Labor Economics, Section 2
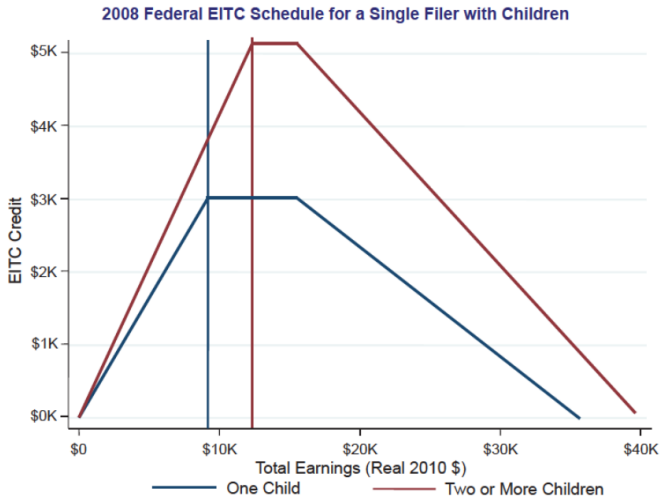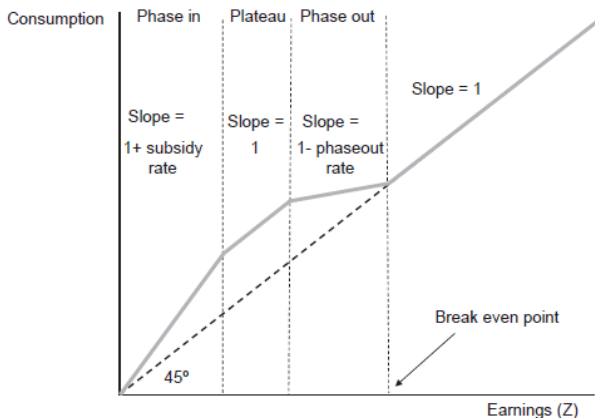
Jiacheng Feng

July 2, 2020

Outline

- EITC

- Labor Demand (Theory)

- Tax Incidence and Mandated Benefits

- Difference in Differences, the Code

The subsidy you get is dependent on your income.

Fixing income, everyone consumes more under EITC!

Extensive Margin

- Extensive margin is the decision of whether to enter the labor force or not due to the policy

- In theory, EITC definitely has a positive effect on the extensive margin.

- Those who don't work are at the 0 point. Therefore, if they do in fact work, EITC raises a dollar wage to more than a dollar.

Intensive Margin

- Intensive margin describes changes in work hours of the working population due to the policy.

- For relatively high earners after the phase out, a dollar earned is worth less than a dollar. For relatively low earners with the subsidy, a dollar is worth more!

- Furthermore, there is an income effect such that even for those middle earners who's dollar is a dollar, they work less.

Aggregate effect is ambiguous.

Chetty Friedman Saez Part I
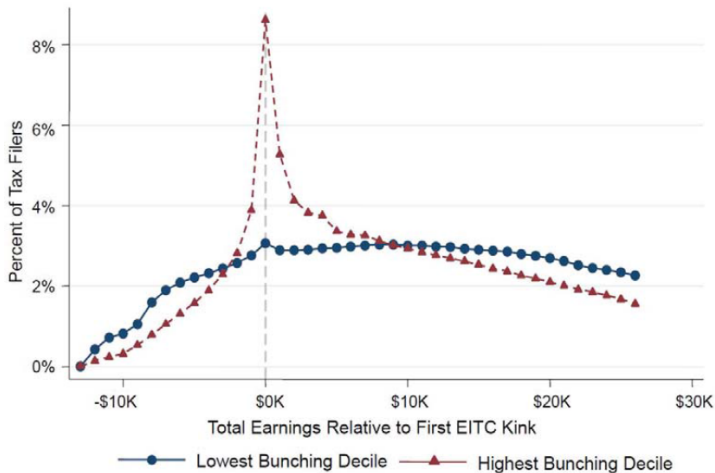
Study: The effect of EITC Policy on labor supply

1. Identify that there is clumping at the self-employed level at EITC maximization point

2. Show that different zip codes have different clumping

3. Argue it is due to knowledge of EITC by looking at how clumping spreads across zipcodes, and migrations instruments

Chetty Friedman Saez Part II

Study: The effect of EITC Policy on labor supply

4. Use clumping as instrument for knowledge,and therefore effect of EITC, and look at differences of waged-employees behavior. (Weakness: Can't answer what happens if EITC is tweaked.)

5. Use birth of first child as instrument for eligibility to look at changes in the earning distribution of waged earners. (Weakness: having a child may be endogenous decision)

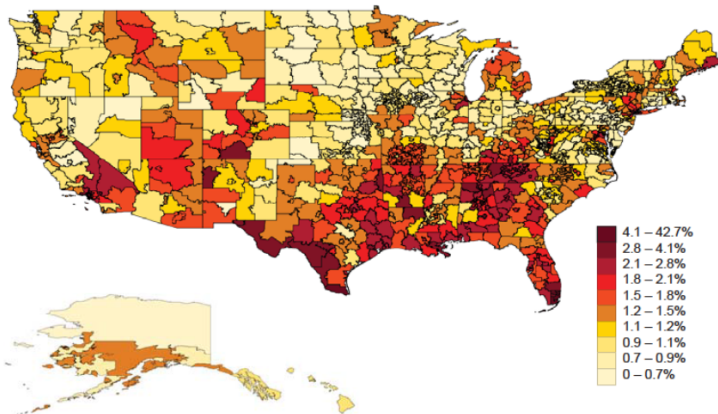**Earnings Distributions in Lowest and Highest Bunching Deciles**

Lowest Bunching Decile ●
Highest Bunching Decile ▲

X-axis: Total Earnings Relative to First EITC Kink
Y-axis: Percent of Tax Filers

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

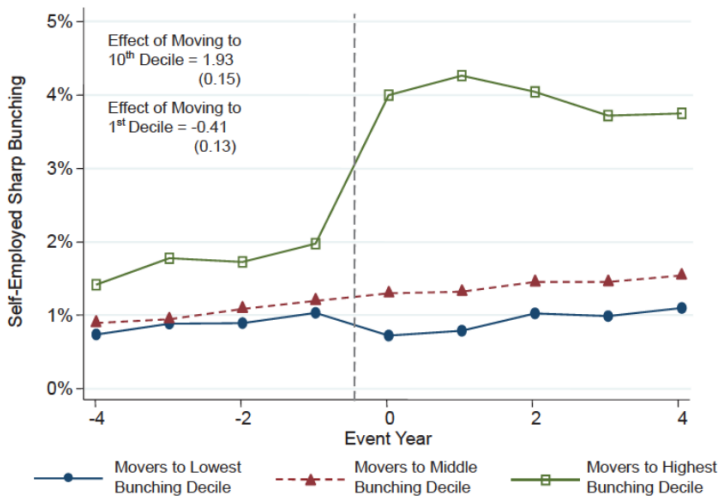|	
▬	4.1 − 42.7%
▬	2.8 − 4.1%
▬	2.1 − 2.8%
▬	1.8 − 2.1%
▬	1.5 − 1.8%
▬	1.2 − 1.5%
▬	1.1 − 1.2%
▬	0.9 − 1.1%
▬	0.7 − 0.9%
▬	0 − 0.7%
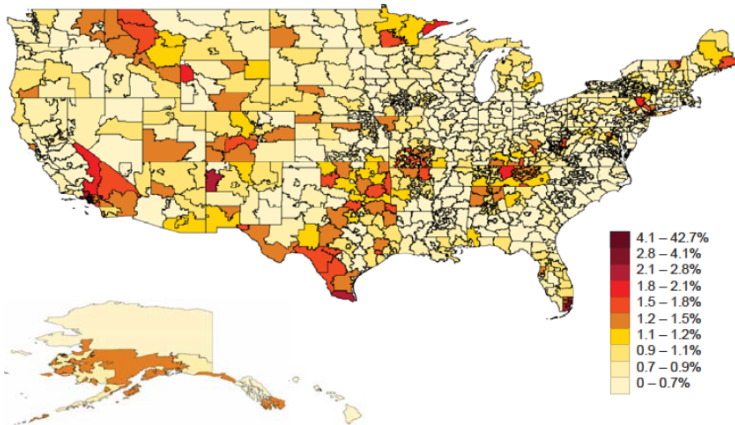
Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 2002

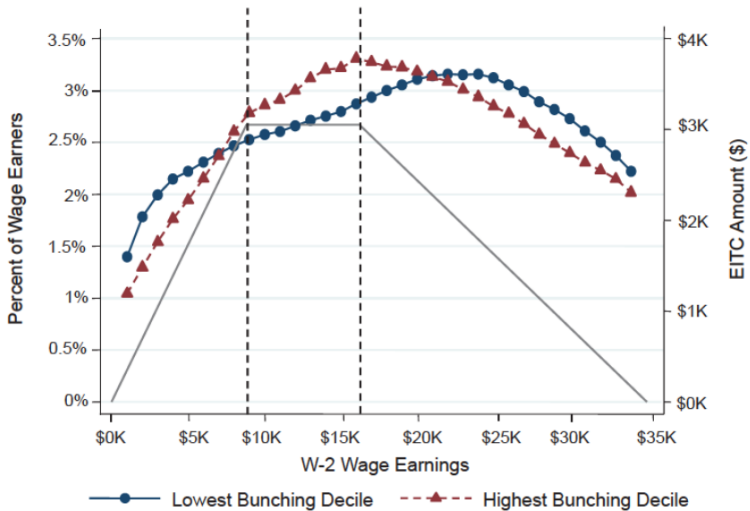**Fraction of Tax Filers Who Report SE Income that Maximizes EITC Refund in 2002**


■	4.1 − 42.7%
■	2.8 − 4.1%
■	2.1 − 2.8%
■	1.8 − 2.1%
■	1.5 − 1.8%
■	1.2 − 1.5%
■	1.1 − 1.2%
■	0.9 − 1.1%
■	0.7 − 0.9%
■	0 − 0.7%

Page 23

Event Study of Sharp Bunching Around Moves

Effect of Moving to 10th Decile = 1.93 (0.15)

Effect of Moving to 1st Decile = -0.41 (0.13)

Self-Employed Sharp Bunching

Event Year

Movers to Lowest Bunching Decile
Movers to Middle Bunching Decile
Movers to Highest Bunching Decile

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

Legend: Lowest Bunching Decile, Highest Bunching Decile

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

Legend:
- Lowest Sharp Bunching Decile
- Middle Sharp Bunching Decile
- Highest Sharp Bunching Decile
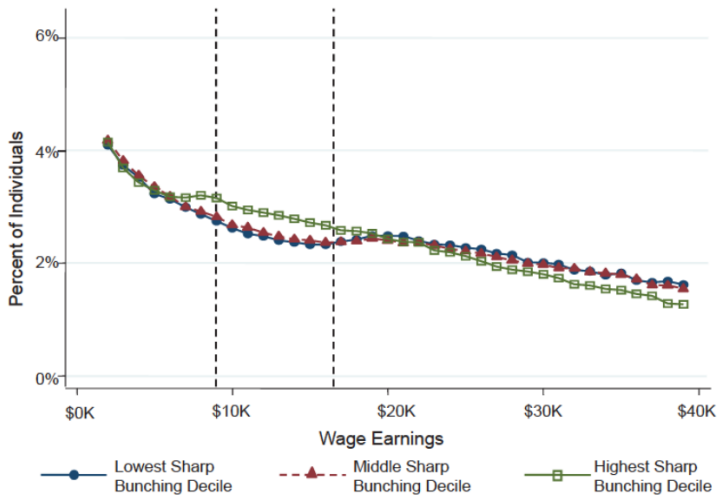
Labor Demand (in a nutshell)

- Firms seek to maximize their profits

$$\max\ pf(E, K) - wE - rK$$

  Where f is the production function, p price of good, and w and r are the competitive cost of labor and capital .

- The first order condition (taking derivative wrt E and K):

$$p \cdot \partial f / \partial E = w$$

$$p \cdot \partial f / \partial K = r$$

- This is just an extension of marginal cost equals marginal price, but at the firm level.

Equilibrium

- We argued that wage increases will increase amount of hours worked (given substitution effect dominates).

- Here we have wage increases decreases hours worked on the demand side.

- Combining the two gives equilibrium in supply and demand.

- (Alternate view) Each worker has a reservation wage, and setting a specific wage w only hires workers with reservation wages less or equal to w.

Figure 8: Labor market equilibrium
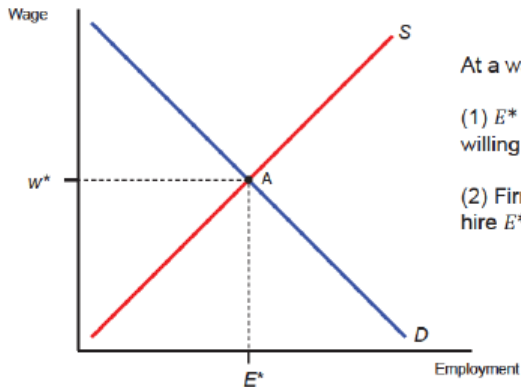
At a wage of w^*:

(1) E^* workers are willing to work

(2) Firms are willing to hire E^* workers.

Tax Incidence

- In equilibrium with supply and demand, who bears the burden of tax costs/gains from taxes and subsidies?

- Depends on the elasticity of supply over demand! (Given 1 percent change in wages, how much does s or d change by).

- Employers: $e_s/(e_s + e_d)$; Workers: $e_d/(e_s + e_d)$.

- The more a side responds to wage changes (higher elasticity), the more you can gain from subsidy/ avoid tax burden. Intuition?
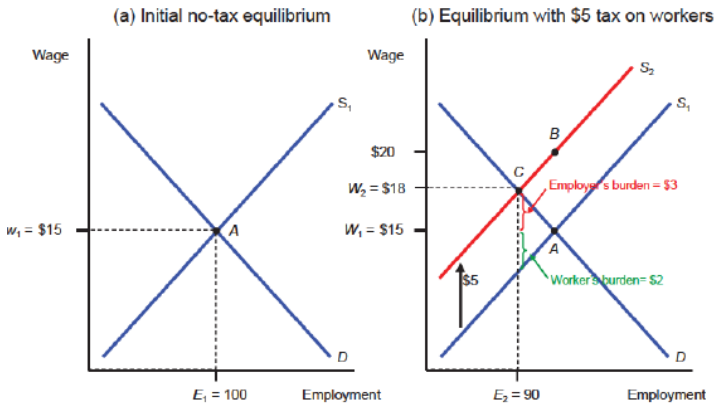
Summary: Three Rules of Tax Incidence

- Three lessons from traditional model of tax incidence:
  - The statutory burden of a tax does not describe who really bears the tax.
  - The side of the market on which the tax is imposed is irrelevant to the distribution of tax burdens.
  - Parties with inelastic supply or demand bear the burden of a tax.

Figure 1: Tax Levied on workers

(a) Initial no-tax equilibrium
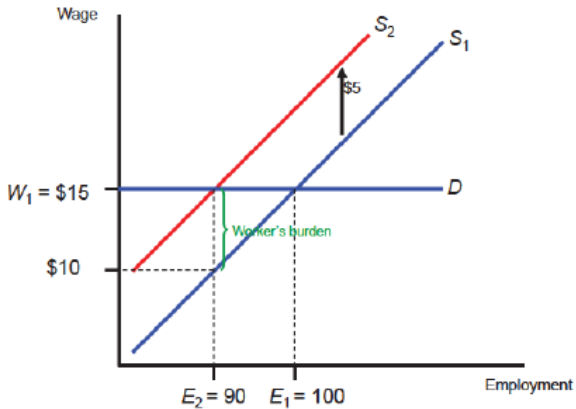
(b) Equilibrium with $5 tax on workers
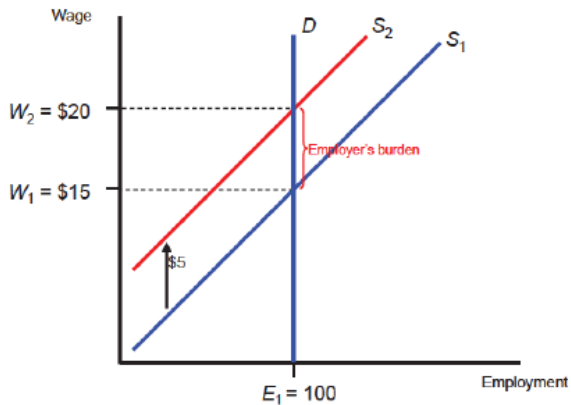
Figure 4: Perfectly Elastic Demand

Evidence

- Leigh (2010) and Rothsetin (2010) show that EITC reduces wages and only achieves.30 cents in redistribution per dollar (Considering General Equilibrium is hard!!)

- Saez Schoefer Seim (2019) uses a fall in payroll tax for young workers in 07 and 09 as a quasi experiment.

- Finds full incidence of payroll tax falls on firms. (Workers' take home wage is unchanged), firms cost for these young workers fall.

- Other plausible explanation? (Menu costs; fairness; etc. Needs empirical evidence on same demographic but with tax increase to confirm).

Mandated Benefits

- What happens when firms are required to pay of a benefit (e.g. healthcare)?

- Just a slightly more complex tax incidence problem: How much the service costs/is worth and elasticities.
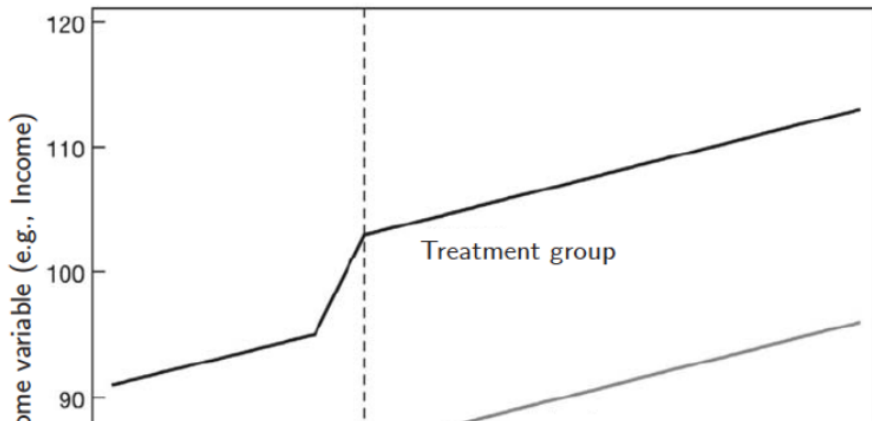

Figure 2: Mandated Benefit
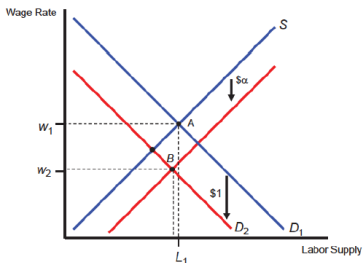
Acemoglu and Angrist

Showed mandatory disabilities benefits decreased employment of disabled workers by 2 weeks (wages stayed constant). Incidence?

Weeks Worked by Disabled vs. Non-disabled Men and Women

?
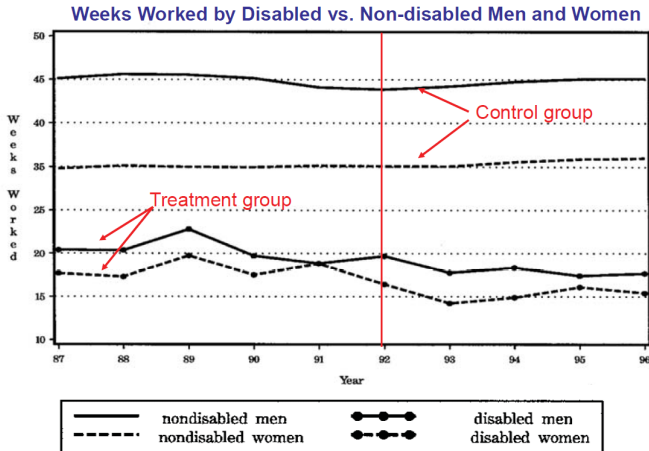
FIGURE 5.4
Parallel Trends and Differences in Differences

STATA - Hints for Exercise

```
use cig_taxes.dta, replace

*Installing binscatter*
ssc install binscatter, replace

*Draw and save graph for Effect*
gen log_packs_pc = log( pack_sales)
gen az = 0
replace az = 1 if state == "AZ"
binscatter log_packs_pc year, by(az) linetype(connect) xline(1994)

*Generating and replacing Variables for DD*
gen post = 0
replace post = 1 if year >= 1994
gen dd = post*az

*Linear Regression*
regress log_packs_pc dd post az if inrange(year, 1990, 1997), robust
regress log_packs_pc dd i.year i.state_fips if inrange(year, 1987, 2000), robus

*Coefficient Plot - need to first run auxiliary code*
ssc install coefplot
coefplot, ciopts(recast(rline) lpattern(dash)) vertical keep(az_y_*) xline(4.5)
```