I Z A Institute
of Labor Economics
Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 16623

The Hidden Costs of Choice in the Labor Market

Pak Hung Au
King King Li
Qing Zhang
Rong Zhu

NOVEMBER 2023

I Z A Institute
of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

IZA DP No. 16623

The Hidden Costs of Choice in the Labor Market

Pak Hung Au
Hong Kong University of Science and Technology

King King Li
Shenzhen University

Qing Zhang
Hunan University of Technology and Business

Rong Zhu
Flinders University and IZA

NOVEMBER 2023

ISSN: 2365-9793

IZA – Institute of Labor Economics

Schaumburg-Lippe-Straße 5–9
53113 Bonn, Germany

Phone: +49-228-3894-0
Email: publications@iza.org

www.iza.org

ABSTRACT

The Hidden Costs of Choice in the Labor Market*

Freedom of choice is often thought to improve efficiency. We experimentally investigate the effect of giving workers a choice between compensation schemes with and without a CSR component (CSR/NoCSR) on labor market participation decision and work performance, compared to the alternative of exogenous assignment. Classical economic theory suggests that giving workers a choice should not reduce their performance. Our results show that there are hidden costs associated with the right of choice. When a worker is allowed to choose his or her compensation scheme, the labor market participation rate is significantly lower than when the same scheme is exogenously assigned. Work quality is also significantly lower for those who choose CSR, as well as for those who choose no CSR, than for those who are exogenously assigned to the same scheme.We propose a model of signaling with image concerns to explain why the freedom of choice may induce reduced participation and effort exertion of workers.

JEL Classification: M14, J01, C9, M52

Keywords: choice, signaling, image concerns, corporate social responsibility, labor, experiment

Corresponding author:
Rong Zhu
College of Business, Government and Law
Flinders University
182 Victoria Square
Adelaide
Australia
E-mail: rong.zhu@flinders.edu.au

* We would like to thank Tanjim Hossain, Peiran Jiao, Ilke Onur, Arno Riedl, Erkan Yalcin, and seminar participants at Maastricht University for helpful comments and discussions. Li acknowledges financial support from the Research Grants Council, Hong Kong (Project Number: ECS21501915) and the National Natural Science Foundation of China (Project Number: 71973099). Zhang acknowledges financial support from Hunan Social Science Achievement Review Committee (Project Number: XSP22YBZ083) and the Young Scholars Innovation-Driven Program of Hunan University of Technology and Business (Project Number: 2020QD03). Zhu acknowledges financial support from the Australian Research Council Discovery Project (Project Number: DP230101282). The usual disclaimer applies.

1 Introduction

"Freedom of choice is more to be treasured than any possession earth can give."

David O. McKay

Freedom of choice is widely regarded as one of the most important measures of well-being in a broad range of contexts such as political freedom (Dahl, 2020), consumer choice (Baumeister et al., 2008), religion (Eisgruber and Sager, 2007), and school choice (Abdulkadiroglu and Sonmez, 2003). In economics, the freedom to choose (Friedman and Friedman, 1980) constitutes the cornerstone of market institutions. The conventional wisdom is that a free market economy typically achieves higher efficiency than a planned economy because free trade facilitates the efficient allocation of resources. In this paper, we examine the effect of granting workers the freedom to choose their compensation scheme on their work performance and payoff. In contrast to the conventional wisdom that freedom of choice improves efficiency, we find that offering choices to workers can backfire on firms, leading to lower worker participation and productivity.

In this paper, we experimentally investigate the effects of allowing workers to choose their preferred compensation schemes. Specifically, our subjects were asked to perform a real-effort task in the laboratory that involves data entry. Two piece-rate compensation schemes are considered – one with a corporate social responsibility component (CSR scheme) and one without (NoCSR scheme). We are interested in the comparison of workers' labor market participation decisions and job performance when they are exogenously assigned to a compensation scheme versus when they are given the choice (between the CSR and the NoCSR schemes).

The experiment consists of two stages. In the first stage, subjects worked on a data entry task for 20 minutes, and they were paid a fixed payment independent of the number of lines entered and the quality of their work. After completing the first stage, they were offered the opportunity, but not the obligation, to enter more lines of data in the second stage, in which they were paid according to either one of the two piece-rate incentive schemes. While the total earnings in both schemes were proportional to the number of correct lines entered, the two schemes differ in term of the CSR components. In the private incentive scheme, the subject herself was the sole recipient of all the earning from the task. In the

private+social incentive scheme, the subject received only two-third of the total earning, whereas the remaining one-third was donated to a well-known local charity.[1]

To investigate the effect of freedom of choice, we conducted and compared treatments. In the Assign treatment, subjects were assigned to either the private incentive scheme (the NoCSR scheme) or the private+social incentive scheme (the CSR scheme) by the experimenter. We refer the former case as the Assign-P treatment, and the latter case the Assign-PS treatment. In the Choice treatment, subjects were given the freedom to choose between the two schemes.

Classical economic theories suggest that people cannot be harmed by an expansion of the menu. Naturally, people differ in their degree of altruism. As subjects who are more altruistic tend to be more concerned about CSR, the private+social incentive scheme is more appealing to them.[2] Subjects who are more self-interested tend to be less concerned about CSR and are likely to find the private incentive scheme more attractive. Therefore, when subjects are given the freedom to choose their own incentive schemes, classical theories would suggest that they can fare (at least weakly) better and are thus more likely to participate in the second stage. Moreover, by picking the incentive scheme that is more aligned with their own (social) preference, they have a stronger motivation to work harder. The classical theories thus predict a higher participation rate and better work performance in the Choice treatment than in the two Assign treatments, after controlling for the implemented incentive schemes. We term this the "freedom of choice" hypothesis.

The predictions of the "freedom of choice" hypothesis are consistent with those of the "preference for control" hypothesis, which postulates that decision-makers prefer to have more control over the process, and the choice itself may be of intrinsic value to them (Li, 2011; Sunstein, 2015). In an experimental study, Falk and Kosfeld (2006) find that allowing workers to choose the level of productivity leads to higher productivity than the alternative treatment in which the principal imposes a decision. Fehr et al. (2013) find that individuals often prefer to retain their right of control, even though delegation

[1] The charity organization is the Hong Kong Community Chest. It is an independent, non-profit making organization that is neither funded nor operated by the government. It is a popular charity and one of the largest charitable organizations in Hong Kong established under the Community Chest of Hong Kong Ordinance. The administrative costs of the Community Chest are subsidized by an annual grant from the Hong Kong Jockey Club, so that 100% of funds raised go to the services without any deduction for administrative costs.

[2] See McWilliams (2015) on the role of CSR as a competitive advantage.

can increase their material payoffs.[3]

These hypotheses, however, may not be the whole story. As pointed out in Bénabou and Tirole (2006), besides a pure altruistic motive, peoples' prosocial behaviors are often driven by their image/reputation concerns. These concerns can originate from both self-respect and social reputation. They develop a signaling theory to illustrate how extrinsic/explicit incentives can have a counterproductive effect on promoting good deeds by spoiling (or crowding out) their reputation/signaling values. Is it possible that the freedom of choice in incentive schemes also engenders a similar counter-productive effect through the signaling channel?

Suppose people differ in two dimensions – their degree of altruism and their productivity in data entry. Suppose also that people have image concern only over the altruism dimension.[4] In the Assign-P treatment in which subjects were assigned the private incentive scheme, signaling or image concern is absent. Non-participation therefore does not come with any stigma of being selfish. In the Assign-PS treatment in which subjects were assigned the private+social incentive scheme, non-participation may be attributed to either low altruism or low productivity. Non-participation comes with a stigma of being selfish in the former case but not in the latter case. Given the lower return of private+social incentive scheme, if there is no stigma associated with withdrawal, the participation rate is predicted to be lower in the Assign-PS treatment than in the Assign-P treatment. However, we observe no significant difference between the participation rate of the two Assign treatments, thus suggesting that non-participation in the Assign-PS treatment does come with a stigma.

In the Choice treatment in which subjects are given the freedom to choose among non-participation, the private incentive scheme, and the private+social incentive scheme, a refusal to participate can be a less damaging signal given the presence of a more selfish option (the private incentive scheme). The non-participation decision becomes more easily justifiable as it can be attributed to low productivity rather than low altruism – "if I were selfish and productive, I would have chosen the private incentive scheme. The fact that I did not do so suggests that I am simply unproductive rather than selfish."[5] It is thus possible that non-participation is a more neutral (less negative) signal for altruism in the Choice

[3] See Aghion and Tirole (1997) for a model of authority allocation in organizations.

[4] A justification is that people are unlikely to derive any pride from being good at the mundane data-entry task.

[5] "If I were altruistic and productive, I would have gone for the private+social incentive scheme."

treatment than in the Assign-PS treatment. As withdrawal is less stigmatized, the participation rate in the Choice treatment can be lower than in the two Assign treatments.

It is natural that in the Choice treatment, enrolling in the private incentive scheme is the most negative signal about one's altruism. It is particularly damaging to the agent's image if she works hard and collects a high monetary reward – she could have made a significant contribution to the charity but she refuses to do so. To preserve her own image after picking the private incentive scheme, the agent may opt for a low effort and justify her choice as follows – "I want to contribute to the charity but I am not productive, and hence not helpful at all." Consequently, subjects enrolled in the private incentive scheme in the Choice treatment may perform worse than those in the Assign-P treatment, in which case the image concern does not play a role in her effort decision.

The signaling hypothesis thus offers contrasting predictions to those derived from the freedom of choice hypothesis. First, the participation rate can go down when people are given an expanded choice set, even after controlling for the incentive scheme implemented. Second, people tend to exert a lower level of effort after choosing to work under a private incentive scheme relative to after being assigned to work under a private incentive scheme.

Our experimental results are in favor of the signaling hypothesis. First, the participation rate is 19% lower in the Choice treatment than in the Assign treatments. Moreover, subjects' work performance is lower in the Choice treatment than in the Assign treatments. The number of lines entered declined by as much as 21%, although the decline did not consistently reach statistical significance across all comparisons. This decrease in output was primarily driven by the significant reduction in work effort that subjects exhibited in the choice context compared to the context in which they were exogenously assigned to a private monetary-based compensation scheme.[6] Furthermore, allowing workers to choose their own compensation scheme resulted in a significant decrease in work quality compared to being exogenously assigned to a compensation scheme. Specifically, we observed the error rates in the second task to be 16% higher in the Choice treatments than in the Assign treatments, and the number

[6]We also examined the trade-off of using CSR to motivate workers. Regarding the benefit of CSR, the participation in the additional task increased by shifting a share of workers' salaries to the payment for CSR. However, the productivity and work quality did not improve when CSR is added. Workers exerted a lower level of effort in terms of both the number of lines entered and those correctly entered, which weakened the power of the incentive scheme (i.e., payment conditional based on accuracy) to foster quality.

of correct lines entered was also 29% lower in the Choice treatments.

Our results thus reveal that granting individuals the right to choose their preferred compensation scheme can backfire and engender (unintended) negative consequences. While our theory and experiment focus on labor contracts with and without CSR components, our findings can potentially have broader implications. They suggest that when agents care about the signaling content of their choices, caveat should be exercised when offering extra options to the agents, as the menu itself can have a non-negligible impact on the signaling content associated with each option.

The rest of the paper is organized as follows. Section 2 provides a review of the literature. Section 3 introduces the experimental design, and Section 4 reports the experimental results. Section 5 presents the theoretical model. Lastly, Section 6 concludes.

2 Literature Review

There is an extensive experimental and behavioral labor literature. Recent studies have found mounting evidence of social preferences in the sense that individuals care not only about the payoffs to themselves but also about those to others (see, e.g., Fehrler and Kosfeld, 2014).[7] Workers' social preferences have been found to play an important role in determining work effort, for example, by influencing workers' responses to wage contracts (see, e.g., Fehr et al., 1993).[8] A variety of non-pecuniary motivations, especially prosocial incentives, have been documented to be a strong motivator to induce effort provision (Burbano, 2016; DellaVigna et al., 2022; DellaVigna and Pope, 2018; Fehrler and Kosfeld, 2014; Gerhards, 2015; Hedblom et al., 2019; Tonin and Vlassopoulos, 2015; Cassar, 2019). Although most of these studies suggest that workers respond positively to social incentives, several studies find that workers can react negatively if they perceive the firm's intention to benefit from engaging in corporate social responsibility (Cassar and Meier, 2021), or if they feel that prior good deeds may license less moral behavior (List and Momeni, 2021).

Recent experimental literature has focused mainly on the positive effect of prosocial incentives on workers' effort and productivity (see Cassar and Meier, 2018 for a review). For example, in a field

[7] See Sobel, 2005 for an extensive review of experimental evidence of social preference.
[8] See Charness and Kuhn (2011) for an extensive review of behavioral labor economics.

experiment, Hedblom et al. (2019) use job advertisements to provide workers the information on the firm's CSR (framing on the activity of the company), and find a consequent increase in productivity, work quality, and the number of job applicants. DellaVigna et al. (2022) analyze the role of social preferences in the workplace and show that workers' effort provision is 10 percent higher when their employer is a charity than when it is not. In a principal–agent setting experiment, Kajackaite and Sliwka (2017) find that principals' ex-ante charitable giving has a positive effect on agents' subsequent effort provision. Similarly, Cassar (2019) shows that agents' efforts increase when the effort results in a donation to a charity in a principal–agent laboratory experiment.

One common limitation of these studies is the absence of a choice setting, which is prevalent in the context of corporate giving. Outside of laboratory experiments, rather than being exogenously assigned to a scheme with a combination of wages and CSR, workers often have the option of placing themselves in situations where they can behave prosocially or act selfishly. In other words, the effect of CSR on workers' effort provision may differ after accounting for the availability of scheme choices.

There is a small literature on the positive effect of giving workers the opportunity to choose their preferred compensation scheme. However, these studies do not include an examination of the participation decision as the current study does. In a gift exchange experiment, Charness et al. (2012) find that delegating the wage decision to workers increases their effort provision when compared to assigning the wage. However, unlike in this study, their wage offers do not involve any CSR payment (donation to charity). In Tonin and Vlassopoulos (2015), workers go through different treatments before they are asked to work on the final treatment where subjects can choose to allocate a piece rate of 10p between themselves and a charity. They find that the productivity effect in this choice treatment is larger than the treatment in which a charity is allocated 10p, or the personal incentive is exogenously set at 10p. It should be noted that their design does not allow for a direct comparison of worker effort with and without the choice option since other variables change at the same time (e.g., total costs of the firm and whether the firm also donates).

Briscese et al. (2021) conduct an experiment in which participants play the classic gift-exchange game (Fehr et al., 1993, 1998) with treatments that differ by whether the firms in a group (the number of firms per worker varies from 1 to 2) choose to offer workers only a wage, or both a wage and

charitable donations (as a percentage of the firm's profit), as well as how the firms and workers are matched (i.e., a worker being either randomly matched with a wage offer, or allowed to choose one of the two offers from two firms). Their focus is on how firms choose wages and donations. They find that wages remain the most effective incentive for attracting and motivating workers, with corporate donations playing a smaller role. Our study differs from Briscese et al. (2021) in several important ways. First, and most notably, our design focuses on the comparison between workers who choose schemes with CSR and without CSR payments. However, in Briscese et al. (2021), since most of the firms offer CSR donation when CSR is available, workers in their treatments do not have to choose between compensation schemes with and without CSR donations. Further, the source of CSR donations in their design is the firm's profit rather than workers' compensation payments. In our design, the amount donated is closely tied to each worker's level of effort. Finally, we have a precise measure of quality of output (accuracy of the data entered) in addition to effort level, so we can test whether the treatments have a differential impact on effort provision and work quality.

Our paper also complements existing studies that compare the effectiveness of using financial and social incentives to motivate workers, while we focus on the effect of choice. Tonin and Vlassopoulos (2015) find that the marginal return of social incentives on effort, either in the form of lump sum or performance related, is not higher than the marginal return of monetary incentives.[9] With a performance contingent design, DellaVigna and Pope (2018) also find social incentives to be slightly less effective in increasing productivity than directly offering the same amount of money to increase workers' pay. Interestingly, Imas (2014) and Charness et al. (2016) suggest that the above findings hold only for higher incentive levels, with the opposite being true for low amounts. In these two studies, workers earn money only for themselves or for a charity on a piece-rate basis.

Unlike the previous experiments, we introduce an incentive scheme that includes both private wages and charitable donations, and we compare the schemes between a purely monetary compensation with a higher salary and the other with a lower salary and a CSR component. Another important difference is that in our design, the trade-off for firms to allocate costly resources to CSR expenditures

[9] Tonin and Vlassopoulos (2015) adopt a much higher piece rate per correct entry (i.e., two to six times) for social incentives than financial incentives since they consider the former to be less effective than the latter in inducing effort.

versus using the same amount of money for private financial incentives is always under the same budget constraints. This design feature allows us to be free from the confounding influence that workers may choose a scheme that has the highest total social surplus due to social preference as in Charness and Rabin (2002) on preferring on option that maximizes total surplus. This has not been investigated by Tonin and Vlassopoulos (2015).

Overall, there are very few studies focusing on how choice interacts with the signaling motivation in the labor market. This paper differs from the extant studies by analyzing the impact of being delegated of incentive scheme decisions on productivity and work quality, that is, whether subjects' performance depends on the opportunity to choose how to be paid in the presence of financial and social incentives.

3 Experimental Design

We conducted an experiment with two stages. In the first stage, subjects were asked to work on a data entry task for 20 minutes.[10] See Appendix Figures A1 and A2 for the datasheet that contains the stock prices of FT500 and the screen capture of the data entered using Excel, respectively. The subjects were informed that the data entered would be used for a research project and that there was no requirement for a specific number of lines to be entered or for their work to be accurate. The payment each subject received for the first stage included HK$20, in addition to the HK$40 show-up fee.[11] After completing the first stage, they were asked whether they wanted to participate in the second stage of the experiment, which involved entering more lines of data.[12]

The design for the second stage, summarized in Table 1, consists of two types of treatments: (i) Assign and (ii) Choice. In the Assign treatment, the subjects were randomly assigned to one incentive scheme for their additional work. In the Choice treatment, they could choose the incentive scheme for themselves. The incentive schemes differed by whether or not charitable donations were involved.

Assign-P: This payment scheme in the Assign treatment was conditional on accuracy, with a piece rate of HK$0.3 for each correct line entered. This treatment serves as the baseline in the analysis.

[10] In our experiment, subjects worked on the first data entry task before being exposed to the treatment conditions. This design allows us to investigate whether a particular type of worker (in terms of work quality) is more likely to participate

Table 1: Summary of experimental design

Treatments	Scheme	Incentive type	(Worker salary, Donation)
Assign	Assign-P	Private	(0.3, 0)
	Assign-PS	Private & Social	(0.2, 0.1)
Choice	Choice-P	Private	(0.3, 0)
	Choice-PS	Private & Social	(0.2, 0.1)

Assign-PS: This payment scheme in the Assign treatment is (0.2, 0.1), where the first number in the scheme represents the piece rate (HK$0.2) offered to the worker for each correct line entered (HK$0.2), and the second number (HK$0.1) represents the amount to be donated to the charity organization (Hong Kong Community Chest) for each correct data line entered. This treatment allows us to analyze whether social incentives can play an important role in motivating work performance and have the potential to partially or fully substitute for the role of private incentives, while holding total firm costs constant.[13]

The piece rate in the form of donations to the charity can be considered as a proxy for CSR. We link both payouts and donations to work performance because companies typically pledge to donate a portion of their profits or revenues.[14] A lower donation piece rate relative to the financial piece rate is set to avoid the possibility that some workers might change their motivation from working only for money to working only for charity. Therefore, given the same costs, the variation in this dimension allows us to examine how workers respond to the combination of wages and CSR relative to pure monetary compensation.

In the Choice treatment, subjects are free to choose either scheme (0.3, 0) and (0.2, 0.1).

in the second task under different treatment conditions.

[11] US$1 $\approx$ HK$7.83 (October 2023).

[12] Our design is similar to Hossain and Li (2014) and Charness et al. (2016) that workers first worked for a fixed period of time before they were asked if they wanted to work more for the additional task.

[13] There are two other schemes in our experiments: (i) Unconditional Assign-P: its only difference from the Assign-P treatment is that the payment scheme is not conditional on accuracy (i.e., subjects received piece rate HK$0.3 for each data line entered); (ii) Unconditional Assign-PS: its only difference from the Assign-PS treatment is that the payment scheme is not conditional on accuracy. The payment scheme (0.2, 0.1) here means a piece rate of HK$0.2 offered to the worker and a charity piece rate of HK$0.1 per data line.

[14] For example, companies such as Apple Inc., Nike, American Express (UK), The Coca-Cola Company, Starbucks, Converse, Electronic Arts, Primark, Head, Buckaroo, Penguin Classics (UK & International), Gap, Armani, FIAT, Hallmark (US), SAP, Beats Electronics, and Supercell create products with the "Product Red" logo, and promise to donate up to 50% of the profits gained by sales through the Product Red license to the Global Fund which help to fight AIDS, Tuberculosis, Malaria, and COVID-19 pandemic.

Choice-P: This payment scheme was available in the Choice treatment. If subjects chose it, they would receive the same high private incentives as in the Assign-P scheme, i.e., (0.3, 0).

Choice-PS: This payment scheme was available in the Choice treatment. If subjects selected it, they would receive the same mixture of private and social incentives as in the Assign-PS scheme, i.e., (0.2, 0.1).[15]

After the experiment, we conducted a survey to collect each subject's level of job satisfaction and perceptions of the reasonableness of pay and meaningfulness of work. These measures are important for identifying the channels of the effect of CSR on scheme choices.

The subjects for our experiment were randomly recruited using an electronic recruitment platform with a pool of approximately 2,000 registered subjects who were undergraduate students in a major university in Hong Kong. Each subject participated in only one of the sessions. The subjects received a show-up fee of HK$40 and an additional amount of money conditional on their choices. They were told that their decisions would be anonymous and kept confidential. Subjects received HK$60 (HK$40 show-up fee + HK$20 for the first task) at the end of the experiment. Payments for the second task, which were conditional on accuracy, were made approximately one week later. In total, 158 subjects participated in the experiment.

4 Experimental Results

4.1 Labor Supply: Second Task Participation

Table 2 reports the summary statistics on labor supply (proportion of workers participating in the second task and the number of lines entered in the second task) and work quality (number of correct lines entered and error rate defined as the total number of errors divided by the total number of items entered). The proportion of workers participating in the second stage is 72% in the Assign treatment (i.e., Assign-All) and 53% in the Choice treatment (i.e., Choice-All). In the Assign-P and Assign-PS schemes, the rates are 73% and 70%, respectively. Table 3 shows that the participation

[15] Choice-P and Choice-PS are not two treatments, but subjects' choices.

rate in Choice-All is about 19 percentage points lower than in Assign-All, and the difference is statistically significant with a p-value of 0.02 under the two-sample t-test and a p-value of 0.03 under the Wilcoxon rank-sum test. The participation rate in Choice-All is about 17 percentage points lower than in Assign-P, though the difference is not statistically significant. The participation rate in Choice-All is about 20 percentage points lower than in Assign-PS, with a p-value of 0.04 and 0.06 under the two-sample t-test and the rank-sum test, respectively.

Table 2: Summary statistics

Treatment	Proportion of participation	Number of lines entered	Error rate	Number of correct lines
Assign:				
Assign-All	0.72	51.67	0.06	39.78
	(0.45)	(26.94)	(0.14)	(23.62)
Assign-P	0.70	59.32	0.03	49.11
	(0.47)	(26.00)	(0.02)	(21.43)
Assign-PS	0.73	46.30	0.08	33.22
	(0.45)	(26.76)	(0.17)	(23.23)
Choice:				
Choice-All	0.53	46.87	0.22	28.40
	(0.50)	(22.95)	(0.32)	(22.38)
Choice-P		47.86	0.20	28.31
		(25.30)	(0.31)	(23.55)
Choice-PS		45.06	0.26	28.35
		(17.30)	(0.35)	(21.66)

Note: Standard deviations appear in parentheses.

Table 4 presents the OLS regression results. Column (1) compares the decision to participate in the second stage between the Choice-All and Assign-P treatments. The dependent variable is whether participating in the second stage, and the independent variables include Choice-All, error rate in the first task, and number of lines entered in the first task. Choice-All is a dummy that equals 1 for the Choice-All treatments, and zero for the Assign-P treatments. Column (2) reports the same regression with additional control variables including gender, field of education, whether having a religious belief, and whether born in Hong Kong. The coefficients on Choice-All are negative in both regressions but not statistically significant. Columns (3) and (4) report the results for the Choice-All vs. Assign-PS comparisons, where the independent variable Choice-All is a dummy that equals one

for Choice-All and zero for the Assign-PS treatment. The estimated coefficient on Choice-All is –0.17 (column (3)) and –0.18 (column (4)), both being weakly significant at the 10% level. These results suggest that the participation rate under Choice-All is about 18 percentage points lower than under Assign-PS. Columns (5) and (6) compare the participation rates between Choice-All and Assign-All.[16] The coefficients on Choice-All are negative and statistically significant. Taken together, the results suggest that offering workers the choice of compensation scheme reduces the participation rate in the second task.

Table 3: Comparisons of participation decisions and performance

Comparison of schemes	Mean difference	t test	Wilcoxon rank-sum test	Kolmogorov–Smirnov test
Proportion of participation:				
Choice-All vs. Assign-P	–0.17	0.11	0.17	0.57
Choice-All vs. Assign-PS	–0.20	0.04	0.06	0.25
Choice-All vs. Assign-All	–0.19	0.02	0.03	0.14
Number of lines entered:				
Choice-P vs. Assign-P	–11.45	0.14	0.09	0.38
Choice-PS vs. Assign-PS	–1.24	0.87	0.92	0.72
Choice-All vs. Assign-P	–12.44	0.06	0.05	0.08
Choice-All vs. Assign-PS	0.58	0.92	0.80	0.91
Choice-All vs. Assign-All	–4.80	0.36	0.38	0.31
Number of correct lines:				
Choice-P vs. Assign-P	–20.79	0.00	0.01	0.01
Choice-PS vs. Assign-PS	–4.87	0.49	0.48	0.81
Choice-All vs. Assign-P	–20.70	0.00	0.00	0.01
Choice-All vs. Assign-PS	–4.82	0.38	0.33	0.77
Choice-All vs. Assign-All	–11.38	0.02	0.02	0.07
Error rate:				
Choice-P vs. Assign-P	0.17	0.02	0.31	0.07
Choice-PS vs. Assign-PS	0.18	0.02	0.25	0.19
Choice-All vs. Assign-P	0.19	0.01	0.17	0.01
Choice-All vs. Assign-PS	0.14	0.04	0.28	0.18
Choice-All vs. Assign-All	0.16	0.00	0.14	0.03

[16]The size of the sample used for estimation is slightly smaller than the number of participants (158) in the experiment as three subjects have missing information on the error rate in the first task.

Table 4: Determinants of participation decision in the second task

Dependent variable:	Participation in the second task					
Sample:	Choice-All vs. Assign-P		Choice-All vs. Assign-PS		Choice-All vs. Assign-All	
	(1)	(2)	(3)	(4)	(5)	(6)
Choice-All	–0.141	–0.194	–0.168*	–0.181*	–0.159**	–0.168*
	(0.107)	(0.129)	(0.093)	(0.103)	(0.079)	(0.091)
No. of lines entered in the first task	–0.000	0.000	–0.001	–0.001	–0.000	–0.000
	(0.004)	(0.004)	(0.004)	(0.004)	(0.003	(0.003)
Error rate in the first task	–0.138	–0.149	–0.112	–0.099	–0.101	–0.120
	(0.171)	(0.180)	(0.176)	(0.178)	(0.153)	(0.161)
Controls	No	Yes	No	Yes	No	Yes
Observations	118	118	128	128	155	155
R^2	0.023	0.064	0.032	0.083	0.032	0.073

Notes: The control variables include gender, field of education, whether having a religious belief, and whether born in Hong Kong. Robust standard errors are reported in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.10$.

Result 1: The participation rate in the second stage is lower in the Choice treatments than in the Assign treatments.

Next, we examine whether there is a significant relationship between the decision to participate in the second stage and the work performance in the first stage. Table 4 shows that the coefficients on error rate in the first task and the number of lines entered in the first task are all statistically indistinguishable from zero. This suggests that there is no self-selection of high-quality workers (i.e., those with higher productivity and lower error rates) into the second task.

4.2 Labor Supply: Number of Lines Entered in the Second Task

In the second stage, the average number of lines entered (conditional on participation) in the Assign-All and Choice-All treatments are 51.67 and 46.87, respectively (see Table 2); and in the schemes of Assign-P, Assign-PS, Choice-P, and Choice-PS are 59.32, 46.30, 47.86, and 45.06, respectively. As shown in Table 3, there are weakly significant differences in the number of lines entered in the second task between Choice-P and Assign-P, and between Choice-All and Assign-P. There are no significant differences between Choice-PS and Assign-PS, Choice-All and Assign-PS, and Choice-All and Assign-All.

Table 5 reports the OLS regression results where the dependent variable is the number of lines entered in the second task. The independent variables are choice treatment, scheme dummies and control variables. Across the columns, there is only modest difference between the data entered in the Assign-PS and the Choice treatments. Compared to the base group (i.e., Assign-PS), the data entered is at least 12 lines less when a choice is available, and the effect is marginally significant at the 10% level. The coefficients on the Choice treatment in all other regressions are mostly negative, although not statistically significant. Overall, the results suggest that the number of lines entered tends to be lower in the Choice treatments. This implies that workers seem to work less hard in the Choice treatments.

Result 2: The number of lines entered tends to be lower in the Choice treatments.

4.3 Quality of work

The average number of correct lines entered in the Assign-All and Choice-All treatments are 39.78 and 28.40, respectively (see Table 2); this difference is statistically significant (p-value=0.02 for t test and Wilcoxon rank-sum test), as indicated in Table 3. Relative to Assign-P, when subjects are offered a choice with an alternative scheme including CSR, the average number of correct lines decreases by 20.70, and the difference is highly statistically significant under both the t test and the Wilcoxon rank-sum test. Further, the average number of correct lines entered by subjects in the Choice-P scheme is 28.31, which is significantly lower than the corresponding value of 49.11 in the Assign-P scheme, with p-values being less than or equal to 0.01 under the t test and the Wilcoxon rank-sum test. The average number of correct lines entered in Assign-PS is 4.87 lines more than in Choice-PS and 4.82 lines more than in Choice-All. Although the differences are not statistically significant, the direction of the difference is consistent with the finding that there are fewer correct lines in the Choice treatments.

We observe a similar but statistically more significant difference in the analysis of the error rates in job performance. The mean error rates in the Assign-All and Choice-All treatments are 6% and 22%, respectively (p-value=0.00 for t test; p-value=0.14 for Wilcoxon rank-sum test; p-value=0.03 for Kolmogorov-Smirnov test). The biggest difference is between Choice-All and Assign-P, with the

Table 5: Determinants of number of lines entered in the second task

Dependent variable:	Number of lines entered in the second task									
Sample	Choice-P vs. Assign-P		Choice-PS vs. Assign-PS		Choice-All vs. Assign-P		Choice-All vs. Assign-PS		Choice-All vs. Assign-All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Choice-P	–11.454	–7.710								
	(7.577)	(11.010)								
Choice-PS			–1.237	6.395						
			(7.019)	(7.662)						
Choice-All					–12.443*	–13.537	0.576	4.060	–4.802	–2.554
					(6.787)	(9.979)	(6.124)	(6.851)	(5.195)	(6.601)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	48	48	44	44	66	66	74	74	93	93
R^2	0.048	0.241	0.001	0.426	0.054	0.169	0.000	0.215	0.009	0.145

Notes: The control variables include gender, field of education, whether having a religious belief, and whether born in Hong Kong. Robust standard errors are reported in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.10$.

difference in the mean error rates being as high as 19%. The mean error rate in the Assign-P scheme is 3%, also substantially lower than the 20% observed in the Choice-P scheme. The distributions of the error rates in the Choice-P and the Assign-P schemes are significantly different with the p-value being less than or equal to 0.07, while there is no significant difference at the median. We observe significantly higher mean error rates in Choice-PS than in Assign-PS (p-value=0.02), and in Choice-All than in Assign-PS (p-value=0.04).

Table 6 reports the OLS regression results where the dependent variable is the error rate, and we use the same independent variables as in Table 5. The coefficients of the choice schemes are highly significant, with the error rate being at least 12% higher in the choice treatments. This surprising result suggests that subjects are likely to have lower quality work when they are given a choice of payment scheme, in contrast to the competing hypothesis that allowing workers to choose the compensation scheme will improve work quality.

Comparing the same payments in the Choice and Assign treatments (see columns (1)–(4) of Table 6), we find that the coefficients on Choice-P and Choice-PS are 17.2% and 18.3%, respectively, without controlling for individual characteristics. When these controls are included, these two coefficients increase to 23.4% and 22.6%. This suggests that offering subjects some discretion in deciding whether to share their earnings with a charity, as indicated by the Choice-All coefficients, leads to an average increase in error rates of 19% compared to a purely monetary-based scheme in the Assign-P treatment, 14% compared to a scheme that combines payment with CSR in the Assign-PS treatment, and 16% relative to the Assign-All treatment.[17]

Result 3: There is a hidden cost to allowing workers to choose their preferred payment scheme, since the quality of work is lower in the Choice treatments than in the Assign treatments.

In summary, the results indicate that when subjects are given the option of choosing between a pure monetary reward scheme and a reward scheme with a CSR component, not only do the labor participation rate, but also their work quality conditional on participation shows a significant decline.[18]

[17] We also compare the effect of including CSR with that of no-CSR within the Assign treatment. The difference is statistically significant only when controls are included. Subjects work less carefully when a portion of their earnings will be for charitable contributions.

[18] As a robustness check, we also use another measure of work accuracy. Appendix Table A1 presents the results for

Table 6: Error rate in the second task

Dependent variable:	Error rate in the second task									
Sample	Choice-P vs. Assign-P		Choice-PS vs. Assign-PS		Choice-All vs. Assign-P		Choice-All vs. Assign-PS		Choice-All vs. Assign-All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Choice-P	0.172***	0.234**								
	(0.057)	(0.087)								
Choice-PS			0.183**	0.226**						
			(0.090)	(0.104)						
Choice-All					0.193***	0.282***	0.137**	0.120	0.160***	0.158**
					(0.046)	(0.079)	(0.057)	(0.076)	(0.050)	(0.066)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	48	48	44	44	66	66	74	74	93	93
R^2	0.115	0.285	0.114	0.219	0.098	0.238	0.056	0.102	0.099	0.133

Notes: The control variables include gender, field of education, whether having a religious belief, and whether born in Hong Kong. Robust standard errors are reported in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.10$.

These findings are inconsistent with the freedom of choice hypothesis, which would predict that the Choice treatment allows the subjects to choose the incentive schemes that suit them better, hence boosting both labor participation rate and work quality. The signaling theory, in contrast, provides a useful perspective for understanding these findings. It can explain the low participation rate in the Choice treatment as follows. By giving up the opportunity to work under the purely private incentive scheme, non-participation becomes less damaging to one's self-image or social reputation. The signaling theory can also explain the low work quality in the Choice treatment. Working hard after choosing (rather than being assigned) the private incentive scheme is extremely damaging to one's self-image or social reputation as it implies the subject could have made a significant contribution to the charity but refuses to do so. Consequently, subjects work less hard after picking the purely private incentive scheme in order to avoid this stigma effect. In Section 5, we will build a model (upon the influential work of Bénabou and Tirole, 2006, 2010) to formalize the explanations above.

4.4 Scheme choice

Thus far, our focus has been on examining the impact of choice on individual output and work quality. Now, we turn our attention to analyzing workers' decision-making regarding the choice between a purely monetary compensation scheme with a higher salary and a scheme that includes a CSR component but offers a lower salary. Interestingly, the majority of workers opted for the compensation scheme that did not include the CSR component but offered a higher salary. Specifically, out of the 79 subjects in the choice treatment, 49 chose the purely monetary scheme, while 30 chose the scheme with the CSR component. This indicates that approximately 62 percent of workers selected the compensation scheme based solely on monetary incentives. Importantly, this proportion is significantly higher than the 50 percent expected if subjects were making random choices, as evidenced by a binomial probability test yielding a p-value of 0.04.

an alternative specification where the dependent variable is the number of lines correctly entered in the second task. Half of the coefficients on choice treatment and schemes are negative and statistically significant. As such, workers who are offered the option of choosing their preferred compensation scheme are less likely to provide correct answers in the second task than workers who are assigned with a scheme, and especially for the assigned scheme of monetary incentive only compensation. Furthermore, as shown in columns (1)–(2), the coefficient on the Assign-P is also negative and statistically significant. The choice of private incentives reduces the number of correct lines by about 20 on average compared to the direct assignment of the purely monetary scheme.

To gain insights into the factors influencing scheme choice, we analyze the self-reported survey data collected at the end of the experiment. In this survey, subjects were asked to rate their level of job satisfaction on a scale of 1 to 10, with 1 indicating "very unsatisfied" and 10 representing "very satisfied". Additionally, participants were asked to rate the level of meaningfulness of the job on the same scale, with 1 indicating "not meaningful at all" and 10 indicating "very meaningful". Lastly, subjects were asked to rate the reasonableness of the wage on a scale of 1 to 10, with 1 indicating "very much below the reasonable rate" and 10 indicating "well above the reasonable rate".

Table 7: One-tailed t test for the comparison of assign and choice schemes

	Payment	Mean value		One-tailed t test
		Assign	Choice	p-value
Job satisfaction	(0.3, 0)	4.70	4.16	0.14
	(0.2, 0.1)	4.41	5.13	0.08
Job meaningfulness	(0.3, 0)	3.30	3.47	0.35
	(0.2, 0.1)	3.78	3.59	0.36
Wage reasonableness	(0.3, 0)	5.33	4.91	0.18
	(0.2, 0.1)	5.43	5.69	0.31

The results presented in Table 7 indicate that among those who preferred the compensation scheme with a CSR component, the Choice-PS treatment yielded a higher level of job satisfaction (5.13) compared to the Assign-PS treatment (4.41). Although the difference is only weakly significant (p-value=0.08) based on a one-tailed two-sample t-test, it provides some support for the hypothesis that the Choice treatment promotes higher job satisfaction for individuals who value the CSR component, consistent with the freedom of choice hypothesis. In contrast, workers in the Choice-P treatment report a lower level of job satisfaction (4.16) than those in the Assign-P treatment (4.70). Although the difference is not statistically significant (p-value=0.14), it offers some support for the hypothesis that individuals who prefer a higher salary (without CSR) may feel less satisfied in the choice treatment. Furthermore, workers in the Choice-P treatment perceived the wage rate as less reasonable compared to the Assign-P treatment, providing additional support for the image concern hypothesis. The average rating of wage reasonableness for Choice-P was 4.91, lower than the mean rating of 5.33 for Assign-P. However, the difference is not statistically significant (p-value=0.18). Regarding the comparisons of schemes

under the assigned and choice treatments, no significant differences were found in the degree of job meaningfulness or wage reasonableness.

5 Model

In this section, we propose a model of signaling with image concerns that can account for the choices observed in the experiment.

In the model, every agent is assumed to have two dimensions of private information: (i) productivity and (ii) altruism. For simplicity, we assume that each dimension is binary and independently distributed. Denote her productivity by $c \in \{c_L, c_H\}$ where $c_L < c_H$ and her altruism level by $v \in \{v_L, v_H\}$ where $0 = v_L < v_H \leq 1$. Denote also the prior probability by $\Pr(c = c_H) = \alpha \in (0,1)$ and $\Pr(v = v_H) = \pi \in (0,1)$. For expositional simplicity, we will say that an agent is productive (unproductive) if her type is c_H (c_L), and that she is altruistic (selfish) if her type is v_H (v_L).

Under Incentive Scheme P, the agent's payoff is given by

$$e - \frac{1}{2c}e^2 - F + x \Pr(v = v_H | P, e). \tag{1}$$

Here, e stands for the effort exerted and F stands for an exogenous fixed cost of participation. The last term describes the agent's image concern. Following Bénabou and Tirole (2006), we assume that the agent derives an "image payoff" proportional to the equilibrium belief that she is altruistic conditional on her observable action taken. The proportionality constant is denoted by x.

Under Incentive Scheme PS, the agent's payoff is given by

$$[y + (1-y)v]\, e - \frac{1}{2c}e^2 - F + x \Pr(v = v_H | PS, e), \tag{2}$$

where $y \in (0,1)$ is the material return per unit effort and $(1-y)$ is the fraction donated to charity.

If the agent does not participate, her payoff is simply

$$x \Pr(v = v_H | N). \tag{3}$$

As noted by Bénabou and Tirole (2006), one interpretation of the setting is a self-signaling game played between the agent's current self (who acts as the sender) and her future self (who acts as the receiver). The future self has a better memory about the action taken than her type information, and thus have to rely on the action taken by the current self to improve her belief assessment (see also Bénabou and Tirole, 2004). In this interpretation, the solution concept is weak perfect Bayesian Nash equilibrium (weak PBNE).

To maintain simplicity and to avoid trivial cases, we make the following parametric assumptions throughout.

Assumption (i) $c_L/2 > F > yc_L/2$. (ii) $c_L < c_H\left[y + (1-y)\, v_H\right] \equiv e^*_{HH}$.

Assumption (i) implies that absent any image concern, an unproductive agent is always willing to participate in Scheme P. She is, however, unwilling to participate in Scheme PS if she is selfish.

Assumption (ii) requires that the productivity difference between the two types be sufficiently large. In the absence of any image concern, effort level e^*_{HH} is the optimal effort level of type (c_H, v_H) under Scheme PS, whereas effort level c_L is the optimal effort level of the unproductive agent under Scheme P. This assumption thus implies that without image concern, a productive altruistic agent always exerts weakly higher effort than an unproductive agent.

5.1 Assign-P Treatment

In the Assign-P treatment, the agent chooses between non-participation and Incentive Scheme P. Naturally, the signaling of altruism has no role to play here. If the agent participates, she simply chooses e to maximize[19]

$$e - \frac{1}{2c}e^2 - F,$$

giving the optimal effort $e = c$. Her payoff of participation is thus $c/2 - F$. By the assumption in the model setup, this payoff is always non-negative, so every type of agent participates.

This prediction of full participation should not be taken literally. It is straightforward to see that if we introduce an exogenous fraction of agents with an extremely high fixed cost of participation, this

[19]Here, we omit the image concern term, $x\pi$, as it does not affect the agent's effort decision.

fraction of agents will always withdraw in any treatment, and thus have no impact on the comparison in the participation and effort decisions across different treatments. As we are interested in their relative rather than absolute levels, there is no loss in assuming away this fraction of agents who never participate in our theoretical analysis.

Proposition 1. *If $c_L/2 > F$, then all types of agents participate. Productive agents exert effort c_H, whereas unproductive agents exert effort c_L.*

5.2 Assign-PS Treatment

In the Assign-PS treatment, the agent chooses between non-participation and the Incentive Scheme PS. If the latter is chosen, she then decides on her effort level. It is natural to interpret the choice of a positive effort level in Scheme PS as a more altruistic act than non-participation. As such, we construct a signaling equilibrium in which participation in Scheme PS reflects a more favorable belief about one's level of altruism.

It is apparent by inspecting the payoff function (2) that other things being equal, type (c_L, v_L) has the lowest willingness to participate in Scheme PS, whereas type (c_H, v_H) has the highest willingness to participate. In fact, absent any image concern, type (c_L, v_L) does not find it in her (material) interests to participate given $c_L y/2 < F$ (Assumption (i)). However, if non-participation reveals that the agent is selfish, she loses the image payoff. When this penalty of non-participation outweighs the material loss in equilibrium, she (together with every other type) can be induced to participate.

More concretely, consider the following pooling strategy and belief system. Every type participates and exerts effort $e^*_{HH} \equiv c_H [y + (1-y) v_H]$. Conditional on effort reaching e^*_{HH}, the belief has $\Pr(v = v_H | e \geq e^*_{HH}) = \pi$. Otherwise, $\Pr(v = v_H | e < e^*_{HH}) = 0$. The following proposition states conditions under which the strategy profile and belief system above constitute a signaling equilibrium.

Proposition 2. *There exists a pooling equilibrium in which all agents participate in the Assign-PS treatment and exert effort e^*_{HH} if the image concern parameter x is no less than some cutoff $\underline{x}^{PS}$.*[20]

[20]The proofs of Proposition 2 and 3 and Corollary 2 appear in the Appendix.

Using the two propositions above, we can compare the participation rate and effort level between the Assign-P and Assign-PS treatments.

Corollary 1. *Suppose the agent plays the signaling equilibrium described in the proposition above. Then the participation rate is the same between the Assign-P and the Assign-PS treatments. The average effort level is lower in the Assign-PS treatment than in the Assign-P treatment whenever* $\alpha c_H + (1-\pi)\, c_L \geq c_H\,(y + (1-y)\, v_H)$.

5.3 Choice Treatment

In the Choice treatment, the agent chooses between non-participation, Incentive Scheme P, and Incentive Scheme PS. In the latter two cases, she then decides what level of effort to exert. Naturally, on the one hand, choosing Scheme PS and exerting high effort remains a favorable signal for altruism. On the other hand, choosing Scheme P and exerting high effort is a strong signal for selfishness. This leaves the option of non-participation as a less negative signal. Below, we construct a signaling equilibrium with these features.

Following the intuition above, we hypothesize that there is a signaling equilibrium in which both schemes and non-participation are on the equilibrium path (i.e., chosen by some agents). Moreover, as productive agents benefit more from participation than unproductive agents, we consider a strategy profile in which all productive agents participate, whereas the unproductive agents only partially participate. Among the productive agents, other things being equal, type (c_H, v_H) has a relatively higher inclination to choose Scheme PS, whereas type (c_H, v_L) has a higher inclination to choose Scheme P. Furthermore, conditional on participation, unproductive agents tend to choose lower effort level compared to their productive counterparts. This opens the possibility for type (c_H, v_L) to mimic type (c_L, v_H) in order to capture some image payoff. The proposition below shows that this is possible in an equilibrium.

Proposition 3. *Suppose* π *is sufficiently large and* α *is sufficiently small. Then there exists cutoffs* $\underline{x}^{PS} \leq \underline{x}^{C} < \bar{x}^{C}$ *such that whenever the image concern parameter* $x \in \left[\underline{x}^{C}, \bar{x}^{C}\right]$*, there exists a signaling equilibrium in which*

(i) type (c_H, v_H) *chooses Scheme PS and effort* e^*_{HH}*;*

(ii) type (c_H, v_L) *chooses Scheme P and effort* c_L*; and*

(iii) unproductive types (c_L, v_L) *and* (c_L, v_H) *play a mixed strategy between non-participation and exerting effort* c_L *under Scheme P.*

In the partial separation equilibrium characterized in the proposition above, a positive fraction of unproductive agents withdraw, whereas the remaining fraction choose Scheme P and exert low effort. The reason why they are indifferent between the two options is that while Scheme P offers a higher material payoff than non-participation, it comes with the cost of a lower image payoff. The image payoff of choosing Scheme P is lower than that of non-participation, because whereas non-participation chosen by unproductive agents only, Scheme P is chosen by both the unproductive agents and the selfish productive agents.

While low-productivity agents are indifferent, the selfish productive agent would find it strictly better to choose Scheme P because of the higher material payoff they can generate. In fact, given their high productivity, they are tempted to choose a higher level of effort. They refrain from doing this in equilibrium because they will suffer an image cost if they work too hard in Scheme P. In other words, the selfish productive agent works less hard in order to mimic an unproductive altruistic agent.

One crucial element in the equilibrium construction of Proposition 3 is the belief about altruism level given the participation and scheme choices. Here, non-participation is viewed as a more neutral action (less negative) than the equilibrium constructed in Proposition 2. This can be potentially justified by arguing that when an obviously worse signal (Scheme P) is available, it takes away some of the stigma of non-participation.

The following corollary compares the equilibrium outcomes characterized in the propositions above.

Corollary 2. *Comparing the equilibrium characterized in Propositions 1, 2, and 3 for the Assign-P, Assign-PS, and Choice treatments, the participation rate is lower in the Choice treatment than in both Assign treatments. Moreover, conditional on participation, the effort level in the Choice treatment is weakly lower than in both Assign treatments.*

Let us conclude by remarking that as is standard in signaling games, the game we analyze admits multiple equilibria. Fully characterizing all possible equilibria and applying equilibrium refinement notions are beyond the scope of this paper. Our goal here is to, instead, provide a perspective in understanding the experimental findings. In particular, using the theory of signaling, the analysis above sheds light on the puzzling findings that both participation and effort exertion may drop when the agents have more options. First, non-participation can become an excuse when a more selfish option is made available ("Well, at least I do not pick Scheme P, so I am not that selfish."). Second, agents work less hard after choosing to participate in Scheme P to preserve image payoff ("I am not selfish; I am just unproductive.").[21]

Alternatively, we can view the experiment as an empirical tool to help identify, among all signaling equilibria, which one is more likely to arise in practice. The equilibrium outcomes described in the propositions above thus gain credibility from the consistency of our experimental findings.

6 Conclusion

This paper experimentally investigates the effect of assigning a compensation scheme versus allowing workers to choose their preferred scheme with or without a CSR component. We find that giving workers the choice has two main effects. First, it lowers the labor market participation rate. Second, it reduces workers' productivity and leads to higher error rates in their job performance. This is true regardless of whether workers choose the option including a CSR component or opt for a purely monetary payment scheme.

The observed decrease in labor market participation contradicts the classical theory's prediction of increased participation when workers are given the freedom to choose. Instead, it aligns more closely

[21] An alternative explanation for our findings is that the presence of multiple options may create difficulty for workers in making a choice, particularly in more complex situations (Scheibehenne et al., 2010). This difficulty arises due to the cognitive effort and deliberation costs involved, leading to a phenomenon known as "choice overload". Workers may ultimately opt not to participate at all due to the overwhelming nature of the decision-making process (Iyengar and Lepper, 2000; Guo, 2016). Previous studies have shown that as the number of options increases, decision-makers are less likely to make a choice and more likely to select the default or outside option (Iyengar and Lepper, 2000). The process of deliberation plays a role in constructing preferences, and an increase in the number of choices can lead to choice overload and a higher likelihood of choosing the outside option (Guo, 2016). However, given that the number of choices in our study was relatively small, it is unlikely that choice overload was the primary driving force behind the observed results.

with the "signaling" hypothesis. These findings are consistent with our theoretical model of signaling, which suggests that when individuals have more options, non-participation can be seen as less selfish. In this context, workers may choose to exert less effort after selecting a more self-interested scheme to signal to others that they are not highly productive individuals.

While it is often argued that workers may value the freedom of choice and consequently exert more effort, particularly those who are prosocially motivated and wish to signal their intentions, our experimental investigation has uncovered no evidence to support this claim. In our study, we find no indication of improved job performance resulting from the freedom of choice. This does not imply that freedom of choice is inherently negative, but rather suggests that in certain contexts where image concerns and signaling motivations play a significant role, the freedom of choice can have unintended consequences. It is important to note that our findings should not be interpreted as contradicting the studies by Falk and Kosfeld (2006) or Charness et al. (2012), as our focus is specifically on the effects of choice in situations involving image concerns and signaling motivations.

In a broader sense, our findings align with the existing literature emphasizing the significance of the choice set in decision-making processes (see, e.g., Simonson, 1989). Our results highlight the importance for firms to carefully consider whether to offer workers a choice when incorporating CSR into their compensation schemes. We provide evidence that, in this particular case, firms are disadvantaged by offering workers the freedom of choice.

References

Abdulkadiroglu, A. and T. Sonmez (2003). School choice: A mechanism design approach. *American Economic Review 93*, 729–747.

Aghion, P. and J. Tirole (1997). Formal and real authority in organizations. *Journal of Political Economy 105*, 1–29.

Baumeister, R. F., E. A. Sparks, T. F. Stillman, and K. D. Vohs (2008). Free will in consumer behavior: Self-control, ego depletion, and choice. *Journal of Consumer Psychology 18*, 4–13.

Bénabou, R. and J. Tirole (2004). Willpower and personal rules. *Journal of Political Economy 112*, 848–886.

Bénabou, R. and J. Tirole (2006). Incentives and prosocial behavior. *American Economic Review 96*, 1652–1678.

Bénabou, R. and J. Tirole (2010). Individual and corporate social responsibility. *Economica 77*, 1–19.

Briscese, G., N. Feltovich, and R. L. Slonim (2021). Who benefits from corporate social responsibility? Reciprocity in the presence of social incentives and self-selection. *Games and Economic Behavior 126*, 288–304.

Burbano, V. C. (2016). Social responsibility messages and worker wage requirements: Field experimental evidence from online labor marketplaces. *Organization Science 27*, 1010–1028.

Cassar, L. (2019). Job mission as a substitute for monetary incentives: Benefits and limits. *Management Science 65*, 896–912.

Cassar, L. and S. Meier (2018). Nonmonetary incentives and the implications of work as a source of meaning. *Journal of Economic Perspectives 32*, 215–238.

Cassar, L. and S. Meier (2021). Intentions for doing good matter for doing well: The negative effects of prosocial incentives. *Economic Journal 131*, 1988–2017.

Charness, G., R. Cobo-Reyes, N. Jimenez, J. A. Lacomba, and F. Lagos (2012). The hidden advantage of delegation: Pareto improvements in a gift exchange game. *American Economic Review 102*, 2358–2379.

Charness, G., R. Cobo-Reyes, and A. Sanchez (2016). The effect of charitable giving on workers' performance: Experimental evidence. *Journal of Economic Behavior & Organization 131*, 61–74.

Charness, G. and P. Kuhn (2011). *Lab Labor: What Can Labor Economists Learn from the Lab?*, Volume 4 of *Handbook of Labor Economics*, pp. 229–330. Elsevier.

Charness, G. and M. Rabin (2002). Understanding social preferences with simple tests. *Quarterly Journal of Economics 117*, 817–869.

Dahl, R. A. (2020). *On Democracy*. Yale University Press.

DellaVigna, S., J. A. List, U. Malmendier, and G. Rao (2022). Estimating social preferences and gift exchange at work. *American Economic Review 112*, 1038–1074.

DellaVigna, S. and D. Pope (2018). What motivates effort? Evidence and expert forecasts. *Review of Economic Studies 85*, 1029–1069.

Eisgruber, P. and L. Sager (2007). *Religious Freedom and the Constitution*. Harvard University Press.

Falk, A. and M. Kosfeld (2006). The hidden costs of control. *American Economic Review 96*, 1611–1630.

Fehr, E., H. Herz, and T. Wilkening (2013). The lure of authority: Motivation and incentive effects of power. *American Economic Review 103*, 1325–1359.

Fehr, E., E. Kirchler, A. Weichbold, and S. Gächter (1998). When social norms overpower competition: Gift exchange in experimental labor markets. *Journal of Labor Economics 16*, 324–351.

Fehr, E., G. Kirchsteiger, and A. Riedl (1993). Does fairness prevent market clearing? An experimental investigation. *Quarterly Journal of Economics 108*, 437–459.

Fehrler, S. and M. Kosfeld (2014). Pro-social missions and worker motivation: An experimental study. *Journal of Economic Behavior & Organization 100*, 99–110.

Friedman, M. and R. Friedman (1980). *Free to Choose*. New York: HBJ.

Gerhards, L. (2015). The incentive effects of missions–Evidence from experiments with NGO employees and students. *European Economic Review 79*, 252–262.

Guo, L. (2016). Contextual deliberation and preference construction. *Management Science 62*, 2977–2993.

Hedblom, D., B. R. Hickman, and J. A. List (2019). Toward an understanding of corporate social responsibility: Theory and field experimental evidence. National Bureau of Economic Research Working Paper No. 26222.

Hossain, T. and K. K. Li (2014). Crowding out in the labor market: A prosocial setting is necessary. *Management Science 60*, 1148–1160.

Imas, A. (2014). Working for the "warm glow": On the benefits and limits of prosocial incentives. *Journal of Public Economics 114*, 14–18.

Iyengar, S. S. and M. R. Lepper (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology 79*, 995–1006.

Kajackaite, A. and D. Sliwka (2017). Social responsibility and incentives in the lab: Why do agents exert more effort when principals donate? *Journal of Economic Behavior & Organization 142*, 482–493.

Li, K. K. (2011). Preference towards control in risk taking: Control, no control, or randomize? *Journal of Risk and Uncertainty 43*, 39–63.

List, J. A. and F. Momeni (2021). When corporate social responsibility backfires: Evidence from a natural field experiment. *Management Science 67*, 8–21.

McWilliams, A. (2015). Corporate social responsibility. In J. M. C.L. Cooper and T. Sammut-Bonnici (Eds.), *Wiley Encyclopedia of Management*, pp. 1–4. John Wiley & Sons, Ltd.

Scheibehenne, B., R. Greifeneder, and P. M. Todd (2010). Can there ever be too many options? A meta-analytic review of choice overload. *Journal of Consumer Research 37*, 409–425.

Simonson, I. (1989). Choice based on reasons: The case of attraction and compromise effects. *Journal of Consumer Research 16*, 158–174.

Sobel, J. (2005). Interdependent preferences and reciprocity. *Journal of Economic Literature 43*, 392–436.

Sunstein, C. R. (2015). *Choosing Not to Choose: Understanding the Value of Choice*. Oxford University Press, USA.

Tonin, M. and M. Vlassopoulos (2015). Corporate philanthropy and productivity: Evidence from an online real effort experiment. *Management Science 61*, 1795–1811.

Appendix

Proof of Proposition 2

Proof. We will show that the strategy profile and belief stated immediately before the proposition statement constitute a weak PBNE. To this end, it is immediate that it suffices to check the incentive compatibility of type (c_L, v_L) who has the lowest willingness to participate among all possible types. Her payoff of participation and effort e^*_{HH} is

$$\begin{aligned} & ye^*_{HH} - \frac{1}{2c_L}\left(e^*_{HH}\right)^2 + x\pi - F \\ = & \left(y - \frac{1}{2c_L}c_H\left(y + (1-y)\,v_H\right)\right)c_H\left(y + (1-y)\,v_H\right) + x\pi - F. \end{aligned}$$

There are only two relevant deviations: (i) non-participation which yields a payoff of 0, (ii) participation and exerting effort $e^*_{LL} \equiv c_L y$, yielding a payoff of $c_L y^2/2 - F < 0$. Type (c_L, v_L) has no profitable deviation if and only if

$$\begin{aligned} & \left(y - \frac{1}{2c_L}c_H\left(y + (1-y)\,v_H\right)\right)c_H\left(y + (1-y)\,v_H\right) + x\pi - F \geq 0 \\ \Leftrightarrow \quad & x \geq \frac{1}{\pi}\left(F - \left(y - \frac{1}{2c_L}c_H\left(y + (1-y)\,v_H\right)\right)c_H\left(y + (1-y)\,v_H\right)\right) \equiv \underline{x}^{PS}. \end{aligned}$$

■

Proof of Proposition 3

Proof. Denote by $q \in (0,1)$ the fraction of low-productivity types choosing Scheme P and effort c_L.

The belief system in the candidate equilibrium has

$$\begin{aligned}
\Pr\left(v = v_H | S, e\right) &= \begin{cases} 0 & \text{if } e < e^*_{HH} \\ 1 & \text{if } e \geq e^*_{HH} \end{cases}; \\
\Pr\left(v = v_H | P, e\right) &= \begin{cases} \frac{q(1-\alpha)\pi}{q(1-\alpha)+\alpha(1-\pi)} & \text{if } e \leq c_L \\ 0 & \text{if } e > c_L \end{cases}; \\
\Pr\left(v = v_H | N\right) &= \pi.
\end{aligned}$$

It is immediate that the belief system above is consistent with the proposed strategy profile.

Below, we consider the incentive of each type in turn. First consider the incentives of type (c_L, v_H). For her to be indifferent between non-participation and Scheme P with effort c_L, it is necessary that

$$\frac{1}{2}c_L + x\frac{q\left(1-\alpha\right)\pi}{q\left(1-\alpha\right)+\alpha\left(1-\pi\right)} - F = x\pi.$$

The indifference is possible for some $q \in (0,1)$ if and only if

$$\frac{1}{2}c_L - F < x\pi < \frac{1}{2}c_L - F + x\frac{\left(1-\alpha\right)\pi}{1-\alpha\pi}.$$

For any combination of x and π, the last inequality holds provided that α is sufficiently small. The first inequality can be expressed as

$$x \geq \frac{1}{\pi}\left(\frac{1}{2}c_L - F\right). \tag{4}$$

It is immediate that she has no profitable deviation to other effort levels under Scheme P. If she deviates to Scheme PS, the only relevant effort is e^*_{HH}, which yields payoff:

$$\left[y + \left(1-y\right)v_H\right]e^*_{HH} - \frac{1}{2c_L}\left(e^*_{HH}\right)^2 + x - F = \left[y + \left(1-y\right)v_H\right]^2 c_H\left(1 - \frac{c_H}{2c_L}\right) + x - F.$$

This deviation is unprofitable deviation iff

$$\begin{aligned} & \left[y+(1-y)\,v_H\right]^2 c_H\left(1-\frac{c_H}{2c_L}\right)+x-F\leq x\pi \\ \Leftrightarrow\quad & x\leq\frac{1}{1-\pi}\left(F-\left(y+(1-y)\,v_H\right)^2 c_H\left(1-\frac{c_H}{2c_L}\right)\right). \end{aligned} \tag{5}$$

Next, it is clear that whenever type (c_L, v_H) does not have a profitable deviation, then neither does type (c_L, v_L).

Now consider the incentive of type (c_H, v_L). Her payoff of choosing the proposed strategy is

$$\begin{aligned} c_L-\frac{1}{2c_H}c_L^2+x\frac{q\,(1-\alpha)\,\pi}{q\,(1-\alpha)+\alpha\,(1-\pi)}-F &= c_L-\frac{1}{2c_H}c_L^2+\left(x\pi-\left(\frac{1}{2}c_L-F\right)\right)-F \\ &= \frac{1}{2}c_L\frac{c_H-c_L}{c_H}+x\pi. \end{aligned}$$

If she maintains the choice of Scheme P, the only relevant deviation is effort c_H, which gives a payoff of $c_H/2-F$. If she switches to Scheme PS, the relevant effort levels is e^*_{HH} (any lower effort is dominated by staying at Scheme P), which gives a deviation payoff

$$\begin{aligned} & \left[y+(1-y)\,v_L\right]e^*_{HH}-\frac{1}{2c_H}\left(e^*_{HH}\right)^2+x-F \\ = \;& c_H\left[y+(1-y)\,v_H\right]\left(\left[y+(1-y)\,v_L\right]-\frac{1}{2}\left[y+(1-y)\,v_H\right]\right)+x-F. \end{aligned}$$

Summarizing the incentive compatibility conditions above,

$$x \;\geq\; \frac{1}{\pi}\left(\frac{1}{2}\left(c_H-c_L\frac{c_H-c_L}{c_H}\right)-F\right). \tag{6}$$

$$x \;\leq\; \frac{1}{1-\pi}\left(F+\frac{1}{2}c_L\frac{c_H-c_L}{c_H}-c_H(y+(1-y)v_H)\left((y+(1-y)v_L)-\frac{1}{2}(y+(1-y)v_H)\right)\right) \tag{7}$$

Finally consider the incentive of type (c_H, v_H). Her payoff by playing the proposed strategy is

$$\left[y+(1-y)\,v_H\right]e^*_{HH}-\frac{1}{2c_H}\left(e^*_{HH}\right)^2+x-F=\frac{1}{2}c_H\left[y+(1-y)\,v_H\right]^2+x-F.$$

It is immediate that there is no profitable deviation to other effort level under Scheme PS. If she chooses Scheme P, there are only two relevant effort levels: c_L and c_H, with respective payoffs

$$\begin{cases} c_L - \frac{1}{2c_H}c_L^2 + x\frac{q(1-\alpha)\pi}{q(1-\alpha)+\alpha(1-\pi)} - F & \text{if } e = c_L \\ \frac{1}{2}c_H - F & \text{if } e = c_H \end{cases} = \begin{cases} \frac{1}{2}\frac{c_L}{c_H}(c_H - c_L) + x\pi & \text{if } e = c_L \\ \frac{1}{2}c_H - F & \text{if } e = c_H \end{cases}.$$

The incentive compatibility condition is thus

$$x \geq \frac{1}{1-\pi}\left(F + \frac{1}{2}\left(\frac{c_L}{c_H}(c_H - c_L) - c_H\left[y + (1-y)\,v_H\right]^2\right)\right), \text{ and} \tag{8}$$

$$x \geq \frac{1}{2}c_H\left(1 - (y + (1-y)\,v_H)^2\right). \tag{9}$$

Summarizing the IC conditions above, x has lower bounds by (4), (6), (8) and (9), as well as upper bounds by (5) and (7). When π is sufficiently large, the only relevant bounds were the lower bound of (8) and the upper bounds of (5) and (7).

It can be verified that the upper bound (7) always exceeds the lower bound (8):

$$\begin{aligned} & \frac{1}{1-\pi}\left(F + \frac{1}{2}c_L\frac{c_H - c_L}{c_H} - c_H(y+(1-y)v_H)\left((y+(1-y)v_L) - \frac{1}{2}(y+(1-y)v_H)\right)\right) \\ > \; & \frac{1}{1-\pi}\left(F + \frac{1}{2}\left(\frac{c_L}{c_H}(c_H - c_L) - c_H[y+(1-y)v_H]^2\right)\right) \\ \Leftrightarrow \; & \\ & c_H(y+(1-y)v_H)\left((y+(1-y)v_L) - \frac{1}{2}(y+(1-y)v_H)\right) < \frac{1}{2}c_H(y+(1-y)v_H)^2 \\ \Leftrightarrow \; & y + (1-y)v_L < y + (1-y)v_H. \end{aligned}$$

Also, the upper bound (5) exceeds the lower bound (8) under Assumption (ii):

$$\begin{aligned}
\frac{1}{1-\pi}\left(F-(y+(1-y)v_H)^2c_H\left(1-\frac{c_H}{2c_L}\right)\right) &\geq \frac{1}{1-\pi}\left(F+\frac{1}{2}\left(\frac{c_L}{c_H}(c_H-c_L)-c_H[y+(1-y)v_H]^2\right)\right)\\
-(y+(1-y)v_H)^2c_H\left(1-\frac{c_H}{2c_L}\right) &\geq \frac{1}{2}\left(\frac{c_L}{c_H}(c_H-c_L)-c_H[y+(1-y)v_H]^2\right)\\
-(y+(1-y)v_H)^2c_H+(y+(1-y)v_H)^2c_H\frac{c_H}{2c_L} &\geq \frac{1}{2}\frac{c_L}{c_H}(c_H-c_L)-\frac{1}{2}c_H[y+(1-y)v_H]^2\\
(y+(1-y)v_H)^2c_H\left(\frac{c_H}{c_L}-1\right) &\geq \frac{c_L}{c_H}(c_H-c_L)\\
(y+(1-y)v_H)^2 &\geq \frac{c_L^2}{c_H^2}\\
c_H(y+(1-y)v_H) &\geq c_L
\end{aligned}$$

which is exactly Assumption (ii).

Finally, observe that the lower bound defined by (8) exceeds $\underline{x}^{PS}$ when π is sufficiently large. ■

Proof of Corollary 2

Proof. The participation rate is only partial in the equilibrium of Proposition 3, whereas both equilibria in Propositions 1 and 2 have full participation.

The following tables respectively display the effort profiles of Proposition 1 (Assign-P), Proposition 2 (Assign-PS), and Proposition 3 (Choice).

	v_L	v_H
c_L	c_L	c_L
c_H	c_H	c_H

	v_L	v_H
c_L	e^*_{HH}	e^*_{HH}
c_H	e^*_{HH}	e^*_{HH}

	v_L	v_H
c_L	c_L	c_L
c_H	c_L	e^*_{HH}

As $c_L < e^*_{HH} < c_H$ by assumption, all types of agents put in weakly less effort in the Choice treatment than in both Assign treatments, and strictly so for some types. ■

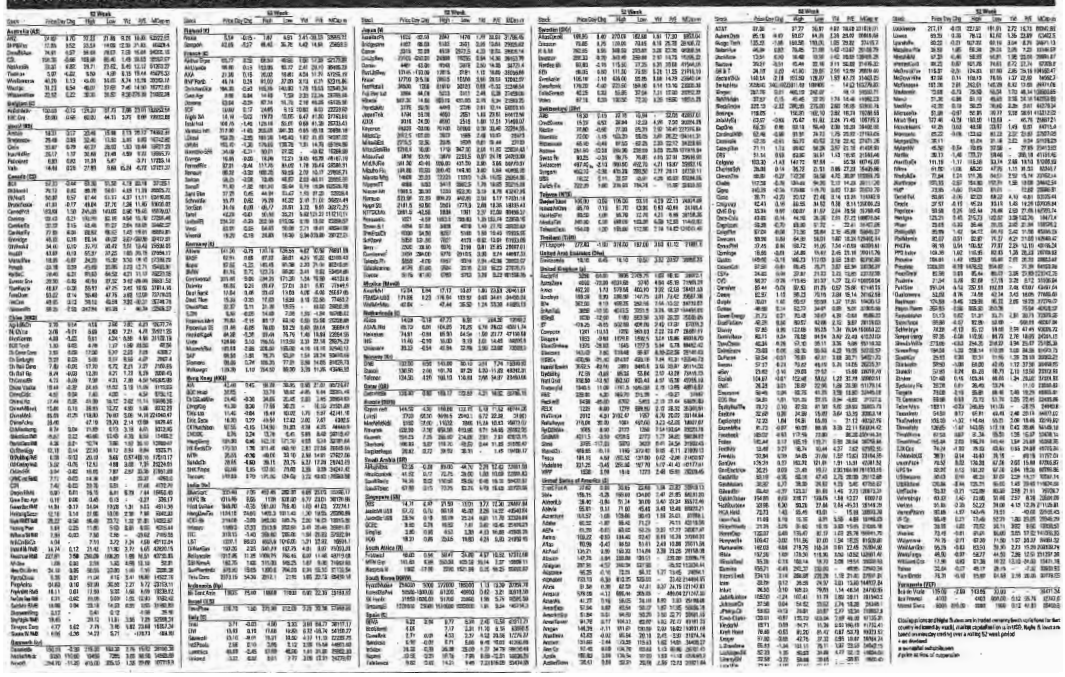
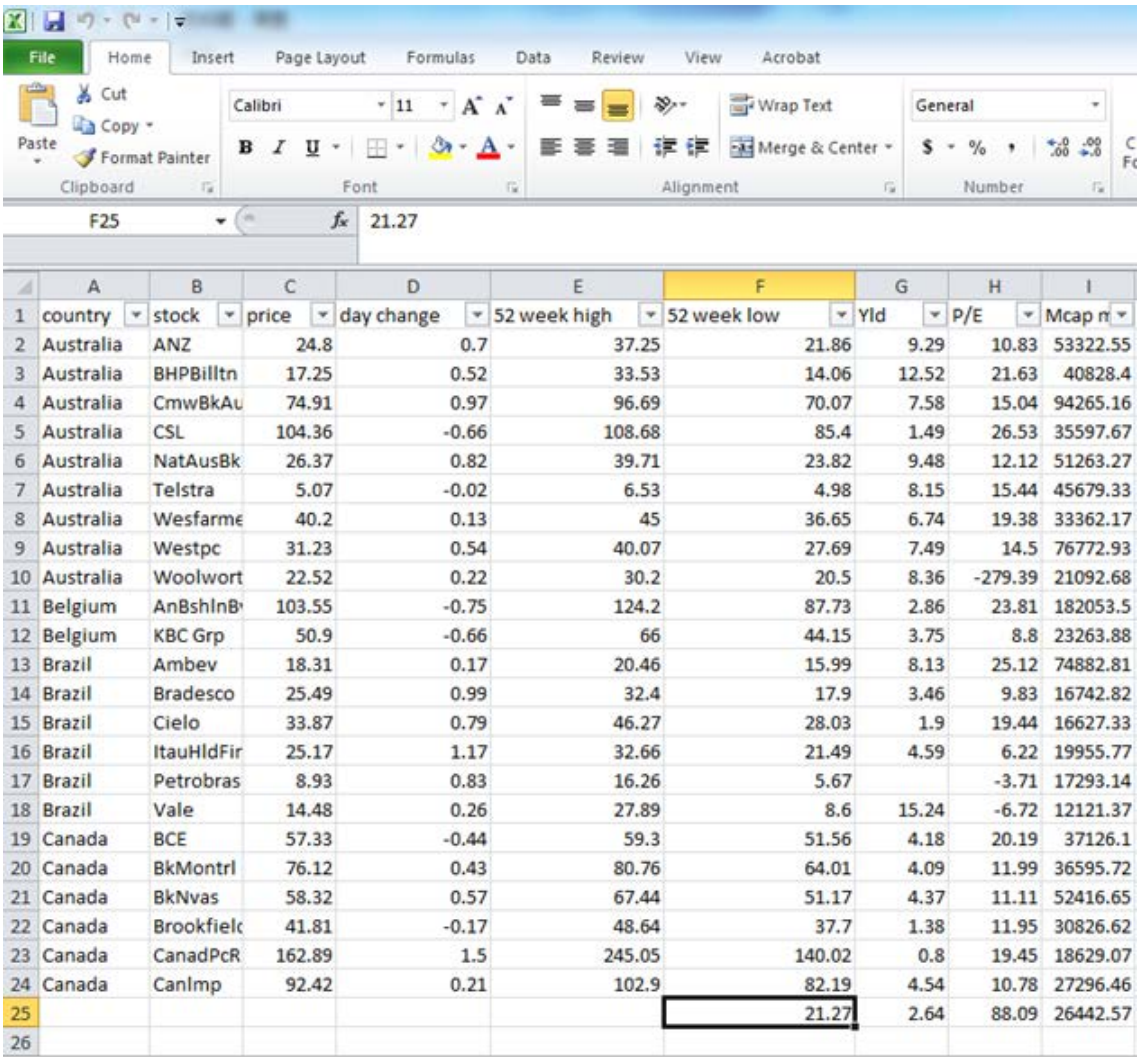


Figure A1: Data entry sheet



	A	B	C	D	E	F	G	H	I
1	country	stock	price	day change	52 week high	52 week low	Yld	P/E	Mcap m
2	Australia	ANZ	24.8	0.7	37.25	21.86	9.29	10.83	53322.55
3	Australia	BHPBilltn	17.25	0.52	33.53	14.06	12.52	21.63	40828.4
4	Australia	CmwBkAu	74.91	0.97	96.69	70.07	7.58	15.04	94265.16
5	Australia	CSL	104.36	-0.66	108.68	85.4	1.49	26.53	35597.67
6	Australia	NatAusBk	26.37	0.82	39.71	23.82	9.48	12.12	51263.27
7	Australia	Telstra	5.07	-0.02	6.53	4.98	8.15	15.44	45679.33
8	Australia	Wesfarme	40.2	0.13	45	36.65	6.74	19.38	33362.17
9	Australia	Westpc	31.23	0.54	40.07	27.69	7.49	14.5	76772.93
10	Australia	Woolwort	22.52	0.22	30.2	20.5	8.36	-279.39	21092.68
11	Belgium	AnBshlnB	103.55	-0.75	124.2	87.73	2.86	23.81	182053.5
12	Belgium	KBC Grp	50.9	-0.66	66	44.15	3.75	8.8	23263.88
13	Brazil	Ambev	18.31	0.17	20.46	15.99	8.13	25.12	74882.81
14	Brazil	Bradesco	25.49	0.99	32.4	17.9	3.46	9.83	16742.82
15	Brazil	Cielo	33.87	0.79	46.27	28.03	1.9	19.44	16627.33
16	Brazil	ItauHldFir	25.17	1.17	32.66	21.49	4.59	6.22	19955.77
17	Brazil	Petrobras	8.93	0.83	16.26	5.67		-3.71	17293.14
18	Brazil	Vale	14.48	0.26	27.89	8.6	15.24	-6.72	12121.37
19	Canada	BCE	57.33	-0.44	59.3	51.56	4.18	20.19	37126.1
20	Canada	BkMontrl	76.12	0.43	80.76	64.01	4.09	11.99	36595.72
21	Canada	BkNvas	58.32	0.57	67.44	51.17	4.37	11.11	52416.65
22	Canada	Brookfielc	41.81	-0.17	48.64	37.7	1.38	11.95	30826.62
23	Canada	CanadPcR	162.89	1.5	245.05	140.02	0.8	19.45	18629.07
24	Canada	CanImp	92.42	0.21	102.9	82.19	4.54	10.78	27296.46
25						21.27	2.64	88.09	26442.57
26									

Figure A2: Screen capture of the data entry form

Table A1: Number of correct lines entered in the second task

Dependent variable:	Number of correct lines entered in the second task									
Sample	Choice-P vs. Assign-P		Choice-PS vs. Assign-PS		Choice-All vs. Assign-P		Choice-All vs. Assign-PS		Choice-All vs. Assign-All	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Choice-P	–20.795***	–20.029**								
	(6.570)	(9.868)								
Choice-PS			–4.869	–3.214						
			(6.882)	(8.524)						
Choice-All					–20.701***	–24.007**	–4.818	–0.059	–11.378**	–8.291
					(5.863)	(9.096)	(5.523)	(7.032)	(4.774)	(6.383)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Observations	48	48	44	44	66	66	74	74	93	93
R^2	0.173	0.390	0.011	0.232	0.156	0.316	0.011	0.155	0.059	0.131

Notes: The control variables include gender, field of education, whether having a religious belief, and whether born in Hong Kong. Robust standard errors are reported in parentheses. *** $p<0.01$; ** $p<0.05$; * $p<0.10$.

Appendix (for online publication)

Instruction for the First Stage

Instructions

Welcome to our experimental study on decision-making. You will receive a show-up fee of $40. In addition, you can gain more money as a result of your decisions in the experiment.

You will be given a subject ID number. Please keep it confidentially. Your decisions will be anonymous and kept confidential. Thus, other participants won't be able to link your decisions with your identity. You will be paid in private, using your subject ID, and in cash at the end of the experiment.

When you have any questions, please feel free to ask by raising your hand, one of our assistants will come to answer your questions. Please DO NOT communicate with any other participants.

You will enter data that will be used for a research project. You need to work for 20 mins and you will receive $20. That is, you will receive $40+$20=$60.

Instructions for the Second Stage

Instruction for the (0.3, 0) conditional treatment.

Subject ID:_____

Thanks for your participation. There are some more data needed to be entered.

For each line of data entered correctly, you will receive $0.3. You can choose to enter 0 to 80 lines.

We will check the lines you entered, and calculate the amount you earn based on the number of correct lines.

You can choose to enter 0 to 80 lines.

If you do not want to enter more lines, please write down zero. We will then pay you $60 and you can leave.

If you want to enter more lines, please write down the number of lines you want to type (you can enter 1 to 80 lines). If you enter *y* correct lines then your total payment will be $60 + 0.3*y*. We will pay you $60 after you finish the task, and the rest of the money in (date).

Surname: _____, First Name:_____, Student ID:_____

I would like to enter _____lines.

Please hand in this sheet to our staff.

Instruction for the (0.2, 0.1) conditional treatment.

Subject ID:_____

Thanks for your participation. There are some more data needed to be entered.

For each line of data entered correctly, you will receive $0.2. In addition, for each line of data entered correctly, you will earn $0.1 for the charity organization Hong Kong Community Chest (香港公益金). You can choose to enter 0 to 80 lines.

We will check the lines you entered, and calculate the amount you earn based on the number of correct lines.

You can choose to enter 0 to 80 lines.

If you do not want to enter more lines, please write down zero. We will then pay you $60 and you can leave.

If you want to enter more lines, please write down the number of lines you want to type (you can enter 1 to 80 lines). If you enter *y* correct lines, then your total payment will be $60 + 0.2y.

We will pay you $60 after you finish the task, and the rest of the money in (date). We will also make a donation of 0.1y for the charity organization Hong Kong Community Chest in front of you.

Surname: _____, First Name:_____, Student ID:_____

I would like to enter _____lines.

Please hand in this sheet to our staff.

Choice Treatment

Instructions for the Second Stage

Subject ID:_____

Thanks for your participation. There are some more data needed to be entered.

You can choose between the following two compensation schemes.

Scheme 1

For each line of data entered correctly, you will receive $0.3. We will check the lines you entered, and calculate the amount you earn based on the number of correct lines.

You can choose to enter 0 to 80 lines.

If you do not want to enter more lines, please write down zero. We will then pay you $60 and you can leave.

If you want to enter more lines, please write down the number of lines you want to type (you can enter 1 to 80 lines). If you enter y correct lines, then your total payment will be $60 + 0.3$y$. We will pay you $60 after you finish the task and the rest of the money in one week.

Scheme 2

For each line of data entered correctly, you will receive $0.2. In addition, for each line of data entered correctly, you will earn $0.1 for the charity organization Hong Kong Community Chest (香港公益金). You can choose to enter 0 to 80 lines.

We will check the lines you entered, and calculate the amount you earn based on the number of correct lines.

You can choose to enter 0 to 80 lines.

If you do not want to enter more lines, please write down zero. We will then pay you $60 and you can leave.

If you want to enter more lines, please write down the number of lines you want to type (you

can enter 1 to 80 lines). If you enter *y* correct lines, then your total payment will be $60 + 0.2y. We will pay you $60 after you finish the task and the rest of the money in one week. We will also make a donation of 0.1y for the charity organization Hong Kong Community Chest in front of you.

Surname: _____, First Name:_____, Student ID:_____

I would like to choose scheme 1 / scheme 2 (please circle).

I would like to enter _____lines.

Please hand in this sheet to our staff.

Subject ID: _____

Questionnaire

1. What is your gender?
o Male o Female

2. What is your major of study?
o Business o Arts o Social Science
o Science o Engineering o Creative media o Law o Energy and Environment
o Others, please specify: _____

3. What is your religious belief?
o Buddhism o Catholic o Protestant o Muslim o No religious belief
o Others: _____

4. How often do you participate in religious activities?
o very often o often o rare o very rare

5. Where is your place of birth?
o Hong Kong o Mainland China o Others: _____

6. How long have you been living in Hong Kong?
o since I was born o last 7 years o Others: _____

7. What is your age? _____

8. On a scale of 1-10, indicate your comment on the wage rate for the data entry in the second part of the experiment:

1. Very much below the Reasonable rate	2	3	4	5. Reasonable	6	7	8	9	10.Well above the Reasonable Rate

9. On a scale of 1-10, indicate your level of satisfaction for the job:

1. Very unsatisfied	2	3	4	5. Satisfied	6	7	8	9	10.Very satisfied

10. On a scale of 1-10, indicate your comment on the meaningfulness of the job:

1. Not meaningful at all	2	3	4	5. Meaningful	6	7	8	9	10.Very Meaningful