The Inelastic Demand for Affirmative Action*

Demid Getik[†]

Marco Islam[‡]

Margaret Samahita§

Abstract

We study the role of financial incentives in driving support for affirmative ac-

tion (AA) in a series of online experiments. Participants act as employers deciding

whether to use AA in hiring. We implement three treatments to disentangle AA

preferences stemming from perceived gender differences in productivity, perceived

effects of AA on productivity, or other costs of AA for employers. Around 1/3 of

employers consistently implement AA, and we do not find any significant difference

across treatments, despite successfully altering beliefs about productivity differences.

Our results suggest that AA choice reflects a more intrinsic and inelastic preference

for advancing female candidates.

JEL codes: C91, D02, D83, J38, J71

Keywords: affirmative action; beliefs; discrimination; gender; information

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[†]Durham University. Email: demid.getik@durham.ac.uk.

[‡]Copenhagen Economics, Copenhagen, Denmark. Email: mis@copenhageneconomics.com.

Ethics. The data and code used in this paper are available in the supplementary replication files.

§School of Economics and Geary Institute for Public Policy, University College Dublin, Dublin, Ireland.

Email: margaret.samahita@ucd.ie.

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1 Introduction

Affirmative action (AA), as a practice intended to help disadvantaged groups attain parity with the general population, is widely used in modern workplaces and educational institutions. AA typically takes the form of preferential treatment in hiring, promotion, or admission based on certain immutable characteristics like race, social class or gender. Given that the practice of AA is exclusionary by design, it unsurprisingly draws substantial criticisms, some of which have been taken to US national courts.¹ Furthermore, although AA is conceptually accepted by certain groups, many are opposed to its explicit use in hiring practices (Pew Research Center, 2019).

In spite of the relatively broad prevalence of AA policies and the controversy surrounding them, relatively little is known about the nature of the support for (or opposition to) them (Bursztyn et al., 2023). Identifying the drivers of AA preference is important in order to know whether AA support (and opposition) can be shifted, and thus whether or not AA can be implemented successfully in institutions. In organisational hiring practices, for example, preference for gender-based AA may stem from the belief that it would improve productivity (by attracting high-performing women or boosting morale amongst women already hired)—if true, this justifies employers' use of AA, and its impact should be communicated widely to minimise backlash against AA. If, on the other hand, support for AA is driven by a belief that women have lower ability than men, combined with the wish (among some) to eliminate the resulting outcome differences (inequity aversion), using AA in hiring may be perceived to be misguided

¹See, e.g., Grutter v Bollinger 2003, Gratz v Bollinger 2003, Fisher v University of Texas 2016, Students for Fair Admissions v Harvard 2019.

as it does not directly address core abilities and may cause backlash against the hired candidates.

In this paper, we thus aim to identify the driver(s) of preference for AA in the context of gender in hiring decisions out of motives tied to beliefs about presumed difference in ability and the effect of institutional changes—in particular the notion that AA could increase the competitiveness of women while leaving men unaffected (as implied by Balafoutas and Sutter, 2012)—or other financial motives. We conduct two main preregistered online experiments where participants act as "employers" who hire from a pool of six "job candidates", three males and three females, using either the standard hiring rule (top 2 job candidates with the highest scores in a work task) or the AA rule (one of the 2 hired job candidates must be female). Job candidates are participants in a separate experiment who complete a math task and their score is used as a proxy of productivity. They are paid USD 1 each time they are "hired" by an employer, in addition to a participation fee. The scores of the two hired job candidates, and the hiring rule chosen, determine employers' payoffs. Hence, though employers motivated by inequity aversion may choose AA, such a choice weakly decreases the expected payoff and the optimal choice for a payoff-maximising employer is to hire using the standard rule.

In addition to the control group, our experiment includes three treatments. To identify if demand for AA is driven by the perception of gender difference in productivity, we conduct the "Information" treatment: employers are (truthfully) informed that in a previous study by Niederle and Vesterlund (2007) males and females were found to perform comparably in a similar math task. To test whether demand for AA is driven by expected differences in productivity under different hiring rules, we conduct the "Re-

verse" treatment: the decision of the employer is communicated to a future pool of job candidates. Finally, to study whether demand for AA is driven by the expected costs of employing AA, we conduct the "Cheap-talk" treatment: we remove the payment to the employers. In all treatments, we also elicit incentivized beliefs about the average productivity of male and female job candidates.

We ran our first experiment with a US sample (N = 1, 102), which is nationally representative in terms of gender, age and ethnicity. We find a non-negligible support for AA with a third of employers choosing it over the standard rule. This is stable across treatments, despite beliefs about productivity being significantly altered in the Information and Reverse treatments. Specifically, the Information treatment successfully closed the expected (male-favoring) gender productivity gap, while in the Reverse treatment, AA was believed to lower job candidates' productivity. However, the results indicate significant treatment effects in the younger sub-sample, which is potentially due to the more salient experience of applying for college admission where AA is commonly used. To better understand the motivation behind AA choice and verify the results found, we therefore re-ran the study using a sample of US college students aged 18-24 (N = 598). The second experiment replicates our results from the nationally representative sample: while our findings on beliefs are confirmed, around a third of employers still choose AA across treatments. Finally, to check the robustness of the original experiments, we conducted a supplementary experiment (N = 283) where we increased the stakes fivefold and focused on a managerial sample that is familiar with making hiring decisions. The findings from this experiment corroborate our findings in the first two samples, suggesting a highly robust set of results which, while not identifying financial motives as a driver of AA preference, rather rule these out.

This paper contributes to the large body of literature on AA which, to date, has focused on assessing the *impact* of these policies (Holzer and Neumark, 2000; Balafoutas and Sutter, 2012; Niederle et al., 2013; Ibañez and Riener, 2018; Schildberg-Hörisch et al., 2023) or when and where AA is applied most effectively (Maggian et al., 2020). Concerning the effect of AA on effort levels of the helped group, the standard economic prediction is unclear (Coate and Loury, 1993; Fryer Jr and Loury, 2005): AA may reduce the effort required of the helped group, or it may increase effort by making an opportunity become more attainable. Empirically, some have found positive effects (Calsamiglia et al., 2013; Akhtari et al., 2024; Banerjee et al., 2021; Schotter and Weigelt, 1992) while others find mixed results (Bodoh-Creed and Hickman, 2017; Bracha et al., 2019; Dulleck et al., 2017). Additionally, implementing AA can affect beliefs about the women hired, which may lead to negative effects on hiring and earnings (Avery, 2023; Bijkerk et al., 2021).

Surprisingly, the existing economic literature focusing on the *drivers* of AA (AA choice as an outcome variable) is sparse, with a few exceptions including recent work by Settele (2021).² The author shows that support for equal pay legislation and AA programs is driven by beliefs about the gender wage gap. Others have also found that support for policies advantaging a certain group is correlated with perceived disadvantage or discrimination against that group (Haaland and Roth, 2023; Ip et al., 2020). Schildberg-Hörisch et al. (2023) examine fairness perceptions of different types of AA policies. They

²Older work in the other social sciences have focused on competitive self-interest, racial discrimination, fairness and political correctness as motivations for opposing AA (Harrison et al., 2006; Kluegel and Smith, 1983; Kuklinski et al., 1997; Van Boven, 2000).

find that AA addressing differences in luck is perceived as most fair, while in the face of productivity difference AA is not perceived to be significantly more fair than an absence of AA policy (similar to our paper). The above results are consistent with our interpretation that preference for AA is driven by intrinsic motives unrelated to financial incentives, and, like other political attitudes and preferences, difficult to shift despite information interventions affecting beliefs (Kuziemko et al., 2015; Haaland and Roth, 2023).

In the remainder of the paper, Section 2 details the experimental set-up and hypotheses. Section 3 presents our main results. Section 4 presents the design and results of a supplementary experiment to test the robustness of our main findings. Section 5 discusses our results and Section 6 concludes.

2 Main Experiment

2.1 Design

In the online experiment, subjects play the role of employers wishing to hire 2 people from a pool of 6 job candidates, 3 males and 3 females. The employers are informed that these job candidates are US, college-aged participants who have completed a math task in a separate study. The employer's task is to choose from the following hiring rules:

- **Standard (ST) rule:** the employer simply hires the 2 job candidates with the highest scores in the math task.
- Affirmative Action (AA) rule: the employer hires i) the female job candidate with the highest score in the math task and ii) the job candidate with the highest score

in the math task out of the remaining 5 job candidates.

We clarify that if the top 2 candidates are both females OR 1 male and 1 female, the ST and AA rules are equivalent. However, if the top 2 candidates are both males, they will both be hired using the ST rule while the AA rule replaces the second-ranked male with the top-ranked female. Each employer is paid \$0.10 times the total scores in the math task from the 2 hired candidates. Employers are also told that each hired candidate will be paid \$1 extra in earnings, in addition to their participation fee, and that the job candidates were told that the higher their score, the higher the likelihood they would be hired and thus earn this hiring bonus. Employers then answer two questions to check their understanding of the hiring rules and cannot proceed until they answer correctly.

We then explain the math task that job candidates had to complete in more detail to the employers. Each job candidate was shown nine two-digit numbers, and their task was to find the two numbers that add up to 100. The task is similar to the one used in Buser et al. (2024) but we present the nine numbers in a list rather than a 3×3 matrix. This task is particularly ideal for online implementation since it cannot be quickly done with the help of a calculator. Job candidates were asked to complete as many questions as possible within two minutes. Their score in the math task is equal to the number of questions solved correctly within two minutes. Employers are then given three example questions to test out the math task. For example,

Which two numbers add up to 100? (The answers are 59 and 41.)

We then elicit employers' beliefs about the job candidates' scores. Employers are

asked, in random order:

- How many questions do you think the average male job candidate got correct in 2 minutes?
- How many questions do you think the average female job candidate got correct in
 2 minutes?

We incentivize this belief elicitation by paying employers \$0.50 per correct answer.³

Next, we ask employers the main question of interest: Which rule would you like to use to hire 2 people out of your pool of 6 job candidates? The same description of the rules as used above is provided again to help the employers' recall. This is followed, on a new page, by a norm elicitation that builds on the coordination of second order beliefs (see Krupka and Weber, 2013): In the earlier math task study, we asked all job candidates (not only the 6 in your matched pool) what rule they think is the appropriate one for you to use. Which rule do you think the majority of candidates think is appropriate for you to use? A correct answer is paid an extra \$1. In case both rules are equally popular, either would be judged correct.⁴

³One potential concern with eliciting the average score is the variability hypothesis: that males display greater variance in traits than females, and thus are more likely to occupy the top two spots despite no difference in average scores (see Hedges and Nowell (1995); Machin and Pekkarinen (2008); though see also Hyde et al. (2008); Hyde and Mertz (2009); O'Dea et al. (2018) for evidence that the variance gap may be smaller than previously estimated). We elicit beliefs about average scores because this metric is much simpler compared to the elicitation of the whole distribution and it allows us to get a more precise measure of productivity rather than simply asking participants to guess the gender of the top two performers. In the rest of the paper, we make the (admittedly strong) assumption that participants consider the average rather than the top tail of the distribution in estimating their payoffs under ST and AA rules. Our approach is similar to others who also focus on the gender difference in *average* performance as the context within which hiring decisions are made (Bracha et al., 2019; Bohren et al., 2023; Coffman et al., 2021; Ip et al., 2020). Nevertheless, in our supplementary experiment described in Section 4 we elicit the full distribution of beliefs by employers and confirm our results.

⁴This norm variable will later be used as a control in the regression analyses, since norm-conformity may be one motive for choosing AA for certain groups. 66% of job candidates consider ST to be the appropriate one to use. While norm perception is not significantly different across treatments (see Table A1 in the appendix), it is strongly correlated with AA choice (see Table A2 in the appendix).

At the end, we include a post-experiment survey asking employers about their opinion on labor market policies such as freedom in wage setting, wage transparency, gender quotas in leading positions, the types of companies required to adopt affirmative action and child care provision (see Settele, 2021). These are summed to give an index of labor market policy views, where a higher score indicates a higher preference for regulations. We also collect information on each subject's gender, age, education, income, and political views on a left-right scale. The full survey is included in the appendix.

2.2 Treatments

We adopt three treatments to disentangle three possible motivations for AA preference. Below we describe how each treatment differs from above (the Control condition).

In our "Information" treatment, we exogenously shock employers' beliefs by informing them that males and females perform comparably in the math task. This allows us to study whether a preference for AA is due to believing that females and males perform differently, in particular whether AA support is motivated by group-based inequity aversion (when the employer believes that females as a group perform worse and thus would be less likely hired, AA may be favored as a way to minimise this group inequality). Following the belief elicitation and before the main hiring decision, we inform the employers that: *Previous research using a similar math task has shown that female participants on average perform comparably to male participants. You can read the academic article through this link.* If the link is clicked, the employer is taken to the abstract of the Niederle and Vesterlund (2007) paper which states that "there are no gender differences in performance" in

a laboratory experimental task.⁵ The link is clicked by 41 employers in the nationally representative sample (15%) and 43 in the younger sample (22%). Following this information, employers are asked: *If the average male participant got 11 questions correct, how many questions should you expect that the average female participant got?* Employers cannot proceed unless they input the correct answer of 11.⁶ Then, on the next page before proceeding to the main hiring decision, we offer employers the chance to revise their beliefs about the average male and female productivity. We remind them that a correct answer would earn them an extra \$0.50 per question.

Our next treatment is the "Reverse" treatment, which differs from the Control by reversing the order of the job candidates' math task and the employers' hiring decision. In this treatment, we tell employers that their hiring decision will be communicated to job candidates who will complete the math task in a *future* study, to take place within a week. In other words, the job candidates will perform the math task knowing *exactly* how their additional earnings (the \$1 hiring bonus) is determined (using the ST or AA rule, which is explained at the start of their study), instead of simply knowing that the higher their score, the higher the likelihood they would be hired and thus earn the \$1

⁵The link is https://doi.org/10.1162/qjec.122.3.1067. While the task employed in Niederle and Vesterlund (2007) is not the exact same task we employ here, studies which do use similar tasks find mixed evidence about the performance difference of men and women (e.g., Brandts et al., 2020; Schram et al., 2019). However, we do not think that this evidence entirely contradicts Niederle and Vesterlund (2007) and therefore refer to their abstract because the need to induce an exogenous shock to subjects' beliefs, and the fact that the abstract clearly states that in their math task no gender differences exist makes this study ideal for our purpose. As per the information provided in the abstract by Niederle and Vesterlund (2007), we do not specify whether the term "comparably" applies to the average score in the math task or to the distribution.

⁶While this design choice was made to ensure the information is fully understood by our subjects, there may be concerns that they are strongly influenced to state that they expect equal gender productivity on the next page. Nevertheless, our results are robust to i) excluding subjects who state that they expect no gender difference in productivity as shown in Table A₃ in the appendix, and ii) excluding this attention check in Wave 3.

bonus. The employers are still paid based on the productivity of their hired candidates. This treatment will allow us to identify AA preference driven by the belief that it would change the productivity of certain groups who would be helped by AA. In this treatment we do not ask the norm elicitation question since it would have required a separate elicitation for each of the ST and AA rules, otherwise everything else is the same as in the Control.

In our final "Cheap-talk" treatment, we do not incentivize employers' hiring choice, unlike in the Control where we pay \$0.10 times the total math task scores of the 2 hired candidates. If choosing AA is perceived as the "right" thing to do, employers may choose AA to signal to the self or to the experimenter that they are doing the "right" thing. In the Control, this choice involves potential monetary cost (in case the top two candidates are males). In the Cheap-talk treatment, doing the "right" thing is made "cheaper", as it is now free to choose AA. This treatment thus allows us to check whether AA choice is driven by financial costs. Employers in this treatment are still paid for the belief and norm elicitation.

2.3 Hypotheses

We design the above experiment to test the following pre-registered hypotheses.⁷ We first investigate how AA preference correlates with beliefs about the relative performance of females versus males. Productivity differences are a common factor in earnings differences, which may motivate the use of AA. For example, Schildberg-Hörisch et al. (2023) examine fairness perceptions of different types of AA policies, hypothesising that AA

⁷Our pre-registration is available at https://aspredicted.org/blind.php?x=r7ma4s.

addressing productivity difference would be perceived as more fair than AA addressing difference in self-chosen working time (though this is not supported in their data). Nevertheless, outcome-based social preferences, in particular fairness norms, may motivate individuals to support policies that help groups whose earnings may be lowered due to lower productivity (Fehr and Schmidt, 1999; Bolton and Ockenfels, 2000). If employers have strong preferences for equality in ex-ante probabilities of hiring and believe that males are more likely to be hired under the standard rule (due to a perceived higher level of mathematical ability—see e.g. Nosek et al. 2009), preference for AA should negatively correlate with beliefs in the productivity of females. This is in contrast to the standard economic theory which would predict that AA choice should be less likely for a payoff-maximising employer when the disadvantaged group is perceived to be less productive, and for whom ST should (weakly) dominate. Given the weaker expected relationship for this latter group, 8 we expect the first effect to dominate:

Hypothesis 1. Preference for AA is negatively correlated with the perception of relative productivity of females.

While Hypothesis 1 seeks to establish the correlation between beliefs about relative performance and AA preferences, our Information treatment aims to investigate the *causal* direction. Females are typically stereotyped as having lower mathematical ability than males. When we inform a random group of employers that males and females in fact perform comparably, we therefore expect that AA choice should decrease relative to the Control where no information is given, assuming (as pre-registered in Hypothesis 1)

 $^{^{8}}$ In the extreme case, productivity difference across groups has zero correlation with AA choice as ST is always chosen.

that employers with a preference for AA are driven by a motive for fairness. While for a payoff-maximizing employer our Information treatment should reduce the expected cost of AA, the ST rule still (at least weakly) dominates AA. Thus, any treatment effect is expected to predominantly come from the first group (of fairness-motivated employers) and we hypothesize that:

Hypothesis 2. Preference for AA decreases when information about equal productivity between the genders is provided.

Another motivation for AA is that employers may believe that an AA hiring rule could motivate females to perform better since they have a higher chance of being hired. Studies have found that students increase their efforts in high school in response to AA in college entry policies (Akhtari et al., 2024; Bodoh-Creed and Hickman, 2017), while in a job-seeking context AA has been found to increase the effort spent by women (Banerjee et al., 2021). Our Reverse treatment allows us to test whether employers indeed believe that females would be more productive under AA. If that is found to be the case, we expect that AA choice in the Reverse treatment should be higher than in the Control where the AA rule is applied ex-post of the productivity task.

Hypothesis 3. Preference for AA increases when AA is expected to increase the productivity of females.

The final motivation for AA that we study is that it is perceived as the "right" thing to do despite the potential for monetary loss. Choosing AA in the Control means risking some earnings in case a less productive female is picked ahead of the second most productive male. We hypothesise that removing the monetary incentive in the Cheap-talk

treatment would lead to a higher preference for AA compared to the Control. While it is conceivable that AA support in this treatment may be driven by experimenter demand effect or social desirability bias, we note that such an outcome is not unlike the impact of social pressure in real life that induces an individual to publicly state that they support AA because it is the "politically correct" thing to do despite privately holding a different opinion.

Hypothesis 4. *Preference for AA increases in the absence of monetary incentives.*

2.4 Procedure

The experiment was programmed in Qualtrics. We conducted two waves of the experiment in January 2021 and recruited all participants through Prolific. They received a baseline monetary compensation (approximately \$1.70 for the 10-minute experiment) and an additional bonus payment as described above. The average bonus payment was \$1.58. Participants were informed that all bonuses were to be paid as soon as data collection was complete, which was after a few weeks' delay to allow us time to match employers to the job candidates in the separate studies.

In the first wave, we studied AA preference in a US nationally representative sample in terms of age, sex and ethnicity (N = 1,102). We found unexpected treatment effects in the sub-sample of younger participants, potentially due to AA's salience in the college application process (see Figure A1 and Table A4, using college-aged subjects,

⁹To get a US nationally representative sample, data from the US Census Bureau is used to stratify the sample across three demographics: age, sex and ethnicity. The sample is then divided into subgroups with the same proportions as the national population. For more details, see https://researcherhelp.prolific.co/hc/en-gb/articles/360019238413.

in the appendix). AA is less salient for an older person as they would only experience the implementation of an AA hiring rule if they are employed in a company above a certain size. Hence, in order to further explore the drivers of AA preference in the relevant group, three weeks after the first wave we conducted a second wave recruiting participants aged 18-24, US nationals, and currently enrolled in an undergraduate degree (N = 598). Summary statistics of key variables are presented in Table 1.¹¹

Table 1: Summary statistics

	Wave 1					Wave 2				
	N	Mean	SD	Min	Max	N	Mean	SD	Min	Max
Age (in years)	1102	45.13	15.81	19	89	598	20.66	1.55	18	24
Male	1102	0.47	0.50	O	1	598	0.47	0.50	O	1
College degree	1102	0.77	0.42	O	1	598	0.36	0.48	O	1
Log monthly income	1058	7.96	0.70	6	9	526	7.86	0.86	6	9
Full-time job	1102	0.44	0.50	O	1	598	0.07	0.25	O	1
Race=Asian	1102	0.07	0.26	O	1					
Race=Black	1102	0.14	0.35	O	1					
Race=Mixed	1102	0.04	0.19	O	1					
Race=Other	1102	0.02	0.15	O	1					
Race=White	1102	0.73	0.45	O	1					
Political position	1102	3.88	2.86	О	10	598	2.85	2.33	O	10
Labor market policy views	1102	13.26	4.08	О	20	598	14.09	3.33	3	20
Patience	1102	7.14	2.02	О	10	598	7.19	1.74	O	10
Duration (in seconds)	1102	635.82	363.64	161	2900	598	525.79	292.50	131	2501

Notes: Race information is only provided by Prolific for the nationally representative sample. Political position is the response to "In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking?" (o-10). Labor market policy views is an index aggregating responses (o-4) to five questions eliciting support for policies such as wage transparency, gender quotas and subsidising childcare (Settele, 2021). Patience: response to "How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?" (o-10) (Falk et al., 2018).

While the job candidates are not the focus of our study, we provide some information about them for completeness. All participants were US nationals aged 18-24 recruited

¹⁰This second experiment was pre-registered at https://aspredicted.org/blind.php?x=9iq9zs. Apart from dropping the Cheap-talk treatment due to budgetary constraints, the pre-registration is identical to that from the first wave.

¹¹We pre-screened the sample in the second experiment using the question *Which level of education are you currently in?* and included only participants answering "Undergraduate degree (BA/BSc/other)". However, responses to our survey question *What is the highest level of education you completed?* indicate that 36% of participants have completed another college degree.

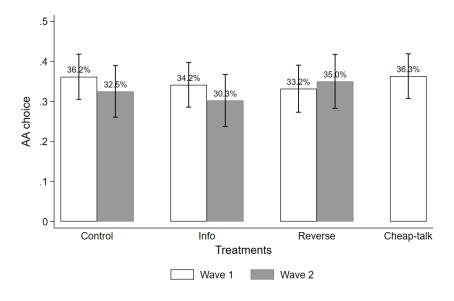
through Prolific. They completed the math task which was programmed in oTree (Chen et al., 2016). For the treatments where the job candidates do the math task *before* the employers' hiring decision, we recruited 25 males and 25 females. They were only told that the higher their score, the higher the likelihood they would be hired and thus earn the hiring bonus. The average score is 7.1 ($\sigma = 2.89$) for males and 5.4 ($\sigma = 2.92$) for females (t-test: p = 0.0513).

For the Reverse treatment, where the job candidates do the math task *after* the employers' decision, we recruited 25 males and 22 females to be matched to employers choosing ST and another 29 males and 25 females to be matched to employers choosing AA. In each of the two groups, we informed participants that they would be matched to an employer who had chosen the corresponding rule and hence their bonus would be determined accordingly. Thus, as was also the case for the workers described in the previous paragraph, each worker could have been hired multiple times, depending on their performance and the choices implemented by the employers. When participants knew they would be hired using the ST rule, males on average got 6.4 correct (σ = 2.14) while females got 5.9 (σ = 3.03), the difference is not significant (t-test: p = 0.4829). When participants knew they would be hired using the AA rule, males on average got 6.7 correct (σ = 2.70) while females got 6.4 (σ = 3.24), the difference is not significant (t-test: p = 0.7931). The within-gender comparisons across ST and AA rules are not significant either (males: 6.4 vs 6.7, t-test: p = 0.7054, females: 5.9 vs 6.4, t-test: p = 0.5337).

3 Results

3.1 Overview of experimental choices

Before proceeding with the results, we present an overview of the choices made by our experimental subjects across treatments. As summarised in Figure 1, AA is chosen by between 30.3% and 36.3% of employers across treatments. In both waves, AA choice is not significantly different across treatments (unless otherwise stated, all tests are between subject two-sided t-tests), as will be discussed in detail in the rest of this section.



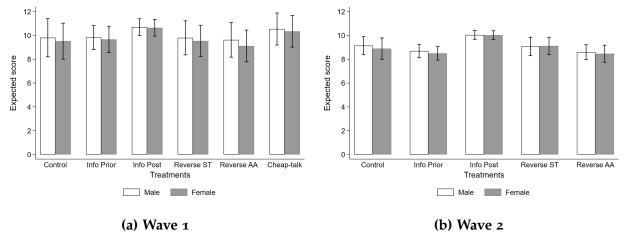
Notes: Bars indicate 95% confidence intervals.

Figure 1: AA choice across treatments

3.2 Perception of relative productivity

To assess our first hypothesis, we examine whether support for AA is correlated with participants' expectations of male and female performance in the math task. We create a

measure of the gender difference in expected performance, defined for each employer as their belief about the productivity of the average male job candidate minus their belief about the productivity of the average female job candidate: $gdiff = \mathbb{E}[male] - \mathbb{E}[female]$. Figure 2 shows the average beliefs about male and female productivity across treatments, these are also summarised with significance testing in Table A5 in the appendix. We note that the comparison of ex-ante gdiff across treatments is never significant in t-tests, indicating that randomization is successful.



Notes: Bars indicate 95% confidence intervals. Note that since expected scores of male and female candidates are elicited within subjects, their difference gdiff may be significantly different from zero despite the overlapping error bars. all numerical estimates and significance testing are presented in Table A5 in the appendix.

Figure 2: Beliefs about productivity across treatments

In both waves, females are on average expected to perform worse than males (p = 0.0165 in Wave 1, p = 0.1453 in Wave 2). In Wave 1, we do not find a statistically significant correlation between gdiff and AA choice ($\rho = -0.04$, p = 0.1963).¹³ However, we

¹²The distribution of expected scores for male and female job candidates in each treatment is never significantly different in a Kolmogorov-Smirnov test. The plots are shown in Figure A2 for Wave 1 and A3 for Wave 2 in the appendix, where for readability we have dropped 7% of subjects stating an expected score of greater than 20.

¹³This correlation is calculated excluding subjects in the Reverse treatment for whom gdiff is defined separately for the ST and AA scenarios.

find a significant negative correlation in Wave 2 ($\rho=-0.13$, p=0.0095), indicating that a higher perceived productivity gap (lower female productivity than male productivity) is associated with lower support for AA, contrary to our first hypothesis and consistent with payoff-maximisation. These results are also confirmed when we regress AA choice in the Control, Information and Cheap-talk treatments on treatment dummies and gdiff, as shown in Table 2 columns (2-3). For the nationally representative sample in Wave 1, the estimate for gdiff is small and insignificant with demographic controls. However, we observe a stronger and significant negative relationship for our younger sample in Wave 2. These employers are less likely to choose AA if they expect males to perform relatively better in the math task, which is robust when including demographic controls ($\beta=-0.029, se=0.010$). This effect is in the opposite direction to our original hypothesis and thus provides support for the payoff-maximising motive being a stronger predictor of AA support between subjects than the fairness motive. This effect seems driven by the females in the sample.¹⁴

3.3 Information treatment

To address our second hypothesis, we exposed a random subset of our participants to information that males and females perform comparably in a similar task, providing a link to the abstract of the Niederle and Vesterlund (2007) paper which clearly states that "there are no gender differences in performance". As shown in Figure 2, comparing the posterior beliefs in the Information treatment with the beliefs in the Control, we find

¹⁴In Table A6 in the appendix, we regress AA choice on accuracy defined as expected minus actual productivity for both male and female candidates. Consistent with the above, we find that AA choice in Wave 2 is strongly correlated with underestimating male productivity and overestimating female productivity—again driven by the female employers in the sample.

Table 2: Treatment effects

	All			Fer	Female employers			Male employers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
					Wave 1					
Information	-0.020	-0.024	-0.028	-0.036	-0.030	-0.035	-0.003	-0.020	-0.025	
	(0.040)	(0.040)	(0.041)	(0.056)	(0.056)	(0.057)	(0.058)	(0.056)	(0.058)	
Reverse	-0.030			-0.002			-0.062			
	(0.041)			(0.059)			(0.057)			
Cheap-talk	0.002	-0.007	-0.000	0.048	0.053	0.055	-0.040	-0.067	-0.057	
_	(0.040)	(0.040)	(0.040)	(0.058)	(0.057)	(0.057)	(0.055)	(0.055)	(0.055)	
gdiff		-0.011*	-0.009		-0.007	-0.005		-0.014**	-0.012**	
		(0.006)	(0.006)		(0.013)	(0.013)		(0.006)	(0.006)	
Observations	1,102	852	822	579	446	435	523	406	387	
R-squared	0.00	0.04	0.08	0.00	0.04	0.06	0.00	0.06	0.10	
					Wave 2					
Information	-0.023	-0.028	-0.045	0.001	-0.003	-0.063	-0.039	-0.048	-0.026	
	(0.046)	(0.046)	(0.049)	(0.069)	(0.068)	(0.073)	(0.059)	(0.062)	(0.068)	
Reverse	0.025			0.088			-0.080			
	(0.047)			(0.067)			(0.059)			
gdiff		-0.032***	-0.029***		-0.029**	-0.026**		-0.027	-0.034	
- **		(0.010)	(0.010)		(0.012)	(0.013)		(0.025)	(0.025)	
Observations	598	401	346	319	206	169	279	195	177	
R-squared	0.00	0.03	0.07	0.01	0.05	0.09	0.01	0.01	0.03	
AA norm		Χ	Х		Х	X		Χ	X	
Demographics			Χ			Χ			Χ	

Notes: OLS regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. gdiff: expected male productivity minus expected female productivity. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use? Demographic controls include age, gender, race (Wave 1 only), education, income and employment. The Reverse treatment is excluded whenever we control for gdiff since this variable is only calculated for the Control, Information and Cheap-talk treatments. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

that information exposure seems to be effective in altering subjects' beliefs about the expected performance gap. gdiff, the expected productivity difference between male and female job candidates, is lower for both Wave 1 and Wave 2.¹⁵ However, this change in beliefs about relative performance does not appear to translate into a reduction in the participants' likelihood of selecting the AA hiring rule relative to the Control—contrary to our second hypothesis and what one could expect given our first result above. AA choice in the Information treatment is slightly lower but not significantly different from the Control (34% vs 36%, p = 0.6189 in Wave 1, 30% vs 33%, p = 0.6259 in Wave 2).

These null results are confirmed in regressions shown in Table 2 where the coefficient of Information is never significant.¹⁶ This holds across both of our samples regardless of the choice of specification. Our results suggest that support for AA, which in our setting would only benefit females, is not derived from a pre-existing belief that males would outperform females. However, it appears that there is a more intrinsic preference for policies to support female job candidates, even when abilities are comparable. In Table A8 in the appendix, we show that while there is no heterogeneous treatment effects along the political dimension, support for AA is unsurprisingly higher for more left-wing participants and those more supportive of labour market regulation. For the younger

 $^{^{15}}$ For Wave 1, gdiff is significantly lower post-Information relative to the Control (0.053 vs 0.291, t-test: p=0.0241). While this was the pre-registered comparison, we note that a comparison between prior and posterior beliefs within the Information treatment is also valid. This difference (0.164 vs 0.053) is only significant using a Wilcoxon signed-rank test: p=0.0039 but not in a t-test: p=0.4671, potentially because gdiff for prior beliefs is already smaller than in the Control, though not significantly so (0.164 vs 0.291, t-test: p=0.4969).

For wave 2, gdiff post-Information is lower than the Control but not significantly so (0.015 vs 0.252, t-test: p=0.2080). However, this difference is significant in a two-sample Wilcoxon rank-sum (Mann-Whitney) test: p=0.0035. As in Wave 1, the prior-posterior difference within the Information treatment (0.194 vs 0.015) is marginally significant in a Wilcoxon signed-rank test: p=0.0582 but not in a t-test: p=0.1070. In the remainder of this paper, we will proceed by focusing on the (pre-registered) comparison between posterior beliefs and beliefs from the Control group.

¹⁶Results using logistic regressions are similar and provided in Table A₇ in the appendix.

participants in Wave 2, AA support is also higher among female subjects. We explore these results in more detail in Section 5.

3.4 Reverse treatment

In this treatment, we reversed the order of the job candidates performing their task and the employers deciding on which rule they would like to implement. Our hypothesis is that if the employers believe AA would increase the productivity of females by changing the institutional environment faced (as in Akhtari et al.; Bodoh-Creed and Hickman; Banerjee et al.), they would be more likely to opt for it. However, as shown in Figure 2 and Table A5 in the appendix, we find that employers expect AA implementation to *reduce* female productivity—this is a consistent finding across both waves. The mean expected score of female job candidates drops by 0.422 for Wave 1 (p = 0.0014) and by 0.656 in Wave 2 (p < 0.0001). While the expectation of the employers is opposite to what was predicted in our hypothesis, it is not entirely counter-intuitive from an economic perspective: if female job candidates can expect to face a reduced competition, employers might also expect their performance to decline.¹⁷

In spite of observing a significant decline in the expected productivity of the female job candidates, we do not see a corresponding decline in the likelihood of choosing AA relative to the Control (33% vs 36%, p = 0.4737 in Wave 1, 35% vs 33%, p = 0.5966 in Wave 2). These null results are confirmed in regressions shown in Table 2 and hold for both male and female participants across both of our samples.

¹⁷While our sample of job candidates is too small to test this, we do not find employers' expectation to be correct either: if anything females perform better under AA than ST (6.4 vs 5.9, p = 0.5337).

Our null finding complements our results from the Information treatment with respect to the inelasticity of support for AA to associated costs. In the Information treatment, a reduction in the expected cost of implementing AA does not translate to an increase in support for AA. In the Reverse treatment, an implicit increase in the cost for hiring females (due to expected decline in their performance) does not lead to a corresponding decline in preferences for AA. Overall, our findings suggest that preferences for promoting female job candidates might be intrinsic and inelastic to the associated financial cost.

3.5 Cheap-talk treatment

In the absence of a penalty for potentially hiring less productive job candidates, implementing AA becomes relatively cheaper. ¹⁸ In spite of that, AA choice in the Cheap-talk treatment is not significantly different from the Control (36.3% vs 36.2%, p=0.9680 in Wave 1). This is confirmed in regressions shown in Table 2 where the coefficient of Cheap-talk is never significant. Thus, a decrease in the relative cost of implementing AA does not increase the likelihood of individuals opting for it. This suggests that AA demand is not highly elastic with respect to the price incurred by the participants. Similar to the previous findings from the Information and Reverse treatments, this suggests a more intrinsic preference for AA that is not immediately captured by our experimental design.

 $^{^{18}}$ Comparing Control and Cheap-talk, no significant difference is found in the expected productivity of males, females or gdiff.

4 Robustness of Inelastic Demand

While our results suggest that AA demand does not depend on monetary incentives or beliefs about female productivity, the conditions of our experiment were fairly stylized with relatively small incentives. To address these issues, we conducted a supplementary experiment on Prolific for which we only recruited subjects in hiring manager positions, specifically those answering Yes to the Prolific filter question "Do you have any experience in making hiring decisions (i.e. have you been responsible for hiring job candidates)?". Additionally, we changed the gender composition of the worker pool from a 50% vs. 50% to a 33% vs. 66% female to male ratio, and raised the earnings of the employers five-fold from \$0.10 to \$0.50 per solved problem. That is, we focused on a sub-sample which is more familiar with hiring decisions, in a stereotypical setting where females are in the minority, and made AA choice five times more costly. In addition, we elicit beliefs of productivity for the entire distribution of workers (i.e., not only the average performance) and take additional measures to alleviate potential concerns about experimenter demand effects, as will be detailed below.

In this third experiment, subjects still play the role of employers hiring from a pool of 6 job candidates. However, the composition of this pool is changed to consist of 2 females and 4 males, to capture settings where females are in the minority and where AA may be used. We also include the age of the job candidates and their country of origin (always US) to make the gender aspect less salient. The description is shown in Figure A4 in the appendix. We then proceed with similar instructions as in our original experiments, aside from increasing the stakes by 5 times: employers are paid 0.50 USD times the total

scores in the math task from the 2 hired candidates.

We also use a different procedure to elicit beliefs distribution, asking employers to state how many correct answers in 2 minutes would be obtained by *each of the 6 candidates*, asked in random order. They are told that we would randomly select one of these 6 guesses for payment based on how close their guess is to the correct answer, using a quadratic scoring rule. The correct answer is based on the performance of job candidates of the relevant age and gender selected from our original worker pool. Answering correctly is paid 2.50 USD, deviating by 1 (on either side) is paid 2 USD and deviating by 2 is paid 0.50 USD. Employers are not paid if their randomly selected guess deviates by 3 or more from the correct answer.

A further modification is made to the information prime: unlike the two initial experiments, we inform participants that "Previous studies have shown that girls, on average, perform better in computational tasks. (Hyde, J. S., Fennema, E., & Lamon, S. J. (1990). Gender differences in mathematics performance: a meta-analysis. *Psychological bulletin*, 107(2), 139.)"¹⁹ This prime is intended to induce an even stronger shock to the beliefs of the employers if they held the prior belief that males would be more productive than females.

Our supplementary experiment was run with 283 subjects recruited on Prolific in March 2023 and also pre-registered on AsPredicted.²⁰ To focus on the information channel, we allocate 144 subjects to the Control and 139 to the Information treatment. Aside

¹⁹This text is taken from a meta-analysis of 100 studies (Hyde et al., 1990). While in certain sub-samples males are found to perform better, the meta-analysis finds that gender differences favoured females in samples of the general population—making this study ideal for our purpose of inducing a strong shock to employers' beliefs.

²⁰The pre-registration is available at https://aspredicted.org/blind.php?x=JNM_5JD.

from the above modifications, both conditions are as previously described in the original experiment. Summary statistics are provided in Table 3.

Table 3: Summary statistics in Wave 3

	N	Mean	SD	Min	Max
Age (in years)	283	44.43	12.59	19	85
Male	283	0.50	0.50	O	1
College degree	283	0.83	0.38	O	1
Log monthly income	276	8.16	0.54	6	9
Political position	283	4.04	2.82	O	10
Labor market policy views	283	12.85	4.26	O	20
Risk	283	4.96	2.50	O	10
Patience	283	7.46	1.95	1	10
Altruism	283	7.31	2.42	O	10
Duration (in seconds)	283	730.83	428.02	228	3157

Notes: Political position is the response to "In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking?" (o-10). Labor market policy views is an index aggregating responses (o-4) to five questions eliciting support for policies such as wage transparency, gender quotas and subsidising childcare (Settele, 2021). Risk: response to "In general, how willing or unwilling are you to take risks?" (o-10). Patience: response to "How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?" (o-10). Altruism: response to "How willing are you to give to good causes without expecting anything in return?" (o-10). Risk, patience and altruism measures are taken from Falk et al. (2018).

The outcomes from the belief elicitation are summarised in Table 4. In this sample, females are expected to perform *better* in both Control and Information treatments. However, introducing a strong exogenous shock to employers' beliefs, by telling them that females perform better than males, still results in a significant increase in the average expected female performance (11.424 vs 12.795, p < 0.0001) and relative female performance (corresponding to a decrease in *gdiff*, -0.493 vs -1.727, p < 0.0001) in the Information treatment. No significant difference is found when comparing beliefs pre-information and those in the Control, suggesting that randomisation was successful.

Eliciting the full belief distribution also allows us to determine whether the information prime changes beliefs about the number of females in the top 2 (who would have been hired under ST). While no difference is detected between the Control and Informa-

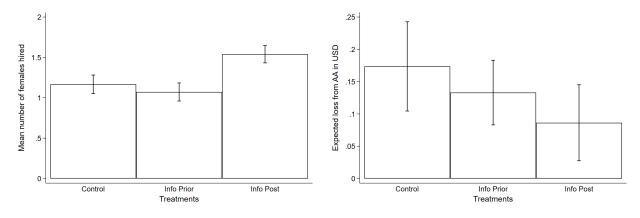
Table 4: Beliefs about productivity across treatments in Wave 3

	Control	Info Prior	Info Post	Info Post- Info Prior
Males	10.049	10.932	11.068	0.137
	(0.314)	(0.578)	(0.704)	(0.240)
Females	10.542	11.424	12.795	1.371***
	(0.349)	(0.630)	(0.807)	(0.269)
gdiff	-0.493***	-0.493**	-1.727***	-1.234***
	(0.151)	(0.192)	(0.288)	(0.288)
# Females in top 2	1.167	1.072	1.540	0.468***
	(0.058)	(0.057)	(0.054)	(0.059)
$E(y_{ST})$	11.757	13.112	13.788	o.676*
	(0.351)	(0.782)	(0.897)	(o.396)
$E(y_{AA})$	11.583	12.978	13.701	0.723*
	(0.352)	(0.784)	(0.899)	(0.398)
Loss from AA	0.174***	0.133***	o.o86***	-0.047
	(0.035)	(0.025)	(o.o30)	(0.028)
Observations	144	139	139	139

Notes: The first two rows show the average expected scores for the four males and two female candidates respectively. gdiff indicates the difference between males' expected score and females' expected score, significance is tested using t-tests. The next row shows the average number of female workers expected by employers to be in the top 2 positions, as implied by the latter's belief elicitation. $E(y_{ST})$ and $E(y_{AA})$ show the expected earnings, under ST and AA respectively, based on employers' belief distributions. Loss from AA indicates the difference between $E(y_{AA})$ and $E(y_{ST})$, significance is tested using t-tests. The column "Info Post-Info Prior" indicates the difference between prior and posterior beliefs in the Information treatment, significance is tested using t-tests. Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

tion treatment pre-prime, as shown in Table 4 and Figure 3a, the information prime does result in a higher number of females in the top 2 (1.540 vs 1.072, p < 0.0001). Hence, we conclude that despite the more complex elicitation of employers' distribution of beliefs, the information prime worked as intended.

The Information treatment also results in a slight increase in expected earnings under both ST and AA, as shown in Table 4. Comparing earnings under the two hiring rules, choosing AA would result in a loss of 0.174 USD in the Control and 0.133 USD based on prior beliefs in the Information treatment. However, the prime successfully reduces



(a) Implied number of females hired

(b) Expected earnings loss from AA

Notes: Bars indicate 95% confidence intervals.

Figure 3: Beliefs about productivity across treatments in Wave 3

the expected loss from AA to 0.086 USD, though this is not significantly different when compared to expected loss pre-prime (p = 0.1016), this is shown in Figure 3b.

Despite the information treatment inducing substantial belief updating on the productivity of female workers, and the five-fold increase in potential cost of choosing AA, we find a very stable demand for AA which does not differ across treatments. Consistent with our original two waves, around a third of all subjects choose the AA rule in both treatments (35% vs 34%, p = 0.8726). This is also shown in regression results in Table 5, where the coefficient of the treatment dummy is not significant.²¹ We also check for any heterogeneity along subjects' political disposition, as shown in Table A9 in the appendix. While AA choice is as expected more likely for those holding more left-wing and proregulation views, political preferences do not appear to significantly interact with our

²¹Our results are robust when restricting the sample to those who do not think that females perform better. Among those who think that the average female performance is worse than or equal to the average male performance (N=158), the prime successfully increases the number of females hired to 1.48, significantly higher than 1.04 in the Control (p<0.0004). The financial loss from choosing AA is also decreased to 0.13 USD, also significantly lower than 0.33 USD in the Control (p=0.0081). Yet, the proportion choosing AA still does not differ across treatments (Control 29% vs Information 28%, p=0.8229).

treatment. This suggests that the demand for AA is rather intrinsic and robustly inelastic to expected earnings, a possibility we explore in more detail in Section 5.

Table 5: Treatment effects in Wave 3

	All			Fem	Female employers			Male employers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
Information	-0.009	-0.023	-0.006	0.061	0.073	0.102	-0.068	-0.086	-0.082	
	(0.057)	(0.057)	(0.057)	(0.083)	(0.088)	(0.088)	(0.075)	(0.074)	(0.075)	
gdiff		-0.012	-0.009		0.008	0.018		-0.019**	-0.023**	
		(0.009)	(0.011)		(0.014)	(0.016)		(0.010)	(0.009)	
Observations	283	283	276	142	142	139	141	141	137	
R-squared	0.00	0.00	0.04	0.00	0.01	0.03	0.01	0.02	0.08	
Demographics			Χ			Х			Х	

Notes: OLS regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. gdiff: expected male productivity minus expected female productivity. Demographic controls include age, gender, and income. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Finally, we find no evidence that our main outcome variable "AA choice" could be affected by experimenter demand. To check this, we exploit the responses to our post-experiment question in which we ask subjects which rule they thought the experimenter expected them to choose ("Standard Rule"; "AA Rule"; "Neither, the experimenter did not have any expectation"). Around 70% of our subjects do not perceive that they were expected to choose AA, and this does not differ across treatments (p = 0.9483). That is, even in the treatment where subjects are explicitly informed about relative female productivity, it did not become obvious to the subjects that this intervention had the purpose to increase or decrease the uptake of AA. Overall, comparing this group versus the group who perceive that AA was expected, the proportion actually choosing AA is also not significantly different (32% vs 40%, p = 0.1850).

Thus, when addressing some of the potential concerns with our earlier experiments,

we find that our results are highly robust to the experimental setup. Most importantly, we find that demand for AA is fairly stable across our experimental pools and that exposure to information about better female performance does not affect individuals' preferences for implementing AA policies. This holds even in the presence of a greater financial incentive, which indicates that AA preference is strongly ingrained within the individual.

5 Discussion

In this section we discuss other possible reasons for our null effects and present exploratory analyses of intrinsic preferences as a driver of AA preference.

One alternative explanation for our null result is that the penalty for choosing AA is too low. Although Wave 3 addresses this critique, here we check whether there are heterogeneous treatment effects when considering Waves 1 and 2 subjects who expect a greater cost of implementing AA. First we restrict our analysis to the 26% of subjects who expect males to perform better (using the pre-treatment values for the Information treatment). We still do not observe treatment effects (see Table A10 in the appendix). Next we interact treatment with *gdiff* (using the pre-treatment values for the Information treatment, see Table A11 in the appendix), no significant treatment effect is observed either. We additionally check for heterogeneous treatment effects in Wave 3, by interacting treatment with the expected loss from AA given the expected distribution of scores under both ST and AA rules. The results are shown in Table A12. While AA choice significantly decreases with expected loss, no interaction effect is found either, despite

the higher stakes. These support our finding that subjects' preference for AA is inelastic to a change in incentives, which is also consistent with our lack of treatment effect in the Cheap-talk treatment.

Another concern is that our null result is driven by inattentive subjects. Although our use of attention checks can help mitigate this, we re-run our analyses excluding subjects whose study duration is in the bottom and top 25%. The results are shown in Table A13 in the appendix. Our results are qualitatively unchanged, suggesting that diminished attention is not a major driver of our results.

Given that AA choice appears inelastic to financial incentives, in the rest of section we explore other, more intrinsic, drivers of preference for AA. In Waves 1 and 2, we elicit subjects' political position on a 0-10 left-right scale and their support for labor market regulations, indexed between 0-20 and standardised below for ease of interpretation. In Wave 3 we also elicit their altruism, asking "How willing are you to give to good causes without expecting anything in return?" (0-10) (Falk et al., 2018). In Table 6 we check how these variables, interacted with gender, correlate with AA choice.

The results show that left-wing policy views are correlated with AA choice for females. A 1-point shift to the right on the o-10 political position scale decreases the likelihood of choosing AA by 5-7 percentage points (pp) across the waves. This is also true for males, although this relationship is somewhat weaker, with the effect ranging between 2-3 pp. Supporting labor market regulations (including stricter wage setting and enforcing wage transparency) similarly predictably correlates with AA choice for females (and to a lesser extent males). Across the three waves, an increase of 1 sd in agreement to these statements increases AA choice by 18-26 pp, though this increase is slightly attenuated

Table 6: AA choice and intrinsic preferences

	Wa	ve 1	Wa	ve 2		Wave 3	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Male	-0.171***	-0.015	-0.233***	-0.148***	-0.270***	-0.055	0.306**
	(0.051)	(0.029)	(0.066)	(0.040)	(0.099)	(0.055)	(0.153)
Political position	-0.057***		-0.046***		-0.071***		
•	(0.006)		(0.013)		(0.012)		
Male x political position	0.024**		0.014		0.042**		
1 1	(0.010)		(0.017)		(0.018)		
Labor market policy views		0.210***		0.181***		0.256***	
1		(0.017)		(0.031)		(0.031)	
Male x labor market views		-0.061***		-0.038		-0.100**	
		(0.022)		(0.041)		(0.050)	
Altruism							0.059***
							(0.014)
Male x altruism							-0.058***
							(0.020)
Observations	1058	1058	526	526	276	276	276
R-squared	0.108	0.176	0.120	0.166	0.145	0.232	0.084
Demographics	Χ	Χ	Χ	Χ	X	Х	X

Notes: OLS regressions of choosing AA. Political position is the response to "In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking?" (0-10). Labor market policy views is a standardised index aggregating responses (0-4) to five questions eliciting support for policies such as wage transparency, gender quotas and subsidising childcare (Settele, 2021). Altruism: response to "How willing are you to give to good causes without expecting anything in return?" (0-10) (Falk et al., 2018). Demographic controls include age, race (Wave 1 only), education, income and employment (Waves 1 and 2 only). Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

for males at around 15pp. In Wave 3, AA choice is as expected strongly correlated with altruism in females: a 1-point shift in the 0-10 altruism scale increases the likelihood of choosing AA by 6 pp, though this correlation is not present among males.

Overall, our results are highly suggestive of intrinsic preferences and political attitudes, rather than financial motives, as the main drivers of AA choice especially for females.

6 Concluding Remarks

This paper contributes to a literature that attempts to understand the motives and determinants of the support for affirmative action policies. While we study this specifically in the context of gender in hiring decisions, there is a broader scope of situations where these policies may apply. Therefore, a better understanding of potential motivations is crucial in the discussion about how to address existing inequalities. While previous research has largely focused on the efficacy of AA policies (e.g. Balafoutas and Sutter, 2012; Niederle et al., 2013), the focus of this paper is on the beliefs that promote the application of those policies in the first place. In that vein, we contribute more specifically towards the literature that looks at the relationship between the perception of minority groups and political attitudes (see e.g. Dupree and Fiske, 2019; Alesina et al., 2023).

In this work, we address four hypotheses about the nature of preferences for AA, focusing on financial incentives related to productivity as a potential reason for individuals to (not) support AA. Firstly, in a nationally representative sample (Wave 1), preferences for AA are not associated with a perception of productivity difference between the gen-

ders. We only observe a positive relationship between expected female performance and AA support in younger females (Wave 2). Second, we do not find an effect of removing the perceived productivity gap on AA support. While we are able to significantly decrease the perceived gap in the expectations of employers, this does not translate into a change in the likelihood of choosing AA as a hiring practice. Third, while implementing AA ex-ante is perceived to lower female productivity, we do not find that support for AA decreases compared to when AA is implemented ex-post. Finally, we find that removing the financial disincentive for choosing AA does not increase the likelihood of selecting AA relative to the Control group.

Our results suggest that reducing the cost of instituting AA, by removing the financial incentive to hire a more productive job candidate or removing the expectation of a gender gap in productivity, does not significantly alter the likelihood of choosing AA. Nor is the increase in the perceived cost of AA, due to lower expected female performance, associated with a lower demand for AA. Jointly, these findings suggest a low elasticity of demand for AA and a likely more intrinsic preference for policies promoting female job candidates—a preference found stably in around a third of employers across treatments and waves. Our findings suggest that attitudes towards AA are unlikely to be changed by financial incentives or adjusting beliefs about productivity. Rather, it is likely to be more entrenched and may be only moved by appealing to more intrinsic motives, such as fairness (see e.g. Settele, 2021). Further research should explore these motives and their implications for the design and implementation of AA policies.

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Appendices

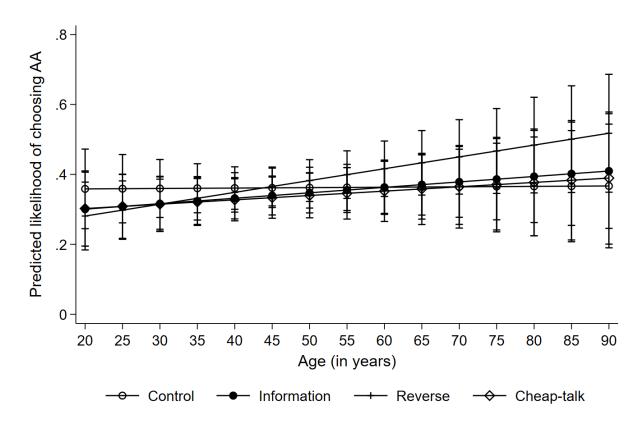
Section A provides additional figures and tables referred to in the main text, these are listed below. Section B provides the full survey.

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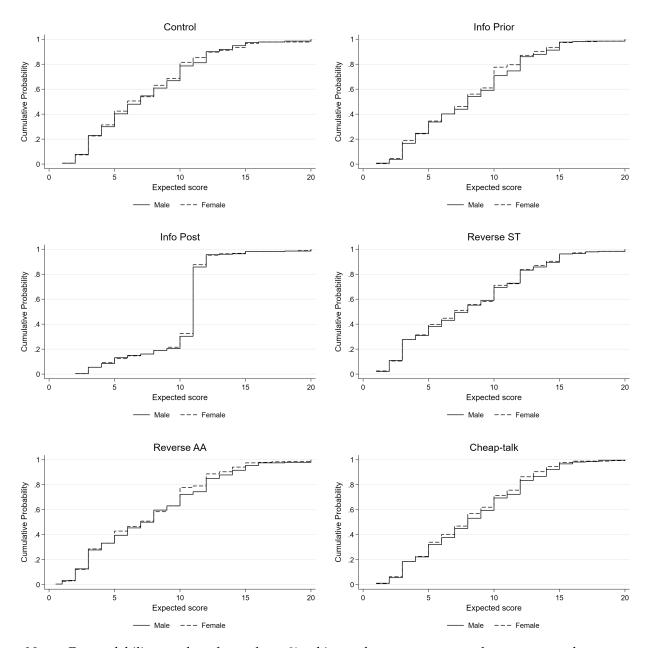
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A Additional figures and tables



Notes: Bars indicate 95% confidence intervals.

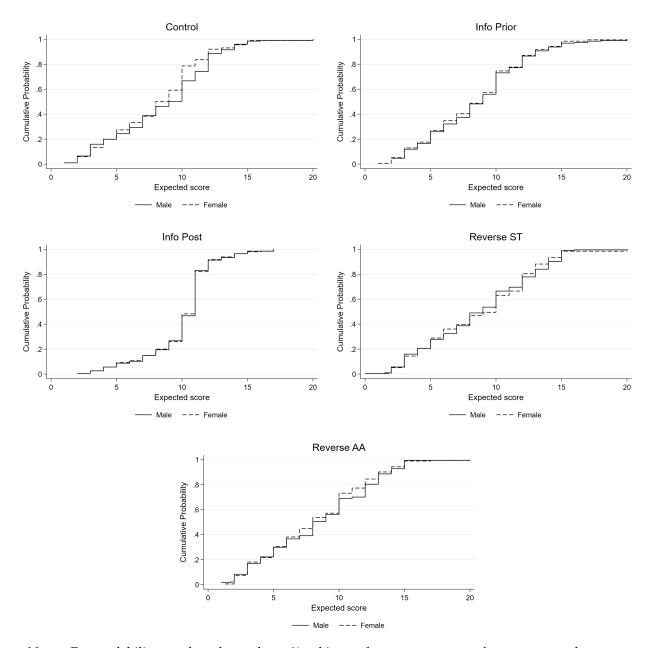
Figure A1: Predicted likelihood of choosing AA by age in Wave 1



Notes: For readability, we drop fewer than 7% subjects who state an expected score greater than 20.

Figure A2: CDF of productivity across treatments in Wave 1

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Notes: For readability, we drop fewer than 7% subjects who state an expected score greater than 20.

Figure A3: CDF of productivity across treatments in Wave 2

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Figure A4: Description of job candidates pool in Wave 3

Table A1: Treatment effects on AA norm perception

	A	.11	Female 6	employers	Male en	nployers
	(1)	(2)	(3)	(4)	(5)	(6)
			Wa	ave 1		
Information	0.008	0.004	-0.035	-0.038	0.058	0.059
	(0.039)	(0.039)	(0.054)	(0.055)	(0.056)	(0.057)
Cheap-talk	0.038	0.040	-0.016	-0.022	0.096*	0.101*
1	(0.039)	(0.039)	(0.055)	(0.054)	(0.056)	(0.056)
Observations	852	822	446	435	406	387
R-squared	0.00	0.04	0.00	0.07	0.01	0.05
			Wa	ave 2		
Information	-0.017	-0.015	0.011	0.000	-0.048	-0.010
	(0.043)	(0.047)	(0.057)	(0.063)	(0.065)	(0.071)
Observations	401	346	206	169	195	177
R-squared	0.00	0.02	0.00	0.01	0.00	0.04
Demographics		Х		X		Χ
<u> </u>						

Notes: OLS regressions of perceiving AA norm. The first two columns show the results for the sample with both genders (All). The subsequent two columns show coefficient estimates for the female participants, and the final two columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. Demographic controls include age, gender, race (Wave 1 only), education, income and employment. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A2: Norm perception and AA choice

	A	1 11	Female e	mployers	Male en	nployers
	(1)	(2)	(3) (4)		(5)	(6)
			Wa	ve 1		
AA norm	0.211***	0.210***	0.208***	0.221***	0.215***	0.200***
	(0.036)	(0.037)	(0.050)	(0.052)	(0.051)	(0.052)
Observations	852	822	446	435	406	387
R-squared	0.04	0.07	0.04	0.06	0.05	0.09
			Wa	ve 2		
AA norm	0.111**	0.123**	0.219**	0.255***	0.055	0.013
	(0.056)	(0.059)	(0.085)	(0.094)	(0.068)	(0.074)
Observations	401	346	206	169	195	177
R-squared	0.01	0.06	0.03	0.07	0.00	0.02
Demographics		Χ		Х		Χ

Notes: OLS regressions of choosing AA. The first two columns show the results for the sample with both genders (All). The subsequent two columns show coefficient estimates for the female participants, and the final two columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use?. Demographic controls include age, gender, race (Wave 1 only), education, income and employment. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A3: Treatment effects excluding subjects with gdiff = 0

		All		Fem	ale emplo	oyers	Ma	le emplo	yers
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Wave 1				
Information	-0.025	-0.023	-0.025	-0.198	-0.155	-0.174	0.160	0.116	0.190
	(0.100)	(0.091)	(0.096)	(0.130)	(0.124)	(0.124)	(0.149)	(0.139)	(0.143)
Reverse	-0.050			-0.066			-0.045		
	(0.050)			(0.073)			(0.068)		
Cheap-talk	-0.046	-0.050	-0.024	-0.013	-0.009	-0.030	-0.061	-0.074	-0.027
1	(0.057)	(0.056)	(0.057)	(0.087)	(0.087)	(0.093)	(0.073)	(0.072)	(0.073)
Observations	559	309	301	281	148	147	278	161	154
R-squared	0.00	0.05	0.11	0.01	0.06	0.10	0.01	0.08	0.14
					Wave 2				
Information	0.090	0.080	0.031	0.120	0.126	-0.122	0.112	0.086	0.103
	(0.113)	(0.118)	(0.130)	(0.179)	(0.184)	(0.198)	(0.142)	(0.149)	(0.165)
Reverse	0.006			0.060			-0.091		
	(0.055)			(0.079)			(0.070)		
Observations	339	142	126	184	71	61	155	71	65
R-squared	0.00	0.05	0.10	0.00	0.09	0.14	0.02	0.04	0.08
gdiff		Χ	Χ		X	Χ		Χ	Χ
AA norm		X	X		Χ	Χ		X	X
Demographics			X			Χ			X

Notes: OLS regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. gdiff: expected male productivity minus expected female productivity. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use? Demographic controls include age, gender, race (Wave 1 only), education, income and employment. The Reverse treatment is excluded whenever we control for gdiff since this variable is only calculated for the Control, Information and Cheap-talk treatments. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A4: Treatment effects for Wave 1 subjects between 18-24 years old

		All		Fem	ale emplo	oyers	M	Male employers			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
Information	-0.158	-0.167	-0.186	0.043	0.045	0.028	-0.472**	-0.483**	-0.605**		
	(0.134)	(0.130)	(0.156)	(0.168)	(0.166)	(0.254)	(0.191)	(0.191)	(0.243)		
Reverse	-0.192			-0.088			-0.306				
	(0.138)			(0.185)			(0.216)				
Cheap-talk	-0.321*** (0.121)	-0.309** (0.118)	-0.360*** (0.134)	-0.238 (0.165)	-0.169 (0.158)	-0.233 (0.195)	-0.398** (0.193)	-0.407** (0.192)	-0.570*** (0.187)		
Observations	122	96	83	70	56	50	52	40	33		
R-squared	0.06	0.12	0.30	0.05	0.18	0.23	0.14	0.20	0.63		
gdif f		Χ	X		Х	X	<u> </u>	Х	X		
AA norm		Χ	X		Χ	X		Χ	X		
Demographics			X			X			Χ		

Notes: OLS regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. gdiff: expected male productivity minus expected female productivity. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use?. Demographic controls include age, gender, race (Wave 1 only), education, income and employment. The Reverse treatment is excluded whenever we control for gdiff since this variable is only calculated for the Control, Information and Cheap-talk treatments. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A5: Beliefs about productivity across treatments

	Control	Info Prior	Info Post	Info Post- Info Prior	Rev ST	Rev AA	Rev AA- Rev ST	Cheap-talk
				Wav	e 1			
Males	9.805 (0.816)	9.826 (0.514)	10.690 (0.357)	0.865 (0.549)	9.792 (0.727)	9.622 (0.736)	-0.170 (0.209)	10.533 (0.682)
Females	9.514 (0.768)	9.662 (0.561)	10.637 (0.357)	0.975 (0.594)	9.532 (0.670)	9.110 (0.678)	-0.422*** (0.131)	10.339 (0.674)
gdiff	0.291*** (0.101)	0.164 (0.157)	0.053* (0.028)	-0.110 (0.151)	0.260 (0.210)	0.512*** (0.193)	0.252 (0.245)	0.194 (0.195)
Observations	282	281	281	281	250	250	250	289
				Wav	e 2			
Males	9.141 (0.385)	8.687 (0.288)	10.036 (0.187)	1.349*** (0.219)	9.069 (0.392)	8.592 (0.314)	-0.476** (0.223)	
Females	8.888 (0.454)	8.492 (0.286)	10.021 (0.187)	1.528*** (0.225)	9.114 (0.370)	8.458 (0.363)	-0.656*** (0.148)	
gdiff	0.252 (0.176)	0.195* (0.104)	0.015 (0.051)	-0.179 (0.110)	-0.046 (0.134)	0.134 (0.211)	0.180 (0.282)	
Observations	206	195	195	195	197	197	197	

Notes: Average of expected scores for male and female candidates in the different treatments. The first panel shows the estimates from Wave 1, while the second panel shows the estimates from Wave 2. gdiff indicates the difference between males' expected score and females' expected score, significance is tested using t-tests. The column "Info Post-Info Prior" indicates the difference between prior and posterior beliefs in the Information treatment, significance is tested using t-tests. The column "Rev AA-Rev ST" indicates the difference between beliefs of productivity under AA and ST in the Reverse treatment, significance is tested using t-tests. Standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A6: Accuracy and AA choice

	A	. 11	Female e	mployers	Male er	nployers
	(1)	(2)	(3)	(4)	(5)	(6)
			Wave	e 1		
Distance male	-0.010*	-0.008	-0.008	-0.006	-0.012*	-0.010
	(0.006)	(0.006)	(0.013)	(0.013)	(0.006)	(0.007)
Distance female	0.010*	0.007	0.009	0.007	0.011*	0.009
	(0.006)	(0.006)	(0.014)	(0.014)	(0.006)	(0.006)
Observations	852	822	446	435	406	387
R-squared	0.00	0.03	0.00	0.02	0.01	0.06
			Wave	e 2		
Distance male	-0.031**	-0.027**	-0.033**	-0.027	-0.024	-0.031
	(0.013)	(0.013)	(0.016)	(0.017)	(0.024)	(0.024)
Distance female	0.032***	0.029***	0.032***	0.028**	0.025	0.035
	(0.010)	(0.010)	(0.012)	(0.012)	(0.025)	(0.026)
Observations	401	346	206	169	195	177
R-squared	0.02	0.06	0.02	0.04	0.01	0.03
Demographics		Χ		Χ		Χ

Notes: OLS regressions of choosing AA. The first two columns show the results for the sample with both genders (All). The subsequent two columns show coefficient estimates for the female participants, and the final two columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. Distance male: expected male productivity minus actual male productivity. Distance female: expected female productivity minus actual female productivity. Demographic controls include age, gender, race (Wave 1 only), education, income and employment. Robust standard errors in parentheses. * p < 0.10, *** p < 0.05, **** p < 0.01.

Table A7: Treatment effects using logistic regressions

		All		Fem	ale emplo	oyers	Ma	le emplo	yers
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Wave 1				
Information	-0.020	-0.024	-0.027	-0.036	-0.030	-0.035	-0.003	-0.020	-0.027
	(0.040)	(0.040)	(0.040)	(0.056)	(0.056)	(0.056)	(0.058)	(0.056)	(0.057)
Reverse	-0.030			-0.002			-0.062		
	(0.041)			(0.058)			(0.057)		
Cheap-talk	0.002	-0.008	-0.000	0.048	0.053	0.055	-0.040	-0.067	-0.059
T	(0.040)	(0.040)	(0.040)	(0.058)	(0.056)	(0.057)	(0.055)	(0.055)	(0.055)
Observations	1,102	852	822	579	446	435	523	406	387
					Wave 2				
Information	-0.023	-0.029	-0.046	0.001	-0.011	-0.070	-0.039	-0.045	-0.023
	(0.046)	(0.046)	(0.048)	(0.069)	(0.067)	(0.072)	(0.059)	(0.060)	(0.064)
Reverse	0.025			0.088			-0.080		
	(0.047)			(0.067)			(0.058)		
Observations	598	401	346	319	206	169	279	195	177
gdiff		X	Χ		X	Χ		Χ	Х
AA norm		X	Χ		X	Χ		X	X
Demographics			Χ			Χ			Χ

Notes: Marginal effects from logistic regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. gdiff: expected male productivity minus expected female productivity. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use?. Demographic controls include age, gender, race (Wave 1 only), education, income and employment. The Reverse treatment is excluded whenever we control for gdiff since this variable is only calculated for the Control, Information and Cheap-talk treatments. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A8: Heterogeneity in AA choice by other correlates in Waves 1 and 2

	(1)	(2) Male	(3) College	(4) Income	(5) Employed	(6) Politics	(7) Proregulation
	Age	Iviale	Conege			ronnes	riolegulation
				Way	ve 1		
Information	-0.136	-0.043	-0.021	0.740	- 0.104*	-0.102	0.016
	(0.129)	(0.057)	(0.086)	(0.474)	(0.055)	(0.070)	(0.107)
Charactelle	2.0-		2 4 2 0	a (a=			
Cheap-talk	-0.181 (0.122)	0.052 (0.058)	-0.108 (0.074)	0.697 (0.449)	-0.045 (0.056)	-0.024 (0.069)	0.095 (0.107)
	(0.122)	(0.050)	(0.074)	(0.449)	(0.050)	(0.009)	(0.107)
Reverse	-0.085	0.014	-0.034	0.783	-0.095	0.005	0.000
	(0.133)	(0.060)	(0.089)	(0.533)	(0.060)	(0.072)	(0.108)
TT - (\$7					**	***	***
HetVar	0.000	-0.071	0.077	0.055	-0.140**	-0.052***	0.049***
	(0.002)	(0.058)	(0.069)	(0.044)	(0.059)	(0.009)	(0.006)
Information x HetVar	0.002	0.034	-0.006	-0.097	0.178**	0.021	-0.003
	(0.003)	(0.082)	(0.098)	(0.059)	(0.083)	(0.014)	(0.008)
			*	0			
Cheap-talk x HetVar	0.004	-0.094	0.151*	-0.087	0.115	0.009	-0.006
	(0.003)	(0.080)	(0.088)	(0.057)	(0.080)	(0.013)	(0.008)
Reverse x HetVar	0.001	-0.080	0.014	-0.101	0.154*	-0.005	-0.000
	(0.003)	(0.084)	(0.101)	(0.066)	(0.085)	(0.013)	(0.008)
Observations	1,058	1,058	1,058	1,058	1,058	1,058	1,058
R-squared	0.03	0.04	0.04	0.04	0.04	0.11	0.17
				Wav	ve 2		
Information	0.547	-0.059	-0.026	-1.303***	-0.027	-0.078	0.029
	(0.650)	(0.075)	(0.062)	(0.451)	(0.052)	(0.080)	(0.181)
	, ,	, ,,,	, ,		, ,	, ,	, ,
Reverse	-0.010	0.112	0.030	-0.933**	0.024	0.153*	-0.187
	(0.646)	(0.072)	(0.061)	(0.473)	(0.050)	(0.078)	(0.151)
HetVar	0.032	-0.185***	0.036	-0.105**	-0.106	-0.027**	0.038***
11ct var	(0.023)	(0.069)	(0.074)	(0.045)	(0.112)	(0.014)	(0.009)
	(),	()/			,	(1/	()/
Information x HetVar	-0.028	0.032	-0.037	0.159***	-0.164	0.010	-0.005
	(0.031)	(0.098)	(0.103)	(0.057)	(0.143)	(0.020)	(0.013)
Reverse x HetVar	0.001	-0.216**	-0.043	0.119**	-0.148	-0.048***	0.015
	(0.031)	(0.093)	(0.097)	(0.059)	(0.151)	(0.018)	(0.011)
Observations	526	526	526	526	526	526	526
R-squared	0.09	0.10	0.09	0.10	0.09	0.14	0.17
Demographics	Х	Χ	Х	Х	Х	Х	Х

Notes: OLS regressions of choosing AA. HetVar (heterogeneity variable) for each column is given in the column title. Age: age of subject in years. Male: dummy variable which equals 1 if subject is male. College: dummy variable which equals 1 if subject has a college degree. Income: log of the midpoint of the interval specified by the subject. Employed: dummy variable which equals 1 if subject is employed full-time. Politics: response to "In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking?" (0-10). Proregulation: an index aggregating responses (0-4) to five questions eliciting support for policies such as wage transparency, gender quotas and subsidising childcare (Settele, 2021). Demographic controls include age, gender, race (Wave 1 only), education, income and employment. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

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Table A9: Heterogeneity in AA choice by other correlates in Wave 3

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Age	Male	College	Income	Politics	Proregulation	Risk	Patience	Altruism
Information	-0.243	0.061	-0.166	-0.264	0.016	-0.081	0.041	-0.432**	-0.213
	(0.208)	(0.083)	(0.136)	(0.955)	(0.099)	(0.143)	(0.120)	(0.200)	(0.159)
HetVar	0.001	-0.082	-0.104	-0.133*	-0.050***	0.044***	0.023	-0.012	0.017
	(0.003)	(0.079)	(0.113)	(0.077)	(0.013)	(0.008)	(0.015)	(0.020)	(0.014)
Info x HetVar	0.005	-0.129	0.189	0.032	-0.006	0.005	-0.010	0.057**	0.027
	(0.005)	(0.112)	(0.150)	(0.116)	(0.018)	(0.011)	(0.022)	(0.026)	(0.021)
Observations	283	283	283	276	283	283	283	283	283
R-squared	0.01	0.03	0.01	0.02	0.10	0.18	0.01	0.02	0.03
Demographics	Х	Х	Χ	Х	Χ	X	X	Χ	X

Notes: OLS regressions of choosing AA. HetVar (heterogeneity variable) for each column is given in the column title. Age: age of subject in years. Male: dummy variable which equals 1 if subject is male. College: dummy variable which equals 1 if subject has a college degree. Income: log of the midpoint of the interval specified by the subject. Politics: response to "In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking?" (0-10). Proregulation: an index aggregating responses (0-4) to five questions eliciting support for policies such as wage transparency, gender quotas and subsidising childcare (Settele, 2021). Risk: response to "In general, how willing or unwilling are you to take risks?" (0-10). Patience: response to "How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future?" (0-10). Altruism: response to "How willing are you to give to good causes without expecting anything in return?" (0-10). Demographic controls include age, gender, education and income. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A10: Treatment effects for subjects with gdiff > 0

-		All		Fem	ale emplo	oyers	Ma	le emplo	yers
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Wave 1				
Information	-0.031 (0.072)	-0.040 (0.075)	-0.082 (0.078)	-0.059 (0.107)	-0.086 (0.111)	-0.084 (0.119)	-0.012 (0.096)	-0.023 (0.106)	-0.106 (0.109)
Reverse	-0.053 (0.094)			-0.047 (0.141)			-0.068 (0.120)		
Cheap-talk	-0.007 (0.071)	-0.015 (0.071)	0.007 (0.072)	0.050 (0.112)	0.061 (0.114)	0.071 (0.120)	-0.040 (0.089)	-0.071 (0.089)	-0.045 (0.093)
gdiff		-0.005 (0.013)	-0.015 (0.014)		-0.017 (0.014)	-0.017 (0.014)		0.002 (0.028)	-0.023 (0.034)
Observations R-squared	292 0.00	259 0.02	252 0.10	141 0.01	124	123 0.07	151	135 0.06	129 0.16
N-squareu	0.00	0.02	0.10	0.01	0.02	0.07	0.00	0.00	0.10
					Wave 2				
Information	o.o83 (o.o78)	0.111 (0.102)	0.114 (0.112)	0.046 (0.112)	0.232 (0.179)	0.225 (0.198)	0.112 (0.110)	0.070 (0.124)	0.104 (0.144)
Reverse	-0.090 (0.095)			-0.172 (0.142)			-0.018 (0.127)		
gdiff		0.025 (0.037)	0.035 (0.039)		0.087 (0.067)	0.091 (0.075)		-0.006 (0.037)	0.016 (0.044)
Observations	157	137	121	80	72	63	77	65	58
R-squared	0.02	0.07	0.09	0.02	0.08	0.11	0.02	0.06	0.11
AA norm Demographics		Χ	X X		Χ	X X		X	X X

Notes: OLS regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. gdiff: expected male productivity minus expected female productivity, pre-information in the Information treatment. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use?. Demographic controls include age, gender, race (Wave 1 only), education, income and employment. The Reverse treatment is excluded whenever we control for gdiff since this variable is only calculated for the Control, Information and Cheap-talk treatments. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A11: Heterogeneity in AA choice by *gdiff*

	All			Fem	Female employers			Male employers		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	
				W	lave 1					
Infomation	-0.018	-0.021	-0.022	-0.037	-0.031	-0.034	0.012	-0.001	-0.004	
	(0.041)	(0.040)	(0.041)	(0.057)	(0.056)	(0.057)	(0.059)	(0.058)	(0.059)	
Cheap-talk	0.003	-0.006	0.004	0.052	0.052	0.057	-0.042	-0.064	-0.053	
_	(0.041)	(0.040)	(0.040)	(0.059)	(0.058)	(0.058)	(0.056)	(0.055)	(0.056)	
Info \times $gdiff$	-0.013	-0.010	-0.016	-0.006	0.001	-0.002	-0.037	-0.038	-0.044	
	(0.019)	(0.020)	(0.020)	(0.031)	(0.031)	(0.031)	(0.028)	(0.029)	(0.030)	
Cheap-talk \times <i>gdiff</i>	-0.007	-0.006	-0.015	-0.006	0.002	-0.007	-0.011	-0.014	-0.018	
	(0.018)	(0.019)	(0.018)	(0.032)	(0.033)	(0.032)	(0.022)	(0.023)	(0.023)	
gdiff	-0.005	-0.006	0.003	-0.005	-0.009	-0.000	-0.003	-0.003	0.002	
	(0.017)	(0.018)	(0.018)	(0.029)	(0.029)	(0.029)	(0.021)	(0.023)	(0.023)	
Observations	852	852	822	446	446	435	406	406	387	
R-squared	0.01	0.05	0.08	0.01	0.04	0.06	0.02	0.07	0.11	
				W	lave 2					
Information	-0.032	-0.029	-0.048	0.006	0.006	-0.057	-0.065	-0.062	-0.039	
	(0.046)	(0.046)	(0.050)	(0.068)	(0.067)	(0.074)	(0.061)	(0.061)	(0.068)	
Info \times $gdiff$	0.037	0.031	0.039	0.004	-0.011	0.007	0.087*	0.085*	0.099*	
	(0.028)	(0.027)	(0.031)	(0.032)	(0.032)	(0.034)	(0.047)	(0.047)	(0.053)	
gdiff	-0.041***	-0.040***	-0.036***	-0.038***	-0.035**	-0.031**	-0.040	-0.039	-o.o47*	
	(0.011)	(0.012)	(0.013)	(0.013)	(0.015)	(0.015)	(0.025)	(0.026)	(0.026)	
Observations	401	401	346	206	206	169	195	195	177	
R-squared	0.03	0.04	0.08	0.04	0.07	0.10	0.02	0.03	0.05	
AA norm		Χ	Х		Χ	Х		Х	X	
Demographics			Χ			Χ			X	

Notes: OLS regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. gdiff: expected male productivity minus expected female productivity, pre-information in the Information treatment. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use? Demographic controls include age, gender, race (Wave 1 only), education, income and employment. The Reverse treatment is excluded whenever we control for gdiff since this variable is only calculated for the Control, Information and Cheap-talk treatments. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A12: Heterogeneity in AA choice by loss from AA (\$)

	All		Female employers		Male employer	
	(1)	(2)	(3)	(4)	(5)	(6)
			Wa	ve 1		
Info	0.004	0.009	0.049	o.o65	-0.036	-0.054
	(0.063)	(0.064)	(0.090)	(o.o93)	(0.086)	(0.087)
Loss from AA (\$)	-0.126	-0.171**	-0.169	-0.171	-0.081	-0.199**
	(0.080)	(0.072)	(0.108)	(0.112)	(0.115)	(0.096)
Info \times loss from AA (\$)	-0.139	-0.116	0.036	-0.000	-0.217	-0.077
	(0.129)	(0.116)	(0.241)	(0.238)	(0.143)	(0.130)
Observations	283	276	142	139	141	137
R-squared	0.02	0.05	0.02	0.04	0.03	0.10

Notes: OLS regressions of choosing AA. The first two columns show the results for the sample with both genders (All). The subsequent two columns show coefficient estimates for the female employer participants, and the final two columns for the males. Loss from AA (\$): expected loss from choosing AA over ST as calculated using expected distribution of productivity under each rule. Demographic controls include age, gender, and income. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

Table A13: Treatment effects excluding fastest and slowest 25% of subjects

		All		Fem	ale emplo	oyers	Ma	le emplo	yers
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
					Wave 1				
Information	-0.051	-0.053	-0.028	-0.037	-0.038	-0.003	-0.062	-0.067	-0.087
	(0.058)	(0.056)	(0.057)	(0.081)	(0.080)	(0.084)	(0.083)	(0.078)	(0.080)
Reverse	-0.031			-0.002			-0.059		
	(0.061)			(0.085)			(0.088)		
Cheap-talk	0.009	0.001	0.015	0.027	0.023	0.054	-0.002	-0.019	-0.041
1	(0.058)	(0.057)	(0.057)	(0.082)	(0.079)	(0.082)	(0.084)	(0.081)	(0.080)
Observations	553	432	415	291	227	222	262	205	193
R-squared	0.00	0.07	0.11	0.00	0.06	0.08	0.00	0.09	0.16
					Wave 2				
Information	0.038	0.049	-0.001	0.129	0.127	0.089	-0.067	-0.046	-0.090
	(0.063)	(0.065)	(0.070)	(0.096)	(0.100)	(0.112)	(0.073)	(0.074)	(0.079)
Reverse	0.091			0.122			-0.003		
	(0.064)			(0.091)			(0.085)		
Observations	302	203	170	165	103	81	137	100	89
R-squared	0.01	0.01	0.09	0.01	0.05	0.12	0.01	0.04	0.06
gdiff		Χ	Χ		Χ	Х		Χ	X
AA norm		X	Χ		X	Χ		X	X
Demographics			Χ			Χ			Χ

Notes: OLS regressions of choosing AA. The first three columns show the results for the sample with both genders (All). The subsequent three columns show coefficient estimates for the female employer participants, and the final three columns for the males. The first panel shows the result for Wave 1, and the second panel for Wave 2. gdiff: expected male productivity minus expected female productivity. AA norm: responding AA to Which rule do you think the majority of candidates think is appropriate for you to use? Demographic controls include age, gender, race (Wave 1 only), education, income and employment. The Reverse treatment is excluded whenever we control for gdiff since this variable is only calculated for the Control, Information and Cheap-talk treatments. Robust standard errors in parentheses. * p < 0.10, ** p < 0.05, *** p < 0.01.

B Full survey

Begins on next page.

Welcome!

This study is conducted by a researcher at University College Dublin and has been given ethical approval by the university's ethics committee. You must be at least 18 years of age to participate in this study. You are not allowed to participate in this study more than once. If you have any questions regarding this study, please email margaret.samahita@ucd.ie.

This questionnaire will take about 10 minutes to complete. Your answers are anonymous; only aggregate results will be published.

I have read and understood the above and want to participate in this study.

- Yes
- No

What is your Prolific ID? _____ What is your age (in years)? _____

What is your gender?

- Male
- Female

Instructions T1, T2, T3

In addition to your participation fee, you have the possibility to be paid **additional earnings**. These additional earnings will be determined by your decision(s) during the study [T3 only: and will be explained to you when you get to the relevant question].

In this study, you will be acting as an "employer" wishing to hire from a pool of "job candidates". "Job candidates" are participants who have <u>completed a math task in a separate study</u>. These participants are from the US, college-aged and are composed of 50% male and 50% female.

As an employer, you will be matched with a random pool of 6 job candidates, 3 males and 3 females. You will now hire 2 people out of the 6 job candidates. Your task is to choose whether to hire using i) the standard (ST) rule or ii) the affirmative action (AA) rule.

- **Standard (ST) rule**: the employer simply hires the 2 job candidates with the highest score in the math task.
- **Affirmative Action (AA) rule**: the employer hires i) the female job candidate with the highest score in the math task and ii) the job candidate with the highest score in the math task out of the remaining 5 job candidates.

To clarify, if the top 2 candidates are both females OR 1 male and 1 female, the ST and AA rules are equivalent. However, if the top 2 candidates are both males, they will both be hired using the ST rule while the AA rule replaces the second ranked male with the top ranked female.

You will be paid **0.10 USD times the total scores in the math task from the 2 hired candidates**. [T3 only: **You will NOT be paid for this decision.**]

Each hired candidate will also be paid 1 USD extra in earnings, in addition to their participation fee. They were aware that the higher their score, the higher the likelihood they would earn this hiring bonus.

In summary, the hiring rule you choose will determine your additional earnings from this study.

Instructions T4

In addition to your participation fee, you have the possibility to be paid **additional earnings**. These additional earnings will be determined by your decision(s) during the study.

In this study, you will be acting as an **"employer"** wishing to hire from a pool of **"job candidates"**. "Job candidates" are participants who will complete a math task in a separate future study, to take place within a week. These participants are from the US, college-aged and are composed of 50% male and 50% female.

As an employer, you will be matched with a random pool of 6 job candidates, 3 males and 3 females. You will now, in advance, hire 2 people out of the 6 job candidates. Your task is to choose whether to hire using i) the standard (ST) rule or ii) the affirmative action (AA) rule.

- **Standard (ST) rule**: the employer simply hires the 2 job candidates with the highest score in the math task.
- **Affirmative Action (AA) rule**: the employer hires i) the female job candidate with the highest score in the math task and ii) the job candidate with the highest score in the math task out of the remaining 5 job candidates.

To clarify, if the top 2 candidates are both females OR 1 male and 1 female, the ST and AA rules are equivalent. However, if the top 2 candidates are both males, they will both be hired using the ST rule while the AA rule replaces the second ranked male with the top ranked female.

You will be paid 0.10 USD times the total scores in the math task from the 2 hired candidates.

Each hired candidate will also be paid 1 USD extra in earnings, in addition to their participation fee. They will be made aware that the higher their score, the higher the likelihood they would earn this hiring bonus.

Your decision will be communicated to the job candidates before they start the math task. In other words, the job candidates will perform the math task knowing how their additional earnings will be determined.

In summary, the hiring rule you choose will determine your additional earnings from this study.

Attention check

To test your understanding, suppose that you are matched with a pool of 6 job candidates with the following scores: [Participants are randomised to either this attention check or another where the top 2 candidates are females. Participants cannot proceed unless they give the right answer.]

Candidate	Score
Male 1	15
Male 2	14
Female 1	12
Male 3	9
Female 2	8

Female 3	5
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Recall that the rules are as follows:

- **Standard (ST) rule**: the employer simply hires the 2 job candidates with the highest score in the math task.
- **Affirmative Action (AA) rule**: the employer hires i) the female job candidate with the highest score in the math task and ii) the job candidate with the highest score in the math task out of the remaining 5 job candidates.

Which candidates would be hired under the Standard (ST) rule?

- 2 males
- 2 females
- 1 male and 1 female

Which candidates would be hired under the Affirmative Action (AA) rule?

- 2 males
- 2 females
- 1 male and 1 female

Math task

Before you make the hiring decision, we will explain to you the math task so you have some idea of what the "job candidates" had to do.

Each job candidate was shown 9 two-digit numbers. Their task is to **find the 2 numbers that add up to 100**. They are asked to complete **as many questions as possible within 2 minutes**. Their score in the math task is equal to the number of questions solved correctly within 2 minutes.

Here are three example questions for you to test out the task. [Participants cannot proceed unless they give the right answer.]

Exa	mpie	1:						
54	64	59	52	44	23	88	40	41
Wh	ich tv	vo ni	umbe	ers a	dd up	to 1	.00?	
		First	t nun	nber	(1)			
		Seco	ond r	numb	er (2)		
Exa	mple	2:						
19	49	77	12	91	61	74	23	18
Which two numbers add up to 100?								
	First number (1)							

Second number (2)
Example 3:
67 57 98 17 78 13 75 12 83
Which two numbers add up to 100?
First number (1)
Second number (2)
Belief elicitation T1, T2, T3 Please answer the following questions carefully. A correct answer will earn you an extra 0.50 USD per question.
How many questions do you think the average male job candidate got correct in 2 minutes?
How many questions do you think the average female job candidate got correct in 2 minutes?
Belief elicitation T4 Please answer the following questions carefully. A correct answer will earn you an extra 0.50 USD per question.
How many questions do you think the average male job candidate got correct in 2 minutes if they were told that the Standard (ST) rule would be applied?
How many questions do you think the average female job candidate got correct in 2 minutes if they were told that the Standard (ST) rule would be applied?
How many questions do you think the average male job candidate got correct in 2 minutes if they were told that the Affirmative Action (AA) rule would be applied?
How many questions do you think the average female job candidate got correct in 2 minutes if they were told that the Affirmative Action (AA) rule would be applied?
Information T2 Previous research using a similar math task has shown that female participants on average perform comparably to male participants. You can read the academic article through this <u>link</u> .
Suppose, for example, that the average male participant got 11 questions correct. How many questions should you expect that the average female participant get? [Participants cannot proceed unless they give the right answer.]
In light of the information you just saw, you now have the chance to revise your answers to the questions below. Remember that a correct answer will earn you an extra 0.50 USD per question.
How many questions do you think the average male job candidate got correct in 2 minutes?

How many questions do you think the average female job candidate got correct in 2 minutes?	How many questions do	you think the average female i	iob candidate got correct in 2 minutes?
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Hiring rule

Now you have all the information you need to decide on your hiring rule. Which rule would you like to use to hire 2 people out of your pool of 6 job candidates?

Recall that the rules are as follows:

- **Standard (ST) rule**: the employer simply hires the 2 job candidates with the highest score in the math task.
- **Affirmative Action (AA) rule**: the employer hires i) the female job candidate with the highest score in the math task and ii) the job candidate with the highest score in the math task out of the remaining 5 job candidates.
- Standard (ST) rule
- Affirmative Action (AA) rule

In the earlier math task study, we asked all job candidates (not only the 6 in your matched pool) what rule they think is the appropriate one for you to use. Which rule do you think **the majority of candidates think is appropriate for you to use?** Please answer the above question carefully. A correct answer will earn you **an extra 1 USD.** (In case both rules are equally popular, either would be judged correct.)

Recall that the rules are as follows:

- **Standard (ST) rule**: the employer simply hires the 2 job candidates with the highest score in the math task.
- **Affirmative Action (AA) rule**: the employer hires i) the female job candidate with the highest score in the math task and ii) the job candidate with the highest score in the math task out of the remaining 5 job candidates.
- Standard (ST) rule
- Affirmative Action (AA) rule

Additional question in T4 younger sample only

What motivated you to choose your hiring rule earlier (Affirmative Action or Standard Rule)? Please tell us in the next two questions.

Choosing Affirmative Action rather than the Standard rule will...

- decrease the exerted effort level of **male** workers
- leave the exerted effort level of male workers unaffected

- increase the exerted effort level of **male** workers

Choosing Affirmative Action rather than the Standard rule will...

- decrease the exerted effort level of **female** workers
- leave the exerted effort level of **female** workers unaffected
- increase the exerted effort level of **female** workers

Questionnaire

We would like to ask for your opinion on the following **labor market policies**. When making your choice, please think of all potential costs and benefits.

Currently, federal law requires that men and women get equal pay for work that is comparable in terms of skill, effort, responsibility and working conditions in the same establishment. In case of suspected discrimination employees may file a lawsuit against their employers. If they win the case, then they are to be compensated by their employers. Should the government give more freedom in wage setting to companies by making legislation less strict or would you like to see stricter enforcement of the existing legislation?

- A lot less strict
- Somewhat less strict
- Keep status quo
- Somewhat stricter
- A lot stricter

Large public contractors are legally required to have so-called "Affirmative Action Plans", i.e. they have to support women and minorities at all levels of the hierarchy through measures such as training programs and outreach efforts. Do you think the government should strengthen or soften this requirement in terms of strictness and the set of companies that have to comply?

- Soften a lot
- Soften somewhat
- Neither strengthen nor soften
- Strengthen somewhat
- Strengthen a lot

Wage transparency within firms provides a basis for wage negotiations and may discipline companies by making discriminatory wages visible. Currently, wage transparency is not legally required. However, employees are protected by law from retaliation through employers in case they share information on their wages. Would you like the government to enforce more or less wage transparency?

- A lot less
- Somewhat less
- Keep current level
- Somewhat more
- A lot more

Many countries currently have gender quotas in place in order to increase the representation of women in leading positions. Are you in favor or against the introduction of similar statutory gender quotas in the United States?

- Strongly against
- Somewhat against
- Neither in favor nor against
- Somewhat in favor
- Strongly in favor

Child day care may enable mothers as well as fathers to work full-time if they want to. Should the government increase or decrease the amount of public resources spent on making child care available and affordable?

- Decrease strongly
- Decrease somewhat
- Neither increase nor decrease
- Increase somewhat
- Increase strongly

What is the highest level of education you completed?

- 8th grade
- High school diploma
- Associate degree or certificate
- Bachelor's degree
- Master's degree
- Doctorate degree
- Other

Estimate your household's total net monthly income (including salary, pension, social security, sickness benefit).

- Less than or equal to 500 USD
- 500 up to and including 1000 USD
- 1000 up to and including 1500 USD
- 1500 up to and including 2000 USD
- 2000 up to and including 2500 USD
- 2500 up to and including 3000 USD
- 3000 up to and including 3500 USD
- 3500 up to and including 4000 USD
- 4000 up to and including 4500 USD
- 4500 up to and including 5000 USD
- Greater than 5000 USD
- Prefer not to say

In political matters, people talk of 'the left' and 'the right'. How would you place your views on this scale, generally speaking? [0 The Left – 10 The Right]

How willing are you to give up something that is beneficial for you today in order to benefit more from that in the future? [0 Completely unwilling to do so – 10 Very willing to do so]

Thank you for participating in our study

As soon as data collection is complete, you will receive your bonus payment on top of the fixed payment.