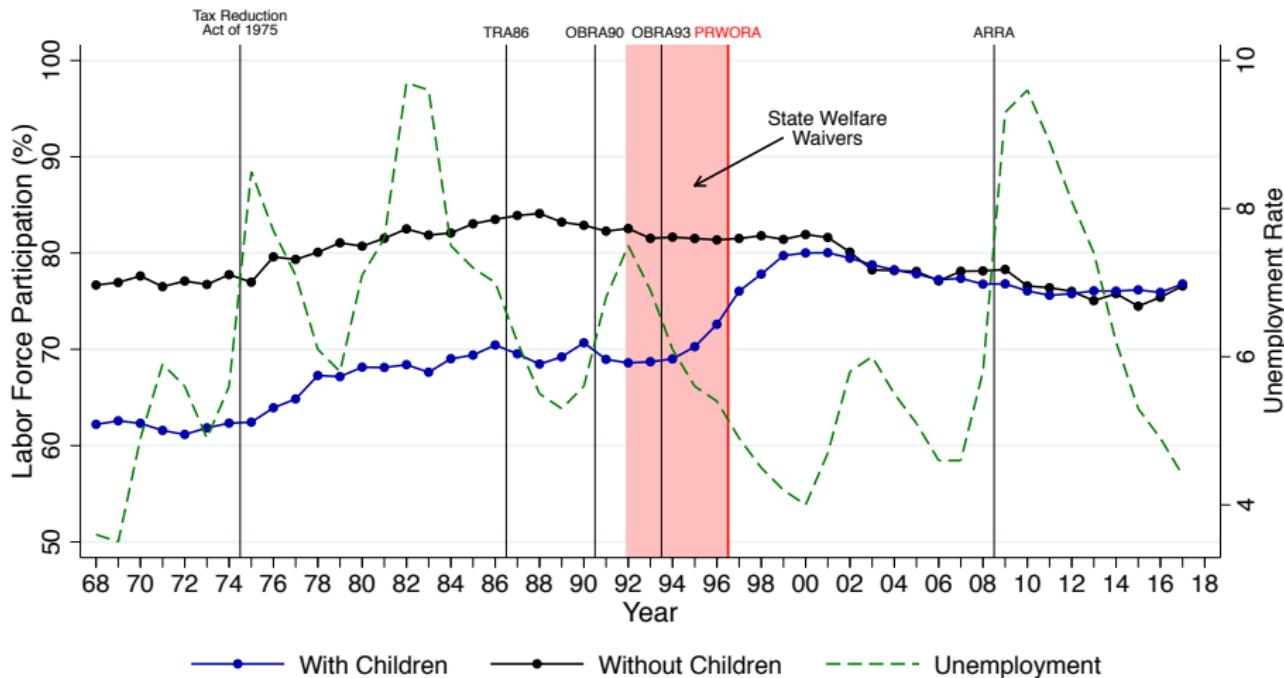


Annual Employment

Low Education

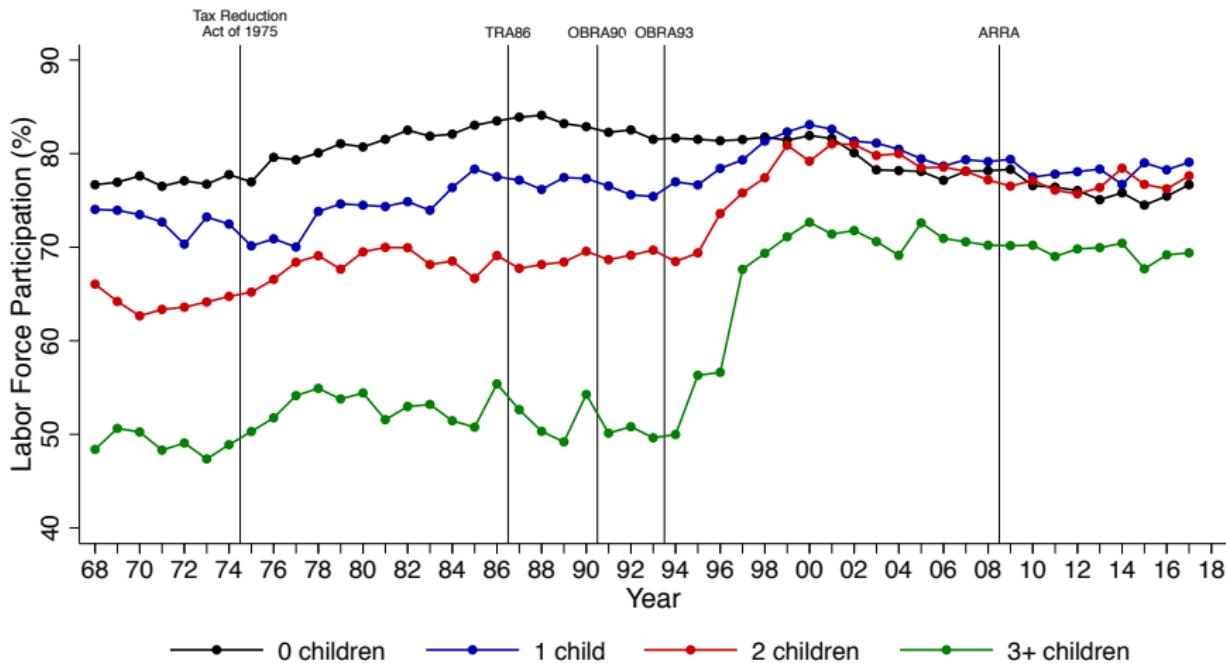
Source: Kleven (2018)

Labor Force Participation of Single Women With and Without Children



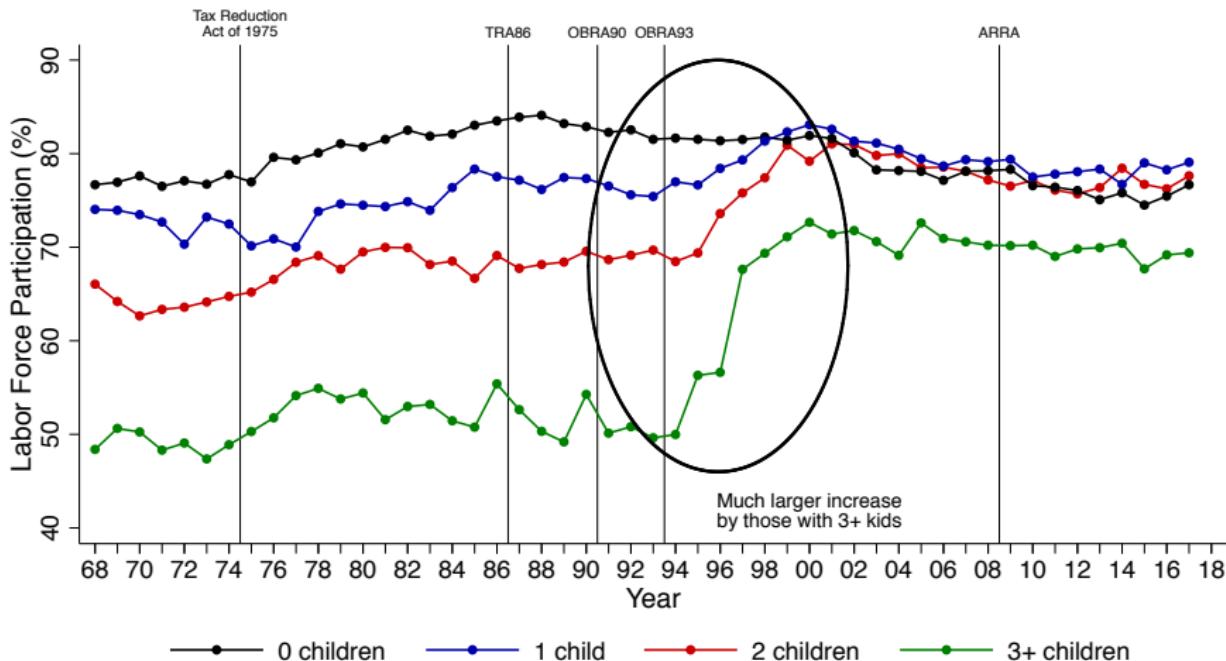
Labor Force Participation of Single Women

By Number of Children



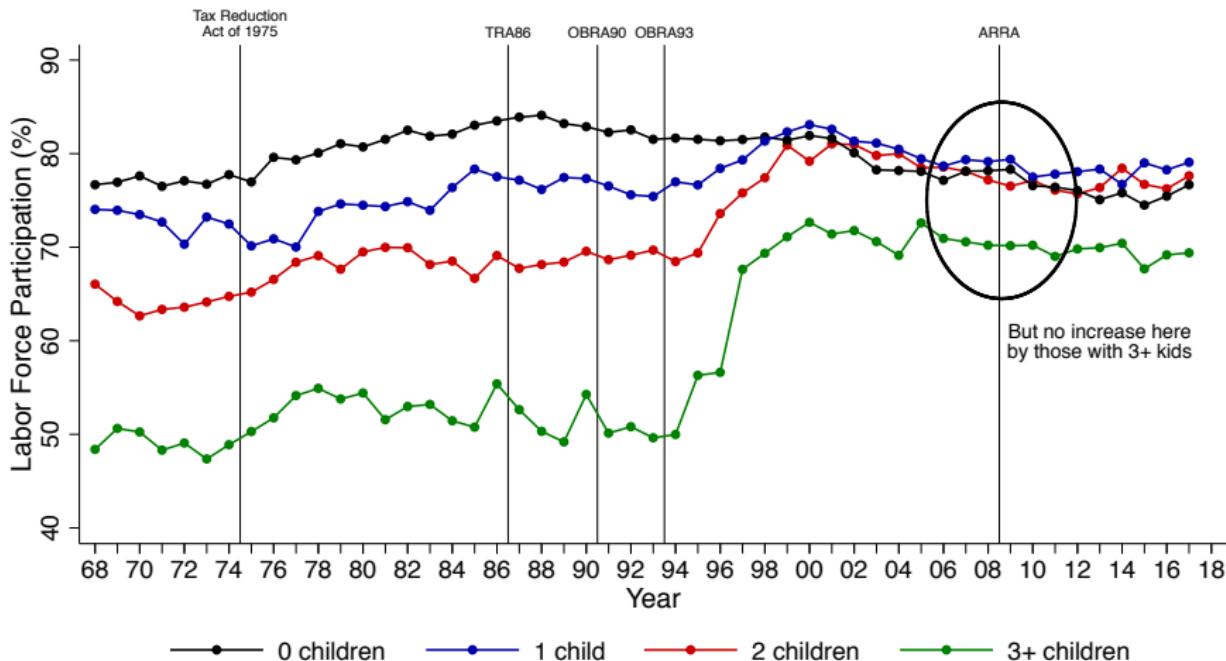
Labor Force Participation of Single Women

By Number of Children



Labor Force Participation of Single Women

By Number of Children



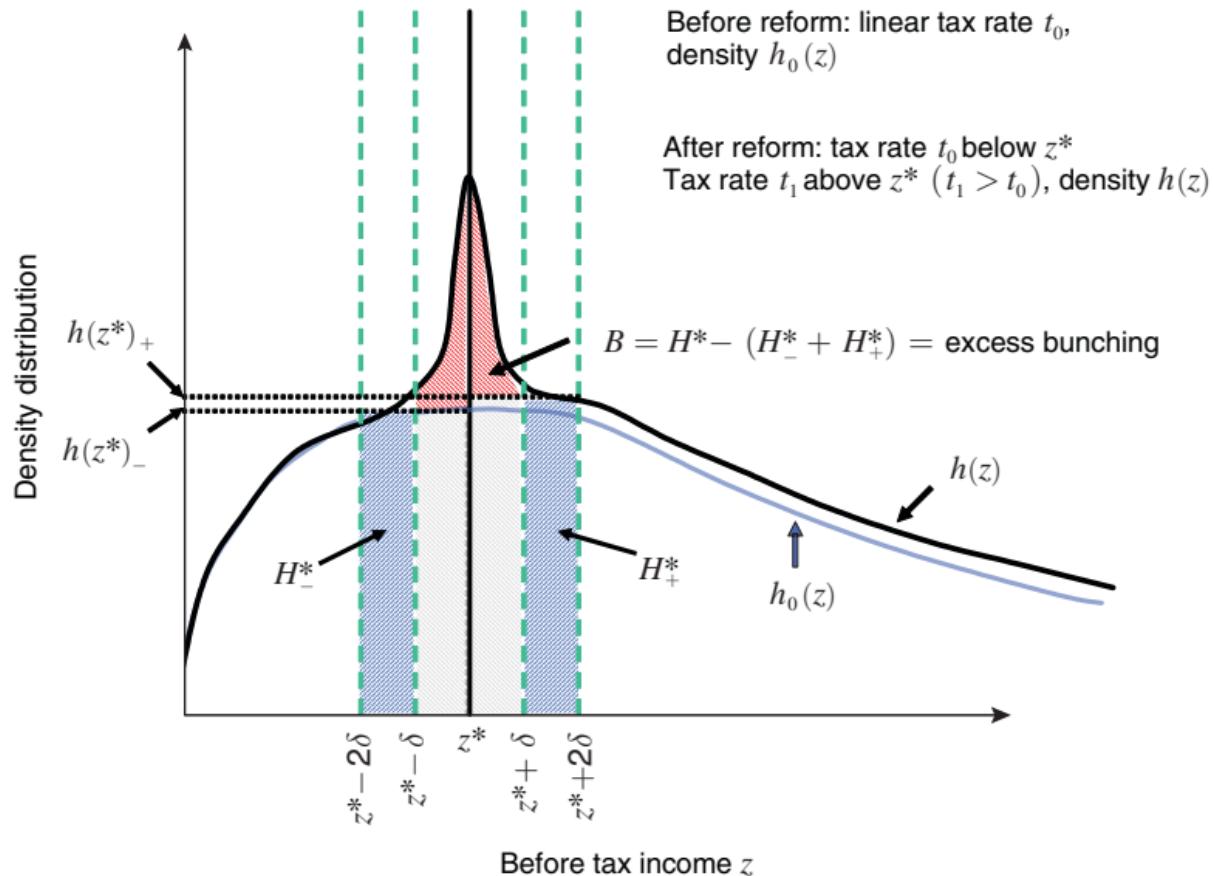


FIGURE 2. ESTIMATING EXCESS BUNCHING USING EMPIRICAL DENSITIES

1990s Income Tax Reform in Switzerland

Transition from retrospective taxation to annual pay-as-you-earn

- Reasons: modernizing, simplifying and harmonizing
- Side effect: incomes earned during the two years prior to the change remained **untaxed** (blank years, tax holiday)

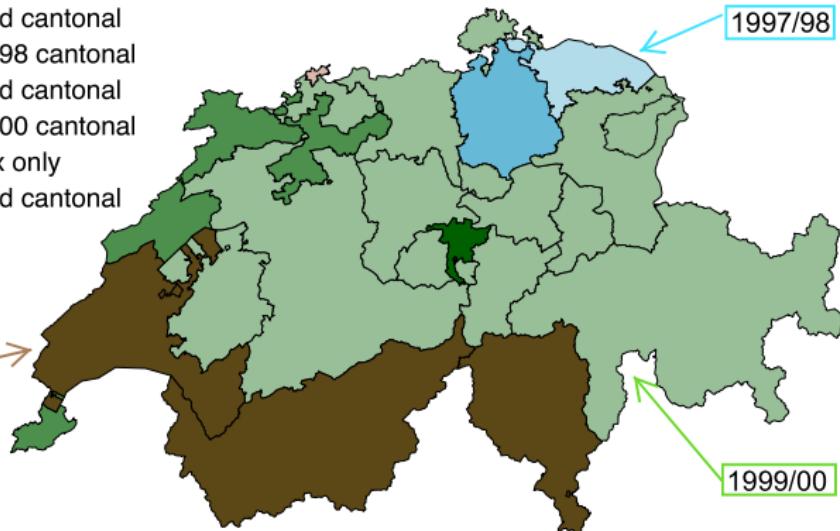
Year X	1993	1994	1995	1996	1997	1998	1999	2000
Tax base for assessment period X	Incomes realized in 1991 + 1992		Incomes realized in 1993 + 1994		Incomes realized in 1995 + 1996		Income realized in 1999	Income realized in 2000
Payment of tax liability owed for year X	During 1993 and 1994		During 1995 and 1996		During 1997 and 1998		Provisional installments 1999, final assessment in 2000	Provisional installments 2000 final assessment in 2001

- Cantons chose different years to change: 1999, 2001, and 2003

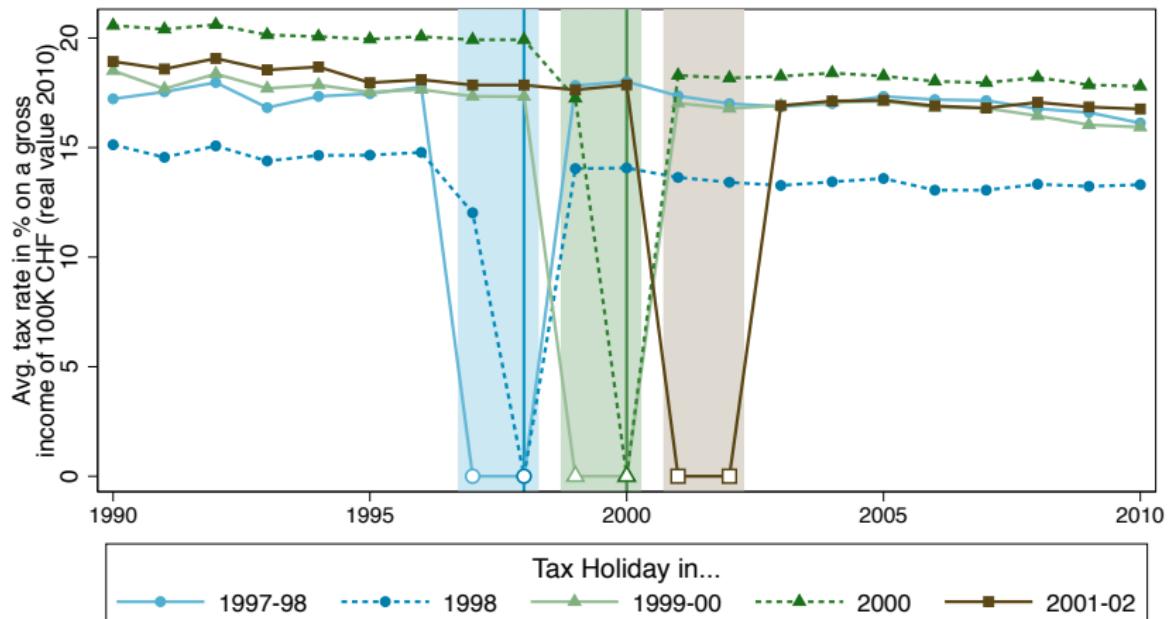
Timing of the Reform

Blank Years in Each Canton

- 1997/98, federal and cantonal
- 1997/98 federal, 1998 cantonal
- 1999/00, federal and cantonal
- 1999/00 federal, 2000 cantonal
- 1999/00, federal tax only
- 2001/02, federal and cantonal
- No blank years

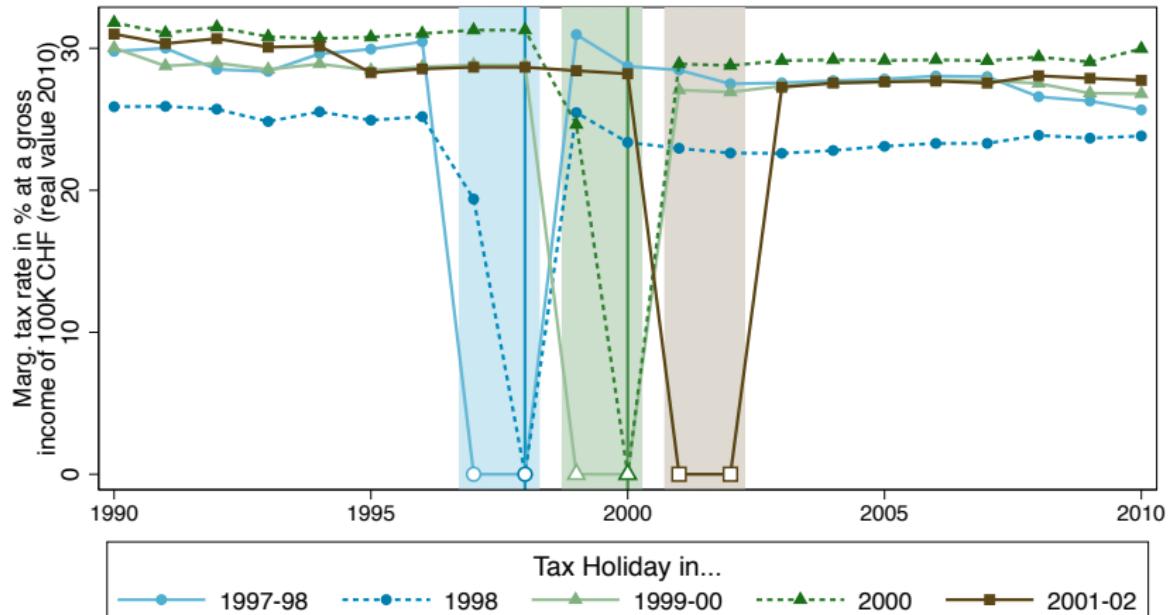


Average Income Tax Rates over Time



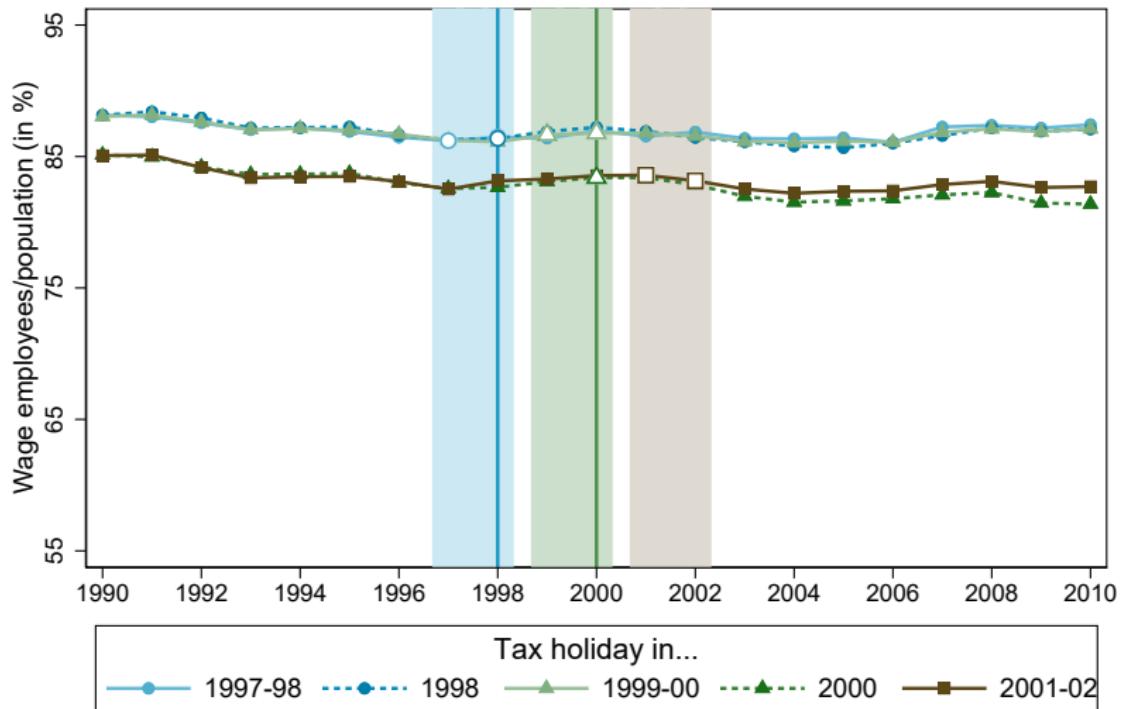
Total federal, cantonal and municipal tax, single taxpayer; weighted by municipality population.

Marginal Income Tax Rates over Time



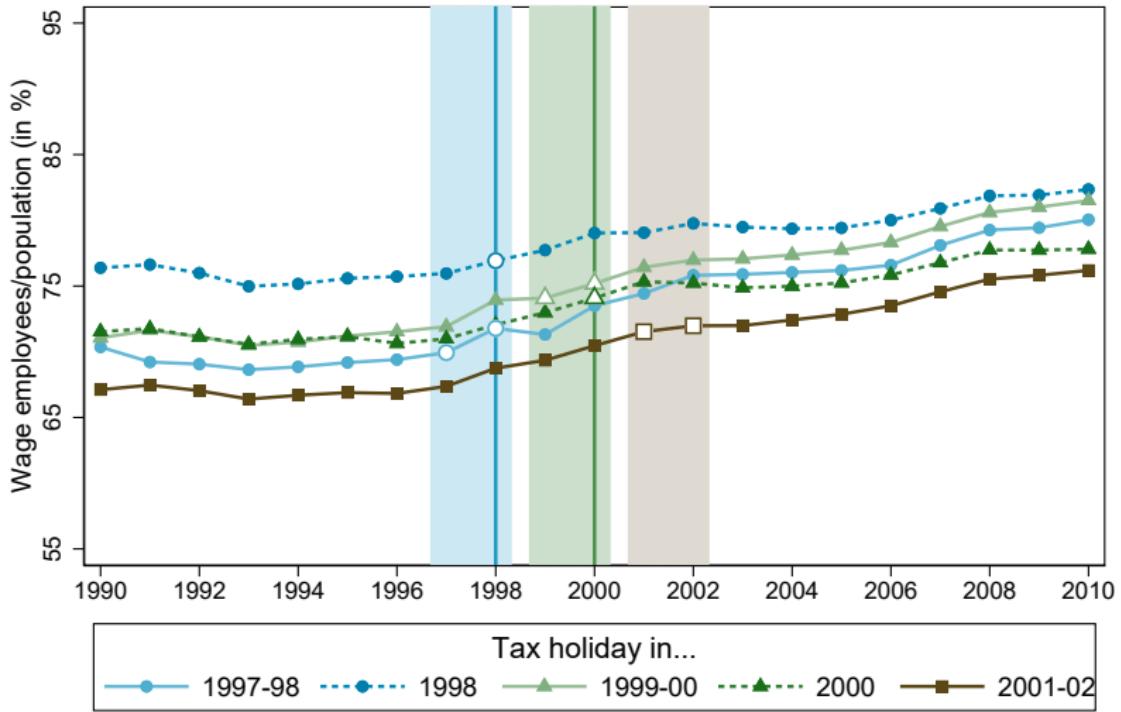
Total federal, cantonal and municipal tax, single taxpayer; weighted by municipality population.

Employment Rate: Men (age 20-60)



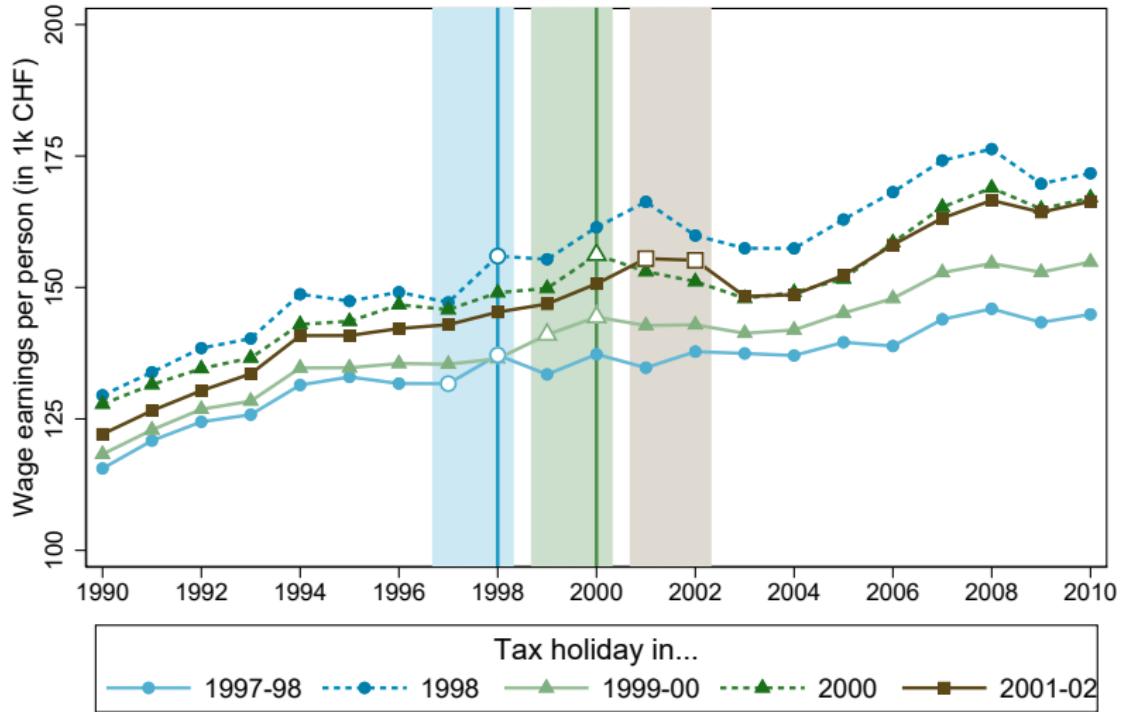
Data source: AHV-STATPOP

Employment Rate: Women (age 20-60)



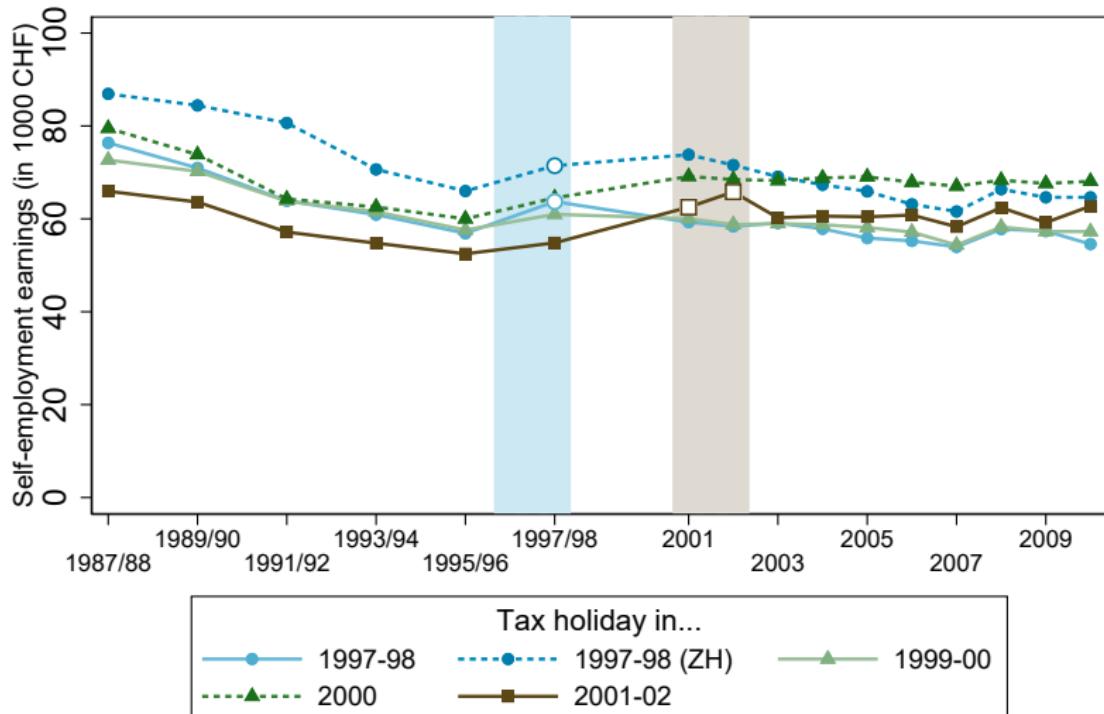
► unemployment rate

Average Wage Earnings: High-income Employees



High income: avg. real wage earnings in 1994-1996 > 100k CHF/year

Mean Self-employment Earnings (excluding zeros)



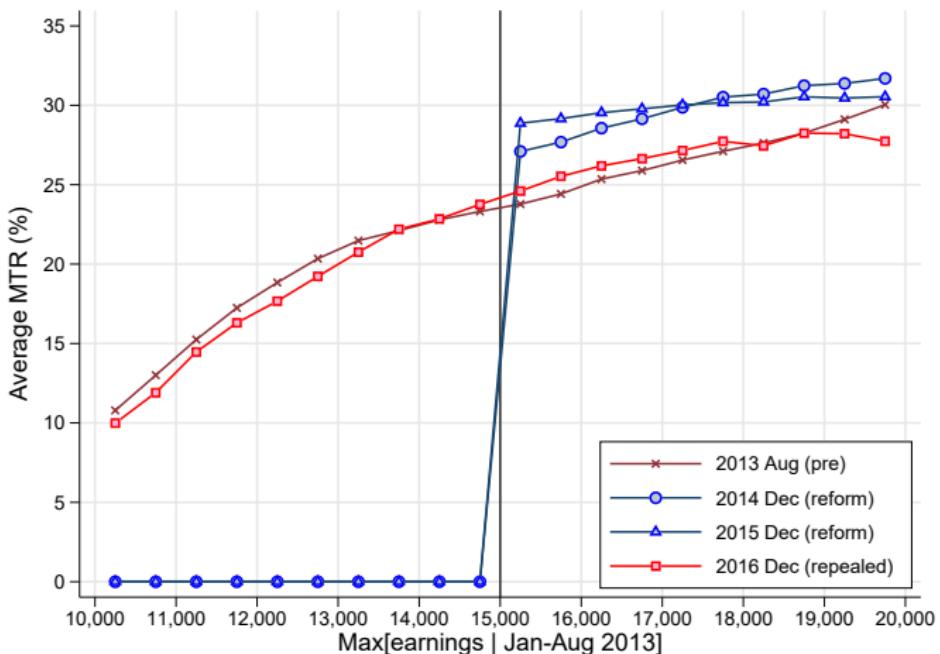
Data source: AHV-STATPOP

Empirical first stage

Marginal Tax Rates

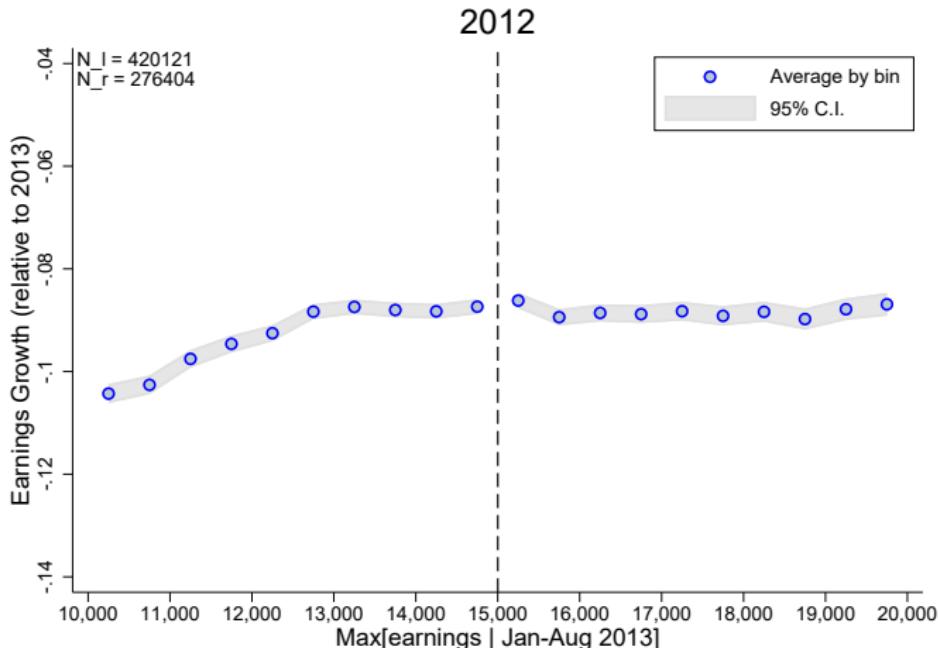
single workers without children

Married



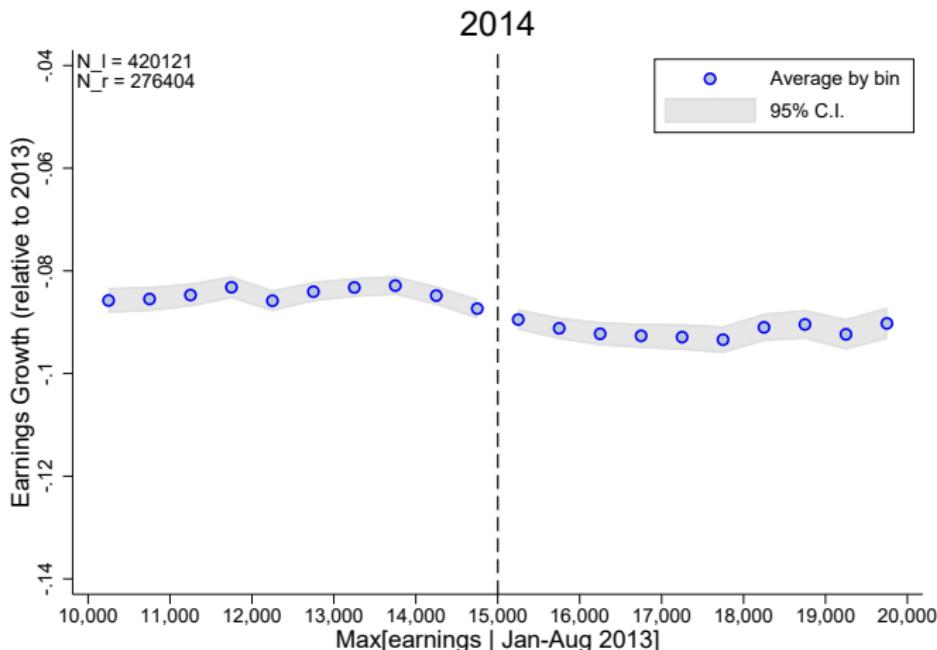
Note: Computed using own tax calculator (similar to the TAXSIM in the U.S.).

Earnings growth w.r.t. 2013



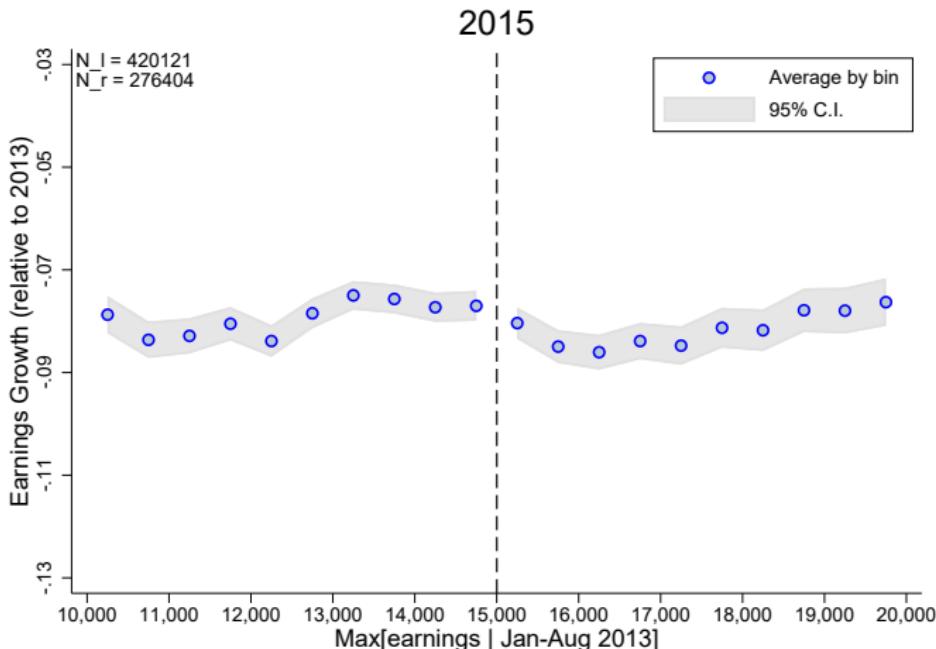
Note: average growth of (real) annual earnings w.r.t. 2013 within equally spaced bins of AR\$ 500.
Sample: private sector wage earners. Growth winsorized at p99. Inflation: 19%, 39%, 27% and 36%.

Earnings growth w.r.t. 2013



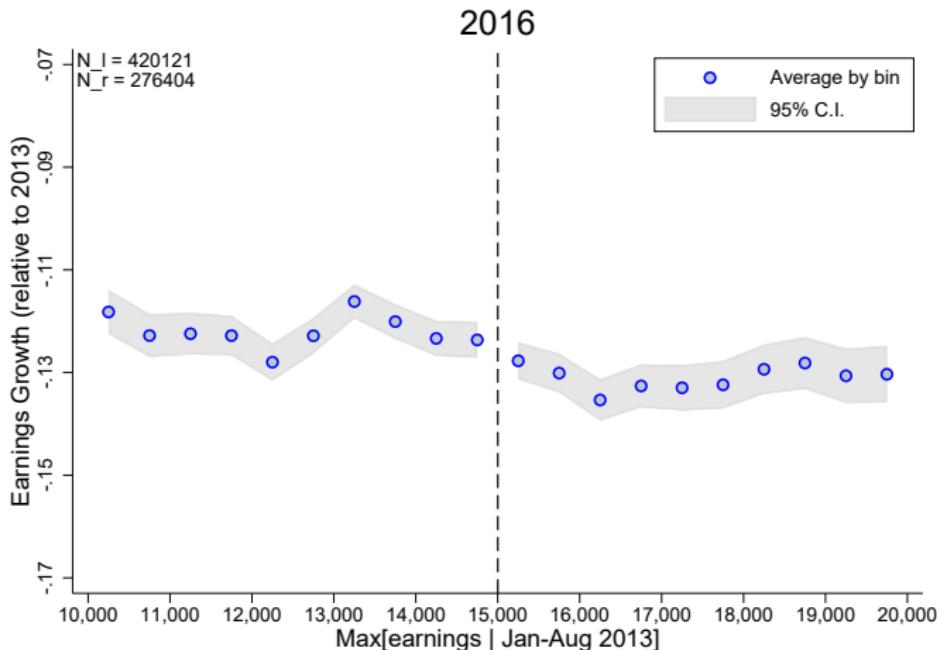
Note: average growth of (real) annual earnings w.r.t. 2013 within equally spaced bins of AR\$ 500.
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Earnings growth w.r.t. 2013



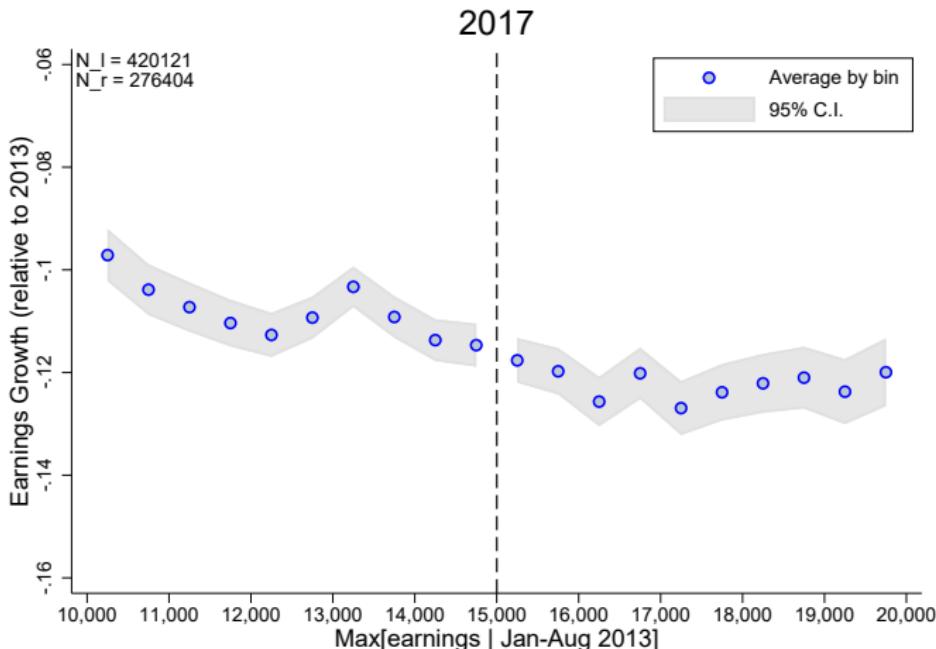
Note: average growth of (real) annual earnings w.r.t. 2013 within equally spaced bins of AR\$ 500.
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Earnings growth w.r.t. 2013



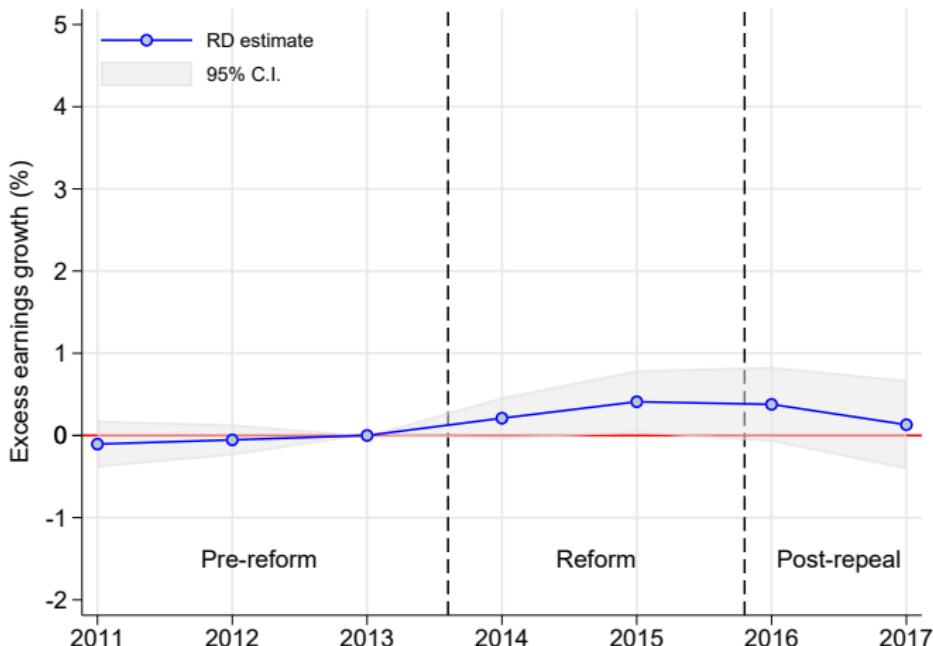
Note: average growth of (real) annual earnings w.r.t. 2013 within equally spaced bins of AR\$ 500.
Sample: private sector wage earners. Growth winsorized at p99. Inflation: 19%, 39%, 27% and 36%.

Earnings growth w.r.t. 2013



Note: average growth of (real) annual earnings w.r.t. 2013 within equally spaced bins of AR\$ 500.
Sample: private sector wage earners. Growth winsorized at p99. Inflation: 19%, 39%, 27% and 36%.

Evolution of RD estimates, 2011-2017

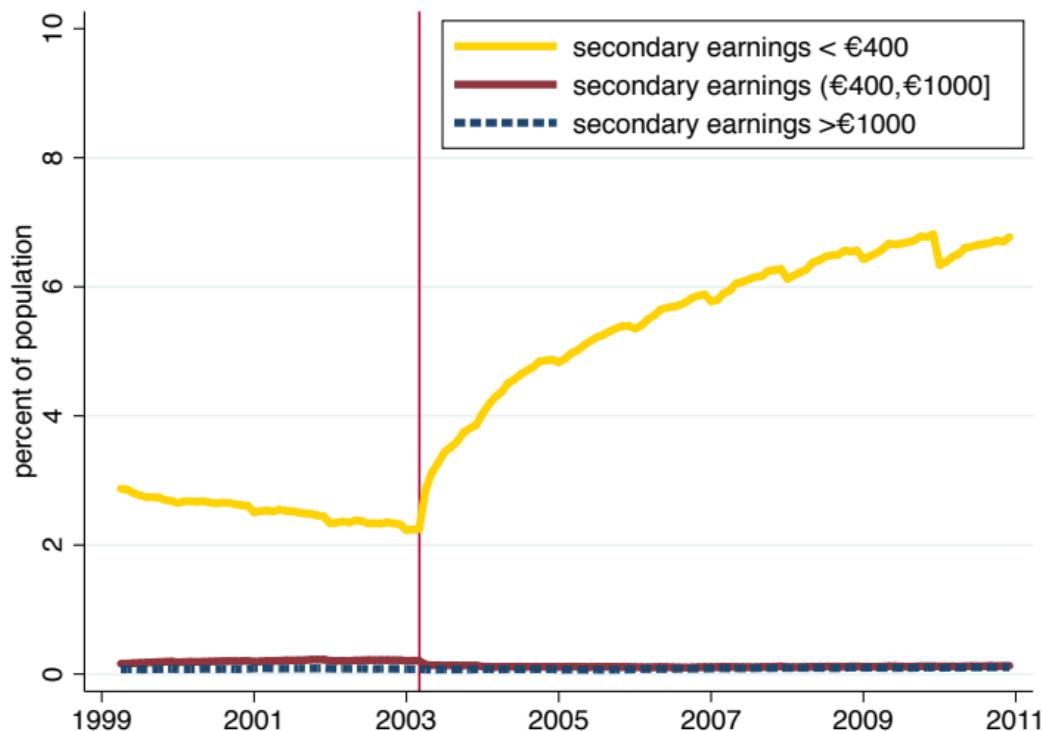


Note: with $e = 0.3$ (thought experiment), excess earnings growth would be 7.5%.

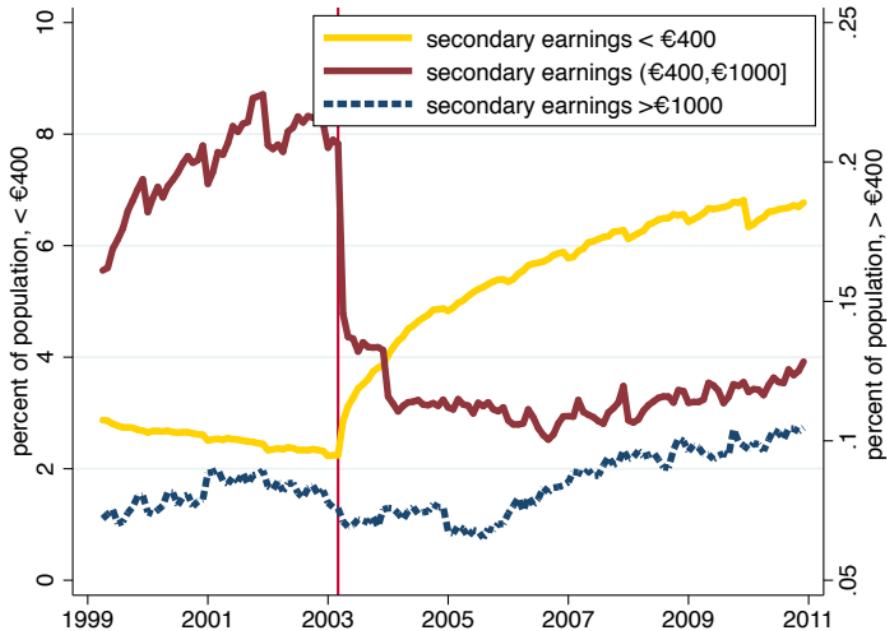
Remain employed

Figure 4: Secondary Job Holding Rates by Secondary Earnings Level
Source: Tazhitdinova (2019)

(a) same axis



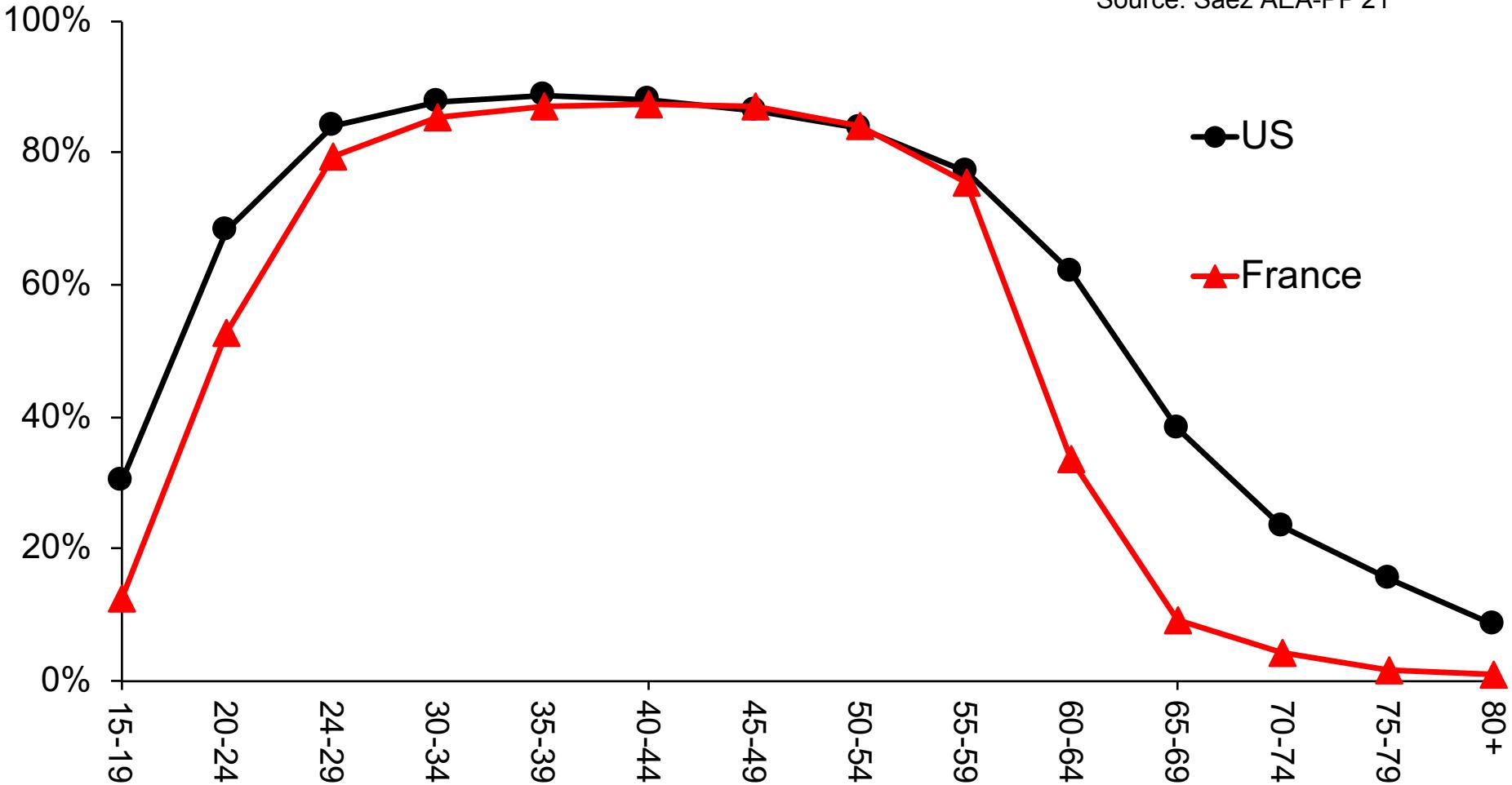
(b) different axis



Notes: This figure shows the share of individuals with secondary jobs paying less than €400 per month, paying between €400 and €1000, or more than €1000 per month. The vertical red line identifies the 2003 tax reform. *Source:* Sample of Integrated Labour Market Biographies (SIAB) 1975 - 2010, Nuremberg 2013.

Employment Rates of Men by Age, 2019

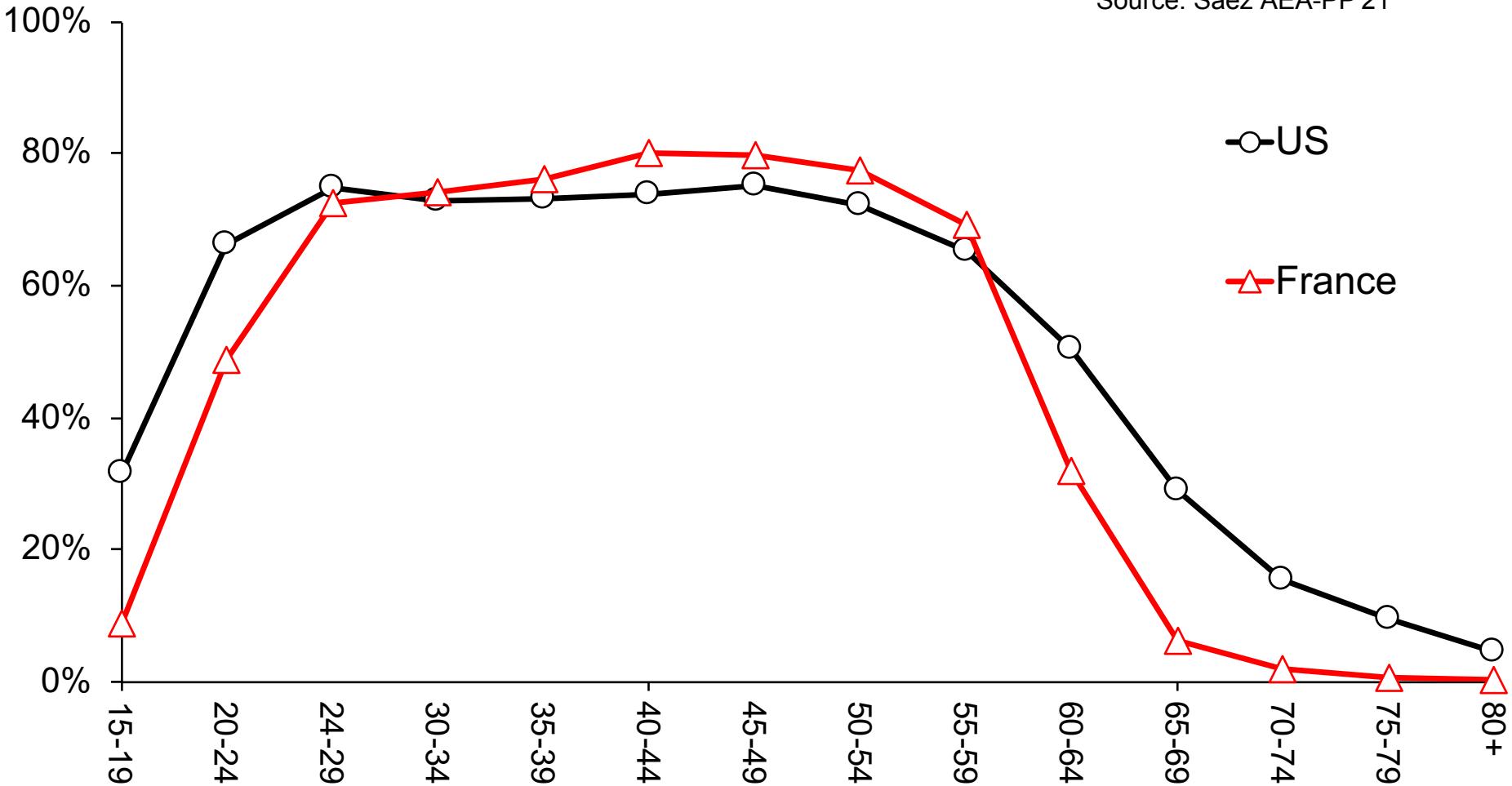
Source: Saez AEA-PP'21



Source: OECD database online. Employment to population ratios.

Employment Rates of Women by Age, 2019

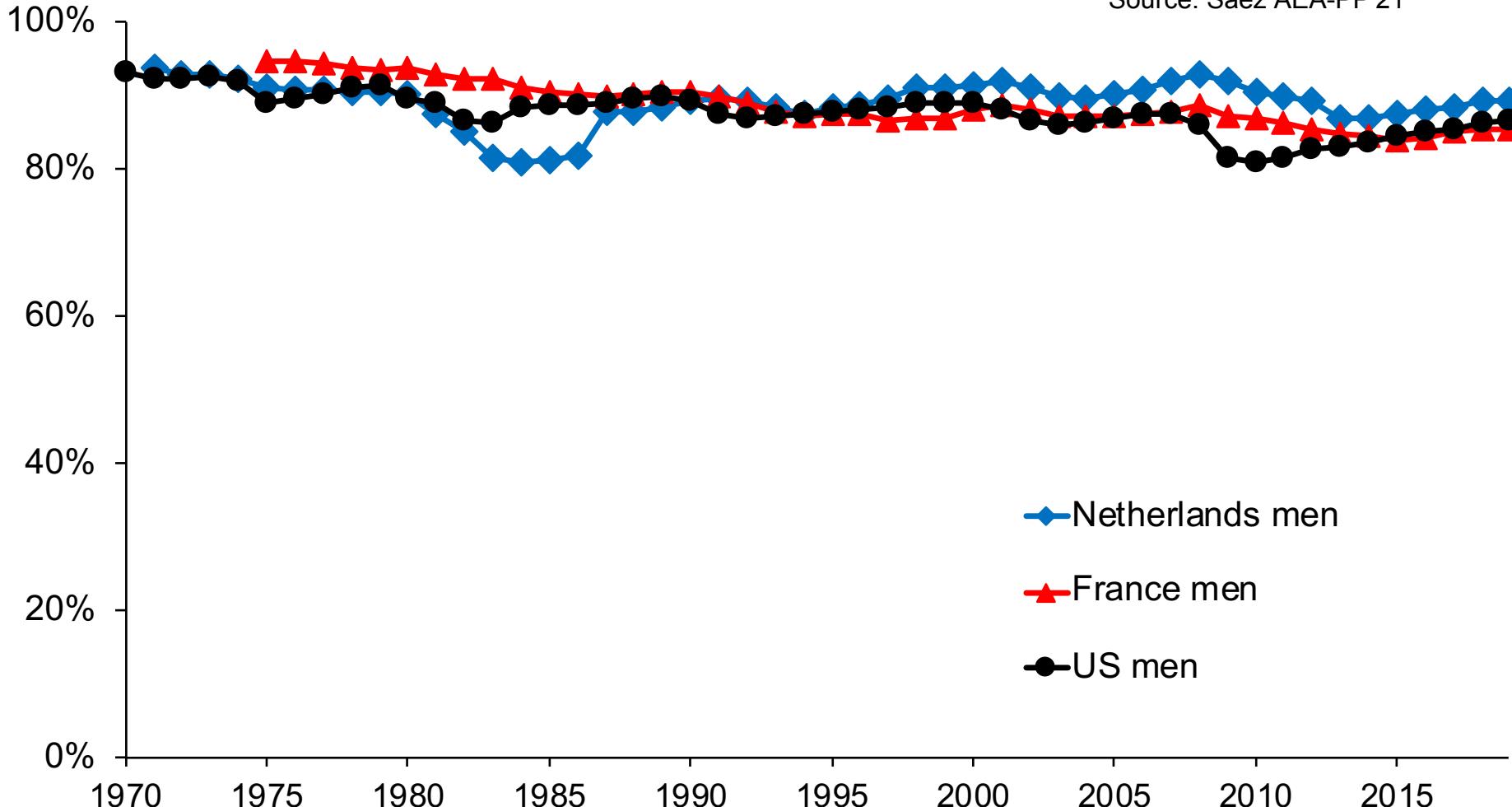
Source: Saez AEA-PP'21



Source: OECD database online. Employment to population ratios.

Employment Rates of Men and Women, aged 25-54

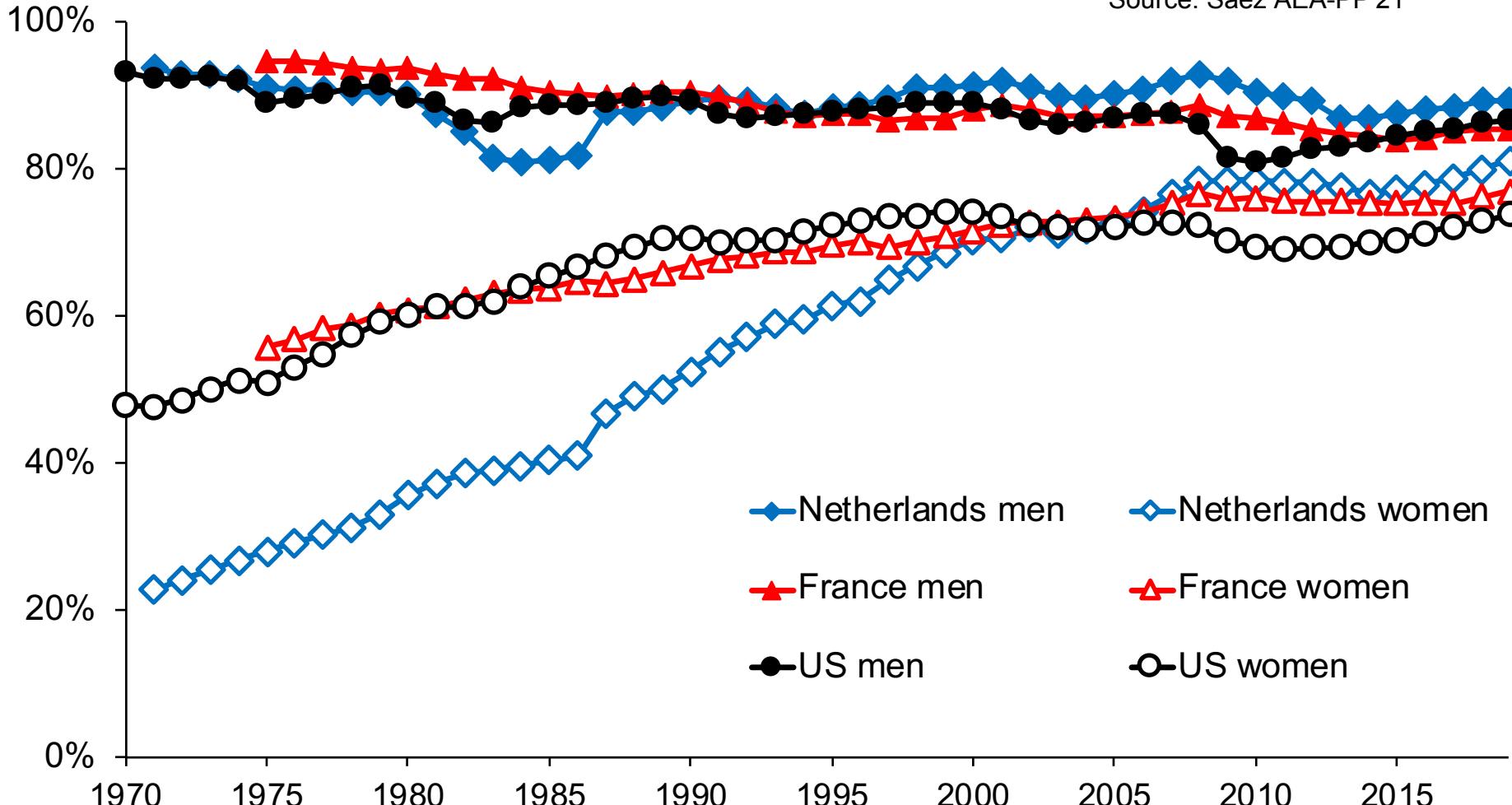
Source: Saez AEA-PP'21



Source: OECD database online.

Employment Rates of Men and Women, aged 25-54

Source: Saez AEA-PP'21



Source: OECD database online.

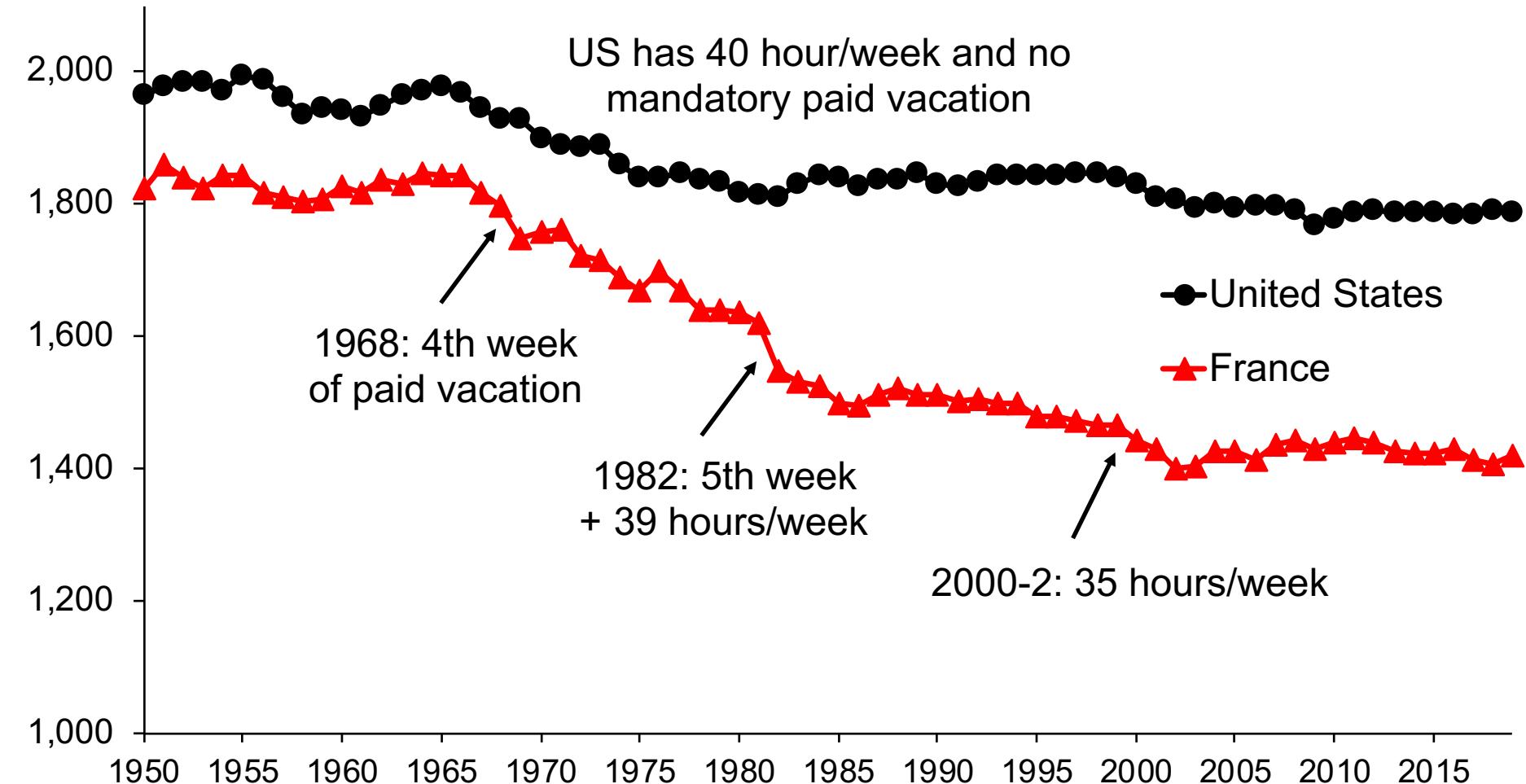
US female labor force participation, age 16-64

Source: Saez AEA-PP'21



Average Annual Hours of Work of Employees

Source: Saez AEA-PP'21



Source: OECD database online. Includes all ages, genders, and part-time, full-time, overtime.

Starting from a Means-Tested Program

