A FIXED EFFECTS APPROACH
TO INVESTIGATING THE FIRM-INSURANCE ENTRY REQUIREMENTS GAP

KEY POINTS

- The **firm-insurance** gap is defined as the difference in published A level entry requirements (points) between an applicant's firm and insurance choices. A larger gap suggests that the insurance choice may be a safer alternative

- This research uses fixed effects modelling to identify applicant groups with a larger gap than their peers with the same firm choice.

- Applicants with more local choices tended to have a larger firm-insurance gap.

- There were regional differences, with London among the regions showing the smallest gaps.

- There were some differences between ethnic groups, however these were small.

CONTENTS

INTRODUCTION

Today, students applying to UK Higher Education (HE) can make up to two final choices. These are the firm (first) choice and insurance (back-up) choice. This research examines the firm-insurance gap. This is defined as the difference in published entry requirements between the firm choice and insurance choice. A larger gap suggests that the insurance choice may be a safer alternative.

In this report, modelling is used to identify which applicant groups exhibit a larger gap compared with others holding the same firm choice. However, it does not examine whether a larger gap reflects a higher entry requirement firm choice or a lower entry requirement insurance choice. This remains an area for future investigation.

METHODOLOGY

Modelling population

The modelling focused on 18-year-old applicants domiciled in England who applied in the 2025 admissions cycle and were predicted at least three A levels. This group was selected as the largest homogeneous applicant population. Findings may not generalise to applicants from other UK nations or those holding different qualifications.

To create a homogeneous dataset for modelling, the following criteria were applied:

1. **Base population criteria**

   ▶ 18-year-old applicants domiciled in England who applied via the UCAS main scheme in 2025.

   ▶ Applied through an apply centre in England.

   ▶ Held firm and insurance choices on 30 June.

   ▶ Firm offer was not unconditional on 30 June, and the applicant was not withdrawn.

   ▶ Predicted at least three A levels (grades A*-E) and had no achieved A levels at application.

   ▶ Achieved at least three GCSEs or IGCSEs with a mean score of 4 or above in the 'best 8' GCSEs achieved at age 16.

2. **Number of offers criteria**

   ▶ The applicant received at least four offers, ensuring firm and insurance choices were relatively unconstrained by offer receipt.

3. **Entry requirements criteria**

   ▶ Entry requirements were available for both firm and insurance choice courses and were expressed as either three A level grades or tariff points corresponding to a three A level grade profile.

4. **Model terms criteria**

   ▶ No missing data for any of the model terms listed below

There were 149,030[1] applicants in the base population. 68% of them (101,940 applicants) were used to estimate the model.

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1   Counts are rounded to the nearest multiple of five. Percentages are rounded to the nearest whole number. All other figures (for example, model coefficients, adjusted means, and their differences) are rounded to two decimal places.

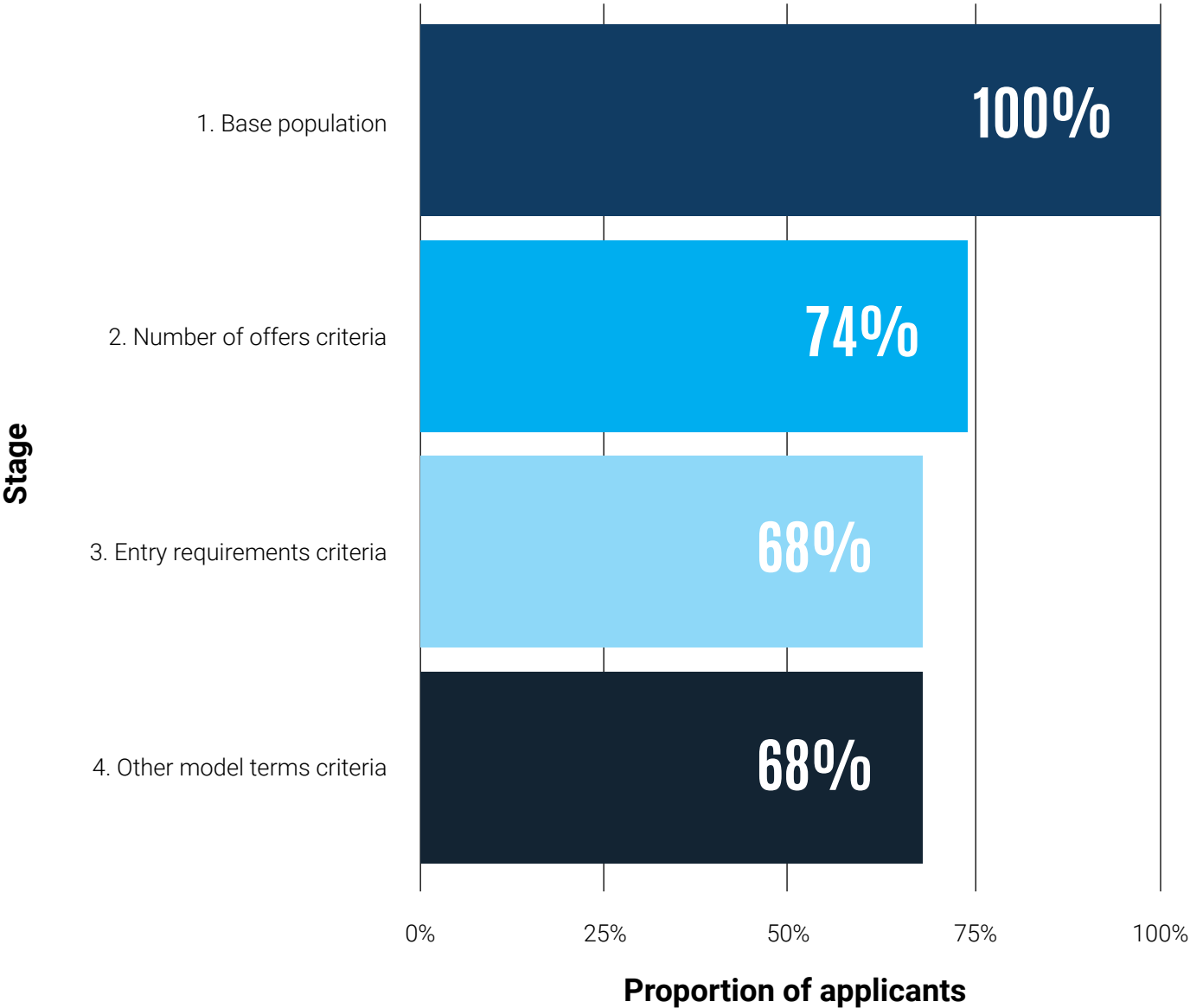Figure 1 illustrates the proportion of the base population remaining after each restriction.

Figure 1: The proportion of the base population remaining after each restriction is applied.

Dependent variable

The dependent variable is the 'firm-insurance gap'. This is defined as the difference in entry requirements (expressed in A level points) between an applicant's firm and insurance choices. The following grade to point conversions are applied: A*=6, A=5, B=4, C=3, D=2, E=1. For example, an applicant whose firm choice has an AAB entry requirement (14 points) and whose insurance choice a BBB entry requirement (12 points) would have a gap of 2 points.

Higher entry requirements generally indicate more competitive courses. Entry requirements were chosen to define the firm-insurance gap because they are clearly visible to applicants throughout the process and are specific to individual courses.

Figure 2 shows the distribution of the gap, where positive values indicate the firm choice has higher entry requirements than the insurance choice. A larger positive gap suggests the insurance choice is a safer alternative.
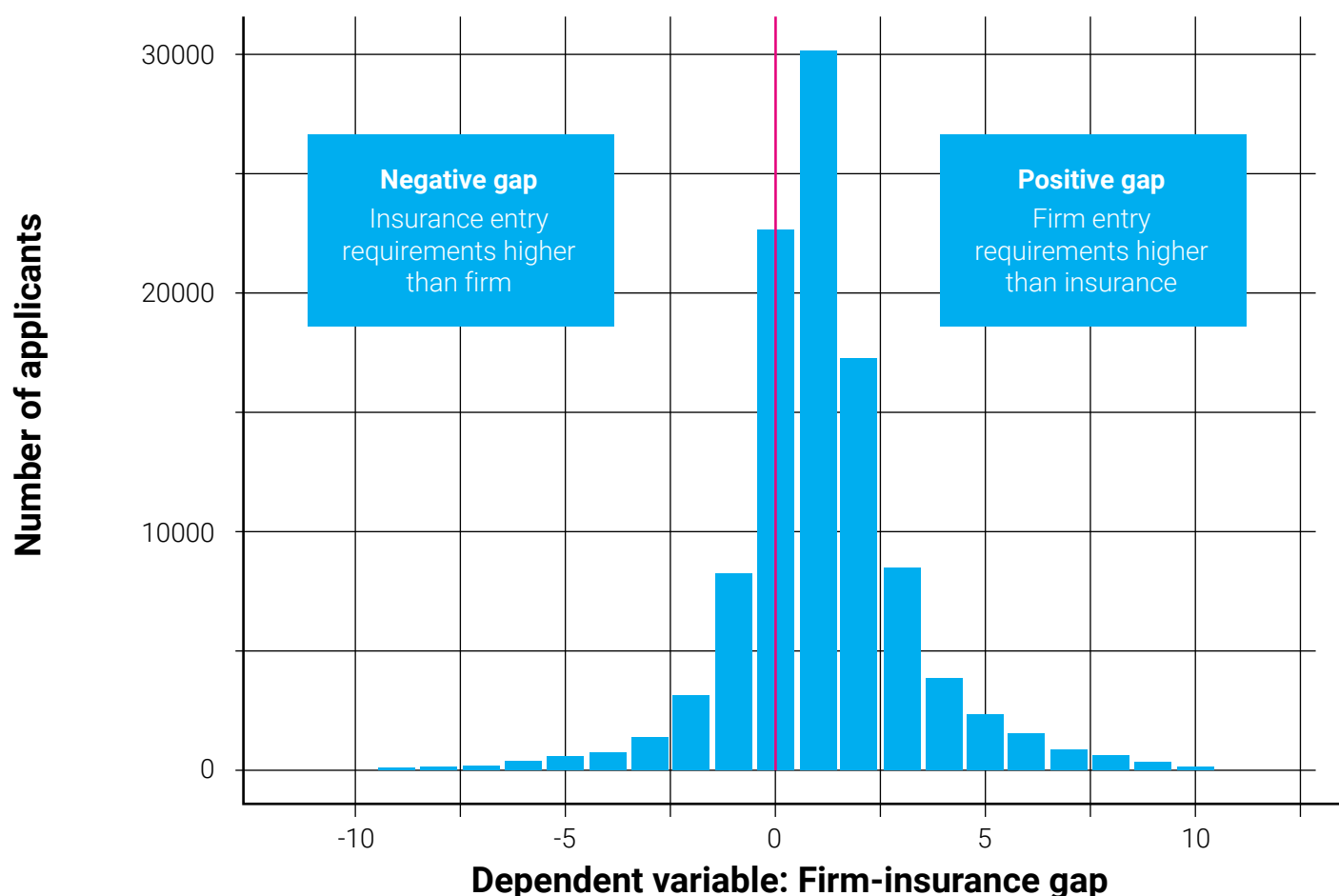

Figure 2: Distribution of the dependent variable ('firm-insurance gap'). Reference line at 0.

The mean firm-insurance gap was 1.10 points, with the most common gap being one point (for example, firm AAA; insurance AAB).

Across the modelling sample:

▶ 64% of applicants had firm choice entry requirements higher than those for their insurance choice.

▶ 22% had equivalent entry requirements for their firm and insurance choices.

▶ 14% had insurance choice entry requirements that exceeded those for their firm choice.

The latter, counterintuitive finding suggests that the insurance choice is not always a safety net. However, it may sometimes reflect a limitation of the measure itself: entry requirements expressed as a point score across three A levels may not fully capture the actual difficulty of gaining entry to a course. For example, offers may not align with entry requirements and many applicants are accepted with A level attainment below the entry requirements for their course (UCAS, 2019). This issue is discussed further in the **Limitations** section.

Independent variables

Table 1 lists the independent variables included in the model. For categorical variables (other than firm course id), the accompanying data tables report the proportion of applicants in each category.

Table 1: Independent variables included in the model

Variable	Description
Ethnic group	High level ethnic group as declared by the applicant. Categories: Asian, Black, Mixed, Other, Unknown/Prefer not to say, White. The reference category is White.
Firm course id	Identifies the applicant's firm choice institution and course code. Included as a fixed effect.
Four or more A levels	Indicates whether the applicant was predicted four or more A levels. Categories: Yes, No. The reference category is No.
GCSE best 8 mean	The mean grade across an applicant's eight highest-graded GCSEs taken at age 16. Included as a measure of applicant ability. The age restriction was applied to account for pandemic-related variation in grading across years. GCSE data were provided to UCAS as part of the application process.
Gender	Gender as declared by the applicant. Categories: I prefer not to say, I use another term, Man, Woman. The reference category is Woman.
IMD	The Index of Multiple Deprivation for 2019 identifies small area concentrations of multiple deprivation across all of England, providing a relative measure of deprivation amongst small areas (lower layer super output area). There are approximately 34,000 LSOAs in England. The IMD2019 variable is calculated by linking the home postcode supplied to UCAS as part of an applicant's application with the associated lower super output area. The Office for National Statistics Postcode Directory (August 2020 version) is used for this linking process. These lower super output areas are then linked to the relevant IMD2019 quintile. Categories: Quintile 1 (most deprived), Quintile 2, Quintile 3, Quintile 4, Quintile 5 (least deprived). The reference category is Quintile 5.
Local choices	Number of main scheme choices within one hour's drive of the applicant's home address. Categories: 0 local choices, 1 local choice, 2 local choices, 3 local choices, 4 local choices, 5 local choices. The reference category is 0 local choices.
Offer category	Indicates the number of choices made and offers received by the applicant. The modelling population includes only applicants with at least four offers. Categories: 5 choices & 5 offers, 5 choices & 4 offers, 4 choices & 4 offers. The reference category is 5 choices & 5 offers.
Region	Government office region of applicant domicile. Categories: East Midlands, East of England, London, North East, North West, South East, South West, West Midlands, Yorkshire and The Humber. The reference category is London.

Firm course fixed effect

A fixed effect for the firm choice course was included in the model to ensure comparisons were made within the same course. This adjustment controls for unobserved factors associated with individual courses that could influence the firm-insurance gap.

This is important because some firm choice courses may systematically show larger gaps between firm and insurance entry requirements. For example, this could occur when a firm choice course specifies additional conditions beyond a grade profile, such as subject-specific requirements or additional admissions tests. It could also occur if accepted grades are widely known to be different to entry requirements. Without making this adjustment, these differences could be wrongly attributed to applicant characteristics.

Table 2: Firm course fixed effect

Without a firm course fixed effect	With a firm course fixed effect
Compares female and male applicants with different firm choice courses. For example, female applicants with a firm choice in Economics at Institution A are compared with male applicants with a firm choice in History at Institution B.	Compares female and male applicants with the same firm choice course. For example, female applicants with a firm choice in Economics at Institution A are compared with male applicants with a firm choice in Economics at Institution A. Similarly, comparisons for History at Institution B are made within that course.

Role of GCSE attainment in the model

GCSE attainment was included in the model to account for a potential ceiling effect. As academic ability increases, the firm-insurance gap is expected to narrow because the highest-achieving applicants cannot select firm choices with entry requirements above A*A*A*. Additionally, applicants who anticipate performing less well - relative to others with the same firm choice - may prefer a 'safer' insurance option. Including GCSE attainment enables comparisons between applicants with similar ability, as well as the same firm choice course.

The limitations of using GCSE attainment as an ability measure are discussed in the **Limitations** section.

The model

A linear regression model was fitted, incorporating a firm course fixed effect. The model was fitted using the plm package (version 2.6.7) in R version 4.5.2 with firm course cluster-robust standard errors. The within R^2 was 0.08.

Effects were treated as additive; interactions between applicant characteristics were not modelled.

RESULTS

Modelling was used to identify applicant groups with larger or smaller firm-insurance gaps. The firm-insurance gap is the difference in entry requirements between an applicant's firm and insurance choices.

This section reports mean differences between applicant groups after adjusting for all other model terms. Consequently, the findings reported here are relative to applicants with the same firm course, the same GCSE attainment, a similar number of predicted A levels (three, or four or more), the same number of local choices, total choices and offers, and the same demographic characteristics.

Given the large number of comparisons, the focus is on differences meeting three criteria: statistically significant at the 0.01 level, practically meaningful (≥0.1 A level points), and relatively consistent across both the 2025 cycle (the focus of this report) and the previous (2024) cycle.

Full model estimates are provided in the accompanying data tables.

The **Sensitivity analysis** section of the report gives details of the impact of some model specification decisions on the estimates - for example, the inclusion of Local choices and the choice of disadvantage measure.

Number of local choices

Applicants with a higher number of local choices (within one hour drive time of the applicant's home postcode), exhibit a notably larger firm-insurance gap.

Figure 3 illustrates the relationship between number of local choices and the gap:

▶ Those with **no local choices** had a mean gap of **0.94 points**[2].

▶ The firm-insurance gap increases progressively for applicants with two or more local choices.

▶ Those with **five local choices** had a **mean gap of 1.81 points**.

▶ This equates to an **additional 0.88 points** for applicants with five local choices, compared to those with no local choices, after adjusting for other model terms.
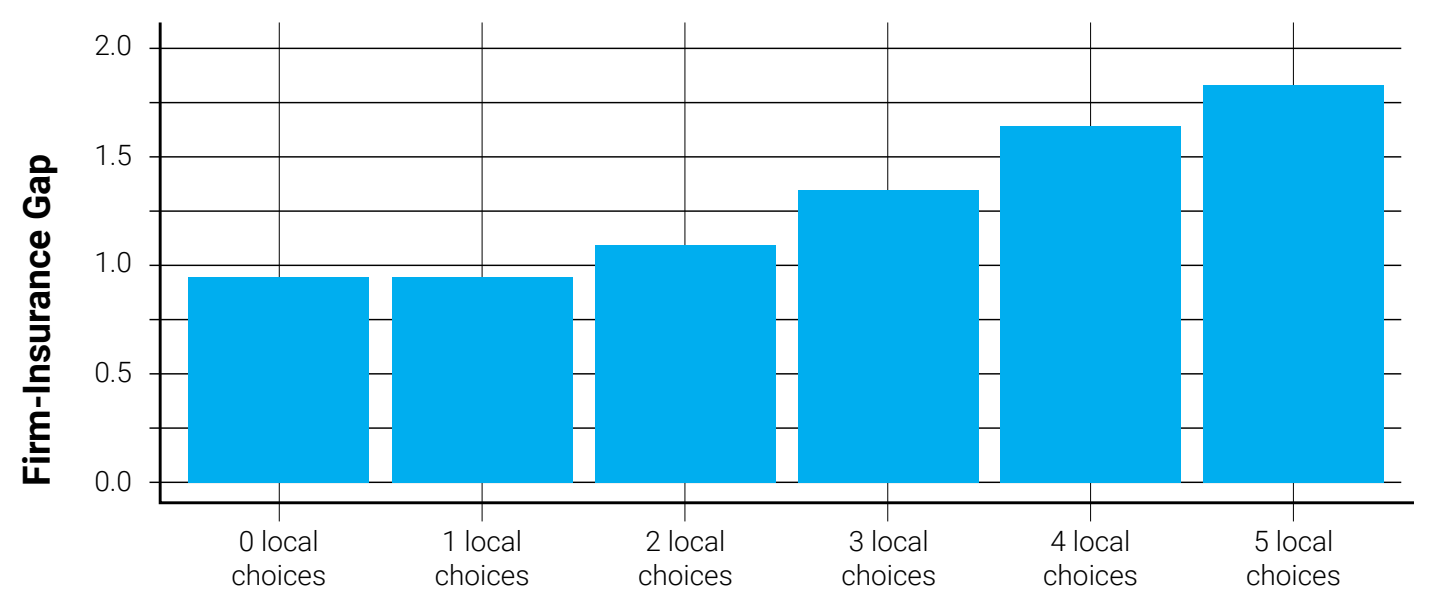

Figure 3: Adjusted mean firm-insurance gap by number of local choices

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2   Calculated using the avg_predictions function from the R marginaleffects package (v0.31.0).This creates a counterfactual dataset for each value of the variable of interest (for example, number of local choices). Predicted probabilities are produced for each observation, then mean probabilities for each value. So, for example, the value of 1.81 for '5 local choices' is generated by first setting the value of this variable to '5 local choices' for all students in the sample. It then calculates the mean firm-insurance gap for every student in the sample. Finally, it produces the mean across this distribution of gaps, which is 1.81.

What might explain the effect of local choices?

There are several potential reasons for the applicants with a higher number of local choices having a larger firm-insurance gap. For example, selecting a 'safer' insurance choice may reflect a stronger desire to avoid Clearing, particularly if suitable local options are limited. There may also be fewer local courses available in the applicant's preferred subject area, further influencing their choices.

A substantial minority of applicants have mostly local choices. In the modelling dataset, around 1 in 7 applicants had four or more local choices, and nearly a quarter had three or more.

The tendency to make a higher number of local choices was not evenly distributed across applicant groups. Applicants from ethnic minority groups, especially the Asian ethnic group, were more likely to include three or more local choices, as were those from more deprived areas (lower IMD quintiles). Regional differences were also evident. Among regions, the North West and London had the highest proportion of applicants with three or more local choices in the modelling population - potentially indicating a stronger preference to live at home or greater availability in these areas. Given these differences, the **Sensitivity analysis** section later in this report discusses the impact of excluding the Local choices variable from the model.

Region

There were pronounced regional differences in the firm-insurance gap. It was smallest among applicants from London (0.88 points in 2025), with those from the South East and South West also showing relatively narrow gaps compared to other regions. In contrast, applicants from the North East, North West, and Yorkshire and the Humber experienced the largest gaps - at least half a grade greater than those in London in both 2024 and 2025. Notably, the North East recorded an especially large gap in 2025 (2.04 points).

Further examination of entry requirements suggests the larger gap for the North East in 2025 may be linked to variation in course requirements between years (for the same courses). This highlights a limitation of using entry requirements to define the firm-insurance gap:

▶ Requirements for the same course can change between years.

▶ The gap between accepted grades and stated entry requirements can differ across courses.

Regional findings may be particularly affected by these inconsistencies.

To address this, additional sensitivity analysis was conducted using an alternative approach to defining the firm-insurance gap - the average attainment of applicants accepted on the course (see **Sensitivity analysis** section for further detail). Using this measure the most extreme regional differences decreased, and the set of regions with larger gaps shifted. However - similar to the entry requirement gap modelling - London had the smallest gap, and the North East one of the largest.

Ethnic group

Applicants from the Black and Asian ethnic groups had a smaller firm-insurance gap than those from the White ethnic group. The adjusted mean for applicants from the White ethnic group was 1.14, compared with 1.03 for those from the Asian ethnic group and 0.98 for those from the Black ethnic group.

Other applicant characteristics

Differences by IMD and Gender were minimal[3], often non-significant, or lacked a consistent pattern across cycles when compared with the reference categories (IMD Quintile 5 and Woman).

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3   The exception was the gender category "I prefer not to say" in 2025. This reflects a very small subgroup and should be interpreted with caution.

LIMITATIONS AND SENSITIVITY ANALYSIS

Limitations

The following points outline key constraints that should be considered when interpreting the findings:

1. **Base population:** The base population chosen means the results may not generalise to other UK nations and qualifications other than A levels.

2. **Limitations of using published entry requirements:** Published entry requirements (compressed to 3-grade point sums) omit subject-specific requirements and additional qualification requirements. They may also not align with offers and/or accepted grades.

3. **Ability measure:** GCSE was included in the model as an indicator of ability. However, applicant groups differ in progress between GCSE and A level. Consequently, applicants with the same GCSE grades may have different A level performance expectations. An alternative approach could have been to use actual A level performance as the ability measure. However, this was not adopted since UCAS modelling shows that applicants with unconditional offers are generally less likely to achieve their predicted grades, while those with higher conditional offers (relative to predicted grades) tend to perform better (UCAS, 2021). This may mean that adjusting for achieved A level grades could introduce bias, as performance may partly reflect offer conditions rather than underlying ability.

4. **Source of gap:** This report does not address whether a larger 'gap' is a consequence of a higher entry requirement firm choice, or lower entry requirement insurance.

5. **Course exclusions:** Applicants with firm and/or insurance courses lacking usable entry requirement data were excluded, which may have influenced model estimates.

Sensitivity analysis

To check the robustness of the findings, the model was tested under alternative specifications and data conditions. The key variations explored were:

1. **GCSE attainment as categorical**
   GCSE attainment was tested in banded form, but as model estimates for all other variables were virtually identical, it was retained as a continuous variable.

2. **Previous cycle (2024)**
   The model was also fitted to the 2024 cycle.[4] In terms of headline findings, some regional effects – notably for the North East - varied in magnitude between the two cycles. This likely reflects, at least in part, changes in course entry requirements. The effect of the number of local choices and ethnic group were similar in the two cycles.

3. **Alternative approach to defining the firm-insurance gap**
   A sensitivity analysis using an alternative approach to defining the firm-insurance gap – the previous cycle's average A level attainment on each course ('previous cycle course tariff') was performed. The model was re-estimated using previous cycle course tariff to define the firm-insurance gap for 2025 applicants. To maintain stability, the analysis was limited to firm and insurance choices with at least five placed applicants in the 2024 cycle. This restriction reduced the modelling population to around 75% of that used in the main analysis, but it did not materially alter the effects seen for the original entry requirements gap outcome. When using the previous cycle course tariff gap as the outcome:

   - The local choices effect remained similar.

   - The most extreme regional gaps decreased, and the set of regions with larger gaps shifted.

   - Ethnic group patterns changed: applicants from the Asian ethnic group continued to show a smaller gap than White applicants, but the difference between Black and White applicants was no longer statistically significant.

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4   In the 2024 cycle, the base population comprised 146,940 applicants, of which 67% (98,415) were included in the modelling sample. Model estimates are provided in the accompanying data tables.

4. **Disadvantage measure alternatives**
   The model was tested using Key Stage 4 Free school meal status (KS4 FSM6 variable from the National Pupil Database; Department for Education, 2025) and POLAR4 as alternatives to IMD. Differences between applicant groups defined by all three measures were minimal.

5. **Inclusion of Local choices**
   Removing the Local choices variable slightly changes Ethnic group and IMD effects (consistent with group differences in local choice behaviour). For example, without this variable, the gap between Asian and White applicants was no longer statistically significant. However, the difference between White and Black ethnic groups remained, and IMD gaps increased.

This report benefited from expert peer review by George Leckie, Professor of Social Statistics and Co-Director of the Centre for Multilevel Modelling (CMM) at the School of Education, University of Bristol, UK.

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