

ExpEcon Methods: Why Incentivize??

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Why Pay?

Is there *really* a reason to pay subjects?

- I *still* get asked this pretty frequently.
- Ned Augenblick: “Why are we fetishizing incentives?”
- Danz Vesterlund Wilson (2022): Pay but don’t explain
- Enke-Graeber: Unincentivized measure of decision confidence

What do the data say?? This should be an empirical question...

The Effect of Incentives

Camerer and Hogarth [1999] remains the classic reference
They compare hypothetical, low, high payments.

1. Modal results don't change
2. ↑ payments reduce noise
3. ↑ payments induce more effort, performance
4. ↑ payments reduce desirability bias (generosity, risk-seeking)
5. Cognitive capital and costs are important, too
6. Rationality violations still persist with ↑ payments

The Effect of Incentives

Gneezy and Rustichini [2000] test various payment levels

1. IQ task

- U-shaped performance. “Pay enough or not at all”

2. Hire HS students to soliciting money for charity

- U-shaped performance
- No pay > high pay > low pay

Are these tasks similar to typical experiment tasks?

The Effect of Incentives

Brañas-Garza et al. [2021]: donate $x\%$ of your lottery winnings.
High stakes \uparrow total giving, but \downarrow fraction, \downarrow 100% giving

Ultimatum game:

- Slonim and Roth [1998]
- Andersen et al. [2011]

Hypothetical Incentives & Beliefs

Why pay for beliefs? The mechanisms are complex Danz et al. [2022]

Arguments in favor:

1. Induces subjects to take time to report truthfully
2. Might improve beliefs if belief formation is costly
 - But do we want that?? Discuss.
3. Smith's dominance [Wilde, 1981, Smith, 1982]
 - Stated beliefs used to justify selfish behavior [Blanco et al., 2010]
 - Wanting to appear more confident than they are
 - Example: salesperson

Hypothetical Incentives & Beliefs

Arguments against paying:

1. Not needed; people don't like to lie [Gneezy, 2005, Fischbacher and Föllmi-Heusi, 2013]
2. Mechanism not IC for actual people
 - Complex mechanism w/ flat maximum can crowd out intrinsic motive to report truthfully.
 - Danz et al. [2022]: calculator screws up responses

Hypothetical Incentives & Beliefs

OK but what do the data say? This is a science...

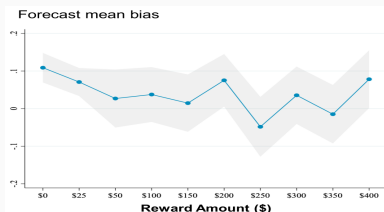
Studies that show incentives improve beliefs:

- Posteriors closer to Bayes [Phillips and Edwards, 1966, Grether, 1980, Wright and Anderson, 1989]
- Burfurd and Wilkening [2022]:
 - People w/ basic grasp of Bayes's Rule: ↓ errors
 - People w/out grasp of Bayes: Update required: no difference
No update required (uninformative signal): incentives are worse!
- Wright and Aboul-Ezz [1988]: beliefs closer to truth (eg, average GMAT scores)
- More accurate beliefs in games [Gächter and Renner, 2010, Wang, 2011]
- Harrison [2014] complex patterns of hypothetical bias
 - Paying a flat fee largely fixes it!!

Hypothetical Incentives & Beliefs

Studies that show incentives improve beliefs:

- Incentives improve belief formation
 - No incentives \Rightarrow default/focal values (50% or 100% [Massoni et al., 2014, Burfurd and Wilkening, 2022])
 - And $E \succ E^c$ yet $p(E) < 1/2$ [Grether, 1992]
- Incentives reduce noise
 - Camerer and Hogarth [1999], Gächter and Renner [2010], and Trautmann and van de Kuilen [2015]. Paying for power!
- Higher incentives reduce overconfidence
 - Bloom et al. [2025]: firms guess future revenue
 - Paid \$ x if guess is within $\pm 10\%$ (what does that elicit?)



Hypothetical Incentives & Beliefs

Studies that show no or even negative effect of incentives:

- Sonnemans and Offerman [2001] and Trautmann and van de Kuilen [2015]
- BDM vs. Unincentivized
 - Massoni et al. [2014]: tie
 - Hollard et al. [2016]: BDM \succ no pay
- Armantier and Treich [2013] incentives are worse, but could be due to risk aversion
- Trautmann and van de Kuilen [2015]: look at $p(E) + p(E^c) = 1$
More often true *without* incentives.

References

- Steffen Andersen, Seda Ertaç, Uri Gneezy, Moshe Hoffman, and John A. List. Stakes Matter in Ultimatum Games. *American Economic Review*, 101(7): 3427–3439, December 2011. ISSN 0002-8282. doi: 10.1257/aer.101.7.3427. URL <https://www.aeaweb.org/articles?id=10.1257/aer.101.7.3427>.
- Olivier Armantier and Nicolas Treich. Eliciting beliefs: Proper scoring rules, incentives, stakes and hedging. *European Economic Review*, 62:14–40, 2013.
- Mariana Blanco, Dirk Engelmann, Alexander K. Koch, and Hans-Theo Normann. Belief elicitation in experiments: is there a hedging problem? *Experimental Economics*, 13:412–438, 2010.

References: ii

- Nicholas Bloom, Mihai A. Codreanu, and Robert A. Fletcher. Rationalizing Firm Forecasts, January 2025. URL <https://www.nber.org/papers/w33384>.
- Pablo Brañas-Garza, Diego Jorrat, Jaromír Kovářík, and María C. López. Hyper-altruistic behavior vanishes with high stakes. *PLoS ONE*, 16(8): e0255668, August 2021. ISSN 1932-6203. doi: 10.1371/journal.pone.0255668. URL <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8386826/>.
- Ingrid Burfurd and Tom Wilkening. Cognitive heterogeneity and complex belief elicitation. *Experimental Economics*, 25(2):557–592, April 2022. ISSN 1573-6938. doi: 10.1007/s10683-021-09722-x. URL <https://doi.org/10.1007/s10683-021-09722-x>.
- Colin F. Camerer and Robin M. Hogarth. The Effects of Financial Incentives in Experiments: A Review and Capital-Labor Production Framework. *Journal of Risk and Uncertainty*, 19:7–42, 1999.

References: iii

- David Danz, Lise Vesterlund, and Alistair J. Wilson. Belief Elicitation and Behavioral Incentive Compatibility. *American Economic Review*, 112(9): 2851–2883, September 2022. ISSN 0002-8282. doi: 10.1257/aer.20201248. URL <https://www.aeaweb.org/articles?id=10.1257/aer.20201248>.
- Urs Fischbacher and Franziska Föllmi-Heusi. Lies in Disguise—An Experimental Study on Cheating. *Journal of the European Economic Association*, 11(3):525–547, June 2013. ISSN 1542-4766. doi: 10.1111/jeea.12014. URL <https://doi.org/10.1111/jeea.12014>.
- Uri Gneezy. Deception: The Role of Consequences. *American Economic Review*, 95(1):384–394, February 2005. ISSN 0002-8282. doi: 10.1257/0002828053828662. URL <https://pubs.aeaweb.org/doi/10.1257/0002828053828662>.

References: iv

Uri Gneezy and Aldo Rustichini. Pay enough or don't pay at all. *The Quarterly journal of economics*, 115(3):791–810, 2000. URL <https://academic.oup.com/qje/article-abstract/115/3/791/1828156>. Publisher: MIT Press.

David M. Grether. Bayes Rule as a Descriptive Model: The Representativeness Heuristic. *The Quarterly Journal of Economics*, 95(3): 537–557, November 1980. ISSN 0033-5533. doi: 10.2307/1885092. URL <https://doi.org/10.2307/1885092>.

David M. Grether. Testing bayes rule and the representativeness heuristic: Some experimental evidence. *Journal of Economic Behavior & Organization*, 17(1):31–57, January 1992. ISSN 0167-2681. doi: 10.1016/0167-2681(92)90078-P. URL <https://www.sciencedirect.com/science/article/pii/016726819290078P>.

References: v

Simon Gächter and Elke Renner. The effects of (incentivized) belief elicitation in public goods experiments. *Experimental Economics*, 13(3): 364–377, September 2010. ISSN 1573-6938. doi: 10.1007/s10683-010-9246-4. URL <https://doi.org/10.1007/s10683-010-9246-4>.

Glenn W. Harrison. Hypothetical surveys or incentivized scoring rules for eliciting subjective belief distributions. *Center for Economic Analysis of Risk Working Paper Series, Robinson College of Business, Georgia State University*, 2014. URL https://cear.gsu.edu/files/2014/02/WP_2014_05_Hypothetical-Surveys-Or-Incentivized-Scoring-Rules-for-Eliciting-Subj.pdf.

- Guillaume Hollard, Sébastien Massoni, and Jean-Christophe Vergnaud. In search of good probability assessors: an experimental comparison of elicitation rules for confidence judgments. *Theory and Decision*, 80(3): 363–387, March 2016. ISSN 1573-7187. doi: 10.1007/s11238-015-9509-9. URL <https://doi.org/10.1007/s11238-015-9509-9>.
- Sébastien Massoni, Thibault Gajdos, and Jean-Christophe Vergnaud. Confidence measurement in the light of signal detection theory. *Frontiers in Psychology*, 5, December 2014. ISSN 1664-1078. doi: 10.3389/fpsyg.2014.01455. URL <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2014.01455/full>. Publisher: Frontiers.
- Lawrence D. Phillips and Ward Edwards. Conservatism in a simple probability inference task. *Journal of Experimental Psychology*, 72(3): 346–354, 1966. ISSN 0022-1015. doi: 10.1037/h0023653. Place: US Publisher: American Psychological Association.

References: vii

- E. Elisabet Rutström and Nathaniel T. Wilcox. Stated beliefs versus inferred beliefs: A methodological inquiry and experimental test. *Games and Economic Behavior*, 67(2):616–632, November 2009. ISSN 0899-8256. doi: 10.1016/j.geb.2009.04.001. URL <https://www.sciencedirect.com/science/article/pii/S0899825609000591>.
- Robert Slonim and Alvin E. Roth. Learning in High Stakes Ultimatum Games: An Experiment in the Slovak Republic. *Econometrica*, 66(3):569–596, 1998. ISSN 0012-9682. doi: 10.2307/2998575. URL <https://www.jstor.org/stable/2998575>. Publisher: [Wiley, Econometric Society].
- Vernon L. Smith. Microeconomic Systems as an Experimental Science. *The American Economic Review*, 72(5):923–955, 1982. ISSN 0002-8282. URL <https://www.jstor.org/stable/1812014>. Publisher: American Economic Association.

References: viii

Joep Sonnemans and Theo Offerman. Is the Quadratic Scoring Rule really incentive compatible? Technical report, Citeseer, 2001. URL

<https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=6949970021e7d27f653a795701320a96c3a5a810>.

Stefan T. Trautmann and Gijs van de Kuilen. Belief Elicitation: A Horse Race among Truth Serums. *The Economic Journal*, 125(589):2116–2135,

December 2015. ISSN 0013-0133. doi: 10.1111/eoj.12160. URL <https://academic.oup.com/ej/article/125/589/2116/5078098>. Publisher: Oxford Academic.

Stephanie W. Wang. Incentive effects: The case of belief elicitation from individuals in groups. *Economics Letters*, 111(1):30–33, April 2011. ISSN 0165-1765. doi: 10.1016/j.econlet.2010.11.045. URL <https://www.sciencedirect.com/science/article/pii/S0165176510004180>.

References: ix

- Louis L. Wilde. On the Use of Laboratory Experiments in Economics. In Joseph C. Pitt, editor, *Philosophy in Economics: Papers Deriving from and Related to a Workshop on Testability and Explanation in Economics held at Virginia Polytechnic Institute and State University, 1979*, pages 137–148. Springer Netherlands, Dordrecht, 1981. ISBN 978-94-009-8394-6. doi: 10.1007/978-94-009-8394-6_9. URL https://doi.org/10.1007/978-94-009-8394-6_9.
- William F Wright and Mohamed E Aboul-Ezz. Effects of extrinsic incentives on the quality of frequency assessments. *Organizational Behavior and Human Decision Processes*, 41(2):143–152, April 1988. ISSN 0749-5978. doi: 10.1016/0749-5978(88)90023-4. URL <https://www.sciencedirect.com/science/article/pii/0749597888900234>.

References: x

William F Wright and Urton Anderson. Effects of situation familiarity and financial incentives on use of the anchoring and adjustment heuristic for probability assessment. *Organizational Behavior and Human Decision Processes*, 44(1):68–82, August 1989. ISSN 0749-5978. doi: 10.1016/0749-5978(89)90035-6. URL <https://www.sciencedirect.com/science/article/pii/0749597889900356>.