RESEARCH

Full-time Young Participation by Socio-Economic Class: A New Widening Participation Measure in Higher Education

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Department for Education and Skills

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A New Widening Participation Measure in Higher Education

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Contents:

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Summary

Aim
This report describes a new measure of participation in higher education by socio-economic class, which has been developed by the Department for Education and Skills. It is designed to help measure progress in widening participation at a national level.

New measure of participation by socio-economic class
The new measure is a composite measure, comprising two participation rates: (i) the percentage of the population from the top three socio-economic classes who participate for the first time in higher education, and (ii) the percentage of the population from the bottom four socio-economic classes who participate for the first time in higher education, and also the difference or gap between these participation rates. It covers English domiciled full-time young (aged under 21) students and is available for academic years 2002/03 to 2004/05. It is based on the Higher Education Initial Participation Rate (HEIPR), which is used to track progress on increasing participation in higher education.

Key findings
Overall, full-time young participation fell slightly between 2002/03 and 2004/05. The Full-time Young Participation by Socio-Economic Class (FYPSEC) figures show that participation for the top three socio-economic classes fell slightly (from 45.8% to 43.0%) over this period and participation for the bottom four socio-economic classes was fairly static (19.2% in 2002/03, 19.1% in 2004/05), leading to a narrowing by 2.8 percentage points of the gap between these participation rates.

The need for a new measure
The FYPSEC measure replaces the discontinued Age Participation Index (API) by Social Class, which was a composite measure based on the "the number of UK-domiciled young initial entrants to full-time and sandwich undergraduate courses of higher education in Great Britain, expressed as a proportion of the averaged Great Britain 18 to 19 year old population". Professor Brian Ramsden had reviewed and documented the weaknesses in the methodology used to derive the API by Social Class, and this was the starting point for developing a new and more robust measure of participation by socio-economic class.

The new FYPSEC measure begins to fill a gap in the measurement of progress on widening participation in higher education which was left by the discontinuation of the API. The Performance Indicators in Higher Education, published by the Higher Education Statistics Agency (HESA), are often quoted in the context of widening participation. However these show the proportion of university entrants who are from certain backgrounds (state schools, lower socio-economic classes and low participation neighbourhoods) and as such only provide the social make-

[1] We would like to thank analysts at the Higher Education Funding Council for England (HEFCE) and Professor Brian Ramsden for helpful comments on earlier drafts of this report. Any remaining errors of content or interpretation are entirely ours.

up of the student population without reference to the underlying population structure. What we really need are participation *rates* by social background.

Caveats
Though the FYPSEC measure is more robust than the API by Social Class, it needs to be interpreted carefully, preferably over several years as weaknesses remain due to the use of the socio-economic classification variable. These include:

- Socio-economic class is derived from the student's view of their highest-earning parent's occupation, so can be subject to error on the part of the student or in the interpretation of the student's description of occupation.
- A restriction to young, full-time students is necessary because socio-economic class data are not recorded for part-time students and this is not as relevant for older full-time students because their socio-economic class is often based on their own, rather than their parent's, occupation, leading to issues with comparability across a wider age range.
- The coverage of the socio-economic class data is not complete, even for young full-time students. Students whose socio-economic class data are unknown are assigned to a socio-economic class based on their home postcode.

Previous measures of participation in higher education
This report also contains an assessment of historical information on participation by some disadvantaged groups of people to see what the widening participation story looked like up to the end of the last century. In particular, we have considered the original API by social class which shows overall growth of 23 percentage points in the social class gap in participation over the period 1940 to 2000.

One of the key weaknesses of the API is that the social class breakdown of the GB population was assumed to be static since the 1991 census. By applying year-on-year population data from the Labour Force Survey (LFS) to the population figures used in the API over the period 1991-2000, we assessed the potential for updating the measure. In doing so, we have seen that the API, when updated in this way, shows lower participation for the higher social classes and higher participation for the lower social classes than originally thought. Importantly, this work suggests that, instead of a widening social class gap over the 1990s, the gap remained static for the first half of the decade and began to close from 1996. Although the measure still suffers from significant weaknesses, it strongly suggests that there was progress in widening participation during that time which was masked by the outdated methodology of the API.

Further work
Further work on the new FYPSEC measure will include any revisions in line with revisions to the HEIPR methodology. The FYPSEC measure will be updated on an annual basis. Additional widening participation measures in development include area-based measures which will cover part-time and mature students and, separately, an income-based measure. In addition, HEFCE have been leading a consultation on the future of the Performance Indicators in Higher Education. Following this review, there may be changes to the number and range of access performance indicators for future years.

Introduction: The need for a Widening Participation measure

1. The higher education public service agreement target (DfES target 14) according to the 2004 Spending Review is worded as follows:

> By 2010, increase participation in higher education towards 50% of those aged 18 to 30 and also make significant progress year on year towards fair access and bear down on rates of non-completion.

2. The main measure for tracking progress on increasing participation is currently the Higher Education Initial Participation Rate (HEIPR). This is the sum of the HE initial participation rates for individual ages between 17 and 30 inclusive. It covers English-domiciled first time entrants to HE courses, which are expected to last for at least six months, at UK Higher Education Institutions (HEIs) and English Further Education Colleges (FECs), and who remain on their course for at least six months. These students are determined using data from the Higher Education Statistics Agency (HESA) and the Learning and Skills Council (LSC). The rates are based on the population of England for each individual age, and the sum of the rates is a measure of the likelihood that a person will participate in HE before age 30. The HEIPR time-series to date is shown in table 1.

Table 1: HEIPR figures for the period 1999/2000 to 2004/05:

	1999/00	2000/01	2001/02	2002/03	2003/04	2004/05 (provisional)
HEIPR %	41	42	42	43	42	42
Initial entrants (000's)	246	249	255	268	269	271

Source: Participation rates in higher education: academic years 1999/2000 – 2004/05 (provisional)[2], published by DfES

3. The main measure for tracking progress on improving rates of non-completion is provided by HESA, as part of the annual Performance Indicators in Higher Education publication[3]. Table T5 of these indicators shows the proportion of full-time first degree entrants (including those from overseas) who are projected to neither gain an award nor transfer to another course. These non-completion figures are shown in table 2.

[2] "Participation rates in higher education: academic years 1999/2000 – 2004/05 (provisional)" Statistical First Release, published by DfES (2006) http://www.dfes.gov.uk/rsgateway/DB/SFR/s000648/SFR14-2006.pdf

[3] "Performance Indicators in Higher Education", published by HESA (2006) http://www.hesa.ac.uk/pi/0405/home.htm

Table 2: Non-completion rates for UK-domiciled entrants to full-time first degree courses at English HEIs:

	Non-completion rate
1997/98	15.8%
1998/99	15.8%
1999/2000	15.9%
2000/01	15.0%
2001/02	13.8%
2002/03	13.9%
2003/04	14.4%

Source: Performance Indicators in Higher Education, published by HESA
Note that between 2000/01 and 2001/02 there was a slight change in methodology

4. Measuring progress on widening participation, however, is more difficult. The measures often quoted in this context at present are again drawn from the HESA Performance Indicators. These are the proportion of the young (under 21), full-time first degree entrants who are from each of the following: the State sector, the lowest four socio-economic groups, and areas which have been classed as low-participation neighbourhoods based on 1991 Census information. These figures are shown in table 3.

Table 3: Access performance indicators for UK-domiciled young entrants to full-time first degree courses at English HEIs:

	Proportion of entrants to university from:			
	State schools	Lower social classes (IIIM, IV, V)	Lower Socio-economic groups (4-7)	Low participation neighbourhoods
1998/99	84.4	24.9	n. a.	11.6
1999/00	84.1	25.1	n. a.	11.7
2000/01	85.0	25.3	n. a.	11.8
2001/02	85.2	25.5	n. a.	12.4
2002/03	86.4	n. a.	27.9	12.5
2003/04	86.1	n. a.	28.2	13.3
2004/05	85.9	n. a.	27.9	13.1

Source: Performance Indicators in Higher Education, published by HESA

n. a. = not available: The socio-economic group classification was introduced to HESA data in 2002/03 to replace social class. The two classifications are not directly comparable.

5. The access performance indicators are very useful for individual institutions to consider their own progress in attracting students from non-traditional backgrounds. However, these indicators were not initially intended to be used as a measure of WP at a national level, and they are not ideal for the following reasons:

   - The low participation neighbourhoods are based on old participation rates. These will shortly be updated.

- Due to the change in social classification in 2001[4], the social class indicator has a significant discontinuity between 2001/02 and 2002/03 which prevents comparability across the whole time series.
- We want to measure widening participation for English-domiciled students. However the use of access PIs for all UK HEIs includes students from Scotland, Wales and Northern Ireland in the measures, while restricting quoted figures to English HEIs excludes some English students studying in other parts of the UK and includes non-English students.
- The small but significant group of HE students attending further education colleges is excluded.
- The main issue with trying to measure progress in WP using performance indicators is that the proportions shown in the PIs are based only on the HEI entrant population. As such, the PIs provide a very limited story only of the social make-up of the HEI entrant population without reference to the underlying population in each group. An increase in the proportion of entrants from lower socio-economic classes could be simply due to an increase in the number of young people in England in the lower socio-economic classes rather than a great improvement in widening participation. Likewise a decrease in this proportion could reflect either a smaller number of young people in England in the lower socio-economic classes, or a step backwards where widening participation is concerned. Without looking at the underlying demography, the access performance indicators do not tell us a sufficiently comprehensive story to inform on progress in widening participation.

6. Thus the need has arisen for a widening participation measure which will look at participation in terms of the background of the underlying population in addition to the social structure of the student population, and which will concentrate on students from just the geographical area of interest to the PSA target (i.e. students domiciled in England). Social class is a well-understood basis for a measure, and historically the API by Social Class has been widely quoted. With this in mind, a measure presented in a similar format to the API, but which is consistent with the HEIPR definitions and methodology, is likely to be well-received.

[4] Information on the social classification systems is available on the National Statistics web site: http://www.statistics.gov.uk/methods_quality/ns_sec/default.asp

The Widening Participation story

Longitudinal research on degree acquisition and parental income

7. One example of measurement of widening participation takes the form of longitudinal research into degree acquisition rates by parental income. Blanden and Machin[5] published figures for 1981, 1993 and 1999 on the percentages of children acquiring degrees by age 23 by parental income when the child was 16 years old. The figures were derived from longitudinal surveys of samples of the GB population (the National Child Development Study (NCDS), the British Cohort Survey (BCS) and the British Household Panel Survey (BHPS)). The latest figures relate to students entering higher education shortly before the introduction of tuition fees in 1998/99.

8. Table 4 contains the relevant figures and shows how the gap in degree acquisition between the percentages of children whose parental incomes were in the highest and lowest 20 per cent of incomes increased between 1981 and 1999. For the purpose of this research, participation was measured by the percentage of children acquiring a degree by the age of 23.

Table 4: Degree acquisition by age 23 (proportions) and parental income[3]

	Degree acquisition by age 23			
	Lowest 20%	Middle 60%	Highest 20%	Educational inequality
NCDS 1981	0.06	0.08	0.20	0.14 (0.01)
BCS 1993	0.07	0.15	0.37	0.30 (0.02)
BHPS 1999	0.09	0.23	0.46	0.37 (0.05)
Change 1981–1993	0.01	0.07	0.17	0.15 (0.02)
Change 1993–1999	0.02	0.08	0.09	0.07 (0.06)
Change 1981–1999	0.03	0.15	0.26	0.23 (0.06)

Notes:
[1]Sample sizes are NCDS: 5706 BCS: 4706, BHPS: 580.
[2]The year we establish degree attainment is 1999 on average for the BHPS. For the NCDS and BCS all individuals need to have graduated by 1981 and 1993 respectively.
[3]Standard errors in parentheses.
[4]Rows and columns may not add up precisely due to rounding.

9. Children whose parental incomes were in the highest 20 per cent of incomes were around five times more likely to acquire a degree by age 23 than children in the lowest 20 per cent, up from around three times in the early eighties. The key finding of this research was that despite the fact that many more people from higher income backgrounds participated in higher

[5] J. Blanden & S. Machin, 'Educational inequality and the expansion of UK higher education', *Scottish Journal of Political Economy, Special Issue on the Economics of Education*, **51** (2) pp. 230-249 (2004).

education before the recent expansion, the gap in participation between children from higher and lower income backgrounds was wider after the expansion.

10. Some caveats to this work include the small size of the British Household Panel Survey compared to the earlier surveys used, and the definitions in each survey do not align exactly. So care should be taken with the findings of this work.

The Age Participation index (API)

11. The Age Participation Index (API) by Social Class[6] is an established, well-known measure of higher education participation, with a time series stretching from the 1960's through to 2001. This is another example of widening participation measurement.

12. The Great Britain API is defined as 'the number of UK-domiciled young (aged under 21 years) initial entrants to full-time and sandwich undergraduate courses of higher education in Great Britain, expressed as a proportion of the averaged Great Britain 18 to 19 year old population'.

13. In order to estimate the proportion of HE entrants who are new to HE, factors are applied to reduce the numbers recorded in the index, as follows:
    - Students in former UFC[7] institutions: 0.977;
    - Teacher training students in former PCFC[7] institutions: 1.00;
    - Non teacher training students in former PCFC institutions: 0.87;
    - HE students in further education colleges: 0.87.

14. Social class information from UCAS is applied to the API. The Social Class breakdown uses the following categories:

    I Professional, etc. occupations
    II Managerial and Technical occupations
    IIIn Skilled occupations - non-manual
    IIIm Skilled occupations - manual
    IV Partly skilled occupations
    V Unskilled occupations

15. The proportions of UCAS entrants within each social class are applied to the student numbers in the numerator, and for figures since 1991 the

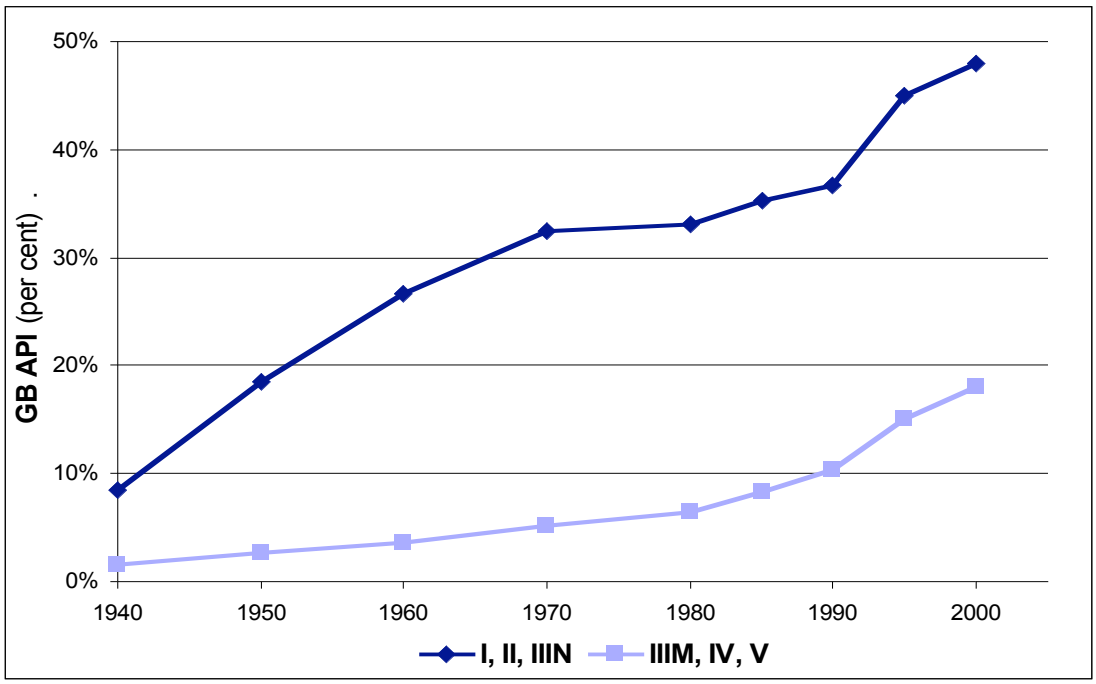
[6] The full API and its interpretation can be found in the "Future of Higher Education" White Paper, published by DfES (2003) http://www.dfes.gov.uk/hegateway/uploads/White%20Pape.pdf

[7] The Universities Funding Council (UFC) and the Polytechnics and Colleges Funding Council (PCFC) were disestablished in 1993 and their functions in England were taken over by the Higher Education Funding Council for England (HEFCE), following the 1992 Further and Higher Education Act.

social class breakdown of the population according to the 1991 Census is applied to the population in the denominator. For both the numerator and denominator, the numbers in the top three social classes and bottom three social classes are summed together before dividing each numerator by its corresponding denominator.

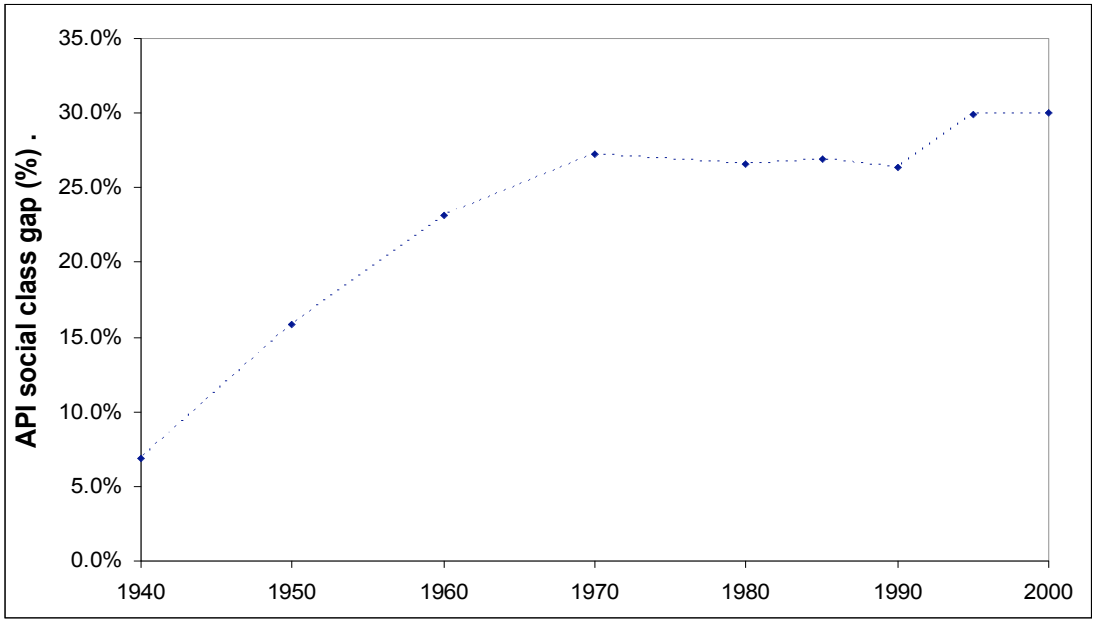
16. The API by social class is then presented as two participation rates: one for the top three social classes and one for the bottom three social classes. The full time series of the API by Social Class is shown in Figure 1.

Figure 1: Chart showing the API by Social Class for the period 1940 to 2000:



17. Over the period shown above, the API by Social Class has shown an increase in participation by both the upper and lower social classes. One way of looking at this information more closely is to plot the difference between the two rates, to show the behaviour of the social class gap in HE participation. This is shown in figure 2.

Figure 2: Chart showing the GB API social class gap



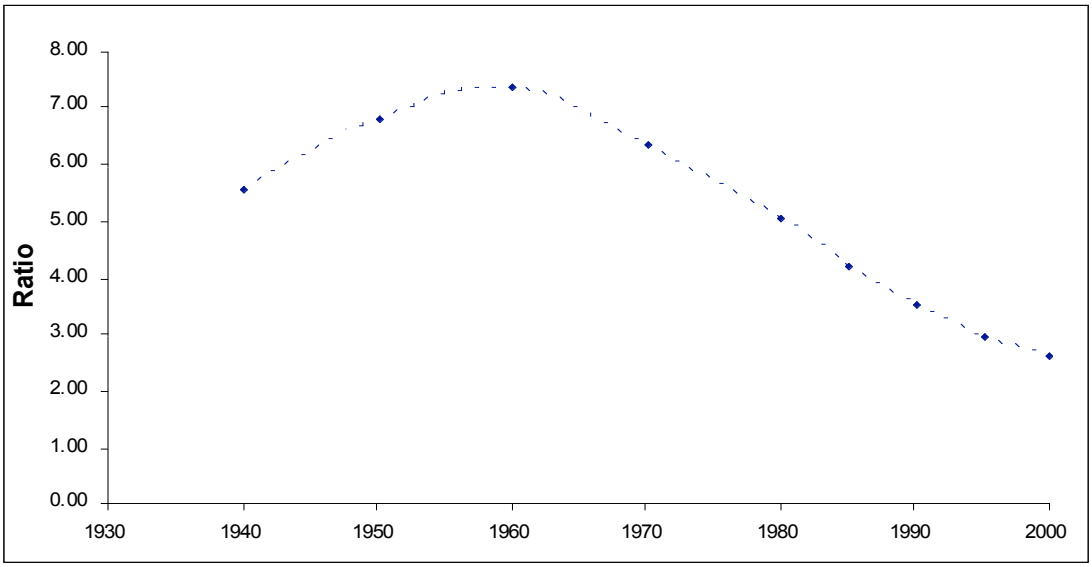
18. From Figure 2 it is seen that the API shows an absolute gap in HE participation between the upper and lower social classes which has been widening during the period of HE expansion, despite the increase in participation by the lower social classes. Although there are two periods during which the gap appears to be fairly static (1970-1990 and 1995-2000), overall the gap is seen to have increased by some 23 percentage points between 1940 and 2000. This has contributed to the motivation behind the Government's current widening participation initiatives. It is worth noting, of course, that the period covered by figures 1 and 2 includes significant change in the social structure of the population, as well as changes in higher education participation.

19. An alternative way of looking at these rates is to take the ratio of the upper participation rate to the lower rate as follows:

$$Ratio = \frac{Rate\left(I, II, III_n\right)}{Rate\left(III_m, IV, V\right)}.$$

This is shown in figure 3.

Figure 3: Chart showing the ratio of the upper to lower participation rates



20. Looking at the participation rates in this way indicates some improvement since the 1960's. The participation rate for social classes I, II and IIIn was more than seven times higher than that for social classes IIIm, IV and V in 1960, but it was less than three times higher in the mid-nineties.

21. Ideally, we would like to see the absolute gap head towards zero, and the ratio of the upper to lower participation rates approach a value of one.

Results of API methodology review

22. Calculation of the API was discontinued in 2001, and the methodology was reviewed by Brian Ramsden in 2005 as part of a wider review of the Department's HE participation measures[8]. The review pointed towards the following shortcomings in the API methodology:

    (a) A barrier to continuing the time-series past 2001 is the recent change in social classification from six social classes to 7 National Statistics Socio-economic classes. These are not comparable, and so the API by social class as it stands can no longer be calculated.

    (b) The numerator and denominator are drawn from different geographical locations (UK and GB respectively) and different age groups (under 21's and 18-19 year olds respectively).

    (c) The factors for calculation of initial entrants have not been changed for more than ten years, and so do not reflect the significant changes in

[8] B. Ramsden, "A study to determine whether the Higher Education Initial Participation Rate should be disaggregated", DfES Research report RR676 (2005).
http://www.dfes.gov.uk/research/data/uploadfiles/RR676.pdf
This report included a review of the API methodology as a possible alternative to disaggregating the HEIPR by social class.

HE provision and participation during this period.

(d) There is no specification of course length requirements or a threshold participation time for a student to be included in the API.

(e) By applying social class data on UCAS entrants to all full-time HE entrants in the numerator, the social classes of some 15% of direct-entry students are being ignored. This 15% of entrants is likely to differ from the UCAS entrants in the following characteristics:

- The non-UCAS entrants to full-time first degree courses tend to be concentrated in the post-1992 universities;
- They include a significantly higher proportion of minority ethnic groups than the undergraduate population as a whole;
- They may be classed as independent and consequently their social class is more likely to be derived from their own occupation than that of their parents;
- They may also have a lower average A-level points score on entry.

(f) The social class breakdown applied to the underlying population has not been changed since 1991, and so the denominators do not reflect the current social structure of the population which is extremely unlikely to have remained static for 15 years.

23. One of the main conclusions of the review was that calculation of the API by Social Class, as currently defined, should not be resumed.

Recommendations for disaggregation of the HEIPR

24. The review included some further recommendations in relation to disaggregation of the HEIPR by social class. These include the following:

(A) The full HEIPR should not be disaggregated by social class. There is an inconsistency between the social classes of young and mature students. This stems from the use of parental occupations for determination of young students' social classes and student occupations for determination of mature students' social classes. In addition, there is no social class coverage for part-time students, who are included in the HEIPR.

25. However, if the Department were to go ahead and disaggregate by social class, the following options should be explored:

(B) Use of periodic surveys of the entrant population, together with annual Labour Force Survey data to refresh the numerator and denominator;

(C) Use of the Index of Multiple Deprivation (IMD) as a proxy for social

class, which makes use of students' home areas;

(D) If improved parental education data were to become available in the future, a new measure could be based on this information.

26. Finally, if a measure of participation by social class were to be re-introduced, the report recommended that:

(E) Any measure of the social composition of the entrant population should be restricted to young entrants.

27. The Department has no current plans to disaggregate the full HEIPR by social class, as recommended by the review.

28. The feasibility of setting up a periodic survey of the entrant population has been discussed but this is considered to incur a disproportionate cost which would outweigh the potential benefit.

29. There are no current plans to disaggregate the HEIPR by IMD. However HEFCE are undertaking some analysis using IMD, which may be developed into a new HE participation measure.

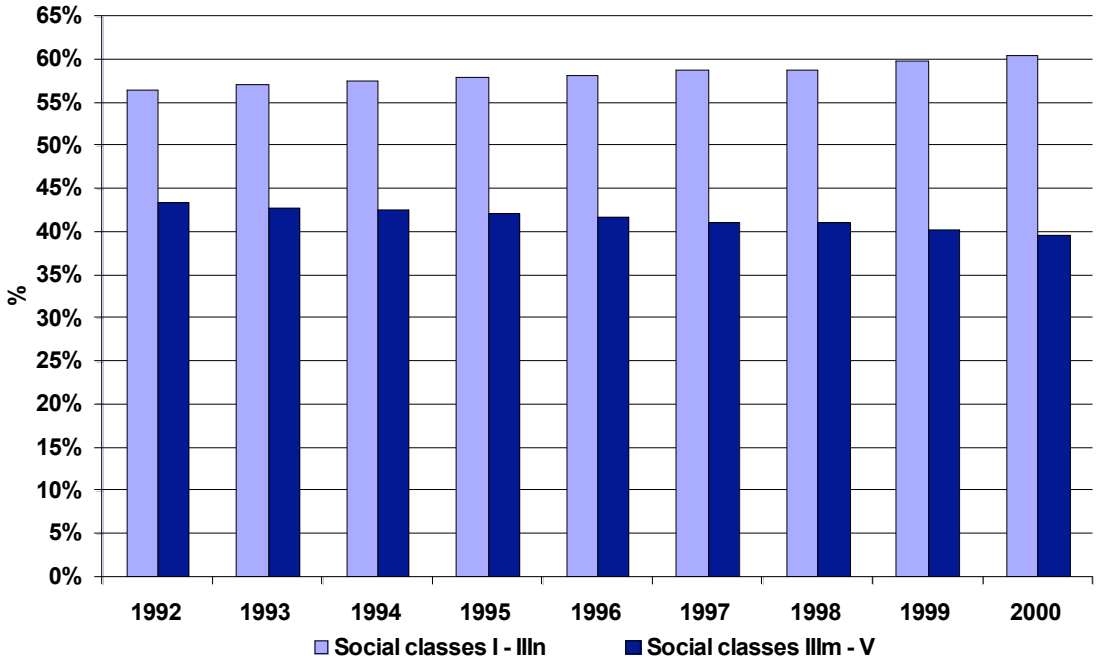
30. HESA will be including a parental education field in the Student Record from the 2007/08 academic year. This data may eventually be used to inform a new measure of higher education entry or participation by parental education level.

31. Most new measures of social composition of the entrant population will be restricted to young (under 21) entrants, due to the constraints imposed by the data quality across the full 17-30 age range. The new measure, introduced later in this report, is consistent with this recommendation.

Updating the API by social class using annual population data

32. Initially, we assess the potential for improving the API methodology using existing data, and consider the results shown by the 'improved' API. In order to demonstrate that the API by Social Class can be improved, we take as an example the assumption that the social class structure of the population has remained constant since 1991. This assumption is both incorrect and unnecessary. Social class data are available annually from the Labour Force Survey (LFS), and using the spring quarter data we chart the changes in the social structure of the working age population of Great Britain during the 1990's as shown in Figure 4.

Figure 4: Change in proportions of GB working age population in social classes I–IIIn and IIIm-V



Source: Labour Force Survey.

33. The data from LFS show that the proportion of the GB population in the top three social classes increased during the last decade of the API's calculation, while the proportion of the population in the lower three social classes decreased accordingly over the same period. From Figure 4 we see that the assumption in the original API methodology that the social structure of the population remained static between successive Census years is clearly flawed. These changes in the social structure of the population can be incorporated into the original API calculation, together with up-to-date population estimates for Great Britain. The original API by Social Class for the period 1991 to 2000 is shown in Figure 5, and the updated API which incorporates the LFS population data is shown in Figure 6.

Figure 5: *Original* API by Social Class for the period 1991 to 2000

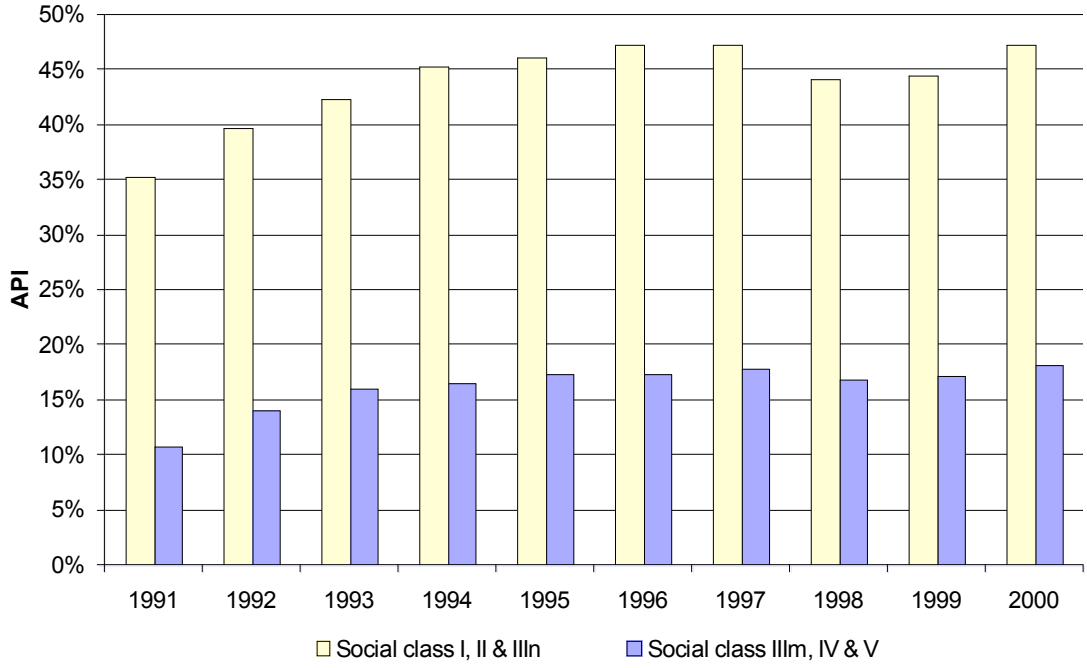
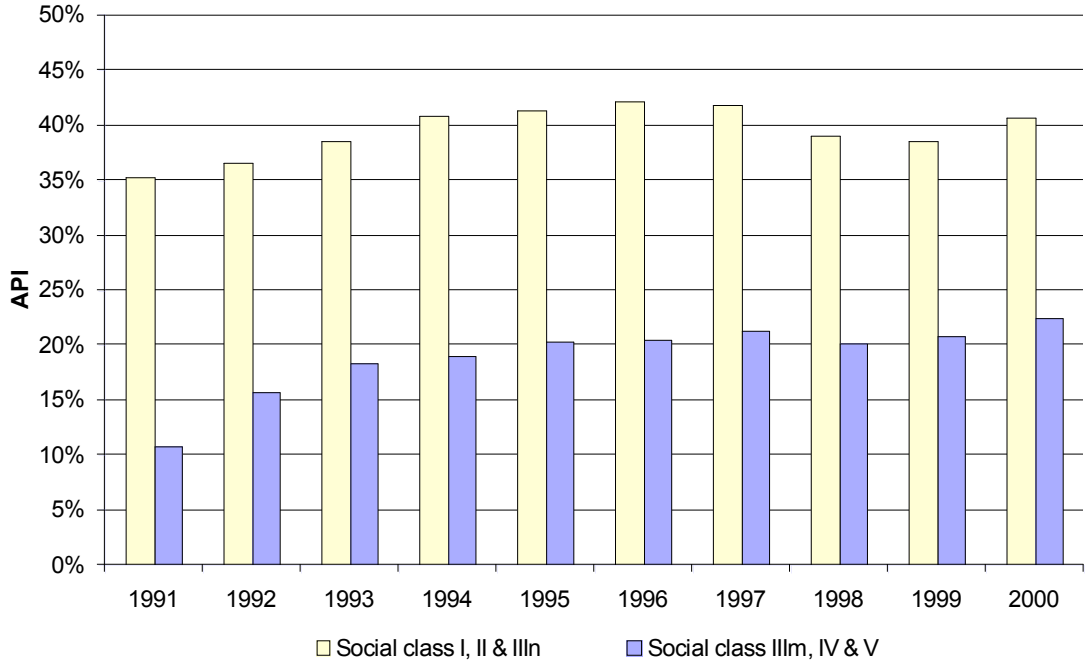


Figure 6: *Updated* API by social class, using LFS social class data for the GB working age population, for the period 1991 to 2000

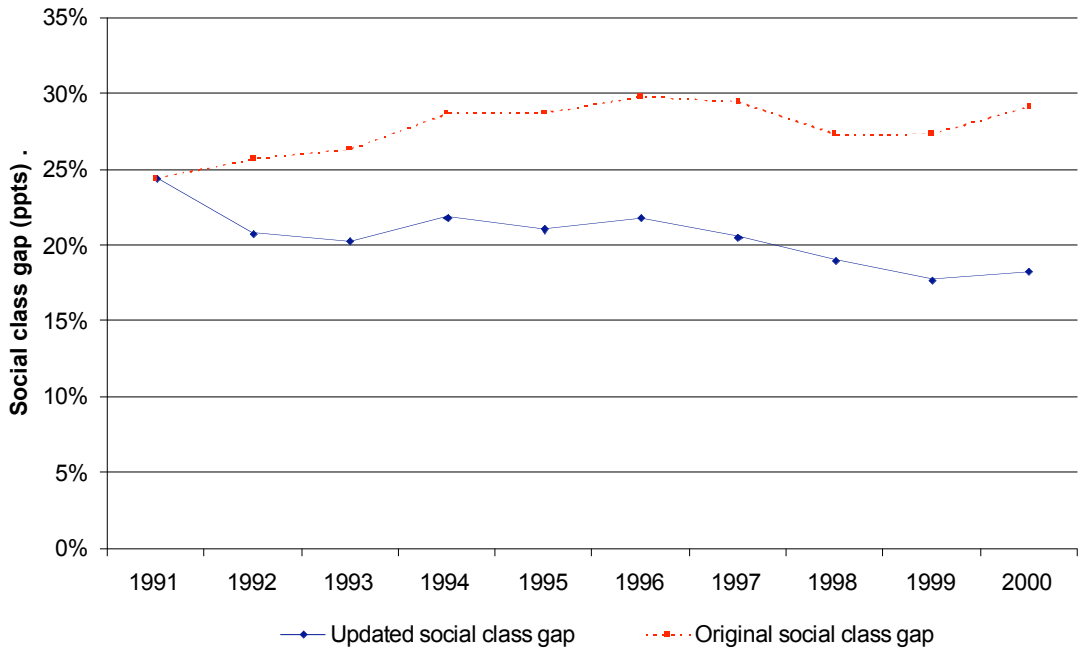


34. Comparison of the updated API in Figure 6 with the original API in Figure 5 suggests that young participation for social classes I, II and IIIn was lower than originally calculated, while young participation for social classes IIIm, IV and V was higher than originally calculated. Both of these sets of figures show reasonable agreement with related findings in

HEFCE's Young Participation in Higher Education report[9]. These included a significant inequality in the chance of young people entering HE depending on their home neighbourhood which persists over the period 1994-2000, and for the most disadvantaged areas there was no decline in participation rates.

35. By subtracting the participation rate for social classes IIIm, IV and V from that for social classes I, II and IIIn, the social class gap is obtained. The social class gap for the updated API is actually between five and eleven percentage points smaller than originally calculated. The original and updated social class gaps are shown in figure 7.

Figure 7: Original and updated social class gap

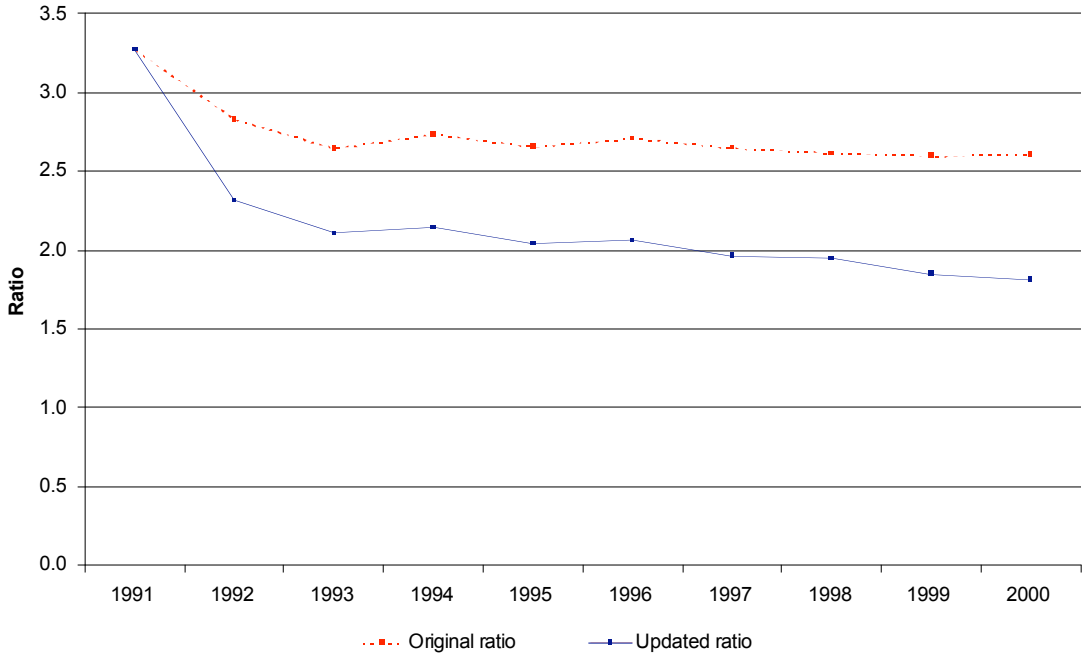


36. The updated API shows a social class gap which began to close from 1996/97. The social class gap at the end of the 1990's was in fact six percentage points smaller than at the beginning of the decade.

37. The ratio of the upper participation rates to the lower participation rates is also determined for the original and updated versions of the API: these are shown in figure 8.

[9] M. Corver, "Young Participation in Higher Education", HEFCE report 2005/03 (2005) http://www.hefce.ac.uk/pubs/hefce/2005/05_03/

Figure 8: Ratio of I-IIIn participation rate to IIIm-V participation rate



38. From figure 8 it is seen that according to the ratio of the participation rates, the original API showed some progress at the beginning of the nineties followed by stalled progress to 2000. However the updated version suggests that after more substantial progress in the early nineties, progress continued slowly during the decade, and the ratio reduced further so that by 2000 the upper rate was less than double the lower rate.

39. Both the absolute gap approach and the ratio approach tell a different story of widening participation in the 1990's with the updated API, to that of the original. So we see using this example that a single improvement to the API methodology can show a different view of HE participation. In tackling the remaining methodological issues with the API, a more robust measure of participation by social class may be created.

Issues in producing the new measure

40. The new measure of Full-time Young Participation by Socio-Economic Class (FYPSEC) takes the following form:

18, 19 and 20 year old English-domiciled first time participants in full-time higher education in the UK, expressed as a proportion of the 18, 19 and 20 year old population of England, split into participation rates for the upper (1, 2 & 3) and lower (4, 5, 6 & 7) National Statistics Socio-Economic Classes.

41. In producing this new measure, the specific issues with the API, which were brought to light by Ramsden's report, have been carefully considered.

42. A barrier to continuing the time-series past 2001 is the recent change in social classification from six social classes to 7 National Statistics Socio-Economic Classes. These are not comparable, and so the API by social class as it stands can no longer be calculated.

The new measure will start its time-series in 2002/03. It will not be comparable to any earlier measures, but it can chart progress on the socio-economic class gap during the more recent years while initiatives have been in place to encourage widening participation in HE. The NS-SEC categories are the following:

1. Higher managerial and professional occupations
2. Lower managerial and professional occupations
3. Intermediate occupations
4. Small employers and own account workers
5. Lower supervisory and technical occupations
6. Semi-routine occupations
7. Routine occupations

43. The numerator and denominator are drawn from different geographical locations (UK and GB respectively) and different age groups (under 21's and 18-19 year olds respectively).

The measure which is currently in place for tracking progress on increasing participation, the HEIPR, looks only at English-domiciled students and is based on the population of England. The same age group applies to both the numerator and denominator. This example will be followed for the new WP measure: this will track progress for the population of England only, and both the numerator and denominator will relate only to 18, 19 and 20 year olds. This age range is consistent with the recommendation made in Ramsden's review of the API, due to the limitations of NS-SEC information available. These NS-SEC limitations also require the measure to be for full-time participation only, because NS-SEC information on part-time students is rarely available due to their direct-entry route to higher education.

44. *The factors for calculation of initial entrants have not been changed for more than ten years, and so do not reflect the significant changes in HE provision and participation during this period.*

HEIPR calculates the number of initial participants year-on-year directly, matching back to data in earlier years and excluding from the measure all students found to have experienced HE in earlier years. The new measure will use the 18 - 20 year old full-time students who are included in the HEIPR, so the constant initial entrant factors are no longer needed.

45. *There is no specification of course length requirements or a threshold participation time for a student to be included in the API.*

By including the 18, 19 and 20 year old full-time components of the HEIPR, all full-time HE level study will be included in the measure except that which lasts for less than six months. This consistency with our main measure of participation will make the new measure more easily understood, and should help to keep public confidence in the measure as it will follow the methodology of a National Statistic. Although part-time students will not be included in the new measure, their total participation (not broken down by socio-economic classification) is still published as a part-time HEIPR in the annual HEIPR Statistical First Release.

46. *By applying social class data on UCAS entrants to all full-time HE entrants in the numerator, the social classes of some 15% of direct-entry students are being ignored.*

The socio-economic data on the HESA Student Record will be used in the new measure; however it should be noted that this information actually comes from UCAS. Over the 18 – 20 age range, approximately 89% of full-time undergraduate students entered HE via UCAS in 2001/02, 90% in 2002/03 and 2003/04 and 91% in 2004/05. Thus, the proportion of young full-time students taking a direct-entry route to university is reducing and the coverage of UCAS data improves.

UCAS NS-SEC data is based on a self-determined field, i.e. the applicant's idea of their higher-earning parent's employment, which is then subject to occupation coding restrictions. This is not ideal, and the NS-SEC categories actually vary for some re-applicants from year to year. Over the time series, there is a significant proportion of entrants with unknown socio-economic classification according to the HESA Student record, as shown in table 5.

Table 5: Entrants to higher education courses aged 18 - 20 with unknown socio-economic class

	2002	2003	2004
Proportion with unknown NS-SEC	22%	21%	22%

Source: HESA

Allocation of NS-SEC to those whose background is unknown requires very careful consideration. The most straightforward method would be to allocate NS-SEC in the same proportions as those whose background is

known. However, it would be better to make use of all possible information on these students before taking this simplistic approach. The additional information we can use is the home postcode of the student, because socio-economic class is, to some extent, correlated with where people live. Using the home postcode a measure of participation levels (Participation Of Local Areas, or POLAR), can be applied to each student. POLAR takes the form of an integer between 1 and 5 inclusive, each of which represent a participation group with the following participation levels:

1. <16%
2. 16% to 24%
3. 24% to 32%
4. 32% to 43%
5. >43%

POLAR information is supplied by HEFCE. For those whose NS-SEC is known, the distribution of NS-SEC among the POLAR classifications will be determined, and this distribution can then be applied to those with unknown NS-SEC. Although the result of this will provide only an estimate of NS-SEC for those whose background is unknown, it is a more informed estimate than simply applying known NS-SEC proportions to those with unknown social background. The use of home postcode information as a proxy for socio-economic class is consistent with one of the recommendations in the Ramsden review.

47. *The social class breakdown applied to the underlying population has not been changed since 1991, and so the denominators do not reflect the current social structure of the population which is extremely unlikely to have remained static for 15 years.*

The new measure will make use of socio-economic data from the annual Labour Force Survey (LFS), and so the social structure calculated for the underlying population estimates should reflect the changes over time. The NS-SEC information on Household Representative Persons (HRPs) with children aged 13-15 will be used as a proxy for parents of 18-20 year olds. This is taken for two main reasons:

- The number of HRPs who are parents of 18-20 year olds is low due to the small numbers of 18-20 year olds living with their parents, and so these are subject to significant sampling errors.
- The 18-20 year olds living with parents are a biased cohort, for example many HE students will have moved from home to university by this point.

Across the age range 13-20 years, the NS-SEC distributions show very close behaviour, and so the use of NS-SEC of HRPs who are parents of 13-15 year olds should provide close results which are subject to a smaller sampling error. The existence of a sampling error in the measure should be acknowledged anywhere the final figures are published.

Methodology of the new measure

Numerator

48. The students making up the 18, 19 and 20 year old full-time components of the HEIPR are incorporated into this measure. Students qualifying for the HEIPR are English-domiciled first-time entrants to HE courses, which are expected to last for at least six months, at UK Higher Education Institutions and English Further Education Colleges, and who remain on their course for at least six months.

49. The NS-SEC proportions are determined separately for each of the ages 18, 19 and 20 years. There are three groups of students at each individual age:

    (a) Those with known NS-SEC;
    (b) Those with unknown NS-SEC but known home postcode;
    (c) Those with unknown NS-SEC and unknown home postcode.

50. The NS-SEC information on students in group (a) is easily obtained from the HESA Student Record.

51. The NS-SEC information on students in group (b) is estimated using their home postcode. Initially, using only those students whose NS-SEC and home postcode are known (i.e. group (a) above), the distribution of students from the seven NS-SECs among the five POLAR classifications is determined. The distribution of group (b) among the five POLAR classifications is then determined using their home postcode, and the distribution of known NS-SEC applied to these students according to their POLAR classifications. This allocates the students of group (b) among the NS-SECs in a reasonably informed way.

52. Finally, the students of group (a) and (b) are aggregated, and the total proportions of all these students in each NS-SEC are applied to the students of group (c). This allocates the complete unknowns to the NS-SECs according to both the students with known NS-SEC and the students with estimated NS-SEC. To give an example of the distribution of NS-SEC among the POLAR categories, table 6 shows this distribution for 18 year old students in 2004/05.

Table 6: Distribution of NS-SEC among POLAR categories for 18 year olds, 2004/05

	1	2	3	4	5
Higher managerial & professional occupations	14%	17%	22%	27%	34%
Lower managerial & professional occupations	26%	29%	32%	33%	34%
Intermediate occupations	14%	15%	15%	14%	14%
Small employers & own account workers	9%	8%	7%	7%	6%
Lower supervisory & technical occupations	7%	7%	6%	5%	3%
Semi-routine occupations	17%	14%	12%	9%	7%
Routine occupations	13%	9%	7%	4%	3%
Total	100%	100%	100%	100%	100%

53. Table 7 shows the distribution of known NS-SEC among the 18 year old students who qualified for this measure in 2004/05, the estimated distribution of NS-SEC for those whose social background is unknown, and the overall distribution when the knowns and unknowns are combined.

Table 7: Distribution of 18 year old students among NS-SECs

	Known NS-SEC	Estimated NS-SEC	Total
Higher managerial & professional occupations	26.0%	23.6%	25.6%
Lower managerial & professional occupations	32.4%	31.2%	32.2%
Intermediate occupations	14.3%	14.2%	14.3%
Small employers & own account workers	7.0%	7.2%	7.0%
Lower supervisory & technical occupations	5.1%	5.5%	5.1%
Semi-routine occupations	10.5%	11.4%	10.7%
Routine occupations	4.8%	6.8%	5.2%
Total	100.0%	100.0%	100.0%

54. From table 7 we see that the known and estimated distributions are slightly different. The estimated proportion in the top three NS-SECs is lower than the known proportion, and the estimated proportion in the bottom four NS-SECs is slightly higher than the known proportion.

55. The proportions calculated in this way are applied to the number of full-time initial participants for the relevant individual age to provide the number of students of each age, in each NS-SEC. The numbers in the top three NS-SECs are summed together, as are the numbers in the lower four NS-SECs.

Denominator

56. The socio-economic classification of the majority of university entrants aged up to 20 is determined by parental occupation. In order to provide a suitable socio-economic breakdown for the denominator, LFS socio-economic data are used which relate to the Household Representative Persons who are parents within families with 13, 14 or 15 year old children. Data were taken from the Spring Quarter datasets.

57. The number of people in each NS-SEC is converted to a proportion by dividing the number in each NS-SEC by the total number of people with known classification. Therefore those who remain unclassified are assumed to belong to the seven socio-economic classes in proportion to those whose NS-SEC is recorded. This is not identical to the method used in the numerator, but this assumption is made in the absence of postcode information in the available LFS household datasets.

58. The 18, 19 and 20 year old populations of England are taken from the

DfES academic year population estimates, which are based on the ONS and GAD population estimates and forecasts. The total NS-SEC proportions for the aggregated 13 - 15 year olds are applied to the number of 18, 19 and 20 year olds in the population, in order to calculate the number of people of each age, in each NS-SEC. The numbers in the top three NS-SECs are summed together, as are the numbers in the lower four NS-SECs.

Calculation

59. For each individual age, the full-time participation rate for each socio-economic class can be determined by dividing the number of initial entrants in each NS-SEC by their corresponding population. (For example: the number of 18 year old initial entrants in the top NS-SEC is divided by the number of 18 year olds in England in the top NS-SEC to provide the 18 year old participation rate for the top NS-SEC). Finally, for each NS-SEC, the 18, 19 and 20 year old participation rates are summed together to provide an overall initial participation rate for 18-20 year olds, for each NS-SEC.

60. A distinct 'split' between the top three and bottom four NS-SECs allows for clearer presentation of the measure. (This split is consistent with the lower NS-SEC performance indicator produced by HESA). To this end, for each individual age the sum of initial entrants in the top three NS-SECs is divided by the corresponding sum of the population in the top three NS-SECs. The same is done with the sums of the students and the population in the lower four NS-SECs. Again, these are summed across the age range to provide two distinct initial participation rates for 18 – 20 year olds: one for NS-SECs 1, 2 and 3, and the other for NS-SECs 4, 5, 6 and 7.

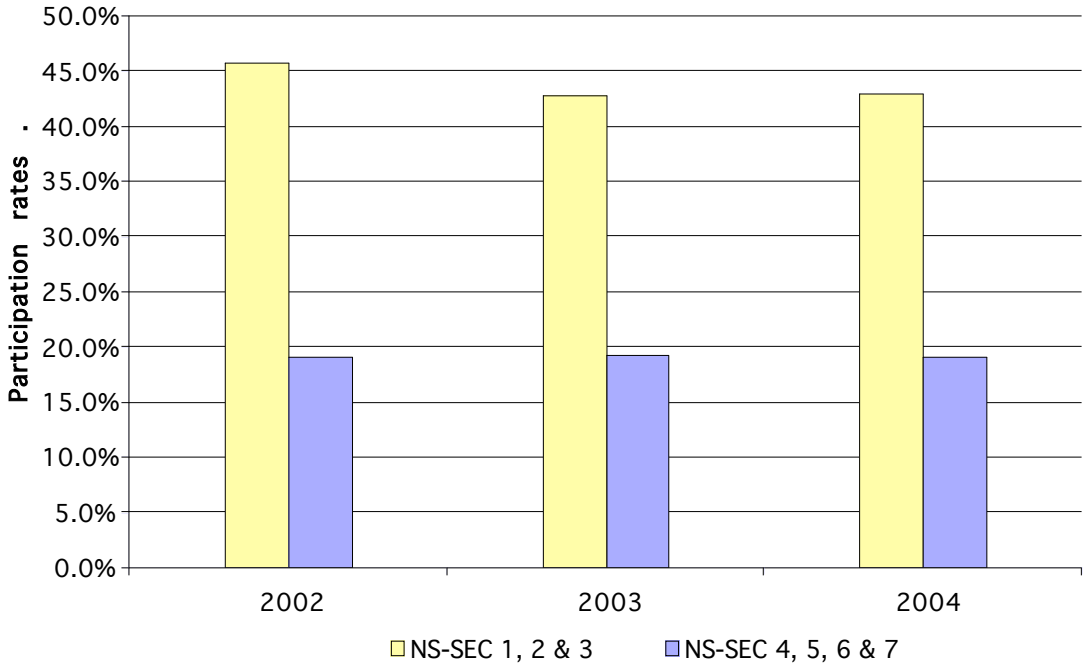
61. Errors are introduced into the measure because they are inherent in the data sources. These include sampling error imposed by using the LFS data, and the error imposed by using annual population estimates. Further error is introduced by the limitations of the NS-SEC data for the students, despite the method used for estimating NS-SEC for people with unknown social background. Some students may enter vague or incorrect parental occupations on their UCAS form, which will impact on NS-SEC classification.

Results

Participation rates and socio-economic class gap

62. The time series of the new measure is shown in Figure 9:

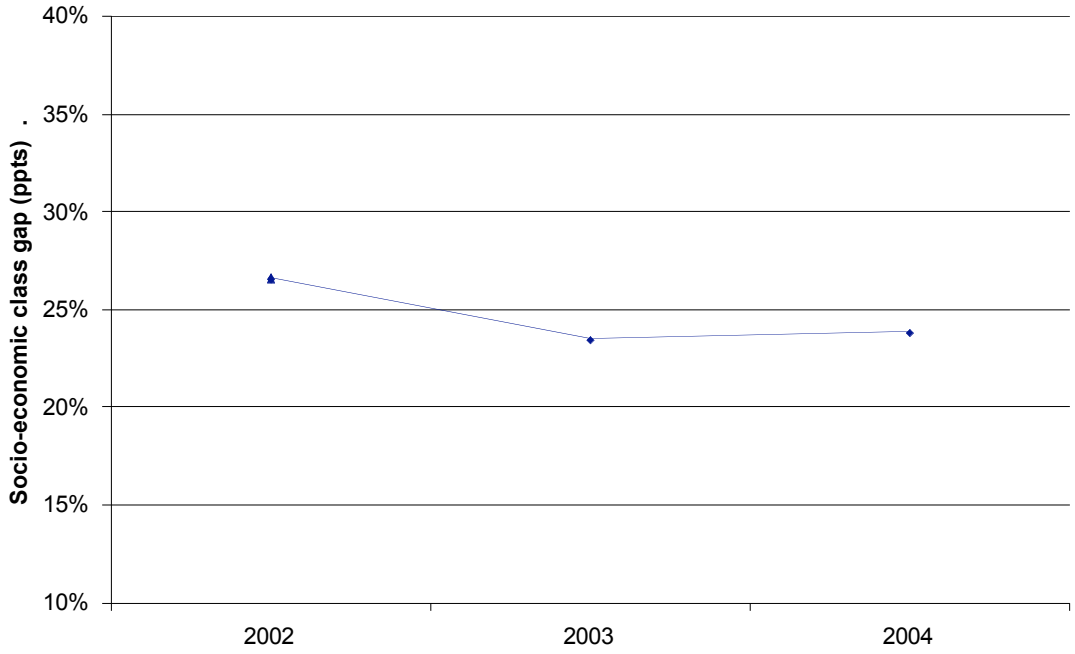
Figure 9: New measure of Full-time Young Participation by Socio-Economic Class, covering English students attending UK HEIs and English FECs and based on the population of England



63. Figure 9 shows an overall decrease in full-time initial participation by the top three socio-economic classes since 2002, while full-time initial participation by the lower four socio-economic classes has remained fairly static.

64. By subtracting the participation rates for the lower four NS-SECs from those for the upper three NS-SECs, progress on reducing the socio-economic class gap can be charted. This is shown in Figure 10.

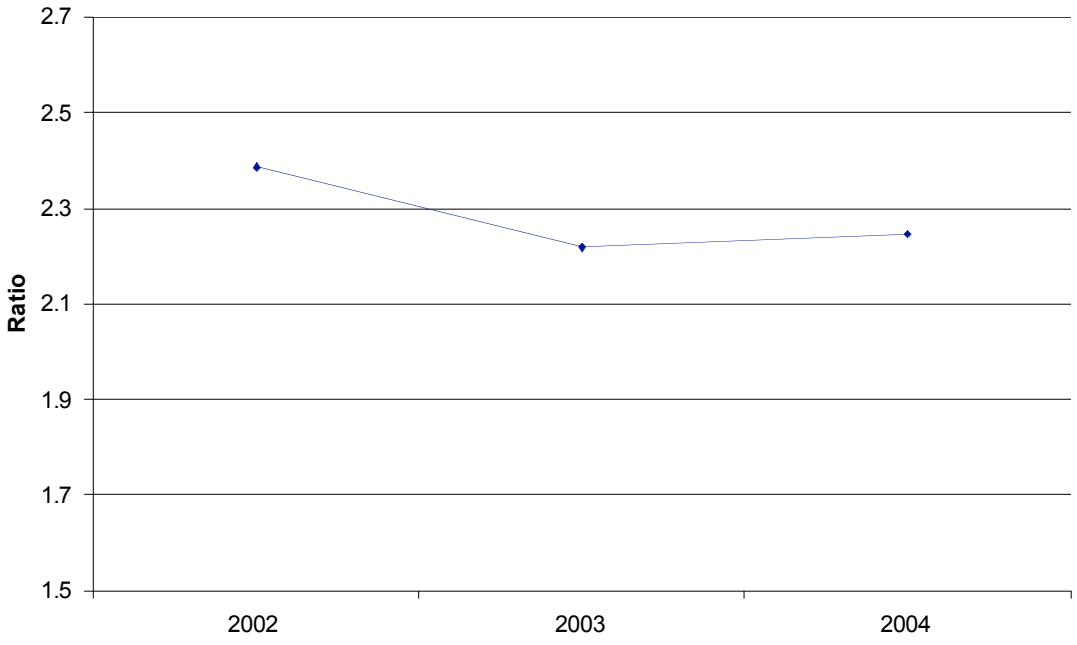
Figure 10: Socio-economic class gap in full-time young HE participation



65. Figure 10 shows that the net result of the changes in participation is a socio-economic class gap which has decreased since 2002. Between 2002 and 2004 the socio-economic class gap has decreased by around 2.8 percentage points.

66. Once again, we take the ratio of the upper to lower participation rates. These are plotted in figure 11.

Figure 11: Ratio of the NS-SEC 1-3 participation rate to the NS-SEC 4-7 participation rate



67. The ratio of the upper to lower participation rates shows a decrease between 2002 and 2004. These figures demonstrate that the participation rate for NS-SECs 1, 2 and 3 is a little more than double that of NS-SECs 4, 5, 6 and 7 over the period.

68. The breakdown of the participation rates is shown in Table 8 below.

Table 8: Breakdown of participation rates for each NS-SEC

	2002	**2003**	**2004**
Higher managerial and professional occupations	53%	46%	46%
Lower managerial and professional occupations	38%	36%	37%
Intermediate occupations	59%	60%	59%
Small employers and own account workers	20%	18%	19%
Lower supervisory and technical occupations	12%	14%	13%
Semi-routine occupations	27%	28%	27%
Routine occupations	17%	16%	17%
NS-SEC 1, 2, 3	45.8%	42.8%	43.0%
NS-SEC 4, 5, 6, 7	19.2%	19.3%	19.1%
Socio-economic gap	26.6%	23.5%	23.8%
Ratio of upper rate to lower rate	2.39	2.22	2.25

Caveats

69. Though the FYPSEC measure is more robust than the API by Social Class, it needs to be interpreted carefully, preferably over several years as weaknesses remain. These are mainly due to the use of the socio-economic classification variable.

70. A caveat to the apparent decrease in participation by those from the upper socio-economic classes is the significant proportion of students not reporting parental occupation (from which socio-economic class is determined). The use of students' home postcodes and POLAR classifications should go some way towards reducing the uncertainty introduced by these unknowns. If we had taken the simple approach of assuming that those with unknown NS-SEC are distributed in the same way as those with known NS-SEC, the gap would be seen to close by an additional 0.2 percentage points, with a total decrease of 3 percentage points between 2002 and 2004.

71. The possibility that the majority of the students with unknown NS-SEC are from the top socio-economic classes was investigated by making the alternative assumption that all students with unknown NS-SEC belong to the top class, i.e. 'Higher Managerial and Professional'. The hypothetical rates in this case have shown:

- A larger socio-economic class gap, which is only to be expected when increasing the numbers in the top class;
- The same trend in the socio-economic class gap as before, ie an overall decrease.

Thus, while the unknown NS-SEC caveat highlights an important point, the behaviour of the trend in the socio-economic class gap time series would not be significantly affected.

72. A caveat to the length of the time series is that UCAS actually made the change from social class to NS-SEC for applicants for the 2002/03 academic year, and this is the reason for HESA's NS-SEC Performance Indicator time series beginning at 2002/03. The NS-SEC data for earlier years have been derived in retrospect, using slightly different occupational coding to that which has been used in determining the current NS-SEC from 2002/03. The difference in occupational coding would affect the 2001 rates in this measure such that the socio-economic class gap appears to decrease more steeply between 2001 and 2002 than it should. So the time series begins at 2002/03, despite the apparent availability of data for earlier years. It should be noted that any student who started his/her course in 2002/03 having deferred entry from an application the year before will have been coded using UCAS's 2001 method.

73. Socio-economic class is derived from the student's view of their highest-earning parent's occupation, so can be subject to error on the part of the student or in the interpretation of the student's description of occupation.

74. The necessary restriction of the FYPSEC measure to young, full-time students means that it does not show a complete picture of higher education initial participation. The social make-up of mature and part-time students is likely to be different to that of young full-time entrants.

Future work on WP measures

Revisions

75. Because this measure is linked to the HEIPR, any revisions to the HEIPR methodology will affect the figures produced by this measure. As advised in the Statistical First Release in April 2006, HEIPR is currently subject to some revisions as we are able to improve the data-matching technique which identifies students who have prior experience of HE. As such, revised YPI figures will become available in conjunction with the next HEIPR release in March 2007.

NS-SEC coverage

76. The coverage of the socio-economic field on the HESA Student Record may improve over time if UCAS makes the parental occupation question compulsory on all application forms, and even more so if institutions collect parental employment information from direct-entry students with a consistent method of coding. The measure would become more robust for later years.

Parental income

77. There is some scope to develop a measure of participation in HE by parental income, which will look at the proportion of dependent entrants whose parents' earnings are within a set percentile of the population's earnings.

Area-based measure

78. The Department has plans to investigate the feasibility of producing an area-based measure of participation. This could take the form of complementary young and mature measures. Use of postcode information should make it reliable and comprehensive.

IMD measure

79. HEFCE are currently working to produce a potential HE performance indicator which uses area as an indicator of deprivation, based on the Index of Multiple Deprivation (IMD). This will show participation by the population of the 20 per cent of wards that are the most deprived within each country. While this work does not act directly on Ramsden's recommendation of the use of IMD as a proxy for social class for disaggregation of the HEIPR, nevertheless it will provide an IMD-based indicator.

Parental Education

80. Analyses have shown that a higher education qualification leads to top level jobs, and consequently higher socio-economic class. Parental education information will be available on the HESA student record from the 2007/08 academic year onwards, which may then be used to inform a performance indicator. Again, this is related to one of Ramsden's recommendations for alternative measures of the social composition of the student population, although there are no current plans to disaggregate the HEIPR by parental education.

Concluding points

81. Previous measures of widening participation have shown a widening gap between HE participation by the higher and lower social classes, and people from families with the highest and lowest incomes towards the end of the twentieth century.

82. By applying the changing social structure of the GB population, as estimated by the LFS between 1992 and 2000, to the original API working, the social class gap is seen to have narrowed since 1996.

83. The issues leading to the discontinuation of the API by Social Class have been investigated and largely dealt with in the creation of a new measure of full-time young participation by social class. However, some significant weaknesses remain, namely that the new measure is restricted to the young, full-time entrant population. The exclusion of mature and part-time entrants prevents the new measure from showing a complete picture. In addition, the coverage of HESA's socio-economic class field is not ideal, but informed estimates have been made for those whose social background is unknown, based on home postcode.

84. The new measure, while remaining consistent with HEIPR methodology, is presented in a similar format to the original API by social class. This shows a socio-economic gap - between the top three and bottom four NS-SECs – which has decreased since 2002.

85. The updated API and the new social class measure both point towards some progress in widening participation during the last decade, although some of this appears to reflect declining participation by the higher social classes and higher NS-SECs. The continuing existence of a socio-economic class gap (currently at 24%) indicates that much more can be done.

86. The next figures in the new measure's time series, for 2005/06, will become available in May 2007. The 2004/05 figures will also be revised with updated population estimates, and the time series will be updated in accordance with HEIPR revisions.

87. The Department has plans for further work on widening participation measures, which will include further improvements to the new social class measure, an area-based measure of participation and a measure of participation by parental income. Depending on HEFCE's review of the Performance Indicators, additional performance indicators may be introduced, based on the Index of Multiple Deprivation and on parental education, from 2007/08.

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