PUBLIC POLICY FOR FAIRNESS & EFFICIENCY II

MPA 612: Economy, Society, and Public Policy

January 30, 2019

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PLAN FOR TODAY

Fairness

Pulling policy levers

Economic models

Measuring policy outcomes

FAIRNESS

IS PARETO THE BEST STANDARD?

Andrew Baker
@Andrew___Baker

Following

Love the fact that some econs are figuring out that pareto efficiency is one of those things overwhelmingly accepted by economists that most of the general population doesn't actually value.

3:50 PM - 25 Jan 2019

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IS PARETO THE BEST STANDARD?

There can be more than one Pareto-efficient allocation (or none!)

There are no rankings

No consideration of power

No consideration of fairness

EFFICIENCY VS. EQUITY

Efficiency

The most economic pie is consumed

Equity / Fairness / Justice

It matters who consumes how much of the pie

FAIRNESS MATTERS

Incorporating Fairness into Game Theory and Economics

By MATTHEW RABIN*

People like to help those who are helping them, and to hurt those who are hurting them. Outcomes reflecting such motivations are called fairness equilibria. Outcomes are mutual-max when each person maximizes the other's material payoffs, and mutual-min when each person minimizes the other's payoffs. It is shown that every mutual-max or mutual-min Nash equilibrium is a fairness equilibrium. If payoffs are small, fairness equilibria are roughly the set of mutual-max and mutual-min outcomes; if payoffs are large, fairness equilibria are roughly the set of Nash equilibria. Several economic examples are considered, and possible welfare implications of fairness are explored. (JEL A12, A13, D63, C70)

Most current economic models assume that people pursue only their own material self-interest and do not care about "social" goals. One exception to self-interest which has received some attention by economists is simple altruism: people may care not only about their own well-being, but also about are also motivated to hurt those who hurt them. If somebody is being nice to you, fairness dictates that you be nice to him. If somebody is being mean to you, fairness allows—and vindictiveness dictates—that you be mean to him.
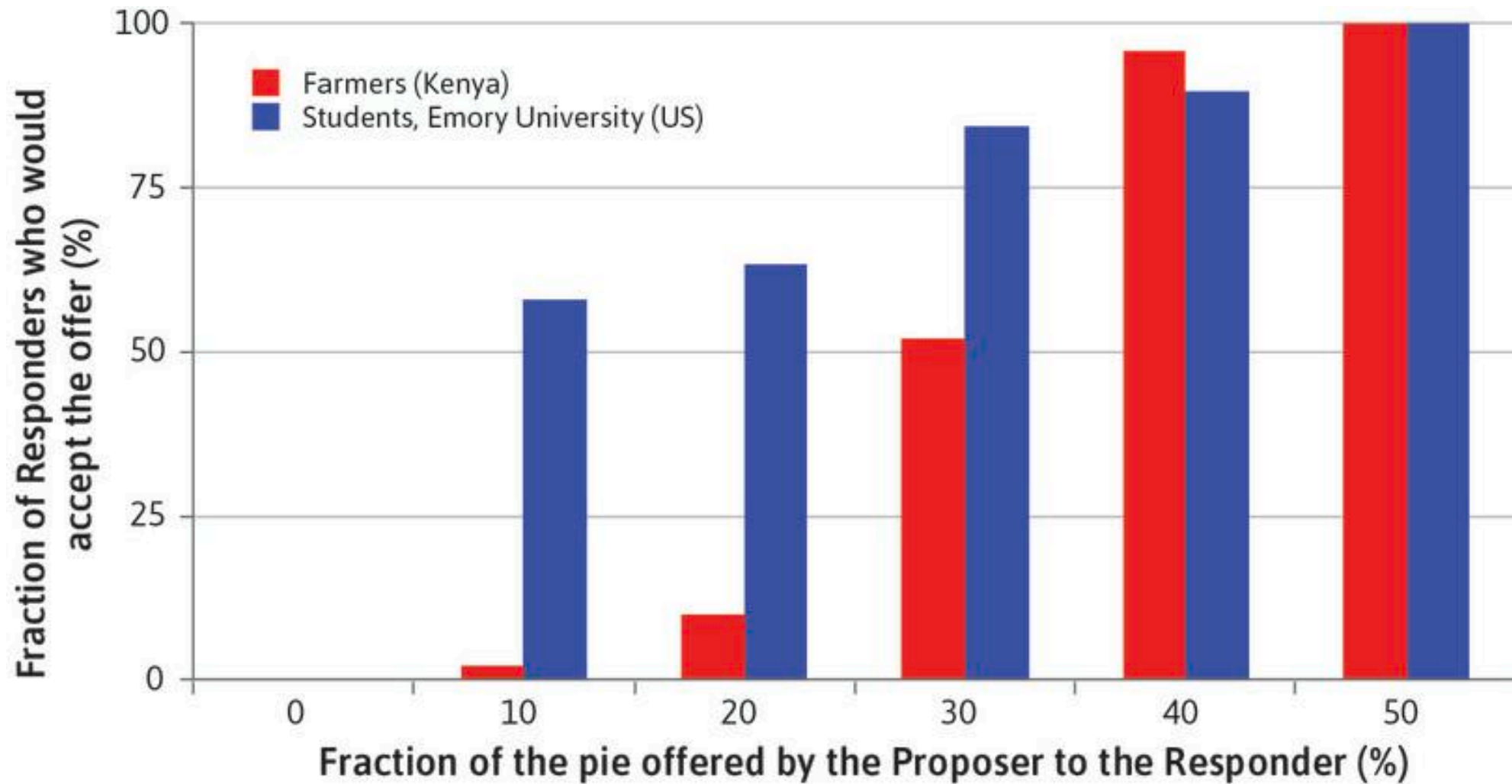
Clearly, these emotions have economic

THE ULTIMATUM GAME

Most rational, most efficient outcome is to accept any offer

But this doesn't happen!

THE ULTIMATUM GAME

WHAT COUNTS AS FAIR?
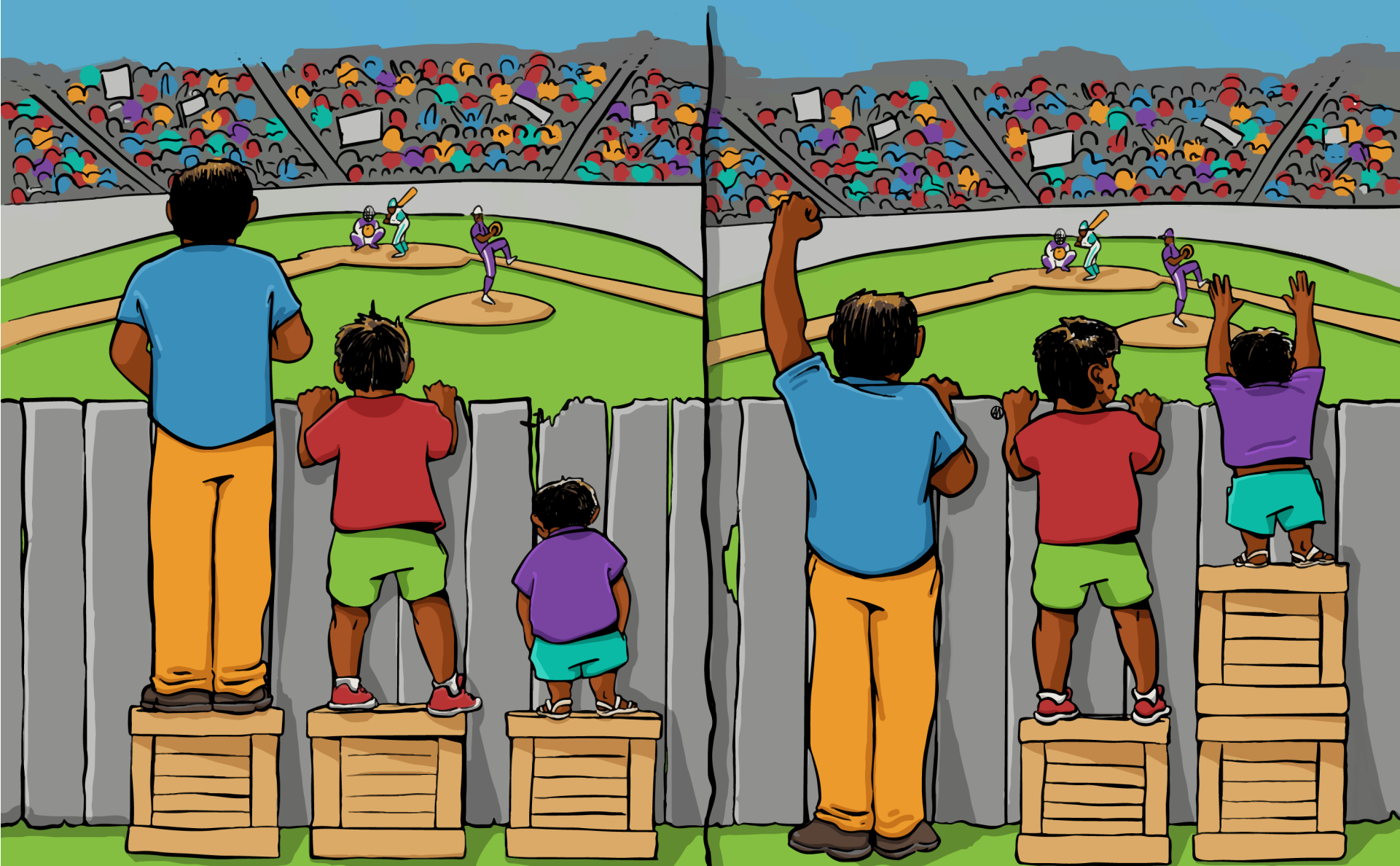
Substantive fairness

What the allocation looks like

Procedural fairness

How the allocation got there

Veil of ignorance fairness

HOW DO WE DECIDE WHAT'S FAIR?

Social norms

EQUALITY EQUITY

"But let judgment run down as waters, and righteousness as a mighty stream." (Amos 5:24, KJV)

"Learn to do good; seek justice, rescue the oppressed, defend the orphan, plead for the widow." (Isaiah 1:17, NRSV)

"This was the guilt of your sister Sodom: she and her daughters had pride, excess of food, and prosperous ease, but did not aid the poor and needy." (Ezekiel 16:49, NRSV)

LUCK, NORMS, AND TAXES
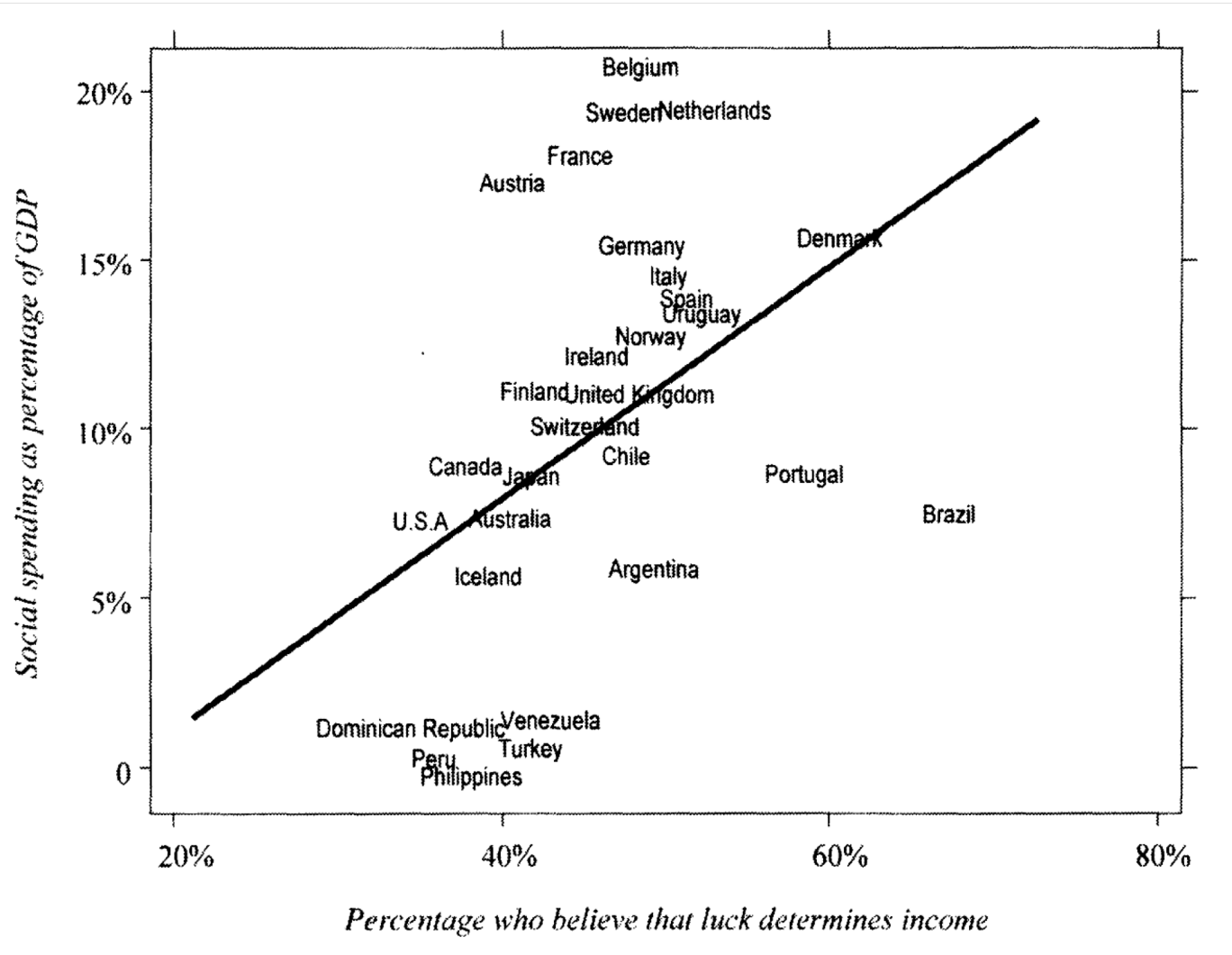
Our analysis thus sheds some light on why differences in attitudes toward the market mechanism are so rooted in American and European cultures. In Europe, opportunities for wealth and success have been severely restrained by class differences at least since medieval times.[27] At the time of the extension of the franchise, the distribution of income was perceived as unfair because it was generated more by birth and nobility than by ability and effort. The "invisible hand" has frequently favored the lucky and privileged rather than the talented and hardworking. Europeans have thus favored aggressive redistributive policies and other forms of government intervention. In the "land of opportunity," on the other hand, the perception was that those who were wealthy and successful had "made it" on their own. Americans have thus chosen strong property protection, limited regulation, and low redistribution, which in turn have resulted in fewer distortions, more efficient market outcomes, and a smaller effect of "luck." Today, the "self-made man" remains very much an American "icon"; and Americans remain more averse to government intervention than Europeans.

LUCK, NORMS, AND TAXES

Strong Reciprocity and the Welfare State

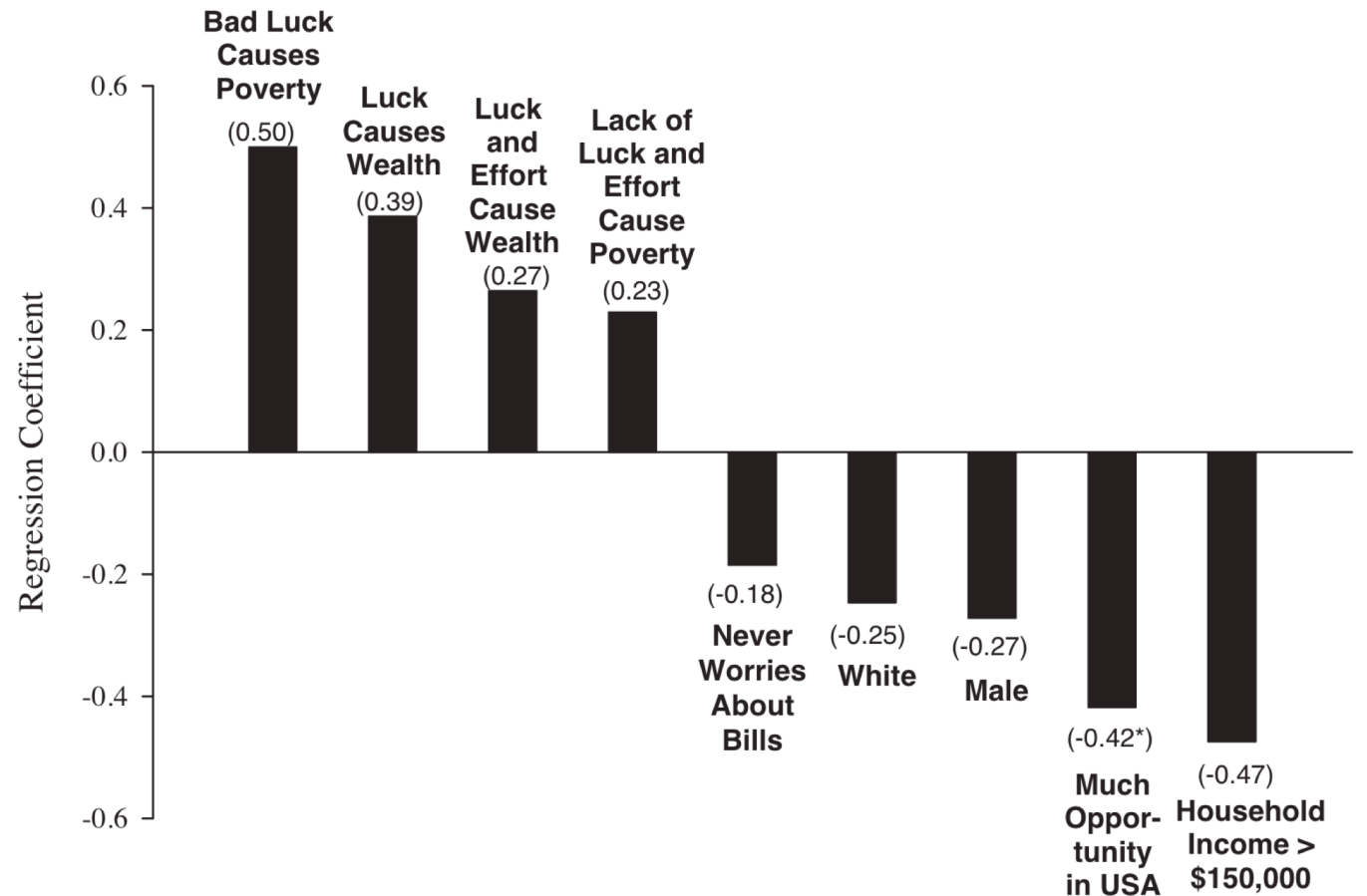Christina M. Fong, Samuel Bowles and Herbert Gintis*

July 3, 2004

A man ought to be a friend to his friend and repay gift with gift. People should meet smiles with smiles and lies with treachery.

The Edda, a 13th century collection of Norse epic verse.

1 Introduction

The modern welfare state is a remarkable human achievement. In the advanced economies, a substantial fraction of total income is regularly transferred from the better off to the less well off, and the governments that preside over these transfers are regularly endorsed by publics (Atkinson 1999). The modern welfare state is thus the most significant case in human history of a voluntary egalitarian redistribution of income among total strangers. What accounts for its popular support?

Bad Luck Causes Poverty (0.50); Luck Causes Wealth (0.39); Luck and Effort Cause Wealth (0.27); Lack of Luck and Effort Cause Poverty (0.23); Never Worries About Bills (-0.18); White (-0.25); Male (-0.27); Much Opportunity in USA (-0.42*); Household Income > $150,000 (-0.47). Y-axis: Regression Coefficient.

Is international trade efficient?

Is international trade just/fair?

PULLING
POLICY LEVERS

TRAGEDY OF THE COMMONS

		Farmer 2	
		Use water normally	**Double water use**
Farmer 1	**Use water normally**	6, 6	2, 8
	Double water use	8, 2	3, 3

TRAGEDY OF THE COMMONS

50% tax on doubled use	Farmer 2	
	Use water normally	**Double water use**
Farmer 1 — Use water normally	6, 6	2, 4
Farmer 1 — Double water use	4, 2	1.5, 1.5

IS THAT TAX FAIR?

Procedurally?

Substantively?

Rawlsianly?

CHANGES IN TAXES

	Firm owner	
	Pay normal tax	**Hire lawyers for loopholes**
Government — Current policy — **Moderate tax rate**	**100, 500**	**85, 495**
High tax rate	**150, 450**	**90, 490**

What happens if taxes go up?

NASHES MATTER

Government tries to get to (High taxes, Pay normal rate)

Firms hire lawyers

New outcome is worse for everyone

Policies must be a Nash equilibrium

ELASTICITY AND RESPONSIVENESS

$$\varepsilon = -\frac{\% \text{ change in demand}}{\% \text{ change in price}} \qquad \varepsilon = -\frac{\Delta Q}{\Delta P} \times \frac{P}{Q}$$

% change in demand that follows a 1% change in price

Q ↑ P ↓
or
Q ↓ P ↑

ε = 2: "If price increases by 10%, quantity decreases by 20%"

ε = 0.5: "If price increases by 10%, quantity decreases by 5%"

ε = ∞ = Perfectly elastic   Any change in price moves quantity to 0   Identical goods *Two vending machines*

ε > 1 = Elastic   Changes in price change the quantity a lot   Goods with substitutes *Diet Coke*

ε = 1 = Unit elastic   Changes in price change the quantity the same

ε < 1 = Inelastic   Changes in price change the quantity a little   Goods with few substitutes *AIDS medicine*

ε = 0 = Perfectly inelastic   Changes in price do nothing to the quantity   Survival goods *Water in the desert*

ε, TAXES, & PREFERENCES

Taxing things changes their prices

Changing prices changes quantities demanded

Taxing elastic goods will make quantities go down a lot and decrease tax revenues

Taxing inelastic goods will make quantities go down slightly and not hurt revenues

Category	Type	Calories per serving	Price per 100 g ($)	Typical spending per week ($)	Price elasticity of demand
1	Fruit and vegetables	660	0.38	2.00	1.128
2	Fruit and vegetables	140	0.36	3.44	0.830
15	Grain, pasta, bread	1,540	0.38	2.96	0.854
17	Grain, pasta, bread	960	0.53	2.64	0.292
28	Snacks, candy	433	1.13	4.88	0.270
29	Snacks, candy	1,727	0.68	7.60	0.295
30	Milk	2,052	0.09	2.32	1.1793
31	Milk	874	0.15	1.44	1.972

If P↑ by 10%, Q↓…

8.3%

2.7%

19.72%

GENERAL TAX GUIDANCE

Tax inelastic products unless you're tying to change consumption

Soda? Cigarettes? Alcohol? Property?

Those who can afford to avoid taxes will try to avoid them

HOW TO AVOID UNINTENED CONSEQUENCES

Policy change shouldn't change preferences in bad ways

Israeli daycare   NCLB testing   ACA part-time hours

Policies must be a Nash equilibrium

ECONOMIC MODELS

Y THO?

Why the h*ck am I making you think about game theory?

The world is never this simple!

The predictions are obvious!

Models purposefully shrink the world so we can measure and predict things in it

No economic model can be a perfect description of reality. **But the very process of constructing, testing and revising models, forces economists and policymakers to tighten their views about how an economy works.** This in turn promotes scientific debate over what drives economic behavior and what should (or should not) be done to deal with market failures.

Sam Ouliaris, IMF

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Sam Ouliaris, IMF

GOOD MODELS

Clear / parsimonious

Identify important relationships

Make good predictions

Improve communication

Useful

MEASURING POLICY OUTCOMES

GODWIN'S LAW FOR STATISTICS

Correlation does not imply causation

Except when it does

Even if it doesn't,
this phrase is useless
and kills discussion