Lecture 5: Poverty relief

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Introduction

- **Policies towards poverty alleviation**
  - Insurance for social risks (see lecture 6)
  - Cash transfer (this lecture)

- **How to design transfer to the poor ?**
  - In cash or in kind ?
  - Targeted or universal ?
  - In-work versus out-of-work ?
  - Conditional cash transfers ?

Measuring poverty

- **Monetary poverty (absolute vs relative)**
  - Absolute measure of poverty (reference in the U.S.)
    - e.g., income less than $15,852 p.a. in the US for a single
  - Relative measure of poverty (reference in Europe)
    - e.g., EU at-risk-of-poverty rate : disposable income less than 60% of median income
    - e.g., in France in 2022, 14.4% households are in poverty
    - e.g., poverty threshold = 1,102 euros p.m. for single
    - e.g., OECD poverty rate with less than 50% of median income

- **Material and social deprivation**
  - Inability to afford a set of specific goods, services, or social activities considered essential for an adequate quality of life
    - 13 items : meals with protein, two pairs of shoes, clothes, heated home, access to a car, capacity to face unexpected expenses, capacity to afford one week holiday, internet connection
  - Material and social deprivation rate : lack of 5/13
  - Severe material and social deprivation rate : lack of 7/13

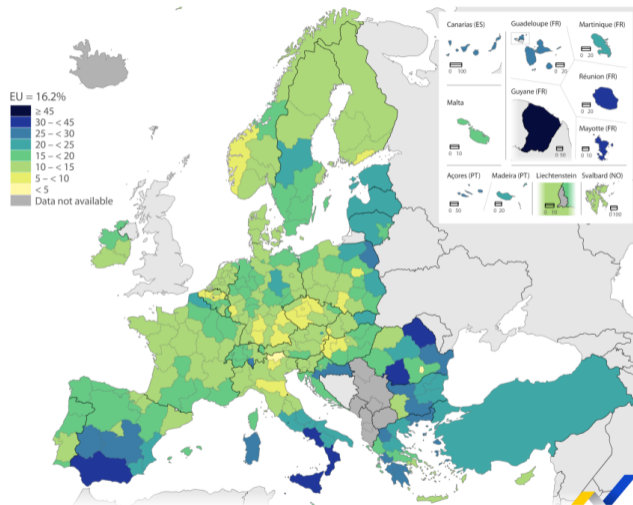# Figure 1 – Poverty rate in France (1976–2021)
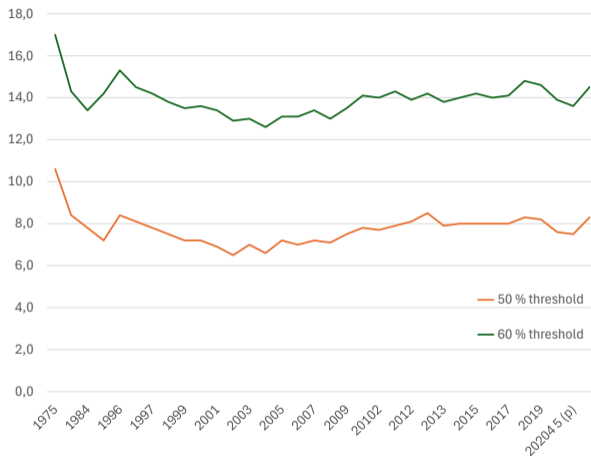
Figure 2 – Poverty rate in OECD country, threshold at 50% (2021)
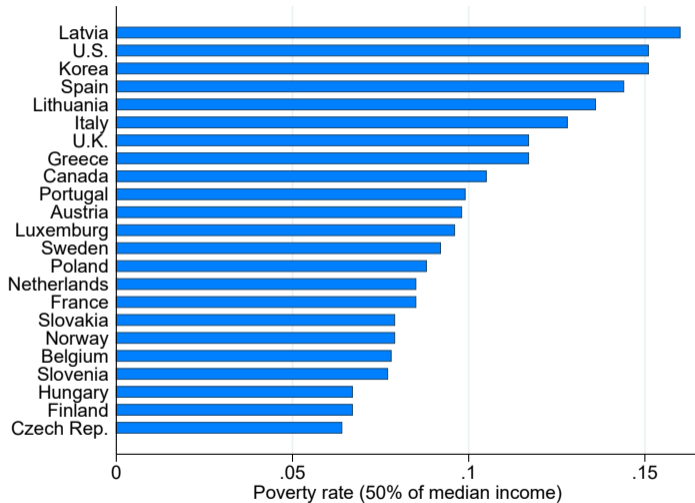
SOURCE : OECD.

Figure 3 – Percentage of households at risk-of-poverty, by European regions in 2023

EU = 16.2%

- ≥ 45
- 30 – < 45
- 25 – < 30
- 20 – < 25
- 15 – < 20
- 10 – < 15
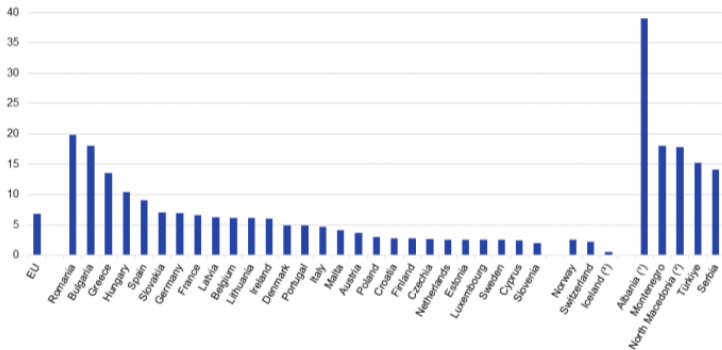- 5 – < 10
- < 5
- Data not available

SOURCE : Eurostat, EU-SILC.

Figure 4 – Distribution by number of material and social difficulties (EU 2016)
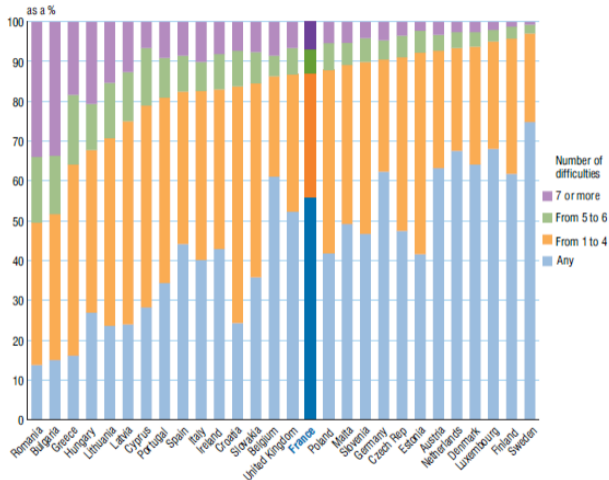
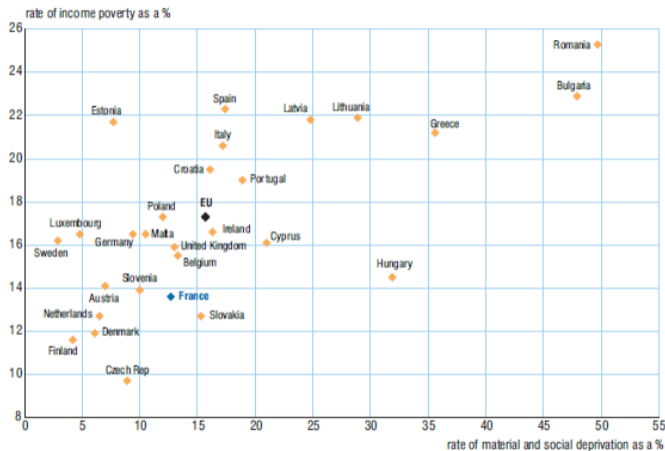SOURCE : Eurostat, EU-SILC ; Blasco and Gleize (2019).

Figure 5 – Severe material and social deprivation rate (EU 2023)

Notes: ranked on severe material and social deprivation rate. The severe material and social deprivation rate refers to the share of the population experiencing an enforced lack of at least 7 out of 13 items (six related to the individual and seven related to the household) that are deemed to be desirable or even necessary to lead an adequate life.

Source : Eurostat, EU-SILC.

Figure 6 – Income poverty vs material and social deprivation (EU 2016)

Reading note: in France, in 2016, the rate of material and social deprivation is 12.7% and the rate of income poverty is 13.6%.

Sources: Eurostat, EU-SILC 2016 survey, data extracted in September 2018.

SOURCE : Eurostat, EU-SILC ; Blasco and Gleize (2019).

Outline of the lecture

I. Design of cash transfers
1. Tagging
2. Self-targeting
3. Means-testing
4. Inwork tax-credit

II. Effects of cash transfers
1. Impact on poverty
2. Impact on labour supply
3. Long-term impact on welfare

III. Issue of non take-up
1. Theoretical approach
2. Empirical evidence

I. Design of cash transfers

1. Tagging
2. Self-targeting
3. Means-testing
4. Inwork tax-credit

Indicator targeting

- **The principles**
  - Indicator correlated with poverty
  - Indicator beyond the control of the individual
  - Easy to observe to implement the benefit

- **Potential benefits by indicator**
  - Benefits on grounds of disability
  - Income support for the old
  - Income support for lone mothers
  - Child benefits

Tagging

George Akerlof, American economist, Nobel Prize in 2001.
Famous for his article on the 'market for lemons'.

- **Akerlof (AER, 1978)**
  - Government can observe characteristics X and define the tax system as $T(X, z)$
  - If X is correlated with endowments or ability and immutable, then redistribution can be efficient
  - Logic : tagging on immutable characteristics leads to no deadweight loss

Tagging

- **Potential characteristics for tagging**
  - *Used in current tax/benefit systems*
    - Age : e.g., minimum income for pensioners
    - Children : e.g., child benefits
    - Disability : e.g., disability benefits
  - *Not used, but correlated with earnings*
   - Gender, height, beauty, DNA, etc.

- **Disadvantages of tagging**
  - Gaps in coverage
  - Perverse incentives by stigmatisation of tagged individuals
  - Horizontal equity issue : characteristics used reflect direct "needs" or direct "ability to earn"
  - Administrative costs
    e.g., medical test for disability

Tagging

- **Alesina, Ichino and Karabarbounis (AEJ-EP 2011)**
  - Gender-based taxation
  - Higher labour supply elasticity of women + lower average income
  - Lower taxation of women

- **Mankiw and Weinzierl (AEJ-EP 2010)**
  - Height is correlated to income ($+5cm = +4\%$)
  - Optimal taxation model : tall person should pay $4500 more than short one at same level of income
  - Contradict horizontal equity
  - If result non acceptable, then is welfarism (and optimal taxation) flawed ?

Tagging

Figure 7 – Wage distribution by height for adult male in the U.S.
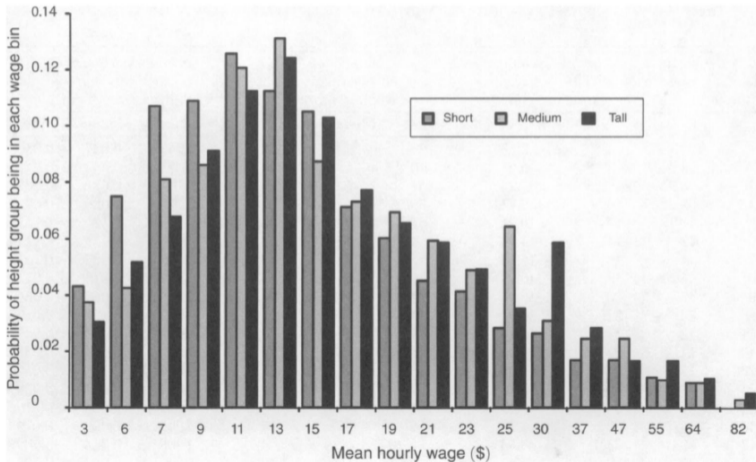
Self-targeting

- **Prices subsidies**
  - Subsidize goods consumed more by the poor (e.g., basic food)
  - Subsidize goods with higher-quality higher-price substitute (e.g., public transport)
  - $\Rightarrow$ few goods really match the ideal conditions
  - $\Rightarrow$ generally badly targeted redistribution

- **Conditional benefits**
  - Conditioning benefits to specific actions by the recipients (e.g., training, community work)
  - It affects self-selection into the programme and reduces disincentives effects
  - But targeting is also imperfect and might not be optimal (see further)
  - Not a common view that this conditioning contributes to social justice

Mean-tested benefits

- **Definition**
    - B benefit level
    - G guaranteed income
    - τ taper rate, or benefit withdrawal rate, by earnings W
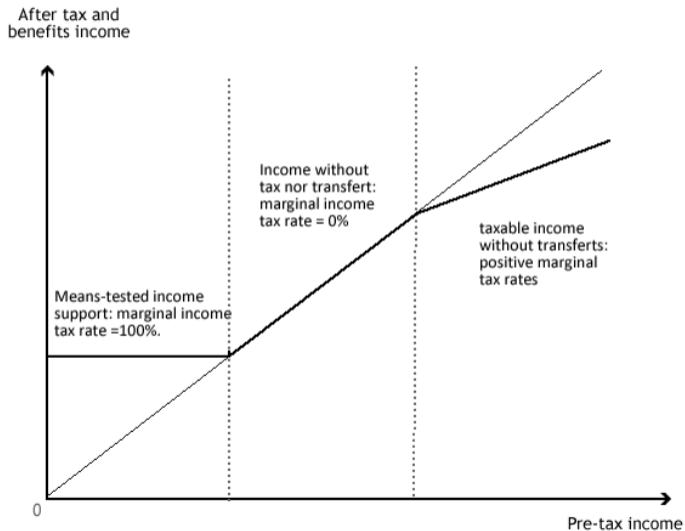
$$B = G - \tau W$$

- **Means-testing**
    - Means-testing with 100% taper rate or 100% benefit withdrawal (MTR of 100%)
    - Common in most traditional income support
    - Disregards for incentive effects
    - Creation of 'poverty trap' : once on welfare, no financial incentives to go back to work

Budget constraint

- **Disposable income by hours worked**
  - x-axis is hours worked (or labour earnings)
  - y-axis is disposable income
  - Usually individual budget constraint with assumption about household composition and spouse earnings

- **Incentives to work represented in the slope**
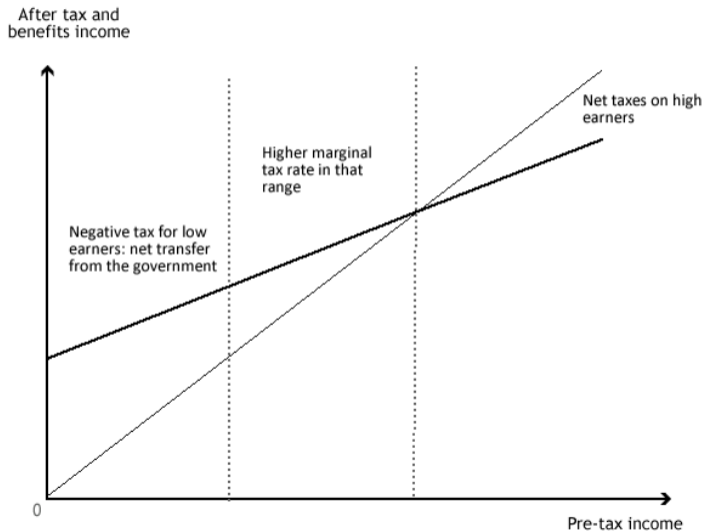 - Slope is 1-MTR
  - Flat slope = 100% MTR

Traditional welfare : means-tested benefit

After tax and benefits income

Income without tax nor transfert: marginal income tax rate = 0%

Means-tested income support: marginal income tax rate =100%.

taxable income without transfers: positive marginal tax rates

0

Pre-tax income

Negative income tax

- **Negative income tax/basic income**
  - Suggested by Milton Friedman (1962)
  - Replacement of all welfare benefits by a guaranteed income paid by the government
  - Each additional dollar of income taxed at a marginal rate below 100%
  - Basic income (BI) alternative description of NIT

- **Large interest in NIT/BI, but no implementation**
  - Randomized experience in the U.S. in the 1970s
  - Issue of unit of taxation (household vs individual)
  - Much larger cost than tagging to specific groups (or much lower benefit)

Negative income tax

After tax and benefits income

Net taxes on high earners

Higher marginal tax rate in that range

Negative tax for low earners: net transfer from the government

0

Pre-tax income

Iron triangle of redistribution

- **Labour supply effects of NIT**
  - Lower marginal tax rates for low incomes : positive effects for the individuals not working
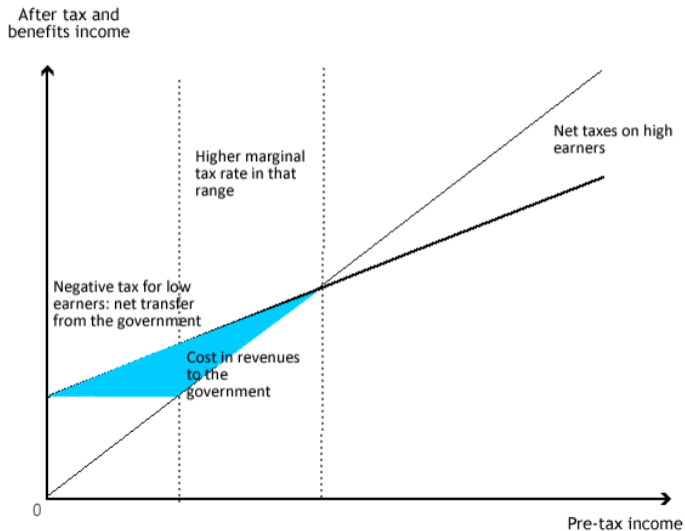 - Higher marginal tax rates higher in the income distribution : negative effects on labour supply

- **The iron triangle of redistribution**
  1. Redistribution to the poor (high replacement income)
  2. Incentives to work (low marginal tax rates)
  3. Low cost to the government

Negative income tax

After tax and benefits income

Net taxes on high earners

Higher marginal tax rate in that range

Negative tax for low earners: net transfer from the government

Cost in revenues to the government

0

Pre-tax income
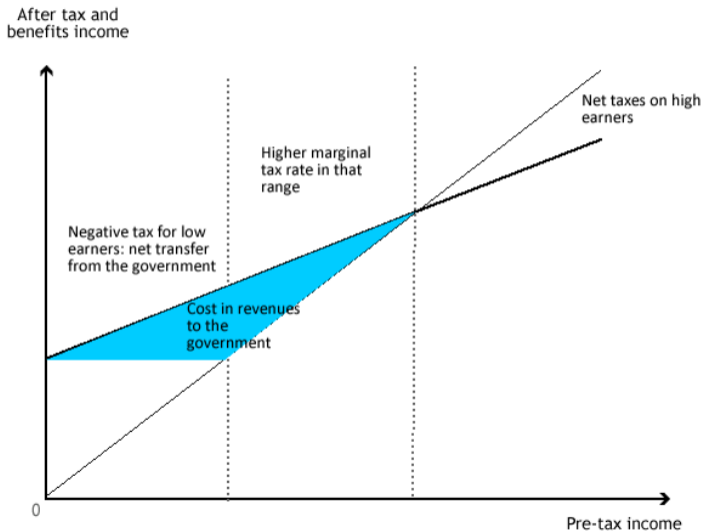
Negative income tax

Welfare to work

- **Welfare reforms in the 1990s**
  - "Welfare to work" or "workfare"
  - Removing high marginal tax rates on low incomes
  - Politically attractive to condition welfare on work

- **Spread of these reforms**
  - In the U.S., Earned Income Tax Credit (EITC)
  - In the U.K., Working Families Tax Credit (WFTC) and then Working Tax Credit (WTC)
  - In France, *Prime pour l'emploi* (PPE) and *Revenu de solidarité active* (RSA), then *Prime d'activité*
  - In Singapore, Workfare Income Supplement (WIS)

Tax credit

Income after tax and benefits

Phasing out from the tax credit

Tax credit or EITC: negative marginal tax rates

0

Pre-tax income

Mix of policies

Income after taxes and benefits

Mix of a negative income tax and tax credit or EITC

0

Pre-tax income
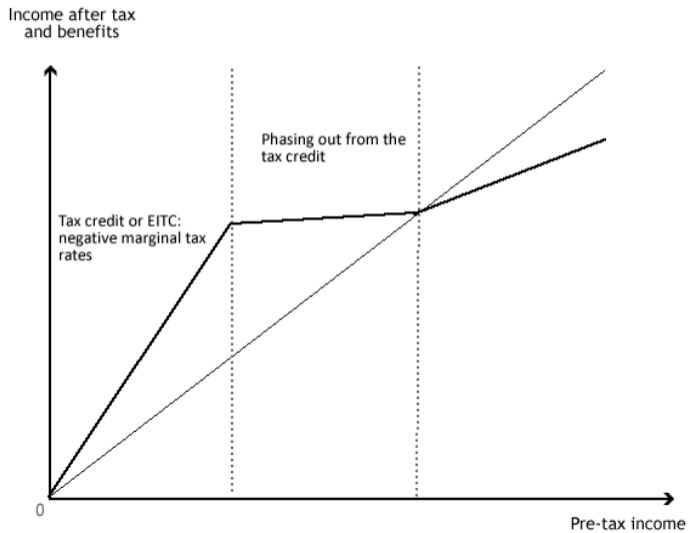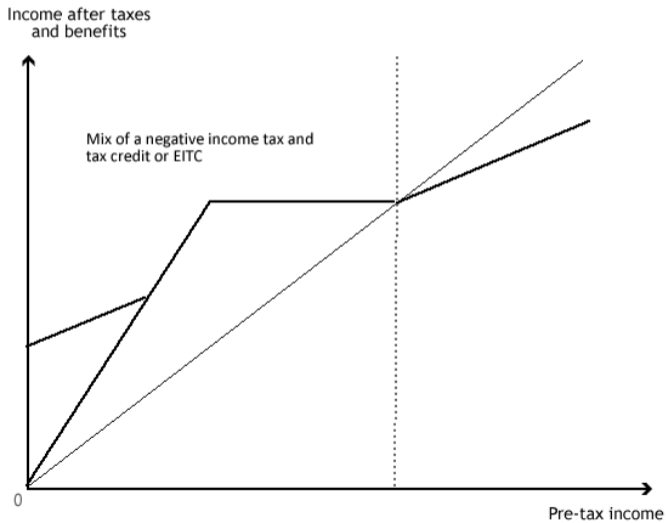
Figure 8 – Budget constraint for French single earner (2014)

Legend:
- Wage (net of tax)
- Income support
- Income tax
- Working tax credit (PA)
- Housing benefits
- Disposable income

Y-axis: Disposable income (monthly euros)

X-axis: Labour income pre tax and benefits (as a fraction minimum wage)
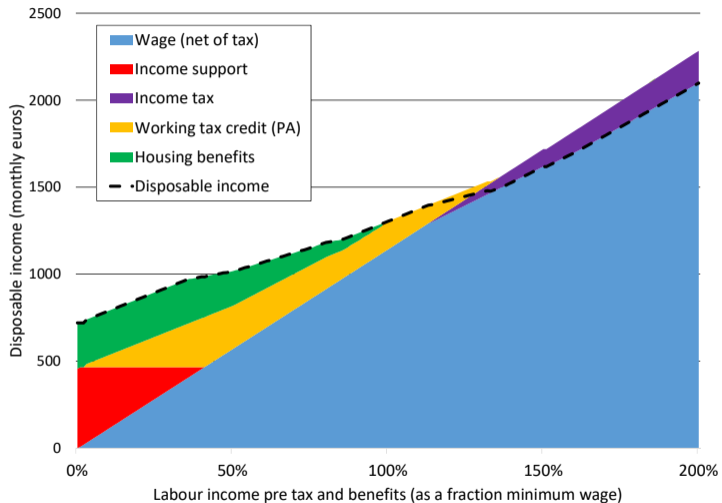
Table 1 – Main social benefits in France (2021)

	Number of beneficiaries (in thousand)	Budget (in billion euros)
Child and child-care benefits	6,600	31.1
Housing benefits	6,000	15.6
Revenu de solidarité active (RSA)	1,900	12.2
Allocation aux adultes handicapés (AAH)	1,300	11.2
Prime d'activité	4,600	9.8
Old-age minimum (ASV and Aspa)	664	3.5
Allocation de solidarité spécifique (ASS)	321	2.0
Allocation pour demandeur d'asile (ADA)	79	0.4
Allocation supplémentaire d'invalidité (ASI)	67	0.3

Source : Drees, *Minima sociaux et prestations sociales* (2023), Tab. 2, p. 12.

Figure 9 – Benefits for U.S. single earner and two children (2008)
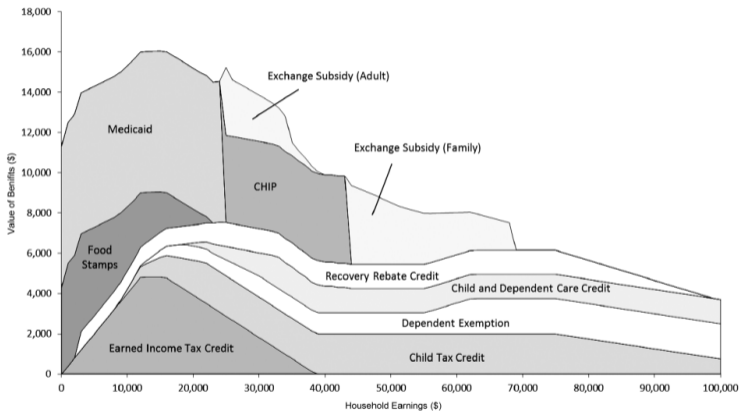
II. The impact of cash transfers

1. Impact on poverty
2. Impact on labour supply
3. Long-term impact on welfare

Welfare reforms in the U.S.

- **1996 Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA)**
  - Reform introduced by Republican controlled US Congress and signed by Bill Clinton
  - Replacing the Aid to Families with Dependent Children (AFDC) program with the Temporary Assistance for Needy Families (TANF) program
  - "To end welfare as we know it" (Clinton, 1992)

- **Elements of federal welfare reform**
  - Funding converted to block grant
  - Time limits : Limit to using federal funds for five year time ; lifetime time limit
  - Work requirements
  - Flexibility for states to changes requirements

Empirical evidence

- **Evidence on traditional welfare (100% taper rate)**
  - Strong negative effects on labour market participation (e.g., AFDC programme credited to LS reduction by 10-50%)
  - Evidence of poverty traps
  - Debate about the impact of welfare on the rise of lone parents and non-marital birth : evidence weak

- **Evidence on the 1990s welfare reform in the US**
  - Tons of studies but with mixed degree of confidence
  - Overall positive impact on employment and labour supply
  - Negative impact on net income of the poor Americans
  - Studies on time limits (e.g., Grogger and Michaelopoulus JPE 2003 ; Grogger, RESTAT 2003)
  - Heterogeneous effects (e.g., Bitler, Gelbach and Hoynes AER 2006)

The EITC in the US

- **The Earned Income Tax Credit (EITC)**
  - Large increase under Clinton administration
  - Now the largest cash antipoverty programme in the US ($34.6 billion in 2006)
  - EITC amounts depend on the number of children (higher for families)
  - EITC is computed based on family income

- **Three components**
  1. An increasing subsidy part (40% per dollar of wage top-up)
  2. A constant amount (no tax)
  3. Then a taper rate of 21% as benefits are withdrawn with increasing income

The EITC in the US

Figure 10 – EITC schedule in 2016

The EITC in the US

Income after tax and benefits

Phasing in of EITC

Flat part of EITC

Phasing out of EITC

Pre-tax income

0
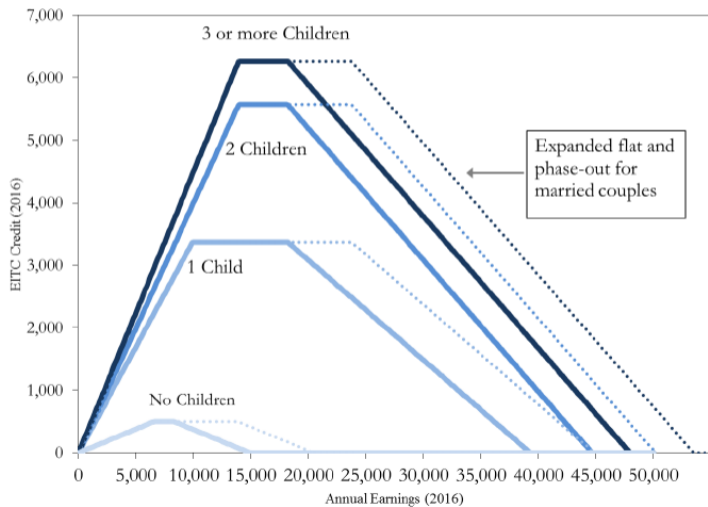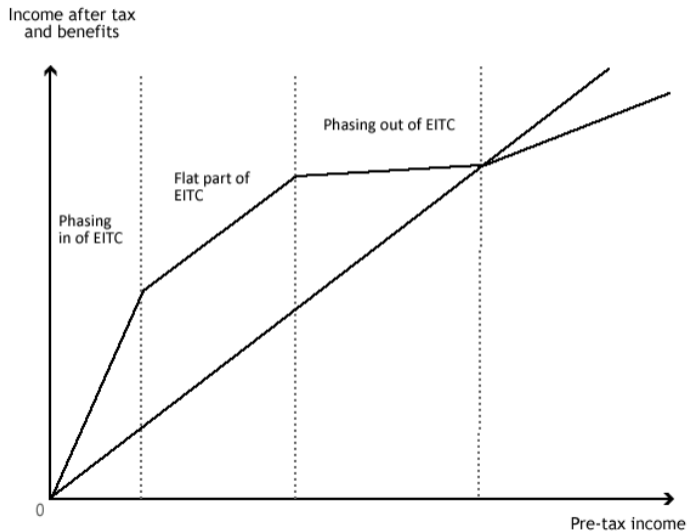
Impact evaluation of EITC

- **Impact on labour supply**
  - Large empirical literature (Nichols and Rothstein, 2016)
  - Consistent positive employment effects for single mothers
    i.e., $1000 increase in EITC leads to 6-7 pp increase in employment
  - Evidence of small intensive margin effects (e.g., clustering at the kink)
  $\Rightarrow$ Relatively successful redistribution programme

- **Flaws of the programme**
  - Low amount to the childless
  - Little increase with more than two children
  - Marriage penalty, complexity

Eissa and Liebman (QJE, 1996)

- **First study on EITC**
  - Early DiD approach
  - Compare single mothers (treated) with single women without kids
  - Exploit the 1987 increase in EITC (TRA 1986)
  - Use CPS data

- **Results**
  - Positive impact on participation of lone mothers ($+1.4$-3.7 ppts)
  - No negative effects on married men's labour supply
  - Modest reduction in married women's labour supply

Eissa and Liebman (QJE, 1996)

Table 2 – LFP rates of unmarried women

	pre-TRA86	Post-TRA86	Diff.	DiD
A. With vs. without children				
Women with kids	0.729	0.753	0.024	
	(0.004)	(0.004)	(0.006)	
Women without kids	0.952	0.952	0.000	0.024
	(0.001)	(0.001)	(0.002)	(0.006)
B. Less than high-school – with vs. without children				
Women with kids	0.479	0.497	0.018	
	(0.010)	(0.010)	(0.014)	
Women without kids	0.784	0.761	-0.023	0.041
	(0.010)	(0.009)	(0.013)	(0.019)
C. High-school – with vs. without children				
Women with kids	0.764	0.787	0.023	
	(0.006)	(0.006)	(0.008)	
Women without kids	0.945	0.943	-0.002	0.025
	(0.002)	(0.003)	(0.004)	(0.009)

SOURCE : Eissa and Liebman (1996), Tab. II, p. 617.

Hoynes and Patel (JHR, 2017)

- **Recent study on EITC**
  - Exploit the 1994-95 increase in EITC (OBRA 1993)
  - Use CPS March data
  - DiD + parametrized DiD + event study

- **Event study approach**
  - Estimating full set of year effets, idem for treated

$$y_{it} = \alpha + \sum_{t_0}^{T} \beta_j[I(t = j) x \text{treat}_c] + \eta_{st} + \gamma_c + \Phi X_{it} + \gamma Z_{cst} + \varepsilon_{it}$$

  - treat_c is dummy for number of children (treatment group)
  - β_j difference between treatment and control in each year j
  - η_{st} state $\times$ year fixed effects
  - Z_{cst} state $\times$ year $\times$ nber children unemployment rates

Figure 11 – Maximum benefits by number of children
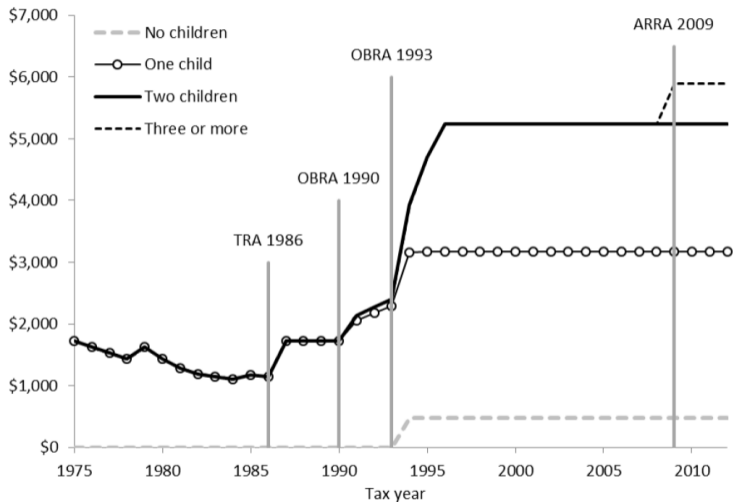
SOURCE : Hoynes and Patel, 2017

Figure 12 – Estimates of the Effects of OBRA1993 on Employment
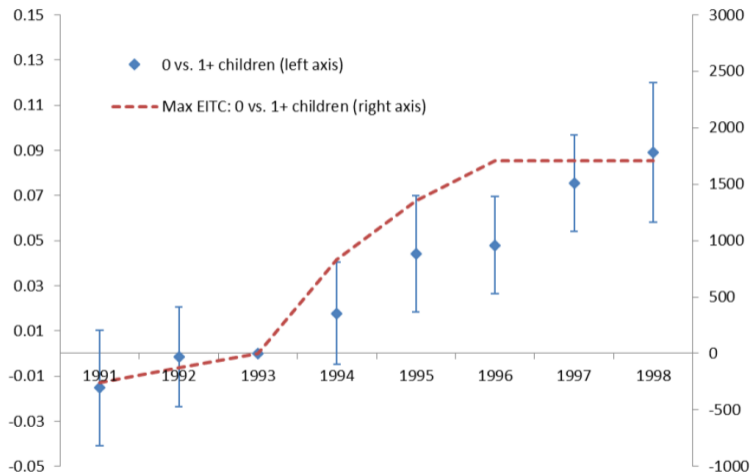
SOURCE : Hoynes and Patel (2017), Fig. 6

Figure 13 – Estimates of the Effects of OBRA1993 on Employment

Legend:
- ◆ 0 vs. 1 child (left axis)
- ● 0 vs. 2+ children (left axis)
- --- Max EITC: 0 vs.1 child (right axis)
- --- Max EITC: 0 vs. 2+ children (right axis)
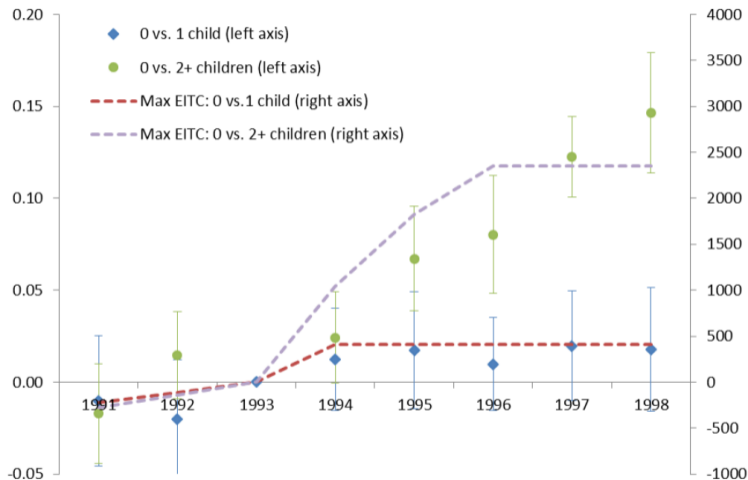
SOURCE : Hoynes and Patel (2017), Fig. 7

Figure 14 – Estimates of the Effects of OBRA1993 on Employment

- ◆ 1 vs. 2+ children (left axis)
- - - Max EITC: 1 vs. 2+ children (right axis)
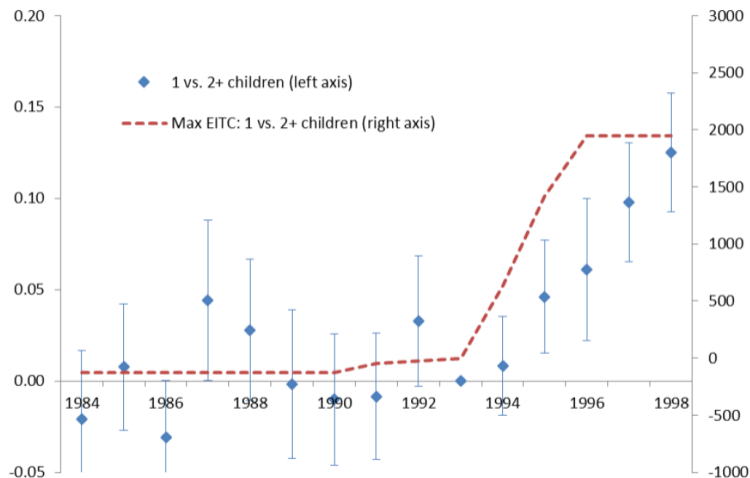
SOURCE : Hoynes and Patel (2017), Fig. 8

Figure 15 – Estimates of the Effects of OBRA1993 on Poverty (above 100% of Poverty Threshold)
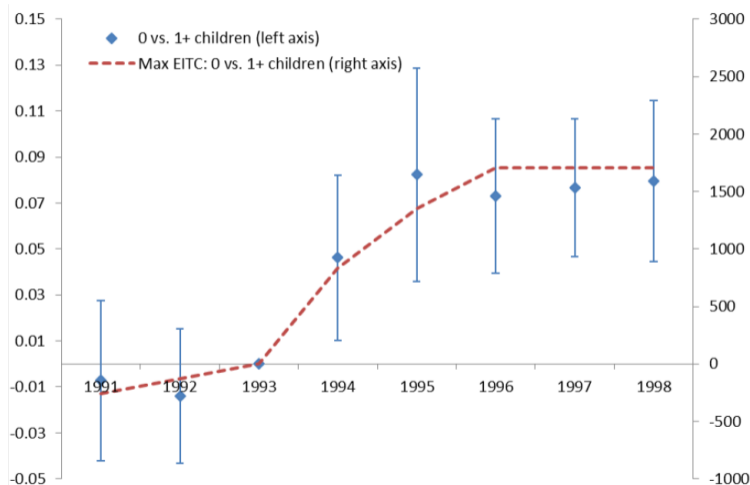
Source : Hoynes and Patel (2017).

Figure 16 – Estimates of the Effects of OBRA1993 on Income above poverty level

The 1993 expansion led to a 7.9 percentage point increase in the share of single mother families with after tax and transfer above 100% poverty
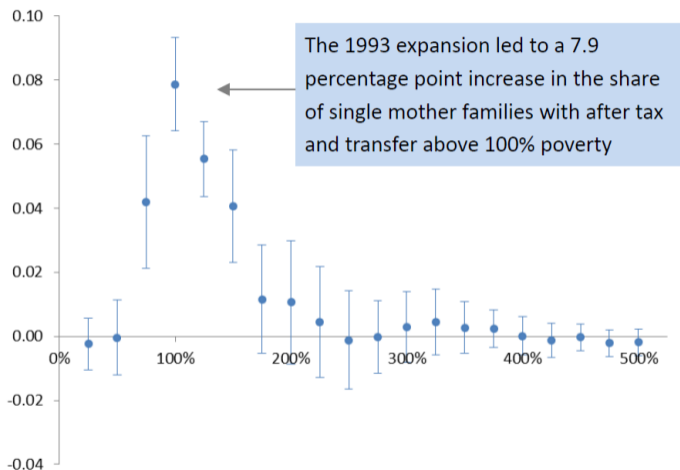
SOURCE : Hoynes and Patel (2017).

Figure 17 – Simulated number of children raised above income-to-poverty cutoffs

Legend: ■ Static SPM ■ Static ATTI poverty ▨ ATTI poverty with behavior

X-axis: Multiple of poverty threshold (50%, 100%, 150%, 200%, 250%, 300%)
Y-axis: Millions
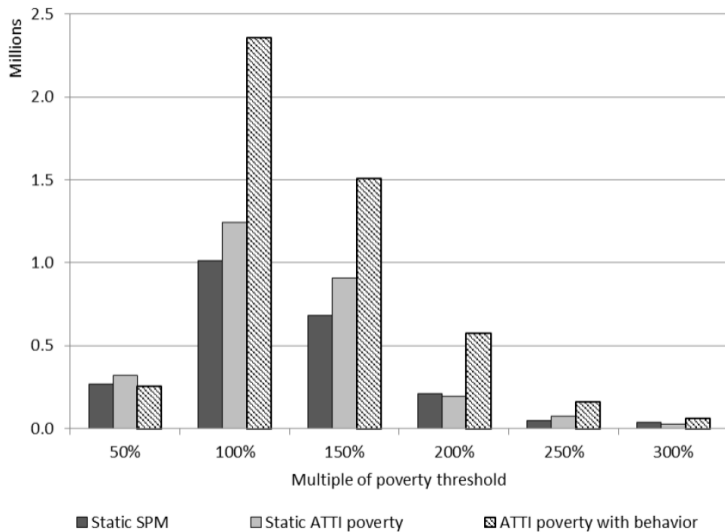
Hoynes and Patel (JHR, 2017)

- **Results**
  - $1000 increase in policy-induced increase in the EITC leads to a 5.6-7.8 percentage point increase in employment for single mothers
  - Extensive margin elasticities range from 0.32-0.45
  - Ignoring the behavioural response leads to an underestimate of the anti-poverty effects by 50 percent

Long-term outcomes

- **Harder to measure but key for judgment**
  - Negative labour supply effects easier to detect
  - Long-run effects require long panel data and identification strategies

- **A number of new research on the long-run effects of older welfare policies**
  - Focus on policies affecting young kids (early life impact hypothesis)
  - Impact of welfare, food stamps, health care, housing projects

Long-term outcomes

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Long-term impact of EITC

- **Hoynes, Miller and Simon (AEJ-EP, 2015) : low birth weight**
  - DiD and event study analyzing 1993 expansion in the EITC
  - Differential effects by family size (parity) and year
  - Find that EITC expansions lead to reductions in low birth weight births

- **Impact on education**
  - Increase in children's reading and math test scores (Dahl and Lochner, AER 2012)
  - Increases in educational attainment and college going (Bastian and Michelmore JLE 2018 ; Manoli and Turner AEJ-EP, 2018)

Figure 18 – Event time estimates of OBRA 93 on low birth rate and EITC income (single women high school educ. or less)
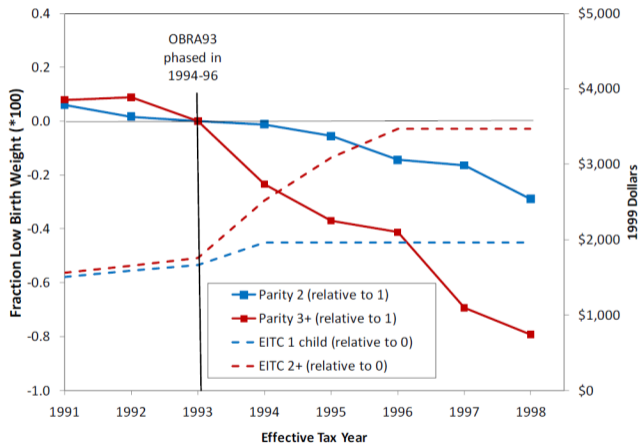
SOURCE : Hoynes, Miller and Simon (2015), Fig. 3.B, p. 186.

III. Issue of non take-up

1. Facts about non take-up of social benefits
2. Theoretical approach
3. Empirical evidence

Figure 19 – Minimum income non-take-up rates in the different countries
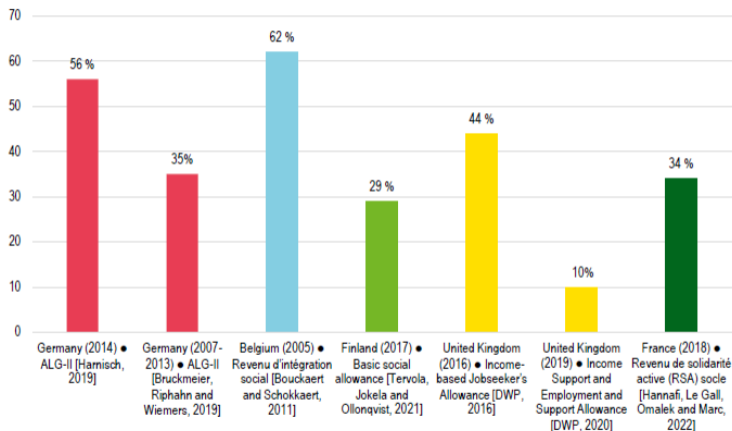
SOURCE : Drees, Non-take-up of minimum social benefits : quantification in Europe (2022), Fig 5, p. 18.

Theoretical approach to non-take up

- **Three mechanisms behind non-take up**
  1. Informational barriers to take-up (eligibility, benefits, application process)
  2. Transaction costs associated with enrollment
  3. Stigma associated with participation

- **Two theoretical approaches**
  - Non take-up as a self-selection process (Nichols and Zeckhauser AER 1982)
  - Or it could reflect individuals' inability to apply and have first order welfare effects

Empirical evidence

- **Bertrand, Mullainthan and Shafir (AEA P&P 2004)**
  - Hassle costs (e.g., 36 page food stamp application) deter the low ability people

- **Despande and Li (AEJ-EP 2019)**
  - Natural experiment : leverage timing of closing of 125 out of 1230 Social Security field offices between 2000 and 2014
  - Closings lead to a persistent 16 percent decline in the number of disability recipients
  - Largest effects for applicants with moderately severe conditions and low education levels

Figure 20 – Effect of closings on application and disability allowances

Number of applicants and recipients (log)

Empirical evidence

- **Bhargava and Manoli (AER 2015)**
    - RCT on design of EITC application
    - IRS sends out reminders to indiviuals who look eligible for EITC
    - Sample includes 35,000 tax filers in CA

- **Treatment**
    1. Complexity interventions : of letter, of worksheet
    2. Informational interventions : information about program, eligibility, costs ("less than X minutes") and benefits
    3. Stigma interventions : "hard work" and "4 of 5 claim their refund"

Figure 21 – Organization of experimental treatments by mailing component

6	x	**4**	x	**2**	
(6 x 1)		(2 x 2)		(2 x 1)	
Notice		**Worksheet**		**Envelope**	

Notice
1. Simple (Control)
2. Complex
3. Simple + Benefit Display
4. Simple + Cost Display
5. Simple + Low Stigma
6. Simple + Informational Flyer

Worksheet
1. Simple (Control)
2. Complex
3. Simple + Indemnification
4. Complex + Indemnification

Envelope
1. Plain (Control)
2. Message
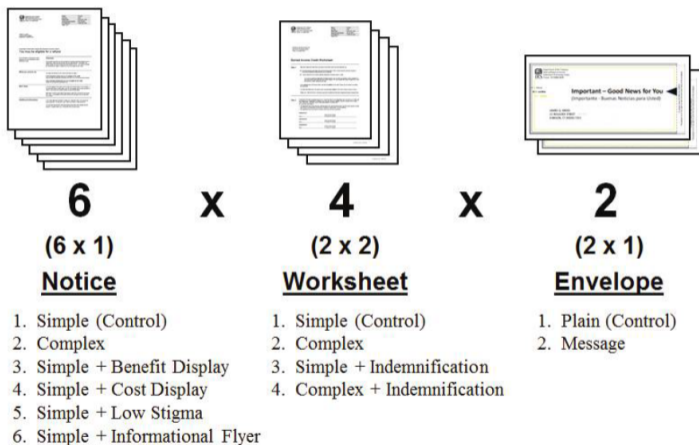
Figure 22 – Experimental interventions

Mechanism	Intervention	Description	Sample
Complexity			
Complexity (design)	1. Complex notice	Relative to simple notice, complex notice is two pages, features denser textual layout, and repeats eligibility information included in the worksheet	3,676
Complexity (length)	2. Complex worksheet	Relative to simple worksheet, complex worksheet includes additional, nondiscriminatory, questions regarding eligibility	10,979
Program information			
Benefit and cost information	1. Benefit display (low and high)	Simple notice reports upper bound of potential benefit (up to "$457," "$3,043," "$5,057," or "$5,567")	6,761
	2. Transaction cost (low and high)	Simple notice provides guidance as to worksheet completion time (less than 10 or 60 minutes)	3,475
Penalty/audit information	1. Indemnification message	Bold message on worksheet indemnifies against penalty for unintentional error	17,027
General program information	1. Envelope message	Envelope message indicates that enclosure communicates "good news"	17,044
	2. Informational flyer	One page flyer offers program information and trapezoidal benefit schedule	4,019
Stigma			
Personal stigma reduction	1. Emphasis on earned income	Simple notice emphasizes that credit is earned reward for hard work	1,844
Social stigma reduction	2. Social influence	Simple notice communicates that similarly situated peers are also claiming	1,753

Figure 23 – Example of treatment

Panel A1. Simple notice (control)

Panel A2. Complex notice (page 1of 2)

Figure 24 – Example of treatment

Figure 25 – Impact of treatment
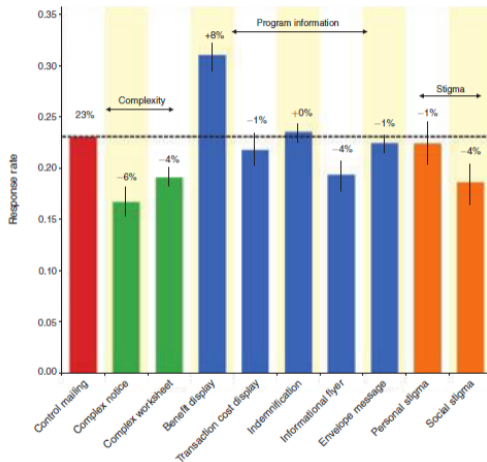
Bhargava and Manoli (AER 2015)

- **Results**
  - Take-up is sensitive to "frequency, salience and simplicity with which information is provided"
  - Second mailing - just months after first - increases take-up by 22 percentage points!

- **Nature of mailing has effects**
  1. Simplification (e.g. visually more appealing notice or shorter worksheet) raises enrollment;
  2. Stigma treatments have little effect.
  3. confusion, program complexity, and lack of program awareness play a significant role

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