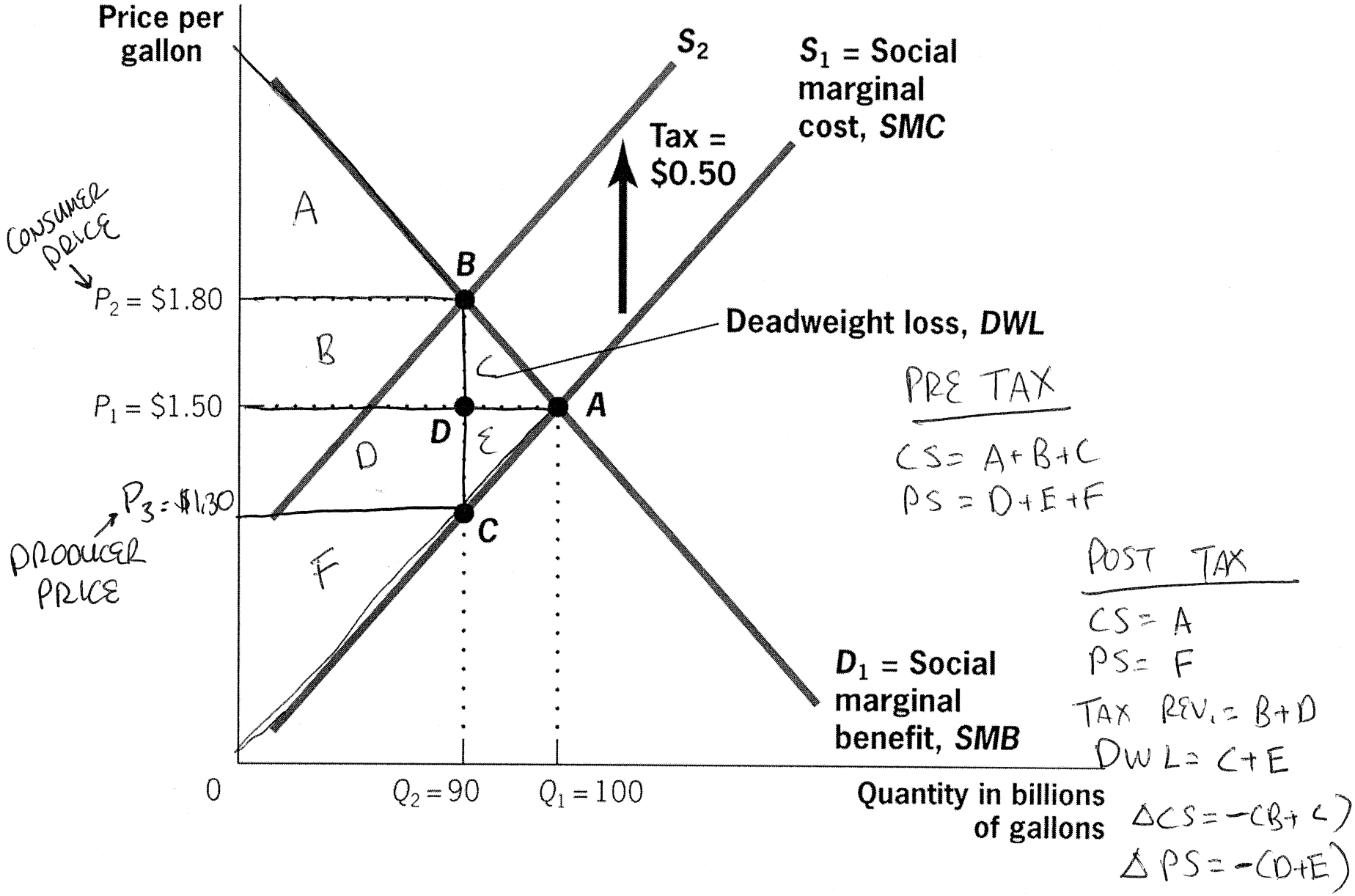


Figure 20.1 Deadweight Loss of a Tax
Gruber: Public Finance and Public Policy, First Edition

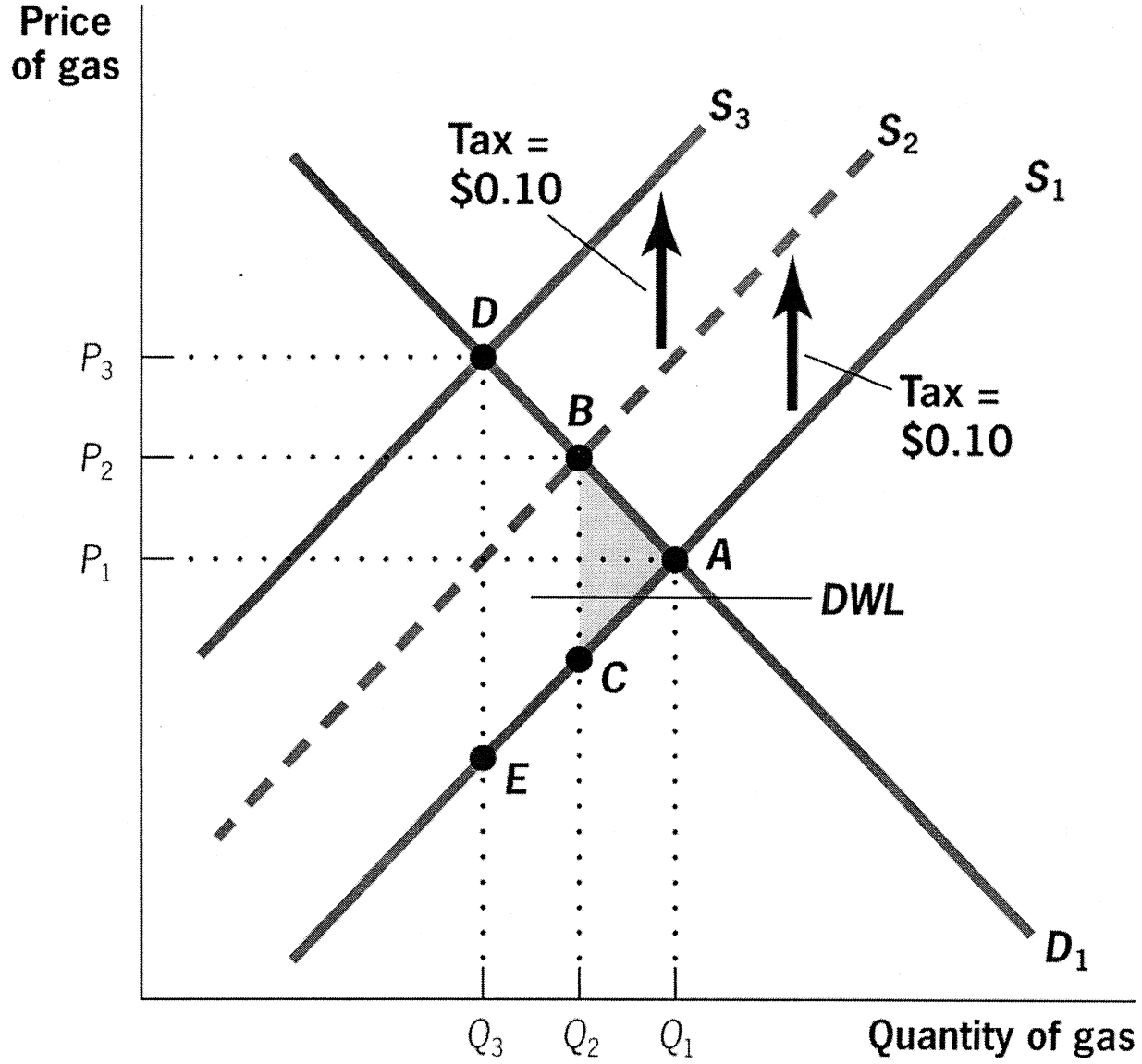


Figure 20.3 Marginal Deadweight Loss Rises with Tax Rate
Gruber: Public Finance and Public Policy, First Edition

FORMULAS

FROM IMPLEMENTING A TAX:

$$DWL = -\frac{1}{2}\frac{\eta_d \eta_s}{\eta_s - \eta_d}\tau^2 \frac{Q}{P}$$

Change in consumer price (burden): $\frac{\eta_s}{\eta_s - \eta_d}\tau$

Change in producer price (burden): $\frac{\eta_d}{\eta_s - \eta_d}\tau$

RAMSEY RULE:

If p=1 and supply is perfectly elastic:

$\tau^i = -\frac{1}{\eta_d^i}\lambda \Rightarrow \tau^i \eta_d^i = \tau^j \eta_d^j$ for goods i and j

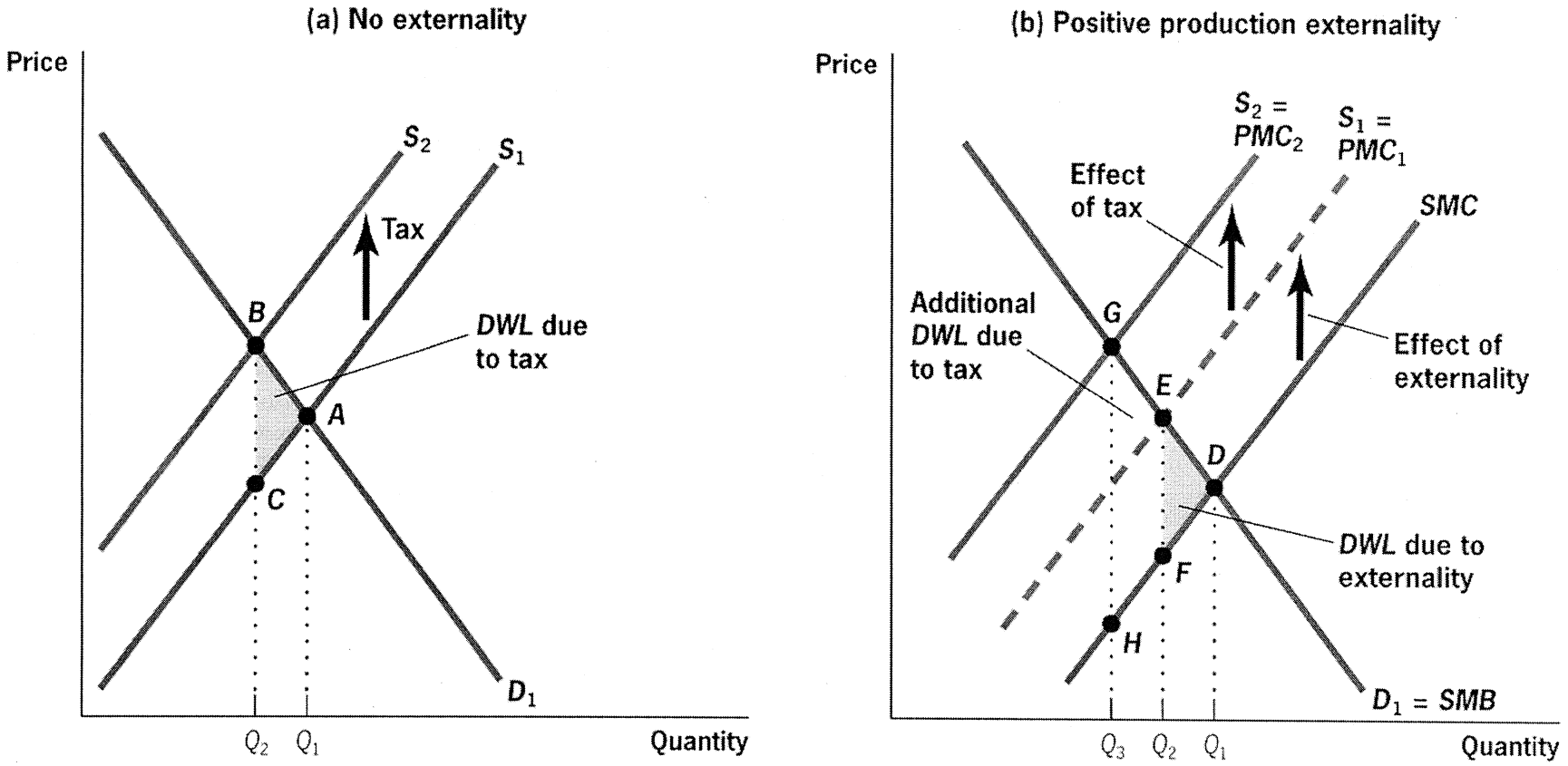


Figure 20.4 Preexisting Distortions Matter
Gruber: Public Finance and Public Policy, First Edition

Table 1
Non-linear budget constraint models: summary of some empirical results for men

Study	Data source and sample selection	Variables: H, hours; W, wage; Y, income	Functional form of labor supply and budget set structure	Estimation method and stochastic specification[a]	Uncompensated wage elasticity	Income elasticity
Blomquist (1983)	Swedish Level of Living Survey 1974: sample size 688, all employed, married, aged 25–55	H, annual hours for 1973 (weeks worked × average hours per week) W, directly observed Y, spouse's net income + family allowances + net capital income	Linear labor supply, convex (piecewise linear)	ML ML random preferences (on income coefficient)	0.08 0.08	−0.03 −0.04
Blomquist and Hansson-Brusewitz (1990)	Swedish Level of Living Survey 1981: sample size 602, all employed, married, aged 25–55	H, annual hours W, directly observed Y, spouse's net income + family allowances + net capital income	Linear and quadratic labor supply Convex and non-convex (piecewise linear)	*Linear labor supply* ML-convex ML-non-convex ML-convex random preferences *Quadratic labor supply* ML-convex	0.08 0.08 0.13 0.12	0.002 −0.008 −0.01 −0.008
Bourgiugnon and Magnac (1990)	French Labour Force Survey 1985: sample size 1992, all employed, married, aged 18–60	H, normal weekly hours W, hourly net wage (monthly earnings / hours) Y, family allowances	Linear labor supply Convex (piecewise linear)	ML-convex, random preferences	0.1	−0.07
Blundell and Walker (1986)	British Family Expenditure Survey 1980: sample size 1378, all employed, married, aged 18–59	H, usual weekly hours W, weekly earnings/ hours Y, consumption based two-stage budgeting [b]	Gorman polar form/ translog Convex (piece-wise linear)	ML-convex, random preferences	0.024	−0.287
Flood and MaCurdy (1992)	Swedish Household Market and Non-market Survey (HUS) 1984: sample size 492, all employed, married, aged 25–65	H, annual hours W, hourly wage (annual earnings/ annual hours) Y, asset income, UI, housing allowances etc.	Linear and semi-logarithmic Convex (piecewise linear and differentiable)	*Linear labor supply* ML-piecewise linear, random preferences (on income coefficient) additive measurement error ML-differentiable, random preferences (on income coefficient) measurement error: Additive Multiplicative None *Semi-log labor supply* ML-differentiable, random preferences, measurement error: Multiplicative None IV across 7 different specifications ML, random preferences (on income coefficient)	0.16 0.14 0.04 0.07 0.21 0.25 {−0.25, 0.21} {0.00, 0.03}	−0.1 −0.09 −0.07 −0.08 −0.09 −0.1 {−0.11, 0.04} {−0.95, −1.03}
Hausman (1981)	US Panel Study of Income Dynamics 1975: sample size 1085, all employed, married, aged 25–55	H, annual hours W, directly reported hourly wage rates Y, other income assuming 8% return to financial assets	Linear labor supply			
Kaiser et al. (1992)	German SocioEconomic Panel 1983: sample size 2382 employed, 939 non-employed, married, non-retired	H, annual hours W, hourly wage (annual income/annual hours) Y, income from rents, capital income and transfer payments	Convex and non-convex (piecewice-linear)	ML-convex Linear labor supply convex (piecewise linear)	−0.004	−0.28

From: Handbook of Labor Economics vol 3A, Blundell/MaCurdy

Table 2.26
Summary of labor supply estimates for women implied by results of selected studies of female labor supply.

Study	Sample, procedure used	Wage elasticity		Total-income elasticity
		Uncompensated	Compensated	
	Data for United States			
Heckman (1976b)	White wives age 30–44:			
	Procedure IV	1.46	1.48	−0.02
	Procedure VI	4.31	4.35	−0.04
Cogan (1980a)	White wives age 30–44:			
	Procedure II	1.14	1.17	−0.03
	Procedure III	3.50	3.60	−0.10
	Procedure VI	2.83	2.91	−0.09
Schultz (1980)	White wives age 35–44 (lbc):			
	Procedure I	0.16	0.21	−0.05
	Procedure II	0.13	0.19	−0.05
	Procedure III	0.65	0.83	−0.18
	Black wives age 35–44 (lbc):			
	Procedure I	0.60	0.34	0.26
	Procedure II	0.42	0.41	0.01
	Procedure III	1.04	0.56	0.48
Trussell and Abowd (1980)	White wives age 25–45 (Procedure VI)	4.50	n.a.	−0.41*
	Black wives age 25–45 (Procedure VI)	2.93	n.a.	≃ 0*
Heckman (1980)	White wives age 30–44:			
	Procedure IV	2.26	2.26	≃ 0
	Procedure VII	1.47	1.47	≃ 0
	Procedure IV(a)	14.79	14.79	≃ 0
	Procedure VII(a)	6.62	6.62	≃ 0
	Procedure V(a)	4.47	4.47	≃ 0
Hanoch (1980)	White wives age 30–44 (fc):			
	weeks worked < 52			
	(no "corner" in weeks worked)	0.64	0.81	−0.17
	weeks worked = 52			
	(with "corner" in weeks worked)	0.42	0.54	−0.13
Cogan (1980b)	White wives age 30–44:			
	Procedure VI	2.45	2.64	−0.19
	fixed costs of labor market entry model:			
	OLS	0.89	0.93	−0.04
	conditional ML	1.14	1.19	−0.05
Cogan (1981)	White wives age 30–44:			
	Procedure VI	2.10	2.18	−0.08
	fixed costs of labor market entry			
	(conditional ML)	0.65	0.68	−0.03
Nakamura and Nakamura (1981)	Wives – Procedure VIII (lbc):			
	age 30–34	−0.27	0.11	−0.36
	age 35–39	−0.31	−0.12	−0.19
	age 40–44	−0.09	0.18	−0.27
Dooley (1982)	Wives – Procedure VII:			
	Whites: age 30–34	3.66	4.14	−0.48
	age 35–39	15.24	15.35	−0.11
	age 40–44	4.28	4.73	−0.45
	Blacks: age 30–34	0.67	1.01	−0.35
	age 35–39	−0.34	−0.17	−0.17
	age 40–44	−0.89	−1.06	0.18
Ransom (1982)	Wives, husband age 30–50 – ML, lbc (quadratic family duf)	0.40 to 0.42	0.46 to 0.50	−0.05 to −0.09

FROM: Handbook of Labor Economics vol 1, Killingsworth / Heckman

Table 2
Non-linear budget constraint models: summary of some empirical results for married women

Study	Data source and sample selection	Variables: H, hours; W, wage[a]; Y, income	Functional form of labor supply and budget set structure	Estimation method and stochastic specification[b]	Uncompensated wage elasticity	Income elasticity
Arellano and Meghir (1992)	British Family Expendtiture Survey (FES) 1983 and British Labor Force Survey (LFS) 1983: sample size 11,535 employed, 13,200 non-employed, aged 20–59	H, weekly hours W, hourly earnings[c] (earnings/hours) Y, consumption based other income measure	Semi-log labor supply Convex (piecewise linear)	Instrumental variables/selection	{0.29, 0.71}	{−0.13, −0.40}
Arrufat and Zabalza (1986)	Bristish General Household Survey 1974: sample size 2002 employed, 1493 non-employed, aged < 60	H, weekly hours W, gross hourly earnings, SS Y, net weekly unearned family income + husband's earnings	CES utility based labor supply Convex (piecewise linear)	ML-convex, random preference (log normal on CES leisure coefficient)[d]	2.03	−0.2
Blomquist and Hansson-Brusewitz (1990)	Swedish Level of Living Survey 1981: sample size 795 full sample, 640 employed, aged 25–55	H, annual hours W, directly observed, SS[e] Y, spouse's net income + family allowances + net capital income	Linear and quadratic labor supply Convex and non-convex (piecewise linear)	*Linear labor supply* ML-non-convex ML-non-convex, random preferences (on income coefficient) *Quadratic Labor Supply* ML-convex	0.79 0.77 0.58	−0.24 −0.06 −0.05
Blundell et al. (1988)	British Family Expenditure Survey 1980: sample size 1378 employed, aged 18–59	H, usual weekly hours W, hourly earnings[f] (earnings /hours) Y, consumption based two-stage budgeting measure	Generalized linear expenditure system Convex (piecewise linear)	Truncated ML, random preferences	0.09	−0.26
Bourgiugnon and Magnac (1990)	French Labor Force Survey 1985: sample size 1175 employed, 817 non-employed, aged 18–60	H, normal weekly hours W, hourly net wage, SS, (earnings /hours) Y, spouse's net income + family allowances	Linear labor supply Convex (piecewise linear)	ML-convex, random preferences ML with fixed costs, random prefrences	1 0.05	−0.3 −0.2
Colombino and Del Boca (1990)	Turin Survey of Couples 1979: sample size 338 employed, 494 non-employed	H, yearly hours (weeks worked × average weekly hours) W, hourly wage, SS, (annual earnings/ annual hours) Y, total net non-labor	Linear labor supply Convex (piecewise linear)	ML-convex	{1.18, 0.66}	0.52
Hausman (1981)	US Panel Study of Income Dynamics 1975: sample size 575 participants, 510 non-participants	H, annual hours of work W, directly reported hourly wage rates, SS[g] Y, transfer and asset income with 8% return to financial assets	Linear labor supply Convex (piecewise-linear) and non-convex (fixed costs)	ML-convex, random preferences ML-fixed costs random preferences (on income coefficient)	0.995 0.906	−0.121 −0.132
Kaiser et al. (1992)	German SocioEconomic Panel 1983: sample size 1076 employed, 2284 non-employed, non-retired	H, yearly hours W, hourly wage, SS (annual earnings/ annual hours) Y, income from rents, capital income and transfer payments	Linear labor supply Convex (piecewise linear)	ML-convex	1.04	−0.18

FROM: Blundell / Macurdy

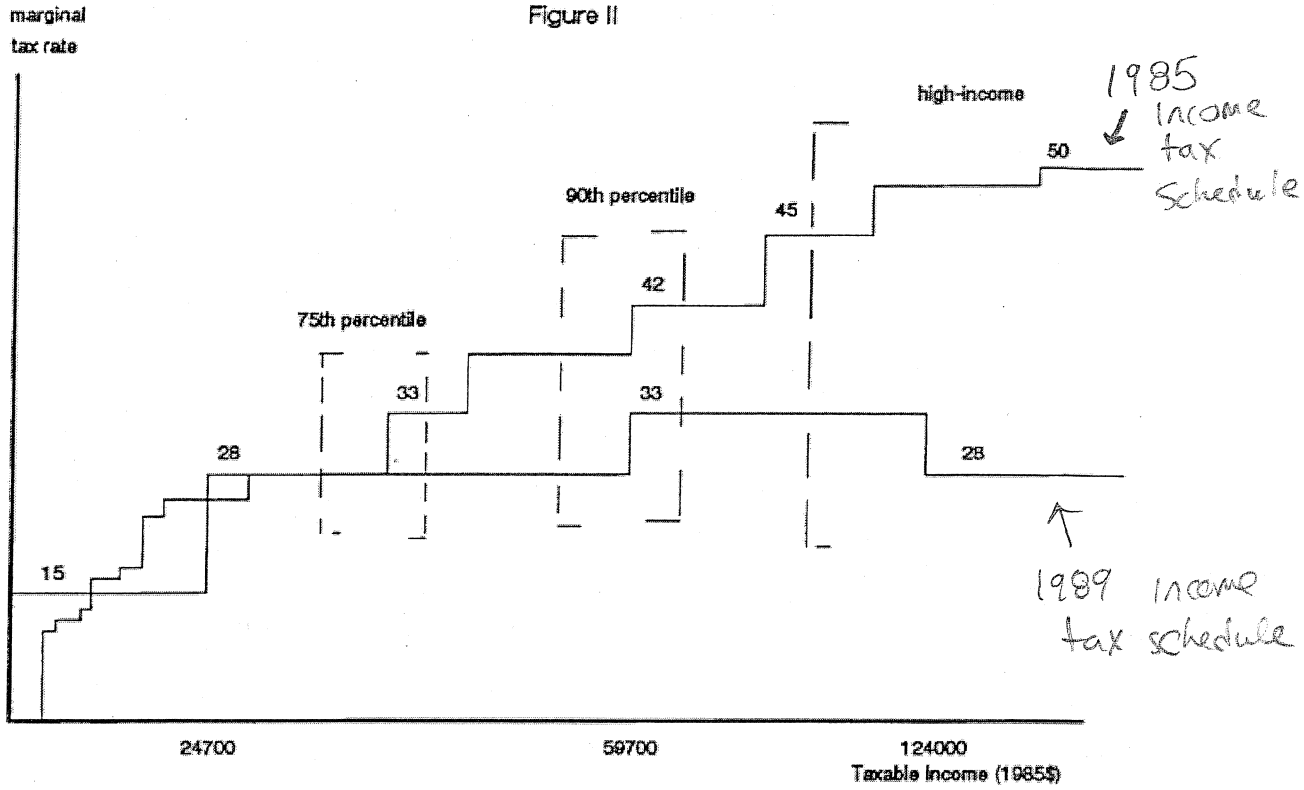
Table 1.21
Estimates of the behavioral responses for men from the NIT experiments.

		E	mpe	E^*
Ashenfelter (1978a)		0.21	0.02	0.19
Ashenfelter (1978b)		0.17	−0.01	0.18
Burtless and Greenberg (1982)	3 Year	0.08	−0.04	0.12
	5 Year	−0.12	−0.18	0.06
Hausman and Wise (1977)		0.10	−0.01	0.11
Johnson and Pencavel (1982)		−0.16	−0.29	0.13
Johnson and Pencavel (1984)		0.02	−0.17	0.19
Keeley and Robins (1980)		−0.09	−0.14	0.05

Notes: Ashenfelter's estimates are from the North Carolina–Iowa rural experiment and Hausman and Wise's are from the New Jersey–Pennsylvania experiment. All the other estimates make use of data from the Seattle–Denver income maintenance experiment and all these estimates have been evaluated at the same number of hours of work (namely, 1880.97) and the same net wage rate ($2.293). These are the mean values of working experimental husbands in the pre-experimental year whose incomes in that year would have placed them below the breakeven level and they are taken from the sample analyzed by Keeley and Robins (1980). The earlier work by Keeley, Robins, Spiegelman and West (1978a, 1978b) uses the same estimating procedure as in Keeley and Robins (1980), but in the later study the sample includes Chicanos, unlike the earlier work. The difference between Ashenfelter's (a) and (b) estimates is explained in footnote 100.

From: Handbook of Labor Economics Vol 1) Pencavel

Figure II



From: Eissa, "Taxation + LS of married women: the Tax Reform Act of 1986 as a natural experiment"

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%}	
75th Percentile	0.687 (.010) [3799]	0.740 (.010) [3613]	0.053 (.010) {7.2%}	**0.037 (.028)** **{12.3%}**
90th Percentile	0.611 (.010) [3765]	0.656 (.010) [3584]	0.045 (.010) {6.5%}	**0.045 (.028)** **{13%}**

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%}	
75th Percentile	1504.1 (14.3) [2610]	1558.9 (13.9) [2676]	54.8 (20.0) {3.6%}	**108.6 (65.1)** **{9.4%}**
90th 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.