# Hypotheses

1) Hypothesis 1: Behaviour story (Large unfairness impact – hired less but estimated same).

- In the hiring decision: The negative spillover effect is much larger in the soft AA policy minority (3) than in the soft AA policy lucky (4).

- In the estimation decision: Expect no difference in soft AA policy minority (3) and in the soft AA policy lucky (4).

2) Hypothesis 2: Rational story (Small unfairness impact – hired more or indifferent but estimated less) within Soft AA minority (3).

- In the hiring decision: Exposure and frequency effects (positive spillover) dominate the signal effects (negative spillover).

- In the estimation decision: Signal effects (negative spillover) dominate the exposure effects (positive spillover).

# Explanations of hypotheses

We will use the difference-in-difference method to compare the differences in soft AA minority (3) and baseline type (2), and the differences in soft AA lucky (4) and baseline (1). This is to determine the differential effects between an AA policy for a minority group and an AA policy for a random group, and therefore understand whether a AA policy itself has negative spillover effects.

We have two possible outcomes:

1) Hypothesis 1: Behaviour story: The hiring decisions are not consistent with estimation. We expect there is a large unfairness impact (dominate all other possible effects) - employers hire fewer minorities but estimated the same. The differences of soft AA minority (3) - baseline type (2) > The differences of soft AA lucky (4) - baseline(1) in hiring decision.

- In the hiring decision: The negative spillover effect is much larger in the soft AA policy minority (3) than in the soft AA policy lucky (4). We expect the likelihood of a minority being hired is much lower than that of a majority because unfairness effects dominate all other effects, and unfairness only exists in soft AA policy minority (3), if unfairness is stronger with the out-group than with a random group.

- In the estimation decision: Expect no difference between the majority candidates and the minority candidates in soft AA policy minority (3) and between the lucky candidates and unlucky candidates in soft AA policy lucky (4). This is because the signal effects and exposure effects are negligible.

2) Hypothesis 2: Rational story: The hiring decisions are consistent with estimation. We expect there is a negligible unfairness impact - employers will hire indifferent between two groups but estimated less for the minority/affirmed group within soft AA minority (3) and soft AA lucky (4). The differences of soft AA minority (3) - baseline type (2) = the differences of soft AA lucky(4) - baseline(1) in estimation decision.

- In the hiring decision:

1) Exposure effects: We can examine exposure effects under soft AA minority (3). But it will not occur under soft AA lucky (4).

2) Frequency effects: We can examine frequency effects under both soft AA minority (3) and soft AA lucky (4).

We expect the likelihood of a minority/affirmed group to be hired is slightly higher than (because a AA policy brings higher frequency) or indifferent to the likelihood of a majority to be hired (because a AA policy eliminates the natural bias).

- In the estimation decision.

3) Signals effects: We can examine the signal effects caused by AA policy itself by comparing soft AA lucky (4) and baseline (1). And through the comparison between the differences of soft AA minority (3) - baseline type (2) and the differences of soft AA lucky(4) - baseline(1) in estimation decision, we can find evidence on whether the signal effect is primarily caused by the affirmative action policy-regardless of what type of AA policy it is.

We expect 1) mean estimated scores of minorities/affirmed group < mean estimated scores of majorities/unaffirmed group 2) Multipliers of minorities/affirmed group < Multipliers of majorities/unaffirmed group (with the same given scores) 3) b2 is negative and significant in both soft AA minority (3) and soft AA lucky (4). The value of b2 should have no difference under these two treatments.