

8 **Will the use of contextual indicators make higher education**
9 **admissions fairer?**

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20 **Abstract:** In the UK, as elsewhere, the use of ‘contextual’ data has been strongly
21 advocated in order to inform undergraduate admissions decision-making. More than a third
22 of UK universities currently take the socioeconomic or other background context of
23 undergraduate applicants’ attainment into account when deciding whom to shortlist,
24 interview, make standard or reduced offers to, or accept at confirmation or clearing. Even
25 more universities plan to do so in the future. Contextualised admissions policies are
26 considered by many commentators to be intrinsically fairer, and to represent a potentially
27 powerful means of addressing the persistent under-representation of HE students from less
28 advantaged backgrounds, but their impact has not yet been rigorously evaluated. In order
29 to be effective, the indicators must be accurate, appropriate and complete, and policies for
30 their use must demonstrably widen participation, presumably without compromising
31 student achievement. This paper reviews the indicators available for judging context, and
32 the existing evidence base on how contextually-identified students perform in higher
33 education. It illustrates the considerable difficulties of using any available indicators, alone
34 or in combination, in terms of trustworthiness. And it explains how their use could
35 introduce new injustices while tackling merely the symptoms of stratified participation in

1 HE. This is far from a counsel of despair. We need to widen participation and the use of
2 context stills shows considerable promise. The paper therefore presents the case for a new
3 study by the authors, looking at which of the available contextual indicators are best in
4 practice, and what difference their use would really make to widening participation at HE.

5 **Keywords:**
6

7 **Introduction**

8 Students from less advantaged social and economic backgrounds are under-represented in UK higher
9 education institutions, especially in the UK's most selective universities and in subjects leading to the
10 professions (Connor et al. 2001; Sutton Trust 2004; Author 2007; BIS 2011; Broecke 2015; Author
11 2015a,b). The situation is similar in most countries for which data is available (Murray and Klinger
12 2013, Author 2015a). Despite differences in terminology and the precise nature of available indicators
13 of disadvantage, the findings of this paper will be relevant to all such countries seeking to widen
14 participation in a fair and appropriate manner.

15
16 The patterns of unequal access in the UK have not changed much since the 1960s, despite two major
17 waves of higher education expansion in the 1960s and 1990s (Author 2011). The Russell Group
18 universities are considered by many to be the most prestigious in the UK, and their intakes are
19 disproportionately students from fee-paying schools with high prior qualification levels (Chowdry et
20 al. 2013). Prior qualifications are important here, since differences between socioeconomic groups in
21 rates of entry to high status universities have been found to be small after prior attainment has been
22 taken into account. In fact, there was little or no difference between attendance rates for state and
23 private schools. This implies that any under-representation is not necessarily of potential students with
24 identical prior qualifications. Rather, students from less advantaged backgrounds are under-represented
25 at least partly because their prior qualifications are lower on average.

26
27 In recent years, contextual data has been widely advocated as a means of addressing this, and a
28 potentially fruitful way of widening participation in higher education (Panel on Fair Access to the
29 Professions 2009; Department for Business, Innovation and Skills 2011a, 2011b; Cabinet Office 2011;
30 Social Mobility and Child Poverty Commission 2012, 2013, 2014; Supporting Professionalism in
31 Admissions 2014; Office for Fair Access 2013, 2014). The Department for Business, Innovation and
32 Skills, the Office for Fair Access, and the Scottish Funding Council have begun formally encouraging
33 (though not requiring) universities to use contextual data to inform undergraduate admissions decisions
34 (BIS 2011a & 2011b; OFFA 2013; SFC 2015). More than a third of UK universities now take into
35 account the socio-economic context of applicants' attainment when deciding whom to shortlist,
36 interview, make standard or reduced offers to, or accept at confirmation as 'near-misses' (Moore,
37 Mountford-Zimdars and Wiggans 2013), and over half of all universities state that they plan to use
38 contextual data in admissions in the future (Supporting Professionalism in Admissions 2013).
39

1 The idea behind the use of contextual data in university admissions is that “it is fair and appropriate to
2 consider contextual factors as well as formal educational achievement, given the variation in learners’
3 opportunities and circumstances” (Schwartz 2004: 7; see also Universities UK 2003). Such
4 contextually sensitive use of data available for admissions has long been used with some apparent
5 success in the USA, especially in respect of the ‘race’ of the applicant (Bowen and Bok 1998), and
6 their minority ethnic and language origin (Atkinson and Pelfrey 2004).

7
8 Contextual admissions policies typically involve the use of additional information about students’
9 background characteristics such as the overall performance of their school, and socio-economic
10 markers which are linked with students’ academic achievement. The value of contextual admissions
11 policies as widening participation tools is that, in theory at least, they can help universities identify a
12 ‘potential to succeed’ in applicants whose formal attainment, relative to others, does not necessarily do
13 justice to their true ability.

14
15 This is important given the persistent achievement gap at GCSE (typical qualification at age 16) and
16 A-level (typical qualification at age 18) between students from higher and lower socioeconomic
17 backgrounds, and given the fact that rates of attendance at high status universities have been found to
18 be similar for different socioeconomic groups with ostensibly the same levels of prior attainment
19 (Chowdry et al. 2013). Previous research focusing specifically on university admissions suggests that
20 applicants from lower social class backgrounds, non-selective state schools, low HE participation
21 neighbourhoods, and some ethnic minority groups are in fact less likely to be offered places on
22 university courses than their more advantaged peers with the levels of same prior attainment,
23 especially at prestigious universities (Shiner and Modood 2002; Author 2004, 2013, 2015; Zimdars,
24 Sullivan and Heath, 2009; Noden, Shiner and Modood 2014). A further advantage of good contextual
25 admissions policies, then, could be that contextually indicated applicants are looked at more carefully
26 by admissions selectors.

27
28 Although contextualised admissions policies represent a potentially powerful means of making access
29 to higher education fairer, not much is yet known about the quality of the indicators, or the
30 implications of their use in undergraduate admissions on widening participation and student
31 achievement. The independent body Supporting Professionalism in Admissions has emphasised the
32 importance of using indicators of context that are both valid and reliable (SPA 2010). However,
33 universities remain uncertain about which indicators to use, and continue to express concerns about the
34 quality of the contextual data available to them (Bridger, Shaw and Moore 2012), including the
35 reliability of individual-level indicators of context where these are self-declared by applicants and
36 unverified, and the validity of administratively verified neighbourhood-level and school-level
37 contextual data given that these may not accurately reflect individual circumstances. Missing data
38 creates further problems when universities are seeking to establish whether or not an applicant should
39 be counted as coming from a disadvantaged context (Author 2013).

40

1 Government guidance on the use of contextual data in undergraduate admissions has stressed the need
2 for policies and practices to be “fair, transparent, and evidence-based” (BIS 2011a: 6, 2011b: 58;
3 OFFA 2013: 22; SFC 2015). However, according to Supporting Professionalism in Admissions their
4 case studies with selected universities have shown that the universities involved currently declare their
5 WP policy and also the indicators they may use, but that any specific approach or protocol adopted
6 during the selection process and applicant interviews remain undeclared (SPA 2013). Few universities
7 seem to reference research evidence to support their contextual admissions policies, and the existing
8 evidence base is generally anyway weak, piecemeal and complex, as we discuss further below. The
9 process of selection on contextual indicators is largely dependent on ‘tutors’ professional judgment’.
10 This will presumably always be so, but using misleading or unreliable indicators to inform that
11 judgement will tend to make the outcomes worse. However, they are used it is important to know more
12 about the strengths and limitations of the available indicators of disadvantage.

13

14 **What are the available indicators? A brief overview**

15

16 Some studies have examined the relevance and impact of non-cognitive contextual variables that may
17 help explain students’ differential progress in the US (West et al. 2014), such as resilience in Spanish
18 HE (González-Torres, M. and Artuch-Garde, R. 2014) and in the European Higher Education Area
19 more generally (De la Fuente, J. et al. 2013). However, none of these factors is of any current practical
20 use since even where such variables can be measured accurately, the results will not be available to
21 universities when making decisions about applicants. Universities could, of course, make all applicants
22 complete a psychometric test. But this would be expensive and impractical at present.

23

24 Common indicators of contextual admissions encompass individual-level, neighbourhood-level and
25 school-level measures of relative disadvantage. In the UK, individual-level indicators include low
26 parental occupational or social class, low parental income, being first in the family to go to university,
27 eligibility for free school meals, eligibility for an Education Maintenance Allowance (EMA,
28 discontinued in England since 2010), attending a (non-selective) state-funded school, looked after
29 status exceeding three months, identified as a traveller, identified as a refugee or asylum seeker, and
30 identified as having a disability or special need. Some of these indicators are based on self-declarations
31 and so contain a significant amount of missing data due to non-response and are unverified, resulting
32 in questionable validity. Key exceptions are school type, free school meal eligibility (FSM), SEN
33 status, and EMA eligibility in Scotland, Wales and Northern Ireland. Even here though, there are
34 major problems as we illustrate later in the paper by looking at FSM in more detail.

35

36 Neighbourhood-level indicators of context are based on students’ home postcodes and identify
37 students who live in an economically deprived area, in areas where many residents are from low
38 socioeconomic groups, in an area characterised by a low rate of participation in higher education, or in
39 a rural area. These measures are likely to be more valid than self-declared and unverified individual-
40 level indicators, but may be unreliable indicators of the circumstances of specific individuals. It is an
41 ‘ecological fallacy’ to assume that people have the modal characteristics of those who live in the same

1 area (or attend the same school, of course). Anyway, most of these area-level indicators are based on
2 the aggregation of self-reports (via the Census of Population, for example), and actually have more
3 missing data than the individual indicators.

4
5 School-level measures of context, based on the educational institution currently or previously attended,
6 are of two kinds. One set includes aggregated socioeconomic indicators such as the percentage of
7 students eligible for free school meals in each school. These too may be unreliable indicators of the
8 circumstances of specific individuals, and have the same problems of individual measures in aggregate
9 form, but are at least officially verified measures. The other set of school-level contextual variables
10 refer to aggregated academic performance indicators. These may be expressed in absolute terms, for
11 instance as the average GCSE or A-level (and equivalent) point score of pupils in the school, or the
12 percentage of pupils in the school who go on to higher education. Alternatively they may be expressed
13 in relative terms, such as whether or not the pupils own performance is above average for their school.

14
15 Students are typically flagged-up as ‘widening participation’ applicants on one or multiple indicators
16 of disadvantage. Universities may also flag up students who have participated in their outreach
17 schemes, selection into these schemes usually having been based on a mixture of school-level
18 contextual indicators. Information from a university applicant’s personal statement or the teacher
19 reference submitted with their application may also be used (Moore et al 2013). SPA has discussed
20 how the use of multiple indicators can help institutions to hone in on those most applicants likely to be
21 disadvantaged (reducing the number of false positives). Multiple indicators may also serve to hone in
22 on those who suffer the most severe disadvantage (focusing attention where the need is greatest), a
23 downside of which may be a significant number of false negatives. Published information about
24 contextual indicators that universities are using for WP initiatives is available for only a very few
25 universities.

26 27 **How robust are contextual admissions indicators? Free school meals as an example**

28
29 There is insufficient space to describe the pros and cons of all possible contextual indicators here.
30 Instead we focus on one of the most promising in detail before drawing lessons about indicators more
31 generally.

32 33 *The clear advantages of FSM*

34
35 In the UK, eligibility for free schools meals (FSM) is a valuable and widely-used measure of socio-
36 economic background. In England (the most populous of the home countries of the UK), it denotes a
37 child or young person of school age coming from a family or household deemed to be living below the
38 relative poverty line. In practice this refers to any family entitled to income support, income-based
39 jobseekers allowance, child tax credit, the first four weeks of working tax credit following
40 unemployment, the guaranteed element of state pension credit, employment and support allowance,
41 and/or where part VI of the Immigration and Asylum Act 1999 applies. It is well-known and long-

1 established that the 15% or so FSM-eligible pupils in England have lower levels of attainment at
2 school, on average, and are less likely to continue to post-compulsory education or training, including
3 higher education (Author 2013).

4
5 FSM is already widely used in policy and practice in the UK. In England, it influences the level of
6 generic funding for many schools, and forms the main basis on which additional pupil premium (PP)
7 funding is allocated to schools. It is used, therefore, to create a pupil premium attainment gap by which
8 school performance is monitored. This gap is the difference in attainment between pupils for whom the
9 school receives the premium and the rest. And FSM/PP is already an important contextual variable
10 used by the inspection regime OFSTED when conducting statutory inspections of schools, for
11 example. FSM is therefore a suitable candidate for being a contextual variable for admission to higher
12 education – a measure of SES disadvantage that is strongly linked to attainment and progress in
13 education.

14
15 FSM has many advantages as an indicator of SES background, compared to ethnicity or parental
16 occupational class, for example. It has a clear legal definition in which a child either is or is not FSM-
17 eligible. The inter-rater reliability for judging FSM-eligibility when in possession of the relevant
18 information about the benefits listed above would be very high. The chief criterion – income support –
19 has not changed for decades, meaning that figures are reasonably comparable over time. Recording
20 and reporting of it is a legal requirement for all state-funded schools, and the FSM-status of each child
21 is held as part of the National Pupil Database (NPD) to which higher education institutions, or UCAS
22 (the admissions service) itself, could have annual access. The measure is therefore available for all
23 relevant young people, irrespective of whether that person applies to higher education or not. Perhaps
24 most crucially, there are national school population figures going back decades showing the extent to
25 which FSM-eligible pupils attain lower average qualifications than their peers. For all of these reasons
26 it would probably be the single best measure of context currently available to HEIs when making a
27 decision about each application.

28 29 *The unintended consequences of using FSM as context*

30
31 This does not make FSM the right measure to use, in the sense of what we would devise if we could. It
32 is merely among the best of those actually available. It would still require considerable work, of the
33 kind that we are undertaking (see below), to ensure that its use would create more justice than the
34 injustices it would inevitably introduce. For example, the welfare system provides more generous
35 assistance to the poorest in society, and the benefits include all of those listed above, and many more
36 including FSM itself which is of course a benefit before being a measure of SES. Those families with
37 incomes just above the threshold for FSM do not receive these benefits, at least not to the same extent.
38 And, once all of the benefits are taken into account, this means that some of those families eligible for
39 FSM end up with higher incomes than some families not deemed eligible (Hobbs and Vignoles 2010).
40 If the concern is for family income, favouring only FSM-eligible pupils will miss out some of the
41 poorer families simply because, at present, there is no way of identifying them. This could be deemed

1 unfair – involving a new kind of unfairness that does not exist at present. Similar kinds of inequity
2 would arise from the use of any indicator based either on a threshold, as here, or a judgement or self-
3 report.

4
5 Even more obviously, there will be relevant data missing on some of the cases in any dataset. In the
6 NPD for England, all available contextual variables are missing something like 10 to 13% of their
7 pupil values every year (Author 2010). A large proportion of these missing cases are accounted for by
8 fee-paying schools which do not have to complete the full school census that state-funded schools do,
9 but whose examination results are part of the database. To some extent, it can be argued that the 6 to
10 7% of the school population not in state-funded education are not relevant to an assessment of context
11 for admission to HE. Most school fees will be paid for by their families who are therefore very
12 unlikely to be living in relative poverty. However, before moving on to focus on the missing 4% in
13 state schools, it is worth considering those outside the state system a little more.

14
15 A small number of children will be home-schooled or otherwise simply missing from the register,
16 rather than in fee-paying schools. Some of these can be assumed to be among the poorest in society. Of
17 the 6 to 7% actually in fee-paying schools, a small number will also be among the poorest in society,
18 and attending via a free place, bursary, scholarship or assisted place. Some fee-paying schools are
19 registered as charities and in recent years, since the demise of the state-sponsored Assisted Places
20 Scheme, the Charity Commission has been pushing these schools to take their charitable status more
21 seriously. One way in which these schools have reacted is by taking more pupils on free places from
22 poorer backgrounds. It would make nonsense of this policy if it then clashed with the use of school
23 type as a contextual indicator.

24
25 It is also the case that some very small private schools have only nominal fees, and serve some of the
26 poorest communities in the UK (Author 1997). The number of all such pupils from genuinely poor
27 families will still be small, but they would all be ignored in any process using FSM-eligibility as a
28 criterion for contextualised admission to HE. They and the home-schooled would actually be worse off
29 than currently since their place at any university would be slightly more likely to be taken by a student
30 who had been known to be FSM-eligible (even though there is a small chance that their family might
31 have had a *higher* income overall).

32
33 More importantly, the remaining 4% of pupils missing data on FSM-eligibility in state-funded schools
34 would also be ignored and so disadvantaged by a system that used FSM as a context variable for HE
35 admissions. It has been shown from what we do know about these pupils is that they could be among
36 the most disadvantaged in society (Author 2012). They take fewer public examinations than FSM
37 pupils, and are generally the least qualified students in the country. Leaving them out of a process that
38 is intended to improve conditions for people just like them would be unjust. They are already treated
39 unfairly (inadvertently). Their schools do not receive their full pupil premium funding (because the
40 pupils are not known to be FSM-eligible), and their schools are disadvantaged in school performance

1 figures and OFSTED inspections that use contextualised figures, and in their apparent PP attainment
2 gap.

3

4 All of the latter three issues can affect school reputation and so which families use that school. This
5 influences the mix of students that poorer pupils have as their peers. Who one goes to school with,
6 especially for poorer children, could be important for a number of outcomes – including attainment
7 (Danhier and Martin 2014), emotional and behavioural problems (Muller and Hofmann 2014), the
8 nature of relationships with teachers (Vieluf et al. 2014), aspirations (Author 2013), and so whether
9 one continues to participate in education once it becomes post-compulsory (Palardy 2013). Pupils from
10 families in poverty but who are not known to be FSM-eligible are therefore doubly-disadvantaged.
11 Using FSM for HE admissions as well would make that disadvantage considerably worse for this
12 crucial minority.

13

14 A reasonable proportion of the young people missing data on their FSM-eligibility are in special
15 schools (while many of the rest are mobile pupils such as Travellers, or recent arrivals such as asylum-
16 seekers perhaps without official papers). Given the level of inclusion of children with special needs in
17 mainstream settings, those in special schools are more often those with very severe learning and other
18 challenges. All of these groups – SEN, Travellers and asylum-seekers – could be among the most
19 deserving of consideration in a contextualised admissions system, yet all would be ignored if they were
20 missing FSM data, and FSM-eligibility were a criterion used in admissions.

21

22 Of course, the irony is that none of this may matter for children from the most disadvantaged families
23 who may not want to attend HE, and who may be so far from attaining the necessary prior
24 qualifications that their inclusion would currently be unthinkable. The latter would include some
25 children with the most serious learning challenges. Widening participation is currently aimed at the
26 ‘usual suspects’ of those most like existing and prior participants (Author 2013). And this would
27 remain true if context were used to drop a few grade or point requirements for admissions. It would
28 have little or no impact on those outside the mainstream system.

29

30 It is important to note that FSM-eligibility is not a permanent characteristic for any individual. If
31 eligibility at the time of application to HE were used, then this would ignore what Noden and West
32 (2009, p.4) termed a ‘hidden poor’ of those pupils previously eligible for FSM but not subsequently.
33 Such pupils may still be suffering the impacts of earlier disadvantage. Partly for this kind of reason,
34 the Department for Education in England now produces a measure ‘EverFSM6’, included in the NPD,
35 which covers pupils both currently and previously eligible for FSM over the last six years, and this is
36 what is now used for PP calculations. However, Treadaway (2014) considers that even this may not be
37 enough. EverFSM6 still ignores pupils in secondary school who had been eligible more than six years
38 previously. This further ‘invisible’ group has attainment results that are in some ways more similar to
39 the EverFSM6 pupils than those who have never been eligible.

40

1 On the other hand, giving an equal advantage in admissions to all applicants who had ever been
2 eligible for FSM would not be fair for those from the poorest families. FSM-eligibility is only a
3 threshold characteristic. Some individuals will be from families only just below the income threshold
4 while others will be permanently below it. Some will have trajectories of moving in and out of FSM,
5 while others will not. Some of this will be due to differences and changes in personal circumstances.
6 Some will be what studies of the Assisted Places Scheme called the ‘artificially poor’, or due to
7 reasons of diet and religious observance (Author 2003). Some will be sensitive to variations in the
8 national or global economy, or to changes in the incentives for registering as FSM-eligible or for
9 schools to collect accurate information about it. This matters because there is a hierarchy of poverty
10 ‘effects’. Those currently eligible for FSM but not previously, or previously but not now, are in many
11 respects more like those not eligible at all than those permanently poor (Crawford et al. 2014). This is
12 true of their other background characteristics like their ethnic origin and SEN status, and their
13 attainment at school (Author 2015b). Those permanently eligible are the most disadvantaged, meaning
14 that using EverFSM as a context variable would continue to be unfair to them.

15
16 Above all, the link between FSM and attainment or subsequent participation is only a correlation.
17 Many FSM-eligible students enter HE every year. But these may be disproportionately those who are
18 near the threshold for FSM or who have moved in or out of eligibility over time. They may be those
19 from schools where the pupil premium attainment gap is zero or even reversed (they do exist). If any
20 of these are so then it is not clear that such students should receive an equal advantage to those
21 permanently eligible or from schools with very large PP attainment gaps. The problem is that many of
22 the lowest attaining pupils at schools, including a high proportion in relative poverty, will leave
23 education early and not attain even the minimum requirements for HE, or otherwise simply not apply.
24 Many may not be interested (McMahon et al. 2015). Adjusting the scores of those FSM-eligible
25 students who *do* apply will not address any of these issues, and the PP gap in attainment used to justify
26 such contextualised admissions would be misleading (since it would need to be re-calculated only on
27 the basis of those who applied).

28
29 The situation for FSM, used as a detailed case for consideration here, looks bad. Its use will not solve
30 the most serious problems (for those not even in a position to apply), will not help some of the most
31 disadvantaged whose FSM status is unknown, and will create new unfairness (as described above).
32 However, FSM remains one of the most comprehensive and accurate measures of SES available. All
33 other potential indicators have exactly the same kinds of problems, and for many of them the problems
34 are even worse.

35
36 *Other feasible indicators*

37
38 Social class background, based on the classification of parents’ occupations, is another important
39 characteristic in the sense that it shows consistent variation in individuals’ attainment and progression
40 in education, and is correlated to some extent with measures of income. However, it does not have a
41 legal definition like FSM. Moreover, there are often missing many values - indeed, one of the largest

1 social class groups applying for admission to HE in the UK is generally ‘none/not known’. The
2 underlying occupations are almost always self-reported, making it potentially highly unreliable. Its use
3 to give an advantage in contextualised admissions would likely lead to a growth of self-reporting in
4 those categories deemed disadvantaged by admissions tutors (Author 2007). And in any case every
5 classification is notoriously hard to code, and has relatively low inter-rater reliability (Lambert 2002).

6
7 Ethnic origin is another important characteristic in the sense that it shows consistent variation in
8 individuals’ attainment and progression in education, and is correlated to some extent with measures of
9 income and social class. However, it does not have a legal definition like FSM. It has a large and
10 growing number of categories, with at least as many missing values in NPD as FSM does. Missing or
11 ‘not known’ is the largest ethnic minority classification in the UK population census. The
12 classification is heavily dependent on the identification of sole ethnicities, with the mixed categories
13 intended to be for a minority. But it is hard to contend that there are any individuals who do not have a
14 mixed ethnic origin of some kind. All of this does not make it a particularly reliable or valid indicator
15 (Author 2003, Lee 2003). It is so difficult to define operationally that this can only be done by self-
16 definition. Its use to give an advantage in contextualised admissions would therefore inevitably lead to
17 a growth of self-reporting in those categories deemed disadvantaged by admissions tutors (Author
18 2007).

19
20 Information about the type and intake of the school attended by each applicant also has limitations. It
21 will contain copious missing data, as with all indicators. For example, it will be silent about those
22 outside mainstream school settings, such as the home-schooled, and anyone otherwise not appearing in
23 NPD such as those recently arrived from other countries, perhaps even other home countries. Using
24 categories such as private (as opposed to state) schools conflates the major public schools with cheap
25 (less than the price of a daily newspaper) small sectarian schools. And so on.

26 27 *Aggregated indicators*

28
29 Some analysts attempt to avoid these kinds of problems by eschewing individual characteristics, and
30 instead defining potential disadvantage in terms of the measures of disadvantage in the local area that
31 each individual lives. This is supposed to mean that missing data for individuals does not occur, as
32 long as their address is known. However, this approach has almost all of the problems discussed so far,
33 and introduces some new and even more serious ones.

34
35 Like occupational class, measures of geographical deprivation, such as the Income Deprivation
36 Affection Children Index (IDACI) used by the DfE, have problems of definition. It is not clear whose
37 address is used, or which if there is more than one. Again, since it has no clear legal status (unlike
38 FSM), as soon as it was used as context for admissions there would be an incentive for individuals to
39 claim preferential ‘post-restante’ addresses, as has happened already to some extent in school
40 admission procedures (Author 2003). Perhaps most importantly, the idea that individuals possess the
41 modal characteristics of those living in their local area is obviously false, even if all addresses were

1 valid. Using IDACI or similar as context would unfairly advantage many individuals with no particular
2 disadvantage and so would tend to squeeze out all individuals more deserving of help, especially those
3 who were among the poorest in their own areas. Finally, even the premise about less missing data is
4 false. In NPD for England, for example, around 10% of pupils have no address details – about the
5 same proportion missing as for FSM and ethnicity. However, using an area figure like this does not
6 just mean losing about 10% of cases as with the other variables, because even the 90% of cases with a
7 valid address have a score that is based upon the aggregation of individuals that themselves have
8 missing values. This means, in effect, that *all* IDACI scores contain missing data, even when the
9 individual pupil has a valid address. Many of the same points can be made about using school-level
10 information related to an individual, such as the level of poverty in their school.

11
12 None of this means that the use of contextual variables in improving admissions is impossible or
13 misguided. It means, however, that considerable thought needs to be given as to what the precise aims
14 are and how to operationalise them with the greatest chance of success, and the least chance of
15 introducing further problems. This is what the analysis in our new project will allow (see below).

16 17 **How do contextually indicated students fare academically in higher education?**

18
19 So far, this paper has considered admissions to university. What does the evidence say about the
20 performance of contextually-disadvantaged students once admitted?

21 22 *Individual level*

23
24 At the individual level, students from lower income families are already known to be more likely to
25 drop out of HE, although the difference has apparently reduced since the student fees reforms from
26 2006 (Bradley and Migali 2015). Student background has been found to make little or no difference to
27 the chances of achieving a first class degree once prior attainment has been accounted for (Smith and
28 White 2015), and the chances of lower income students achieving a first class degree appears to have
29 increased from 1998 to 2008 (Smith 2015). More evidence is needed on other individual-level
30 indicators besides family income, such as parental social class, parental education, and FSM status,
31 and also on other degree outcomes, including dropout.

32 33 *Neighbourhood level*

34
35 Focusing on area-level measures of context used in the UK, we conducted an electronic search of the
36 literature for a rapid review. The sources were Web of Science, Google Scholar, ERIC and Scopus.
37 Clearly, this did not uncover all relevant studies (and we are seeking funding for a full systematic
38 review). It identified 22 large scale UK studies exploring the degree performance of contextually-
39 indicated students relative to that of non- contextually indicated students with comparable levels of
40 prior attainment. Studies looking at course completion or early drop-out are much rarer and so are not
41 considered in detail here, although the outcome is of course an important one to explore. Of the 22

1 studies reviewed, 11 focused on a single institution (four in Cambridge, three in Edinburgh, and one
2 each in St Andrews, Oxford, Bristol, and Cardiff). One study focused on a single subject area
3 (Economics). The general pattern of findings can be summarised fairly easily: school-level contextual
4 indicators tend to be associated with better or at least comparable degree performances for students
5 with equivalent levels of prior attainment whereas neighbourhood-level contextual indicators tend to
6 be associated with comparable or poorer degree performances.

7
8 Four studies explored the effects of coming from a low HE participation neighbourhood. Most of these
9 studies found degree outcomes to be no different for these students (Croxford et al 2013abc; Hoare and
10 Johnston 2011; Taylor et al. 2013). One study found these students to perform less well than
11 comparably qualified students from neighbourhoods where more people engage in HE (HEFCE 2014).
12 Three studies examined the effects of coming from a deprived neighbourhood and all three found this
13 to be associated with poorer performance at degree level (Croxford et al 2013abc; HEFCE 2014;
14 Crawford 2014a). Even if they were valid, the overall picture suggests that using areal indicators of
15 context does not lead to good outcomes. This in turn raises the issue of what universities are doing and
16 could do better to support non-traditional students to achieve at degree level.

17 18 *School level*

19
20 School type is the most common kind of contextual indicator examined (16 studies). The majority of
21 studies (12) found that non-selective state school students fared better at degree level than comparably
22 qualified private school students (Lasselle, McDougall-Bagnall and Smith 2014; Hoare and Johnston
23 2011; McNabb, Pal and Sloane 2002; Smith and Naylor 2001; Smith and Naylor 2005; Naylor and
24 Smith 2004; Kirkup et al. 2010; HEFCE 2003, 2014; Ogg, Zimdars and Heath 2009; Crawford 2014b).
25 A minority of studies (4) found no school type difference in degree achievement, but all of these were
26 concerned only with students at Cambridge - a highly selective university (Chetwynd 2011; Sumnall
27 2015; Partington 2011a; Parks 2011).

28
29 It may be that school type differences are smaller among students with very high levels of prior
30 attainment. This hypothesis is consistent with one other study which reported a narrower school type
31 gap for students with the equivalent of AAA+ at A-level (HEFCE 2003), but is at odds with three other
32 studies finding non-negligible school-type differences in degree outcomes which also focused on one
33 highly selective university, namely Oxford (Ogg, Zimdars and Heath 2009), St Andrew's (Lasselle,
34 McDougall-Bagnall and Smith 2014) and Bristol (Hoare and Johnston 2011) respectively.

35
36 One study looked at the effects of coming from a school with a high percentage of free school meal
37 recipients, which was found to be positively associated with degree performance after taking prior
38 attainment into account (Crawford 2014b). Seven studies focused on students from poorer performing
39 schools. Two found that the contextually indicated students did worse than expected (HEFCE 2003;
40 Smith and Naylor 2001). Three found them to fare as well (Hoare and Johnston 2011; Hammond et al
41 (2011; HEFCE 2014), while three found them to do better on average than comparably qualified peers

1 from schools with higher average levels of attainment (Lasselle, McDougall-Bagnall and Smith 2014;
2 Partington 2011a; HEFCE 2003). This last study also found that degree achievement was very
3 different for male as compared to female students.

4
5 Three studies, all focused on Edinburgh University, explored the effects of coming from a school with
6 a low rate of progression to HE, with mixed results (Croxford et al. 2013abc). Among those with
7 Scottish Highers (a typical qualification at age 18), students from schools with low HE progression
8 rates performed no differently to comparably qualified peers from schools with a stronger tradition of
9 sending students to university. However, among students with A-levels (typically from England), those
10 from low HE progression schools performed worse at degree level. Two studies found that students
11 whose achievement was higher than the average for their school performed better at degree level than
12 comparably qualified peers whose prior attainment was lower than the average for their school (Smith
13 and Naylor 2001; HEFCE 2014).

14
15 The patterns highlighted above suggest that school-level indicators might be useful for identifying
16 ‘potential to succeed’ that can be readily translated into degree success. Neighbourhood-level
17 contextual indicators, in contrast, may be more likely to identify students who may need additional
18 support to achieve their potential in HE. But this conclusion is somewhat impressionistic. Also yet to
19 be clearly established is how different contextual indicators relate to one another (although Crawford
20 and Greaves 2013 have made a start in this area), and how contextual indicators interact with other
21 student characteristics such as gender and ethnicity, or with course characteristics such as level of
22 academic selectivity and academic discipline, to affect achievement at university.

23 24 25 **Conclusion**

26
27 At present, the situation for the use of contextual indicators in HE admissions is unsatisfactory. Not all
28 universities and colleges use them, or to the same extent. Those who do, do so differently from each
29 other as far as we can tell. And most simply do not report how they do it. There is no single indicator
30 or basket of indicators that is clearly fit for purpose in terms of validity, completeness, lack of bias and
31 no danger of introducing new but perhaps less visible inequities. The latter is important. HEIs must do
32 more than treat the symptoms (such as ‘we are below quota in one category so we must admit more
33 from that category regardless’). The solution must be to identify securely those *individuals* who appear
34 to have lower grades in the prior qualifications due largely to earlier disadvantage. How is this
35 possible?

36
37 Clearly a programme of research is needed to answer three fundamental questions regarding the use of
38 contextual data in undergraduate admissions. First and foremost, research is needed to examine the
39 extent to which different individual-level, neighbourhood-level, and school-level contextual indicators
40 are correlated and to identify which ones represent the most valid and reliable measures of the
41 socioeconomic circumstances of individuals.

1
2 Second, much more systematic work needs to be done to determine how well different contextual
3 indicators, singly and in combination, predict success at degree level for comparatively disadvantaged
4 students. It will be important to determine which contextual indicators identify students who are likely
5 to perform as well as or better than comparably qualified peers from more advantaged environments,
6 and who may therefore warrant prioritisation for admission over more advantaged applicants with
7 comparable or higher grades. But it will also be important to establish which contextual indicators are
8 associated with poorer performance at degree level relative to comparably qualified peers from more
9 advantaged environments so that additional support can be given to such students to enable them to
10 realise their potential fully. It will, of course, be necessary to explore how these patterns vary by
11 degree subject area and academic entry requirements.

12
13 Third, we need to establish how much impact different contextual admissions policies can be expected
14 to have on the goal of widening participation in higher education, for the sector as a whole and for
15 particular institutions and academic disciplines. As part of this, we will need to establish robust ways
16 of measuring the actual impact of particular contextual admissions strategies on the socioeconomic
17 make-up of the student body, so that universities can provide better evidence of the success of their
18 contextual admissions policies at widening participation without compromising student achievement.
19 We will begin to provide answers to these important questions in our next paper.

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