Non-Linear Budget Set Estimation: Virtual Incomes



Source: Hausman (Hbk 1985)





Source: Saez (2010), p. 184

Before tax income z

B. Density Distributions and Bunching



5000 Married, 2+ kids Subsidy: 40% Single, 2+ kids - Married, 1 kid 4000 Single, 1 kid No kids EITC Amount (\$) 3000 Phase-out tax: 21% 2000 Subsidy: 34% 1000 Phase-out tax: 16% 0 10000 15000 25000 30000 5000 20000 35000 40000 0

EITC Amount as a Function of Earnings

Earnings (\$)



Source: Saez (2010), p. 191



Panel A. One child

Source: Saez (2010), p. 191

Panel A. One child







Panel A. Married tax filers



Source: Saez (2010), p. 203

Panel B. Single tax filers



Source: Saez (2010), p. 203



EFFECTS OF THE SOCIAL SECURITY EARNINGS TEST

55

Source: Friedberg (2000), p. 55



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

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.

Source: Friedberg (2000), p. 56

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

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)



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



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









Married Female Professionals with Above Median Experience

10000 Excess mass = 1.25% Standard error = 0.61% 8000 Frequency 6000 4000 2000 -20 -10 -50 -40 -30 10 20 30 40 50 0 Chetty et al. 2009

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

Military



















Married Women at the Middle Tax: 10% Tax Kink



Married Women at the Middle Tax: 10% Tax Kink



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





Distribution of Individuals' Deductions in 1995





Chetty et al. 2009

Wage Income (1000s DKr)

Teachers Wage Earnings: 1998



Chetty et al. 2009

Wage Income (1000s DKr)
Teachers Wage Earnings: 2001





Chetty et al. 2009

Wage Earnings Relative to Top Bracket Cutoff (1000s DKr)



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	

Source: Ashenfelter and Plant (1990), p. 403

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

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

NOTE.—Terms are explained in text. * Denotes mean is more than twice its standard error.

	τ		Declining Preexperimental Tax Rate Payment (\$)		Payment for Year of Experiment (\$)				
G (\$)		Declining τ Tax Rate		Preexperimental Payment (\$)	1	2	3	4	5
3,800	.5	No	102.24	345.68	526.02	110.30	390.07	169.82	229.70
,			(185.55)	(221.42)	(241.53)	(265.28)	(307.01)	(286.76)	(309.06)
3,800	.7	No	81.16	23.30	-99.33	98.20	-16.42	-122.01	-406.46
,			(309.85)	(316.06)	(330.14)	(383.52)	(388.07)	(352.95)	(314.40)
3,800	.7	Yes	6.99	490.00	176.14	23.22	324.70	-59.79	-598.09*
- ,			(234.01)	(288.13)	(272.87)	(300.28)	(386.93)	(331.68)	(102.72)
3,800	.8	Yes	-130.30	349.73	189.80	329.94	1207.82*	1108.49*	307.38
,			(271.23)	(286.56)	(280.63)	(365.58)	(463.10)	(487.83)	(453.29)
4.800	.5	No	-23.66	30.15	160.40	399.28	419.73	434.30	251.09
,			(183.73)	(208.90)	(199.26)	(236.33)	(247.25)	(254.52)	(242.45)
4,800	.7	No	-129.98	25.71	-4.47	569.10	493.42	219.74	-38.46
,			(185.46)	(208.14)	(211.44)	(314.73)	(357.32)	(340.60)	(228.01)
4.800	.7	Yes	75.66	224.96	387.66	340.71	-130.10	34.61	189.49
,			(234.21)	(280.43)	(367.56)	(404.05)	(308.90)	(445.67)	(491.52)
4.800	.8	Yes	467.89	325.17	599.43 [*]	398.62	537.21	506.95	346.28
.,			(252.40)	(276.31)	(274.39)	(280.50)	(365.56)	(351.98)	(337.43)
5.600	.5	No	-224.97	<u>560.51</u>	723.08*	782.53*	592.40	313.82	-53.07
- ,			(286.39)	(298.21)	(306.90)	(327.39)	(366.88)	(387.31)	(325.66)
5.600	.7	No	-158.74	` 500.18 [´]	1194.68*	890.38 [*]	825.39	435.01	588.91
-,	•/		(239.17)	(311.24)	(416.25)	(391.61)	(467.76)	(609.49)	(510.52)
5.600	.8	Yes	-6.48	193.54	617.29*	906.13 [*]	888.72	877.71	75.21
-,			(175.15)	(199.51)	(255.89)	(315.98)	(337.38)	(398.38)	(216.12)

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

NOTE.—Terms are explained in text. * Denotes mean is more than twice its standard error.

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FIGURE 2. PROPORTION WITH POSITIVE EARNINGS FOR NONWINNERS, WINNERS, AND BIG WINNERS *Note:* Solid line = nonwinners; dashed line = winners; dotted line = big winners.

IMBENS ET AL.: EFFECTS OF UNEARNED INCOME



FIGURE 1. AVERAGE EARNINGS FOR NONWINNERS, WINNERS, AND BIG WINNERS Note: Solid line = nonwinners; dashed line = winners; dotted line = big winners.



Table IIa Marginal Tax Rate

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

Source: Eissa 1995

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	0.687 (.010)	0.740 (.010)	0.053 (.010)	0.037 (.028)
Percentile	[3799]	[3613]	{7.2%}	{12.3%}
90 th	0.611 (.010)	0.656 (.010)	0.045 (.010)	0.045 (.028)
Percentile	[3765]	[3584]	{6.5%}	{13%}

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	1504.1 (14.3)	1558.9 (13.9)	54.8 (20.0)	108.6 (65.1)
Percentile	[2610]	[2676]	{3.6%}	{9.4%}
90 th	1434.1 (16.4)	1530.1 (15.9)	96.0 (22.8)	67.3 (64.8)
Percentile	[2303]	[2348]	{6.8%}	{6.2%}

B: Hours Conditional on Employment

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 $1 \le 75^{\text{th}}$ percentile. Group 75 is $>75^{\text{th}}$ percentile and $\le 80^{\text{th}}$ percentile. Group 80 is $>80^{\text{th}}$ and $\le 90^{\text{th}}$. Group 90 is $>90^{\text{th}}$ and $\le 95^{\text{th}}$. Group 95 is $>95^{\text{th}}$ and $\le 99^{\text{th}}$.

Source: Liebman and Saez (2006)



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

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

5000 Married, 2+ kids Subsidy: 40% Single, 2+ kids Married, 1 kid 4000 Single, 1 kid No kids EITC Amount (\$) 3000 Phase-out tax: 21% 2000 Subsidy: 34% 1000 Phase-out tax: 16% 0 10000 15000 25000 30000 5000 20000 35000 40000 0

EITC Amount as a Function of Earnings

Earnings (\$)

LABOR SUPPLY RESPONSE TO THE EITC



Source: Eissa and Liebman (1996), p. 631 **1986 and 1988 Earned Income Tax Credit** 631

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

 TABLE II

 LABOR FORCE PARTICIPATION RATES OF UNMARRIED WOMEN

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

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







Earned Income (1992\$)

Source: Rothstein 2005



Employment Rates for Single Women with and without Children



Figure 4



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





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





TABLE IV

ELASTICITIES: GROUPING INSTRUMENTS: COHORT AND EDUCATION

		Compensated			Group Means:		
	Wage	Wage	Other Income	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


TABLE II OLS LOG HOURS WORKED EQUATIONS

Sample	TRIP		TLC1		TLC2	
Log hourly wage	411	186	501	618	355	
	(.169)	(.129)	(.063)	(.051)	(.051)	
High temperature	.000	000	.001	.002	021	
	(.002)	(.002)	(.002)	(.002)	(.007)	
Shift during week	057	047	004	.030		
	(.019)	(.033)	(.035)	(.042)		
Rain	.002	.015			150	
	(.035)	(.035)			(.062)	
Night shift dummy	.048	049	127	294	253	
	(.053)	(.049)	(.034)	(.047)	(.038)	
Day shift dummy			.000	.053		
			(.028)	(.045)		
Fixed effects	No	Yes	No	Yes	No	
Adjusted R^2	.243	.484	.175	.318	.146	
Sample size	70	65	1044	794	712	
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 coulmns 1 and 3 to account for the panel structure of the data. Explanatory variables are described in Appendix 1.

Source: Camerer et al. (1997), p. 419

Table 2

Actual and Predicted Labor Supply

In Selected Countries in 1993–96 and 1970–74

			Differences (Predicted	Prediction Factors	
		r Supply*			Consumption/
Country	Actual	Predicted	Less Actual)	Tax Rate $ au$	Output (<i>c/y</i>)
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
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
	Country Germany France Italy Canada United Kingdom Japan United States Germany France Italy Canada United Kingdom Japan United Kingdom Japan	CountryLaborGermany19.3France17.5Italy16.5Canada22.9United Kingdom22.8Japan27.0United States25.9Germany24.6France24.4Italy19.2Canada22.2United Kingdom25.9Sermany24.6France24.4Italy19.2Canada22.2United Kingdom25.9Japan29.8United States23.5	Labor Supply*CountryActualPredictedGermany19.319.5France17.519.5Italy16.518.8Canada22.921.3United Kingdom22.822.8Japan27.029.0United States25.924.6France24.425.4Italy19.228.3Canada22.225.6United Kingdom25.924.0Japan25.924.0Japan25.924.0Japan25.924.0Japan25.924.0Japan25.924.0Japan25.924.0Japan29.835.8United States23.526.4	$\begin{tabular}{ c c c c } \hline Labor Supply^* & Differences (Predicted Less Actual) \\ \hline Country & 19.3 & 19.5 & .2 \\ \hline France & 17.5 & 19.5 & 2.0 \\ \hline Italy & 16.5 & 18.8 & 2.3 \\ \hline Canada & 22.9 & 21.3 & -1.6 \\ \hline United Kingdom & 22.8 & 22.8 & 0 \\ \hline Japan & 27.0 & 29.0 & 2.0 \\ \hline United States & 25.9 & 24.6 & -1.3 \\ \hline Germany & 24.6 & 24.6 & 0 \\ \hline France & 24.4 & 25.4 & 1.0 \\ \hline Italy & 19.2 & 28.3 & 9.1 \\ \hline Canada & 22.2 & 25.6 & 3.4 \\ \hline United Kingdom & 25.9 & 24.0 & -1.9 \\ \hline Japan & 29.8 & 35.8 & 6.0 \\ \hline United States & 23.5 & 26.4 & 2.9 \\ \hline \end{tabular}$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

*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

Labor + Payroll + Consumption Tax Rate

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



Labor + Payroll + Consumption Tax Rate

Source: Davis and Henrekson 2005

Male employment by age – US, FR and UK 2005



Male Hours by age – US, FR and UK 2005



Source Blundell (2009), Mirrlees Review

Male employment by age – US, FR and UK 1975



Female Employment by age – US, FR and UK 2005



Source Blundell (2009), Mirrlees Review

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







B. Males



Ramey and Francis AEJ'09 C. Females

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











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



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 I, 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



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



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 notify asseem 11.

FIGURE 5

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



Panel C: Notch at 500k

Panel D: Notch at 600k





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










Table 1. Distribution of Prizes

	Pooled S	Sample	Individual Lottery Samples								
	rooled Sample		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.

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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.

Years Relative to Winning

0

10

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-1.5

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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.

Cesarini, Lindqvist, Notowidigdo, Östling NBER WP 2015

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







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)



Source: Bachas and Soto (2018)

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 A: Firm Density



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)



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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)

	untaxed incomes!										
Year X	1993	1994	1995	1996	(1997	1998		1999		2000	
Tax base for assessment period X	Incomes i 1991 -	realized in + 1992	Income 199	es realized in 93 + 1994	Incomes 1995	realized in + 1996	Inco	ome realize 1999	d in	Income realized i 2000	in
Payment of tax lia- bility owed for year X	During 199	3 and 1994	During 1	.995 and 1996	During 19	97 and 1998	inst fina	Provisional allments 19 I assessmer 2000	999, nt in	Provisional installments 200 final assessment 2001	0 in

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

Timing of the Reform

Blank Years in Each Canton



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)



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





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

Conclusion

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%.
Results



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Conclusion



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Motivation

Evolution of RD estimates, 2011-2017



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

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 $\in 400$ per month, paying between $\in 400$ and $\in 1000$, or more than $\in 1000$ per month. The vertical red line identifies the 2003 tax reform. *Source*: Sample of Integrated Labour Market Biographies (SIAB) 1975 - 2010, Nuremberg 2013.



Source: OECD database online. Employment to population ratios.



Source: OECD database online. Employment to population ratios.



Source: OECD database online.



Source: OECD database online.



Source: Historical Statistics of the United States (Current Population Reports).

Average Annual Hours of Work of Employees



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

Starting from a Means-Tested Program



FIGURE 16: HOW MUCH CAN BE EXPLAINED BY WELFARE WAIVERS?

ALL SINGLE WOMEN, WEEKLY EMPLOYMENT



Notes: This figure shows DiD event studies of the 1993 reform for waiver states (black series) and non-waiver states (blue series). Specifically, the series show estimates of the DiD coefficient γ_t from specification (2), implemented separately on states that ever approved statewide waiver legislation and those that did not. Both series include controls for demographics and unemployment. From Table A.3 in the appendix, there were 13 states without any statewide waiver legislation: Alabama, Alaska, District of Columbia, Kansas, Kentucky, Louisiana, Nevada, New Mexico, New York, Oklahoma, Pennsylvania, Rhode Island, and Wyoming. The extensive margin outcome is weekly employment. The sample includes single women aged 20-50 using the March and monthly CPS files combined. The 95% confidence intervals are based on robust standard errors clustered at the individual level.

Difference-in-Differences: Treated vs Control States (With Kids)





FIGURE 1. CHILD PENALTIES IN EARNINGS IN SCANDINAVIAN COUNTRIES



FIGURE 2. CHILD PENALTIES IN EARNINGS IN ENGLISH-Speaking Countries



FIGURE 3. CHILD PENALTIES IN EARNINGS IN GERMAN-Speaking Countries



Figure 1. Weighted Percent of Counties with Food Stamp Program, 1960–1975

Source: Authors' tabulations of food stamp administrative data (US Department of Agriculture, various years). Counties are weighted by their 1960 population.

Source: Hoynes, Schanzenbach, and Almond AER'16

1961-1967 1969-1972 1967-1968 1972-1974 1968-1969 No data

FIGURE 2. FOOD STAMP PROGRAM START DATE, BY COUNTY, 1961–1974

Notes: Authors' tabulations of food stamp administrative data (US Department of Agriculture, various years). The shading corresponds to the county FSP start date, where darker shading indicates later county implementation.



FIGURE 3. EVENT STUDY ESTIMATES OF THE IMPACT OF FSP EXPOSURE ON METABOLIC SYNDROME INDEX

(High Participation Sample)

Notes: The figure plots coefficients from an event-study analysis. Event time is defined as age when FSP is implemented in the birth county. The models are estimated for the sample of individuals born into families where the head has less than a high school education. Age 10–11 is the omitted year so estimates are relative to that point. See the text for a description of the model.





First Stage: Likelihood of Age 18 Medical Review across Cutoff

Figure plots the likelihood of receiving an age 18 medical review and the likelihood of receiving an unfavorable age 18 review (i.e., being removed from SSI at age 18). The sample is SSI children with an 18th birthday within 18 months of the August 22, 1996, cutoff who reside in a county with CJARS coverage. Table I reports point estimates and standard errors.

Source: Deshpande and Mueller-Smith QJE 2023

DOES WELFARE PREVENT CRIME?



FIGURE III

Reduced Form: Criminal Justice Outcomes across Cutoff

Negative Income Tax Experiment



Negative Income Tax Experiment

