# MORALS AND MARKETS: A RESPONSE

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## I. Introduction

In a 2013 *Science* article, "Morals and Markets," Armin Falk and Nora Szech present experimental evidence for an alleged causal connection between market interaction and the erosion of moral values.[1] The present paper challenges the conclusions drawn by the authors from their experiment's results by addressing issues with their experiment design, treatments, and operational definitions. The authors' hypothesis was that upon entering a market setting, subjects would show a higher probability of harming a third party in a trade than in an individual decision-making setting. They posit three psychological mechanisms by which individuals may forego their usual moral scruples when encountering other individuals in markets: (1) market participants may engage in guilt-sharing, in which responsibility for whatever negative outcome of some trading arrangement is spread across the involved parties; (2) market participants may gather information about social norms and what is morally acceptable by viewing others' trading arrangements; (3) market participants may be too focused on activities like bargaining and competition to consider whether the moral consequences to the trading arrangement are worth it (p. 708).

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[1] Armin Falk and Nora Szech. 2013. "Morals and Markets," *Science*. 340, pp. 707-711.

## II. Falk and Szech's Experiment

The authors used surplus mice as the affected third party in various control and treatment groups in their experiment. All subjects were told that the consequences of their decisions would result in the life or death of one of these mice. In the individual setting, subjects were simply offered the choice of letting the mouse survive and receiving no monetary reward or letting the mouse die and receiving 10 euros. Participants only interacted with the experimenter, and either accepted or rejected a one-time offer of 10 euros with the condition that accepting the money allows a mouse to die. Participants in this setting served as the control group to compare results with the two key treatment groups described below.

In a bilateral market setting, two subjects were paired, one as the buyer and the other as the seller, and the two were to negotiate a price for the mouse's life with an upper limit of 20 euros in total monetary gain. The seller would receive the price and the buyer would receive 20 euros minus the price. If no agreement could be made, the mouse would live and neither participant would receive any monetary reward. Similar to the individual treatment, the seller was "explicitly told that the 'life of the mouse is entrusted to your care'" (p. 708). The specific treatment in this setting was the opportunity to interact and negotiate with a trading partner.

Finally, a multilateral market setting used the same rules as the bilateral setting, but instead of a buyer-seller pair, seven buyers and nine sellers negotiated with each other. Offers were made in successive trading periods and agreements still meant the death of a mouse. The specific treatments in this setting were an increase in the number of participants interacting and an increased seller to buyer ratio, the intention being to foster more aggressive competition among sellers for the limited number of buyers.

The results, i.e., the rate of decisions involving mouse deaths from each treatment, were based on the number of sellers who accepted a price of 10 euros or less, so that each market setting may be compared to the individual setting. Note that any agreement between a buyer and a seller meant a mouse would die, but only the agreements on a price of 10 euros or less were recorded and compared to the control group (whose choice was between 10 euros, which triggered the death of a mouse, or no monetary reward, allowing the mouse to live). The basis for comparison was that in both market treatments, the sellers "could either refuse a monetary amount or accept a monetary amount and kill a mouse" (p. 708).

*Results*[2]

Falk and Szech reported statistically significant differences in a subject's probability to allow the mouse to die depending on which setting they were assigned. In the experiment, 45.9% of the subjects in the individual setting chose to allow the mouse to die for 10 euros. This is significantly different from the 72.2% of subjects in the bilateral market setting that allowed the mouse to die by agreeing with a subject-partner on a price of 10 euros or less. The individual setting result is also significantly different from the 75.9% of sellers in the multilateral market setting who allowed the mouse to die by accepting 10 euros or less. The results from the bilateral and multilateral market settings were not significantly different. Based on the fact that about 25% more subjects allowed the mouse to die when making a decision with somebody else than in the individual setting, the authors concluded that markets erode moral values. In their words, "Our evidence shows that market interaction causally affects the willingness to accept severe negative consequences for a third party" (p.707).

## III. Operational Definitions

*Moral Erosion*

Falk and Szech assume that mice are generalizable to any third party. They state at the outset that their "paradigm for studying moral values and detrimental effects on third parties is the trade-off between a mouse life and money" (p. 707). However, almost all moral codes in cultures and religions worldwide regard human life as fundamentally more important and valuable than non-human life.[3] It seems then that the results of the experiment could only be generalized to the treatment of animals as affected third parties from market phenomena, but even then, many individuals regard different species of animals with different moral and economic valuations. Take for example, the difference in our treatment of chickens versus dogs—we breed one species for consumption and another for friendship![4] One could imagine how the same experiment with the same subjects, done with puppies or kittens instead of mice, would generate different results. As such, the authors' operational definition of moral erosion is suspect.

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[2] The authors' primary results are presented on page 708 of their article.

[3] A few notable exceptions include Ahisma-following Hindus and Buddists, Vegans, pantheists, certain animists, and strict animal liberationists.

[4] Further, different cultures treat even these animals differently.

*Markets*

In real-world markets, prices are determined by voluntary interaction between those supplying and demanding goods and services. Sellers prefer higher prices but bid down their price offers to compete with other sellers. Buyers prefer lower prices, but will purchase a good if the lowest price they can fetch is still below their reservation price. Falk and Szech attempted to approximate this process in their experiment. In both the bilateral and multilateral market settings, the subjects designated as sellers were endowed with a mouse, or, more accurately, were given responsibility for the mouse's life. In the experiment, there is technically no good trading hands from sellers to buyers. This is easily realized by asking the question, "What exactly are the buyers buying?" The closest approximation of a good in this experiment is the abstract thought of a mouse dying somewhere, but even here, ownership of the "good" is not transferred from seller to buyer—they share the thought of a dying mouse.

Of course, the authors admit in their conclusion that "markets have tremendous virtue" and that the results here should simply give us pause about "where markets are appropriate—and where they are not" (p. 710). Even with charitable interpretation, the experiment is only an indictment of *regulated* markets. Participants were given strict rules about how their price negotiations could unfold, including lower and upper bounds of bidding. Buyers could only bid prices higher than the most recent price proposed, while sellers could only offer prices lower than the most recent price proposed. Buyers and sellers could not communicate except via price offers. Only one trade could be made, and no participant knew who his or her trading partner was. Seller reputation, open communication, vast arrays of options, and an ability to search or wait for trading opportunities are hallmarks of actual markets, but were absent in Falk and Szech's supposedly "market" setting.

Actual markets are predicated on peaceful, voluntary transactions. Price negotiations are the picture of cooperation and non-violence in which both parties can benefit after reaching an agreement. Theft, regulation, control, and violent impositions of will stand in stark opposition to the market process. Negative externalities, while hotly debated, are simply a problem of poorly defined property rights.[5]

[5] See Murray Rothbard. 1982. "Law, Property Rights, and Air Pollution," *Cato Journal*. 2 (1), pp. 55-99.

## IV. The Bilateral Market Setting

*Priming issues*

Both the buyer and the seller in each pairing in the bilateral market setting knew that the total possible monetary reward was 20 euros, which may have primed the subjects to view the midpoint price, 10 euros, as the "fair," 50/50 split price. This in and of itself may have contributed to participants considering social norms before even engaging in price negotiation. This sort of priming is a well-known phenomenon in the experimental social science literature.[6] The negotiation process is game theoretical too, meaning this type of focal point is a Schelling point, i.e., a "focal point for each person's expectation of what the other expects him to expect to be expected to do."[7]

*Experimenter effects and similarity to the individual setting*

There may have been a unique experimenter effect in the individual ("non-market") setting. How can the individual setting be distinguished from the bilateral market setting? In one, a participant accepts or rejects an offer from the experimenter and in the other a participant accepts or rejects an offer that is constrained and fulfilled by the experimenter from another participant. The only difference is a back-and-forth dynamic of price offers in the latter. The treatment, then, is not necessarily a "market setting," just because it introduces a partner, because a partner was technically present in the first case, in the role of the experimenter. It seems the treatment may be described as giving the buyer repeated tries in finding an agreement on price,

[6] From Kolb, B. and Ian Q. Whishaw, 2009, "Fundamentals of Human Neuropsychology," *Macmillan*: "Imagine a priming task in which a person is given a list of words to read. Then, the person is given a list containing the beginnings of words and is asked to complete each of them with the first word that comes to mind. If one of the incomplete words is TAB, the person might complete it as 'table,' 'tablet,' 'tabby,' 'tabulation,' or something similar. If one of the words on the first list is 'table,' however, a subject is more likely to complete TAB as 'table' than as any other possibility, […] the first list 'primed' the subject to give a certain response later on."

[7] Schelling, Thomas C., 1960, "The Strategy of Conflict," Cambridge: Harvard University Press.

which encourages more agreements, and therefore more mouse deaths, either way.[8]

The implication of this issue is that price negotiation, not markets in general, allowed for more agreements among buyers and sellers. What policy recommendation might this generate? That prices are not to be negotiated because the act causes market participants to check their morals at the door? Preposterous, yes, but most buyers and sellers do *not* actively negotiate prices anyway. It seems the modal experience is one of passive, take-it-or-leave-it price offers and a subsequent one-time acceptance or rejection, just like the individual setting in the experiment.[9] Haggling and related activities are not the norm for the average buyer-seller pairing in the real world. So in this respect, the "non-market setting" is closer to real world markets than the "market setting," rendering Falk and Szech's results and conclusions somewhat moot.

*Markets vs. Social Settings in General*

The experimenters could not control for social-psychological effects not specifically endemic to markets, but for social settings in general. The authors note that guilt-sharing may be one psychological mechanism by which their participants could rationalize mouse-killing. They also note that social norms may be learned and updated by viewing others' behavior. These, however, are not specific to markets. We cannot specifically condemn markets by attributing to them features of any social setting.

## V. The Multilateral Market Setting

In the experiment's multilateral market setting, buyers were outnumbered seven to nine. Falk and Szech were attempting to simulate the effects of increasing the number of people involved in markets and increasing competition. They changed two variables in one treatment group, so no

[8] A similar but independent paper by Breyer and Friemann (2014) makes a compelling case that the actual outcome (mouse deaths) of the various treatment types is a measure of "moral decay" or "erosion," not willingness to pay. If the measured outcome is mouse deaths, Breyer and Friemann note, there is no significant difference between the individual and bilateral market treatments. See Breyer, Friedrich and Joachim Weimann, 2014, "Of Morals, Markets and Mice: A Comment on Falk and Szech," CESifo Working Paper, No. 4745.

[9] This point is one of the three main objections offered by Breyer and Weimann (2014).

causal connection can be made regarding the effects of increased market participants or an increased seller to buyer ratio.[10] Even so, they found results that were not significantly different from the bilateral market setting. Falk and Szech, however, make a point of reporting a declining trend in trading prices, period-to-period, in the multilateral market setting, further confirming their conclusion that participating in markets actively "erodes" or "decays" moral values.

One certainly would expect sellers to bid lower than in the bilateral market setting and to decrease bids period to period, attempting to "catch" one of the seven buyers for whom nine sellers were "fishing," and to agree on a price if their valuation of the life of the mouse is greater than that of the money price. Falk and Szech's results match these expectations, but it might not be because participants increasingly bend their morals with each successive period, but rather because the sellers' initial offers were set higher as a strategy to maximize their own payoff. If a seller's initial offer is set right at their reservation price, and it is accepted by a buyer, they lose the opportunity to receive a higher reward. The optimal strategy for sellers, which is independent of their moral or economic valuations of mice, is to start high and end low. Their reservation price, i.e., the boundary at which they would "end low," is an indication of their valuations, but is separate from the "start high and end low" strategy.

Using the multilateral market setting, the experimenters ran a morally neutral control against the mouse paradigm. Instead of buying and selling the lives of mice, the participants were to negotiate over the price of a coupon with a redemption value of 25 euros toward goods at the local university store. The negotiations were all done under the same conditions as the multilateral market setting previously described. Unlike the mouse paradigm results, the coupon traded at a higher mean price and remained somewhat consistent throughout the trading periods, instead of exhibiting a declining mean price over trading periods.[11] The authors used this as a basis for concluding that markets erode moral values more than valuations for morally neutral goods.[12] In doing so, the authors ignore the fact that in the coupon

[10] A part of Breyer and Weimann's (2014) third major objection is that "more than one treatment parameter is changed" (p. 2).

[11] With mice, the decline was small (less than 2 euros), but had a statistically significant slope.

[12] This also means the authors admit that the two categories are psychologically distinct, but economically comparable. Can we measure moral standards in dollars or

paradigm, buyers and sellers are trading a good with a more explicit monetary value, meaning the subjects can more easily make economic calculations between the price offers on the one hand and 25 euros worth of goods at the university store on the other. We would certainly expect a more stable trend in the price of a 25 euro coupon than for the price of the abstract thought of a mouse dying somewhere. The difference here is not necessarily due to morally-charged versus morally-neutral valuations, but information and ease of economic calculation.[13]

## VII. Conclusion

It may be unfair or simply irrelevant to note that all of the mice could have been saved from death using the resources and cash handouts from the experiment. Since, however, the authors suppose that allowing a more immediate death of a mouse (who is already on death row) is morally wrong, we can say that empirical economics research may be the culprit behind "moral erosion" more than markets in this case. It was the experimenters who incentivized mouse-killing in morally dubious game-theoretical scenarios using unsuspecting college students, not some fiendish road-side peddler marketing an opportunity to kill a mouse for a mere 10 euros.

Even so, there are two principle reasons the authors cannot conclude that markets cause moral erosion. First, moral erosion is difficult, if not impossible, to measure. Certainly measuring college students' willingness to allow an unseen surplus mouse to die by decisions made in a computer interface does not fit the bill. Also, mice as an affected third party to trade cannot be generalized to other third parties in real-life market scenarios, especially human third parties. Second, markets are difficult, if not impossible, to simulate. The authors randomly endowed seller-subjects with mice and asked them to negotiate a price for the life of the mouse with buyer-subjects under strict rules—all of which are unrealistic conditions in actual markets. Even so, treatment effects cannot be attributed specifically to markets when general social-psychological mechanisms are at play.

Perhaps the authors would have been safe with a less presumptuous interpretation of their results, and chosen to avoid reaching into the controversial territory of morality and economics. But a headline reading "University of Bonn students, with monetary incentives to do so, had a

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euros? Or are our moral standards just that precisely because they have no monetary value? This may be comparing apples and oranges, or rather, apples and life and death.

[13] The time limit on interaction may have further inhibited focused calculation.

higher probability of allowing a surplus mouse to die in a multi-player computer game compared to a single-player setting" surely would not turn as many heads as "Markets cause moral erosion."