"No Time to Buy": Asking Consumers to Spend Time to Save Money is Perceived as

Fairer Than Asking Them to Spend Money to Save Time

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Abstract

Firms often ask consumers to either spend time to save money (e.g., Lyft's "Wait & Save") or spend money to save time (e.g., Uber's "Priority Pickup"). Across six preregistered studies ($N = 3,631$), including seven reported in the Web Appendix ($N = 2,930$), we find that asking consumers to spend time to save money is perceived as fairer than asking them to spend money to save time (all else equal), with downstream consequences for word-of-mouth, purchase intentions, willingness-to-pay (WTP), and incentive-compatible choice. This is because spend-time-to-save-money offers reduce concerns about firms' profit-seeking motives, which consumers find aversive and unfair. The effect is thus mediated by inferences about profit-seeking and attenuates when concerns about those motives are less salient (e.g., for non-profits). At the same time, we find that spend-money-to-save-time offers (e.g., expedited shipping) are more common in the marketplace. This research reveals how normatively equivalent trade-offs can nevertheless yield contradictory fairness judgments, with meaningful implications for marketing theory and practice.

Keywords: fairness, money and time, allocation, lines, queues, purchase intentions, judgment and decision making

Firms often ask consumers to spend time to save money, or spend money to save time: Uber, a ridesharing service, promotes "Priority Pickup," allowing riders to pay more for waiting less, while Lyft, its main competitor, features "Wait & Save," offering riders a discount in exchange for waiting longer. Papa John's Pizza charges $3 extra for "PapaPriority" (to jump the queue), while Domino's Pizza "tips" its customers $3 (as a discount) when they spend time picking up orders themselves. Vons, a supermarket chain, charges $2 more for "Flash Delivery" one hour sooner, while Instacart, a grocery delivery service, charges $2 less for delivery one hour later.

Importantly, these trade-offs are often normatively equivalent. For example, suppose a retailer sells a pair of sneakers for $160, with delivery in two months. Customers can pay $20 more to receive them one month earlier. Meanwhile, another store sells the same sneakers for $180, with delivery in one month. Its customers can wait an extra month in exchange for paying $20 less. All else equal, the basic trade-off is the same: $180 for delivery in one month or $160 for delivery in two. But is it possible that merely offering one option over another seems more or less *fair*?

Fairness refers to the appropriateness, legitimacy, or justness of a procedure or outcome (Colquitt & Rodell, 2015; Lupfer et al., 2000; Maxwell, 2002). Our account focuses on procedural fairness—whether it is equally "reasonable, acceptable, or justifiable" (Xia et al., 2004, p. 1) to ask customers to spend time to save money and spend money to save time, even when the offers are normatively equivalent.

One alternative is that asking consumers to spend time to save money will be viewed as less fair. This is because the default price is higher ($180 in the above example), potentially arousing concerns about price gouging (Bolton et al., 2003; Brown & Krishna, 2004; Kahneman et al., 1986a, 1986b). Spend-money-to-save-time offers, like expedited shipping, may also be more common, and consumers tend to regard familiar practices as

more acceptable (Van den Bos et al., 1996). Or, to the extent that loss aversion and anchoring are stronger for time than for money (e.g., Leclerc et al., 1995; Saini & Monga, 2008; Weber & Milliman, 1997), consumers might resist requests to spend more time—especially when the default is to receive something sooner, given higher discounting rates for delaying (vs. accelerating) outcomes (Loewenstein, 1988; Weber et al., 2007; cf. Appelt et al., 2011).

We make the opposite prediction, however, drawing from several distinct literatures. First, we note that fairness perceptions can depend on inferences about firm motives (Habel et al., 2016). For example, when firms raise prices or otherwise implement new policies, consumers try to infer their underlying intentions (Campell, 1999, 2007). Consumers are particularly sensitive to *profit-seeking* motives, which they find aversive and unfair (Bhattacharjee et al., 2017). Indeed, consumers not only view profits as zero-sum, but also believe that the pursuit of profit inherently conflicts with their own interests, as well as the interests of society (Davidai & Ongis, 2019; Johnson et al., 2022; Yang & Aggarwal, 2019).

Second, consumers may hold lay beliefs about the relative value of money versus time for firms, and these beliefs could color their perceptions of firm motives. For example, money is generally perceived as more evaluable, fungible, and tangible than time, while the value of time is relatively more ambiguous, uncertain, and abstract than the value of money (Leclerc et al., 1995; Monga & Zor, 2019; MacDonnell & White, 2015; Okada & Hoch, 2004; Soman, 2001). These psychological differences suggest it could be relatively more difficult for consumers to appreciate how a company benefits when it asks customers to spend more time, as opposed to when it asks customers to spend more money—even when the effect on the bottom line is similar. For example, to increase profits by $20, a company might raise prices by $20. Or, it can opt for slower (i.e., more cost-effective) manufacturing, fulfillment, or delivery, to instead reduce expenses by $20. Yet the value of time in this latter case might be less obvious to consumers than the value of money in the former.

If consumers are, in fact, less likely to appreciate how changes in timing, like changes in pricing, can affect firm profits, then spend-time-to-save-money offers may be viewed as relatively more fair. This is because they violate preconceived expectations about profit-seeking motives in a positive way, implying that the firm is willing to forego a seemingly more valuable resource (money) for a less valuable one (time). Reduced concerns about profit-seeking motives, in turn, should increase perceptions of fairness. Spend-money-to-save-time offers, on the other hand, would be viewed as relatively less fair, because they simply reinforce baseline suspicions about profit-seeking motives, corroborating preexisting lay beliefs about the relative value of money versus time for the firm.

Figure 1

Conceptual Model
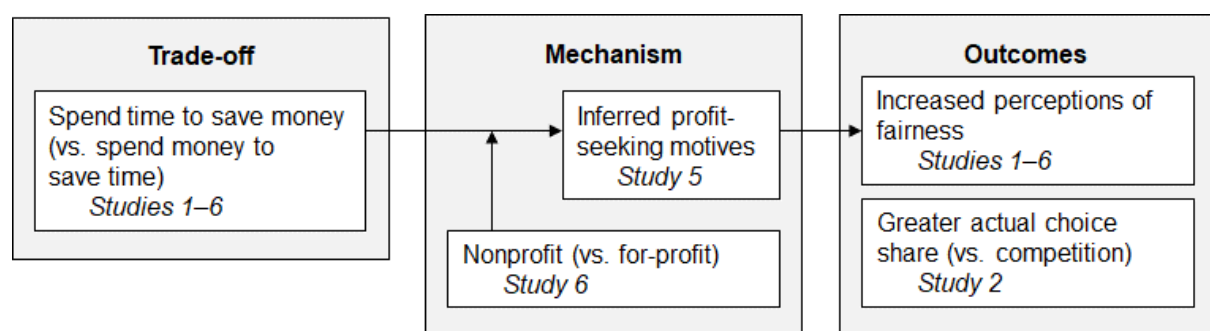
Six preregistered studies ($N = 3,631$) test this account (Figure 1), offer evidence for our proposed mechanism, and address several alternative explanations. We also note that while we focus on one particular process, the focal effect—which our studies reveal to be highly robust (see Web Appendix for seven supplemental studies; $N = 2,930$)—is very likely to be multiply determined. We therefore highlight several other promising mechanisms, moderators, and extensions of our work (see General Discussion), which we expect to be generative for future research and directly relevant to marketing practice, given the ubiquity of such offers in the marketplace.

Table 1

Overview of Studies

Study	AsPredicted	N	Main finding	DV(s)	Condition Spend-time-to-save-money	Spend-money-to-save-time	Effect size	Sig.
1	#140555	351	Asking customers to spend money to save time is perceived as less fair than asking customers to spend time to save money	Fairness	5.51 (1.37)	4.99 (1.59)	d = 0.35	***
2	#140314	390	Actual choice of a gift card was higher for a company that asked customers to spend time to save money (vs. spend money to save time)	Fairness Choice	5.69 (1.30) 40%	4.17 (1.83) 26%	d = 0.96 OR = 1.66	*** +
3	#141337	976	Asking customers to spend time to save money is perceived as fairer than both asking customers to spend money to save time and a baseline condition (e.g., when each offer is presented simultaneously, and there is no default or reference point)	Fairness	5.51 (1.50)	4.11 (1.99)	d = 0.80	***
4	#141454	769	The effect is robust to the opportunity cost of time (i.e., it does not depend on whether customers must physically wait in line or not)	Fairness	4.84 (1.68)	4.41 (1.81)	d = 0.24	***
5	#145447	358	Inferred profit-seeking motives mediates the effect; differences in resource equality, control, availability, and slack do not	Fairness Profit-seeking	2.64 (0.56) 4.39 (1.72)	2.39 (0.71) 5.89 (1.09)	d = 0.39 d = 1.04	*** ***
6	#122904	787	The effect attenuates when concerns about profit-seeking motives are less salient (e.g., for nonprofits)	Fairness	4.94 (1.66)	3.34 (1.86)	d = 0.91	***

Note. ***p < .001, +p < .10. Means (standard deviations) reported for conditions testing the basic effect. All preregistrations, original materials, data, and code are publicly available (https://researchbox.org/1265&PEER_REVIEW_passcode=VUAFTM). To maximize data quality, all studies using Amazon Mechanical Turk (MTurk) samples were conducted on the CloudResearch platform (Litman et al., 2017), with "Approved Participants" (Hauser et al., 2022) possessing a 95+% approval rating across 500+ HITs. All reported analyses exclude participants who failed preregistered attention and/or instructional manipulation checks

Study 1

Study 1 tests the basic effect. To prevent participants from anchoring on specific values (Saini & Monga, 2008), we did not present any numerical prices or waiting times.

Method

Participants. $N = 351$ Amazon Mechanical Turk (MTurk) workers (48% female; M_{age} = 41.63, SD = 11.23).

Procedure. Study 1 employed a single-factor (trade-off: spend-time-to-save-money vs. spend-money-to-save-time) between-subjects design. Participants read: "*A company offers customers the option to [spend time to save money/spend money to save time].*" We measured fairness via three counterbalanced items ("*How [fair/acceptable/justifiable] is this policy?*"; 1 = "*[very unfair/very unacceptable/not at all justifiable]*", 7 = "*[very fair/very acceptable/very justifiable]*").

Results and Discussion

We first averaged the three fairness measures ($\alpha = 0.97$). Fairness was higher in the spend-time-to-save-money condition ($M = 5.51$, 95% CI = [5.29, 5.73]) than in the spend-money-to-save-time condition ($M = 4.99$, 95% CI = [4.77, 5.21], $t(349) = 3.26$, $p < .001$, $d = 0.35$; Figure 2).

Figure 2

Study 1 Results
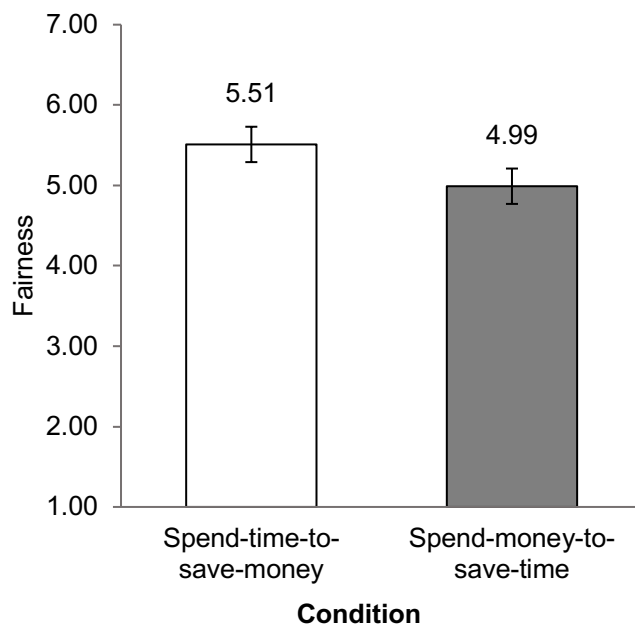
Note. Error bars indicate 95% CIs

Study 1 offers initial evidence for the basic effect, which we replicated using a within-subjects design and by measuring downstream consequences (e.g., word-of-mouth, purchase intentions, and WTP; see Web Appendix Studies WA1–3). In the next study, we test whether these fairness perceptions affect a consequential choice.

Study 2

Study 2 enhances the external validity of our account in two key ways. First, to increase realism, we selected a context wherein consumers frequently trade off time and money (e.g., ridesharing). Second, we presented participants with a consequential choice. We expected that participants would be more willing to patronize a firm engaged in fair practices (Campbell, 1999).

Method

Participants. $N = 390$ MTurk workers (48% female; $M_{age} = 43.87$, SD = 13.29).

Procedure. Study 2 followed a single-factor (trade-off: spend-time-to-save-money vs. spend-money-to-save-time) × 2 (company: Lyft vs. Uber) between-subjects design.

We manipulated whether the company allowed riders to spend time to save money or spend money to save time (Table 2). Participants then rated fairness ("*How fair is this policy?*"; 1 = "*not at all fair*", 7 = "*very fair*"; all subsequent studies use this question and scale) and chose between a $50 [Lyft/Uber] or $20 Amazon gift card. One randomly selected person actually received their chosen gift card.

Table 2

Study 2 Stimuli

Company (between-subjects)	Spend-time-to-save-money	Spend-money-to-save-time
Lyft	Lyft now allows customers to spend time to save money. Specifically, if customers are willing to wait 25 minutes (instead of 20 minutes), they will pay $45 (instead of $50). In other words, they can wait 5 minutes more to save $5.	Lyft now allows customers to spend money to save time. Specifically, if customers are willing to pay $55 (instead of $50), they will wait 15 minutes (instead of 20 minutes). In other words, they can pay $5 more to save 5 minutes.
Uber	Uber now allows customers to spend time to save money. Specifically, if customers are willing to wait 25 minutes (instead of 20 minutes), they will pay $45 (instead of $50). In other words, they can wait 5 minutes more to save $5.	Uber now allows customers to spend money to save time. Specifically, if customers are willing to pay $55 (instead of $50), they will wait 15 minutes (instead of 20 minutes). In other words, they can pay $5 more to save 5 minutes.

Results and Discussion

Participants preferred the $50 [Uber/Lyft] gift card (over the $20 Amazon gift card) when the company presented the spend-time-to-save-money offer ($b = 0.51$, SE = 0.28, Wald $\chi^2(1) = 3.36$, $p = .067$, OR = 1.66). The spend-time-to-save-money offer was also rated as fairer ($M = 5.69$, 95% CI = [5.47, 5.92]) than the spend-money-to-save-time offer ($M = 4.17$, 95% CI = [5.47, 5.92], $p < .001$, $d = 0.96$).

Study 2 extends our account to consequential choice, mirroring two real-world offers (e.g., Uber's "Priority Pickup" vs. Lyft's "Wait & Save"). To account for potential differences

in valuations of time and money, we replicated Study 2 with a student sample and using a within-subject design (see Web Appendix Study WA4).

Together, Studies 1–2 provide convergent evidence for the basic effect. Yet it is unclear whether the effect is attributable to heightened perceptions of *unfairness* (the spend-money-to-save-time condition) or *fairness* (the spend-time-to-save-money condition). Study 3 thus introduces a baseline condition for comparison.

Study 3

Study 3 not only helps isolate the directionality of the effect by presenting two counterbalanced options (neither of which was a default) in a baseline condition, but also tests a wider range of scenarios.

Method

Participants. $N = 976$ MTurk workers (47% female; $M_{age} = 43.57$, SD = 12.90).

Procedure. Study 3 employed a 3 (trade-off: spend-time-to-save-money vs. spend-money-to-save-time vs. baseline) × 3 (scenario: shoe vs. restaurant vs. salon) between-subjects design. We described a firm that offered customers the option to spend time to save money, spend money to save time, or both (Table 3). Participants then rated fairness. We also measured response times.

Table 3

Study 3 Stimuli

Scenario	Spend-time-to-save-money	Spend-money-to-save-time	Baseline
Shoes	A shoe company is releasing a new pair of limited-edition sneakers ($180). Customers preordering the sneakers will receive them in one month. This company also allows customers to pay less in exchange for waiting more. Specifically, if customers choose to receive the sneakers in two months (instead of one), they will pay $20 less.	A shoe company is releasing a new pair of limited-edition sneakers ($160). Customers preordering the sneakers will receive them in two months. This company also allows customers to wait less in exchange for paying more. Specifically, if customers choose to pay $20 more, they will receive the sneakers in one month (instead of two).	A shoe company is releasing a new pair of limited-edition sneakers. Customers preordering the sneakers can choose between two options: 1. Pay $180 and receive the sneakers in one month. 2. Pay $160 and receive the sneakers in two months.
Restaurant	A restaurant ($80 for a dinner) has a long waitlist this evening. Customers waiting for a table will be seated in one hour. This restaurant also allows customers to pay less in exchange for waiting more. Specifically, if customers choose to be seated in two hours (instead of one), they will pay $5 less.	A restaurant ($75 for a dinner) has a long waitlist this evening. Customers waiting for a table will be seated in two hours. This restaurant also allows customers to wait less in exchange for paying more. Specifically, if customers choose to pay $5 more, they will be seated in one hour (instead of two).	A restaurant has a long waitlist this evening. Customers waiting for a table can choose between two options: 1. Pay $80 for a dinner and be seated in one hour. 2. Pay $75 for a dinner and be seated in two hours.
Salon	A salon ($90 for a haircut) has just opened a new location. Customers making an appointment will need to wait two weeks to get a haircut. This salon also allows customers to pay less in exchange for waiting more. Specifically, if customers choose to get a haircut in four weeks (instead of two), they will pay $10 less.	A salon ($80 for a haircut) has just opened a new location. Customers making an appointment will need to wait four weeks to get a haircut. This salon also allows customers to wait less in exchange for paying more. Specifically, if customers choose to pay $10 more, they will get a haircut in two weeks (instead of four).	A salon has just opened a new location. Customers making an appointment can choose between two options: 1. Pay $90 for a haircut and get it in two weeks. 2. Pay $80 for a haircut and get it in four weeks.

*Note.* The order of options presented in the baseline condition was counterbalanced

Results and Discussion

A fairness ANOVA revealed a main effect of trade-off ($F(2,967) = 64.27$, $p < .001$, $\eta_p^2 = 0.12$). Fairness was higher in the spend-time-to-save-money condition ($M = 5.51$, 95% CI = [5.32, 5.70]) than in the spend-money-to-save-time condition ($M = 4.11$, 95% CI = [3.91, 4.30], $p < .001$, $d = 0.80$; Figure 3). Notably, the baseline condition ($M = 4.18$, 95% CI = [3.99, 4.37]) was *less* fair than the spend-time-to-save-money condition ($p < .001$, $d = 0.76$),

but no different than the spend-money-to-save-time condition ($p = .586$, $d = 0.04$). There was no interaction ($F(4,967) = 1.14$, $p = .337$, $\eta_p^2 = 0.01$).

Figure 3

Study 3 Results
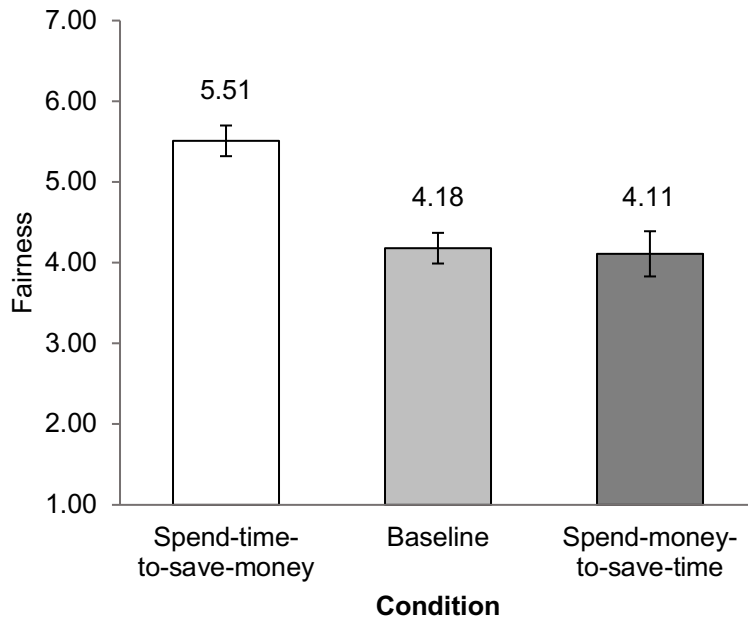
Note. Error bars indicate 95% CIs

Study 3 replicates the basic effect and addresses two alternative explanations. First, the spend-money-to-save-time condition could seem unfair because it reflects a monetary surcharge relative to a default or reference point (Kahneman & Tversky, 1979). However, the baseline condition contained neither a default nor reference point. If the monetary surcharge in the spend-money-to-save-time condition explained the effect, then it should have been rated as less fair than the baseline condition, which does not present a surcharge (as a deviation from a default or reference point). Yet both were viewed as equally unfair. The results are more consistent with our explanation the spend-time-to-save-money condition drives the effect, because such offers violate preconceived expectations about profit-seeking motives in a positive way. Second, the spend-money-to-save-time offers may be more

common in the marketplace and easier to process. However, response times—a proxy for processing ease (Saini & Monga, 2008)—did not differ (see Web Appendix).

A natural question is whether the opportunity cost of customers' time matters (Spiller, 2019). For example, diners waiting an hour for a table typically cannot do much else with the time, unlike shoppers waiting a month for delivery. But because it is not obvious how the opportunity cost of customers' time affects firm profits (in either case), our account—which depends on inferences about profit-seeking motives—suggests fairness perceptions to be robust to such considerations.

Study 4

In Study 4, we manipulated the opportunity cost of customers' time. We predicted only a replication of the basic effect.

Method

Participants. $N = 769$ MTurk workers (50% female; $M_{age} = 41.19$, SD = 11.52).

Procedure. Study 4 employed a 2 (trade-off: spend-time-to-save-money vs. spend-money-to-save-time) × 2 (opportunity cost: high vs. low) between-subjects design. We manipulated whether an amusement park asked customers to either spend time to save money or spend money to save time (Table 4). We also manipulated whether customers had to stand in line (high opportunity cost) or not (low opportunity cost). Participants then rated fairness.

Table 4

Study 4 Stimuli

Opportunity cost of time	Spend-time-to-save-money	Spend-money-to-save-time
Low (no need to stand in line)	An amusement park with several new attractions, rides, and shows has just opened. For each show, customers pay $30 and come back in 30 minutes (they are free to do what they want while waiting for the show to start). The park also allows customers to spend more time waiting in exchange for paying less money. Specifically, if customers choose to come back later, in 60 minutes (instead of 30 minutes), they will pay $10 less ($20 total).	An amusement park with several new attractions, rides, and shows has just opened. For each show, customers pay $20 and come back in 60 minutes (they are free to do what they want while waiting for the show to start). The park also allows customers to spend more money in exchange for waiting less time. Specifically, if customers choose to pay $10 more ($30 total), they can come back earlier, in 30 minutes (instead of 60 minutes).
High (need to stand in line)	An amusement park with several new attractions, rides, and shows has just opened. For each show, customers pay $30 and stand in line for 30 minutes. The park also allows customers to spend more time waiting in exchange for paying less money. Specifically, if customers choose to stand in line for 60 minutes (instead of 30 minutes), they will pay $10 less ($20 total).	An amusement park with several new attractions, rides, and shows has just opened. For each show, customers pay $20 and stand in line for 60 minutes. The park also allows customers to spend more money in exchange for waiting less time. Specifically, if customers choose to pay $10 more ($30 total), they will stand in line for 30 minutes (instead of 60 minutes).

Results and Discussion

A fairness ANOVA revealed a main effect of trade-off ($F(1,765) = 11.66$, $p < .001$, $\eta_p^2 = 0.02$; Figure 4). Fairness was higher in the spend-time-to-save-money condition ($M = 4.84$, 95% CI = [4.67, 5.02]) than in the spend-money-to-save-time condition ($M = 4.41$, 95% CI = [4.24, 4.59], $p < .001$, $d = 0.24$). There was a main effect of opportunity cost ($F(1,765) = 7.17$, $p = .008$, $\eta_p^2 = 0.01$), but no interaction ($F(1,765) = 0.121$, $p = .728$, $\eta_p^2 = 0.00$).

Figure 4

Study 4 Results
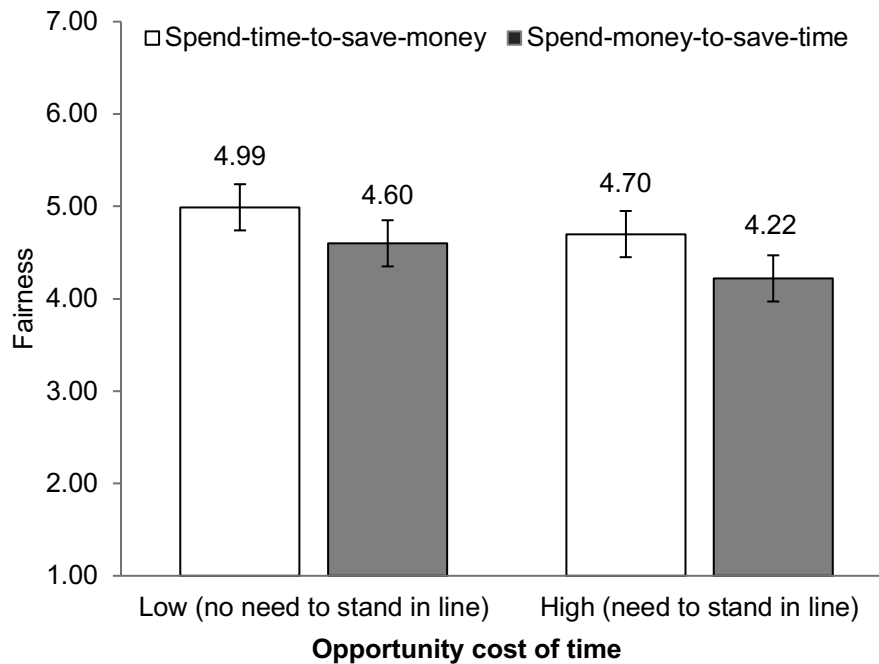
Note. Error bars indicate 95% CIs

Studies 1–4 offer evidence for the basic effect across various purchase contexts, price ranges, time durations, and both hypothetical and consequential choice. Our final studies test a key mechanism: inferred profit-seeking motives.

Study 5

We propose that spend-time-to-save-money offers violate preconceived expectations about profit-seeking motives in a positive way, increasing perceptions of fairness. In Study 5, therefore, we directly measured inferences about profit-seeking, predicting mediation of the effect. Drawing from the literature on the psychology of time versus money, we also measured several related constructs (e.g., resource equality, control, availability and slack) to address alternative explanations.

Method

Participants. $N = 358$ Prolific respondents (50% female; $M_{age} = 38.36$, SD = 13.36).

Procedure. Study 5 employed a single-factor (trade-off: spend-time-to-save-money vs. spend-money-to-save-time) between-subjects design. As in Study 2, we told all participants that a ride-hailing service allowed customers to spend time to save money (e.g., "*if customers are willing to wait 25 minutes (instead of 20 minutes), they will pay $45 (instead of $50)*") or spend money to save time (e.g., "*if customers are willing to pay $55 (instead of $50), they will wait 15 minutes (instead of 20 minutes)*"). Participants then rated fairness. On the next page, we measured profit-seeking inferences and four related constructs (Table 5).

Table 5

Study 5 Measures of Profit-Seeking Inferences and Related Constructs

Construct	Source	Question(s)	Scale
Profit-seeking	Bhattacharjee et al., 2017	"*What are the most important motives of those who run this business?*"	1 = "*to serve society or consumers*"; 3 = "*to make money, regardless of the effect on others*"
Resource equality	Shaddy & Shah, 2018	"*Do you think the amount of [time/money] that customers of this business have is equal (everyone has the same amount of [money/time]) or unequal (some people have a lot, some people have a little)?*"	1 = "*very unequally distributed*"; 7 = "*very equally distributed*"
Resource control	Donnelly et al., 2021	"*In general, not having [time/money] is a choice for customers of this business*" and "*In general, it is possible for customers of this business to find the [time/money] to do the things in life they really want to do*"	1 = "*strongly disagree*"; 7 = "*strongly agree*"
Resource availability	Zauberman & Lynch, 2005	"*On the following scale, please select a number that reflects how much available spare [time/money] you believe customers of this business currently have*"	–5 = "*very little available [time/money]*"; +5 = "*lots of available [time/money]*"
Resource slack	Zauberman & Lynch, 2005	"*On which day do you expect customers of this business to have more spare [time/money]?*"	1 = "*much more [time/money] available today*"; 10 = "*much more [time/money] available next month*"

Note. For resource equality, control, availability, and slack, we asked each question twice, once for time and once for money. These measures were presented in random order
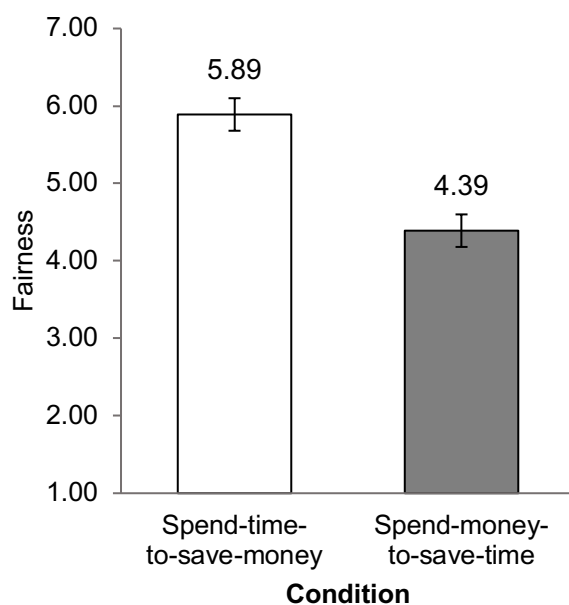
Results and Discussion

Fairness was higher in the spend-time-to-save-money condition ($M = 5.89$, 95% CI = [5.68, 6.10]) than in the spend-money-to-save-time-condition ($M = 4.39$, 95% CI = [4.17, 4.60]; $t(356) = 9.58$, $p < .001$, $d = 1.04$; Figure 5A). Participants also inferred weaker profit-seeking motives when the company presented the spend-time-to-save-money offer ($M = 2.39$, 95% CI = [2.30, 2.49]) than the spend-money-to-save-time offer ($M = 2.64$, 95% CI = [2.54, 2.73]; $t(356) = -3.36$, $p < .001$, $d = 0.39$; Figure 5B).
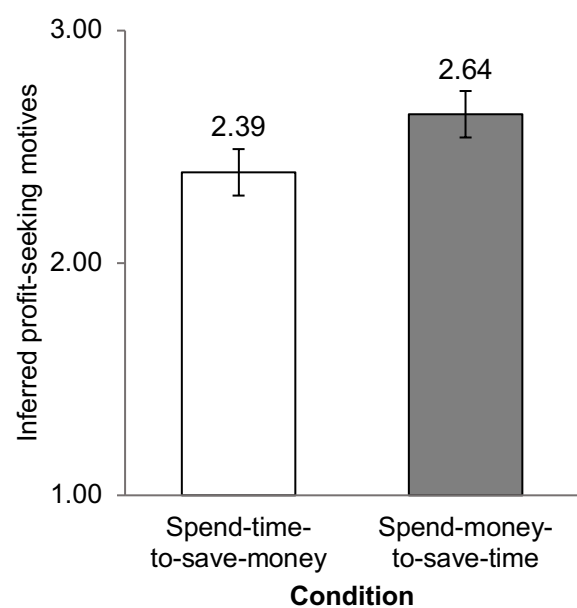
Figure 5

Study 5 Results

A.   B.


Note. Error bars indicate 95% CIs

For each of equality, control, availability, and resource slack, we subtracted the time ratings from the money ratings, forming four difference scores. Control over time (vs. money) was higher in the spend-time-to-save-money condition ($M = 0.78$, 95% CI = [0.61, 0.96]) than in the spend-money-to-save-time condition ($M = 0.54$, 95% CI = [0.37, 0.71]; $t(356) = 1.96$, $p = .050$, $d = 0.22$). No other differences were significant.

Figure 6

Study 5 Parallel Mediation Model
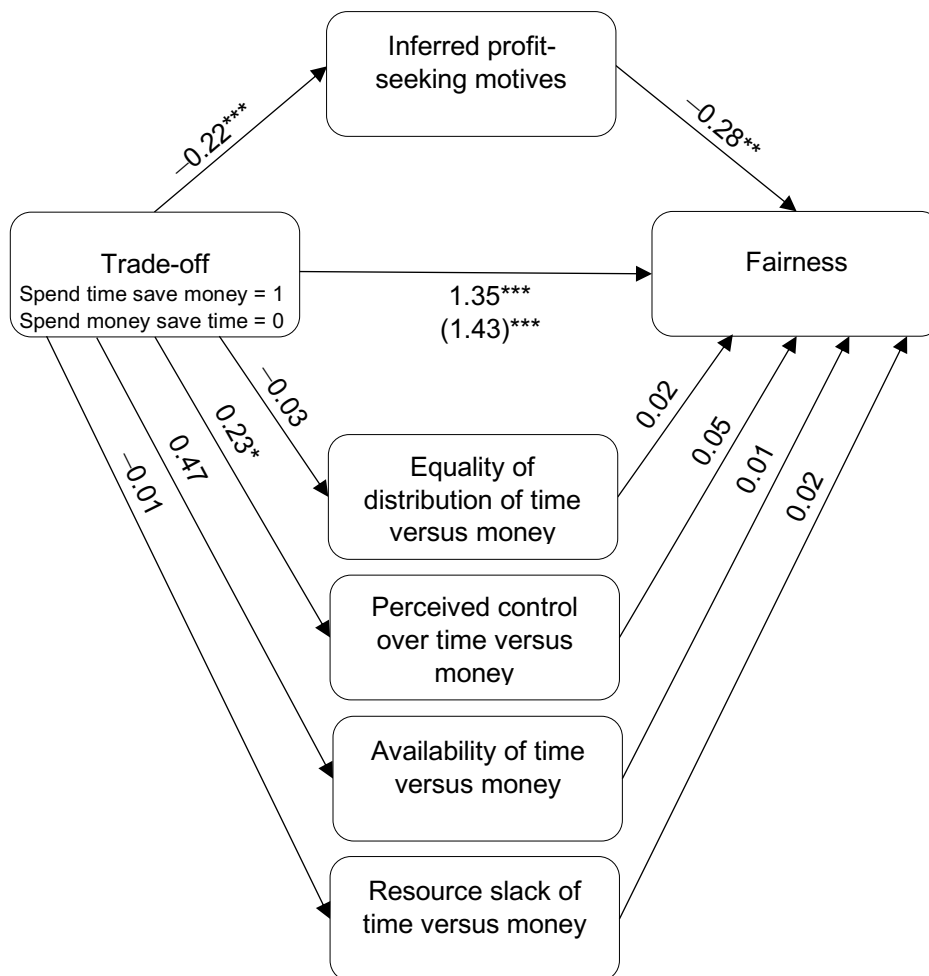
Note: ***$p < .001$, ** $p < .01$**, * $p < .05$. Parallel mediation analysis based on 10,000

bootstrapped resamples (PROCESS Model 4; Hayes, 2017). Profit-seeking motives indirect

effect = 0.06, 95% CI = [0.01, 0.13]. No other indirect effects were significant, and none of

the other mediators were significant on their own

We next performed a mediation analysis with 10,000 bootstrapped resamples

(PROCESS Model 4; Hayes, 2017). Inferred profit-seeking motives mediated the effect of

trade-off condition on fairness, both independently (indirect effect = 0.07, 95% CI = [0.01,

0.15]) and even when simultaneously including all four related constructs as parallel

mediators (indirect effect = 0.06, 95% CI = [0.01, 0.13]; Figure 6). Notably, inferences about

profit-seeking motives did not explain the results entirely, suggesting other potential

mechanisms (see General Discussion).

A corollary of our proposed process is that the effect should attenuate in the absence

of profit-seeking motives. We tested this theoretical implication in our final study.

Study 6

Study 6 offers evidence for our proposed process through moderation. Specifically,

we predicted that the effect would attenuate for a non-profit, for which concerns about profit-

seeking motives should be less salient (Aaker et al., 2010; Lee et al., 2017).

Method

Participants. $N = 787$ Prolific respondents (49% female; $M_{age} = 39.09$, SD = 13.99).

Procedure. Study 6 employed a 2 (trade-off: spend-time-to-save-money vs. spend-

money-to-save-time) × 2 (profit orientation: baseline vs. non-profit) between-subjects design.

All participants read about a theatre which was either non-profit (or not) and allowed

customers to spend time to save money or spend money to save time (Table 6). Participants

then rated fairness.

Results and Discussion

A fairness ANOVA revealed the predicted interaction ($F(1, 783) = 10.11$, $p = .002$, η_p^2

= 0.01). In the baseline condition, fairness was higher in the spend-time-to-save-money

condition ($M = 4.94$, 95% CI = [4.70, 5.19]) than in the spend-money-to-save-time condition

($M = 3.34$, 95% CI = [3.10, 3.59], $F(1,783) = 82.48$, $p < .001$, $d = 0.91$). However, this simple

effect attenuated in the non-profit condition ($M_{spend-time-to-save-money} = 5.11$, 95% CI = [4.87,

5.35] vs. $M_{spend-money-to-save-time} = 4.29$, 95% CI = [4.05, 4.53], $F(1,783) = 22.42$, $p < .001$, $d =$

0.49; Figure 7).

Table 6

Study 6 Stimuli

Profit orientation	Spend-time-to-save-money	Spend-money-to-save-time
Baseline	The theatre also gives customers the option to wait longer in exchange for paying less. Specifically, if customers choose to wait twice as long in line (30 minutes extra), they will pay half the price ($20 off).	The theatre also gives customers the option to pay more in exchange for waiting less. Specifically, if customers choose to pay double the price ($20 extra), they will wait half as long in line (30 minutes less).
Non-profit	The theatre also gives customers the option to wait longer in exchange for paying less. Specifically, if customers choose to wait twice as long in line (30 minutes extra), they will pay half the price ($20 off)"). Note that the 24th Street Theatre is a not-for-profit organization, which serves the local community. As a nonprofit, the 24th Street Theatre collects only enough revenue to cover overhead and operating costs.	The theatre also gives customers the option to pay more in exchange for waiting less. Specifically, if customers choose to pay double the price ($20 extra), they will wait half as long in line (30 minutes less). Note that the 24th Street Theatre is a not-for-profit organization, which serves the local community. As a nonprofit, the 24th Street Theatre collects only enough revenue to cover overhead and operating costs.

Figure 7

Study 6 Results
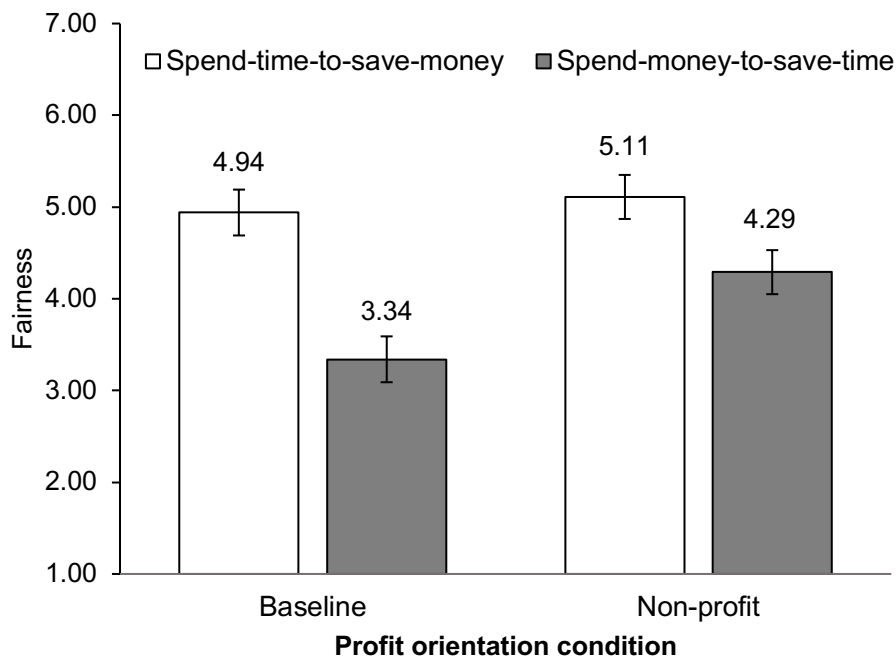
Note: Error bars indicate 95% CIs

General Discussion

Six preregistered studies (*N* = 3,631) reveal that asking customers to spend time to save money is perceived as fairer than asking them to spend money to save time. This is because spend-time-to-save-money offers reduce concerns about profit-seeking motives, thereby increasing perceptions of fairness.

Theoretical Contribution and Limitations

Our work makes several key theoretical contributions. First, it links beliefs about profits and profit-seeking motives to the psychology of time versus money. Second, while fairness research has focused largely on reactions to price increases (Xia et al., 2004) and price framing effects (Chark, 2019; Choi et al., 2014; Kimes & Wirtz, 2002), ours is the first to examine *exchanging* one resource for another.

These findings furthermore connect to intertemporal choice. As noted, people discount delayed gains more than accelerated gains (Weber et al., 2007). For example, while participants demanded $126 to delay the receipt of a VCR for one year, they were willing to pay only $54 to accelerate its receipt by one year (Loewenstein, 1988). Our account potentially surfaces an unexplored explanation for this difference. Consumers may simply believe it is *unfair* to spend money to save time. People also discount delayed losses less than accelerated losses (i.e., preferring to "get it over with"; Appelt et al., 2011). To the extent that spending money is encoded as a loss (cf. Novemsky & Kahneman, 2005), and payment and consumption are decoupled across mental accounting periods (Soster et al., 2010), consumers may be sensitive to *when* they pay for goods and services (though our studies held payment timing constant).

Study 5 offered mediation evidence for one potential mechanism (e.g., inferred profit-seeking motives) and ruled out beliefs about resource availability, control, equality, and slack (Donnelly et al., 2021; Shaddy & Shah, 2018; Zauberman & Lynch, 2005) as alternatives.

But there are numerous other psychological differences between time and money (Monga & Zor, 2019; MacDonnell & White, 2015). The effect might therefore be further explained by differences in sunk costs, boundedness, or fungibility (Leclerc et al., 1995; Soman, 2001). Another possibility is that asking customers to spend money to save time is viewed as a more deliberate or intentional choice on the part of the firm. Social concerns (Dawes et al., 2007) could matter, as well—especially when waiting times are clearly zero-sum. For example, in some situations, spending money to save time leaves other customers observably worse off (e.g., the "FastPass" system at Disney resorts).

It is also unclear what other inferences consumers might draw from the decision to present one offer or another. For example, in Study 6, the effect did not fully attenuate, suggesting consumers may believe non-profits value time and money similarly to for-profits. Companies that ask customers to spend time to save money could furthermore seem more willing to engage in other ethically, environmentally, or managerially beneficial practices. And in managerial settings, employers regularly ask employees to spend and save time and money in the workplace (e.g., overtime pay, unpaid leave), where similar effects might arise.

We encourage further exploration of additional moderators and extensions of our theory. For example, the value of time versus money to firms may be more or less salient, depending on whether purchases are products versus services or experiential versus material (Goodman et al., 2019). The magnitude of the effect likely also depends on income, socioeconomic status, and the relative scarcity (or discretionary nature) of time and money (Sharif et al., 2021; Whillans et al., 2016). Additionally, our conceptualization suggests an intriguing boundary condition: Spend-time-to-save-money offers may *not* boost fairness perceptions when it is clear that doing so helps protect profits. For example, when airlines overbook flights, they often recruit volunteers to delay their trips (spend time) in exchange for vouchers (save money). But most travelers understand these offers help airlines avoid

having to pay even greater compensation to those who would otherwise have to be *involuntarily* denied boarding. As such, they facilitate the continued (profit-maximizing) practice of overbooking flights, in general.

Finally, we acknowledge several important limitations. First, in Study 5, we measured only general inferences about firm motives (e.g., "to make money" vs. "to serve society"); similarly, in Study 6, we manipulated only generally the non-profit status of the firm, assuming participants would infer motives accordingly. Both are consistent with our conceptualization—that save-time-to-spend-money offers violate preconceived expectations about profit-seeking motives—but a more targeted measure or manipulation (i.e., one more closely linked to the offer itself) could have offered even stronger process evidence for our account.

Second, the six studies reported in the main text exclusively sampled from American participants on MTurk and Prolific (Henrich et al., 2010; Thalmayer et al., 2021). Though recent findings have affirmed the internal and external validity of psychological effects on these platforms (Goodman et al., 2013; Paolacci et al., 2010), we encourage follow-up work exploring generalizability in other settings and among other samples. Indeed, different cultures value time and money differently (Bellezza et al., 2017; Hamermesh & Lee, 2007), and online study respondents may be more accustomed to viewing their "time as money" (DeVoe & Pfeffer, 2007).

Managerial Implications

Our research yields numerous practical implications for marketers. Many companies offer consumers opportunities to spend money to save time (Lee-Yoon et al., 2020). Firms should frame these trade-offs to minimize inferences about profit-seeking. For example, consumers generally do not believe it is unfair for firms to raise prices when input costs increase (Kahneman et al., 1986a), such as for higher quality (Friedman & Toubia, 2020).

Indeed, in a supplemental study (see Web Appendix Study WA5), we found that asking customers to spend money for higher quality (vs. to save time) was *not* viewed as unfair (also casting further doubt on a discount-versus-surcharge interpretation of the focal effect). Managers might therefore reframe spend-money-to-save-time offers (e.g., paying a premium to receive a pair of sneakers earlier) as spend-money-for-higher-quality offers (e.g., paying a premium for a pair of sneakers with a lower serial number, which was *manufactured* earlier; Smith et al., 2016).

These findings furthermore connect to work on "drip pricing," the practice of adding mandatory fees to a base price later in the purchase process (Blake et al., 2021; Santana et al., 2020). A key difference is that "fees" in our paradigms were optional and presented upfront. But both underscore a tension between the shorter-term benefits of presenting the lowest price possible initially (increasing purchase intentions) and the longer-term harm associated with unfairness (decreasing satisfaction and eroding loyalty).

Nevertheless, asking customers to spend money to save time appears quite common in the marketplace. For example, when we surveyed the top 105 American fashion retail websites (e.g., Nike, Levi's, Balenciaga; Newsweek & Statista, 2023), we found that 80% offered *only* the option to spend money to save time, 5% offered both options, and 15% offered no option at all. *None* offered only the option to spend time to save money (see Web Appendix Study WA6).

Perhaps this is because managers believe asking customers to spend money to save time is profit- or revenue-maximizing. Its effect ultimately depends on the proportion of customers who accept each offer, however. For example, we presented MTurk workers with the shoes scenario from Study 3 (see Web Appendix Study WA7) and asked them to make a choice (as opposed to rate fairness). In the spend-time-to-save-money condition, 39% elected to pay $180 for delivery in one month; in the spend-money-to-save-time condition, only 28%

did so ($\chi^2(1) = 2.72$, $p = .099$, $\varphi_c = .12$). Average revenue per customer was thus highest in the spend-time-to-save-money condition ($168 vs. $166). Consequently, the *fairest* offer also happened to be best for the bottom line.

Conclusion

Trade-offs between time and money are inescapable: Consumers regularly choose between higher-priced nonstop flights and cheaper routes with layovers; between free delivery in seven business days and costly overnight shipping; between toll lanes and local access roads. This research offers a framework for understanding reactions to the framing of these trade-offs, with meaningful implications for marketing theory and practice.

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Web Appendix

Table of Contents

Overview of Supplemental Studies

We report eight supplemental studies in this Web Appendix. Studies WA1–2 are pilots that replicate the effect using within-subjects designs. Study WA3 explores downstream consequences (i.e., word-of-mouth, purchase intentions, and WTP). Study WA4 replicates Study 2 with a student sample (to account for potential differences in the valuation of time and money) using a within-subject design. Study WA5 tests a *quality*-money trade-off. Study WA6 documents the prevalence of spend-money-to-save-time versus spend-time-to-save-money offers in the marketplace. Study WA7 adapts the shoes scenario from Study 3, but asks participants to make a choice (rather than rate fairness). Finally, Study WA8 manipulates the opportunity costs of time for firms.

All preregistrations, original materials, data, and code are publicly available (https://researchbox.org/1265&PEER_REVIEW_passcode=VUAFTM). To maximize data quality, all studies using Amazon Mechanical Turk (MTurk) samples were conducted on the CloudResearch platform (Litman et al., 2017), with "Approved Participants" (Hauser et al., 2022) possessing a 95+% approval rating across 500+ HITs. All reported analyses exclude participants who failed preregistered attention and/or instructional manipulation checks.

Study WA1: Pilot Study 1

Method

Participants. N = 292 Amazon Mechanical Turk (MTurk) workers (52% female; M_{age} = 40.81, SD = 11.78).

Procedure. Study WA1 employed a single-factor (scenario: shoes vs. restaurant vs. salon) within-subjects design. Participants evaluated three scenarios in random order, on separate pages (see Table A1). For each scenario, we measured fairness ("*Which option is most fair?*"; 1 = "*Option A is most fair*"; 4 = "*Options A and B are equally fair*"; 7 = "*Option B is most fair*"). Trade-off (spend-time-to-save-money vs. spend-money-to-save-time) and option (A vs. B) were counterbalanced.

Results

A one sample *t*-test revealed that participants believed it was fairer to ask customers to spend time to save money than to spend money to save time (M = 5.04, SD = 1.67, 95% CI = [4.85, 5.24], $t(291)$ = 10.68, $p < .001$, d = 0.62).

Table A1

Pilot Study 1 Stimuli

Scenario	Spend-money-to-save-time condition
Shoes	A popular shoe company is releasing a new pair of limited-edition sneakers. There is not enough inventory for all customers to receive the sneakers in one month. The company has two options: **Option A.** All customers preordering the sneakers will receive them in two months. But they will also have the option to pay $80 more and receive them in one month (i.e., pay $80 extra to save one month waiting). **Option B.** All customers preordering the sneakers will receive them in one month. But they will also have the option to receive them in two months and pay $80 less (i.e., wait one month extra to save $80).
Restaurant	A popular restaurant has a long waitlist this evening. There are not enough tables for all customers to be seated in one hour. The restaurant has two options: **Option A.** All customers waiting for a table will be seated in two hours. But they will also have the option to pay $20 more to be seated in one hour (i.e., pay $20 extra to save one hour waiting). **Option B.** All customers waiting for a table will be seated in one hour. But they will also have the option to be seated in two hours and pay $20 less (i.e., wait one hour extra to save $20).
Salon	A popular salon has just opened a new location. There is not enough availability for all customers to get a haircut in two weeks. The salon has two options: **Option A.** All customers making an appointment will get a haircut in four weeks. But they will also have the option to pay $40 more to get a haircut in two weeks (i.e., pay $40 extra to save two weeks waiting). **Option B.** All customers making an appointment will get a haircut in two weeks. But they will also have the option to get a haircut in four weeks and pay $40 less (i.e., wait two weeks extra to save $40).

Note. Trade-off (spend-time-to-save-money vs. spend-money-to-save-time) and option (A vs. B) order were counterbalanced

Study WA2: Pilot Study 2

Method

Participants. $N = 152$ Prolific respondents (58% female; $M_{age} = 37.38$, SD $= 13.83$).

Procedure. Study WA2 followed a single-factor (scenario: product vs. service) between-subjects design. Participant made one single forced choice. Participants in the product (vs. service) condition read: "*Customers must wait a certain amount of time and pay a certain amount of money for a particular product (vs. service). However, not all customers have to wait the same amount of time or pay the same amount of money*." We then asked which option was fairer ("*Which of these options is fairer?*"; "*Allow customers to spend time waiting to save money*" or "*Allow customers to spend money to save time waiting*"). The order of the two options was randomized.

Results

Participants believed it was fairer to ask customers to spend time to save money (68%, 95% CI = [61%, 76%]) than to spend money to save time (32%, 95% CI = [24%, 40%]; $\chi^2(1) = 20.63$, $p < .001$, $\varphi_c = .37$).

Study WA3: Downstream Consequences

Method

Participants. $N = 327$ MTurk workers (41% female; $M_{age} = 40.62$, SD = 11.81; https://aspredicted.org/RRP_CBB).

Procedure. Study WA3 employed a single-factor (trade-off: spend-time-to-save-money vs. spend-money-to-save-time) between-subjects design. Participants in the spend-time-to-save-money condition read: "*A company offers customers the option to spend time to save money.*" Participants in the spend-money-to-save-time condition read: "*A company offers customers the option to spend money to save time.*" We measured downstream consequences via three counterbalanced items: word-of-mouth ("*How does this policy affect your willingness to recommend this company to others?*"), purchase intentions ("*How does this policy affect your willingness to purchase products/services from this company?*"), and WTP ("*How does this policy affect your willingness to pay for products/services from this company?*"; for each: 1 = "*decreases*", 4 = "*neither*", 7 = "*increases*").

Results

Word-of-mouth, purchase intentions, and WTP and were higher in the spend-time-to-save-money condition ($M_{word-of-mouth} = 4.83$, 95% CI = [4.61, 5.04]; $M_{purchase\ intentions} = 5.00$, 95% CI = [4.78, 5.23]; $M_{WTP} = 4.91$, 95% CI = [4.69, 5.13]) than in the spend-money-to-save-time condition ($M_{word-of-mouth} = 4.10$, 95% CI = [3.89, 4.32], $t(325) = 4.67$, $p < .001$, $d = 0.52$; $M_{purchase\ intentions} = 4.18$, 95% CI = [3.96, 4.40], $t(325) = 5.21$, $p < .001$, $d = 0.57$; $M_{WTP} = 4.20$, 95% CI = [3.99, 4.42], $t(325) = 4.55$, $p < .001$, $d = 0.50$).

Study WA4: Study 2 Replication

Method

Participants. $N = 195$ behavioral lab participants at a business school in the United States (72% female; $M_{age} = 22.25$, SD = 4.44; https://aspredicted.org/D4M_C8X).

Procedure. Study WA4 employed a within-subjects design. Participants read about two ride-hailing services, Uber and Lyft. One allowed riders to spend time to save money; the other allowed riders to spend money to save time (counterbalanced; Table A2). Participants rated the fairness of each policy ("*How fair is this policy?*"; 1 = "*very unfair*"; 7 = "*very fair*") and chose to receive either a $50 Lyft or Uber gift card. Crucially, we told participants that one randomly selected person would actually receive their chosen gift card.

Table A2
Study WA4 Stimuli

Company (within-subjects)	Spend-time-to-save-money	Spend-money-to-save-time
[Uber/Lyft]	[Uber/Lyft] now allows customers to spend time to save money. Specifically, if customers are willing to wait 30 minutes (instead of 20 minutes), they will pay $25 (instead of $50). In other words, they can wait 10 minutes more to save $25.	[Lyft/Uber] now allows customers to spend money to save time. Specifically, if customers are willing to pay $75 (instead of $50), they will wait 10 minutes (instead of 20 minutes). In other words, they can pay $25 more to save 10 minutes.

Note. Trade-off (spend-time-to-save-money vs. spend-money-to-save-time) and company (Uber vs. Lyft) combination was counterbalanced. The order of presentation was randomized

Results

Participants were more likely to choose a gift card from the company that presented the spend-time-to-save-money offer (66%, 95% CI = [59%, 73%]; $\chi^2(1) = 19.08$, $p < .001$, $\varphi_c = .31$). Fairness was higher for the company that presented the spend-time-to-save-money offer ($M_{\text{difference}} = 1.05$, 95% CI = [0.81, 1.29], $t(194) = 8.61$, $p < .001$, $d = 0.62$).

Study WA5: Quality-Money Trade-Off

Study WA5 tests a *quality*-money trade-off. We reasoned that asking customers to spend money for higher quality may not signal profit-seeking motives as strongly as asking customers to spend money to save time. This is because consumers understand—and view as more justifiable (Friedman & Toubia, 2020; Kahneman et al., 1986)—charging more when input costs increase. We, therefore, predicted that the effect will be attenuated for trade-offs between money and quality.

Method

Participants. $N = 799$ MTurk workers (52% female; $M_{\text{age}} = 42.20$, SD = 12.75; https://aspredicted.org/4LN_TRD).
Procedure. Study WA5 employed a 2 (trade-off: save-money vs. spend-money) × 2 (benefit: time vs. quality) between-subjects design. In the time benefit condition, participants read that customers could save money by spending time or save time by spending money; in the quality benefit condition, participants read that customers could save money by accepting lower quality or spend money to receive higher quality (Table A3). Participants then rated fairness.

Results

A fairness ANOVA revealed the predicted interaction ($F(1, 795) = 29.13$, $p = .002$, $\eta_p^2 = 0.04$). In the time benefit condition, fairness was higher when customers could spend time to save money ($M = 5.63$, 95% CI = [5.39, 5.86]) than when customers could spend money to save time ($M = 4.47$, 95% CI = [4.24, 4.70], $F(1,795) = 47.67$, $p < .001$, $d = 0.71$). However, this simple effect was eliminated in the quality benefit condition ($M_{\text{save-money}} = 4.91$, 95% CI = [4.67, 5.14] vs. $M_{\text{spend-money}} = 5.03$, 95% CI = [4.79, 5.26]; $F(1,795) = 0.51$, $p = .474$, $d = 0.07$; see Figure A1).

Table A3

Study WA5 Stimuli

Benefit	Save-money	Spend-money
Time	A shoe company is releasing a new pair of limited-edition sneakers ($180). Customers preordering the sneakers will receive them in one month. This company also allows customers to pay less in exchange for waiting more. Specifically, if customers choose to receive the sneakers in two months (instead of one), they will pay $20 less.	A shoe company is releasing a new pair of limited-edition sneakers ($160). Customers preordering the sneakers will receive them in two months. This company also allows customers to wait less in exchange for paying more. Specifically, if customers choose to pay $20 more, they will receive the sneakers in one month (instead of two).
Quality	A shoe company is releasing a new pair of limited-edition sneakers ($180). Customers preordering the sneakers will receive the long distance version (rated for an estimated 500 miles of running). This company also allows customers to pay less in exchange for downgrading the lifespan rating. Specifically, if customers choose to receive the standard distance version (rated for an estimated 300 miles of running), they will pay $20 less.	A shoe company is releasing a new pair of limited-edition sneakers ($160). Customers preordering the sneakers will receive the standard distance version (rated for an estimated 300 miles of running). This company also allows customers to upgrade the lifespan rating in exchange for paying more. Specifically, if customers choose to pay $20 more, they will receive the long distance version (rated for an estimated 500 miles of running)

Figure A1

Study WA5 Results
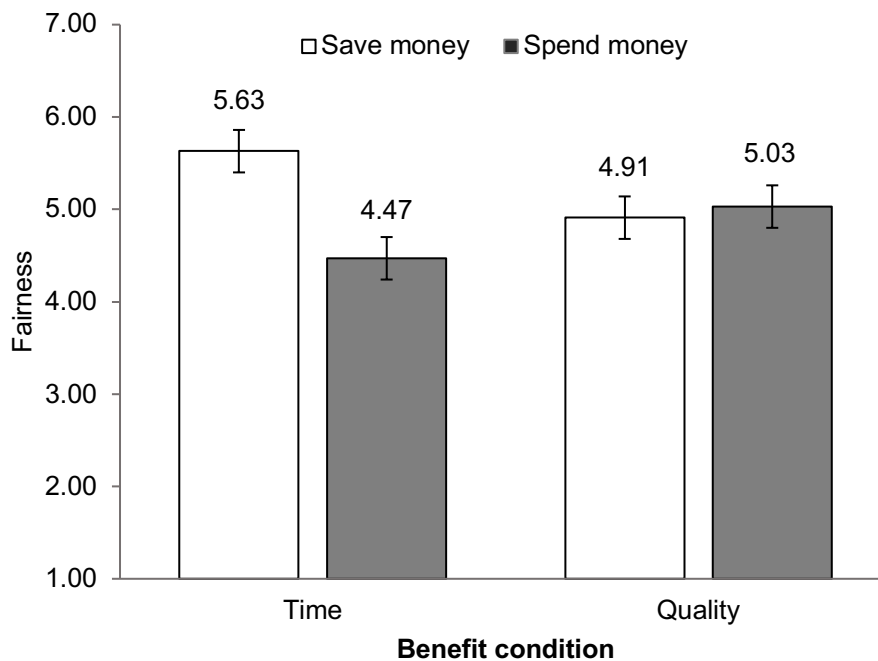
Note: Error bars indicate 95% CIs

Study WA6: Survey of Current Marketplace Practices

We investigated whether retail companies are more likely to offer consumers the choice to either spend money to save time or spend time to save money.

Method

Procedure. We selected 105 retailers from the list of the Best US Fashion Retailers for the year 2023 (Newsweek & Statista, 2023). For each retailer, an independent coder was tasked to:
1. Use a private web browser to anonymously search for the retail website.
2. Visit the retail website.
3. Add the first available item available for purchase to the shopping cart. Record the selected item (e.g., pants, sweater, t-shirt etc.).
4. Examine the available shipping options for the chosen item.
5. Classify the retailer as:
   - "Spend money to save time": default option is the later shipping with the option of expedited shipping.
   - "Spend time to save money": default option is the earlier shipping with the option of delayed shipping.
   - "Both options": the company provides both expedited shipping and delayed shipping (with no default option).
   - "Single option": only one shipping option, with no possibility to spend money to save time or spend time to save money.
6. Take a screenshot of the page and item.

Results

Out of the initial 105 retailers, 12 did not have a website, resulting in a final sample of $N = 93$ retailers. According to Newsweek & Statista, 2023, these retailers specialized in 18 different fashion categories (e.g., athletic apparel, outdoor apparel, premium apparel, children's clothing, footwear). The majority of retailers (42%) were specialized in apparel, followed by jewelry and accessories (29%), footwear (11%), bridal fashion and lingerie (8%), department stores (5%) and other (e.g., second-hand clothing; 5%). The independent coder selected 17 different product items for classification, such as sweaters (26%), bags (14%), dresses (13%), jewelry (11%), shirts (8%), and hoodies (5%), among others.

Results showed that 80% offered only the option to spend money to save time (e.g., pay more for faster shipping), 5% offered both options, and 15% offered no option at all. None offered only the option to spend time to save money. There was no significant association found between the trade-off and the fashion category type ($\chi^2(34) = 39.60$, $p = .234$) or the selected item type ($\chi^2(32) = 30.04$, $p = .566$). Overall, it appears that when companies do offer an opportunity to trade off time and money, they predominantly frame it as "spend money to save time."

Figure A2
Example of retailer that only offered the option to spend money to save time (UGG)

Shipping

✓ Standard Shipping
  Expedited Shipping
  Fastest Shipping

Sales Tax $0.00
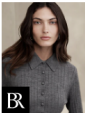**Estimated Total**   **$118.00**

4 payments of **$29.50** with afterpay ⓘ

Figure A3
Example of retailer that included the option to spend time to save money (Banana Republic)

Shipment (1 item)

Show Item Details ⌄

○   Monday, Oct 23 $5.00
    No Rush 7-9 business days
    NOT IN A HURRY?
    Select this option to give us a few extra days. We'll still do our best to ship your purchase quickly.

○   Thursday, Oct 19 $7.00
    Basic 5-7 business days

✓   **Tuesday, Oct 17**   **$9.00**
    Standard 3-5 business days

○   Monday, Oct 16 $17.00
    Express 2-3 business days

Figure A4
Example of retailer that did not offer either option (Levi's)

Items	$69.50
Discount	-$13.90
20% Off Sitewide	-$13.90
Shipping	$7.95

Spend $94.40 more to unlock free shipping **See Details**

Study WA7: Revenue Implications

Method

Participants. $N = 200$ MTurk workers (47% female; $M_{age} = 41.30$, SD = 12.17).
Procedure. Study WA7 followed a single factor (spend-time-to-save-money vs. spend-money-to-save-time) between-subjects design. We adapted the shoe scenario from Study 3 (see Table A4). After reading the scenario, participants in the spend-time-to-save-money condition were asked: "*You are planning to preorder the sneakers. You will pay $180 and receive them in one month. Would you choose to receive the sneakers in two months (instead of one) and pay $20 less?*"; "*Yes*" vs. "*No.*" After reading the scenario, participants in the spend-money-to-save-time condition were asked: "*You are planning to preorder the sneakers. You will pay $160 and receive them in two months. Would you choose to pay $20 more and receive the sneakers in one month (instead of two)?*"; "*Yes*" vs. "*No.*"

Table A4
Study WA7 Stimuli

Scenario	Spend-time-to-save-money condition	Spend-money-to-save-time condition
Shoes	A shoe company is releasing a new pair of limited-edition sneakers ($180). Customers preordering the sneakers will receive them in one month. This company also allows customers to pay less in exchange for waiting more. Specifically, if customers choose to receive the sneakers in two months (instead of one), they will pay $20 less.	A shoe company is releasing a new pair of limited-edition sneakers ($160). Customers preordering the sneakers will receive them in two months. This company also allows customers to wait less in exchange for paying more. Specifically, if customers choose to pay $20 more, they will receive the sneakers in one month (instead of two).

Results

In the spend-time-to-save-money condition, 61% chose to pay $160 with delivery in two months, while 39% chose to pay $180 with delivery in one month. In the spend-money-to-save-time condition, 72% chose to pay $160 with delivery in two months, while 28% chose to pay $180 with delivery in one month ($\chi^2(1) = 2.72$, $p = .099$, $\varphi_c = .12$). As a result,

average revenue per customer was higher in the spend-time-to-save-money condition ($168) than in the spend-money-to-save-time condition ($166).

Study WA8: Manipulating the Opportunity Costs of Time for Firms

Method

Participants. $N = 764$ MTurk workers (50% female; $M_{\text{age}} = 45.41$; https://aspredicted.org/HZY_3FG).

Procedure. Study WA8 employed a 2 (trade-off: spend-time-to-save-money vs. spend-money-to-save-time) × 2 (opportunity cost: baseline vs. high) between-subjects design. All participants read about an accounting firm. We manipulated whether it allowed customers to spend time to save money or spend money to save time (Table A5). We also manipulated whether it was tax season (e.g., "*accountants are very busy (i.e., working overtime)*"; high opportunity cost) or not (baseline). Participants then rated fairness.

Table A5
Study WA8 Stimuli

| Opportunity cost of time	Spend-time-to-save-money	Spend-money-to-save-time
Baseline (no mention of tax season or overtime)	A tax preparation company charges $300 to prepare and file tax returns by the next day. This company also offers its clients the option to wait longer in exchange for paying less. Specifically, if clients are willing to wait one month to have their tax returns prepared and filed, they will pay $50 less.	A tax preparation company charges $250 to prepare and file tax returns within one month. This company also offers its clients the option to pay more in exchange for waiting less. Specifically, if clients are willing to pay $50 more, they will have their tax returns prepared and filed by the next day.
High (currently tax season and accountants working overtime)	A tax preparation company charges $300 to prepare and file tax returns by the next day. It is currently tax season, and accountants are very busy (i.e., working overtime). This company also offers its clients the option to wait longer in exchange for paying less. Specifically, if clients are willing to wait one month to have their tax returns prepared and filed, they will pay $50 less.	A tax preparation company charges $250 to prepare and file tax returns within one month. It is currently tax season, and accountants are very busy (i.e., working overtime). This company also offers its clients the option to pay more in exchange for waiting less. Specifically, if clients are willing to pay $50 more, they will have their tax returns prepared and filed by the next day.

Results and Discussion

A fairness ANOVA revealed a main effect of trade-off ($F(1,760) = 17.02$, $p < .001$, $\eta_p^2 = 0.02$; Figure A5). Fairness was higher in the spend-time-to-save-money condition ($M = 5.44$, 95% CI = [5.28, 5.60]) than in the spend-money-to-save-time condition ($M = 4.96$, 95% CI = [4.80, 5.12], $p < .001$, $d = 0.30$). There was a marginally significant main effect of opportunity cost ($F(1,760) = 3.74$, $p = .054$, $\eta_p^2 = 0.01$), but no interaction ($F(1,760) = 0.07$, $p = .798$, $\eta_p^2 = 0.00$).

One possible explanation for the lack of interaction could be that, although we manipulated the opportunity costs of time for firms, participants might not have linked faster service to reduced profits. A more direct manipulation that clearly explains how time

contributes to the firm's profits (as opposed to our indirect manipulation through opportunity costs) may indeed moderate the effect, consistent with our theory.

Figure A5
Study WA8 Results
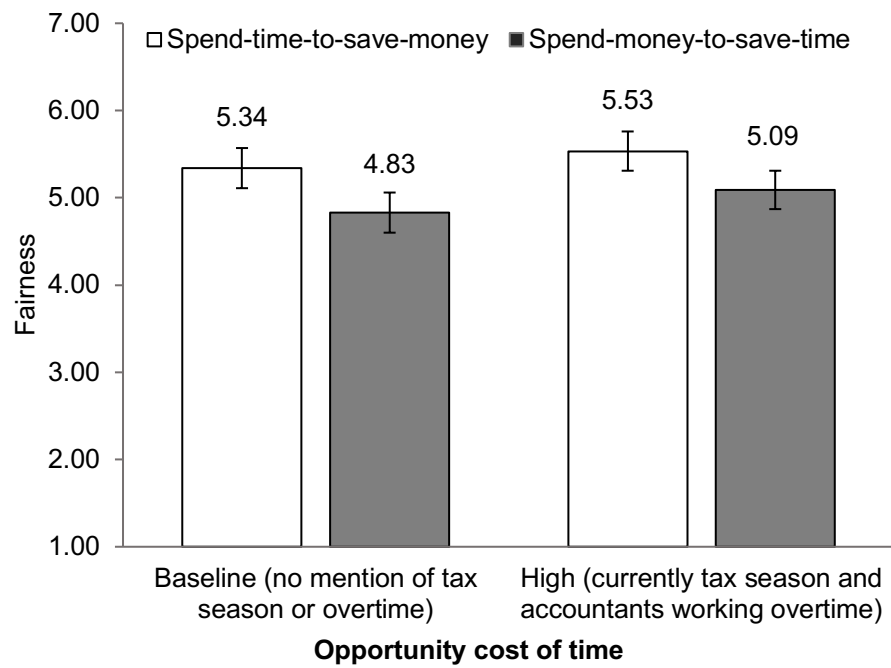
Note: Error bars indicate 95% CIs

Supplementary Analyses

Study 3: Secondary Analyses on Response Time

In Study 3, we measured response times as a proxy for processing ease (Saini & Monga, 2008). As preregistered, we log-transformed response times (Kolmogorov-Smirnov test = .27, $p < .001$). A response time ANOVA revealed only a main effect of trade-off ($F(2,967) = 7.04$, $p < .001$, $\eta_p^2 = 0.01$). Response times were lowest in the baseline condition ($M = 1.22$, 95% CI = [1.18, 1.25]), while response times in the spend-money-to-save-time condition ($M = 1.30$, 95% CI=[1.26, 1.33]) and the spend-time-to-save-money condition ($M = 1.30$, 95% CI = [1.27, 1.34]) did not differ ($F(1,644) = 0.02$, $p = .870$, $d = 0.01$)—ruling out a ease of processing account.

Study 5: Additional Mediation Models

We report four mediation models testing each of the alternative mediators separately (Table A6). None were significant on their own. We report mediational analyses using 10,000 sample bootstrap analyses with 95% bias-corrected confidence intervals (CIs).

Table A6
Alternative Mediation Models (Study 5)

Independent variable	Mediator	Dependent variable	Indirect effect	95% CI
Trade-off condition	Control over time vs. money	Fairness	0.012	[–0.03, 0.06]
Trade-off condition	Availability of time vs. money	Fairness	0.014	[–0.02, 0.06]
Trade-off condition	Equality of distribution of time vs. money	Fairness	0.001	[–0.02, 0.02]
Trade-off condition	Resource slack of time vs. money	Fairness	–0.002	[–0.02, 0.02]

Note. As preregistered, for the measures of equality, control, availability, and resource slack of time and money, we subtracted the ratings for time from the ratings for money, forming four difference scores corresponding to each construct

Study 6: Replication of Results Excluding Comprehension Check Failure

In Study 6, as comprehension check, we asked participants: "*Is the 24th Street Theatre a non-for-profit organization?*" ("*Yes*" vs. "*No*"). In the baseline condition, 76% of participants assumed the organization was motivated by profit as opposed to the 10% in the non-profit condition ($\chi^2(1) = 354.65$, $p < .001$, $\varphi_c = .67$).

We preregistered an analysis excluding participants who selected "Yes" in the baseline condition and "No" in the non-profit condition: A fairness ANOVA revealed main effects of trade-off condition ($F(1,652) = 81.40$, $p < .001$, $\eta_p^2 = 0.11$) and profit orientation ($F(1,652) = 22.49$, $p < .001$, $\eta_p^2 = 0.03$), which were qualified by an interaction ($F(1,652) = 9.55$, $p = .002$, $\eta_p^2 = 0.01$). In the baseline condition, participants believed it was fairer to ask customers to spend time to save money ($M = 4.94$, 95% CI = [4.65, 5.23]) than to spend money to save time ($M = 3.31$, 95% CI = [3.05, 3.58]; $F(1,652) = 66.33$, $p < .001$, $d = 0.92$). However, this simple effect was attenuated in the nonprofit condition ($M_{\text{spend-time-to-save-money}} = 5.16$, 95% CI = [4.91, 5.41] vs. $M_{\text{spend-money-to-save-time}} = 4.37$, 95% CI = [4.12, 4.61]; $F(1,783) = 19.68$, $p < .001$, $d = 0.49$). This analysis replicates the results of Study 6.

Study 1–8: Means and SDs Across Studies

Table A6

Means (SDs) across all studies reported in the main text

Study	*N*	Dependent variable	Scenario/condition	Spend-time-to-save-money	Spend-money-to-save-time	Baseline
1	351	Fairness	-	5.51 (1.37)	4.99 (1.59)	-
2	390	Fairness	-	5.69 (1.30)	4.17 (1.83)	-
3	976	Fairness	Shoes	5.95 (1.14)	4.57 (1.90)	4.99 (1.74)
			Restaurant	5.03 (1.66)	3.67 (2.02)	3.59 (2.04)
			Salon	5.55 (1.52)	4.07 (1.99)	3.96 (1.84)
4	769	Fairness	Low opportunity cost	4.99 (1.77)	4.60 (1.76)	-
			High opportunity cost	4.70 (1.58)	4.22 (1.84)	-
5	358	Fairness	-	5.89 (1.09)	4.39 (1.72)	-
		Profit-seeking	-	2.39 (0.71)	2.64 (0.56)	-
6	787	Fairness	Baseline	4.94 (1.66)	3.34 (1.86)	-
			Non-profit	5.11 (1.57)	4.29 (1.81)	-

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