

COMMENTS ON:

“Marginal Tax Rates and Income:
New Time Series Evidence”

by Karel Mertens and José Luis Montiel Olea

Forthcoming, QJE

EBEN LAZARUS

(with thanks to Pepe Montiel Olea for figures)

Harvard Macro-PF Reading Group

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Background

- ▶ Previous paper (Mertens & Ravn, 2013): Effects of changes in *average* tax rates
 - ▶ In theory, identifies income + AD effect
 - ▶ Substitution effect?
- ▶ This paper: Short-run elasticities of income w.r.t. exogenous marginal rate changes
 - ▶ Find large effects for entirety of income distribution

Previous Evidence

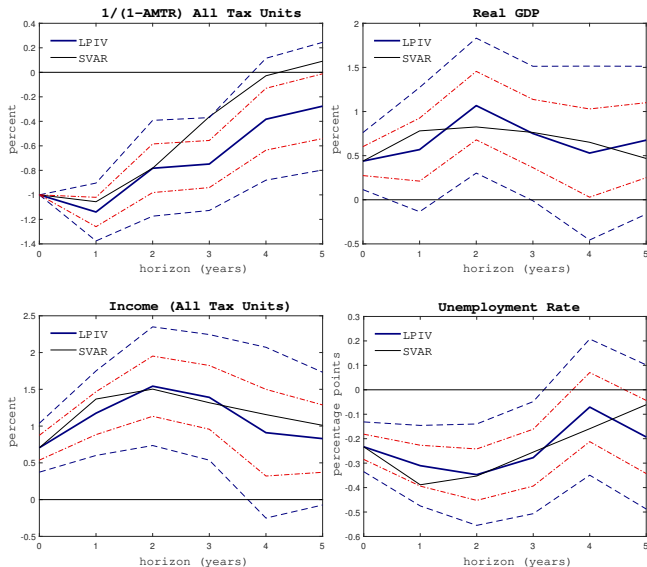
- ▶ Nice discussion of previous literature on elasticity of taxable income (ETI):
 1. **PF:** Typically quite small (0.1–0.4)
 - ▶ Data: Personal tax returns
 - ▶ DiD or instrument using statutory changes
 2. **Macro:** Much larger (≥ 0.5)
 - ▶ Data: Macro aggregates
 - ▶ Focus on “policy reforms”
- ▶ Try to reconcile these two
- ▶ Use personal income data as in Saez (2004), extended to 1946–2012 sample
- ▶ Romer and Romer (2010) shocks for identification
 - ▶ Not all statutory changes are exogenous
 - ▶ Reason to believe that procyclicality in statutory changes induces downward bias in PF-literature estimates
 - ▶ Timing also an issue

Romer and Romer (2010)

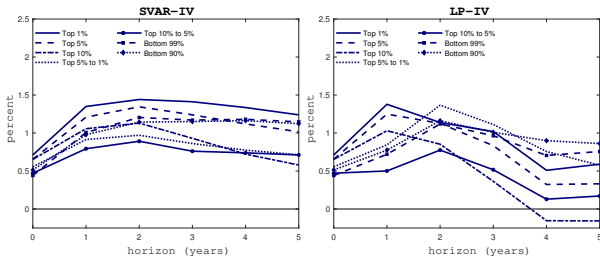
Romer and Romer shocks:

- ▶ Four categories of legislated tax changes:
 1. Responding to change in government spending
 2. Responding to some other macro factor likely to affect output
 3. Dealing with budget deficit inherited from past
 4. Trying to achieve some ideological goal (higher growth, increased fairness, smaller gov't)
- ▶ (1) and (2) are endogenous (and excluded); (3) and (4) are “exogenous”
- ▶ Debatable
- ▶ <http://eml.berkeley.edu/?dromer/papers/nadraft609.pdf> is ~100-pg. appendix detailing each tax change and records supporting categorization
- ▶ Mertens and Montiel Olea then use these as instruments in SVAR (and its cousin, local projection)

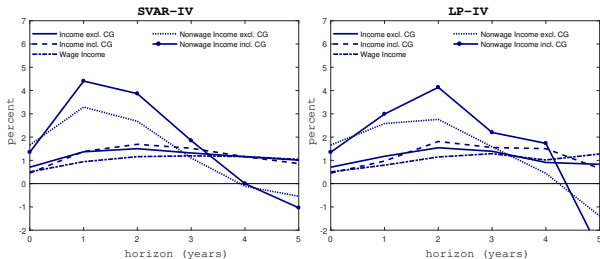
Main Results



Aggregate Responses to a One Percent Increase in the Marginal Net-of-Tax Rate.



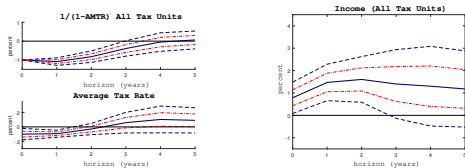
Dynamic Estimates of Tax Elasticities of Income, by Income Group



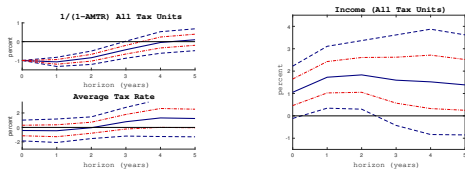
Dynamic Estimates of Tax Elasticities of Income, by Income Source

Average vs. Marginal

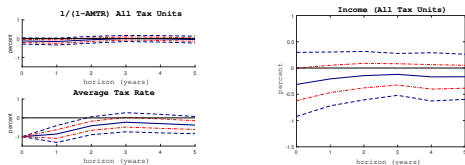
A. Cut in Marginal Tax Rate Allowing Impact on Statutory Average Tax Rate



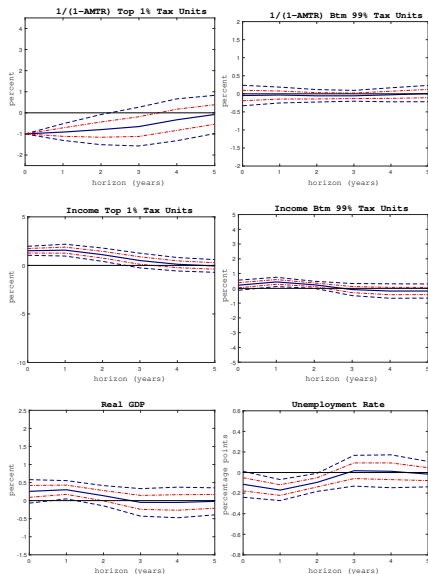
B. Cut in Marginal Tax Rate Without Impact on Statutory Average Tax Rate



C. Cut in Average Tax Rate Without Impact on Statutory Marginal Tax Rate

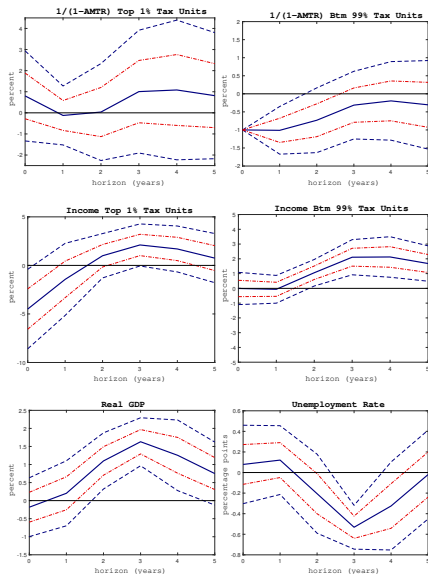


Spillover Distributional Effects (I)



Responses to a 1% Increase in the Top 1% Marginal Net-of-Tax Rate

Spillover Distributional Effects (II)



Responses to a 1% Increase in the Bottom 99% Marginal Net-of-Tax Rate

Can We Recover Smaller Results via Misspecification?

UNIVARIATE REGRESSIONS OF INCOME ON NET-OF-TAX RATES, SAMPLE: 1948-2012

	All Tax Units		Top 1%	Top 5%	Top 10%	Top 5% to 1%	Top 10% to 5%	Btm. 99%	Btm. 90%
	BR 2011	PS 2003							
A. Ordinary Least Squares, Sample: 1947-2012									
Same year	-0.23	-0.21	0.55**	0.37	0.28	0.02	-0.00	-0.35**	-0.49***
	(-0.62, 0.16)	(-0.51, 0.09)	(0.02, 1.07)	(-0.12, 0.86)	(-0.13, 0.70)	(-0.23, 0.26)	(-0.21, 0.20)	(-0.65, -0.06)	(-0.82, -0.16)
Following year	-0.09	-0.09	0.84***	0.62**	0.49**	0.21	0.09	-0.31	-0.52
	(-0.77, 0.58)	(-0.68, 0.50)	(0.24, 1.44)	(0.13, 1.11)	(0.05, 0.92)	(-0.06, 0.48)	(-0.30, 0.49)	(-0.96, 0.33)	(-1.24, 0.20)
B. Ordinary Least Squares with Controls, Sample: 1948-2012									
Same year	-0.05	-0.07	0.61***	0.48***	0.40***	0.01	-0.03	-0.19	-0.28
	(-0.43, 0.33)	(-0.36, 0.22)	(0.31, 0.91)	(0.25, 0.70)	(0.20, 0.60)	(-0.16, 0.18)	(-0.15, 0.10)	(-0.52, 0.13)	(-0.69, 0.14)
Following year	0.09	0.19	1.02***	0.80***	0.64***	0.19**	0.15	0.07	0.00
	(-0.44, 0.63)	(-0.29, 0.67)	(0.70, 1.33)	(0.50, 1.10)	(0.38, 0.90)	(0.04, 0.34)	(-0.11, 0.41)	(-0.38, 0.52)	(-0.56, 0.57)
C. 2SLS with Controls and All Statutory Tax Changes as Instrument, Sample: 1948-2012									
Same year	0.04	0.08	0.64***	0.48***	0.39***	0.13	-0.09	-0.10	-0.09
	(-0.33, 0.42)	(-0.26, 0.43)	(0.33, 0.95)	(0.24, 0.73)	(0.14, 0.63)	(-0.08, 0.34)	(-0.37, 0.20)	(-0.53, 0.33)	(-0.65, 0.46)
Following year	0.33	0.40*	1.07***	0.75***	0.57***	0.22*	0.03	0.20	0.36
	(-0.11, 0.77)	(-0.05, 0.86)	(0.70, 1.43)	(0.49, 1.01)	(0.33, 0.80)	(-0.02, 0.46)	(-0.37, 0.42)	(-0.41, 0.82)	(-0.38, 1.10)
$F_{1st-Stage}$	307.68	149.49	124.82	232.03	150.80	72.87	50.84	190.72	160.56
D. 2SLS with Controls and Exogenous Statutory Tax Changes as Instrument: 1948-2012									
Same year	0.71***	0.75***	0.71***	0.66***	0.65***	0.56**	0.47***	0.44*	0.51
	(0.28, 1.13)	(0.30, 1.19)	(0.30, 1.12)	(0.23, 1.08)	(0.23, 1.07)	(0.12, 0.99)	(0.18, 0.76)	(-0.06, 0.94)	(-0.18, 1.21)
Following year	1.19***	1.24***	1.37***	1.24***	1.03***	0.85**	0.50	0.73*	0.79
	(0.45, 1.93)	(0.57, 1.91)	(0.60, 2.15)	(0.66, 1.83)	(0.50, 1.56)	(0.20, 1.50)	(-0.11, 1.12)	(-0.14, 1.61)	(-0.38, 1.96)
$F_{1st-Stage}$	229.25	62.24	51.30	33.38	34.43	17.88	14.07	29.91	16.90

Notes. Same-year estimates are based on regressing $\Delta \ln(\text{income}_t^j)$ on $\Delta \ln(1 - \text{AMTR}_t^j)$ and following-year estimates are based on regressing $\ln(\text{income}_{t+1}^j) - \ln(\text{income}_{t-1}^j)$ on $\Delta \ln(1 - \text{AMTR}_t^j)$ for every income group j , see equations (1) and (2). The regressions in Panels B, C and D include two lags of $\ln(\text{income}_t^j)$ and $\ln(1 - \text{AMTR}_t^j)$ as well as two lags of GDP, unemployment rate, government spending, change in federal debt, inflation, real stock prices and the federal funds rate and dummies for 1949 and 2008. Results in the first column are based on the AMTR series for all tax units using the income definition of Barro and Redlick (2011). The other series are based on the income definition of Piketty and Saez (2003). Top 5% to 1% (Top 10% to 5%) refers to tax units in the Top 5% (Top 10%) but outside the Top 1% (Top 5%) of the income distribution. Panel C uses all statutory tax changes as the instrumental variable. Panel D uses the narratively identified tax changes as instruments, with the nonzero observations listed in columns [5] to [12] in Table III. The first-stage F -statistic and 95% confidence intervals in parentheses are based on Newey and West (1987) HAC adjusted standard errors using eight lags. Asterisks denote 10%, 5% or 1% significance.