When Do Individuals Give Up Agency? The Role of Consideration Costs

Holly Dykstra, Christine L. Exley, Muriel Niederle, and Heather Wong *

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Abstract

Agents insist on agency for many reasons, including a desire to obtain their preferred choice and a desire for control. Agents may also forgo agency because of costs associated with making a decision. In a large experiment, we find that even a "consideration cost" makes individuals more willing to forgo agency. When presented with a menu of investment options, decision-makers are much more willing to forgo agency (letting someone else choose) if choosing an investment option for themselves requires even a cursory consideration of the investment options. Strikingly, this consideration effect arises even among experienced decision-makers.

*Holly Dykstra: University of Konstanz, holly.dykstra@uni-konstanz.de; Christine L. Exley: University of Michigan, exley@umich.edu; Muriel Niederle: Stanford University, SIEPR and NBER, niederle@stanford.edu; Heather Wong: University of Michigan, wonghm@umich.edu

1 Introduction

In many decisions, individuals choose between making their own selection among an available choice set or instead forgoing agency by allowing someone else to choose for them. For instance, when individuals select investment funds, retirement accounts, healthcare plans or insurance policies, individuals may forgo agency by following a recommendation, adopting a default option, or delegating their choice to someone else.

There are many reasons as to why individuals may be more or less insistent on agency. For individuals who are confident in their choice and have concerns over what others would choose, insisting on agency is a way to ensure they implement their preferred choice. For individuals who are less confident in their choice and believe others may make a more informed decision on their behalf, forgoing agency may naturally follow. In this paper, we examine how the *consideration costs* of the decision—holding fixed factors such as informational content about one's own ability and what occurs when they forgo agency—influences an agent's willingness to forgo agency.

To examine the impact of consideration costs on agency preferences, we compare how often participants forgo agency across several treatments. Some treatments require participants to have, at least, a cursory consideration of the available choices if they insist on agency. Another treatment instead allows participants to largely sidestep consideration costs even if they insist on agency. Participants can always avoid consideration costs by forgoing agency (letting someone else make choices on their behalf).

More specifically, in these experiments, participants face a series of investment problems. In each problem, participants choose which investment option—from a set of available options—to implement. Each investment problem appears once in each of the two blocks: the Baseline Block and the Agency Block. In the Baseline Block, participants decide which option to implement in an investment problem for a small fee. In the Agency Block, participants decide to either forgo agency in an investment problem (and accept the option chosen by the paternalist, Pat), or to insist on agency (and implement an option of their choice for the same small fee as in the Baseline Block). The fee ensures that individuals who select agency have a strict preference for doing so. While participants have information about Pat, they do not know Pat's exact choices. In the main series of experiments, Pat is an individual who made common choices.

We design the Prior Choice and New Choice treatments to examine the extent to which consideration costs may influence individuals' willingness to give up agency. In the Prior Choice treatment, participants first face the Baseline Block and then the Agency Block. This ensures that—when individuals make their agency decisions—they have already incurred the consideration costs associated with thinking about the exact same investment options. In addition, if participants insist on agency in an investment problem in the Agency Block, the option that will be implemented is already determined: it is the option they previously chose in the same

investment problem in the Baseline Block. Importantly, participants do not have to re-select which option to implement in the Agency Block under the Prior Choice treatment. Hence, if participants insist on agency in the Prior Choice treatment, they are prevented from incurring additional consideration costs around actively selecting a specific investment option. This design feature—coupled with the fact that participants have already had experience with considering all investment problems—implies that any consideration costs associated with insisting on agency are likely minimal.

By contrast, in the New Choice treatment, insisting on agency requires participants to incur larger consideration costs. Participants first face the Agency Block and then face the Baseline Block, which implies that—when they are making agency decisions—they are considering each investment option for the first time. Relatedly, if participants insist on agency, they are required to choose which option—out of all available options—to implement in the Agency Block.

Participants in the Prior Choice treatment forgo agency in a problem 31% of the time. In the New Choice treatment, however, the Agency Block is the first block participants face. In the New Choice treatment, participants forgo agency 55% of the time. Consistent with consideration costs, participants are 24 percentage points (or 77%) more likely to forgo agency when they must expend cognitive effort to determine their preferred choice. We therefore find strong evidence for this *consideration effect*.

To further evaluate the robustness of the *consideration effect*, we design the *New Choice (Experienced)* treatment. As in the *Prior Choice* treatment, participants first face the Baseline Block and then the Agency Block. This implies that participants have incurred consideration costs associated with experience or having already considered the investment problems. However, as in the *New Choice treatment*, if participants insist on agency in an investment problem in the Agency Block, they subsequently have to select which option to implement. This implies that participants, if they insist on agency, must at least have pay some cursory consideration costs when selecting which investment option to implement. The *consideration effect* persists even when eliminating any effect associated with experience. That is, participants are more likely to forgo agency in the *New Choice (Experienced)* treatment than in the *Prior Choice* treatment. The most cursory level of consideration required can induce even experienced agents to forgo agency.

In additional experiments, we present several robustness and extension results. First, we replicate our consideration effect in a new sample. Second, we analyze how participants approach the tradeoff in avoiding consideration costs by examining Pat's decision rule, whether participants are informed of the exact choice Pat makes, time costs, and the role of monetary stakes. We also have an additional treatment to document the role of consideration costs in driving participants' willingness to give up agency in a slightly different environment. Lastly, we explore the relationship between experience and cognitive dissonance.

This paper is related to several important strands of literatures.

We further add to a small but growing literature on agency preferences (Fehr, Herz and Wilkening, 2013; Bartling, Fehr and Herz, 2014; Owens, Grossman and Fackler, 2014; Pikulina and Tergiman, 2020; Afzal et al., 2022; Kübler and Erkut, 2022; Freundt, Herz and Kopp, 2023). We highlight that the strength of agency preferences does not only vary across individuals or problems, but crucially also depends on the *consideration costs* associated with the framing of the problem. We find that agents are more willing to forgo agency when they have not previously considered a problem before as compared to when they have considered a problem before. More generally, we find that agency preferences depend on the extent to which agents are required to consider their options if they insist on agency. Even among experienced agents, simply requiring them to consider all of their options—rather than simply selecting a previously chosen option—increases their willingness to forgo agency.

Our work also speaks to an individual's willingness to be paternalized, complementing past work on individuals' willingness to paternalize others (Jacobsson, Johannesson and Borgquist, 2007; Lusk, Marette and Norwood, 2014; Gangadharan et al., 2018; Ambuehl, Bernheim and Ockenfels, 2021; Ackfeld and Ockenfels, 2021; Stefan et al., 2022; Bartling et al., 2023; Buckle and Luhan, 2023)..

In addition, while ample and important work exists that shows how easily individuals can be swayed in many contexts, there is also ample and important work in behavioral economics suggests that it is often quite difficult to affect individuals' choices in some contexts (for a review of this literature, see Jachimowicz et al., 2019 or DellaVigna and Linos, 2022). We provide a potential factor that may contribute to these differing results. When individuals have to incur substantial consideration costs to implement their own choice, they are more easily, and perhaps even quite easily, swayed and influenced. In contrast, individuals with experience and, even more so, individuals who do not need to even incur a cursory consideration cost to implement their own choice are much harder to move; that is, they are harder to be persuaded to give up agency and adopt different options.

2 Design

In this section we describe our main experiment. For complete instructions, see Section 2 of the Online Appendix.

2.1 Decision Environment

Our study involves 18 investment problems. In each one, participants receive an endowment of \$2.25 and decide how to invest \$2 of that endowment by selecting which investment option to implement.

The 18 investment problems are described in Table 1. There are twelve Eckel-Grossman (EG) problems—inspired by Eckel and Grossman (2002)—with five investment options each:

one guarantees a fixed return, and four have returns that depend on a 50-50 lottery. There are also four High-Risk problems with three investment options: one guarantees a fixed return, and two involve small chances of high returns. Finally, there are two Attention Check problems with five investment options each, all with fixed returns, one of which strictly dominates the others. Participants do not receive any information about the outcome of their investment decisions until the end of the experiment. This design feature fixes information across participants. [1]

Participants face each investment problem twice: once in the Baseline Block and once in the Agency Block. Participants do not know the rules of the second block while completing the first block, and the order of the 18 problems in each block is random. In the Baseline Block, participants choose an investment option and incur a $0.25 implementation fee. In contrast, in the Agency Block, participants can either implement the option chosen by themselves ("insist on agency") or instead implement the option chosen by someone else ("forgo agency") separately for each problem. If they insist on agency, they incur a $0.25 implementation fee, just as in the Baseline Block. If they forgo agency and opt for the investment option chosen by someone else, whom we call "Pat," they do not have to pay any implementation fee. Therefore, participants who insist on agency have a strict preference for doing so.

To prevent individuals from being influenced by Pat's choice, they do not learn it. That is, we do not have to worry that individuals who make an investment decision in the Baseline Block after the Agency Block are influenced by Pat's choices. Participants are, however, informed that Pat's choices are determined by another MTurk worker, whom we describe as follows:

> Because of anonymity, we cannot give you the true name of this MTurk worker. Therefore, for simplicity, let's refer to this MTurk worker as "Pat." Pat will be chosen such that for as many decisions [investment options] as possible out of the 18 decisions you are about to make, the following is the case: Pat made the choice that is the most common choice among all other MTurk workers in a prior version of this study. In this sense, Pat is usual for MTurk workers.

We chose the name Pat both because of its gender neutrality and as a nod to Pat's paternalistic nature in our study. We select Pat to be someone who made "common" choices and is thus "usual" in order to capture individuals' willingness to give up agency when doing so is "reasonable." We examine the robustness of our results to other "Pats"—e.g., when Pat is instead known to be equally likely to select any of the available investment options—in the Section 4.

Table 1 details the 18 investment problems, where Pat's choice is in italics and bold. Pat's choice was determined by a previous treatment in which participants only had to make decisions in the Baseline Block.[2]

[1] We consider the case where information about Pat's choice is provided in Section 4.2.3.

[2] We have 398 Amazon MTurk workers from August 2, 2018 in this *Reference Group* treatment, which was only used to determine Pat's choices.

Table 1: Investment Problems

	Option 1	Option 2	Option 3	Option 4	Option 5
EG 1	***2***	$\mathcal{L}(3, 1.50)$	$\mathcal{L}(4, 1)$	$\mathcal{L}(5, 0.50)$	$\mathcal{L}(6, 0)$
EG 2	***2***	$\mathcal{L}(3.50, 1.50)$	$\mathcal{L}(5, 1)$	$\mathcal{L}(6.50, 0.50)$	$\mathcal{L}(8, 0)$
EG 3	***2***	$\mathcal{L}(2.75, 1.50)$	$\mathcal{L}(3.50, 1)$	$\mathcal{L}(4.25, 0.50)$	$\mathcal{L}(5, 0)$
EG 4	***2***	$\mathcal{L}(2.50, 1.50)$	$\mathcal{L}(3, 1)$	$\mathcal{L}(3.50, 0.50)$	$\mathcal{L}(4, 0)$
EG 5	***2***	$\mathcal{L}(3.25, 1.50)$	$\mathcal{L}(4.50, 1)$	$\mathcal{L}(5.75, 0.50)$	$\mathcal{L}(7, 0)$
EG 6	***2***	$\mathcal{L}(3.75, 1.50)$	$\mathcal{L}(5.50, 1)$	$\mathcal{L}(7.25, 0.50)$	$\mathcal{L}(9, 0)$
EG 7	***3***	$\mathcal{L}(4, 2.50)$	$\mathcal{L}(5, 2)$	$\mathcal{L}(6, 1.50)$	$\mathcal{L}(7, 1)$
EG 8	***3***	$\mathcal{L}(4.50, 2.50)$	$\mathcal{L}(6, 2)$	$\mathcal{L}(7.50, 1.50)$	$\mathcal{L}(9, 1)$
EG 9	***3***	$\mathcal{L}(3.75, 2.50)$	$\mathcal{L}(4.50, 2)$	$\mathcal{L}(5.25, 1.50)$	$\mathcal{L}(6, 1)$
EG 10	3	$\mathcal{L}(3.50, 2.50)$	$\mathcal{L}(4, 2)$	$\mathcal{L}(4.50,\ 1.50)$	$\boldsymbol{\mathcal{L}(5, 1)}$
EG 11	3	$\mathcal{L}(4.25, 2.50)$	$\mathcal{L}(5.50, 2)$	$\mathcal{L}(6.75, 1.50)$	$\boldsymbol{\mathcal{L}(8, 1)}$
EG 12	3	$\mathcal{L}(4.75, 2.50)$	$\mathcal{L}(6.50, 2)$	$\mathcal{L}(8.25, 1.50)$	$\boldsymbol{\mathcal{L}(10, 1)}$
High-Risk 1	$(\mathbf{1}, \mathbf{100}\%)$	$(10, 2.50\%)$	$(100, 0.25\%)$		
High-Risk 2	$(\mathbf{1}, \mathbf{100}\%)$	$(5, 10\%)$	$(50, 1\%)$		
High-Risk 3	$(\mathbf{2}, \mathbf{100}\%)$	$(10, 5\%)$	$(100, 0.50\%)$		
High-Risk 4	$(\mathbf{2}, \mathbf{100}\%)$	$(5, 20\%)$	$(50, 2\%)$		
Attention 1	***3***	1	1	1	1
Attention 2	***3***	1	1	1	1

Each EG problem involves a choice between one of five options: the first, X ($= \{2, 3\}$), indicates a 100% chance of receiving $\$X$; and each of the remaining options $\mathcal{L}(X, Y)$ indicates a 50% chance of receiving $\$X$ and a 50% chance of receiving $\$Y$. Each High-Risk problem involves a choice between one of three options: each option is described as (X, P), which denotes a P% chance of receiving $\$X$. Each Attention Check problem involves a choice between one of five options: each option, described above as X ($= \{1, 3\}$), denotes a 100% chance of receiving $\$X$. Pat's choices are in italics and bold.

2.2 Treatment Groups

Testing the effect of *consideration costs* guides the design of our main treatments, the *New Choice* and the *Prior Choice* treatments. We then provide an additional control treatment, which guides the design of the *New Choice (Experienced)* treatments.

Our four main treatments—the *New Choice*, *New Choice (Experienced)–NR (No Reminder)*, *New Exists(Experienced)–R (Reminder)*, and *Prior Choice* treatments—differ in three main ways, which we describe below. See Table 2 for an overview.

1. Commitment or restricted opportunity set: The first difference concerns the opportunity set of options that are available to a participant who exercises agency in the Agency Block. In all treatments, apart from the *Prior Choice* treatment, a participant who insists on agency can choose to implement any of the investment options available in that problem. In contrast, in the *Prior Choice* treatment, a participant who insists on agency is restricted and committed to implementing the option she previously selected in the Baseline Block.

2. Experience: This difference concerns the block in which participants decide upon agency. In the *New Choice* treatment, participants first complete the Agency Block and then the Baseline

Block, which is the opposite from all other treatments. Hence, only in the *New Choice* treatment do agents have no experience when deciding upon agency.

3. Information on previous choice: We vary the information participants in the Agency Block have about their previous choice. In the *New Choice(Experienced)–R (Reminder)* treatment as well as the *Prior Choice* treatment, participants who face an investment problem in the Agency Block are reminded of the choice they previously made in the Baseline Block. This is not the case in the *New Choice (Experienced)–NR (No Reminder)* treatment, and does not apply to the *New Choice* treatment.

Table 2: Treatment Groups

	New Choice	*New Choice(Experienced) –NR*	*–R*	*Prior Choice*
Previously made a choice		X	X	X
Reminded of previous choice			X	X
Committed to previous choice				X

We describe the conditions in which participants decide on agency in the Agency Block. In all but the *New Choice* treatment, the Baseline Block precedes the Agency block—and therefore, participants have previously made a choice. In the *New Choice (Experienced)–R* and *Prior Choice* treatments, participants are reminded of that previous choice when deciding whether to forgo agency. Only in the *Prior Choice* treatment are participants, if they insist on agency, committed to implementing that previous choice.

2.3 Main Hypothesis: *Consideration Costs*

Our main *consideration* effect posits that the extent to which individuals insist on agency increases when the consideration costs of their choice are lower. Since the option that is implemented is already determined if participants insist on agency in the *Prior Choice* treatment, this hypothesis implies that, compared to the *Prior Choice* treatment, participants are more willing to forgo agency in the *New Choice* treatment.

Our main hypothesis points to important variations in agency preferences across environments. It also has direct policy implications. If the goal is to have individuals give up agency and accept a recommended or default option, it is best to maximize the consideration costs of the decision.

2.4 Drivers of *Consideration Costs*

Since we test the *consideration* effect by comparing agency preferences between the *Prior Choice* and the *New Choice* treatment, we note that these two treatments differ in two ways which could drive *consideration costs*. One difference is whether participants have experience with the problem at hand when deciding whether to forgo agency. The other concerns whether forgoing agency allows individuals to avoid making a decision, i.e., to avoid selecting an option out of all of the available options. Below, we discuss how both factor into consideration costs

and can be measured by our two separate control treatments: *New Choice* and *New Choice (Experienced)*. Finally, we discuss the policy implication of each control treatment.

Experience

When deciding whether to give up agency, participants have *experience* with the problem at hand in the *Prior Choice* treatment but not in the *New Choice* treatment. There are several reasons why *experience* may increase the preference for agency. There could be a direct effect of experience that may increase the demand for agency in general. In addition, experience could increase the certainty that the participants' choices are their personally determined optimal selection and hence contribute to a demand for agency. For instance, if a participant has a eureka moment when selecting an option in a problem for the first time, she may then know—with certainty—that she should implement the same option again when facing a problem for the second time. Similarly, if a participant has a strong preference for consistency, she may desire to implement the same option again when facing a problem for the second time. For the importance of experience or consistency see, e.g., Yariv, 2005; Agarwal et al., 2008; DellaVigna, 2009; Falk and Zimmermann, 2013, 2018.

To control for *experience*—including the role of consistency that is only made relevant once participants have experience—we use the *New Choice (Experienced)* treatments. The extent to which the preference for agency increases from the *New Choice (Experienced)* treatment to the *Prior Choice* treatments provides a measure of the role of *consideration costs* even when the level of *experience* participants have with the problem is held constant. Differences between the *New Choice (Experienced)–NR* and the *New Choice (Experienced)–R* treatments capture effects of pure experience versus the additional benefit of being reminded of one's previous choice. It turns out that being reminded of one's choice has no impact on how many choices are deferred to the paternalistic actor in this environment, but does change which options are selected among the choices in which participants exercise agency. This is in contrast to work in guessing games; see Fragiadakis, Knoepfle and Niederle (2020). This implies that consideration costs remain important even when participants' past choice has been made more salient.

Consideration Costs with an Experienced Control

Consideration costs may drive a greater demand to forgo making decisions in the *New Choice* compared to the *Prior Choice* treatment. In the *New Choice* treatment, as well as in the *New Choice (Experienced)* treatments, insisting on agency requires participants to choose which option—out of all available options—to implement. A participant who wants to avoid making a decision may therefore forgo agency in those treatments. In contrast, in the *Prior Choice* treatment, insisting on agency does not require participants to choose which option to implement out of available options. This is because the option that is implemented is already determined (i.e., it is the option they chose when they faced that problem the first time) if they insist on

agency. Hence, they incur no additional consideration costs to make if they insist on agency; or, put differently, no decision to avoid by forgoing agency.

To provide an alternate control treatment, we again use the *New Choice (Experienced)* treatments. But this time, we compare the *New Choice (Experienced)* treatments to the *Prior Choice* treatment since all that varies across these treatments is whether participants forgo agency in order to avoid the consideration costs of choosing which option—out of all available options—to implement. The extent to which the preference for agency increases from the *New Choice (Experienced)* treatments to the *Prior Choice* treatment provides an alternate measure of the role of *consideration costs*.

A policy implication of a significant *consideration* effect under this control suggests that a good time for an intervention to induce an individual to give up agency is before the individual ever makes the decision of interest—and thus, when that individual may avoid making that decision by forgoing agency. However, a significant *consideration* effect with this control also suggests a policy implication to affect the agency preferences of an experienced individual. To tempt an experienced individual to give up agency, the *consideration* effect with this particular control suggests that the individual should only be able to avoid remaking their decision by forgoing agency. That is, if the individual does not forgo agency, the individual should be required to remake their decision by selecting which option they prefer from all available options.

2.5 Alternative Predictions

The *consideration* effect predicts that individuals are more willing to give up agency when in the *New Choice* than in the *Prior Choice* treatment. In this section, we discuss two alternative predictions, and which models would make those predictions.

Since our investment problems are basically choices over lotteries, one alternative hypothesis with the *opposite prediction*, namely that participants are *less* likely to forgo agency in the *Prior Choice* than in the *New Choice* treatment, comes from a model where participants have a strong preference for diversification (Agranov and Ortoleva, 2017; Dwenger, Kübler and Weizsäcker, 2018). This is because a preference for diversity or randomization predicts a preference to forgo implementing one's previous choice again and hence to forgo agency in the *Prior Choice* treatment. Only by accepting Pat's choice is there a chance for randomization. This additional motive to give up agency does not apply in the *New Choice* treatment, since in the first block, which is the Agency Block in the *Prior Choice* treatment, participants do not know the nature of the second block of problems. If the change in agency preferences is driven by a strong preference for diversification, the prediction is that an individual is *more* willing to forgo agency after she makes a choice in the environment herself.

Another alternative hypothesis also predicts no difference in agency preferences between the *Prior Choice* and the *New Choice* treatments. Specifically, *homo economicus* predicts that

individuals have instant and free access to their complete preferences, so their agency preferences should not depend on whether they are considering those preferences for the first or second time.

Finally, there are two literatures that are related to our environment but make no predictions as to how the strength of agency preferences may differ between the *New Choice* and the *Prior Choice* treatments. First, a growing literature documents the existence and importance of agency preferences, but does not model how those would change between these two treatments—see, for example, excellent work in Fehr, Herz and Wilkening (2013), Bartling, Fehr and Herz (2014), Owens, Grossman and Fackler (2014), Pikulina and Tergiman (2020), and Afzal et al. (2022).[3] Second, there is an important literature that shows that the influence of information on subsequent choices depends on the timing of that information, see Babcock et al. (1995), Gneezy et al. (2020), and Saccardo and Serra-Garcia (2023). This literature does not apply to our environment because, by design, we eliminated effects related to the timing of information.[4] As explained in Section 2.1, participants are never informed of what choices Pat made. We made this design choice precisely in order to eliminate the possibility that learning about Pat's choices could influence our results.

2.6 Implementation Details

For our main study, we recruited Amazon Mechanical Turk participants who had a U.S. IP address and completed at least 100 HITs with an approval rating of 95%. We randomly assigned them to one of our four main treatments. Participants receive a $2 completion fee, plus additional payments from one randomly selected decision. This could result in additional payments from $0 to $100 (given the High-Risk problems). The average additional payment was $3.

3 Results

We focus on the 674 participants who correctly answer both attention checks in the Baseline Block. However, our results are robust to including those who answer either one incorrectly (see Online Appendix Figure 1 and Table 1).

3.1 Main Hypothesis: Consideration Costs

As seen in Figure 1 Panel A, participants forgo agency and accept Pat's choice in the *Prior Choice* treatment in 5 of 16 problems, on average. By contrast, as seen in Figure 1 Panel B, participants forgo agency and accept Pat's choice in the *New Choice* treatment in 8.9 of 16 problems, on average. This difference is statistically significant ($p < 0.01$) and implies that

[3] A reluctance to accept responsibility is often considered in the literature on motivated reasoning, see, e.g., Bartling and Fischbacher (2012) and Falk, Neuber and Szech (2020). This literature also does not predict a difference across our treatments.

[4] In addition, this literature focuses on environments where individuals have a specific motive to justify their choice, e.g., they need to negotiate on one side of an issue or are incentivized to make a potentially unethical choice. We do not expect motivated reasoning to be relevant in our environment.

participants are almost twice as likely to forgo agency when their own choice is less determined because they are facing the problem for the first time.[5] The results of a linear probability model in Column 1 of Table 3 confirm that when moving from the *Prior Choice* to the *New Choice* treatment, the chance that a participant forgoes agency and accepts Pat's choice increases from 31% to 55%, an increase of 24 percentage points or 77%.

To summarize, we find strong support for a *consideration* effect: participants are more willing to forgo agency when the consideration costs of decision-making are higher, as measured by the difference between the *Prior Choice* and *New Choice* treatments.

3.2 Comparing the Two Control Treatments

The two *New Choice (Experienced)* treatments, with and without reminder, are very similar and do not significantly differ in how often participants insist on agency.[6] For simplicity, we therefore combine the results into a single *New Choice (Experienced)* treatment. To further understand *consideration costs*, we hold participants' *experience* constant and remove the particular consideration cost of *recalling one's past choice* by providing a reminder.

The role of *experience* proves significant. Out of the 16 problems, the average number of times participants forgo agency significantly falls from 8.9 problems in the *New Choice* treatment to 7.5 problems in the *New Choice(Experienced)* treatment ($p < 0.01$, two-sided t-test). Related, as evident via a test of the coefficient estimates in Table 3, the percent of times participants forgo agency significantly falls from 55% of the time in the *New Choice* treatment to 46% of the time in the *New Choice (Experienced)* treatment ($p < 0.01$).

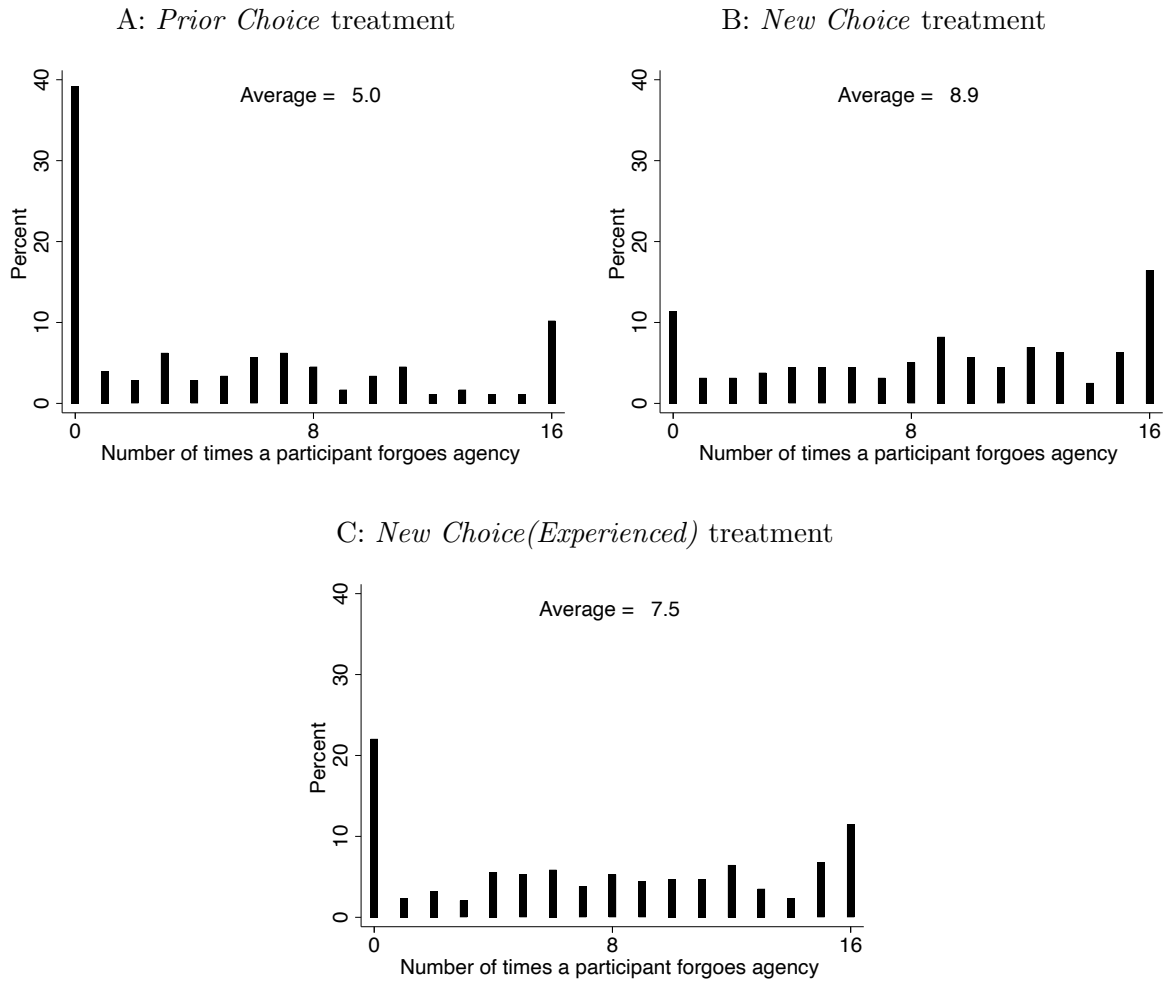
The *consideration* effect, even after accounting for experience, is not only significant, but is also larger than the effect of the consideration costs associated with experience alone. Out of the 16 problems, the average number of times participants forgo agency significantly falls from 7.5 problems in the *New Choice (Experienced)* treatment to 5 problems in the *Prior Choice* treatments ($p < 0.01$, two-sided t-test). Related, as evident via a test of the coefficient estimates in Table 3, the percent of times participants forgo agency significantly falls from 46% of the time in the *New Choice (Experienced)* treatment to 31% of the time in the *Prior Choice* treatment ($p < 0.01$).

Thus, we find evidence for *consideration costs* with both controls: *New Choice* and *New Choice (Experienced)*. *Consideration costs*, after accounting for experience, accounts for almost two-thirds of the effect as measured without accounting for experience. This suggests that the ability to avoid making a decision proves key to participants' willingness to forgo agency. When insisting on agency requires participants to choose an investment option—as in the *New Choice*

[5] All statistical tests about differences in the average number of times that participants forgo agency are from t-tests. All statistical tests about the chance that a participant forgoes agency are from linear probability models of the likelihood to forgo agency in a problem, with standard errors clustered at the participant level.

[6] The average number of times that participants forgo agency is 7.8 versus 7.2 with and without reminder (two-sided t-test, $p = 0.29$).

Figure 1: Distribution of how often participants forgo agency



There are 158 participants in the *New Choice* treatment, 176 in the *Prior Choice* treatment, and 340 in the *New Choice (Experienced)* treatment (165 with and 175 without reminders).

or the *New Choice (Experienced)* treatment—participants are relatively willing to forgo agency to avoid making this decision.

These results have implications on how we think about the choice participants made in the Baseline Block. Specifically, when participants face an investment problem for the first time, they do not have a eureka moment in which they determine their optimal investment option with certainty. Rather, since even experienced participants are keen to forgo agency when it allows them to avoid making a decision for a second time—even when, as in the *New Choice (Experienced)* treatment, they are reminded of how they previously made that decision—our results are more consistent with participants *not* viewing the choices they made when they faced an investment problem for the first time as fully informative for what they should choose when facing the same investment problem again. This could, for example, be because of the cognitive uncertainty surrounding their initial choice (Enke and Graeber, 2023).

Table 3: Linear probability model of likelihood to forgo agency

	All Problems		EG Problems		High-Risk Problems	
	(1)	(2)	(3)	(4)	(5)	(6)
New Choice	0.24***	0.25***	0.23***	0.23***	0.29***	0.30***
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
New Choice (Experienced)	0.15***	0.16***	0.14***	0.15***	0.18***	0.18***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Constant	0.31***	0.42***	0.31***	0.39***	0.34***	0.49***
	(0.03)	(0.06)	(0.03)	(0.07)	(0.03)	(0.07)
N	10784	10784	8088	8088	2696	2696
Controls	no	yes	no	yes	no	yes

Results from a linear probability model of the likelihood to forgo agency. New Choice and New Choice (Experienced) are indicators for a participant being in the *New Choice* and *New Choice (Experienced)* treatments, respectively. Columns 1 and 2 use data on all 16 problems, while columns 3 and 4 restrict attention to the 12 EG problems, and columns 5 and 6 to the 4 High-Risk problems. Controls include a participant's age, a measure of risk aversion equal to the number of times (out of 12) the participant chose the safe option in EG problems in the Baseline Block, and indicators for whether the participant is male, has completed at least 4 years of college, and identifies as white. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at the participant level and shown in parentheses.

4 Robustness and Discussion

We further analyze potential drivers of *consideration costs* in more granular analyses of the main experiment, Experiments A1, A2, A3, and A4, in addition to validating our overall *consideration* effect. For full design details, see Section 3 of the Online Appendix. To facilitate comparison to our main results, we once more restrict attention to participants who correctly answered both attention checks in the Baseline Block, which leaves us with 2,027 additional participants. In each of the following subsections, we only compare individuals across treatments within the same experiment, since in each experiment participants are randomized across treatments.

First, in Section 4.1, we show the robustness of our overall *consideration* effect and further validate our *consideration* effect.

Second, we discuss how participants interact with consideration costs. The evaluation of consideration costs occurs before a decision-maker has selected a specific option from the available choice set: a decision-maker looks at the nature of the choice at hand and then decides whether to accept the consideration costs to select an option. In Section 4.2.1 and Section 4.2.2, we vary the decision-making rule of Pat and demonstrate that participants consider the likelihood that their preferred outcome would be implemented in whether they give up agency. For each new choice, decision-makers weigh the consideration costs it would take to determine their preferred selection versus the instrumental value of having their preferred selection. By varying the decision-making rule of Pat, we can then understand how decision-makers approach this tradeoff. In Section 4.2.3,

we discuss the robustness to the case where Pat's choice is known; that is, when an individual is informed what choice is implemented in case she gives up agency. In Section 4.2.4, we discuss the role of time costs in the *consideration* effect. In Section 4.2.5, we show that increased monetary stakes decrease the likelihood that participants give up decision-making agency.

We also provide additional evidence on consideration costs in Section 4.3.

Finally, we explore the role of experience and its relation to cognitive dissonance. Participants are affected by experience after a decision-maker has selected a specific option from the available choice set. In Section 4.4.1, we demonstrate that participants who are reminded of their prior choices demonstrate a stronger preference for consistent choices.

4.1 Replication of the *Consideration* Effect

Our main study documents a strong and significant *consideration* effect. We find a 31% chance to forgo agency in the *Prior Choice* treatment, which increases by 24 percentage points in the *New Choice* treatment ($p < 0.01$).

In Experiment A1, we have 386 participants in the *Prior Choice* and *New Choice* treatment. We find a 37% chance to forgo agency in the *Prior Choice* treatment, which increases by 19 percentage points in the *New Choice* treatment ($p < 0.01$). We therefore replicate our *consideration* effect.[7]

4.2 Further Analysis of Consideration Costs

4.2.1 Delegating to Random Choice

In all results discussed so far, participants are not informed of Pat's choice, which is the option that is implemented if participants forgo agency. This ensures that there are no differential information effects across treatments. To fix participants' beliefs about Pat's choice—without informing them of Pat's actual choice—we run *Random Choice* variations of our treatments. In Experiment A2, we have 531 participants in the *Random Choice* variations of the *Prior Choice* treatment, the two *New Choice (Experienced)* treatments, *–NR* and *–R*, and the *New Choice* treatment.[8]

The preference for agency in the *Random Choice* variation of all treatments is in general lower than in the original version with a common choice Pat. For instance, while participants forgo agency in the original *Prior Choice* treatment 31% of the time, they forgo agency 21% of the time in the *Prior Choice–Random Choice* treatment. This is consistent with participants having a preference over Pat's choice—i.e., preferring a choice that is common rather than purely random—when they decide whether to forgo agency.

[7] Experiment A1 was run before our main experiment—but without the additional *Prior Choice* treatments. In this way, one could instead consider our main experiment a replication of the main results in Experiment A1.

[8] As in our main experiments, the two percentage point difference between the *New Choice (Experienced)–NR* and *New Choice (Experienced)–R* treatments is not significant, and we therefore combine the data into a single *New Choice (Experienced)* treatment.

While there are level effects in the *Random Choice* variations, we nonetheless replicate a strong *consideration costs* effect. The percent of times participants forgo agency increases from 21% in the *Prior Choice–Random Choice* treatment to 36% in the *New Choice–Random Choice* treatment ($p < 0.01$).

In the *Random Choice* variations, the *consideration costs* effect is entirely driven by a desire to avoid even a cursory examination of the options. That is, there is no evidence for an *experience* effect: participants forgo agency 36% of the time in both the *New Choice* and *New Choice (Experienced)* treatments.[9] This implies that the 15 percentage points *consideration costs* effect is driven entirely by the difference between the *New Choice (Experienced)* and the *Prior Choice* treatments ($p < 0.01$). The even more limited role of *experience* could be due to the generally lower level of insisting on agency in these variations.

4.2.2 The Role of Pat's Choice Being Reasonable

As detailed in Section 2.1, we purposefully select Pat in a way to ensure that participants know Pat's choices are "reasonable." Pat is chosen to be the participant who made the most common choices in a prior study. To verify that participants pay attention to the description of Pat, even when they are not directly informed of the exact choice Pat made, Experiment A1 (previously detailed in Section 4.1) has an additional 190 participants in an *No Prior Choice–Unusual Pat* treatment. Participants in this treatment are informed that Pat is the participant who made the least common choices in a prior study.

Compared to the 56% chance to forgo agency in the *New Choice* treatment, participants in the *New Choice–Unusual Pat* treatment are 17 percentage points less likely to forgo agency ($p < 0.01$). Therefore, participants pay attention to the description of Pat's choices and are not just thoughtlessly giving up agency to avoid decision-making costs.

4.2.3 The Role of Information on Pat's Choice

In some environments, individuals may be informed of exactly what choice would be implemented if they forgo agency. We therefore test whether the *consideration* effect holds in such an environment.

In Experiment A3, we have 365 participants in *Pat Known* variations of the *Prior Choice* and *New Choice* treatment, where agents are informed of Pat's choice; that is, which option is implemented if they decide to forego agency. As in our main experiment, we use the common Pat. We find a 60% chance of forgoing agency in the *Prior Choice–Pat Known* treatment, which increases by a significant 8 percentage points in the *New Choice –Pat Known* treatment ($p < 0.01$). Hence, our *consideration* effect persists in an environment in which individuals are informed of the option that is implemented when they forgo agency.

[9] In the *New Choice (Experienced)–R* treatment, participants forgo agency 37% of the time, and they forgo agency 35% of the time in the *New Choice (Experienced)–NR* treatment.

While the difference between treatments is smaller, it is worth noting that many participants in the *Prior Choice* treatment decide between implementing their previous choice and that same choice made by Pat. Indeed, 49% of the time, a participant's previous choice was the same as Pat's choice, which is not surprising since Pat made common choices. Hence, it naturally follows that participants in the *Prior Choice–Pat Known* treatment are more likely to implement that choice by forgoing agency and accepting Pat's choice (rather than insisting on agency and hence paying a fee to implement that same choice).

4.2.4 Time Costs as Consideration Costs

As noted, our results support individuals forgoing agency to avoid consideration costs. An important component of consideration costs could be the time associated with having to make a decision. Thus, our design does not seek to rule out the possibility that a desire to avoid time costs contributes to our *consideration costs* results.

That said, additional results from our experiment suggest a limited role for time costs in driving our *consideration costs* results. First, the average amount of time participants spend in the *New Exists (Experienced)* and *Prior Choice* treatments is very similar (17.0 min vs. 17.5 min, $p = 0.57$). Second, excluding the 10% of participants who complete our study the fastest (and hence who may be most motivated to avoid time costs) does not change the *consideration* effect: participants are still 15 percentage points more likely to forgo agency in the *New Choice (Experienced)* treatment as compared to the *Prior Choice* treatment. Future work may further investigate the role of time costs by exogenously varying how long someone has to spend on a decision if they do not forgo agency.

4.2.5 Variation in Monetary Stakes

A decision-maker's willingness to forgo agency is decreased potentially by loss aversion. Prior work indicates that as the stakes of the decision increase, people place greater value in decision-making rights Bartling, Fehr and Herz (2014). In a pooled regression of all treatment groups within our main experiment, we find that increasing the highest available monetary value of the potential lottery by an additional dollar decreases the probability that a given participant forgoes agency by 2 percentage points ($p < 0.01$), relative to a baseline of giving up decision-making capacity for 52% of available choices.

4.3 Additional Evidence on *Consideration Costs*

As explained in Section 3.2, we found substantial and significant evidence of decision avoidance by comparing participants' willingness to forgo agency in the *New Choice (Experienced)* to the *Prior Choice* treatment. We found that, among experienced participants, there was a strong desire for decision avoidance.

To further show the importance of *consideration costs*, we design two new treatments, the *Avoidable Decision* and *Unavoidable Decision* treatment, in Experiment A4. As in our main

treatments, the Pat we use is the common Pat. In both treatments, participants first face a modified Agency Block and then the Baseline Block. In both Agency Blocks, participants know that—after they make all of their agency decisions—two problems will be randomly chosen to be "required-own-choice" problems. In the required-own-choice problems, a participant is required to choose an investment option which will then be implemented, even if the participant initially opted to forgo agency. Our two treatments vary in how we elicit participants' choices in these two required-own-choice problems. This variation will affect the participants' ability to avoid *consideration costs* between the two treatments.

In the *Avoidable Decision* treatment, a participant who forgoes agency in an investment problem only has to indicate which option she would choose if the investment problem turns out to be a required-own-choice problem. If a participant insists on agency in an investment problem, she is then immediately asked which option she would choose in that problem and the option she chose is implemented. If the participant forgoes agency in an investment problem that is not one of the required-own-choice problems, she is never asked which option she would choose in that problem and the option Pat chose is implemented. Only if the participant forgoes agency in an investment problem that is one of the two required-own-choice problems is her experience more nuanced. Specifically, if the participant forgoes agency in an investment problem that is one of the two required-own-choice problems, she proceeds to the next investment problem without having to make a choice in that required-own-choice investment problem—but, she will be asked to make a choice in that required-own-choice investment problem at the very end of the experiment and that choice will be then implemented in that problem. Put differently, this design ensures that—in all but two problems (i.e., in all but the two problems that are revealed to be the required-own-choice investment problems at the end of the experiment)—the participant in the *Avoidable Decision* treatment can avoid decision-making costs. A participant who forgoes agency is therefore very likely, though not definitely, able to avoid choosing an option herself.

In the *Unavoidable Decision* treatment, participants have to indicate which option they would choose in all investment problems regardless as to whether they insist on agency. If a participant insists on agency in an investment problem, she is then immediately asked which option she would choose in that problem and the option she chose is implemented. If the participant forgoes agency in an investment problem, she is then immediately asked which option she would choose in that problem but the option she chose is only implemented if that problem turns out to be a required-own-choice problem (and otherwise, the option Pat chose is implemented).[10] Thus, choosing to forgo agency does not allow a participant to avoid decision-making costs.

We have data from 365 participants in Experiment A4. We find a 43% chance to forgo agency in the *Unavoidable Decision* treatment. This increases by 9 percentage points in the *Avoidable*

[10]Note that, immediately after forgoing agency for the first time in the Agency block, participants, by design, are reminded that they have to select an option even if they opted to forgo agency.

Decision treatment ($p < 0.05$). We therefore find a significant *consideration* effect in this new environment among inexperienced participants.

Furthermore, the 52% chance to forgo agency in the *Avoidable Decision* treatment is very similar to the 55-56% chance that we found in the *New Choice* treatments when considering both our main study and Experiment A1. This is reassuring, since the *Avoidable Decision* and the *New Choice* treatment differ in only two of the 18 investment problems.[11] This small change does not significantly affect agency preferences. This is quite in contrast to the large change made in the *Unavoidable Decision* treatment.

4.4 Further Exploration of Experience

4.4.1 Cognitive Dissonance

In our main experiment, the design of which is detailed in Section 2.1, the consideration costs associated with experience alone accounted for a 9 percentage point decrease in likelihood of forgoing agency. This effect has a variety of potential causes: a pure learning effect, preferences for consistency, or a eureka moment. When we analyze only the choices in which participants do not give up decision-making agency in both the Baseline and Agency blocks, participants in the *New Choice* treatment made a consistent decision between the two blocks 64% of the time. By contrast, participants in the *New Choice (Experienced)* treatment who did not receive a reminder made a consistent decision 69% of the time ($p < 0.10$) and participants in the *New Choice (Experienced)* treatment who did receive a reminder made a consistent decision 76% of the time ($p < 0.01$). Whether participants in the *New Choice (Experienced)* treatment received a reminder or not did not significantly affect how often they insist on agency, they do however significantly differ in the in the lotteries they select ($p < 0.05$). The experience effect can then be somewhat attributed to a preference for consistency, with a greater effect for participants who received a reminder.

This greater preference for consistency among participants who received a reminder can be explained by cognitive dissonance: the state of having two inconsistent cognitions. In this case, the cognitions are 1) I have chosen my preferred option in the baseline block, and 2) Selecting a different option in the agency block implies my first choice was not actually my preferred option. The reminder removes the potential cognitive uncertainty surrounding the participants' prior choices, while unreminded participants are less likely to remember their prior choices. Unreminded participants are then less likely to be affected by this cognitive dissonance in that knowing that they have selected a different option in the agency block is dependent on them

[11] Specifically, compared to the *New Choice* treatment, in the *Avoidable Decision* treatment, two randomly selected investment problems turn into required-own-choice problems. However, while participants decide on agency in the 18 investment problems, they go through all of the the same other procedures. It's only at the very end, after making 18 decisions, that participants in the *Avoidable Decision* treatment may have to decide which option to implement for at most two problems.

having remembered what they selected in the baseline block.

5 To Be Completed: Beliefs Study

In future work (to be added to this paper later), we will run an experiment measuring beliefs regarding various demographic groups' willingness to forgo agency. We are specifically interested in examining the extent to which others expect any demographic differences in individuals' willingness to forgo agency and the extent to which these beliefs are accurate.

We will ask participants about the probability of various demographics groups forgoing agency under *New Choice* treatment and *Prior Choice* treatment, after explaining what the treatments entail. We will provide the following information: "In the prior study, the % of times participants insisted on making their own choice was X." We will then ask participants: "For a random participant in group D, what do you think is the % chance that they insisted on making their own choice in a randomly chosen question?" Note that X will be the average across all participants in that treatment, and D references to a demographic group.

By measuring beliefs about forgoing agency under both the *New Choice* treatment and *Prior Choice* treatment, we can also measure which demographic groups are believed to be most affected by consideration costs. We can then determine the extent to which these beliefs are accurate.[12]

6 Conclusion

Consistent with our motivating example in which a person must make a financial investment decision for the first time this year, our *consideration* effect states that individuals insist less on agency the higher the consideration costs they have to incur to make their own choice. We provide strong evidence for our hypothesis by comparing agency preferences between the *Prior Choice* and *New Choice* treatment.

In the *Prior Choice* treatment, an individual decides whether to forgo agency in the second block of problems, where the alternative is to re-implement the choice she made the first time she encountered the problem in the first block of problems. In contrast, in the *New Choice* treatment, an individual decides whether to forgo agency in the first block of problems, where the alternative is to select an option among all available options herself. While, on average, individuals forgo agency only 31% of the time in the *Prior Choice* treatment, this increases by 24 percentage points (or 77%) in the *New Choice* treatment.

The role of *consideration costs* remains significant even after holding the level of experience participants' have with the problem fixed, as consideration costs under this new control retain approximately two-thirds of the effect of consideration costs when not accounting for experience. Specifically, experienced participants are much more likely to forgo agency if it allows them to

[12] While not currently presented, we observe no evidence of a difference in willingness to forgo agency between non-white and white people, Republican vs. Democrat, but we do find a difference between men and women.

avoid choosing which option to implement, even if they are reminded of their previous choice. That is, they are much less likely to forgo agency when they are committed to implementing their previous choice, compared to when they have the opportunity to implement any possible option.

The to-be-completed work on beliefs will reveal the extent to which there are perceived differences across demographic groups in two dimensions: willingness to forgo agency and impact of consideration costs. We can also test the extent to which these beliefs are accurate.

Our findings speak to policy implications. Specifically, if the goal is to have individuals forgo agency—by accepting a recommendation made by others—then our results indicate that it is useful to catch them early in the decision process. But, even when an individual is not facing the problem for the first time, the *consideration* effect further shows that it can be useful to require individuals who insist on agency to remake their decisions, i.e., to select among all possible options.

Our findings also speak to when individuals' decisions should be expected to be more or less malleable. Our results strongly suggest that individuals' decisions appear more malleable when they have not yet incurred consideration costs to determine their preferred selection. While we show this in the context of agency decisions, future work may investigate whether individuals—when they have not incurred consideration costs about what to choose in a problem because they are earlier in the decision-making process—are also more easily influenced by information, defaults, framing effects, etc. This could serve as an explanation for a dichotomy in the behavioral literature: while some papers show that individuals are very malleable in their decisions (e.g., framing effect), other papers show that it is really difficult to change an individual's decision (e.g., habit formation).

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Online Appendix
for
When Do Individuals Give Up Agency?
The Role of Decision Avoidance

Holly Dykstra, Christine L. Exley, and Muriel Niederle

October 7, 2022

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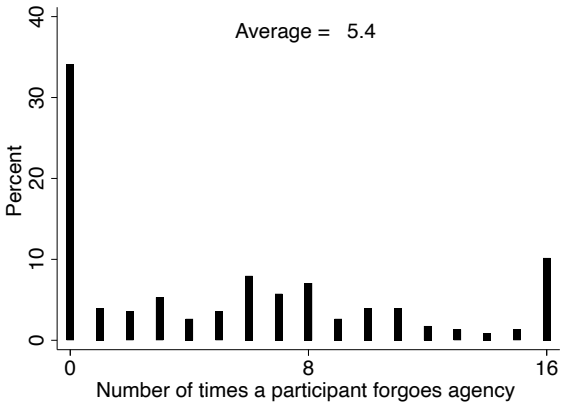
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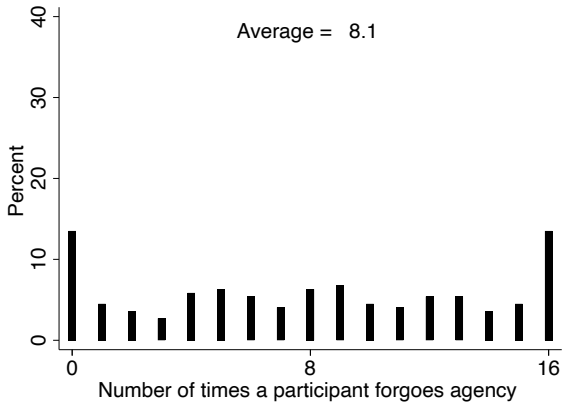
1 Additional Figures and Tables

Figure 1: Including all participants, distribution of how often the participants forgo agency

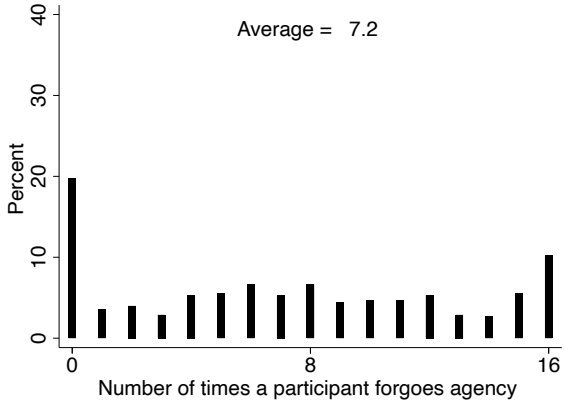
A: *Determined* treatment



B: *Inexperienced* treatment



C: *Experienced* treatment



There are 222 participants in the *Inexperienced* treatment, 226 in the *Determined* treatment, and 451 in the *Experienced* treatment (225 with and 226 without reminders).

Table 1: Including all participants, linear probability model of the likelihood of forgoing agency

	All Problems		EG Problems		Lottery Problems	
	(1)	(2)	(3)	(4)	(5)	(6)
Inexperienced	0.17***	0.18***	0.15***	0.16***	0.20***	0.22***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.04)
Experienced	0.11***	0.12***	0.10***	0.11***	0.14***	0.14***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Constant	0.34***	0.42***	0.33***	0.39***	0.35***	0.48***
	(0.02)	(0.05)	(0.02)	(0.06)	(0.03)	(0.06)
N	14384	14384	10788	10788	3596	3596
Controls	no	yes	no	yes	no	yes

Results from a linear probability model of the likelihood to forgo agency. Inexperienced and Experienced are indicators for a participant being in the *Inexperienced* treatment and *Experienced* treatment, respectively. Columns 1 and 2 use data on all 16 problems, while columns 3 and 4 restrict attention to the 12 EG problems, and columns 5 and 6 to the 4 High-Risk problems. Controls include a participant's age, a measure of risk aversion equal to the number of times (out of 12) the participant chose the safe option in EG problems in the Baseline Block, and indicators for whether the participant is male, has completed at least 4 years of college, and identifies as white. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are clustered at the participant level and shown in parentheses.

2 Experimental Instructions

The study has four main treatments. This section provides full instructions for one treatment and documents how the other ones differ. Section 2.1 presents an overview. Section 2.2 presents the full instructions of the *Inexperienced* treatment. Section 2.3 documents how the *Experienced–NR* treatment differs from the *Inexperienced* treatment. Section 2.4 documents how the *Experienced–R* treatment differs from the *Experienced–NR* treatment. Section 2.5 documents how the *Determined* treatment differs from the *Experienced–R* treatment.

In the screenshots of our experimental instructions, please note that what we refer to as "problems" are referred to as "decisions."

2.1 Overview

On April 9, 2020, we recruited 899 participants for a study on Amazon MTurk. 674 passed the attention checks. Participants were randomly assigned to one of four treatments: (I) the *Inexperienced* treatment (n=158) that is described in Section 2.2, (ii) the *Experienced–NR* treatment (n=175) that is described in Section 2.3, (iii) the *Experienced–R* treatment (n=165) that is described in Section 2.4, and *Determined* treatment (n=176) that is described in Section 2.5.

Before turning to the variations across treatments, however, we first will describe the types of problems participants face. In particular, across all treatments, participants completed a series of lottery problems that were divided into two blocks, which we refer to as the Baseline Block and the Agency Block. Each block consists of 18 investment problems: twelve Eckel-Grossman (EG) problems, four High-Risk problems, and two attention checks. Table 2 documents the EG problems, Table 3 documents the High-Risk problems, and Table 4 documents the Attention Check problems. Each problem is framed as the participant investing \$2 into a specific option, and that option then yielding some return.

More specifically, each EG problem involves choosing between five options. While one option guarantees a safe return, the other four options are a 50-50 lottery. Specifically, in EG problems 1 - 6, the safe option 1 guarantees \$2. Options 2-5, or $k+1$ for $k = 1, ..., 4$, are lotteries that have a 50% chance of returning $\$(2 - k/2)$ and a 50% chance of $\$(2 + kX)$, where $X \in \{0.5, 0.75, 1, 1.25, 1.5, 2\}$ varies across the 6 EG problems. The second set of six EG problems replicates the first set of six EG problems except for \$1 being added to each outcome. These are summarized in Table 2. See Figure 6 for a screenshot of an EG problem.

The High-Risk problems involve choosing between a safe option and two lotteries $\mathcal{L}(X, p)$ that return $\$X$ with probability $p/100$ and \$0 otherwise. The three options of the first High-Risk problems are, in order, $\mathcal{L}(1, 100)$, $\mathcal{L}(10, 2.5)$, and $\mathcal{L}(100, 0.25)$. The safe option of the second lottery is likewise \$1, but the other two options are instead $\mathcal{L}(5, 10)$ and $\mathcal{L}(50, 1)$. Finally, the third and fourth High-Risk problems involve a safe option of \$2 and then simply double the amount $\$X$ and the probability p of receiving a positive amount from the first and second High-

Risk problems, respectively. These four lottery problems are summarized in Table 3. See Figure 8 for a screenshot of a High-Risk problem.

Finally, the two Attention Check problems involve choosing between five safe options: the first returns $3 and the other four each return $1. These are summarized in Table 4. See Figure 9 for a screenshot of an Attention Check problem.

Table 2: EG Problems

	Option 1	Option 2	Option 3	Option 4	Option 5
EG Problem *1*	**$2**	($3, $1.50)	($4, $1)	($5, $0.50)	($6, $0)
EG Problem *2*	**$2**	($3.50, $1.50)	($5, $1)	($6.50, $0.50)	($8, $0)
EG Problem *3*	**$2**	($2.75, $1.50)	($3.50, $1)	($4.25, $0.50)	($5, $0)
EG Problem *4*	**$2**	($2.50, $1.50)	($3, $1)	($3.50, $0.50)	($4, $0)
EG Problem *5*	**$2**	($3.25, $1.50)	($4.50, $1)	($5.75, $0.50)	($7, $0)
EG Problem *6*	**$2**	($3.75, $1.50)	($5.50, $1)	($7.25, $0.50)	($9, $0)
EG Problem *7*	**$3**	($4, $2.50)	($5, $2)	($6, $1.50)	($7, $1)
EG Problem *8*	**$3**	($4.50, $2.50)	($6, $2)	($7.50, $1.50)	($9, $1)
EG Problem *9*	**$3**	($3.75, $2.50)	($4.50, $2)	($5.25, $1.50)	($6, $1)
EG Problem *10*	$3	($3.50, $2.50)	($4, $2)	($4.50, $1.50)	**($5, $1)**
EG Problem *11*	$3	($4.25, $2.50)	($5.50, $2)	($6.75, $1.50)	**($8, $1)**
EG Problem *12*	$3	($4.75, $2.50)	($6.50, $2)	($8.25, $1.50)	**($10, $1)**

Each EG problem involves a choice between one of five options. Each option, described above as (X, Y), implies a 50% chance of returning X and a 50% chance of returning Y.

Table 3: High-Risk Problems

	Option 1	Option 2		Option 3	
1	**($1, 100%)**	($10, 2.50%)	($0, 97.50%)	($100, 0.25%)	($0, 99.75%)
2	**($1, 100%)**	($5, 10%)	($0, 90%)	($50, 1%)	($0, 99%)
3	**($2, 100%)**	($10, 5%)	($0, 95%)	($100, 0.50%)	($0, 99.50%)
4	**($2, 100%)**	($5, 20%)	($0, 80%)	($50, 2%)	($0, 98%)

Each High-Risk problem involves a choice between one of three options. Each option, described above as (X, P), implies a P% chance of returning X.

Table 4: Attention Check Problems

	Outcomes				
	Option 1	Option 2	Option 3	Option 4	Option 5
1	**$3**	$1	$1	$1	$1
2	**$3**	$1	$1	$1	$1

Each Attention Check problem involves a choice between one of five options. Each option, described above as X, implies a 100% chance of returning X.

2.2 The Inexperienced Treatment

In the *Inexperienced* treatment, after consenting to participate in the study, each participant is informed of the $2 study completion fee. In addition, they are informed that their total bonus payment will equal $2.25 plus or minus what they earn in one randomly selected decision. Figure 2 shows how this payment information is explained and Figure 3 shows the corresponding understanding questions that must be answered correctly in order for the participant to proceed.

Figure 2: Payment Information

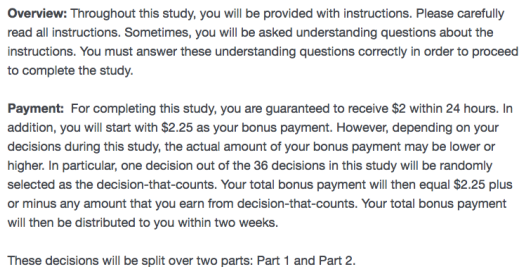
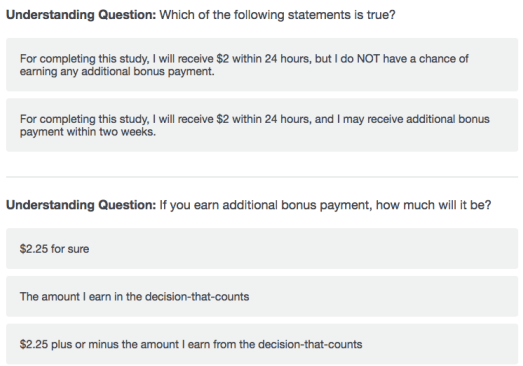


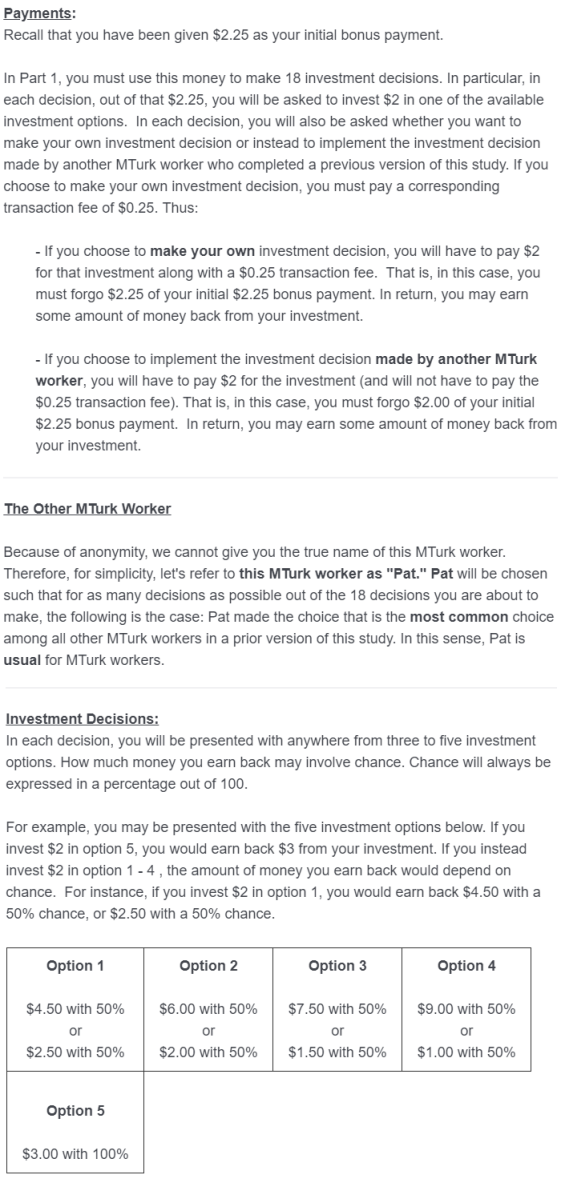
Figure 3: Understanding Question for Payment Information



The subjects then proceed to the instructions in Part 1, which we refer to as the Agency Block. Figure 4 shows how this information is explained and Figure 5 shows the corresponding

understanding question that each subject must answer in order to proceed.

Figure 4: Instructions in the Agency Block



Payments:
Recall that you have been given $2.25 as your initial bonus payment.

In Part 1, you must use this money to make 18 investment decisions. In particular, in each decision, out of that $2.25, you will be asked to invest $2 in one of the available investment options. In each decision, you will also be asked whether you want to make your own investment decision or instead to implement the investment decision made by another MTurk worker who completed a previous version of this study. If you choose to make your own investment decision, you must pay a corresponding transaction fee of $0.25. Thus:

- If you choose to **make your own** investment decision, you will have to pay $2 for that investment along with a $0.25 transaction fee. That is, in this case, you must forgo $2.25 of your initial $2.25 bonus payment. In return, you may earn some amount of money back from your investment.

- If you choose to implement the investment decision **made by another MTurk worker**, you will have to pay $2 for the investment (and will not have to pay the $0.25 transaction fee). That is, in this case, you must forgo $2.00 of your initial $2.25 bonus payment. In return, you may earn some amount of money back from your investment.

The Other MTurk Worker

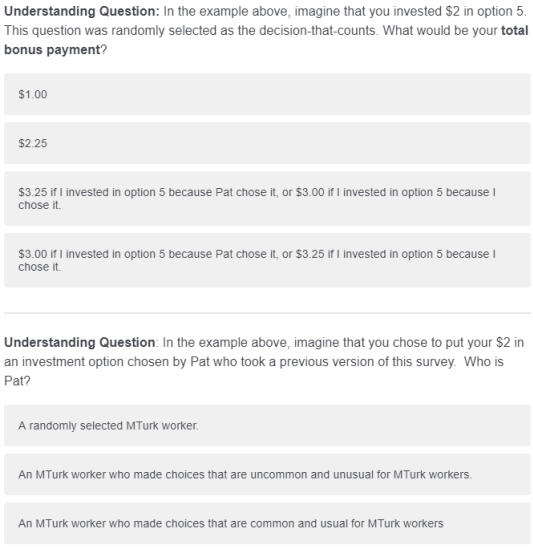
Because of anonymity, we cannot give you the true name of this MTurk worker. Therefore, for simplicity, let's refer to **this MTurk worker as "Pat." Pat** will be chosen such that for as many decisions as possible out of the 18 decisions you are about to make, the following is the case: Pat made the choice that is the **most common** choice among all other MTurk workers in a prior version of this study. In this sense, Pat is **usual** for MTurk workers.

Investment Decisions:
In each decision, you will be presented with anywhere from three to five investment options. How much money you earn back may involve chance. Chance will always be expressed in a percentage out of 100.

For example, you may be presented with the five investment options below. If you invest $2 in option 5, you would earn back $3 from your investment. If you instead invest $2 in option 1 - 4 , the amount of money you earn back would depend on chance. For instance, if you invest $2 in option 1, you would earn back $4.50 with a 50% chance, or $2.50 with a 50% chance.

Option 1	Option 2	Option 3	Option 4
$4.50 with 50% or $2.50 with 50%	$6.00 with 50% or $2.00 with 50%	$7.50 with 50% or $1.50 with 50%	$9.00 with 50% or $1.00 with 50%
Option 5			
$3.00 with 100%			

Figure 5: Understanding Questions in the Agency Block



The subjects then face 18 investment problems in the Agency Block, which are randomized at the subject level. Figure 6 shows an example of an EG investment problem, and Figure 7 shows the page participants see next if they choose to make their own choice. Figure 8 shows an example of a High-Risk investment problem, and Figure 9 shows an example of an Attention Check investment problem.

Figure 6: Example of an EG Investment Problem

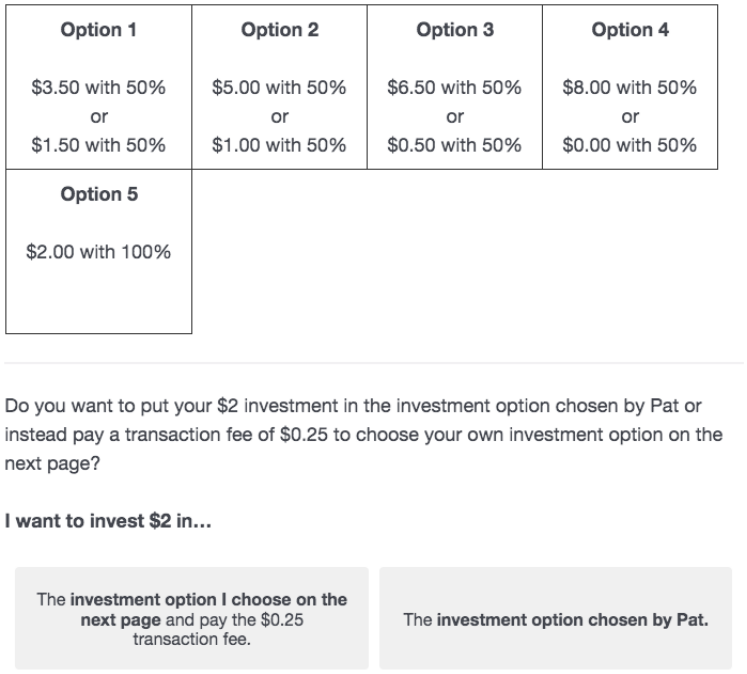


Figure 7: Example of subsequent page if they choose to make their own choices

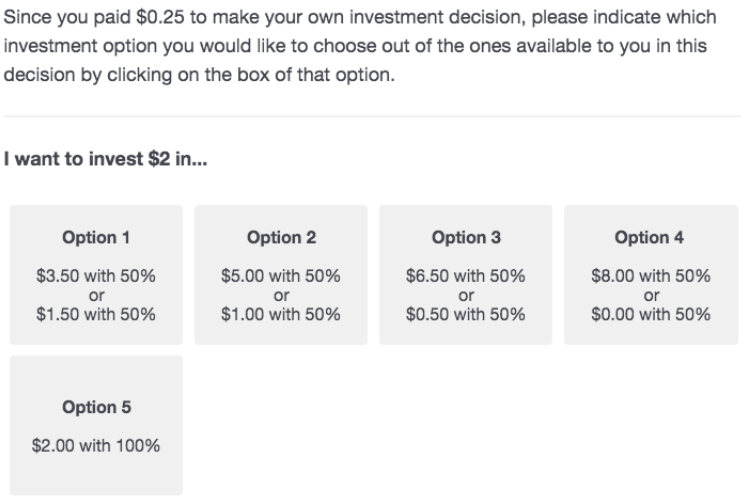


Figure 8: Example of a High-Risk Investment Problem

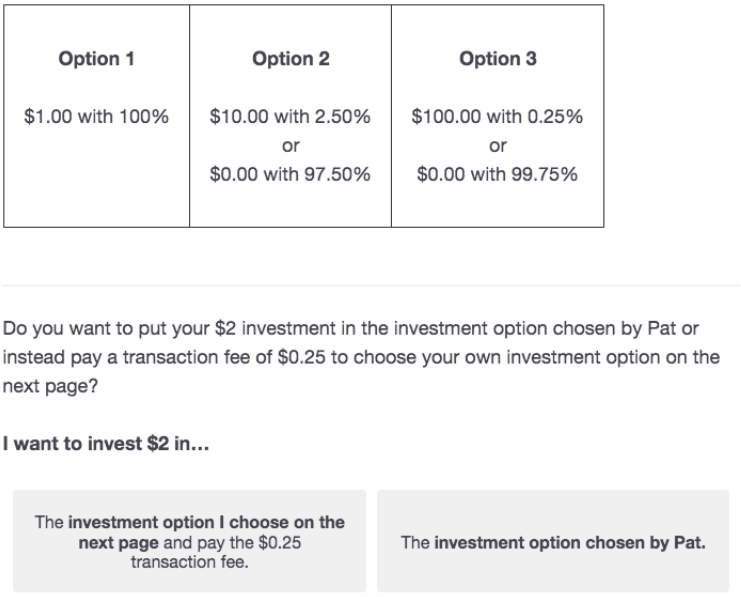
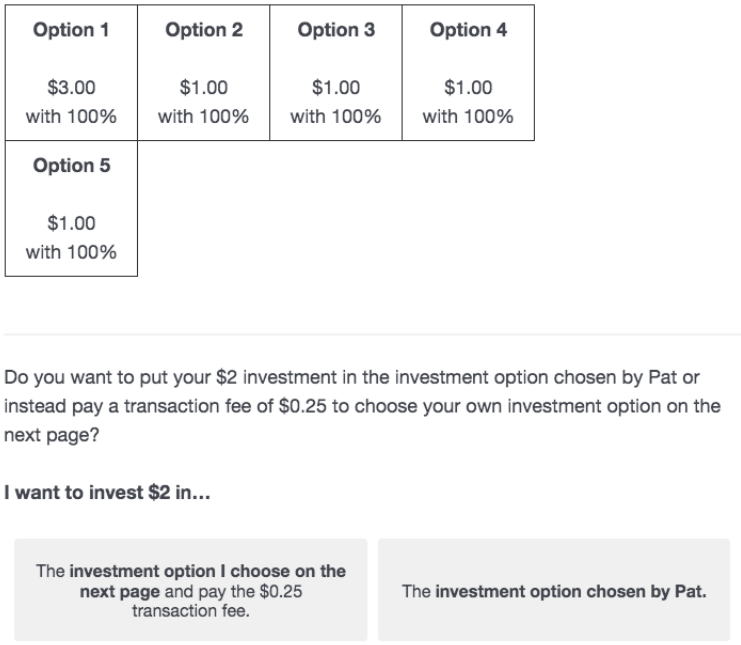


Figure 9: Example of an Attention Check Investment Problem



The subjects then proceed to the instructions in Part 2, which we refer to as the Baseline Block. Figure 10 shows how this information is explained and Figure 11 shows the corresponding understanding questions that each subject must answer in order to proceed.

Figure 10: Instructions in the Baseline Block

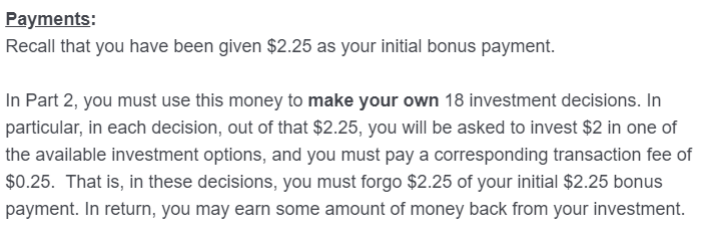
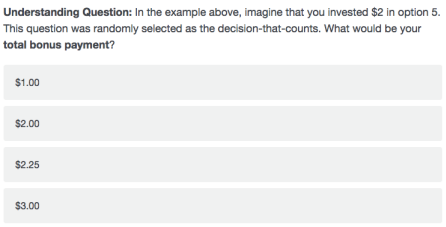
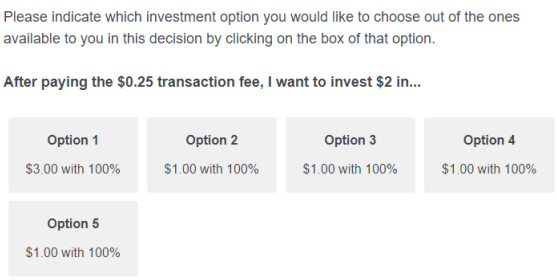


Figure 11: Understanding Question in the Baseline Block



The subjects then face the same 18 investment problems again, which are also randomized at the subject level. Figure 12 shows an example of an investment problem in the Baseline Block.

Figure 12: Example of an Investment Problem in the Baseline Block



To complete the study, each subject must then answer a follow-up survey that collects socio-demographic information.

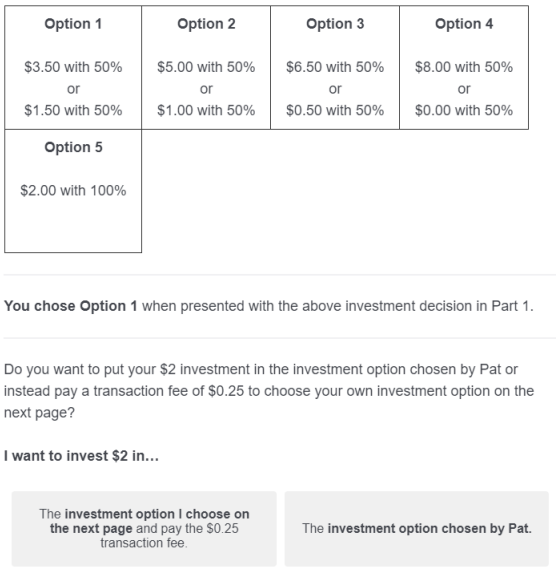
2.3 The Experienced–NR Treatment

The study procedures of the *Experienced–NR* treatment are almost the same as in the *Inexperienced* treatment. They differ in the order the subjects complete the blocks. Unlike in the *Inexperienced* treatment, participants complete the Baseline Block first in the *Experienced–NR* treatment. All other study procedures are the same.

2.4 The Experienced–R Treatment

The study procedures of the *Experienced–R* treatment are almost the same as in the *Experienced–NR* treatment. They differ in what subjects see when they face an investment problem in the Agency Block. Unlike in the *Experienced–NR* treatment, subjects are reminded of the choice they made in the Baseline Block. Figure 13 shows an example of an investment problem for subjects in the Agency Block. All other study procedures are the same.

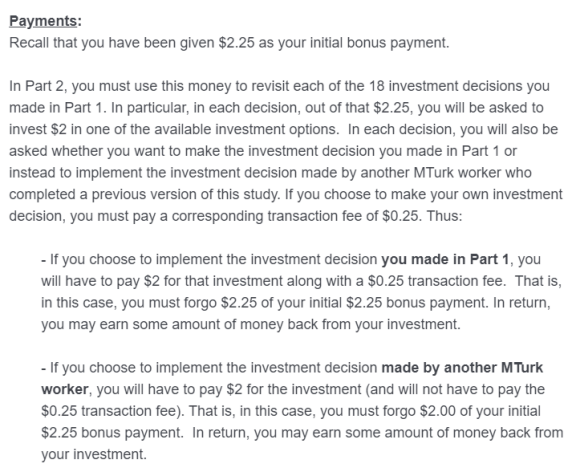
Figure 13: Example of an Investment Problem in the Agency Block



2.5 The Determined Treatment

The study procedures of the *Determined* treatment are almost the same as in the *Experienced–R* treatment. They differ in what happens if subjects choose to implement their own choice in the Agency Block. Unlike in previous treatments of the study, subjects do not continue onto another page to make their own choice. Instead, their choice is determined: it is the choice they previously made in the Baseline Block. Figure 14 shows how this information is explained, and Figure 15 shows an example of an investment problem. All other study procedures are the same.

Figure 14: Instructions in the Baseline Block



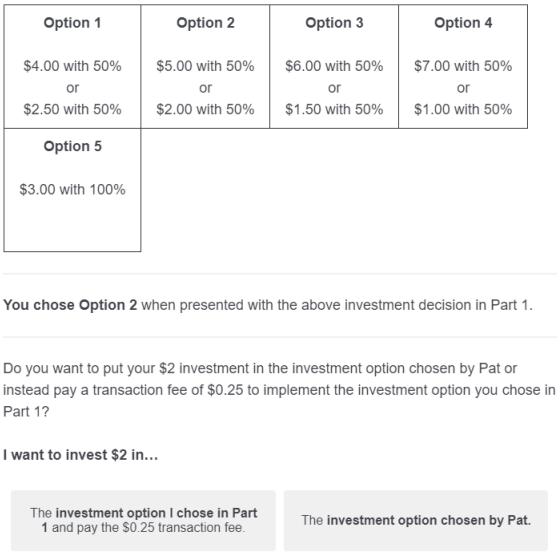
Payments:
Recall that you have been given $2.25 as your initial bonus payment.

In Part 2, you must use this money to revisit each of the 18 investment decisions you made in Part 1. In particular, in each decision, out of that $2.25, you will be asked to invest $2 in one of the available investment options. In each decision, you will also be asked whether you want to make the investment decision you made in Part 1 or instead to implement the investment decision made by another MTurk worker who completed a previous version of this study. If you choose to make your own investment decision, you must pay a corresponding transaction fee of $0.25. Thus:

- If you choose to implement the investment decision **you made in Part 1**, you will have to pay $2 for that investment along with a $0.25 transaction fee. That is, in this case, you must forgo $2.25 of your initial $2.25 bonus payment. In return, you may earn some amount of money back from your investment.

- If you choose to implement the investment decision **made by another MTurk worker**, you will have to pay $2 for the investment (and will not have to pay the $0.25 transaction fee). That is, in this case, you must forgo $2.00 of your initial $2.25 bonus payment. In return, you may earn some amount of money back from your investment.

Figure 15: Example of an Investment Problem in the Agency Block



Option 1	Option 2	Option 3	Option 4
$4.00 with 50% or $2.50 with 50%	$5.00 with 50% or $2.00 with 50%	$6.00 with 50% or $1.50 with 50%	$7.00 with 50% or $1.00 with 50%
Option 5			
$3.00 with 100%			

You chose Option 2 when presented with the above investment decision in Part 1.

Do you want to put your $2 investment in the investment option chosen by Pat or instead pay a transaction fee of $0.25 to implement the investment option you chose in Part 1?

I want to invest $2 in…

The **investment option I chose in Part 1** and pay the $0.25 transaction fee.

The **investment option chosen by Pat**.

3 Experimental Instructions for Additional Studies

We ran four additional studies with eleven treatments. This section documents how these treatments differ from the main study described in Section 2. Section 3.1 presents instructions for Additional Study 1, Section 3.2 presents instructions for Additional Study 2, Section 3.3 presents instructions for Additional Study 3, and Section 3.4 presents instructions for Additional Study 4.

3.1 Additional Study 1

On August 3, 2018, we recruited 899 participants for a study on Amazon MTurk. 766 passed the attention checks. They were randomly assigned to: (i) the *Inexperienced* treatment (n=197) that is described in Section 3.1.1, (ii) the *Inexperienced–Pat Known* (n=190) treatment that is described in Section 3.1.2, (iii) the *Inexperienced–Unusual Pat* (n=190) treatment that is described in Section 3.1.3, and (iv) the *Determined* (n=189) treatment that is described in Section 3.1.4.

3.1.1 The Inexperienced Treatment

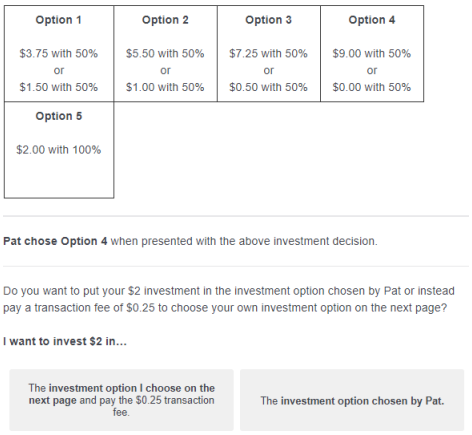
The study procedures of the *Inexperienced* treatment in A1 are exactly the same as those in the *Inexperienced* treatment of the main study described in Section 2.2.

3.1.2 The Inexperienced–Pat Known Treatment

The study procedures of the *Inexperienced–Pat Known* treatment in A1 are almost the same as in the *Inexperienced* treatment of the main study described in Section 2.2 and in the previous Section 3.1.1.[1] They differ in what subjects see when they face an investment problem in the Agency Block. Unlike in the *Inexperienced* treatment, subjects see what decision the other MTurk worker made. Figure 16 shows an example of an investment problem for subjects in the Agency Block. All other study procedures are the same.

[1] In our main paper, we only reference the results from *Inexperienced–Pat Known* in A3, not in A1. This is because A3 also allows us to compare *Inexperienced–Pat Known* to *Determined–Pat Known*. However, the results for *Inexperienced–Pat Known* in A1 and A3 are quite similar, with participants choosing to forgo agency 68% of the time in both.

Figure 16: Example of an Investment Problem in the Agency Block



3.1.3 The Inexperienced–Unusual Pat Treatment

The study procedures of the *Inexperienced–Unusual Pat* treatment in A1 are almost the same as in the *Inexperienced–Pat Known* treatment described in the previous Section 3.1.2. They differ in who the other MTurk worker in the Agency Block is. Unlike in previous treatments of the study, the other MTurk worker is chosen so that they made the modal decision in as *few* decisions as possible. Figure 17 shows the description of this MTurk worker in the instructions for the Agency Block. Figure 18 shows an example of an investment problem in the Agency Block. All other study procedures are the same.

Figure 17: Instructions about the Other MTurk Worker in the Agency Block

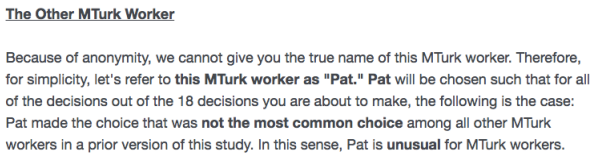
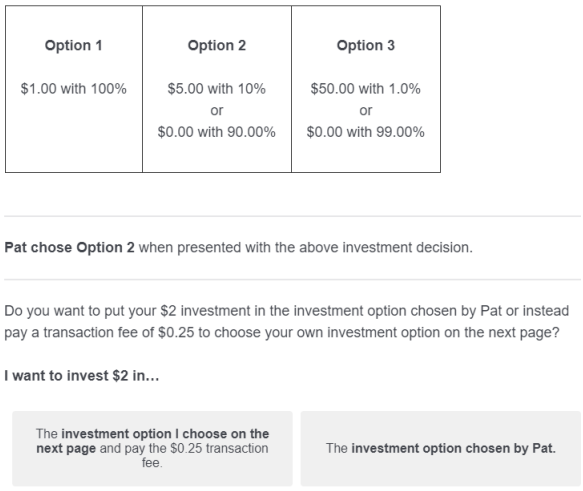


Figure 18: Example of an Investment Problem in the Agency Block



3.1.4 The Determined Treatment

The study procedures of the *Determined* treatment in A1 are exactly the same as those in the *Determined* treatment of the main study described in Section 2.5.

3.2 Additional Study 2

On June 27, 2022, we recruited 904 participants for a study on Amazon MTurk. 531 passed the attention checks. They were randomly assigned to: (i) the *Inexperienced–Random Choice* treatment (n=125) that is described in Section 3.2.1, (ii) the *Experienced–Random Choice–NR* treatment (n=128) that is described in Section 3.2.2, (iii) the *Experienced–Random Choice–R* treatment (n=137) that is described in Section 3.2.3, and (iv) the *Determined–Random Choice* treatment (n=141) that is described in Section 3.2.4.

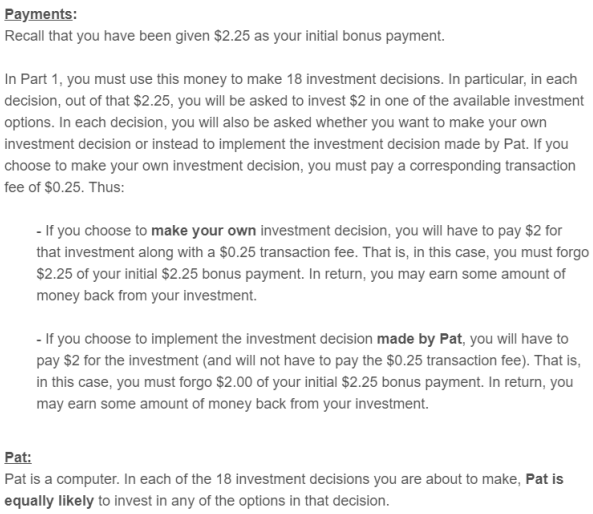
3.2.1 The Inexperienced–Random Choice Treatment

The study procedures of the *Inexperienced–Random Choice* treatment in A2 are almost the same as in the *Inexperienced* treatment of the main study described in Section 2.2. They differ in who Pat is in the Agency Block. Unlike in previous treatments of the study, Pat is a computer who randomly chooses an investment option among all the available options. Figure 19 shows the description of this Pat in the instructions for the Agency Block. Figure 20 shows the corresponding understanding question. All other study procedures are the same.

3.2.2 The Experienced–Random Choice–NR Treatment

The study procedures of the *Experienced–Random Choice–NR* treatment in A2 are almost the same as in the *Inexperienced–Random Choice* treatment described in the previous Section 3.2.1. They differ in the order the subjects complete the blocks. Like in the *Experienced–NR*

Figure 19: Instructions about Pat in the Agency Block



Payments:
Recall that you have been given $2.25 as your initial bonus payment.

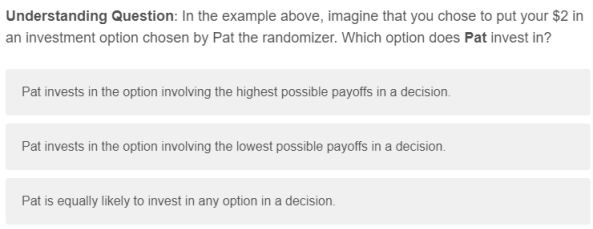
In Part 1, you must use this money to make 18 investment decisions. In particular, in each decision, out of that $2.25, you will be asked to invest $2 in one of the available investment options. In each decision, you will also be asked whether you want to make your own investment decision or instead to implement the investment decision made by Pat. If you choose to make your own investment decision, you must pay a corresponding transaction fee of $0.25. Thus:

- If you choose to **make your own** investment decision, you will have to pay $2 for that investment along with a $0.25 transaction fee. That is, in this case, you must forgo $2.25 of your initial $2.25 bonus payment. In return, you may earn some amount of money back from your investment.

- If you choose to implement the investment decision **made by Pat**, you will have to pay $2 for the investment (and will not have to pay the $0.25 transaction fee). That is, in this case, you must forgo $2.00 of your initial $2.25 bonus payment. In return, you may earn some amount of money back from your investment.

Pat:
Pat is a computer. In each of the 18 investment decisions you are about to make, **Pat is equally likely** to invest in any of the options in that decision.

Figure 20: Understanding Question about Pat in the Agency Block



Understanding Question: In the example above, imagine that you chose to put your $2 in an investment option chosen by Pat the randomizer. Which option does **Pat** invest in?

Pat invests in the option involving the highest possible payoffs in a decision.

Pat invests in the option involving the lowest possible payoffs in a decision.

Pat is equally likely to invest in any option in a decision.

treatment of the main study described in Section 2.3, participants complete the Baseline Block first in the *Experienced–Random Choice–NR* treatment.

3.2.3 The Experienced–Random Choice–R Treatment

The study procedures of the *Experienced–Random Choice–R* treatment in A2 are almost the same as in the *Experienced–Random Choice–NR* treatment described in the previous Section 3.2.2. They differ in what subjects see when they face an investment problem in the Agency Block. Like in the *Experienced–R* treatment of the main study described in Section 2.4, subjects are reminded of the choice they made in the Baseline Block. All other study procedures are the same. In the main text, we combine the data from this treatment and the previous *Experienced–Random Choice–NR* treatment for analysis.

3.2.4 The Determined–Random Choice Treatment

The study procedures of the *Determined–Random Choice* treatment in A2 are almost the same as in the *Experienced–Random Choice–R* treatment described in the previous Section 3.2.3. They differ in what happens if subjects choose to implement their own choice in the Agency Block.

Like in the *Determined* treatment of the main study described in Section 2.5, subjects do not continue onto another page to make their own choice. Instead, their choice is determined: it is the choice they previously made in the Baseline Block. All other study procedures are the same.

3.3 Additional Study 3

On November 15, 2018, we recruited 449 participants for a study on Amazon MTurk. 365 passed the attention checks. They were randomly assigned to: (i) the *Inexperienced–Pat Known* treatment (n=183) that is described in Section 3.3.1, and (ii) the *Determined–Pat Known* treatment (n=182) that is described in Section 3.3.2.

3.3.1 The Inexperienced–Pat Known Treatment

The study procedures of the *Inexperienced–Pat Known* treatment in A3 are almost the same as in the *Inexperienced* treatment in the main study described in Section 2.2. They differ in what subjects see when they face an investment problem in the Agency Block. Like in the *Inexperienced–Pat Known* treatment of A1 described in Section 3.1.2, subjects see what decision the other MTurk worker made. All other study procedures are the same.

3.3.2 The Determined–Pat Known Treatment

The study procedures of the *Determined–Pat Known* treatment in A3 are almost the same as in the *Determined* treatment in the main study described in Section 2.5. They differ in what subjects see when they face an investment problem in the Agency Block. Like in the *Inexperienced–Pat Known* treatment described in the previous Section 3.3.1, subjects see what decision the other MTurk worker made. All other study procedures are the same.

3.4 Additional Study 4

On October 20, 2018, we recruited 448 participants for a study on Amazon MTurk. 365 passed the attention checks. They were randomly assigned to: (i) the *Avoidable Decision* treatment (n=187) that is described in Section 3.4.1, and (ii) the *Unavoidable Decision* (n=178) treatment that is described in Section 3.4.2.

3.4.1 The Avoidable Decision Treatment

The study procedures of the *Avoidable Decision* treatment in A4 are similar to the *Inexperienced* treatment in the main study described in Section 2.2. Subjects are first provided exactly the same instructions as those in the *Inexperienced* treatment. However, subjects are then provided additional instructions about two exceptions to the instructions. Figure 21 shows how this additional information is explained, and Figure 22 shows the additional understanding question that each subject must answer in order to proceed.

Figure 21: Additional Instructions in the Agency Block

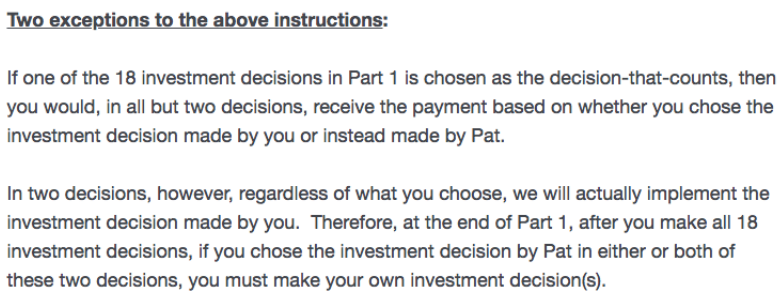
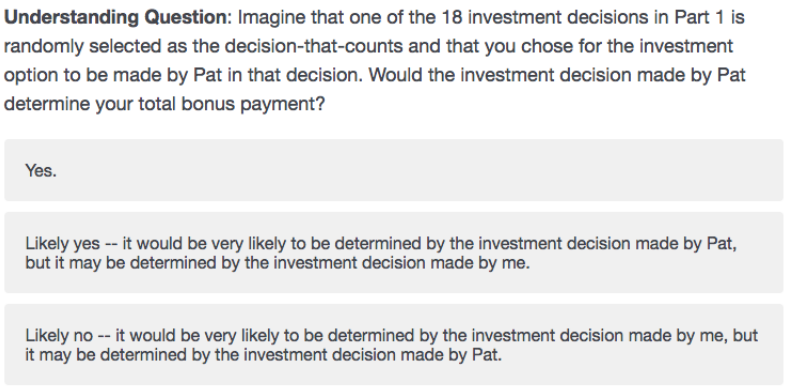
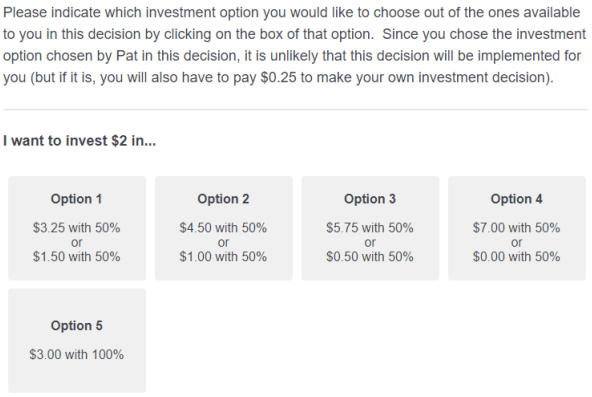


Figure 22: Additional Understanding Question in the Agency Block



The subjects then face the same 18 investment problems as in the *Inexperienced* treatment. However, after they complete all 18 problems, if they accepted Pat's choice in either or both of the two problems described in the additional instructions, they are then asked to make their own choice in these problems. Figure 23 shows an example of this. All other study procedures are the same.

Figure 23: Example of Making Own Choice After Accepting Pat's Choice



3.4.2 The Unavoidable Decision Treatment

The study procedures of the *Unavoidable Decision* treatment in A4 are similar to those in the *Avoidable Decision* treatment described in the previous Section 3.4.1. They differ in terms of how often participants may be asked to make their own choice even if they choose to accept Pat's choice. In the *Avoidable Decision* treatment, the maximum number of times they are asked to make their own choice if they accept Pat's choice is twice, and they are asked to do this after completing all 18 investment problems. In the *Unavoidable Decision* treatment, they are asked to make their own choice immediately after every time they accept Pat's choice. Figure 24 shows an example of such a decision. All other study procedures are the same.

Figure 24: Example of Making Own Choice After Accepting Pat's Choice

