

Zero-Sum Beliefs about Taboo Transactions

*Dean Baltiansky

ORCID: 0000-0002-6537-8384

Columbia Business School

Management Division

665 West 130th Street,

New York, NY 10027 USA

dean.baltiansky@columbia.edu

Shai Davidai

ORCID: 0000-0001-7492-8838

Columbia Business School

Management Division

665 West 130th Street,

New York, NY 10027

shai.davidai@columbia.edu

*Corresponding author

**This manuscript has not been peer-reviewed

Materials, analysis scripts, data sets, and supplementary analyses can be found at:

https://osf.io/p6xj3/?view_only=09b6fba4cdb54e7bb890c0230944736c

Preregistrations can be found at: https://aspredicted.org/LMY_V6P (Study 1B);

https://aspredicted.org/RFV_GRT (Study 1C); https://aspredicted.org/CTF_8T4 (Study 2); and

https://aspredicted.org/TBC_GZS (Study 3B).

Public significance

As market dynamics increasingly spread into everyday interpersonal interactions and online marketplaces, it is imperative to understand the divergence between standard economic theory and folk economic beliefs. Using taboo transactions as a case study of such folk beliefs, we examine when and why lay people believe that voluntary economic transactions are harmful to at least one of the involved parties. We find that lay people perceive information availability and the capacity to engage in rational cost-benefit analysis as crucial to economic actors' power and, consequently, their ability to benefit from the transactions in which they engage. Our work emphasizes the importance of folk economic beliefs in considering the impact of policies and regulations on individual actors and highlights lay people's sensitivity to power dynamics in questionable economic transactions.

Abstract

Economic theory suggests that voluntary transactions conducted by fully informed actors must, by definition, benefit all parties. Lay people, however, may not view all voluntary transactions as such. In a series of six experimental studies ($N = 1,817$; four studies pre-registered), we examine when and why lay people believe that voluntary economic transactions are harmful to at least one of the involved parties. Focusing on folk economic beliefs about *taboo transactions*—morally laden economic transactions that violate people’s sacred values—we find that while standard economic transactions are viewed as benefitting both buyers and sellers, lay people view taboo transactions as zero-sum, benefitting buyers at their sellers’ expense. Furthermore, we find the perceived power advantage of buyers over their sellers explains why people view taboo transactions as zero-sum. Finally, focusing on the inferences people make about the mental states of sellers who engage in taboo transactions, we find that inferred lack of rationality and information account for lay beliefs about such transactions. Specifically, we find that when sellers of taboo goods or services are both fully informed and fully capable of conducting a rational cost-benefit analysis about of the potential risks involved in their transaction, they are no longer seen as harmed by it. We conclude with a discussion of folk economic beliefs, the role of perceived power imbalance between economic actors, and potential policy implications.

Imagine your friend needs a pickup truck. They have the money to pay for one but cannot find a truck that matches their needs. Trying to help, you scour the internet and find the perfect match. Better yet, when you contact the seller, it turns out they need the money as soon as possible. So, you quickly call your friend, who is excited to finally get a new truck.

Now, imagine that instead of a new truck, your friend needs a new kidney. They have the money to pay for one but cannot find the right match. So, just as you would with the truck, you find someone who is a perfect match for your friend and needs the money as soon as possible. You quickly call your friend, who is relieved to finally get a new kidney.

Stripped of any moral implications, these transactions are almost identical. Both involve a buyer in need of a good, a seller in need of cash, and a market mechanism designed for voluntary economic exchanges. To the extent that both the buyer and the seller are acting according to their self-interest, economic theory suggests that they are both poised to leave the exchange better-off than before (Mas-Colell, Whinston, & Green, 1995). Yet, despite the similarities between these two transactions, they nonetheless *feel* different. Economic theory notwithstanding, kidneys are not pickup trucks and selling one feels very different from selling the other. Thus, we examine the following question: Do people believe that buying a kidney, as opposed to a pickup truck, benefits the buyer at the seller's expense? More generally, do people view standard economic transactions differently than they view seemingly taboo transactions?

The answer to this question seems to lie in the divergence between standard economic theory and lay people's folk economic beliefs. Although microeconomic theory suggests that voluntary transactions between fully informed and rational actors are inherently *non-zero-sum* (i.e., making all parties better-off, or at least not worse-off, than before), lay beliefs about the economy suggest otherwise (Boyer & Petersen, 2017; Leiser & Shemesh, 2018; Rubin, 2003)

and this may be especially true when economic transactions involve seemingly sacred issues (Tetlock et al., 2000). Consequently, people may view both buyers and sellers as benefitting from *standard* economic transactions (e.g., buying a truck), yet the same may not be true regarding transactions that violate their sacred values (e.g., buying a kidney). We predict that people view economic transactions that involve such violations as creating a power imbalance between buyers and sellers and, as a result, view buyers in such transactions as benefitting at their sellers' expense. Put differently, while both parties in a given economic exchange are theoretically prone to benefit, people may view taboo economic transactions as harmful to certain parties' material and mental wellbeing and thus failing to maximize their welfare.

Theoretical Background

Based on past research, we define taboo transactions as economic exchanges that violate sacred values, elicit strong visceral reactions, and infringe on people's "deeply held normative intuitions about the integrity [...] of certain forms of relationship" (Fiske & Tetlock, 1997; p. 256; Tetlock, 2003; Tetlock et al., 2000). Often, such transactions are conducted in "repugnant marketplaces"—economic markets that are viewed as risky to at least one party, invoke moral disgust, and involve incommensurate monetary compensation (Leuker, Samartzidis, & Hertwig, 2021; Roth, 2007). For instance, people often view buying kidneys as immoral (Leider & Roth, 2010), paid clinical trials as overly risky (Leuker et. al, 2020), and paying for sexual services as societally harmful (Satz, 2010). Yet, despite these beliefs, people are willing to accept taboo transactions when doing so addresses societal problems (Elias, Lacetra, & Macis, 2015) or benefits potential buyers (Elias, Lacetra, & Macis, 2016).

Of course, whether an economic transaction is assumed to be taboo is inherently subjective and thus varies by time, place, and culture (Fiske & Tetlock, 1997). Nevertheless,

certain boundaries exist in regards to whether a transaction is deemed ‘taboo.’ First, since taboo transactions vary in their legal standing and some transactions can be concurrently legal *and* taboo (e.g., legalized prostitution; Roth, 2007), we examine lay beliefs about both legal and illegal economic transactions that are typically deemed as taboo. Second, although taboo transactions may sometimes involve some level of physical or mental harm, not all harmful transactions are inherently taboo (e.g., purchasing contaminated food) and not all taboo transactions are inherently harmful (e.g., purchasing citizenship). Accordingly, we examine lay beliefs about economic transactions that vary substantially in whether they involve any potential harm to either of the involved parties. Finally, while established organizations may sometimes engage in questionable economic transactions (e.g., selling academic degrees), taboo transactions typically occur in covert marketplaces between consenting individuals, and therefore we focus on lay beliefs about taboo transactions between individuals rather than organizations. Thus, regardless of their legal standing and the harm they may or may not exact, we examine whether and why people perceive taboo transactions as inherently harmful to those who engage in them.

The intuitive rejection of taboo economic exchanges suggests that people may not see such transactions as beneficial for all involved parties. In contrast to the theoretical assumption that individuals act in their self-interest to maximize personal utility (Pareto, 1906/2014), taboo transactions are often seen as unjust (Leuker et al., 2021), suggesting that lay people may see such transactions as failing to maximize both parties’ welfare by making at least one party worse-off. Thus, breaking from standard economic assumptions, people may fail to view taboo transactions as “win-win,” and instead view them as benefitting some parties at their counterparts’ expense. How, then, do people view the impact of taboo economic transactions?

On one hand, people may view taboo transactions just as they view standard economic transactions. Although economic behaviors are rarely motivated by pure, narrow self-interest, many people often see them as such (Critcher & Dunning, 2011; DiMaggio & Goldberg, 2018; Frank, Gilovich, & Regan, 1993; Ng & Tseng, 2008; Miller, 1999). Accordingly, because self-interested individuals are assumed to exclusively engage in transactions that benefit them, such belief in narrow self-interest may lead people to view *any* voluntary transaction as necessarily beneficial for all involved parties, irrespective of the nature of the involved goods or services. Thus, lay beliefs in the power of self-interest may foster a view of *any* economic transaction—including taboo transactions—as inherently non-zero-sum (i.e., mutually beneficial).

On the other hand, people sometimes fail to see how even *standard* economic exchanges benefit all parties, and this tendency may be amplified when it comes to taboo transactions. For instance, Johnson, Zhang, and Keil (2022) found that a substantial portion of participants viewed even standard, everyday economic transactions (e.g., buying a car at a dealership, getting a haircut at a barbershop) as *zero-sum*. Thus, given that even folk beliefs about standard economic exchanges do not always conform to economic theory, lay beliefs about morally laden taboo transactions may be especially prone to violate such assumptions.

We propose that people view the impact of taboo transactions as asymmetrical, with buyers benefitting at their sellers' expense. Given that taboo transactions involve seemingly “priceless” goods and services, they cannot be adequately priced and are therefore, by definition, invaluable. Accordingly, even when they voluntarily do so, an individual who sells an otherwise “priceless” good or service may be seen as inevitably harmed, as they are deemed to give up something that is worth immeasurably more than whatever monetary compensation they receive in exchange. And, since taboo transactions tend to involve morally laden goods and services, an

individual who sells such goods and services may be seen as giving up part of *who they are*, not just what they own or do (Sandel, 2012). In contrast, buyers in taboo transactions may not be seen as giving up anything of unique value and may thus be seen as they would be in otherwise standard transactions. Thus, while sellers in taboo transactions give up something that is deemed incommensurate with the monetary compensation they receive and may therefore be viewed as being by the economic exchange, the same may not be true for buyers in such transactions.

Building on this research, we examine whether people see taboo transactions as zero-sum. Specifically, we investigate whether people believe that buyers in taboo transactions benefit at sellers' expense. We predict that even when considering voluntary exchanges (i.e., neither party is forced to participate), people will see buyers, but not sellers, as being made better off.

Hypothesis 1: People believe that taboo economic exchanges benefit buyers at their sellers' expense (i.e., zero-sum).

Why might people view taboo transactions as benefitting buyers at their sellers' expense? One reason may lie in the perceived power imbalance between buyers and sellers (Mannix & Neale, 1994; Molm, Quist, & Wiseley, 1993). Power imbalances in dyadic transactions tend to occur when one party has control over a valuable resource (Emerson, 1962) while its counterpart lacks viable alternatives (Schaerer, Schweinsberg, & Swaab, 2018; Schaerer, Teo, Madan, & Swaab, 2020). Accordingly, since lay people may have a difficult time reasoning why someone would voluntarily engage in a taboo transaction, they may infer that sellers in such transactions suffer from a lack of viable alternatives which forces them to accept economic proposals that they wouldn't otherwise accept (Hill, 1994). As such, it is not surprising that people tend to view taboo transactions as inherently exploitative (Leuker et al., 2021), suggesting a perceived power imbalance between different parties in repugnant markets. That is, to the extent that lay people

view sellers in taboo transactions as lacking alternatives to the economic exchange, they may believe that the transaction itself creates a power imbalance between buyers and sellers. Consequently, regardless of whether a power imbalance actually exists between buyers and sellers and irrespective of whether buyers and sellers voluntarily engage in the transaction, we argue that the *subjective perception* of a power imbalance likely affects lay beliefs about taboo economic transactions. As such, we predict that the belief that taboo transactions benefit buyers at their sellers' expense is due to a perceived power imbalance between both parties. Importantly, we examine whether this is the case even when both parties voluntarily agree, and equally desire, to engage in the transaction (e.g., when one party is in desperate need of a kidney and the other party is in desperate need of cash).

Hypothesis 2: Perceived power imbalance explains the belief that taboo economic exchanges benefit buyers at their sellers' expense.

Countering people's intuitions regarding the perceived power imbalance in taboo transactions requires exploring the attributions they make about the buyers and sellers who engage in them. First, even when both parties voluntarily engage in such economic exchanges, the fact that sellers give up a seemingly invaluable good or service may lead people to believe that they lack some critical information about the potential risks involved in such transactions (Ambuehl & Ockenfels, 2017). Indeed, gathering sufficient information for effective decision-making is difficult (Urbina & Ruiz-Villavarde, 2019), and this may be especially true for taboo transactions, whose consequences tend to be uncertain and to only materialize long after the fact. Consequently, people may view an inherent power imbalance in taboo transactions because of their belief that sellers who engage in them are *insufficiently informed* about the impact of their decision. In fact, since people who enter economic transactions with an

information disadvantage often feel short-changed (Vohs, Baumeister, & Chin, 2007) and see the other side's as gaining at their expense (Bhattacharjee, Dana, & Baron, 2017), it is not surprising that mandatory information-sharing is often used as harm-reduction mechanism in repugnant markets (Ambuehl & Ockenfels, 2017). Thus, we argue that emphasizing that sellers in taboo transactions are fully informed about the involved risks may counter lay people's intuitions about the power imbalance in such transactions.

Second, even when sufficient information about the risks of taboo transactions is readily available, people may still believe that sellers in such transactions are incapable of processing such information rationally. Indeed, given the "bounded rationality" of lay judgments (Simon, 1955; Tversky and Kahneman, 1974), it is not surprising that people attribute others' cognitive shortcomings to seemingly faulty decision-making (Pronin, Lin, & Ross, 2002; Scopelliti et al., 2015). Accordingly, viewing sellers in taboo transactions as merely irrational may help explain why such transactions are seen as inherently prone to power imbalances. In contrast, we argue that emphasizing sellers' ability to engage in rational cost-benefit analysis may counter such perceived power imbalances.

Importantly, viewing sellers in taboo transactions as both sufficiently informed about the risks and consequences of such transactions and as sufficiently capable of rationally processing this information may increase their perceived agency in the economic exchange. And, since people tend to ascribe harm to individuals who lack agency and view them as moral patients rather than moral agents (Gray, Young, & Waytz, 2012), emphasizing the perceived agency of sellers in taboo transactions may alleviate their perceived harm. As such, we predict that viewing sellers in taboo transactions as both sufficiently informed and sufficiently able to process this

information rationally will alleviate any perceived power imbalance between buyers and sellers and thus affect lay beliefs about such transactions.

Hypothesis 3a: Emphasizing that sellers are informed and capable of rational cost-benefit analyses eliminates the perceived power imbalance in taboo economic exchanges.

Hypothesis 3b: Emphasizing that sellers are informed and capable of rational cost-benefit analyses eliminates the belief that taboo economic exchanges benefit buyers at their sellers' expense.

Overview of the Current Research

Six studies examine lay beliefs about taboo transactions. Studies 1A-1C examine whether people believe that taboo (but not standard) economic exchanges benefit buyers at their sellers' expense and whether this is true even when no potential health risks are involved. Following, Study 2 examines the role of perceived power imbalance in explaining lay beliefs about taboo transactions. Finally, to examine the causal role of perceived power imbalance in lay beliefs about taboo transaction, Studies 3A and 3B manipulate the extent to which participants view sellers in such transactions as sufficiently informed and capable of rational decision making. All sample sizes were determined in advance and analyses were conducted after data collection was complete. Materials, data, analysis scripts, and preregistrations are available through the Open Science Framework: https://osf.io/p6xj3/?view_only=09b6fba4cdb54e7bb890c0230944736c

Studies 1A and 1B

We begin by examining whether people see taboo transactions as benefitting one party at another party's expense (i.e., zero-sum). Participants read about a series of economic exchanges that either involved seemingly taboo transactions (e.g., buying a kidney, selling a doctor's

appointment) or equivalent, non-taboo transactions (e.g., buying a car, selling a concert ticket) and indicated the extent to which the buyers and sellers benefited from each transaction.

Method

Participants

Two hundred one participants, recruited through Amazon's Mechanical Turk, completed Study 1A (88 women, 113 men; 149 White, 17 Black, 18 Asian, 8 Hispanic/Latinx, 9 multiracial; \$40k-\$60k median income). An independent sample of 200 participants, recruited from the same platform, completed Study 1B (91 women, 108 men, 1 other; 144 White, 19 Black, 15 Asian, 10 Hispanic/Latinx, 10 multiracial; $M_{age} = 38$; \$40k-\$60k median income), a preregistered replication (https://aspredicted.org/LMY_V6P). These sample sizes, determined based on observed effect sizes in pilot data (Studies S1A-S1D in the Supplemental Material), allow 80% power to detect an effect size as small as $f = .10$.

Materials and Procedure

Participants read about various economic exchanges and were randomly assigned to one of two conditions. In the *Taboo Transactions* condition, participants read about five repugnant economic exchanges, involving the purchase of goods and services typically considered to be abhorrent or immoral (e.g., buying a kidney, buying someone's timeslot for a doctor's appointment; Sandel, 2013; Tetlock et al., 2000). In the *Standard Economic Transactions* condition, participants read about five equivalent economic exchanges of everyday goods and services that are not considered immoral (e.g., buying a car, buying someone's concert ticket). The economic exchanges in both conditions were designed to be as comparable as possible, with the only difference being in whether they were considered 'taboo.' For instance, whereas participants in the *Taboo Transactions* condition read about an individual who paid someone to

store hazardous chemicals in their apartment, those in the *Standard Economic Transactions* condition read about an individual who paid someone to store old furniture in it (Appendix A).

Participants rated how much the buyer and the seller benefitted from each transaction. Specifically, participants indicated on two separates scales the extent to which the buyer and the seller were made better or worse off by each transaction (-3 = *Much worse off than before* to 3 = *Much better off than before*; Buyers: $\alpha_{1A} = .81$, $\alpha_{1B} = .77$; Sellers: $\alpha_{1A} = .88$, $\alpha_{1B} = .84$). Finally, participants reported their political ideology, gender, ethnicity, education, and household income.

Results

First, we examined the perceived impact of the different types of economic exchanges by conducting a 2x2 mixed-model ANOVA with party (*Seller* vs. *Buyer*) as a within-participant factor and condition (*Taboo Transaction* vs. *Standard Economic transaction*) as a between-participant factor. In both studies, these analyses revealed two significant main effects of condition (Study 1A: $F(199) = 117.26, p < .001$; Study 1B: $F(198) = 110.62, p < .001$) and party (Study 1A: $F(199) = 303.55, p < .001$; Study 1B: $F(198) = 393.33, p < .001$) which were qualified by significant interactions (Study 1A: $F(199) = 165.44, p < .001$; Study 1B: $F(198) = 186.21, p < .001$). Thus, participants' beliefs about the impact of economic transactions on buyers and sellers hinged on the nature of the transactions (i.e., whether they were considered "taboo").

We probed these interactions with a series of Bonferroni-corrected post-hoc comparisons. As shown in Figure 1, participants in Study 1A believed that buyers benefit equally from taboo transactions ($M = 1.91, SD = .85$) and standard economic exchanges ($M = 1.70, SD = .94$), $F(199) = 2.88$, adjusted $p = .182$, $\eta^2 G = .014$. In contrast, despite reading that they voluntarily engaged in these economic exchanges, participants viewed sellers who engaged in taboo

transactions as having been made significantly worse off ($M = -.93$, $SD = 1.13$) than those who sold more standard economic goods or services ($M = 1.27$, $SD = .77$), $F(199) = 265.19$, adjusted $p < .001$, $\eta^2 G = .571$. Moreover, one-sample t-tests comparing responses to the mid-point (0) revealed that participants believed that *buyers* benefit from both taboo exchanges ($t(93) = 21.82$, $p < .001$, $d = 2.25$) and standard economic exchanges ($t(106) = 18.71$, $p < .001$, $d = 1.81$), but that sellers *only* benefit from standard economic exchanges ($t(106) = 17.10$, $p < .001$, $d = 1.65$) and not from taboo exchanges ($t(93) = -7.96$, $p < .001$, $d = -.82$).

We found similar results in Study 1B. Although participants believed that buyers benefit equally from taboo transactions ($M = 1.94$, $SD = .67$) and standard economic transactions ($M = 1.76$, $SD = .89$), $F(198) = 2.39$, adjusted $p = .248$, $\eta^2 G = .012$, they thought that sellers benefitted less from taboo transactions ($M = -.78$, $SD = 1.05$) than standard exchanges ($M = 1.27$, $SD = .73$), $F(198) = 254.71$, adjusted $p < .001$, $\eta^2 G = .563$. As before, one-sample t-tests revealed that participants saw buyers a benefitting from both taboo ($t(98) = 28.66$, $p < .001$, $d = 2.88$) and standard ($t(100) = 19.83$, $p < .001$, $d = 1.97$) exchanges, but sellers as only benefitting from standard exchanges ($t(100) = 17.45$, $p < .001$, $d = 1.74$) but not from taboo exchanges ($t(98) = -7.34$, $p < .001$, $d = -.74$). Thus, although lay beliefs about standard economic transactions conformed to the economic principle that voluntary exchanges make both parties better off, participants viewed taboo transactions as benefitting buyers at sellers' expense (i.e., zero-sum).

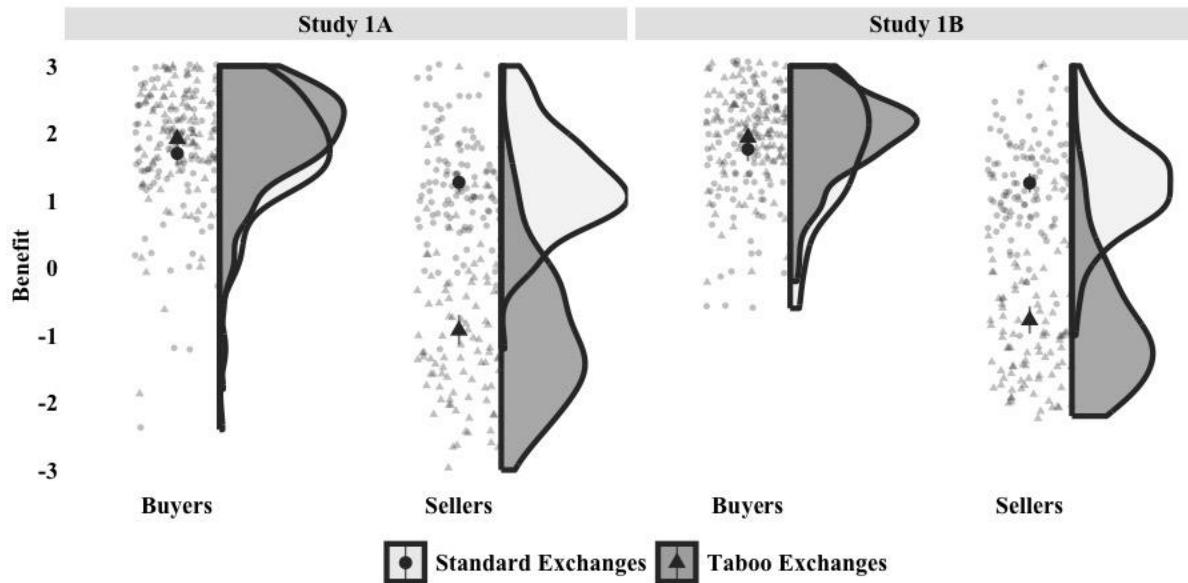


Figure 1. Lay beliefs about the perceived impact of taboo and standard economic transactions (Studies 1A and 1B). Error bars indicate 95% confidence intervals.

Study 1C

Participants believed that taboo transactions benefit buyers at their sellers' expense.

Study 1C is a pre-registered conceptual replication (https://aspredicted.org/RFV_GRT) with a novel set of transactions. Specifically, we examined whether participants view taboo transactions that do not involve physical or health risks (e.g., paying someone to break a religious edict) as benefitting buyers at their sellers' expense.

Method

Participants

Two hundred two participants were recruited through Cloud Research's Connect platform (98 women, 100 men, 4 other; 159 White, 14 Black, 11 Asian, 9 Hispanic/Latinx, 8 multiracial; $M_{age} = 40$; \$60k-\$80k median income), allowing 80% power to detect an effect size as small as $f = .10$.

Materials and Procedure

Participants were randomly assigned to one of two conditions in which they read about a buyer and a seller who engaged in different economic transactions. Unlike Studies 1A and 1B, the taboo transactions did not involve any physical or health risks. Participants in the *Taboo Transactions* condition read about two economic exchanges that are typically seen as morally repugnant but which do not involve any risk: buying a cadaver to study human anatomy and paying someone to break a religious edict. In contrast, participants in the *Standard Economic Transaction* condition read about equivalent, non-taboo transactions (buying a CPR manikin to study human anatomy and paying someone to store furniture in their apartment; Appendix B). As before, participants indicated the extent to which each transaction benefitted the buyer and the seller (Buyers: $r = .38$; Sellers: $r = .48$). Finally, they reported their political ideology, gender, ethnicity, education, and household income.

Results

We predicted that participants would view taboo economic transactions, but not standard economic transactions, as benefitting buyers at their sellers' expense. Indeed, as in Studies 1A and 1B, a 2x2 mixed-model ANOVA with party (*Seller* vs. *Buyer*) as a within-participant factor and condition (*Taboo Transaction* vs. *Standard Economic transaction*) as a between-participant factor revealed two significant main effects of condition ($F(2,200) = 81.83, p < .001$) and party ($F(2,200) = 95.17, p < .001$) that were qualified by a significant interaction ($F(2,200) = 97.26, p < .001$). Thus, even when the taboo economic transactions did not involve any specific risk, participants believed that engaging in them benefits buyers at sellers' expense.

As before, a series of Bonferroni-corrected post-hoc comparisons found that participants viewed buyers as benefitting equally from taboo transactions ($M = 1.53, SD = 1.19$) and standard economic transactions ($M = 1.75, SD = .95$), $F(2,200) = 2.01$, adjusted $p = .158$, $\eta^2 G = .316$. In

contrast, participants saw sellers of taboo goods and services as significantly more likely to be harmed ($M = -.28$, $SD = 1.31$) than sellers of standard goods and services ($M = 1.75$, $SD = .90$), $F(200) = 165.92$, adjusted $p < .001$, $\eta^2 G = .453$. Thus, despite reading about taboo transactions that did not involve any physical or health risks, participants believed that the buyers at least partially benefited the at their seller's expense.

Study 2

Participants in Studies 1A-1C believed that taboo transactions benefit buyers at sellers' expense. Study 2 examines a potential reason for this phenomenon: perceived power imbalance. Specifically, we examine whether people view buyers in taboo transactions as having substantially more power than their sellers and, as result, believe that the former benefit at the latter's expense.

Method

Participants

Two hundred one participants were recruited to complete a pre-registered study (https://aspredicted.org/CTF_8T4) via Connect by CloudResearch. Of these, 194 participants passed an attention check (86 women, 101 men, and 7 others; 141 White, 14 Black, 14 Asian, 10 Hispanic/Latinx, 11 multiracial, and 4 others; $M_{age} = 38$; \$60k-\$80k median income), providing 80% power to detect effect sizes as small as $f = .10$.

Materials and Procedure

Participants were randomly assigned to read about a taboo exchange (*Taboo Transaction* condition) or an everyday exchange (*Standard Economic Transaction* condition). In the *Taboo Transaction* condition, participants read about a buyer who paid someone money to store potentially hazardous chemicals in their apartment. In the *Standard Economic Transaction*

condition, participants read about a buyer who paid someone money to store furniture in their apartment.¹ Participants then indicated, in counterbalanced order, the extent to which they believe that the buyer and the seller benefitted from the transaction (see Studies 1A-1C) as well as the extent to which they perceived a power imbalance between the two parties (-3 = *Person A has much more power* to 3 = *Person B has much more power*). Finally, participants completed an attention check, asking them to report the roles of the two individuals in the transaction.

Results

Replicating Studies 1A-1C, a 2x2 mixed-model ANOVA revealed a significant main effect of condition ($F(192) = 13.32, p < .001$) and party ($F(192) = 40.48, p < .001$) on perceived benefit which were qualified by a significant interaction ($F(192) = 98.68, p < .001$). Bonferroni-corrected post-hoc comparisons found that participants viewed buyers as benefitting more from taboo transactions ($M = 1.77, SD = 1.22$) than standard economic transactions ($M = .95, SD = 1.21$), $F(192) = 22.02$, adjusted $p < .001$, $\eta^2 G = .103$. In contrast, participants saw sellers in the *Taboo Transaction* condition as being made significantly worse off ($M = -.39, SD = 1.85$) than sellers in the *Standard Economic Transaction* condition ($M = 1.42, SD = .77$), $F(192) = 78.87$, adjusted $p < .001$, $\eta^2 G = .291$. As before, one-sample t-tests compared to the mid-point (0) found that buyers were seen as benefiting from both the taboo exchange ($t(98) = 14.43, p < .001, d = 1.45$) and the standard economic exchange ($t(94) = 7.60, p < .001, d = .78$), but that sellers were only seen as benefiting from the standard exchange ($t(94) = 18.08, p < .001, d = 1.86$) but as being substantially harmed from the taboo exchange ($t(98) = -2.12, p = .018, d = -.21$).

We next examined the effect of condition on the perceived power imbalance between buyers and sellers. One sample t-tests compared to the scale's mid-point (0) revealed that while

¹ These transactions were selected based on the results of a previous study (Study S2 in the Supplementary Materials) which revealed significant between-transaction variability in the perceived power of buyers and sellers.

sellers in the standard economic transaction were seen as having more power than their buyers ($M = .99$, $SD = 1.01$), $t(94) = 9.59$, $p < .001$, $d = .98$, sellers in the taboo economic transaction were seen as having significantly *less* power than their buyers ($M = -.39$, $SD = 1.73$), $t(98) = -2.27$, $p = .025$, $d = -.23$. Importantly, this perceived power imbalance between buyers and sellers was significant, $t(158.89) = 6.86$, $p < .001$, $d = .97$, suggesting that the nature of the economic transaction affected participants' perceptions of who had more power in it (Figure 2).

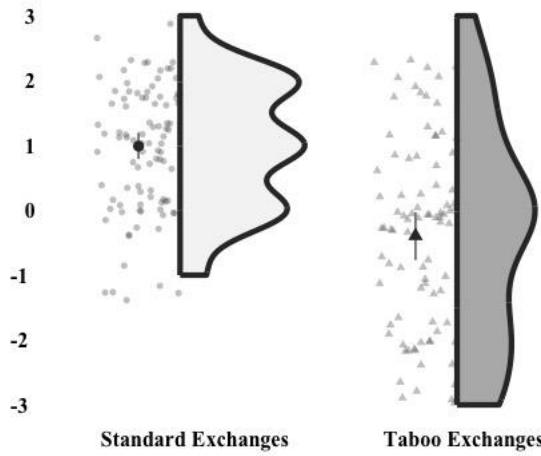


Figure 2. Perceived power imbalance between buyers and sellers. Negative values on the y-axis indicate more power to the buyer and positive values indicate more power to the seller. Error bars indicate 95% confidence intervals.

Finally, we examined whether perceived power imbalance accounts for the effect of transaction type on the perceived benefit to the seller. Indeed, a 10,000-bootstrapped mediation analysis revealed that perceived power explains more than a third of the shared variance between condition (*Standard Economic Transactions* = 0; *Taboo Transactions* = 1) and participants' beliefs about the seller's benefit (direct effect: $b = -1.81$, $p < .001$; indirect effect: $b = -1.22$, $p < .001$; $b_a = -1.38$, $p_a < .001$; $b_b = .43$, $p_b < .001$). Thus, a meaningful portion of the effect of taboo transactions on the perceived benefit to sellers was due to the perceived power imbalance between buyers and sellers.

Studies 3A and 3B

Diverging from standard economic theory, Studies 1 and 2 found that people view sellers who voluntarily engage in taboo transactions as being harmed by their decision to do so and that this belief is at least partially explained by the perceived power imbalance between buyers and sellers. Studies 3A and 3B examine the causal role of perceived power imbalance in perceptions of taboo economic exchanges. Specifically, they examine whether emphasizing that sellers are sufficiently informed and capable of rational cost-benefit analysis eliminates the perceived power imbalance in taboo economic exchanges and, as a result, the belief that buyers in such transactions benefit at their sellers' expense.²

Method

Participants

Two hundred two participants were recruited to complete Study 3A via Connect by CloudResearch. Of these, 199 passed an attention check (72 women, 124 men, and 3 others; 152 White, 19 Black, 13 Asian, 5 Hispanic/Latinx, 4 multiracial, and 6 others; $M_{age} = 39$; \$60k-\$80k median income). Then, 811 participants were recruited to complete Study 3B as a pre-registered replication via the same platform (https://aspredicted.org/TBC_GZS). Of these, 784 participants passed a preregistered attention check (397 women, 375 men, and 12 others; 550 White, 93 Black, 59 Asian, 32 Hispanic/Latinx, 42 multiracial, and 8 others; $M_{age} = 39$; \$60k-\$80k median income). These sample sizes gave us 80% power to detect effect sizes as small as $f = .22$ (Study 3A) and $f = .11$ (Study 3B).

Materials and Procedure

Participants read about an economic transaction in which a person was paid to store potentially hazardous materials in their apartment and were randomly assigned to one of four

² The Supplementary Materials report findings from an exploratory study (S3A) and a pre-registered replication (S3B) showing that people intuitively view sellers in taboo transactions as insufficiently informed and irrational.

conditions in a 2x2 between-participant design. First, participants were randomly assigned to learn that the seller was either sufficiently informed (*Informed conditions*) or uninformed (*Uninformed conditions*) about the risks and consequences associated with the transactions. In addition, participants were independently assigned to learn that the seller was either capable (*Rational conditions*) or incapable (*Irrational conditions*) of engaging in a rational, cost-benefit analysis regarding the transaction (Appendix C). Participants then completed the attention check from Study 2, a comprehension check regarding the seller's perceived information and rationality, the measures of perceived benefit for the seller from Studies 1A-1C, and the measure of perceived power imbalance from Study 2.³

Results

To begin, we examined the effect of condition on the perceived benefit to the seller in each transaction⁴. As shown in Figure 3, a 2x2 between-subjects ANOVA revealed two main effects of seller rationality (Study 3A: $F(195) = 27.98, p < .001$; Study 3B: $F(780) = 21.53, p < .001$) and information (Study 3A: $F(195) = 15.27, p < .001$; Study 3B: $F(780) = 105.92, p < .001$), qualified by a significant interaction (Study 3A: $F(195) = 5.57, p = .019$; Study 3B: $F(780) = 17.00, p < .001$). As predicted, a planned contrasts analysis revealed that sellers were seen as significantly better off in the *Informed and Rational* condition ($M_{3A} = .56, SD_{3A} = 1.59$; $M_{3B} = .02, SD_{3B} = 1.77$) than the *Uninformed and Rational* condition ($M_{3A} = -.89, SD_{3A} = 1.79$; $M_{3B} = -1.63, SD_{3B} = 1.54$), the *Informed and Irrational* condition ($M_{3A} = -1.21, SD_{3A} = 1.62$; $M_{3B} = -.98, SD_{3B} = 1.61$), or the *Uninformed and Irrational* condition ($M_{3A} = -1.57, SD_{3A} = 1.39$; $M_{3B} = -1.69, SD_{3B} = 1.46$), $t(195)_{3A} = 6.39, b_{3A} = 1.78, SE_{3A} = .28$, adjusted $p_{3A} < .001$, $t(780)_{3B} =$

³ The measures were presented in the described order in Study 3A but were randomized in Study 3B.

⁴ We observed no meaningful effects of condition on buyer benefit (see Appendix S1 in the Supplementary Material)

10.96 , $b_{3B} = 1.45$, $SE_{3B} = .13$, adjusted $p_{3B} < .001$. In addition, there was no difference in perceived sellers' benefit between the *Uninformed and Rational* and the *Uninformed and Irrational* conditions, suggesting that when sellers lacked information, their level of rationality did not affect their perceived benefit, $F(97)_{3A} = 4.25$, adjusted $p_{3A} = .084$, $\eta^2 G_{3A} = .042$, $F(394)_{3B} = .15$, adjusted $p_{3B} = 1.00$, $\eta^2 G_{3B} < .001$. In contrast, post-hoc comparisons between the *Informed and Rational* and the *Uninformed and Rational* conditions revealed a significant difference, suggesting that rational sellers with sufficient information were judged as less harmed than rational sellers who did not possess such information, $F(98)_{3A} = 29.57$, adjusted $p_{3A} < .001$, $\eta^2 G_{3A} = .232$, $F(386)_{3B} = 33.86$, adjusted $p_{3B} < .001$, $\eta^2 G_{3B} = .081$.

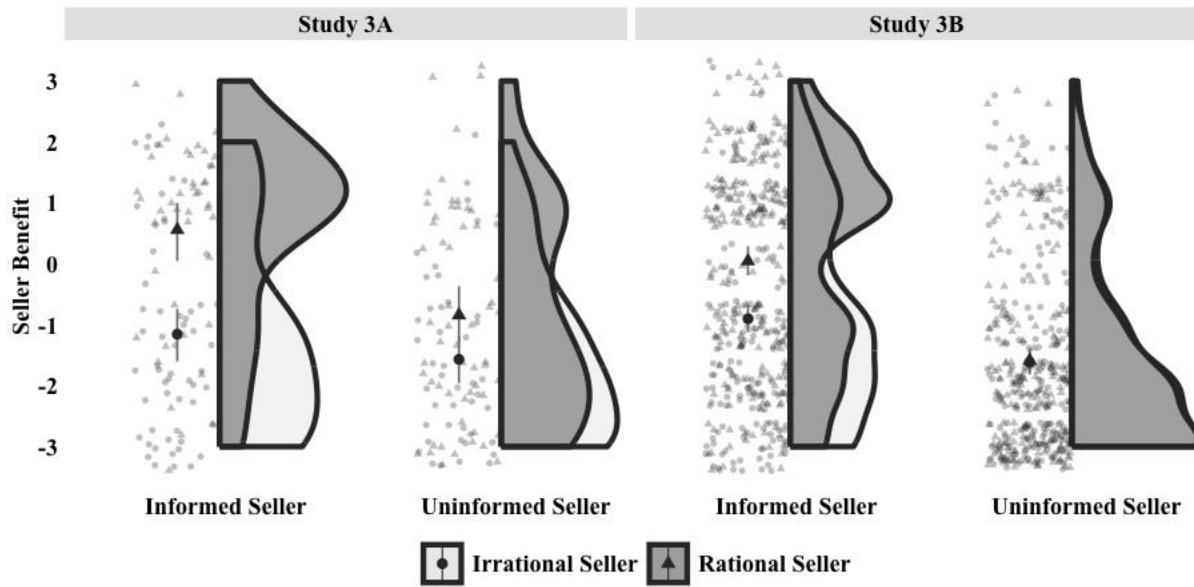


Figure 3. Perceived benefit of sellers in taboo transactions as a function of whether they were informed and rational (Studies 3A and 3B). Data points are jittered for readability. Error bars indicate 95% confidence intervals.

We next examined the effect of condition on the perceived power imbalance between buyers and sellers. As shown in Figure 4, a 2x2 between-subjects ANOVA revealed two main effects of seller rationality (Study 3A: $F(195) = 25.91$, $p < .001$; Study 3B: $F(780) = 44.31$, $p < .001$) and information (Study 3A: $F(195) = 29.73$, $p < .001$; Study 3B: $F(780) = 77.33$, $p < .001$)

which were qualified by significant interactions (Study 3A: $F(195) = 5.31, p = .022$; Study 3B: $F(780) = 13.11, p < .001$). As before, a planned contrast analysis found that sellers were seen as significantly more powerful in the *Informed and Rational* condition ($M_{3A} = .44, SD_{3A} = 1.58$; $M_{3B} = -.01, SD_{3B} = 1.68$) than the *Uninformed and Rational* condition ($M_{3A} = -1.25, SD_{3A} = 1.78$; $M_{3B} = -1.41, SD_{3B} = 1.67$), *Informed and Irrational* condition ($M_{3A} = -1.18, SD_{3A} = 1.45$; $M_{3B} = -1.16, SD_{3B} = 1.54$), or the *Uninformed and Irrational* condition ($M_{3A} = -1.86, SD_{3A} = 1.21$; $M_{3B} = -1.75, SD_{3B} = 1.42$), $t(195)_{3A} = 7.10, b_{3A} = 1.87, SE_{3A} = .26$, adjusted $p_{3A} < .001$, $t(780)_{3B} = 10.97, b_{3B} = 1.44, SE_{3B} = .13$, adjusted $p_{3B} < .001$. Bonferroni-corrected post-hoc comparisons found no difference in perceived power imbalance between the *Uninformed and Rational* and the *Uninformed and Irrational* conditions, suggesting that absent sufficient information, rationality did not affect seller's perceived power, $F(97)_{3A} = 3.76$, adjusted $p_{3A} = .110, \eta^2 G_{3A} = .037$, $F(394)_{3B} = 4.85$, adjusted $p_{3B} = .056, \eta^2 G_{3B} = .012$. In contrast, a comparison of the *Informed and Rational* and the *Uninformed and Rational* conditions found a significant difference, suggesting that rational sellers with sufficient information were seen as more powerful than rational sellers who did not possess such information, $F(98)_{3A} = 29.19$, adjusted $p_{3A} < .001$, $\eta^2 G_{3A} = .223, F(386)_{3B} = 50.28$, adjusted $p_{3B} < .001, \eta^2 G_{3B} = .115$.

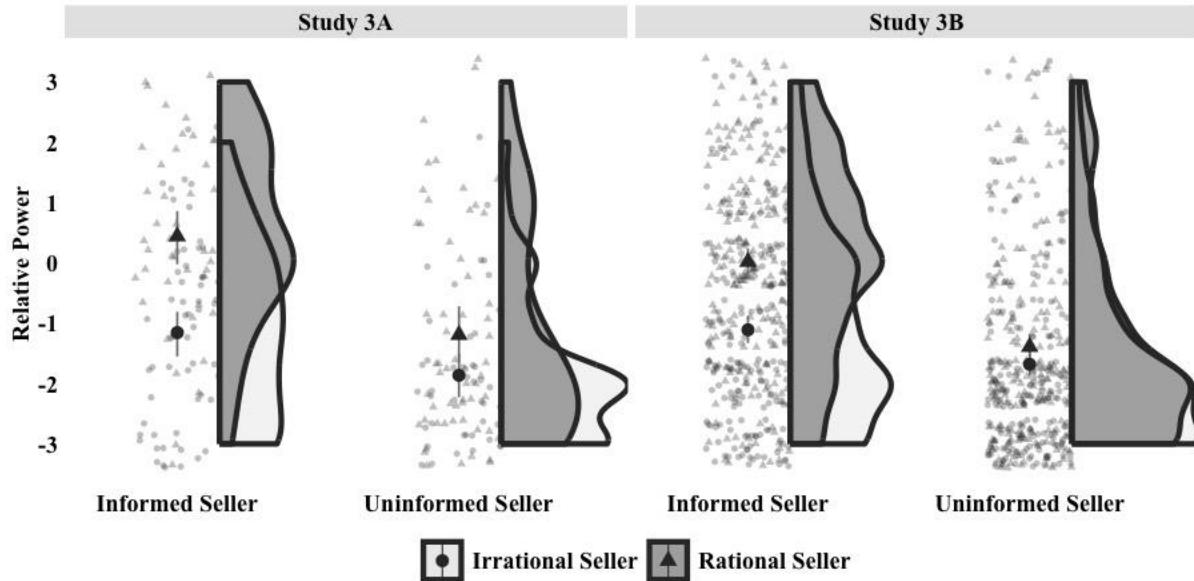


Figure 4. Perceived relative power of sellers in taboo transactions as a function of their information and rationality (Studies 3A and 3B). Higher number on the y-axis indicate greater power to sellers. Data points are jittered for readability. Error bars indicate 95% confidence intervals.

Finally, we examined whether perceived power imbalance accounted for the interactive effect of condition on participants' judgments of the seller's benefit. To that end, we conducted a 10,000-bootstrapped mediation analysis with the interaction term (*Informed x Rational*) as the predictor, perceived seller power as the mediator, and perceived seller benefit as the outcome. This analysis revealed that the perceived power imbalance between the buyer and the seller fully explained the effect of the interaction term on the perceived benefit to seller in Study 3A (total effect: $b = .90, p < .001$; indirect effect: $b = .54, p < .001$; direct effect: $b = .36, p = .120$) and explained almost a third of the variance in Study 3B (total effect: $b = 1.17, p < .001$; indirect effect: $b = .35, p < .001$; direct effect: $b = .82, p < .001$).

General Discussion

How do lay people make sense of taboo economic transactions? Across six studies, we found consistent evidence that people view taboo transactions as benefitting buyers at their

sellers' expense.⁵ In contrast to standard economic transactions, we found that people view taboo transactions as harmful (rather than beneficial) to sellers who engage in them and that this is due, at least partially, to the perceived power imbalance in such transactions. Indeed, while sellers of standard goods and services are seen as having a great deal of power (Johnson et al., 2022), we found that lay people tend to view sellers in taboo transactions as lacking power. Yet, as shown in Studies 3A and 3B, we found that emphasizing that sellers are sufficiently informed and are able to conduct rational cost-benefit analyses about the involved risks reduces this perceived power imbalance. Thus, since people see sellers who voluntary engage in taboo transactions as uninformed and irrational, highlighting that a seller is both informed and rational increases their perceived power and decreases the perceived harm to them.

Theoretical Contribution

In focusing on lay beliefs about taboo transactions, our work contributes to the literature on both folk economic beliefs and the psychology of repugnant markets. While research has focused on why people judge taboo transactions as morally repugnant (Leider & Roth, 2010; Leuker et al., 2021; Tetlock et al., 2000) and when such transactions are seen as unfair (Elias et al., 2016), a question remains regarding the perceived impact of voluntarily engaging in them. Thus, by documenting how lay beliefs about taboo transactions systematically deviate from economic theory, our work emphasizes the importance of understanding public perceptions of economic exchanges and challenges the assumption that voluntary exchanges are always seen as maximizing societal welfare.

⁵ The Supplemental Materials report two robustness checks analyzing the dependent measures as categorical variables (i.e., win-win, win-lose, lose-lose; Appendix S2) and account for within-person variance with random effects models (Appendix S3)

Importantly, while taboo transactions represent an extreme case of economic exchange, systematically studying them can provide insights about folk economic beliefs economic exchanges *in general*. Indeed, just as studying cognitive biases under extreme and often contrived conditions informs our understanding of lay judgments in general (Kahneman, 2011), studying lay beliefs about taboo economic exchanges can inform our understanding of lay beliefs about standard economic exchanges in general. As such, our research suggests that lay people do not intuitively see economic actors as “utility maximizers” but rather as complex social creatures who are influenced by perceived power dynamics in economic exchanges. Just as economic inequality fosters a belief that people inevitably gain at others’ expense (Davidai, 2023), we find that perceived power inequality fosters a belief that buyers gain at their sellers’ expense. More broadly, our research highlights the importance of accounting for perceived inequalities in the study of folk economic beliefs. That is, by focusing on cognitive models of economic markets (Boyer & Petersen, 2018; Leiser & Shemesh, 2018; Rubin, 2003), our work suggests that the literature on folk economic beliefs would benefit from exploring lay beliefs about the context in which transactions occur and the power dynamics that are inherent to them.

Implications and Future Directions

The fact that people view taboo transactions as benefitting buyers at sellers’ expense introduces several fruitful avenues for future research. First, future research would benefit from exploring the bi-directional relationship between the perceived harm of engaging in taboo transactions and people’s moral judgment of them. According to the Theory of Dyadic Morality, moral judgments rely on perceptions of harm, especially as they relate to intentional agents who inflict harm on vulnerable victims (Schein & Gray, 2015; 2018). As a result, viewing taboo transactions as harmful for sellers may foster moral repugnance toward them. At the same time,

the belief that taboo transactions are harmful may follow (rather than precede) moral judgments, helping people rationalize their a-priori negative judgments of them (Haidt, 2001). For example, although selling a kidney involves the same long-term health risks as donating a kidney, the former is clearly seen as less moral than the latter, suggesting that people's moral opprobrium is not easily explained by potential health risks and that such inferences of harm may not necessarily precede their judgments. Thus, future research could examine whether lay beliefs about taboo transactions precede or follow people's moral judgments of them.

Second, our research may open new avenues for studying lay beliefs about public and economic policies. Indeed, by emphasizing the divergence between folk economic beliefs and standard economic theory, our findings highlight the importance of incorporating lay beliefs into existing policies and emphasize when and why people may support such regulations. Since organizations are not always incentivized to reduce their societal harm (Levy et al., 2023) and since market failures sometimes require governmental regulation (Posner, 1974), people tend to view governments as responsible for keeping such harm in check and seek governmental protections when they feel harmed by market forces (Heckathorn & Maser, 1987; Kay et al., 2008). Consequently, people might be more supportive of nonmarket restrictions on economic exchanges that they (rightly or wrongly) view as inflicting harm on its actors.⁶ Thus, since lay beliefs about taboo transactions are due to the perceived power imbalance between buyers and sellers, people may be especially supportive of regulations that target this imbalance (e.g., disclosure of risk-related information at the time of transaction, providing accessible cost-benefit analysis tools for individuals who wish to engage in such transactions, etc.).

⁶ Indeed, in a supplemental study, we find that perceptions of taboo transactions' impact on buyers and sellers explain people's support for regulating them (Study S4 in the Supplemental Materials).

Third, since we examined lay beliefs about taboo transactions absent any information about the monetary value of the involved goods and services, the impact of such information on people's judgments remains an open question. For instance, while people may view the selling of one's kidney as inherently harmful, their beliefs may be moderated by the amount of monetary compensation that sellers receive for engaging in such transactions. At the same time, just as people reject trade-offs that pit their sacred values in exchange of monetary rewards (e.g., Dehghani et al., 2010), they may find material compensation in such transactions as inherently reprehensible regardless of the amount involved. Thus, future research could explore whether people view certain levels of compensation as offsetting the perceived immaterial loss in taboo transactions (e.g., to one's dignity or humanity).

Finally, future research could further explore how the current findings relate to past work on zero-sum beliefs regarding *standard* economic transactions (Johnson et al., 2022). While we found that people see standard economic transactions between *individuals* as mutually beneficial, Johnson and colleagues (2022) found that such transactions are seen as zero-sum when they occur between individuals and formal businesses. Yet, since focusing on businesses may prime people to see gains as zero-sum (e.g., Bhattacharjee et al., 2017), future research could examine lay beliefs about taboo transactions when individuals versus corporate entities are involved. Thus, complementing previous research, our work provides fruitful ground for future research on the erroneous belief that economic transactions are zero-sum.

Conclusion

Building on research on folk economic beliefs (Boyer & Petersen, 2018; Rubin, 2003), our findings are the first to document the divergence of lay beliefs about taboo transactions from standard economic theory. Whereas past research focused on people's emotional reactions to

such transactions (McGraw & Tetlock, 2005; Tetlock, 2003; Leuker et al., 2021) and the implications of their repugnance for market design (Roth & Wang, 2020; Roth, 2018), the current studies find that lay beliefs about taboo transactions defy basic assumptions about the “win-win” nature of economic transactions. In doing so, this work suggests that the study of taboo transactions requires understanding their impact on the parties involved.

References

- Ambuehl, S., & Ockenfels, A. (2017). The ethics of incentivizing the uninformed: A vignette study. *American Economic Review*, 107(5), 91-95. <https://doi.org/10.1257/aer.p20171109>
- Bhattacharjee, A., Dana, J., & Baron, J. (2017). Anti-profit beliefs: How people neglect the societal benefits of profit. *Journal of Personality and Social Psychology*, 113(5), 671-696. <https://doi.org/10.1037/pspa0000093>
- Boyer, P., & Petersen, M. B. (2018). Folk-economic beliefs: An evolutionary cognitive model. *Behavioral and Brain Sciences*, 41, e158. <https://doi.org/10.1017/S0140525X17001960>
- Critchley, C. R., & Dunning, D. (2011). No good deed goes unquestioned: Cynical reconstruals maintain belief in the power of self-interest. *Journal of Experimental Social Psychology*, 47(6), 1207-1213. <https://doi.org/10.1016/j.jesp.2011.05.001>
- Davidai, S. (2023). Economic Inequality Fosters the Belief That Success Is Zero-Sum. *Personality and Social Psychology Bulletin*. <https://doi.org/10.1177/01461672231206428>
- Dehghani, M., Atran, S., Iliev, R., Sachdeva, S., Medin, D., & Ginges, J. (2010). Sacred values and conflict over Iran's nuclear program. *Judgment and Decision Making*, 5(7), 540-546. <https://doi.org/10.1017/S1930297500001704>
- DiMaggio, P., & Goldberg, A. (2018). Searching for Homo economicus: Variation in Americans' construals of and attitudes toward markets. *European Journal of Sociology*, 59(2), 151-189. <https://doi.org/10.1017/S0003975617000558>

- Elias, J. J., Lacetera, N., & Macis, M. (2015). Sacred values? The effect of information on attitudes toward payments for human organs. *American Economic Review*, 105(5), 361-65. <https://doi.org/10.1257/aer.p20151035>
- Elias, J. J., Lacetera, N., & Macis, M. (2016). Efficiency-morality trade-offs in repugnant transactions: A choice experiment. *National Bureau of Economic Research*, WP 22632, <https://doi.org/10.3386/w22632>
- Emerson, R. M. (1962). Power-Dependence Relations. *American Sociological Review*, 27(1), 31-41. <https://doi.org/10.2307/2089716>
- Fiske, A. P., & Tetlock, P. E. (1997). Taboo trade-offs: reactions to transactions that transgress the spheres of justice. *Political Psychology*, 18(2), 255-297. <https://doi.org/10.1111/0162-895X.00058>
- Frank, R. H., Gilovich, T., & Regan, D. T. (1993). Does studying economics inhibit cooperation? *Journal of Economic Perspectives*, 7(2), 159-171. <https://doi.org/10.1257/jep.7.2.159>
- Gray, K., Young, L., & Waytz, A. (2012). Mind perception is the essence of morality. *Psychological Inquiry*, 23(2), 101-124. <https://doi.org/10.1080/1047840X.2012.651387>
- Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108(4), 814-834. <https://doi.org/10.1037/0033-295X.108.4.814>
- Heckathorn, D. D., & Maser, S. M. (1987). Bargaining and the sources of transaction costs: The case of government regulation. *The Journal of Law, Economics, and Organization*, 3(1), 69-98. <https://doi.org/10.1093/oxfordjournals.jleo.a036922>
- Hill, J. L. (1994). Exploitation. *Cornell Law Review*, 79(3), 631-699.

- Johnson, S. G. B., Zhang, J., & Keil, F. C. (2022). Win–win denial: The psychological underpinnings of zero-sum thinking. *Journal of Experimental Psychology: General*, 151(2), 455-474. <https://doi.org/10.1037/xge0001083>
- Kahneman, D. (2011). *Thinking, Fast and Slow*. New York, NY: Farrar, Straus, and Giroux.
- Kay, A. C., Gaucher, D., Napier, J. L., Callan, M. J., & Laurin, K. (2008). God and the government: Testing a compensatory control mechanism for the support of external systems. *Journal of Personality and Social Psychology*, 95(1), 18-35.
<https://doi.org/10.1037/0022-3514.95.1.18>
- Leider, S., & Roth, A. E. (2010). Kidneys for sale: Who disapproves, and why? *American Journal of Transplantation*, 10(5), 1221-1227. <https://doi.org/10.1111/j.1600-6143.2010.03019.x>
- Leiser, D., & Shemesh, Y. (2018). *How we misunderstand economics and why it matters: The psychology of bias, distortion and conspiracy*. New York, NY: Routledge.
- Leuker, C., Samartzidis, L., & Hertwig, R. (2021). What makes a market transaction morally repugnant? *Cognition*, 212, 104644. <https://doi.org/10.1016/j.cognition.2021.104644>
- Leuker, C., Samartzidis, L., Hertwig, R., & Pleskac, T. J. (2020). When money talks: Judging risk and coercion in high-paying clinical trials. *PloS One*, 15(1), e0227898.
<https://doi.org/10.1371/journal.pone.0227898>
- Levy, D. T., Thirlway, F., Sweanor, D., Liber, A., Sanchez-Romero, L. M., Meza, R., ... & Cummings, K. M. (2023). Do Tobacco Companies Have an Incentive to Promote “Harm Reduction” Products? The Role of Competition. *Nicotine and Tobacco Research*, ntad014. <https://doi.org/10.1093/ntr/ntad014>

Mannix, E. A., & Neale, M. A. (1993). Power imbalance and the pattern of exchange in dyadic negotiation. *Group Decision and Negotiation*, 2, 119-133.

<https://doi.org/10.1007/BF01884767>

Mas-Colell, A., Whinston, M. D., & Green, J. R. (1995). *Microeconomic Theory*. New York, NY: Oxford University Press.

McGraw, A. P., & Tetlock, P. E. (2005). Taboo trade-offs, relational framing, and the acceptability of exchanges. *Journal of Consumer Psychology*, 15(1), 2-15.

https://doi.org/10.1207/s15327663jcp1501_2

Miller, D. T. (1999). The norm of self-interest. *American Psychologist*, 54(12), 1053–1060. <https://doi.org/10.1037/0003-066X.54.12.1053>

Molm, L. D., Quist, T. M., & Wiseley, P. A. (1994). Imbalanced structures, unfair strategies: Power and justice in social exchange. *American Sociological Review*, 59(1), 98-121.

<https://doi.org/10.2307/2096135>

Ng, I. C. L. & Tseng, L. M. (2008). Learning to be sociable: The evolution of homo economicus. *American Journal of Economics and Sociology*, 67(2), 265-268.

<https://doi.org/10.1111/j.1536-7150.2008.00570.x>

Pareto, V. (1906/2014). *Manual of political economy: a critical and variorum edition*. Oxford University Press.

Pinkley, R. L., Neale, M. A., & Bennett, R. J. (1994). The impact of alternatives to settlement in dyadic negotiation. *Organizational Behavior and Human Decision Processes*, 57(1), 97-116. <https://doi.org/10.1006/obhd.1994.1006>

Posner, R. A. (1974). Theories of economic regulation. *The Bell Journal of Economics and Management Science*, 5(2), 335-358. <https://doi.org/10.2307/3003113>

Pronin, E., Lin, D. Y., & Ross, L. (2002). The bias blind spot: Perceptions of bias in self versus others. *Personality and Social Psychology Bulletin*, 28(3), 369-381.

<https://doi.org/10.1177/0146167202286008>

Roth, A. E. (2007). Repugnance as a constraint on markets. *Journal of Economic Perspectives*, 21(3), 37-58. <https://doi.org/10.1257/jep.21.3.37>

Roth, A. E. (2018). Marketplaces, markets, and market design. *American Economic Review*, 108(7), 1609-1658. <https://doi.org/10.1257/aer.108.7.1609>

Roth, A. E., & Wang, S. W. (2020). Popular repugnance contrasts with legal bans on controversial markets. *Proceedings of the National Academy of Sciences*, 117(33), 19792-19798. <https://doi.org/10.1073/pnas.2005828117>

Rubin, P. H., (2003). Folk economics. *Southern Economic Journal*, 70(1), 157-171.
<https://doi.org/10.1002/j.2325-8012.2003.tb00561.x>

Satz, D. (2010). *Why some things should not be for sale: the moral limits of markets*. New York, NY: Oxford University Press.

<https://doi.org/10.1093/acprof:oso/9780195311594.001.0001>

Sandel, M. J. (2012). *What money can't buy: The moral limits of markets*. New York, NY: Farrar, Straus and Giroux.

Sandel, M. J. (2013). Market reasoning as moral reasoning: why economists should re-engage with political philosophy. *Journal of Economic Perspectives*, 27(4), 121-140.
<https://doi.org/10.1257/jep.27.4.121>

Schaerer, M., Schweinsberg, M., & Swaab, R. I. (2018). Imaginary alternatives: The effects of mental simulation on powerless negotiators. *Journal of Personality and Social Psychology*, 115(1), 96–117. <https://doi.org/10.1037/pspi0000129>

Schaerer, M., Teo, L., Madan, N., & Swaab, R. I. (2020). Power and negotiation: review of current evidence and future directions. *Current Opinion in Psychology*, 33, 47-51.

<https://doi.org/10.1016/j.copsyc.2019.06.013>

Schein, C., & Gray, K. (2015). The unifying moral dyad: Liberals and conservatives share the same harm-based moral template. *Personality and Social Psychology Bulletin*, 41(8), 1147-1163. <https://doi.org/10.1177/0146167215591501>

Schein, C., & Gray, K. (2018). The theory of dyadic morality: Reinventing moral judgment by redefining harm. *Personality and Social Psychology Review*, 22(1), 32-70.

<https://doi.org/10.1177/10888683176982>

Scopelliti, I., Loewenstein, G., & Vosgerau, J. (2015). You call it “Self-Exuberance”; I call it “Bragging” miscalibrated predictions of emotional responses to self-promotion. *Psychological Science*, 26(6), 903-914.

<https://doi.org/10.1177/0956797615573516>

Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, 99-118. <https://doi.org/10.2307/1884852>

Tetlock, P. E. (2003). Thinking the unthinkable: Sacred values and taboo cognitions. *Trends in Cognitive Sciences*, 7(7), 320-324. [https://doi.org/10.1016/S1364-6613\(03\)00135-9](https://doi.org/10.1016/S1364-6613(03)00135-9)

Tetlock, P. E., Kristel, O. V., Elson, S. B., Green, M. C., & Lerner, J. S. (2000). The psychology of the unthinkable: taboo trade-offs, forbidden base rates, and heretical counterfactuals. *Journal of Personality and Social Psychology*, 78(5), 853-870.

<https://doi.org/10.1037/0022-3514.78.5.853>

Tversky, A., & Kahneman, D. (1974). Judgment under Uncertainty: Heuristics and Biases: Biases in judgments reveal some heuristics of thinking under

uncertainty. *Science*, 185(4157), 1124-1131.

<https://doi.org/10.1126/science.185.4157.1124>

Urbina, D. A., & Ruiz-Villaverde, A. (2019). A critical review of homo economicus from five approaches. *American Journal of Economics and Sociology*, 78(1), 63-93.

<https://doi.org/10.1111/ajes.12258>

Vohs, K. D., Baumeister, R. F., & Chin, J. (2007). Feeling duped: Emotional, motivational, and cognitive aspects of being exploited by others. *Review of General Psychology*, 11(2), 127-141. <https://doi.org/10.1037/1089-2680.11.2.127>

Appendix A

Transactions used in Studies 1A and 1B

Transaction 1

TABOO CONDITION:

Person A and Person B live on opposite ends of the same building.

Person A's side of the building faces a cancerous cell-phone tower, and Person B's side of the street is not affected by it.

So, Person A pays Person B to switch apartments, both knowing fully well about the cancerous cell-phone tower.

STANDARD CONDITION:

Person A and Person B live on opposite ends of the same building.

Person A's side of the building faces a noisy street, and Person B's side of the street is not so noisy.

So, Person A pays Person B to switch apartments, both knowing fully well about the noise on each side of the street.

Transaction 2

TABOO CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs a healthy kidney transplant and Person B has a healthy kidney. Person B is the only one who has the kidney Person A needs, and there's no one else who needs that kidney.

So, Person A pays Person B money for their kidney.

STANDARD CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs to buy a car and Person B wants to sell their car. Person B is the only one who has the car Person A needs, and there's no one else who is interested in buying their car.

So, Person A pays Person B money for their car.

Transaction 3

TABOO CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs a place to store some potentially hazardous chemicals, and Person B has an extra room in their apartment.

So, Person A pays Person B money to store potentially hazardous chemicals in their apartment.

STANDARD CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs a place to store some old furniture, and Person B has an extra room in their apartment.

So, Person A pays Person B money to store some old furniture in their apartment.

Transaction 4

TABOO CONDITION:

Person A and Person B live in different cities and have never met each other.

Person A needs to test a beauty product for dangerous side effects, so they pay Person B money to test whether their product is dangerous.

STANDARD CONDITION:

Person A and Person B live in different cities and have never met each other.

Person A needs to test a video game for “bugs” and glitches, so they pay Person B money to test whether their game has “bugs” and glitches.

Transaction 5

TABOO CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A wants to see a doctor for his heart condition. Person B has an appointment for his heart condition and it is the exact appointment that Person A needs.

So, Person A pays money to Person B in exchange for his doctor's appointment.

STANDARD CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A wants to see a concert of his favorite band. Person B has tickets for that sold-out concert.

So, Person A pays money to Person B in exchange for his tickets.

Appendix B
Transactions used in Study 1C

Transaction 6

TABOO CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A is a medical student and needs a cadaver (dead body) to prepare for an anatomy exam. Person B's child recently passed away and they could use the money.

So, Person A pays Person B money to learn about anatomy by dissecting their child's body.

STANDARD CONDITION:

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A is a medical student and needs a CPR manikin (a model of the human body) to prepare for an anatomy exam. Person B has an anatomically-correct manikin lying around and could use the money.

So, Person A pays Person B money to learn about anatomy by dissecting their CPR manikin.

Transaction 7

TABOO CONDITION:

Person A and Person B live in the same building.

Person B is a vegetarian for religious reasons. It goes against their religion to even assist someone in their consumption of meat. Person A has some slabs of meat they need to store in a freezer.

So, Person A pays Person B money to break their religious edict and store the meat in their freezer.

STANDARD CONDITION:

Person A and Person B live in the same building.

Person A needs a place to store some old furniture, and Person B has an extra room in their apartment.

So, Person A pays Person B money to store some old furniture in their apartment.

Appendix C Experimental conditions in Studies 3A and 3B

Condition: Seller uninformed and irrational

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs a place to store some potentially hazardous chemicals, and Person B has an extra room in their apartment.

Given their personal and life circumstances, Person B does NOT have the time and capacity to rationally conduct a cost-benefit analysis of this transaction.

In addition, Person B was not given any information about the chemicals and therefore does NOT know about the risks associated with storing them in their apartment..

Thus, Person B does not have the ability to think rationally about this transaction and has not been given sufficient information about the risks associated with it.

Person A pays Person B money to store potentially hazardous chemicals in their apartment.

Condition: Seller uninformed and rational

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs a place to store some potentially hazardous chemicals, and Person B has an extra

room in their apartment.

Given their personal and life circumstances, Person B has the time and capacity to rationally conduct a cost-benefit analysis of this transaction.

However, Person B was not given any information about the chemicals and therefore does NOT know about the risks associated with storing them in their apartment..

Thus, although Person B currently has the ability to think rationally about this transaction, they have not been given sufficient information about the risks associated with it.

Person A pays Person B money to store potentially hazardous chemicals in their apartment.

Condition: Seller informed and irrational

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs a place to store some potentially hazardous chemicals, and Person B has an extra room in their apartment.

Given their personal and life circumstances, Person B does NOT have the time and capacity to rationally conduct a cost-benefit analysis of this transaction.

That being said, Person B has been given all the information that is available about these potentially hazardous chemicals and is fully aware of the risks associated with storing them in their apartment.

Thus, although Person B does not have the ability to think rationally about this transaction, they have been given all the available information about the risks associated with it.

Person A pays Person B money to store potentially hazardous chemicals in their apartment.

Condition: Seller informed and rational

Person A and Person B live in different neighborhoods of the same city and have never met each other.

Person A needs a place to store some potentially hazardous chemicals, and Person B has an extra room in their apartment.

Given their personal and life circumstances, Person B has the time and capacity to rationally conduct a cost-benefit analysis of this transaction.

Luckily, Person B has been given all the information that is available about these potentially hazardous chemicals and is fully aware of the risks associated with storing them in their apartment.

Thus, Person B currently has the ability to think rationally about this transaction and has been given all the available information about the risks associated with it.

Person A pays Person B money to store potentially hazardous chemicals in their apartment.