

# PRIVACY PROTECTION AND RISK ATTITUDES: AN EXPERIMENTAL STUDY

Alisa Frik\*, Alexia Gaudeul\*\*

\*]University of Trento, Italy

\*\*Georg-August-Universität Göttingen, Göttingen, Germany

# MOTIVATION

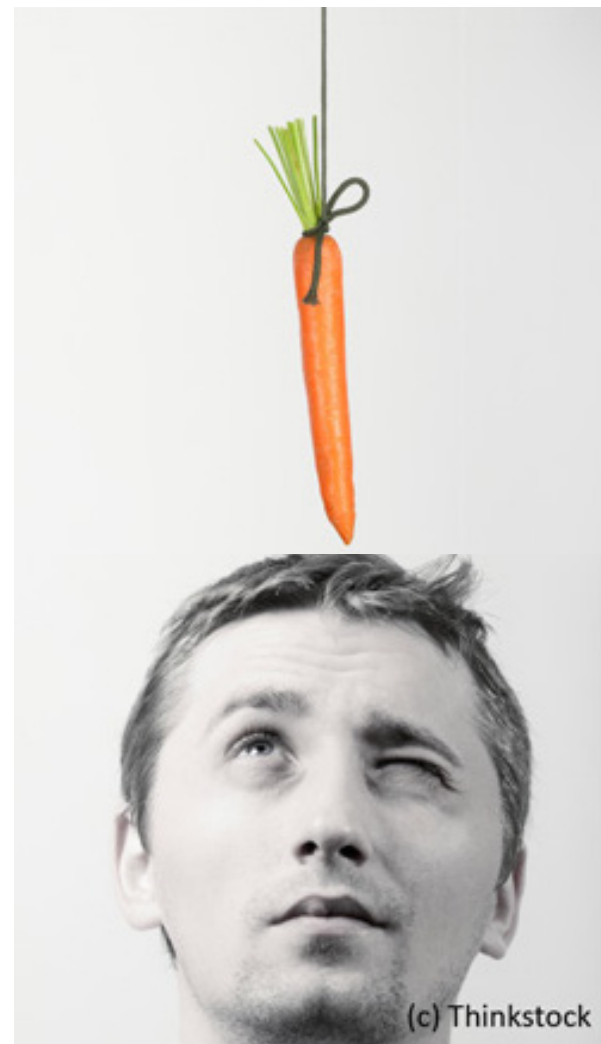
Currently established methods for assessing the individual value of privacy:

- ◉ WTP to avoid the (mis)use of personal info
- ◉ WTA payment for use of personal info
- ◉ Surveys on attitudes and behavior in terms of privacy protection



# MOTIVATION

- ◉ Incentives
- ◉ Probability, not certainty
- ◉ Observed behaviors, not stated preferences (“privacy paradox”<sup>1)</sup>)



Spiekerman, S., J. Grossklags, and B. Berendt (2002). E-privacy in 2<sup>nd</sup> generation e-commerce: privacy preferences versus actual behavior. In Proceedings of the ACM Conference on Electronic Commerce, pp. 38-47.



# DESIGN

## 1. Generation of private information

- First and last name + photo
- 14 questions about sensitive and socially relevant topics:
  - *Do you think it is morally justified or not justified to abort after discovering serious disability in the fetus? (1. Justified; 2. Not justified)*
  - *Which of the following is the more appropriate penalty for rape in your opinion? (1. Death; 2. Chemical castration; 3. Life imprisonment; 4. Prison sentence, less than life imprisonment), etc.*

## 2. Privacy and monetary lotteries

# PRIVACY LOTTERIES

Row	Option A	Option B
1	You get 80 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
2	You get 75 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
3	You get 70 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
4	You get 65 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
5	You get 60 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
6	You get 55 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
7	You get 50 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
8	You get 45 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
9	You get 40 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
10	You get 35 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed
11	You get 30 ECU	You get 75 ECU, but with probability 30 % your personal information is disclosed

# PRIVACY CONCERN

- Put the personal information at risk of revelation to others:

John Smith,  
seat #23:

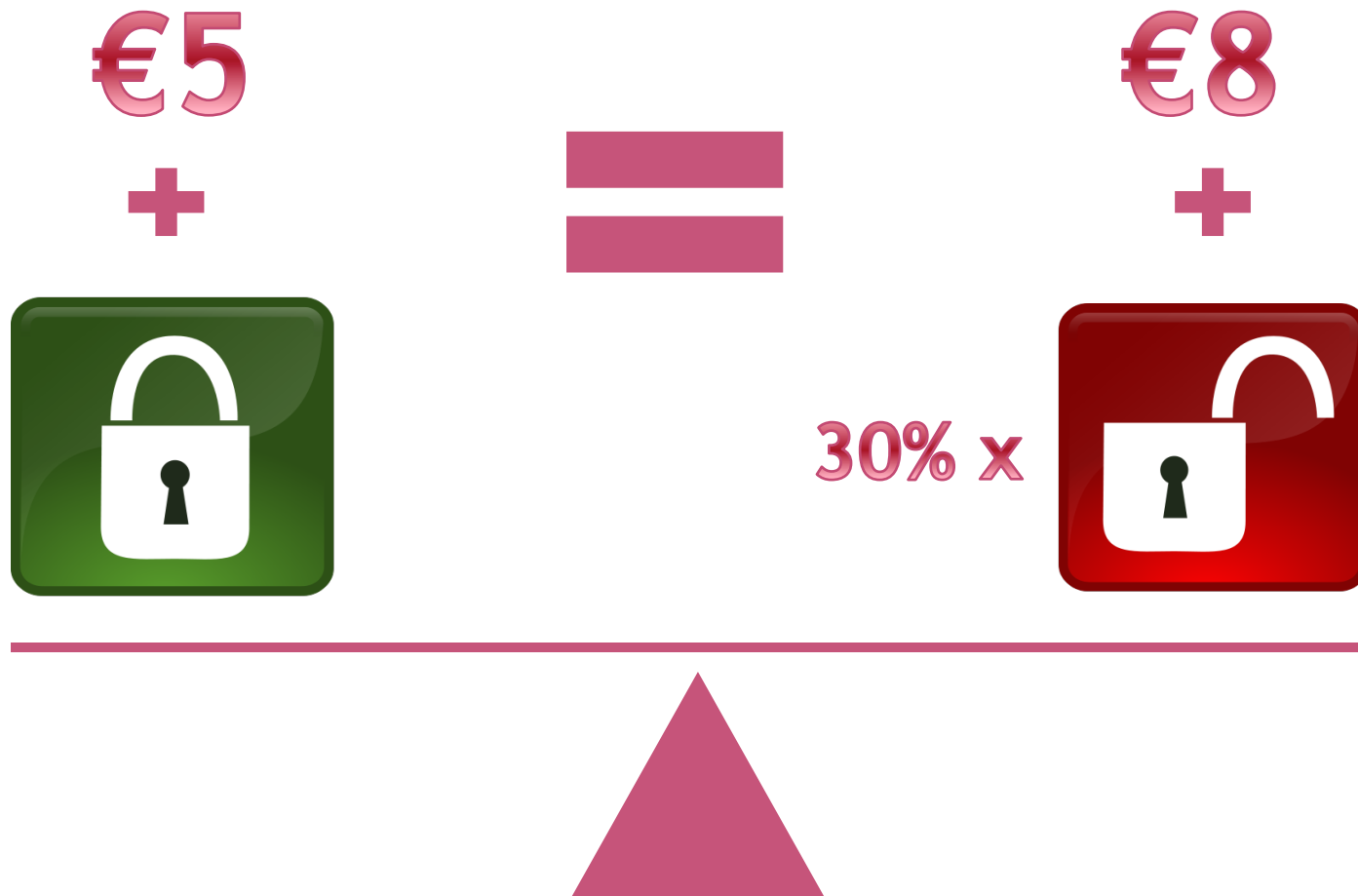


... thinks it is **morally justified to abort** after discovering serious disability in the fetus, while 66 % of other participants do not agree

... is in **favor of chemical castration** as an appropriate penalty for rape, while 87% of other participants did not choose this option

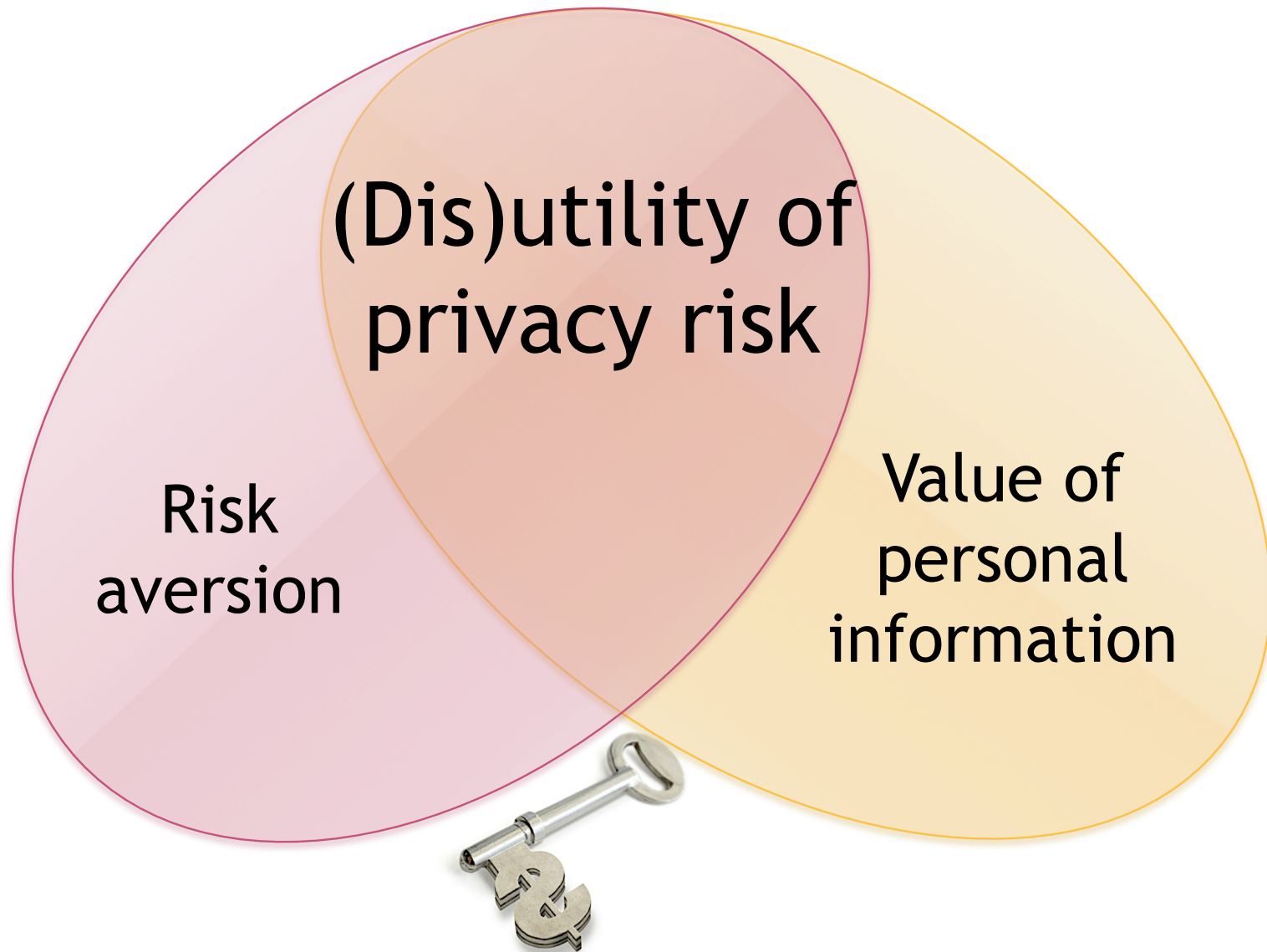
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# COEFFICIENTS



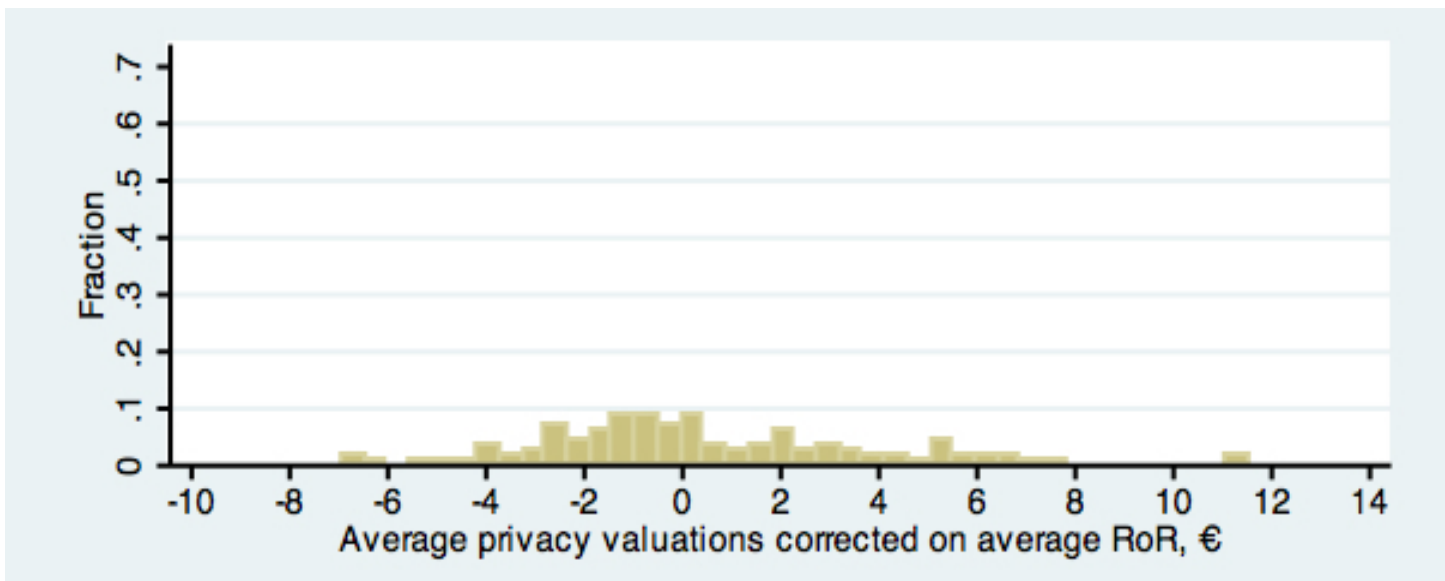
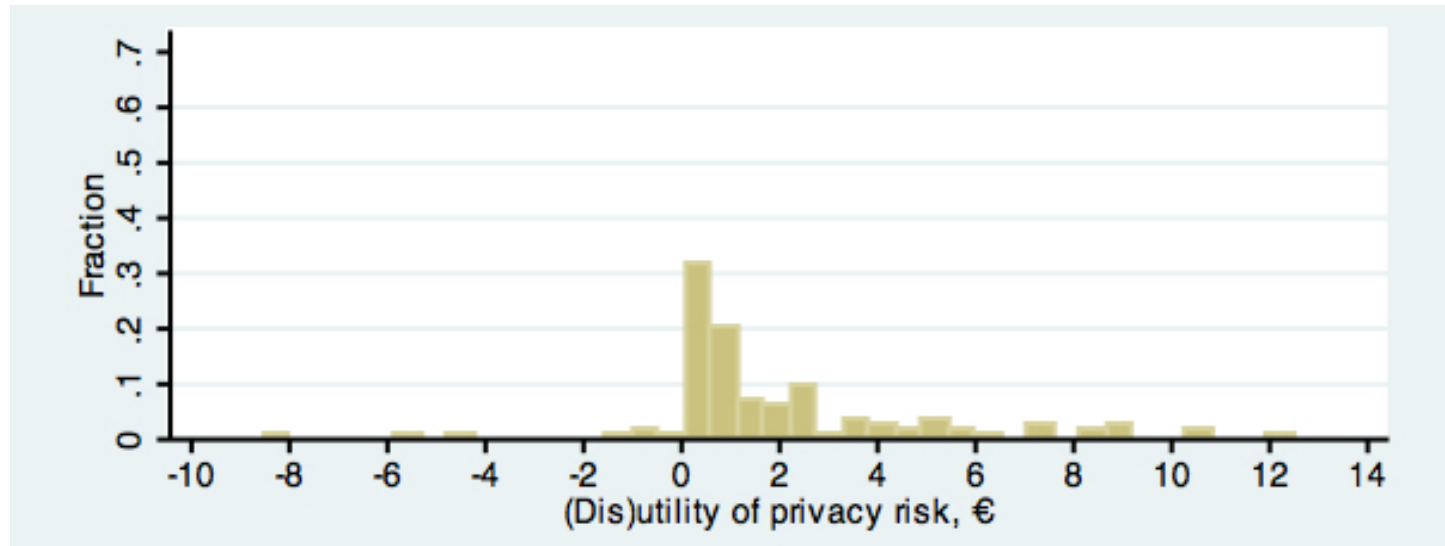


# COEFFICIENTS





# RESULTS



# RESULTS

- ◉ Subjects who are more risk averse to monetary loss are also more averse to privacy disclosure.
  - Does not mean they have higher privacy valuation!
- ◉ Disutility of privacy risk is:
  - Higher for privacy „fundamentalists“,
  - lower if subjects know more other participants,
  - lower if subjects trust strangers.
- ◉ Eliciting monetary risk attitudes first made people less sensitive to privacy risk.

# CONCLUSION & APPLICATIONS

- ◉ Easy adaptation of the method to other types of private data and risks.
- ◉ Privacy valuations are not always positive.
- ◉ Disentangle risk and privacy attitudes.
- ◉ Framing is important.



THANK YOU FOR ATTENTION!  
COMMENTS, QUESTIONS?