Public Economics and Inequality: Uncovering our Social Nature

AEA Distinguished Lecture
(paper) (video)

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January 2021
INTRODUCTION

Standard economics is based on rational and self-centered individuals interacting through markets

But we are also social individuals at many levels (families, workplaces, communities, nations) who care about inequality

In advanced economies, we pool 30-50% of incomes through government using taxes to fund public goods and transfers

This lecture: Our social nature helps understand public economics in action and concerns for inequality
Top 10% Pre-tax Income Share in the US, 1913-2018

Top income shares of pretax national income among adults aged 20+ (income within couples equally split). Source is World Inequality Database wid.world (from Piketty, Saez, Zucman 2018).
Top 10% Income Shares in the US and France, 1910-2018

Average tax rates by income group in 2018: US vs. France (% of pre-tax income)

United States

France
Average tax rates by income group in 2018: US vs. France (% of pre-tax income)

United States

France

US in 1970
PREHISTORY: HUNTER-GATHERER SOCIETIES

Hunter-gatherer societies span over 90% of human history

Small and fairly egalitarian with minimal private wealth and leaders with limited power (Boehm 1999)

Community cooperation and sharing common for many tasks: hunting, access to natural resources, warfare

Sharing norms through customs and reciprocity (not markets)

Children, elderly, and sick care mix of family and community

Implicit pooling of economic resources likely high (≈ 50%)

Labor supply motivated by reciprocity, joy of work, social approval and status
HISTORY: RISE OF FORMAL STATE

1) Rise of coercive state in 3000BC: agricultural communities become despotic kingdoms, invent taxes and forced labor to serve power of hierarchical state (Scott 2017)

Size of government fairly small up to 1900: taxes less than 10% of output to support state public goods not social state

Social support for children, elderly, sick, needy shrinks down to family (and church)

2) Rise of social state in 20th century: mass education, retirement benefits, modern health care, income support

Pooling of resources large again: taxes $\approx$ 30-50% of income
The rise of the fiscal state in rich countries 1870-2018

Total tax revenue (all taxes and social contributions at all levels of government) divided by national income.

Sources and series: Piketty, Capital and Ideology, 2020, Figure 10.14, updated to 2018
The Rise of the Social State in Europe, 1870-2015

Source. Piketty (2020, Figure 10.15). Average for Germany, France, Britain and Sweden.
Cash social transfers include unemployment benefits, family benefits, and means-tested benefits.
Other social spending includes in-kind spending such as public housing.
Regalian public goods includes defense, law and order, administration, infrastructure.
RISE OF THE SOCIAL STATE IN 20TH CENTURY

Government growth due to rise of social state taking care of:

1) The **young** with public education and childcare

2) The **old** with public retirement benefits

3) The **sick** with universal health care

4) Those **in need** (disabled, unemployed, poor) with specific programs

⇒ Huge direct and indirect equalization effect
SOCIAL STATE VS. STANDARD ECON

Standard economics: absent social state, rational individuals in a market economy can manage on their own:

1) Parents or young can borrow to pay for education

2) Workers can save for retirement

3) People can buy health care insurance

4) People can accumulate a buffer stock to absorb shocks

Empirical evidence and behavioral economics: Individuals are not good at making such plans on their own
EDUCATION

Education most important driver of long-term economic growth

Mass modern education is always government driven:

Compulsory schooling which in turn requires public funding
(otherwise low income parents can’t pay)

⇒ All children get basic education and opportunity

Higher education capacity built through public universities and
is a key engine of social mobility

⇒ Education choices made at social (not individual) level

Privatization failures: (1) student debt often unbearable bur-
den and (2) predatory for-profit schools
School enrollment at ages 5-14, 1830-1930

Fraction of children aged 5-14 enrolled in school (public or private).

School enrollment at ages 5-14, 1830-1930

Slavery and school prohibition end

Fraction of children aged 5-14 enrolled in school (public or private).

Primary School Enrollment in Russia, Korea and Indonesia

Fraction of children enrolled in primary school (public or private).

**Source:** Lee and Lee (2016).
RETIRED BENEFITS

Elderly lose ability to work and hence need to be supported

Economists’ solution: workers should save for retirement

Behavioral economics: individuals fail to save on their own

Actual solution: mandatory public retirement systems funded by taxes (replace older family based support)

Even privatized social security has mandatory contributions

Retirement is solved at social (not individual) level

Large cross sectional redistribution (even if lifetime redistribution modest as benefits related to prior earnings)
Employment Rates of Men Aged 65+, 1850-1980

Gainful employment of men aged 65 and above.  
**Sources**: Reproduced from Costa (1998), Table 2A.2

- Civil war vets pensions
- US social security starts
Employment Rates of Men Aged 60-64, 1970-2019

- **US** lowers early retirement age from 65 to 62 in 1961
- **Germany** lowers retirement age from 65 to 60 in 1973, increases it to 65 in 2000s

*Source: OECD database online.*
HEALTH CARE

All advanced economies (but US) provide universal health care

⇒ Significant redistribution by income, health, and health risk

Why same health care for all? Saving actual lives is imperative

Even in US, private system relies heavily on employers. Obamacare employer mandate is a privatized poll tax on workers

⇒ Health care is solved at social (not individual) level

Behavioral economics shows that private health insurance challenging to navigate (Chandra et al. 2019)
Average tax rates by income group in 2018: US vs. France (% of pre-tax income)

United States

France

US adding private health insurance
INCOME SUPPORT PROGRAMS

Income support targeted to specific groups (unemployed, disabled, poor elderly, poor children)

Untargetted means-tested support generally modest, in-kind (housing, nutrition) and combined with job training help

Widespread social view that people who can support themselves do not deserve support (does not bode well for UBI)

Distribution and fairness more important than efficiency in public views (Stantcheva 2020)

Fairness (resenting “free loaders” or “tax cheats”) is our intuitive way to reduce efficiency costs of behavioral responses
SCOPE OF REDISTRIBUTION: US VS. OTHERS

Pooling of resources through taxes is big within country but minuscule across countries.

Direct foreign aid from rich countries is small (.25% of GDP in US), targeted to crises, security, development and unpopular.

EU budget is only 1% of EU economy, transfers controversial.

Social state smaller when country divided along ethnic lines (e.g. Alesina-Glaeser 2004 for US vs. EU).

⇒ Social group scope matters a lot and is malleable.
LABOR SUPPLY

Concern that taxes funding social state could discourage work

**Standard econ view:** labor supply \( l(w, R) \) coming out of

\[
\max_u \left( c + l \right) \text{ s.t. } c = wl + R \text{ is highly incomplete}
\]

**Social determinants of labor supply:**

a) Youth labor is regulated by labor laws/education

b) Old age labor regulated by retirement programs

c) Female market labor driven by norms + child care policy

d) Hours of work regulated by overtime + vacation mandates

Social labor supply with disutility for youth, old, overtime labor
Employment Rates of Men by Age, 2019

Source: OECD database online. Employment to population ratios.
Employment Rates of Women by Age, 2019

Source: OECD database online. Employment to population ratios.
Employment Rates of Men and Women, aged 25-54

Netherlands men
France men
US men

Source: OECD database online.
Employment Rates of Men and Women, aged 25-54

Netherlands men  
Netherlands women  
France men  
France women  
US men  
US women

Source: OECD database online.
US female labor force participation, age 16-64

25% increase in 1943-1945 during WW2 planned economy

Average Annual Hours of Work of Employees

1968: 4th week of paid vacation
1982: 5th week + 39 hours/week
2000-2: 35 hours/week

US has 40 hour/week and no mandatory paid vacation

Source: OECD database online. Includes all ages, genders, and part-time, full-time, overtime.
Labor supply responses to taxes/transfers generally modest for groups expected to work

Labor supply responses can be large for groups less attached (elderly, single mothers) but highly affected by social context:

1) German retirees heavily influenced by statutory retirement ages over and above financial incentives (Seibold 2020)

2) US single mothers responded strongly to welfare+EITC reforms of 1990s but not other EITC reforms (Kleven 2019)

3) Responses can be much larger when employers have incentives to accommodate responses
Panel C. Labor force participation of US single women, aged 20-50

Women without children

Women with children

Welfare reform and EITC expansion
SUMMARY ON SOCIAL STATE

Education of the young, health care for the sick, retirement support for the old, and income support for the needy, are done through the social state.

Humans struggle to solve these problems individually but are good at solving these issues collectively through social state.

Social state leaves room for individual choice but shapes the overall outcome.

Social state also has large impact on labor supply but a lot of it intentional (young, old, overtime) rather than unintended moral hazard.

Our social nature is not limited to government and this shapes pre-tax inequality.
NON-GOVT SOCIAL INSTITUTIONS

Many private institutions preexist/supplement the social state:

1) Households (often modeled as single economic unit)

2) Villages in devo countries (Townsend); Common-pool resource groups to manage public goods (Ostrom); voluntary communes such as Israeli Kibbutz (Abramitzky)

3) Nonprofit organizations (charitable contributions and not-for-profit services/products)

4) Modern large employers:
   (a) absorb risk and offer steady work and compensation
   (b) fill gaps in social state (pensions and health in US)
Average tax rates by income group in 2018: US vs. France (% of pre-tax income)

United States

France

US adding charitable giving
Social behavior

Social = taking a group perspective instead of individual

Household is the basic example standard in economics

But most economic behaviors have social aspects: teamwork production, etc.

Such contexts require cooperation with potential tension between group vs. individual goals

Cooperation can be **Authoritarian** or **Egalitarian**

Economics focuses on market solutions and pricing externalities but setting up markets is too costly in many contexts (Coase)
HOW IS COOPERATION SUSTAINED?

Cooperation benefits group but faces 2 challenges:
(a) the classic “social dilemma” (how to achieve efficiency)
(b) how to distribute gains (equity issue).

Sustained through various ways:
1) Social preferences: Altruism and reciprocity (e.g. family)

2) Social authority (e.g. hierarchy, social norms, rules)

3) Fairness: Acceptable distribution

4) Resent and punish non-cooperators
LAB EVIDENCE ON COOPERATION

(a) COOPERATION IN PRODUCTION

Public good game: 50% contribute to public good instead of playing selfish Nash. Willingness to pay to punish the selfish

Effort reciprocity: recipients work harder for employer when employer more generous (Fehr-Kirchsteiger-Riedl)

(b) DISTRIBUTION OF SURPLUS

Dictator game: 2/3 of “dictators” share part of endowment with recipient (50/50 sharing most common)

More sharing if recipient helped create endowment or is needy

Ultimatum game: recipients refuse offers that are too unequal and proposers tend to offer close to equal split
Finally, using the supplementary dataset with reconstructed individual observations, we learn that contributions are very unevenly distributed over the unit interval, see Fig. 2. 36.11% of all participants give nothing to the recipient. 16.74% choose the equal split. As many as 5.44% give the recipient everything.
Fig. 9  Society of origin

Patterns of giving basically distribute over the range \([0, 0.5]\). All bilateral comparisons of distributions are statistically significant: Epps Singleton, \(p < .0001\).

Age also has a strong effect. If one codes children with 0, students with 1, middle-aged adults with 2, and the elderly with 3, there is a highly significant, substantial effect: meta-regression, \(\text{cons} .187^{* * *}, \text{age} .098^{* * *}, N = 445, \text{adj.} R^2 .038\). If one treats each age class as a categorical variable, in meta-regression, the behaviour of children is not significantly different from the behaviour of students, while there is a significant difference with respect to the remaining age classes: meta-regression, \(\text{cons} .269^{* * *}, \text{child} .036, \text{middle age} .138^{* * }, \text{elderly} .443^{* * *}, N = 445, \text{adj.} R^2 .122\). Again distributions are more informative than means. Children are unlikely to give more than half of the pie, and many give less. This explains why there is no difference in means, compared to students. Yet children are much less likely to give nothing. Giving nothing is even rarer in participants of middle age, and it never happens in the elderly. For people of middle age, the equal split is the mode, while for the elderly this is giving everything. All bilateral comparisons of distributions are statistically significant: Epps Singleton, \(p < .0001\).

Multiple regression

In single regression most effects turn out significant. Yet single regression has little explanatory power. This becomes patent through the measure for the adjusted \(R^2\). In most regressions, it is below .1, implying that more than 90% of the variance remains unexplained. Compared to the meta-analysis of means, which left 97.1% of
INEQUALITY WITHIN THE FIRM

Production within firm requires cooperation and splitting of product

Standard theory: perfect cooperation in production and cost-less matching $\Rightarrow$ wage = marginal product

Contract theory questions perfect cooperation and search theory introduces matching costs

With costly matching: wage can be anywhere in range defined by outside options

$\Rightarrow$ Leaves room for social effects and distributional conflict
CONSEQUENCE: RIGID COMPENSATION RULES

Individual contributions to production often hard to measure and bargaining over surplus is costly
⇒ Rigid compensation rules are common

Pay scales, cost-of-living adjustments, uniform pay raises

Wages downward rigid even in recessions because pay cuts hurt morale and cooperation of workers (Bewley 1999)

Wages sticky to payroll taxes at individual level

But also 2/20 rules for hedge fund managers, equal sharing of credit among academic authors, etc.

The compensation rules affect pre-tax inequality
PRE-TAX DISTRIBUTION FIGHT IS CRUCIAL

Owners+workers jointly create economic surplus within firms

⇒ Natural and historical place where distributional fight happens (with government being the partial referee)

Union bargaining play(ed) central role in most countries in wage setting sometimes institutionalized through labor boards

US public: inequality should be solved by private sector rather than government, jobs should pay living wages (McCall ’13)

Minimum wage is popular across the board (in the US, 25/27 state level ballots won since 1996 in both red and blue states)

Tax the rich ballot initiatives much less successful
Panel A. Minimum wage ballots (since 1996)
Panel B. Tax the rich ballots (since 1972)
NORMATIVE CONSEQUENCES

1) Revealed individual preferences may not be informative of social preferences

2) Replacing social institutions by markets + individual choice might not always work well (e.g., retirement, education)

3) Social system functions best when individuals internalize the social objective

⇒ better to eliminate than face the equity-efficiency tradeoff

4) More possibilities than economists generally think