Topics in the Economics of Social Justice:
Basic Income and Social Justice

SocialContract Lab
Laboratory for Constitional Economic Research into Social Contracts

ST 2016

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Session 6: Introduction to Experimental Economics and the Frohlich/Oppenheimer Experiment

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Readings:

Croson, Rachel; **Gächter**, Simon (2010). "The science of experimental economics." In: *Journal of Economic Behavior & Organization*, Vol. 73, pp. 122-31.
Sudgen, Robert (2008). "The Changing Relationship between Theory and Experiment in Economics". In: *Philosophy of Science*, Vol. 75. Pp. 621-32.
Frohlich, Norman; **Oppenheimer**, Joe A. (1992). *Choosing Justice. An Experimental Approach to Ethical Theory.* University of California Press, Berkeley.

Agenda

1 Theory and Experiments

2 Playing a Game in the *MiniLab*

3 Predictions and Assumptions

4 Role, Scope, and Accuracy of Theory & Experiments

5 Conclusion and Outlook

1 Theory and Experiments

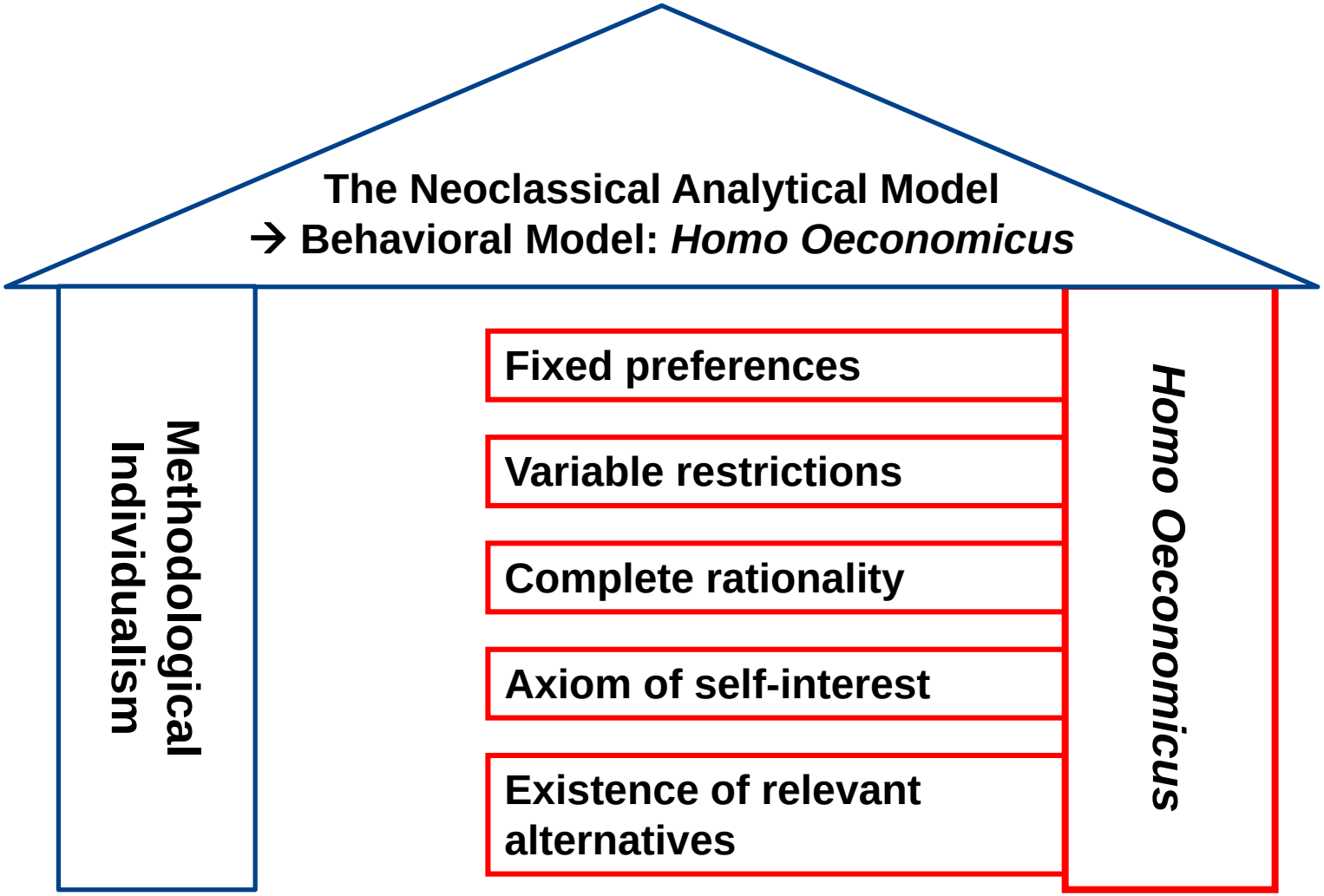
- What is economic theory?
- Why do we use experiments in economics?
- What do Croson/Gächter try to express with this graph?

Theory -------- Experiment (Lab/Field) ------ Observational Data

- Task 1: List the elements of the *homo oeconomicus* model of economics

  → what is it used for?

1 Theory and Experiments



2 Playing a Game in the *MiniLab*

- Each person has two strategies, red and black
- Two people form one group (anonymously)
- Each person has some time to choose which strategy to play
- **After all choices**, the distribution of payoffs / your own payoff of the round is shown

2 Playing a Game in the *MiniLab*

- A game like this:

Column Player: Player 2

Row Player: Player 1	*"Red"*	*"Black"*
"Red"	(3;3)	(1;4)
"Black"	(4;1)	(2;2)

4 > 3 > 2 > 1

2 Playing a Game in the *MiniLab*

- **First**: One-Shot
- **Second**: Again, *n* rounds

- → **Person with highest total amount wins the game**

3 Predictions based on…

- What would the ***homo oeconomicus*** model have predicted?
- What are the results in our "classroom experiment"?
- How can we explain the deviations?

→ What can we conclude concerning the **predictive power** of (standard) economic theory?

→ Where do we have to refine the standard approach?

3 … Assumptions

- **First set** of assumptions
  - Risk preferences
  - Time preferences
  - Social preferences
- **Second set** of assumptions
  - Cognitive abilities
- **Third Set** of assumptions
  - Behavioral assumptions

→ What are the standard assumptions?

4 Role of Experiments

- Testing theories and their predictions

  → checking **robustness**

- Checking controlled irregularities, isolating varying parameter(s) under **controlled circumstances**
- **"Horse Race"** between (competing) theories

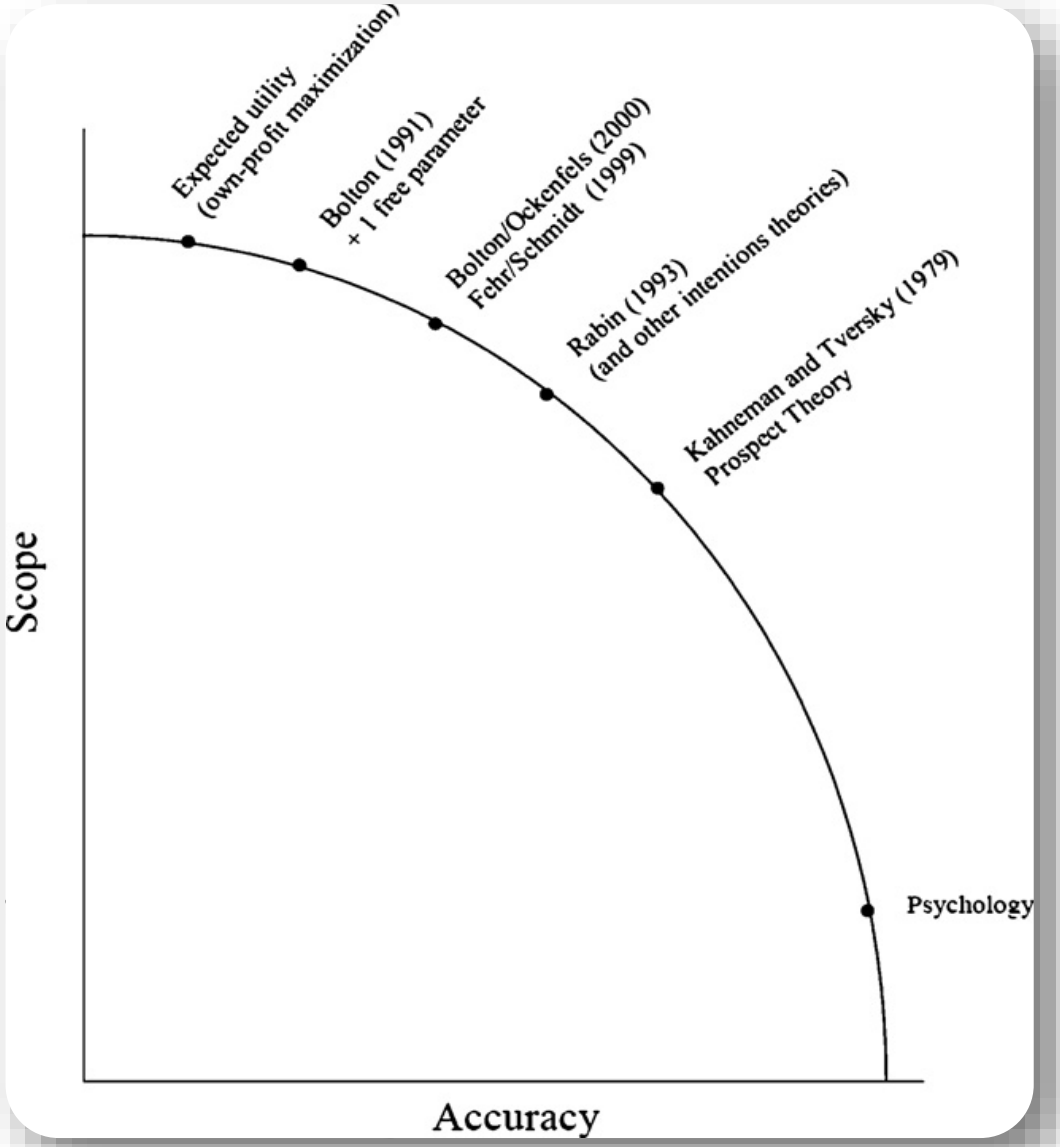
  → e.g. Rawls vs. Harsanyi

- Testing **range** of a theory
- **Refinement** of theories
- Development of **new theories**

4 Scope and Accuracy of Theories (and Respective Experiments)

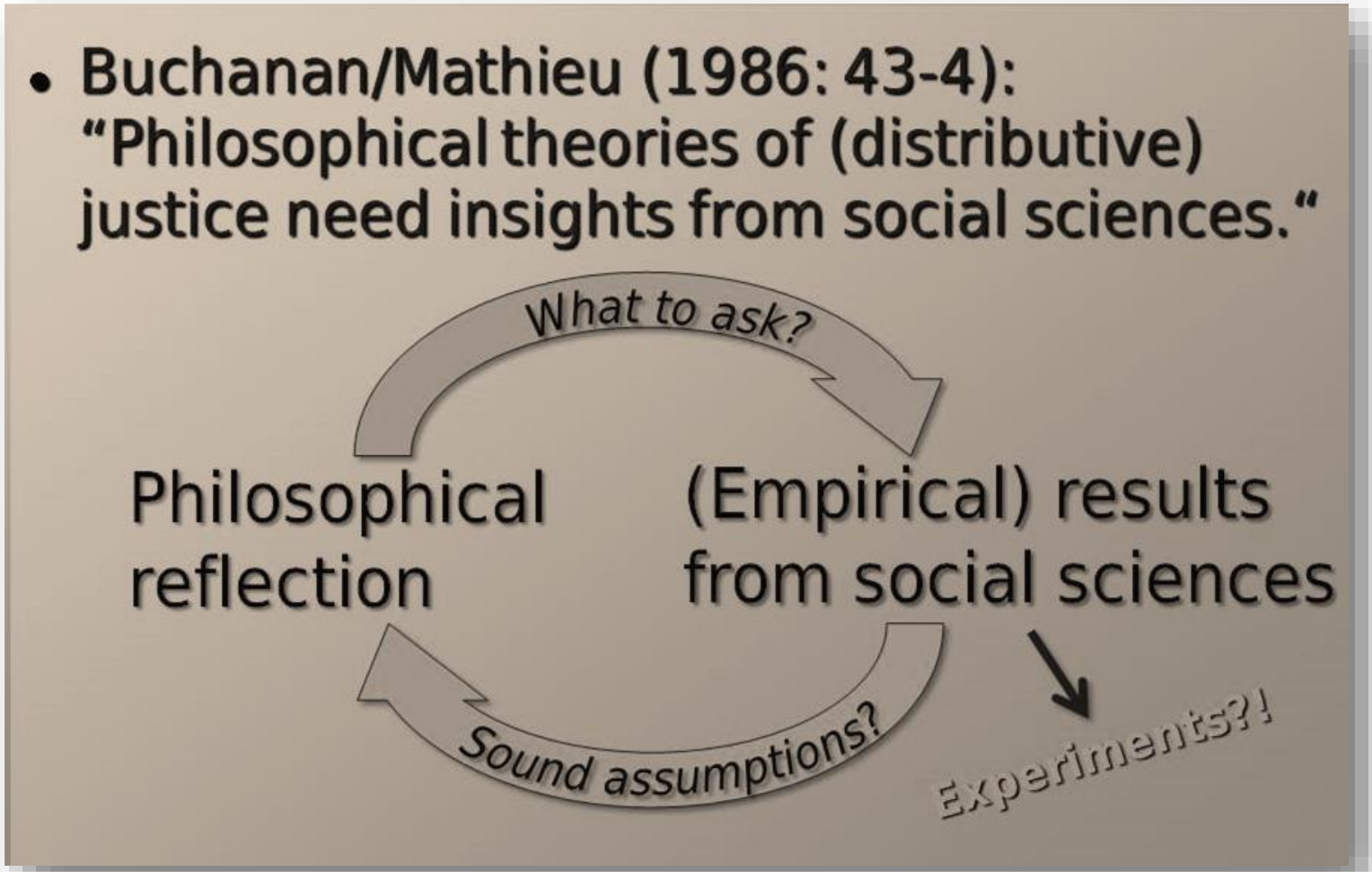
- Problem:
  - Very general theories might be poor (or "too good") predictors
  - good predictors may be limited in application

→ Where does this affect our experiment?



5 Conclusion…

- Remember Session 1?



5 … and Specification

- Next:
  Looking explicitly at one special experiment on distributional issues:
  The F/O Experiment

→ Does the experiment contribute to the development of an empirically founded economic theory of morals/social justice where a priori theory fails?

Agenda for the introdution to F/O's experiment

1 Motivation of the Experiment

2 Background Ideas

3 Rawls vs. Harsanyi

4 Results?

5 Research Design with Basic Income

6 Social Contracting

7 Our Experimental Session

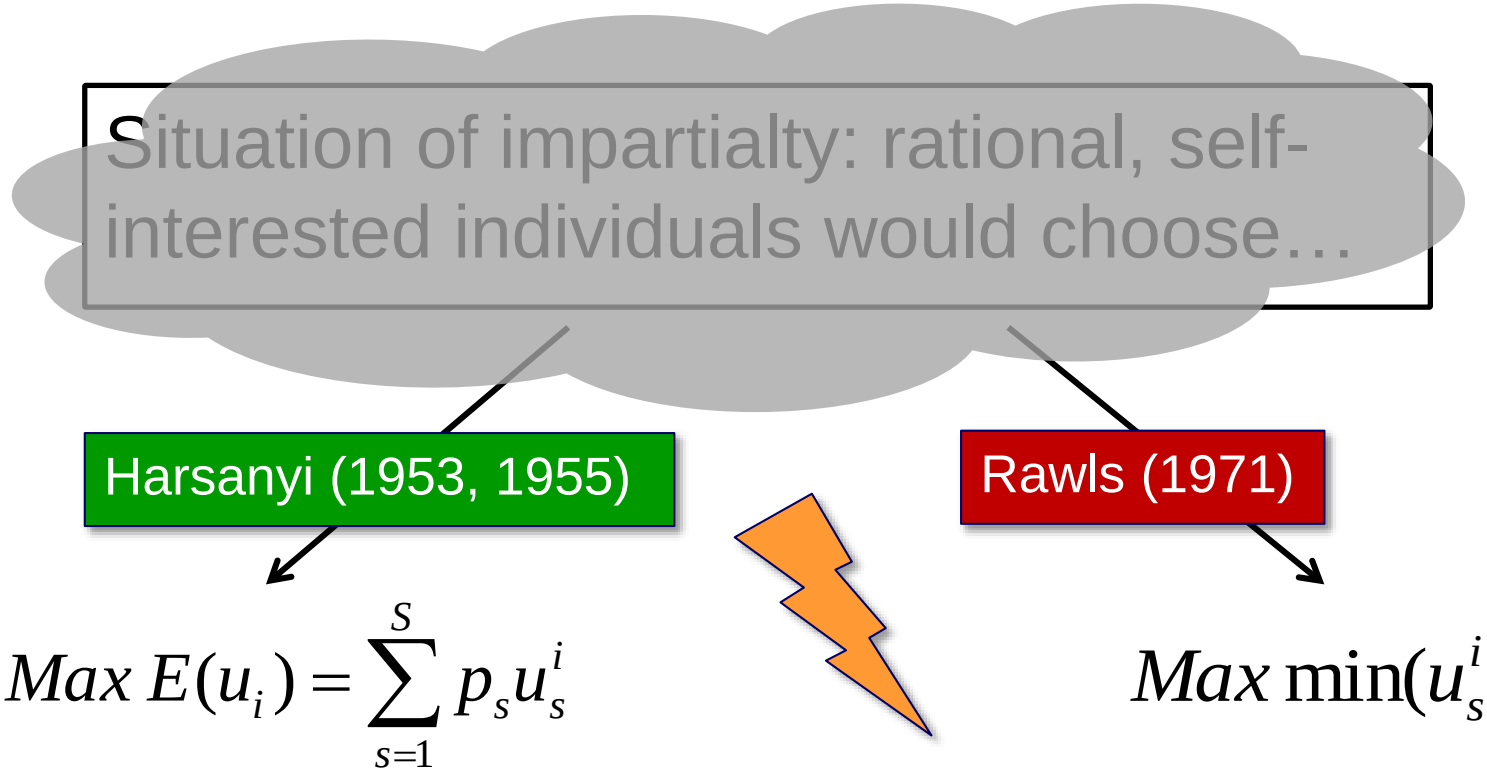
1 Motivation of the Experiment

Frohlich/Oppenheimer (1992: 1): “We contend that ethicists have been unsuccessful because they have been using inappropriate methodology. […] Our use of experiments to generate consensus on questions of distributive justice […] has led us to conclude that the experimental laboratory provides a method for making cumulative progress in ethics.”

1 Motivation of the Experiment

- Approach: putting people in **controlled lab conditions** → generating **impartialty**

→ derivation of distributive justice principles



1 Motivation of the Experiment

- How can there be **two different results**?

→ F/O: missing **contextual richness**!

- Additionally:
  - Use of **imperfect information** behind veil

    → shaping perception of "what is fair"
  - Role of **entitlements**? (→ Nozick) → can a theory be stable once the veil is lifted and people feel entitles do items *x, y, z* (which would have to be redistributed according to theory T_1, T_2, …)?

1 Motivation of the Experiment

- Research questions for F/O:

Frohlich/Oppenheimer (1992: 7-8):

"1. Can groups generally reach unanimous decisions regarding principles of distributive justice?

2. Will groups that can reach consensus always agree on the same principle?"

3. Will the consensus settle (as Rawls argued) on the difference principle—the principle that makes the worst-off individual as well off as possible? Or will groups opt for maximizing expected utility as Harsanyi argued? Or will another principle emerge?

1 Motivation of the Experiment

> Frohlich/Oppenheimer (1992: 11): "Where does empirical inquiry fit into a quest of a theory of distributive justice? One answer to that question is direct and simple: it stems from the role of impartial reasoning in determining rules for just distributions. Specifically, we advocate empirical work because it is difficult to determine the conclusions of impartial reasoning."

→ Impartiality as the "Golden Rule" of all major religions (and modern philosophy)

2 Background Ideas

- Procedure: **put yourself into the shoes of others** and give **equal weight** to all these positions → fair judgement taking all these positions into consideration! → ideal perspective of an **impartial observer**

→ But: impartial observer is ideal → how to approach/approximate it?

→ Crucial: **imperfect information** (Buchanan's veil of uncertainty?)

2 Background Ideas

Frohlich/Oppenheimer (1992: 15): “[T]he device of imperfect information may be useful in dealing with complex problems of fair division. Rawls articulated a particular set of conditions of imperfect information and called them a ‘veil of ignorance’”.

[…] The conditions of Rawls (and Harsanyi) give all individuals an equal stake in every possible payoff because they do not know who they will be, and, therefore, their interest is to be fair to all.”

2 Background Ideas

- Rawls:
  - People will put themselves into each others shoes but **not attach special interest to any position**
  - General behavioral assumption: they want **more rather than less** of primary goods

→ But: generally **different conclusions** for Rawls and Harsanyi, even though **same starting point**

3 Rawls vs. Harsanyi

- How do Rawls and Harsanyi then predict such divergent solutions behind the very same veil?
  - Different **residual preferences** concerning states of the world
  - Some notion **how** different choices and behavior relate **to achieving preferred states**
  - Different behavioral assumptions, especially: dealing with **uncertainty/ignorance** (Hare: “Rawls assumes Rawlsians”)

3 Rawls vs. Harsanyi

- Example 1
  - Choice behind the veil (ign./unc.)

	Scheme A	Scheme B
Y Rich	80,000	15,000
Y Poor	0	5,000
Prob (Rich)	0.5	0.5
Prob (Poor)	0.5	0.5

Harsanyi

Rawls

3 Rawls vs. Harsanyi

- Example 2
  - Choice behind the veil (ign./unc.)

	Scheme A	Scheme B
Y Rich	80,000	15,000
Y Poor	0	5,000
Prob (Rich)	0.99	0.99
Prob (Poor)	0.01	0.01

Harsanyi

Rawls

3 Rawls vs. Harsanyi

- Example 3
  - Choice behind the veil (ign./unc.)

	Scheme A	Scheme B
Y Rich	80,000	15,000
Y Poor	0	5,000
Prob (Rich)	0.01	0.01
Prob (Poor)	0.99	0.99

Harsanyi

3 Rawls vs. Harsanyi

- How to interpret Harsanyi?
  - **Expected utility maximization** of a **risk-neutral** individual
- How to interpret Rawls?
  - Individual maximizing minimum income ("**Maximin**")
    - **Infinitely risk averse**?
    - Putting **infinite weight on worst off position**? (then still risk neutrality possible!)

→ How **realistic** are these behavioral assumptions?

4 Results?

- Frohlich/Oppenheimer Experiment
  - Since both theories claim validity, but **only one solution** (of the two, or even another one) can be true → experiment!
  - Testing people's **choice in a "veil situation"**

    → impartial choice of income schemes by design of experiment

4 Results?

- Claims

> Frohlich/Oppenheimer (1992: 21):
> "(1) Principles that survive with unanimous support have a claim to validity as principles of justice.
> (2) Those that do not show any strength at all are presumably rejectible."

→ The principle surviving in repeated experiments is the "right one"

4 Results?

Frohlich/Oppenheimer (1992: 22): “We develop a laboratory simulation to approximate those conditions and place subjects under those conditions to discover what they choose. This procedure shifts the grounds of the argument from the purely analytical to the empirical. This shift is justified because the central question raised by contractarian theories (such as those of Harsayni and Rawls) is empirical. The central questions is not whether a contract has ever been entered into but whether such a contract would ever be entered into under the specific conditions, and, if so, **what its content would be.**

4 Results?

- Experiment set up to **approximate Rawls's thought experiment**
- Aiming at finding out the **true behavior** of people **in the OP** → not relying on Harsanyi's or Rawls's behavioral claims
- **Imperfect information: approximated via choice of income**
- Consensual agreement → "reflective equilibrium"

  → Depending on **degree of risk aversion**

4 Results?

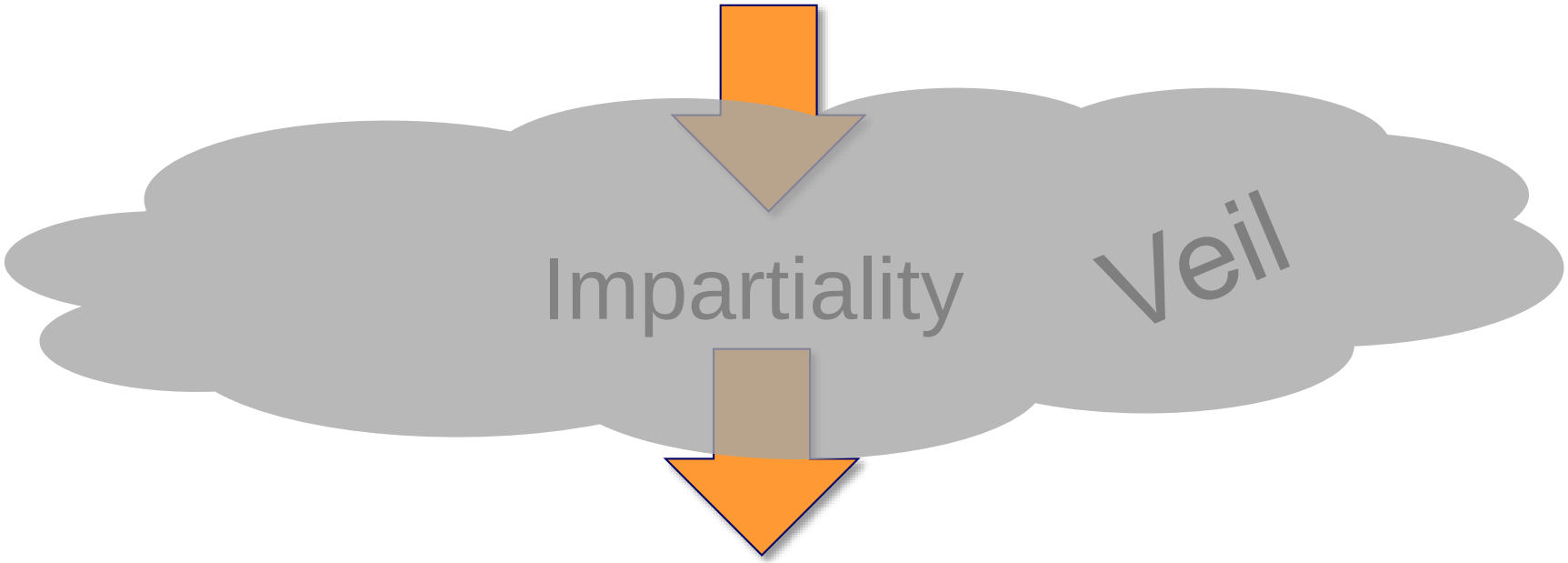
- Predictions?

→ Central: dealing with **trade-off** between high income and insurance against worst case

→ Results should be **robust** to yield a generally valid theory!

5 Research Design with Basic Income

Imperfect information



Choice of principle of distributive justice

5 Research Design with Basic Income

- Prior to experiment: **excessive information** of probands about distributional theories, above all Harsanyi and Rawls

- Test persons: **students** in U.S., Canada, Poland → always in groups of 5

5 Research Design with Basic Income

- Experiment based on **four different distributional schemes** discussed by Rawls (1971)

  - Maximin
  - MaxAvg
  - MaxAvg s.t. *income floor*
  - MaxAvg s.t. income floor & *income ceiling (range)*

5 Research Design with Basic Income

- Justification of introduction of the income floor and the income ceiling (range)?

  Hints:

  1. Constitutional interest in (partial) Basic Income *for all* (UBI as general insurance)!?

  2. UBI and NIT as very simple *redistributive schemes between* Maximin and MaxAvg (more structure of discrete choice, but consistent with respect to the two extreme approaches)

- First Decision:
  which income distribution to choose unanimously

Income Distribution

Income Class	***1***	***2***	***3***	***4***
High	$ 32,000	$ 28,000	$ 31,000	$ 21,000
Medium High	27,000	22,000	24,000	20,000
Medium	24,000	20,000	21,000	19,000
Medium Low	13,000	17,000	16,000	16,000
Low	12,000	13,000	14,000	15,000
Average	*21,600*	*20,000*	*21,200*	*18,200*
Basic Income / Floor Constraint	*12,000*	*13,000*	*14,000*	*15,000*
Range	*20,000*	*15,000*	*17,000*	*6,000*

6 Social Contracting

- Second Decision:
  which income distribution to choose (repeatedly) by majoritarian voting under a social immobility effect

Position	Scheme A	Scheme B	Scheme C	Scheme D
1	300.000	240.000	250.000	120.000
2	240.000	230.000	190.000	120.000
3	190.000	140.000	130.000	120.000
4	140.000	130.000	120.000	120.000
5	120.000	120.000	100.000	120.000
6	60.000	110.000	90.000	120.000
7	50.000	50.000	90.000	120.000
8	30.000	40.000	70.000	120.000
9	10.000	30.000	50.000	120.000

6 Social Contracting

- In-period decision on individual *production* / production distribution:

  - determination of income positions within the income scheme chosen by vote

  - option/potential for reaching any position (in experiments: e.g., find words in a crossword puzzle)

- *Social immobility* effect:
  e.g., income determined in later periods only counts with some percent. The remaining percentage of the income is inherited from the first period, thereby simulating (some) income immobility

7 Our Experimental Sessions

- **Friday, June 17**

- **Optimal Income Tax Experiment. "computer-based"**

1. Introduction of the experiment logic and test on understanding of the procedures
   - Instructions
     - Intro to distributional schemes

2. Discussion in chats and anonymous voting via computer.
   - Computerized discussion and unanimous vote
     → totally **anonymous** cooperation towards unanimity
     → payoffs proportional to your assigned income

- **Income Immobility Experiment. "computer-based"** .
  - Like above, but with other schemes, majoritarian voting and immobility effect.