Are Preferences for Skewness fixed or Fungible

By: **Todd L. Cherry,** Sara Gunnarsson, & Jason F. Shogren

Abstract

Are individual preferences for skewness fixed or fungible? Using preference reversals as a case study, we find evidence that preferences remained stable as reversals disappear due to arbitrage across both market-like and non-market contexts.

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1. Introduction

Depending on the beholder, a researcher sees a person's preferences for risky events as either fixed or fungible. Most economists view fixed preferences as a valuable precept, a fundamental building block that has served them well in describing behavior within active exchange institutions (see e.g. Krugman, 1998; San Miguel et al., 2002). Many psychologists counter that preferences are fungible, more affected by non-economic contextual cues than economists have acknowledged or admitted (see e.g. Slovic, 1991; Tversky and Simonson, 1993). The question of preference stability matters for theory and public policy because if preferences are 'transient artifacts' contingent on context, so are the welfare measures used in cost–benefit analyses to rationalize or reject regulations to protect health and safety.

Herein we examine the stability of preferences of people who fall prey to the classic anomaly of preference reversals (e.g. he prefers lottery A to lottery B, but then puts greater monetary value on B than A).[1] Using experimental data and panel econometrics, we estimate an empirical model of preferences for risk and skewness—the love of the long shot—as we compare behavior in market-like arbitrage settings and non-market settings. Our results show that preferences remained stable even as arbitrage removed preference reversals. People stopped reversing preferences with arbitrage not because their preferences were fungible, but because they initially overpriced the risky long shot.

2. Data

We use data from a lab experiment with 123 subjects (Cherry et al., 2003). The experiment consisted of six sessions of three treatments; each treatment had 41 participants with 12–15 subjects in each session. After entering the lab, participants signed a consent form acknowledging their voluntary participation while agreeing to abide by the instructions. Written protocols ensured uniformity across sessions, and all subjects were inexperienced with preference reversal experiments.[2]

2.1. Treatment 1

In this baseline treatment, subjects faced two independent settings that create conditions likely to induce people to reverse their preferences. In each setting, subjects were faced with two monetary lotteries: a p-bet lottery and a $-bet lottery.[3] Subjects were asked which lottery he or she preferred, and how much they valued each of the two lotteries.[4] Preferences and values were binding in both settings, e.g. subjects were sold lotteries for their indicated value. But inconsistent preferences and values (reversals) were not arbitraged. The process was repeated with different lotteries for 15 periods.

2.2. Treatment 2

Subjects faced the same setting as in the baseline treatment except now in one of the two settings—the *market-like* setting, reversals were subject to arbitrage. In this market-like setting, if a subject's preferences did not match their values, the simulated market would engage the person in buys, sells and trades to extract profits from the inconsistency. For instance, if a person said he

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[1] Preference reversals have been documented for isolated individuals in numerous lab experiments run by both economists and psychologists (see Grether and Plott, 1979; Tversky et al., 1990). One explanation of preference reversals argues the decision maker constructs preferences on the spot instead of ranking the options. The strategies when constructing preferences include 'anchoring and adjustment, relying on prominent dimension, eliminating common elements, discarding nonessential differences, adding new attributes into the problem frame in order to bolster one alternative, or otherwise restructuring the decision problem to create dominance and thus reduce conflict and indecision' (Slovic, 1991, p.500).

[2] The protocol included: randomly seating the subjects as they entered the room, disallowing any communication whatsoever among subjects, reading the experimental instructions aloud as the subjects followed along, administering a test of comprehension, addressing any questions or concerns raised by the subjects, and conducting the market sessions. Experimental instructions are available from the authors on request.

[3] A p-bet is a relatively safe lottery with a high probability of winning a smaller reward; a $-bet is a relatively risky lottery with a low probability of winning a larger reward.

[4] Following past work by Grether and Plott (1979), value was defined as the 'fair value' that the subject was willing to buy and sell the lottery. The constraint of WTP and WTA being equal does not interfere with the purpose of this study (see Cherry et al., 2003).

preferred lottery A to B, but valued A at $2 and B at $5, the market would sell him B for $5, then exchange B for A—his preferred lottery, and buy back A for $2. The net result is he did not own any lottery and he was $3 poorer. Previous work has documented this type of money pump discipline forces a person to reconsider and realign the inconsistencies of her preferences and values (see Berg et al., 1985; Chu and Chu, 1990). Choices and reversals in the *non-market* setting were not subject to arbitrage.

2.3. Treatment 3

Subjects faced the same setting as in treatment 2 except that the non-market setting without arbitrage was hypothetical. In the market-like setting, the subject's indicated preferences and values over the monetary lotteries were binding and subject to arbitrage. In the non-market setting, the subject's preferences and values were non-binding, i.e. hypothetical.[5]

The resulting data provides observed behavior of 123 people indicating preferences and stated values over two lottery pairs in 15 periods—3690 choices over lottery pairs and 7380 values over individual lotteries.

3. Empirical model

We use Golec and Tamarkin's (1998) and Garret and Sobel's (1999) empirical model to test for a preference for skewness (also see Ali, 1997; Woodland and Woodland, 1999). Each player has an identical utility function and bets her entire wealth. Losing a lottery bet returns zero to the bettor. Player *j*'s expected utility depends on the top prize payouts of each lottery game in option *i*, and she only plays those lottery games available in option *i*. Player *j*'s expected utility in option *i* is:

$$E(U_{ji}) = P_{Gi} \cdot U_{ji}(X_{Gi}) + \sum_{g=1}^{n} P_{gi} \cdot U_{ji}(X_{gi}) \qquad (1)$$

where g denotes all lottery games except G which is the highest top prize game, P_{Gi} is the probability of winning the highest top prize game G in option i, $U_{ji}(X_{Gi})$ is player j's utility from winning the top prize X_{Gi} in game G in option i, and $\Sigma_{g=1}^{n} P_{gi} \cdot U_{ji}(X_{gi})$ captures all other lottery games g offered in option i except the highest top prize game in game G in option i. This term is the probability of winning the top prize in any game g multiplied by player j's utility from winning the top prize, X_{gi}, in any game g summed over all n of g games. The two terms in Eq. (1) reflect the expected utility for player j for all lottery games available in option i, U_{ji}.

Normalize utility $U_{ji}(X_{Gi}) = 1$ and impose the preferences restriction that the odds between the gambles are selected to make the lottery players indifferent between the outcomes of game g or G, which allows us to rewrite Eq. (1) as:

$$E(U_{ji}) = P_{Gi} = P_{1i} \cdot U_{ji}(X_{1i}) = P_{2i} \cdot U_{ji}(X_{2i}) = \cdot \cdot \cdot \cdot \cdot \cdot = P_{ni} \cdot U_{ji}(X_{ni}) \qquad (2)$$

[5]The arbitrage mechanism began after period 5 in treatments 2 and 3 to allow a baseline comparison in the early periods across treatments.

Given any lottery game g or G in option i:

$$E(U_{ji}) = P_{Gi} = P_{gi} \cdot U_{ji}(X_{gi}) \tag{3}$$

or

$$\frac{P_{Gi}}{P_{gi}} = U_{ji}((X_{gi}) \tag{4}$$

The expected utility for any player in option i is represented by equating the probability ratio of the highest top prize game G and any other lottery game g to player j's utility from winning the top prize any game g. To empirically test Eq. (4), we define the following cubic approximation (Golec and Tamarkin, 1998; Garret and Sobel, 1999):

$$\frac{P_{Gi}}{P_{gi}} = \left[\beta_0 + \beta_1 X_{gi} + \beta_2 X_{gi}^2 + \beta_3 X_{gi}^3\right] \tag{5}$$

where β_1 measures the bettor preferences over the mean of returns, β_2 measures bettor risk aversion ($\beta_2 > 0$ risk loving; $\beta_2 < 0$ risk aversion; $\beta_2 = 0$ risk neutrality), β_3 measures the bettors preference for skewness ($\beta_3 > 0$ favorable preference for skewness; $\beta_3 < 0$ unfavorable preference for skewness; $\beta_3 = 0$ indifferent preference for skewness). If $\beta_1 > 0$, $\beta_2 < 0$, and $\beta_3 > 0$—lottery players are risk averse, and choose to play those lotteries with greater skewness of returns. Our panel data allows us to expand on previous work by modifying the empirical specification in two ways. First, we interact the independent variables with period indicator variables to estimate any change in subject preference and

Table 1
The impact of arbitrage on preference reversal rates (%)

Round	Market			Non-market		
	Treatment 1	Treatment 2	Treatment 3	Treatment 1	Treatment 2	Treatment 3
1	0.317	0.341	0.317	0.317	0.317	0.366
2	0.34	0.366	0.268	0.366	0.317	0.341
3	0.39	0.317	0.342	0.341	0.293	0.39
4	0.293	0.341	0.293	0.39	0.366	0.341
5	0.366	0.39	0.268	0.293	0.317	0.39
6	0.317	0.366	0.317	0.317	0.341	0.317
7	0.341	0.317	0.244	0.39	0.31	0.366
8	0.317	0.219	0.22	0.341	0.244	0.317
9	0.268	0.146$^{\blacklozenge}$	0.171	0.415	0.244	0.244†
10	0.341	0.122‡	0.146†	0.341	0.22	0.190$^{\blacklozenge}$
11	0.317	0.122†	0.122†	0.366	0.170†	0.190†
12	0.268	0.098†	0.122†	0.317	0.122†	0.170$^{\blacklozenge}$
13	0.317	0.049‡	0.146†	0.39	0.090‡	0.122‡
14	0.268	0.073‡	0.098†	0.366	0.090‡	0.090‡
15	0.341	0.024‡	0.073‡	0.34	0.049‡	0.120‡

$^{\blacklozenge}$, †, and ‡ indicate significance at the 10, 5 and 1 percent levels with the null being the reversal rate in the arbitrage treatment (2 or 3) is equal to the rate in the non-arbitrage baseline (treatment 1).
Note: arbitrage was introduced in round 6.

risk aversion over time. Second, we control for time invariant subject attributes with a random effects estimation.

4. Results and discussion

Table 1 establishes the existence of the preference reversal phenomenon in the laboratory setting, and how the introduction of arbitrage significantly decreases the rate of reversals (i.e. increases the

Table 2
Random-effects estimates for treatment 1

Round	Market			Non-market		
	β_1	β_2	β_3	β_1	β_2	β_3
1	2.95‡	−0.61‡	0.041‡	2.93‡	−0.58‡	0.036‡
	(0.37)	(0.092)	(0.0075)	(0.37)	(0.092)	(0.0075)
2	2.83‡	−0.56‡	0.035‡	3.03‡	−0.62‡	0.04‡
	(0.37)	(0.094)	(0.0079)	(0.37)	(0.092)	(0.0077)
3	2.76‡	−0.52‡	0.03‡	2.98‡	−0.59‡	0.036‡
	(0.37)	(0.090)	(0.0073)	(0.36)	(0.088)	(0.0072)
4	2.75‡	−0.52‡	0.029‡	3.2‡	−0.70‡	0.049‡
	(0.38)	(0.093)	(0.0077)	(0.37)	(0.092)	(0.0076)
5	2.93‡	−0.59‡	0.039‡	2.98‡	−0.59‡	0.036‡
	(0.37)	(0.091)	(0.0074)	(0.37)	(0.090)	(0.0074)
6	2.94‡	−0.60‡	0.038‡	2.94‡	−0.57‡	0.035‡
	(0.37)	(0.090)	(0.0074)	(0.37)	(0.092)	(0.0076)
7	2.89‡	−0.58‡	0.037‡	2.84‡	−0.54‡	0.032‡
	(0.36)	(0.089)	(0.0074)	(0.37)	(0.093)	(0.0078)
8	2.8‡	−0.55‡	0.034‡	3.04‡	−0.62‡	0.04‡
	(0.37)	(0.092)	(0.0076)	(0.37)	(0.092)	(0.076)
9	2.76‡	−0.52‡	0.03‡	2.93‡	−0.57‡	0.034‡
	(0.37)	(0.093)	(0.0078)	(0.37)	(0.092)	(0.077)
10	2.89‡	−0.57‡	0.035‡	2.79‡	−0.51‡	0.028‡
	(0.37)	(0.094)	(0.0079)	(0.37)	(0.093)	(0.0079)
11	2.78‡	−0.54‡	0.033‡	2.97‡	−0.58‡	0.035‡
	(0.38)	(0.094)	(0.0073)	(0.37)	(0.089)	(0.0073)
12	2.74‡	−0.52‡	0.03‡	2.97‡	−0.59‡	0.036‡
	(0.37)	(0.087)	(0.0073)	(0.37)	(0.092)	(0.0074)
13	2.82‡	−0.56‡	0.035‡	2.96‡	−0.59‡	0.036‡
	(0.38)	(0.093)	(0.0077)	(0.37)	(0.091)	(0.0075)
14	2.73‡	−0.52‡	0.031‡	2.96‡	−0.59‡	0.037‡
	(0.38)	(0.096)	(0.0081)	(0.37)	(0.091)	(0.0075)
15	2.93‡	−0.59‡	0.039‡	2.93‡	−0.57‡	0.035‡
	(0.38)	(0.096)	(0.0082)	(0.37)	(0.092)	(0.0073)
$\chi^2_{(45)}$	701.26			672.22		
(P-value)	(<0.000)			(<0.000)		
R^2	0.552			0.542		
N	615			615		

Standard errors in parentheses unless stated otherwise. ‡ Indicates significance at the 1 percent level.

rate of rational choices). Prior to arbitrage (round 6), reversal rates across treatments were not significantly different at any standard level. After four rounds of arbitrage, reversal rates were significantly lower in the arbitrage treatments relative to no-arbitrage baseline (P-values <0.020). In the later rounds, the institutional discipline from arbitrage was highly significant in generating more rational choices.

Now we turn to the issue of subjects' love of skewness and whether preferences remained stable when people adjusted behavior to act more rational. Tables 2–4 report panel estimates of Eq. (5)

Table 3
Random-effects estimates for treatment 2

Round	Market			Non-market		
	β_1	β_2	β_3	β_1	β_2	β_3
1	$2.98^{\ddagger}$	$-0.61^{\ddagger}$	$0.039^{\ddagger}$	$2.94^{\ddagger}$	$-0.60^{\ddagger}$	$0.038^{\ddagger}$
	(0.36)	(0.085)	(0.0071)	(0.37)	(0.091)	(0.0074)
2	$2.97^{\ddagger}$	$-0.61^{\ddagger}$	$0.039^{\ddagger}$	$2.75^{\ddagger}$	$-0.52^{\ddagger}$	$0.03^{\ddagger}$
	(0.38)	(0.097)	(0.0088)	(0.37)	(0.092)	(0.0076)
3	$2.89^{\ddagger}$	$-0.58^{\ddagger}$	$0.036^{\ddagger}$	$2.96^{\ddagger}$	$-0.60^{\ddagger}$	$0.038^{\ddagger}$
	(0.37)	(0.093)	(0.0077)	(0.36)	(0.089)	(0.0073)
4	$2.89^{\ddagger}$	$-0.58^{\ddagger}$	$0.036^{\ddagger}$	$2.88^{\ddagger}$	$-0.57^{\ddagger}$	$0.035^{\ddagger}$
	(0.38)	(0.097)	(0.0082)	(0.37)	(0.091)	(0.0073)
5	$2.77^{\ddagger}$	$-0.52^{\ddagger}$	$0.029^{\ddagger}$	$2.86^{\ddagger}$	$-0.56^{\ddagger}$	$0.034^{\ddagger}$
	(0.37)	(0.093)	(0.0076)	(0.37)	(0.093)	(0.0076)
6	$2.91^{\ddagger}$	$-0.58^{\ddagger}$	$0.036^{\ddagger}$	$2.67^{\ddagger}$	$-0.49^{\ddagger}$	$0.028^{\ddagger}$
	(0.36)	(0.087)	(0.0073)	(0.38)	(0.096)	(0.0082)
7	$2.97^{\ddagger}$	$-0.61^{\ddagger}$	$0.039^{\ddagger}$	$2.96^{\ddagger}$	$-0.60^{\ddagger}$	$0.039^{\ddagger}$
	(0.36)	(0.087)	(0.0074)	(0.37)	(0.091)	(0.0074)
8	$2.94^{\ddagger}$	$-0.60^{\ddagger}$	$0.038^{\ddagger}$	$2.77^{\ddagger}$	$-0.52^{\ddagger}$	$0.031^{\ddagger}$
	(0.37)	(0.091)	(0.0074)	(0.37)	(0.092)	(0.0074)
9	$2.75^{\ddagger}$	$-0.52^{\ddagger}$	$0.03^{\ddagger}$	$2.98^{\ddagger}$	$-0.61^{\ddagger}$	$0.039^{\ddagger}$
	(0.37)	(0.092)	(0.0076)	(0.36)	(0.088)	(0.0071)
10	$2.96^{\ddagger}$	$-0.60^{\ddagger}$	$0.038^{\ddagger}$	$2.97^{\ddagger}$	$-0.61^{\ddagger}$	$0.039^{\ddagger}$
	(0.36)	(0.089)	(0.0073)	(0.38)	(0.01)	(0.0088)
11	$2.88^{\ddagger}$	$-0.57^{\ddagger}$	$0.035^{\ddagger}$	$2.89^{\ddagger}$	$-0.58^{\ddagger}$	$0.036^{\ddagger}$
	(0.37)	(0.091)	(0.0073)	(0.37)	(0.093)	(0.0077)
12	$2.87^{\ddagger}$	$-0.56^{\ddagger}$	$0.034^{\ddagger}$	$2.89^{\ddagger}$	$-0.58^{\ddagger}$	$0.036^{\ddagger}$
	(0.37)	(0.093)	(0.0076)	(0.38)	(0.097)	(0.0082)
13	$2.69^{\ddagger}$	$-0.49^{\ddagger}$	$0.028^{\ddagger}$	$2.77^{\ddagger}$	$-0.52^{\ddagger}$	$0.029^{\ddagger}$
	(0.38)	(0.096)	(0.0082)	(0.37)	(0.093)	(0.0076)
14	$2.96^{\ddagger}$	$-0.60^{\ddagger}$	$0.039^{\ddagger}$	$2.91^{\ddagger}$	$-0.579^{\ddagger}$	$0.036^{\ddagger}$
	(0.37)	(0.088)	(0.0074)	(0.36)	(0.087)	(0.0073)
15	$2.77^{\ddagger}$	$-0.53^{\ddagger}$	$0.031^{\ddagger}$	$2.97^{\ddagger}$	$-0.61^{\ddagger}$	$0.039^{\ddagger}$
	(0.37)	(0.092)	(0.0074)	(0.36)	(0.087)	(0.0074)
$\chi^2_{(45)}$	666.87			666.87		
(P-value)	(<0.000)			(<0.000)		
R^2	0.540			0.540		
N	615			615		

Standard errors in parentheses unless stated otherwise. ‡ Indicates significance at the 1 percent level.

Table 4
Random-effects estimates for treatment 3

Round	Market			Non-market		
	β_1	β_2	β_3	β_1	β_2	β_3
1	$2.87^{\ddagger}$	$-0.58^{\ddagger}$	$0.037^{\ddagger}$	$2.74^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$
	(0.37)	(0.093)	(0.0076)	(0.38)	(0.094)	(0.0077)
2	$2.73^{\ddagger}$	$-0.53^{\ddagger}$	$0.031^{\ddagger}$	$2.91^{\ddagger}$	$-0.6^{\ddagger}$	$0.038^{\ddagger}$
	(0.38)	(0.093)	(0.0076)	(0.38)	(0.093)	(0.0077)
3	$2.9^{\ddagger}$	$-0.6^{\ddagger}$	$0.039^{\ddagger}$	$2.76^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$
	(0.37)	(0.093)	(0.0079)	(0.38)	(0.096)	(0.0080)
4	$2.75^{\ddagger}$	$-0.54^{\ddagger}$	$0.032^{\ddagger}$	$2.74^{\ddagger}$	$-0.53^{\ddagger}$	$0.031^{\ddagger}$
	(0.38)	(0.094)	(0.0077)	(0.37)	(0.096)	(0.0079)
5	$2.8^{\ddagger}$	$-0.55^{\ddagger}$	$0.034^{\ddagger}$	$2.81^{\ddagger}$	$-0.56^{\ddagger}$	$0.035^{\ddagger}$
	(0.37)	(0.090)	(0.0074)	(0.37)	(0.092)	(0.0075)
6	$2.73^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$	$2.86^{\ddagger}$	$-0.58^{\ddagger}$	$0.037^{\ddagger}$
	(0.38)	(0.095)	(0.0076)	(0.37)	(0.091)	(0.0075)
7	$2.81^{\ddagger}$	$-0.56^{\ddagger}$	$0.035^{\ddagger}$	$2.78^{\ddagger}$	$-0.55^{\ddagger}$	$0.034^{\ddagger}$
	(0.38)	(0.093)	(0.0075)	(0.40)	(0.010)	(0.0089)
8	$2.74^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$	$2.73^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$
	(0.38)	(0.094)	(0.0077)	(0.38)	(0.092)	(0.0074)
9	$2.91^{\ddagger}$	$-0.59^{\ddagger}$	$0.038^{\ddagger}$	$2.87^{\ddagger}$	$-0.58^{\ddagger}$	$0.037^{\ddagger}$
	(0.38)	(0.093)	(0.0077)	(0.37)	(0.093)	(0.0076)
10	$2.76^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$	$2.73^{\ddagger}$	$-0.53^{\ddagger}$	$0.031^{\ddagger}$
	(0.38)	(0.096)	(0.0080)	(0.38)	(0.093)	(0.0076)
11	$2.74^{\ddagger}$	$-0.53^{\ddagger}$	$0.031^{\ddagger}$	$2.9^{\ddagger}$	$-0.6^{\ddagger}$	$0.039^{\ddagger}$
	(0.39)	(0.096)	(0.0079)	(0.37)	(0.093)	(0.0079)
12	$2.81^{\ddagger}$	$-0.56^{\ddagger}$	$0.035^{\ddagger}$	$2.75^{\ddagger}$	$-0.54^{\ddagger}$	$0.034^{\ddagger}$
	(0.37)	(0.092)	(0.0075)	(0.38)	(0.094)	(0.0077)
13	$2.86^{\ddagger}$	$-0.58^{\ddagger}$	$0.037^{\ddagger}$	$2.8^{\ddagger}$	$-0.55^{\ddagger}$	$0.034^{\ddagger}$
	(0.37)	(0.091)	(0.0075)	(0.37)	(0.091)	(0.0074)
14	$2.78^{\ddagger}$	$-0.55^{\ddagger}$	$0.034^{\ddagger}$	$2.73^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$
	(0.40)	(0.010)	(0.0089)	(0.38)	(0.095)	(0.0078)
15	$2.73^{\ddagger}$	$-0.53^{\ddagger}$	$0.032^{\ddagger}$	$2.81^{\ddagger}$	$-0.56^{\ddagger}$	$0.035^{\ddagger}$
	(0.38)	(0.092)	(0.0074)	(0.38)	(0.093)	(0.0075)
$\chi^2_{(45)}$	647.86			647.86		
(*P*-value)	(<0.000)			(<0.000)		
R^2	0.532			0.532		
N	615			615		

Standard errors in parentheses unless stated otherwise. ‡ Indicates significance at the 1 percent level.

across treatments.[6] For each treatment, the market and non-market setting is estimated separately. To estimate how preferences and risk aversion changes within a setting over time, we interact the measures (β_1, β_2, and β_3) with time period indicator variables. Recall β_1 measures the preferences over the mean of returns, β_2 measures the preference for risk, and β_3 measures the preference for skewness. We expect subjects are risk averse and prefer lotteries with greater expected payoffs and

[6]Hausman and Lagrange multiplier tests indicate a highly significant preference for a random effects specification.

higher skewness ($\beta_1 > 0$, $\beta_2 < 0$, and $\beta_3 > 0$). Our null hypothesis is that risk aversion and skewness preferences remain stable even as people correct preference reversal behavior in the face of a new context—market-like arbitrage.

Results in the market-like and non-market settings across all three treatments confirm our expectations. In each model, estimated coefficients for the early periods were significantly different than zero and carried signs consistent with our expectations. Subjects preferred lotteries with higher expected returns ($\beta_1 > 0$), were risk averse ($\beta_2 < 0$) and preferred lotteries with higher skewness ($\beta_3 > 0$). One might imagine a link between the love for skewness and preference reversals—but the results from the later periods contradict this notion. In the later periods, estimated coefficients remained significantly different than zero—indicating that subjects were still risk averse and preferred higher expected returns and skewness.[7] But as the reversal rates declined in the market and non-market setting due to the introduction of arbitrage, people maintained their preferences and aversion to risk. Arbitrage caused people to reconsider and correct the inconsistency of their preferences and values, but the reconciliation of preferences and values arose from value adjustments—not preference adjustments. Subjects stood by the preference ordering he or she first set up; rather they realigned preference choices and stated values by reducing their willingness to pay for the risky lottery.

5. Conclusion

Are preferences for skewness fixed or fungible across context? Our results suggest they can be fixed. We find evidence that supports the economist's presumption that preferences are stable across market-like arbitrage and non-market contexts. People preferred skewness both before and after market-like arbitrage stopped them from reversing their preferences. Preference reversal behavior stopped not because people change their predilection for skewness; rather people stopped overpricing the long shot once arbitrage put a cost on this behavior. Additional research exploring the robustness of our findings would be useful.

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