Do We Have the Right Metrics to Assess the Ethnicity Gaps in Education?

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Ethnicity gaps throughout Higher Education across England have become a significant focus driven by renewed policy interest. The Office of the Students (OfS) Access and Participation Plans (APP) had forced in 2019 English Universities to place more effort to identify and address ethnicity gaps in access and success. OFS has developed Frameworks to reduce these gaps supplemented by Transforming Access and Students Outcomes (TASO) focus on causal evaluation of interventions across the sector. More recently, the AdvanceHE report (October 2020) highlighted the scale of the issue, suggesting that the pre-Covid attainment gap between White and Black of 22.6 percentage points would not close, without additional intervention, until the academic year 2085/2086.

Educational gaps in higher education have attracted academics, practitioners, and policymakers and generated public interest around equality, diversity, and inclusion themes (Wakeling et al, 2017; Callender and Dougherty, 2018). The COVID-19 crisis has exposed the endemic structural inequality and highlighted the urgency to have the right set of robust statistical tools to address and track ethnic gaps in access, progress, and achievement to avoid the widening and accelerate the closure of these gaps.
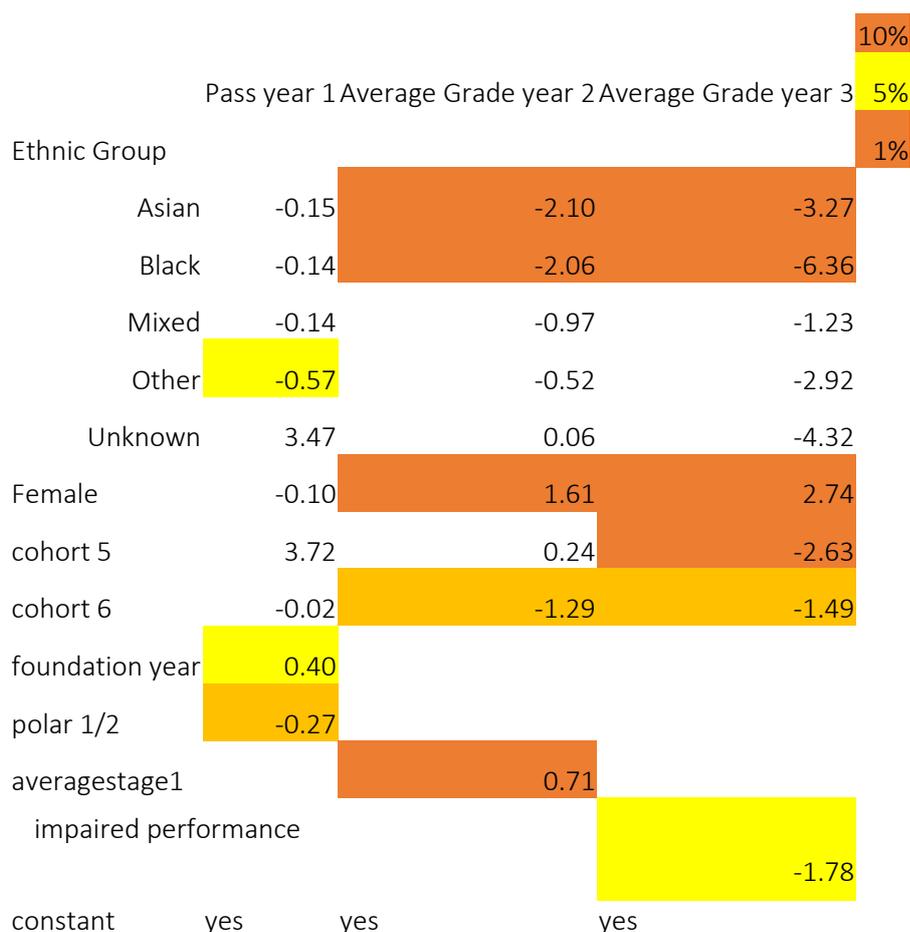
We believe that the ethnicity gaps exist before Higher Education and continue after it, in postgraduate education and in the job market. The recent OFS call for funding to develop university interventions in BAME candidates for research degree is evidence of this. We think that the development of new metrics has benefits beyond HE, as these measures could be used at any level of the educational journey.

We propose new tools to measure the education ethnicity gaps in access and success. The current approach quantifies these gaps by using differences across ethnicity groups' averages. However, simple averages, even if accurate, by definition, ignore crucial information. We use longitudinal institutional data of the University of Sussex, and we aim to compare these data with similar data from the University of Greenwich. We differentiate across different categories of ethnic groups, and their intersectionality with international and domestic students' data, and we apply, in the first phase of the research, single-measure and relative-measure index methodologies (mean differences, segregation indexes such as Duncan, Atkinson, Theil, Coworker, and Gini correcting for the small-unit bias, following the approach of D'Haultfoeuille et al., 2021). The results we present provide evidence that the awarding gaps are present at each level of progression since 2014, with BAME students and international students clustered in the lower grade boundaries. These gaps are statistically significant, persistent, and captured through multiple segregation measures.
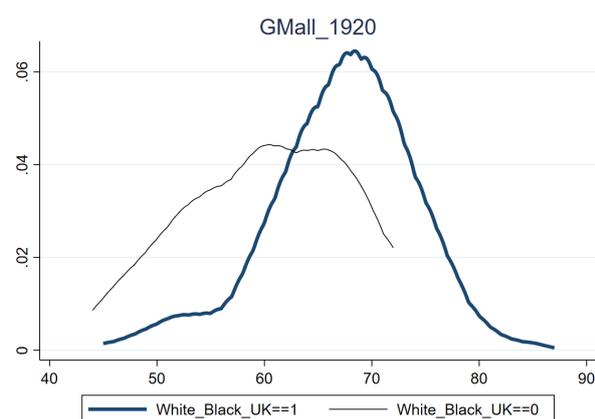
We move from simple one-dimensional analysis into a more nuanced econometric approach such as the Difference-in-Differences (Diff-in-Diff) and the generalised structural equation model (GSEM) to explain structural inequality in HE attainment. The Diff-in-Diff model allows us to explore the role of the new assessment diet and other policies used to respond to the Covid pandemic in the awarding gaps. Our preliminary estimates of the Diff and Diff model suggest that new assessment (online tests and Take-away-papers) and the non-detriment policy (use at the exam boards) have reduced the gaps between some ethnic groups, but have disadvantaged others, particularly the black students.

The GSEM model is used to estimate the Triple-Hurdle model, which seeks to explore the evolution of attainments gaps on the undergraduate degree programmes. The results highlight that the role of microaggression through the degree programme in explaining a lower proportion of good degrees for BAME students, especially the black ones. Despite the awarding gap, ethnicity is not a hurdle in progressing from year one to year two. However, it plays a more significant role in explaining students' average grades as they progress through the degree programme.

	Pass year 1	Average Grade year 2	Average Grade year 3
			10%
			5%
Ethnic Group			1%
Asian	-0.15	-2.10	-3.27
Black	-0.14	-2.06	-6.36
Mixed	-0.14	-0.97	-1.23
Other	-0.57	-0.52	-2.92
Unknown	3.47	0.06	-4.32
Female	-0.10	1.61	2.74
cohort 5	3.72	0.24	-2.63
cohort 6	-0.02	-1.29	-1.49
foundation year	0.40		
polar 1/2	-0.27		
averagestage1		0.71	
impaired performance			-1.78
constant	yes	yes	yes

The econometric approach's distributional nature will ultimately help create additive decomposable distributional indices (such as the Oaxaca-Blinder and the Brown-Moon-Zoloth decomposition methods). We believe that these more nuanced measures we propose, which account for dispersion, distribution, and discontinuity points, can provide robust and testable evidence of ethnicity gaps to disentangle "statistical evidence" from what might be just randomness and may prove more insightful and useful in identifying and tackling the ethnicity gaps.

References:
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