Erzsébet Bukodi, John H. Goldthorpe, Lorraine Waller, Jouni Kuha

The mobility problem in Britain: new findings from the analysis of birth cohort data

The Mobility Problem in Britain: New Findings from the Analysis of Birth Cohort Data

Erzsébet Bukodi

Department of Social Policy and Intervention and Nuffield College
University of Oxford
erzsebet.bukodi@spi.ox.ac.uk

John H. Goldthorpe

Department of Social Policy and Intervention and Nuffield College
University of Oxford
john.goldthorpe@nuffield.ox.ac.uk

Lorraine Waller

Department of Social Policy and Intervention and Nuffield College
University of Oxford
lorraine.waller@spi.ox.ac.uk

Jouni Kuha

Department of Methodology
London School of Economics and Political Sciences
j.kuha@lse.ac.uk

Total word count: 10 631

Date the paper was last updated: 19/05/2014

Abstract

Social mobility is now a matter of greater political concern in Britain than at any time previously. However, the data available for the determination of mobility trends are less adequate today than two or three decades ago. It is widely believed in political and in media circles that social mobility is in decline. But the evidence so far available from sociological research, focused on intergenerational class mobility, is not supportive of this view. We present results based on a newly–constructed dataset covering four birth cohorts that provides improved data for the study of trends in class mobility and that also allows analyses to move from the twentieth into the twenty–first century. These results confirm that there has been no decline in mobility, whether considered in absolute or relative terms. In the case of women, there is in fact evidence of mobility increasing. However, the better quality and extended range of our data enable us to identify other 'mobility problems' than the supposed decline. Among the members of successive cohorts, the experience of absolute upward mobility is becoming less common and that of absolute downward mobility more common; and class–linked inequalities in relative chances of mobility and immobility appear wider than previously thought.

Introduction

The background to this paper is provided by two, rather incongruous, facts. The first of these is that while social mobility is now a matter of greater political concern than at any time previously, the data available for the determination of levels of and trends in social mobility are less adequate today than two or three decades ago. The data most appropriate in this regard are those provided by repeated sample surveys of the population at large. From 1972 to 1992, such data were available from the General Household Survey (GHS) carried out annually. Data were collected on survey respondents' employment status and occupation and on respondents' fathers' 'usual' employment status and occupation, and were then in both cases coded to the Registrar General's Socio–Economic Groups (SEGs), from which an approximation to the Goldthorpe social class schema (Goldthorpe 1987: ch. 2; 2007 vol. 2: ch. 5) could be obtained (Heath and McDonald 1987). While subject to various limitations, these data did allow reasonably informative tables of intergenerational class mobility to be constructed, and thus gave a basis for the analysis of mobility trends (Goldthorpe and Mills 2004). However, from 1993 the GHS ceased to collect information on respondents' fathers, or indeed on any other aspect of respondents' social origins. The one exception occurred in 2005 when, within an EU–SILC module incorporated into the GHS, information was again obtained on fathers' occupations but together with only limited information on their employment status – so that no close comparison with earlier GHS data was possible.

In consequence, researchers have of late been forced to analyse intergenerational mobility using data bases that are in one way or other less satisfactory. Some have sought to relate data from the 2005 GHS to data from the initial British Household Panel Survey (BHPS) of 1991 through the 'occupation–only' version of the National Statistics Socio–Economic Classification (NS–SEC) (ONS 2005: ch. 13), either in a simple two–point comparison (Li

and Devine 2011) or by 'splicing' these data into the longer–term context provided by earlier survey data derived from the GHS and elsewhere (Goldthorpe and Mills 2008). Others have worked on the basis of birth–cohorts – or, more precisely, 'quasi–cohorts' – constructed within the BHPS dataset (Paterson and Ianelli 2007; and cf. Heath and Payne 2000, using the British General Election Surveys). And others still (Goldthorpe and Jackson 2007) have resorted to comparisons of mobility data derived from 'true', but limited, birth–cohort studies – i.e. the National Child Development Study (NCDS) and the British Cohort Study (BCS), based on all individuals born in one week in 1958 and 1970, respectively.

The second incongruous fact to be noted is that over recent years the view has become firmly established in political and also in media circles that social mobility in Britain is in decline or has even 'ground to a halt' – despite the evidence for such a view being slight and the evidence going contrary to it far more substantial. The empirical basis for the idea of mobility in decline is provided by just one paper, by a group of economists who are actually concerned with intergenerational *income* mobility. Analysing data from the two birth cohort studies previously referred to, Blanden et al. (2004) claim to show that in the 1970 cohort there was a stronger association than in the 1958 cohort between the earnings of men and women when in their early 30s and their family incomes when they were aged 16: i.e. across the two cohorts mobility fell. The strength of this claim has been questioned on various grounds (Gorard 2008; Erikson and Goldthorpe 2010; and, for a response, see Blanden, Gregg and Macmillan 2013), while other economists have produced results that are in part at least conflicting (Ermisch and Francesconi 2004; Nicoletti and Ermisch 2007). None the less, for reasons examined elsewhere (Goldthorpe 2013), the research of Blanden and her associates achieved a massive impact, and a consensus view of mobility in decline steadily built up around it.

This development was all the more remarkable in that the far more extensive sociological research on intergenerational class mobility, referred to above, pointed to clearly different conclusions – and also to ones of a more nuanced kind as a result, first, of a clear distinction being made between absolute and relative mobility rates and, second, of a concern with gender differences. This research, while drawing, as noted, on a variety of data sources, led to a large measure of consensus on at least the two following points.

(1) As regards absolute mobility, the total mobility rate – measured as the percentage of individuals whose class destinations are different from their class origins – has been fairly stable throughout the later twentieth century for both men and women alike. However, this similarity conceals gender differences as regards the upward and downward components of total mobility. Among men, upward mobility ceased to rise as it did over the middle decades of the last century and is, if anything, decreasing, while downward mobility is, if anything, increasing. In contrast, among women, upward mobility has continued to rise, though from an initially lower level than that found among men.

(2) As regards relative mobility rates – i.e. as measured conventionally by odds ratios (see further below) – a generally stable situation has again existed over the later twentieth century; or, at all events, such changes as do show up display trendless fluctuation rather than any sustained direction. If any directional change has been in evidence, it is among women, and is in fact towards more equal mobility chances or, that is, towards greater social fluidity rather than less.

It is of course possible for intergenerational income mobility and intergenerational class mobility to show different patterns and trends; but in public discussion of social mobility in recent years the contrast between the attention given to research by economists and the neglect of that by sociologists has been striking.

Against this background, the aims of the present paper are as follows. Basing our analyses on a newly constructed dataset covering four birth cohorts and providing better quality data for the study of trends in intergenerational class mobility than those that have been used of late, we wish to discover how far the results we obtain are consistent with the findings set out above and, in turn, how far the conclusions on mobility trends suggested by this earlier research can be extended from the twentieth into the twenty-first century.

We accept that in analysing data from separate birth cohorts rather than data from repeated cross-sectional surveys of the British population, our attempts to determine secular trends may be made difficult by specific cohort effects on mobility (cf. Bukodi and Goldthorpe 2011). However, being able to compare changes over four cohorts rather than some smaller number should help in this regard, and a birth–cohort approach has an important compensating advantage. Cross-sectional population surveys give an essentially retrospective view on mobility. Thus, the latest results that we have from such a survey, the EU-SILC survey of 2005, will relate, so far as older respondents are concerned, to men and women whose education and formative labour market experience date back to the 1970s or even the 1960s. In contrast, results for more recent birth cohorts provide a better guide to current developments, and probably, too, the best indications that we can have of likely future developments. At least from the time of Ryder's classic paper (1965), cohorts have been recognised as vehicles of societal change; and in the case of mobility rates specifically, there are good grounds for believing that change in the population at large is driven primarily by cohort–replacement rather than by period effects (Breen and Jonsson 2007).

Data and variables

We use data from the 1958 and 1970 British birth cohort studies but we supplement these in two ways. First, in order to gain greater historical perspective, we also draw on data from the

earliest British cohort study, the National Survey of Health and Development (NSHD), which has followed through their life–courses a sample of men and women born in Britain in one week in 1946. (For further information on all three of these studies, see Wadsworth et al. 2006; Power and Elliott 2006; and Elliott and Shepherd 2006). Second, in order to bring our analyses as far as possible into the twenty-first century and to maintain, approximately, the 12-year sequencing of the three earlier cohorts, we have constructed a cohort of men and women born in Britain between 1980 and 1984 from the dataset of the first wave of the UK Household Longitudinal Study (UKHLS; 'Understanding Society') which was carried out between 2009 and 2011 (for details, see Waller 2013). Since the data for the 1946 and 1980––4 cohorts are based on samples, we apply survey weights to our analyses of these data.

The two main variables in our analyses are those of cohort members' social class origins and social class destinations, which we determine according to a version of NS–SEC, as discussed in detail below. Social class origin we index by father's class. We would have preferred to bring mother's class into consideration also, say, through the dominance method (Erikson 1984) but data limitations prevent this with the 1946 and 1980–4 cohorts. However, for the 1958 and 1970 cohorts we have compared results using both father's class only and the dominance method, and these show no significant differences in the overall strength or pattern of the association between class origins and destinations.[1] For the 1946 and 1958 cohorts, we establish father's class, wherever possible, at cohort member's age 11, and for the 1970 cohort at age 10. Where relevant information is not available at these ages, but is available at age 15 (for the 1946 cohort) or at age 16 (for the 1958 and 1970 cohorts), we use this latter information instead. For the 1980–4 cohort, we have information on father's class at respondent's age 14. Again, we have, wherever possible, checked whether the strength and pattern of the origin-destination association are significantly affected by these differences in the treatment of fathers' class, and again with negative results.

For the first three cohorts, we take social class destinations at cohort members' ages 27 and 38, with 38 being the latest age for which we have information for the 1970 cohort, while age 27 is taken since this represents the mid–point of the age–range 24–30 within which we have the latest information for members of the 1980–4 cohort. In this way we can extend our analyses over all four cohorts but it should be recognised that the late-20s is somewhat early in life for our purposes, given that individuals tend to reach a stage of 'occupational maturity' – i.e. one at which the probability of job changes implying changes of class position falls away – only around their mid-30s (Bukodi and Goldthorpe 2009, 2011).

With the 1946, 1958 and 1970 cohorts, we have brought together all data on cohort members' class destinations that were obtained from successive 'sweeps', and have in fact been able to construct their complete employment and class histories in person/month form from the time of their entry into the labour market. We can then substantially increase the number of cases available for analysis by allocating individuals who were not in employment at age 27 or age 38 to a class position on the basis of their last employment.[2] With the 1980–4 cohort, a separate variable provides information on previous employment, for respondents who were not employed at the time of survey.

As indicated above, in earlier research into class mobility, whether based on the GHS or other data sources, class has been determined by coding relevant data on cohort members and their fathers either to the Goldthorpe class schema or to NS–SEC. However, as also noted, this could often be done only approximately: for example, in the case of the Goldthorpe schema, via SEGs, or in the case of NS–SEC, on the basis of occupational data only. We have improved on this situation in the following way. We have recoded all occupational data for members of our four cohorts and for their fathers to a common occupational classification, that is, SOC90 (OPCS 1990). But only in the case of fathers of members of the 1980–4

cohort, for whom no information on employment status is available, do we then have to rely on this occupational data alone and use the 'simplified' derivation of NS-SEC (ONS 2005: Table 15). In all other cases, we are able to take the SOC90 codings together with a binary employment status code, distinguishing employers and the self-employed from employees, and then move to the seven–class analytical version of NS–SEC following an algorithm taken from the 'reduced' derivation (ONS 2005: Table 17). We can once more check on the adequacy of our procedures, in this case by comparing the results we thus achieve for the 1946 and 1970 cohorts with those from the 'full' derivation of NS–SEC (ONS 2005: Table 15) that can also be produced for these two cohorts. We find that a similar strength and pattern of the origins-destination association is in general brought out (though see note 12)[3].

NS–SEC, which takes over the theoretical basis of the Goldthorpe schema (Rose, Pevalin and O'Reilly 2005: ch. 4) while providing an improved instantiation of it, is sometimes referred to as an 'occupation–based' classification, and may then be regarded as unsuitable in studies of mobility trends (e.g. Blanden, Gregg and Machin 2005), since, over time, the occupational composition of classes will change. However, this argument rests on a misunderstanding of the way in which NS–SEC is 'occupation-based'. The conception of class that informs NS-SEC is that class positions are defined by social relations in labour markets and production units or, in other words, by employment relations; and occupation, and also employment status, are then taken as *indicators* of employment relations – a procedure that has been subject to, and has emerged well from, extensive studies of both the construct and criterion validity of NS–SEC (Rose and Pevalin, eds. 2003; Rose, Pevalin and O'Reilly 2005: ch. 6).

In brief (for fuller discussion, see Rose, Pevalin and O'Reilly 2005: ch. 4; Goldthorpe 2007: vol. 2, ch. 5; McGovern et al. 2007: ch. 3), Classes 1 and 2 of NS–SEC refer primarily to positions in which, to a greater (Class 1) or lesser (Class 2) degree, professional and managerial employees provide service to an employing organisation, on the basis of an at

least implicitly continuing contract, in return for salaries on an incremental scale, structured career opportunities, and a range of fringe benefits. In contrast, Classes 6 and 7 refer to positions in which, to a greater (Class 7) or lesser (Class 6) degree, employees engaged in more routine tasks sell their labour to an employing organisation, on the basis of a contract subject to short-term discontinuation, in return for wages that are related to output or time worked. Classes 3 and 5 then refer to positions defined by employment relations that are 'mixed' in the above respects, while Class 4 refers to the obviously quite different positions of self-employed workers and small employers.

From this standpoint, therefore, changes over time in the occupational composition of classes in the sense of the specific kinds of job included are not of relevance, provided that employment relations remain the same. For example, if we were to compare the occupations of members of the 1980–4 cohort in Classes 6 and 7 – i.e. the broadly defined working class – with those of their counterparts in the 1946 cohort, we would certainly find far fewer miners, iron and steel workers, textile operatives and bus conductors and far more shelf-stackers, care assistants, kitchen staff and security guards. But what is important is that in both cases alike the employment relations of the individuals involved, as wage–workers, are essentially comparable. How class positions differentiated in terms of employment relations impact on individuals' life–chances and, most immediately, on their economic circumstances – as regards income security, short-term income stability and longer-term income prospects, as well as current income level – is by now well documented (Goldthorpe and McKnight 2006; McGovern et al. 2007; Chan and Goldthorpe 2007).

Finally, in this connection, we may also note that in being derived from a theoretically-grounded conception of class relations and positions and in being then implemented in ways open to tests of validity, NS–SEC has major advantages over class 'maps' (e.g. Savage et al. 2013) that are produced through essentially inductive methods: that is, by analyses of data

that refer both to what might be regarded as *constitutive* elements of class and to a rather arbitrary collection of – possibly – class–linked *outcomes*. In the absence of any distinction in this regard, validity cannot be established. Moreover, in applying such an approach in the study of mobility serious problems of intergenerational comparability could indeed be expected: first, in that data items used to establish the class positions of present-day survey respondents could well be inapplicable to their parents and, second, in that class maps resulting from inductive procedures would in any case be very likely to differ across generations.

In Tables I and II we show the class origin and destination distributions of men and women in our four cohorts based on our version of NS-SEC. These tables and all of our subsequent analyses derive from a dataset obtained from a multiple imputation exercise that we have undertaken in order to compensate for missing data in the cohort studies, due primarily to cohort attrition but also to item non–response. Full details of this exercise are given in Kuha (2013).

[Tables I and II here]

Results: absolute rates

For each cohort and for men and women separately, we construct 7 x 7 class mobility tables based on NS-SEC as shown in Tables I and II. We have in all 14 such tables: i.e. tables for men and women in three cohorts with class destinations taken at age 38, and in four cohorts with class destinations taken at age 27.

We treat absolute mobility in terms of total mobility rates: i.e. the percentage of individuals found in cells of the mobility table off the main diagonal and thus in a different class to that

of their father. We also distinguish between the upward and downward components of total mobility rates – an obvious distinction to make but one that is usually lost sight of in political discussion of mobility in which 'mobility' tends to be equated with upward mobility and downward mobility is a taboo topic. Total mobility rates can best be interpreted as showing the extent of the actual experience of mobility, as opposed to immobility, and likewise of upward as opposed to downward mobility, among the totality of men and women within each of our four cohorts. In Figures I and II, we graph these rates across the cohorts for men and women, respectively.

[Figure I here]

In the case of men, it can be seen that, whether destinations are considered at age 27 or at age 38, total mobility rates are more or less stable at around 77–78 per cent.[4] In other words, in each cohort upwards of three–quarters of men were found in different class positions to those of their fathers. This result is in fact highly consistent with those of earlier studies. The level of the total mobility rate will of course be influenced by the number of classes distinguished, and between which mobility can therefore occur. But where 7-class versions of either the Goldthorpe schema or NS–SEC have previously been used, total mobility rates for men in the 75–80 per cent range have generally been reported (e.g. Goldthorpe and Jackson 2007; Goldthorpe and Mills 2008; Li and Divine 2011), while slightly lower rates are reported if a 6–class version of the Goldthorpe schema is used (Paterson and Ianelli 2007).[5]

[Figure II here]

In the case of women, Figure II indicates a somewhat different situation. With class destinations taken at both age 27 and 38, total rates show a rising tendency, reaching the 80 per cent mark with the 1970 cohort. This development has not been noted in earlier analyses, whether ones based on retrospective population surveys or on the 1958 and 1970 birth

cohorts. But it could be indicative – and we will present further evidence in support of this possibility – of an emerging longer-term trend.

In any event, what we can say here with certainty is that so far as total rates of intergenerational class mobility are concerned, our results, like those reported in earlier sociological research, *give no support whatever to claims of mobility in decline*.

Turning now to the upward and downward components of total mobility, it has first of all to be noted that these are calculated on the basis of the hierarchical divisions that we make within NS-SEC, as indicated by the dashed lines in Tables I and II: i.e. any intergenerational movement from a lower to a higher division is counted as an instance of upward mobility, and any movement from a higher to a lower division, as an instance of downward mobility. It can be seen that, following standard practice, Classes 3, 4 and 5, while involving clearly different employment relations, are not treated as ones that can be unequivocally ordered as more or less advantaged: i.e. as higher or lower. Mobility between them is therefore regarded as 'horizontal' and does not contribute to either the upward or downward rate.[6]

For men, Figure I indicates a pattern of generally decreasing upward and increasing downward mobility – although in each cohort alike men are more likely to have experienced upward mobility, and less likely to have experienced downward mobility, at age 38 than at age 27: i.e. there is clear evidence of a tendency for worklife advancement up to the stage at which occupational maturity is reached. Some disturbance of the overall pattern is apparent in the case of men in the 1958 cohort who could be seen as falling 'below trend' as regards decreasing upward mobility and 'above trend' as regards increasing downward mobility. From previous analyses, we do indeed know that the early work histories of many of these men were adversely affected by the highly unfavourable labour market conditions prevailing at the start of the 1980s (Bukodi and Goldthorpe 2011). However, what most notably emerges

from Figure I could be summed up as follows. While men in the 1946 cohort were at age 27 about twice as likely, and at age 38 almost three times more likely, to have experienced upward rather than downward mobility, these differences narrow considerably in later cohorts. And in fact for men in the 1980–4 cohort at age 27, the chances of having been upwardly or downwardly mobile are more or less equal at around the 35 per cent mark, although some improvement in the situation of these men could be expected by the time they reach age 38.

The results we report here are consistent with those of earlier research in that this has shown that the experience of upward mobility is no longer increasing over time, nor that of downward mobility decreasing, as was the case among men whose working lives fell in the middle decades of the last century (Goldthorpe and Mills 2004, 2008; Paterson and Ianelli 2007). However, our inclusion of more recent birth cohorts brings out the fact that the balance of men's upward and downward mobility is now tending to move *in quite the opposite direction* to that which prevailed in what has become known as the 'Golden Age' of mobility in which social advancement predominated.

For women, Figure II shows a pattern of change broadly comparable to that for men – with the similar 'convergence' in the 1980–4 cohort in the chances of having experienced upward or downward mobility at age 27 being of particular interest. At the same time, though, at least two differences should be recognized. First, the tendency for upward mobility to be more common, and for downward mobility to be less common, at age 38 than at age 27 is less marked for women than for men. In other words, over their earlier working lives women's class trajectories appear not to follow a steady upward path to the same extent as men's – although this difference may be narrowing (cf. Dex 1987; Bukodi, Dex and Joshi 2012). And second, women's upward mobility does not continue to decline between the 1970 and the 1980–4 cohorts in the same way as with men.

None the less, despite this last result, our findings still suggest a less favourable situation for women than has previous work (Goldthorpe and Mills 2004, 2008; Li and Devine 2011) in which women's chances of upward mobility have been shown to be rising and to be clearly greater than their chances of downward mobility. Again, our focus on the experience of more recent birth cohorts enables us to point to a newly emergent trend: that is, for the composition of women's total mobility rates, as regards upward and, especially, downward mobility, to be coming closer to that which now prevails among men.

Changes in the composition of total mobility on the lines we have indicated, for men and women alike, should not in fact be found all that surprising if the evolution of the British class structure is taken into account. Two features of this evolution are of main relevance: first, the rapid growth of the professional and managerial salariat in the mid-twentieth century, which, however, slackened off towards the century's end; and, second, the continuing decline of the wage-earning working class (Goldthorpe and Mills 2008).

The earlier expansion of the professional and managerial salariat, as represented by NS-SEC Classes 1 and 2, is reflected in our data in the growing proportion of cohort members *originating in* these classes. It can be calculated from the relevant columns of Tables I and II that this proportion more or less tripled between the 1946 and 1980–4 cohorts, a clearly more rapid growth than that which occurs in salariat destinations, and this then in itself tends to increase the probability that more individuals within each cohort will experience downward mobility – i.e. from salariat origins – *simply because more are 'at risk' of so doing*. In other words, conditions have been created under which the experience of such downward mobility will become more common among the members of successive cohorts unless changes in relative mobility chances in some way counteract this. Correspondingly, the contraction of the wage-earning working class, as represented by NS-SEC Classes 6 and 7, means that a falling proportion of our cohort members come from these classes. From Tables I and II it

can be calculated that this proportion approximately halved between the 1946 and 1980–4 cohorts. In this case, therefore, fewer individuals will, all else equal, experience upward mobility from working–class origins, in this case on account of the decreasing numbers 'at risk'.[7] In the following section we take up the question of how far changes in relative mobility rates are in fact involved in the trends in absolute rates that we have described, but, to anticipate, we find that their effects are very slight. In other words, it is indeed structural change, on the lines indicated, that is all-important.

The main conclusion that we would then draw so far as absolute mobility rates are concerned is the following. If in this regard there is a 'mobility problem' in present–day Britain, it is *not* that mobility overall has fallen. It is, rather, that the balance of upward and downward mobility in the experience of successive birth cohorts is moving in an unfavourable direction. Perhaps it is this that has been sensed by politicians in their concern with mobility understood simply as upward mobility. But, at all events, the emerging situation is one for which there is little historical precedent and that carries potentially far–reaching political and wider social implications.

Results: relative rates

We now move on to consider rates of intergenerational class mobility in relative terms: i.e. we focus on the relative chances of individuals of different class origins arriving at different class destinations considered *net of* all class structural change. Relative rates impinge little on individuals' awareness of being mobile or immobile but they have direct relevance for issues of equality of opportunity among individuals and of societal 'openness'.

In analysing changes in relative rates across our cohorts, it is necessary to resort to the statistical modelling of the data comprised by our 14 mobility tables, as previously described. We fit to these tables the following three standard models (for further discussion of which, see Breen 2004) which treat the association between class origins and destinations in terms of log odds ratios.

(1) The log-linear model of conditional independence of class origins and destinations

$$\log F_{ijk} = \mu + \lambda_i^O + \lambda_j^D + \lambda_k^C + \lambda_{ik}^{OC} + \lambda_{jk}^{DC}$$

where F_{ijk} is the expected frequency in cell ijk of a three-way table comprising origin i (O), destination j (D) and birth cohort k (C) and, on the right-hand side of the equation, μ is a scale factor, λ_i^O, λ_j^D, λ_k^C represent the main effects of the distributions of individuals over origins, destinations and cohorts and the λ_{ik}^{OC} and λ_{jk}^{DC} terms refer to the associations between origin and cohort and destination and cohort, respectively. Under this model all log odds ratios defining associations between origins and destinations remain equal at 0, implying no association or, in other words, that 'perfect mobility' prevails. This is of course substantively implausible but the model serves as a useful baseline.

(2) The log-linear model of constant association between class origins and destinations across cohorts, generally known as the constant social fluidity (CSF) model

$$\log F_{ijk} = \mu + \lambda_i^O + \lambda_j^D + \lambda_k^C + \lambda_{ik}^{OC} + \lambda_{jk}^{DC} + \lambda_{ij}^{OD}$$

This model recognises that an association exists between origins and destinations net of marginal effects – the further two–way association λ_{ij}^{OD} is added to model (1) – but requires that the log odds ratios defining this association, our indicators of relative mobility, do not

change from one cohort to another. The one possible three-way association implying such change, λ_{ijk}^{ODC} – which would in fact produce a saturated model – is not included.

(3) The log-multiplicative model, known as the UNIDIFF model (Erikson and Goldthorpe 1992)

$$\log F_{ijk} = \mu + \lambda_i^O + \lambda_j^D + \lambda_k^C + \lambda_{ik}^{OC} + \lambda_{jk}^{DC} + \beta_k X_{ij}^{OD}$$

where X_{ij}^{OD} represents the general pattern of the origin–destination association across cohorts and β_k the relative strength of this association *that is specific to a particular cohort*. This model thus allows us to test for the possibility that from one cohort to another the log odds ratios defining the origin-destination association increase or decrease by some common, multiplicative factor; or, in other words, for the possibility that relative rates become uniformly more or less unequal, implying either a fall or a rise in fluidity within the class structure.

[Table III here]

In Table III we show the results of fitting these models to our data for men. If class destinations are taken at age 27, it can be seen that, while the CSF model comes close to giving an acceptable fit, the UNIDIFF model significantly improves on it. Further, the β parameters estimated under UNIDIFF, with that for the 1946 cohort being set at 1, show a monotonic decline across the later cohorts. In other words, the indication here is that relative mobility rates are becoming steadily *less* unequal – or that social fluidity is increasing. However, it can also be seen from Table III that if class destinations are taken at age 38 – i.e. when men can be supposed to have reached a stage of occupational maturity – we have a different outcome. Over our first three cohorts it is doubtful if UNIDIFF does improve on CSF, and in any event the monotonic decline in the β parameters disappears. These results are

then more in line with those of earlier inquiries (Goldthorpe and Mills 2004, 2008; Paterson and Ianelli 2007; Goldthorpe and Jackson 2007) in suggesting that insofar as fluidity levels do show any change, this is of a trendless kind.[8]

Additional grounds for caution in claiming a secular tendency for fluidity to increase are found in Figure III. Here we plot across our cohorts the β parameters reported in Table III together with 'comparison intervals' (Firth 2003; Firth and De Menezes 2004), a form of confidence intervals based on 'quasi–variances' that allows comparisons to be made between the intervals for any pair of parameters. It can be seen that even with class destinations taken at age 27, it is only between the 1946 and later cohorts that a difference in the βs can very safely be claimed. For the 1958, 1970 and 1980–4 cohorts the comparison intervals overlap substantially – as they also do for the first three cohorts when class destinations are taken at age 38.

[Figure III here]

So far as men are concerned, it is therefore doubtful if any steady increase in fluidity is in train. But what can at the same time be said is that, if intergenerational mobility is considered in terms of social class, then, with relative just as with absolute rates, *there is no evidence at all to support the idea of mobility in decline*.

[Table IV here]

In Table IV and Figure IV we show our results for women in exactly the same form as for men, but in this case a clearly different picture emerges. The results reported in Table IV reveal that whether class destinations are taken at age 27 or age 38, UNIDIFF improves on CSF and that the β parameters returned under UNIDIFF decline monotonically across the

cohorts. Moreover, the comparison intervals around these parameters shown in Figure IV do not overlap for the 1946 and 1958 cohorts and scarcely so for the 1958 and 1970 cohorts.

[Figure IV here]

Here, then, we have far more persuasive evidence than with men of a sustained equalization in relative rates or, that is, of a trend towards greater fluidity. As regards earlier research, we may note that a similar trend was already indicated in analyses reported by Goldthorpe and Mills (2004) on the basis of GHS data but that this was not confirmed in their later (2008) analyses in which mobility tables derived from other population surveys, including the 2005 EU-SILC survey, were represented. Further, Goldthorpe and Jackson (2007), also using data from the 1958 and 1970 birth cohort studies, found that CSF fitted their mobility tables for women very well and that UNIDIFF made no improvement. However, in this last case, we can identify exactly how the divergent findings come about since we can make a direct comparison of the two analyses in question.[9] And this exercise, it turns out, produces results that are of some more general importance.

Our mobility tables differ from those constructed by Goldthorpe and Jackson in two main ways. First, we have substantially larger Ns as a result of our integrating data across different 'sweeps' of the two cohort studies and of being able to include non-employed women on the basis of their class of last employment. Second, through our occupational recoding exercise, we can base our tables on NS-SEC rather than on an approximation to the Goldthorpe schema.[10] From our comparative analyses, we are then able to conclude that it is in fact this latter difference that is the crucial one. If we apply the Goldthorpe schema, rather than NS-SEC, to our *own* data for women in the 1958 and 1970 cohorts, *we too find that CSF is the preferred model*. Further, though, what we also find is that, as well as NS-SEC serving to bring out some equalisation in relative rates that the Goldthorpe schema does not pick up, it

does at the same time reveal generally *more unequal* relative rates or, that is, *a stronger net association* between women's class origins and destinations – the decline across cohorts notwithstanding. And this effect, we can show, is also present with men, although to a somewhat lesser degree. In other words, NS-SEC appears a more sensitive instrument than the Goldthorpe schema for determining *both* changes in relative rates *and* their actual level.[11] Since, as earlier noted, NS–SEC takes over the theoretical basis of the schema but provides a better instantiation of it, this result is not altogether surprising.

In the light of the foregoing, we can then have further confidence in our finding of increasing social fluidity among women, and on this basis we can reaffirm, and indeed go beyond, what we maintained in regard to men. So far as intergenerational class mobility is concerned, not only are there no grounds for supposing a decline in relative rates but the opposite can in fact be claimed.

Before leaving the question of relative rates, there are, however, two other observations that we would wish to make. The first is that whatever changes may have occurred in relative rates, their impact on absolute rates should be recognized as being quite slight. Thus, to revert to the issue raised in the previous section of how far changes in total mobility rates reflect changes in relative mobility chances as distinct from class structural change, we may note the following result. If for all our mobility tables we replace actually observed cell values with those that would be expected under the CSF model, so that changes in relative rates are eliminated, and then redraw the graphs of Figures I and II, these are virtually indistinguishable from those we have presented, with only one exception. Consistently with our finding of increasing fluidity among women, the rise in their total mobility rate under the CSF model is slightly less marked – i.e. by 1—2 percentage points.

The second observation is that while with relative as with absolute rates we find no evidence of declining mobility, a mobility problem can again be pointed to that has not received the attention it deserves: namely, the *degree* of inequality that prevails in relative rates, even when any possible reduction across the cohorts is allowed for. To illustrate this point, we present in Table V certain odds ratios derived from our mobility tables, with class destinations taken at age 38, which are 'symmetrical' in form: i.e. odds ratios whereby relative chances of mobility are compared as between the same pairs of origin and destination classes.

[Table V here]

In the first row of the table, we consider Class 1/Class 7 odds ratios: i.e. those which relate the chances of an individual born into Class 1 being found in Class 1 rather than in Class 7 to the chances of an individual born into Class 7 being found in Class 1 rather than in Class 7. We do not in this case report odds ratios for the 1946 cohort since the numbers involved are too small to give reliable results. For the other odds ratios, we show confidence intervals which, as can be seen, are quite wide. None the less, what is clear is that the disparities in mobility chances that do exist are very large. A conservative view would be that the Class 1/Class 7 odds ratio is around 20 for men and around 10 – with perhaps a falling tendency – for women. In other words, the inequality in chances that exists is, respectively, 20 or 10 times greater than it would be under conditions of 'perfect mobility', with no association existing between the classes of origin and destination in question (in which case the odds ratio would of course be 1).

This example could be regarded as representing a somewhat extreme case – if still not a negligible one – and so to give a wider view we combine Classes 1 and 2 and Classes 6 and 7, and in the second row of Table V show the odds ratios that then result. These ratios could

be taken as comparing the chances of individuals born into the professional and managerial salariat being themselves found in the salariat rather than in the working class with the chances of individuals born in the working class being found in the salariat rather than in the working class. In other words, substantial sections of the total population are here involved (see Tables I and II). Still, though, the ratios for men could be reasonably thought to lie somewhere between 5 and 10, with those for women probably falling somewhat below this range for younger cohorts.[12]

Views may differ on how far these inequalities should be taken as a matter for social concern. But two points can in any event be made. First, the odds ratios shown above not only indicate a greater degree of inequality than do economists' findings on income mobility (cf. Goldthorpe 2013: Table 1) but are also larger than directly corresponding ones reported in earlier sociological research (e.g. Heath and Payne 2000: Tables 7.12 and 7.13; Goldthorpe and Jackson 2007: Table VII; Li and Devine 2011: Table VII). We would see this as the result of the inequalities involved being previously underestimated through the use of classifications less reliable than our version of NS–SEC and that thus lead to some attenuation of the intergenerational association between class positions. Second, a fuller understanding is needed of how these inequalities are actually generated – and not only from an academic standpoint but also to provide a better basis for any normative judgements that might be made or for any policy interventions that might be envisaged.

Conclusions

In this paper we use a new data-set based on four cohorts of men and women born in Britain in 1946, 1958, 1970 and 1980–4 in order to update findings on social mobility in the context of the widely held belief that mobility is in decline. We are able to underwrite the conclusions reached in previous sociological research that, so far at least as intergenerational class

mobility is concerned, no evidence for such a decline exists, whether mobility is considered in absolute or in relative terms. At the same time, though, our birth-cohort perspective on mobility, together with the improved quality of the data–set we have constructed, allows us to bring out how certain other changes in mobility rates and patterns suggested in previous research have in fact developed and also to identify some newly emergent and hitherto unreported tendencies.

Thus, in the case of absolute rates, we are able to show how, for men, within a total mobility rate that remains remarkably stable across our cohorts, the upward mobility component is tending to fall and the downward mobility component to rise; and, further, how, for women, while the total mobility rate increases somewhat, a similar pattern of change in its composition would appear to be in formation. Insofar, then, as a mobility problem could be thought in this respect to exist, it concerns not the overall level of mobility but rather the extent to which the experience of upward mobility is becoming less common, and that of downward mobility more common in the lives of members of successive cohorts.

In the case of relative rates, our findings for men and women alike go clearly contrary to any suggestion of mobility chances becoming more unequal. For men, the results we report are most safely interpreted as showing a continuation of trendless fluctuation. But, for women, the evidence of an equalising tendency is quite strong. At the same time, though, our improved coding of individuals' classes of origin and destination to a version of NS-SEC allows us to show that, despite any reduction that may have occurred, inequalities in relative mobility chances are still wider than has previously been appreciated, and could be regarded as constituting a further mobility problem.

It is in regard to relative rates that our findings most obviously mark out areas for future research. The emerging patterns in absolute rates that we have demonstrated are, as we have

sought to show, ones that can be essentially accounted for in terms of recent class structural change. But with relative rates the explanatory challenge is much greater. This is most apparent in the case of the gender differences that we have reported. Why should it be that an equalisation of relative rates – or greater social fluidity – is rather clearly in evidence for women but not for men? Does this come about because women have been raising their levels of educational attainment more rapidly than men, and because for women such attainment is becoming less strongly associated with class origins but more strongly associated with class destinations? Or is there simply an increase in 'perverse fluidity' (Goldthorpe and Mills 2004: 209), resulting from more women from more advantaged backgrounds returning to employment after their period of active motherhood but at lower levels than those in which they were previously engaged? Or again should greater weight be attached to policy and other changes favouring more continuous labour market participation and worklife advancement on the part of women, which have been especially beneficial for women of less advantaged social origins?

Further, though, the issues that arise here of the relative importance in processes of intergenerational mobility or immobility of educational attainment, on the one hand, and of *intra*generational mobility or immobility, on the other, have a relevance that extends beyond the explanation of gender differences. One may, for example, go on to ask – in cross–cohort perspective – how far are the worklife trajectories of men and women alike simply a reflection of the level of educational qualifications that they acquire prior to entering the labour market, or of any further qualifications they may later obtain, and how far are these trajectories also significantly influenced by other factors, whether social or psychological, considered independently of education. And in turn one would then wish to know whether these other factors are ones that are more or less closely associated with individuals' social origins than is their educational attainment.

In seeking in our subsequent research to address these and related questions, we will in one further way be able to benefit from grounding our initial analyses of rates and patterns of mobility in the datasets of the British cohort studies. For these datasets, as well as providing a wealth of information on cohort members' social backgrounds and individual characteristics, also allow us to construct their complete employment and class histories, and likewise their educational and family histories, and thus to form the essential basis for the dynamic, life-course analyses that will be required.

Bibliography

Blanden, J. Gregg, P. and Machin, S. 2005 'Educational Inequality and Intergenerational Mobility' in S. Machin and A. Vignoles (eds) *What's the Good of Education?* Princeton: Princeton University Press.

Blanden, J., Goodman, A., Gregg, P. and Machin, S. 2004 'Changes in Intergenerational Mobility in Britain' in M. Corak (ed.) *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press.

Blanden, J., Gregg, P. and Macmillan, L. 2013 'Intergenerational Persistence in Income and Social Class: the Effect of within–group Inequality', *Journal of Royal Statistical Society*, Series A 176: 1–23.

Breen, R. 2004 'Statistical Methods of Mobility Research' in R. Breen (ed.) *Social Mobility in Europe*, Oxford: Oxford University Press.

Breen, R. and Jonsson, J.O. 2007 'Explaining Change in Social Fluidity: Educational Equalization and Educational Expansion in Twentieth–Century Sweden', *American Journal of Sociology* 112: 1775–1810.

Bukodi, E. and Neuburger, J. 2009 *Data Note: Job and Occupational Histories For the HSHD 1946 Birth Cohort*, London: Institute of Education.

Bukodi. E. and Goldthorpe, J. H. 2009 'Class Origins, Education and Occupational Attainment: Cross-Cohort Changes among Men in Britain', Centre for Longitudinal Studies, *Working Paper 2009/3*, London: Institute of Education.

Bukodi, E. and Goldthorpe, J. H. 2011 'Class Origins, Education and Occupational Attainment in Britain: Secular Trends or Cohort–Specific Effects? *European Societies* 13: 347–75.

Bukodi, E., Dex, S. and Joshi, H. 2012 'Changing Career Trajectories of Women and Men across Time' in J. Scott, S. Dex and A. C. Plagnol (eds) *Gendered Lives*, Cheltenham: Edward Elgar.

Chan, T.–W and Goldthorpe, J. H. 2007 'Class and Status: the Conceptual Distinction and its Empirical Relevance', *American Sociological Review* 72: 512–32.

Dex, S. 1987 *Women's Occupational Mobility*, London: Macmillan.

Elliott, J. and Shepherd, P. 2006 'Cohort Profile: 1970 British Birth Cohort (BCS70)', *International Journal of Epidemiology* 35: 836–843.

Erikson, R. 1984 'Social Class of Men, Women and Families', *Sociology* 18: 500–14.

Erikson, R. and Goldthorpe, J. H. 2010 'Has Social Mobility in Britain Decreased? Reconciling Divergent Findings on Income and Class Mobility', *British Journal of Sociology* 61: 211–30.

Ermisch, J. and Francesconi, M. 2004 'Intergenerational Mobility in Britain: New Evidence from the British Household Panel Study' in M. Corak (ed.) *Generational Income Mobility in North America and Europe*, Cambridge: Cambridge University Press.

Firth, D. 2003 'Overcoming the Reference Category Problem in the Presentation of Statistical Models', *Sociological Methodology* 33: 1–18.

Firth D. and De Menezes, R. X. 2004 'Quasi-Variances', *Biometrika* 91: 65–80.

Goldthorpe, J. H. (with Llewellyn, C. and Payne, C.) 1987 *Social Mobility and Class Structure in Modern Britain*, 2nd ed., Oxford: Clarendon Press.

Goldthorpe, J. H. 2007 *On Sociology*, 2nd ed., 2 vols., Stanford: Stanford University Press.

Goldthorpe, J. H. 2013 'Understanding – and Misunderstanding – Social Mobility in Britain: The Entry of the Economists, the Confusion of Politicians and the Limits of Educational Policy', *Journal of Social Policy* 42: 431–450.

Goldthorpe, J. H. and Jackson, M. 2007 'Intergenerational Class Mobility in Contemporary Britain: Political Concerns and Empirical Findings', *British Journal of Sociology* 58: 526–46.

Goldthorpe, J. H. and McKnight, A. 2006 'The Economic Basis of Social Class' in S. Morgan, D. B. Grusky and G. S. Fields (eds) *Mobility and Inequality: Frontiers of Research from Sociology and Economics*, Stanford: Stanford University Press.

Goldthorpe, J. H. and Mills, C. 2004 'Trends in Intergenerational Class Mobility in Britain in the Late Twentieth Century' in R. Breen (ed.) *Social Mobility in Europe*, Oxford: Oxford University Press.

Goldthorpe, J. H. and Mills, C. 2008 'Trends in Intergenerational Class Mobility in Modern Britain: Evidence from National Surveys, 1972–2005', *National Institute Economic Review* 205: 83–100.

Gorard, S. 2008 'A Re–consideration of Rates of "Social Mobility" in Britain: or Why Research Impact is not Always a Good Thing', *British Journal of Sociology of Education* 29: 317–24.

Heath, A. F. and McDonald, S. 1987 'Social Change and the Future of the Left, *Political Quarterly* 58: 364–77.

Heath, A. F. and Payne, C. 2000 'Social Mobility' in A. H. Halsey (ed.) *Twentieth Century British Social Trends*, London: Macmillan.

Kuha, J. 2013 *Trends in Intergenerational Class Mobility in Britain: New Findings From the Analysis of Birth Cohort Data. A Note on the Multiple Imputation of Missing Data,* Oxford: University of Oxford.

Li, Y. and Devine, F. 2011 'Is Social Mobility Really Declining?', *Sociological Research Online* 16: 1–25.

McGovern, P., Hill, S., Mills, C. and White, M. 2008 *Market, Class, and Employment*, Oxford: Oxford University Press.

Meng, X.–L. and Rubin, D.B. 1992 'Performing Likelihood Ratio Tests with Multiply–Imputed Data Sets', *Biometrika* 79: 103–111.

Nicoletti, C. and Ermisch, J. 2007 'Intergenerational Earnings Mobility: Changes across Cohorts in Britain', *The B.E. Journal of Economic Analysis and Policy* 7: 1–36.

Office of National Statistics 2005 *The National Statistics Socio–economic Classification: User Manual*, London: Palgrave-Macmillan.

Paterson, L. and Ianelli, C. 2007 'Patterns of Absolute and Relative Social Mobility: A Comparative Study of England, Wales and Scotland', *Sociological Research Online* 12: 1–33.

Power, C. and Elliott, J. 2006 'Cohort Profile: 1958 British Birth Cohort (National Child Development Study)', *International Journal of Epidemiology* 35: 34–41.

Rose, D. and Pevalin, D. (eds) 2003 *A Researcher's Guide to the National Statistics Socio-economic Classification*, London: Sage.

Rose, D., Pevalin. D and O'Reilly, K. 2005 *The National Statistics Socio-economic Classification: Origins, Development and Use*, London: National Statistics and Palgrave Macmillan.

Ryder, N. B. 1965 'The Cohort as a Concept in the Study of Social Change', *American Sociological Review* 30: 843–61.

Savage, M., Devine, F., Cunningham, M., Taylor, M., Li, Y., Hjellbrekke, J., Le Roux, B., Friedman, S. and Miles, A. 2013 'A New Model of Social Class? Findings from the BBC's Great British Class Survey Experiment', *Sociology* 47: 219–250.

Wadsworth, M., Kuh, D., Richards, M. and Hardy, R. 2006 'Cohort Profile: The 1946 National Birth Cohort (MRC National Survey of Health and Development)', *International Journal of Epidemiology* 35: 49–54.

Waller, L. 2013 *Data Note: UKHLS 1980–4 Quasi-Cohort*. Oxford: University of Oxford.

Table I: *Distributions of class origins and destinations across four cohorts: men*

NS-SEC analytical version	1946 cohort			1958 cohort			1970 cohort			1980–84 cohort	
	Class of origin[a]	Class of destination		Class of origin[a]	Class of destination		Class of origin[a]	Class of destination		Class of origin	Class of destination
		Age 27	Age 38		Age 27	Age 38		Age 27	Age 38		Age 24–30
1. Higher managers and professionals	4.6	7.6	8.9	6.5	11.3	16.3	11.3	15.4	21.1	16.3	17.5
2. Lower managers and professionals	9.7	18.7	26.6	15.4	17.9	20.3	17.2	19.7	20.8	20.5	20.9
3. Intermediate occupations	9.8	15.4	9.8	14.7	12.4	9.0	7.5	11.4	9.7	10.9	13.6
4. Small employers and own account workers	10.1	8.5	10.7	5.6	8.3	14.7	14.1	9.6	14.6	12.9	10.0
5. Lower supervisory and technical occupations	12.6	15.2	12.6	19.6	14.3	11.1	14.0	11.3	8.9	13.2	6.3
6. Semi–routine occupations	16.5	13.3	13.0	10.9	15.0	13.2	14.0	17.3	12.9	12.5	17.7
7. Routine occupations	36.7	21.3	18.5	27.4	20.8	15.4	21.9	15.3	12.1	13.7	14.1
Total	100	100	100	100	100	100	100	100	100	100	100
N		2395			6217	6797		5781	5893		1126

Note

a: Distribution based on men with class destinations taken at age 27. The distribution based on men with class destinations taken at age 38 is not significantly different.

The dash lines indicate the collapses of the NS-SEC categories that are used for calculating upward and downward mobility rates.

Table II: *Distributions of class origins and destinations across four cohorts: women*

NS–SEC analytical version	1946 cohort			1958 cohort			1970 cohort			1980–84 cohort	
	Class of origin[a]	Class of destination		Class of origin[a]	Class of destination		Class of origin[a]	Class of destination		Class of origin	Class of destination
		Age 27	Age 38		Age 27	Age 38		Age 27	Age 38		Age 24–30
1. Higher managers and professionals	3.9	0.8	1.7	5.8	5.8	5.9	11.6	7.5	9.7	15.2	12.0
2. Lower managers and professionals	8.1	14.8	19.8	17.7	18.6	22.2	18.3	21.6	25.7	19.1	24.4
3. Intermediate occupations	9.4	39.4	29.7	15.8	34.7	26.5	7.1	30.2	25.8	7.9	21.6
4. Small employers and own account workers	8.4	5.3	5.8	4.8	5.1	8.5	13.3	4.1	6.7	16.0	4.7
5. Lower supervisory and technical occupations	15.9	2.1	2.4	19.3	2.1	1.2	14.3	1.8	0.9	13.1	0.7
6. Semi–routine occupations	18.1	19.3	20.1	9.9	18.6	21.9	14.0	21.5	22.0	10.9	24.3
7. Routine occupations	36.2	18.3	20.7	26.7	15.1	13.9	21.4	13.3	9.1	17.8	12.3
Total	100	100	100	100	100	100	100	100	100	100	100
N	2004		2070	5390		6457	5864		6019	1626	

Note
See Table I.

Figure I: *Total mobility rate and upward and downward components across four cohorts at cohort members' age 27 and across three cohorts at age 38: men*
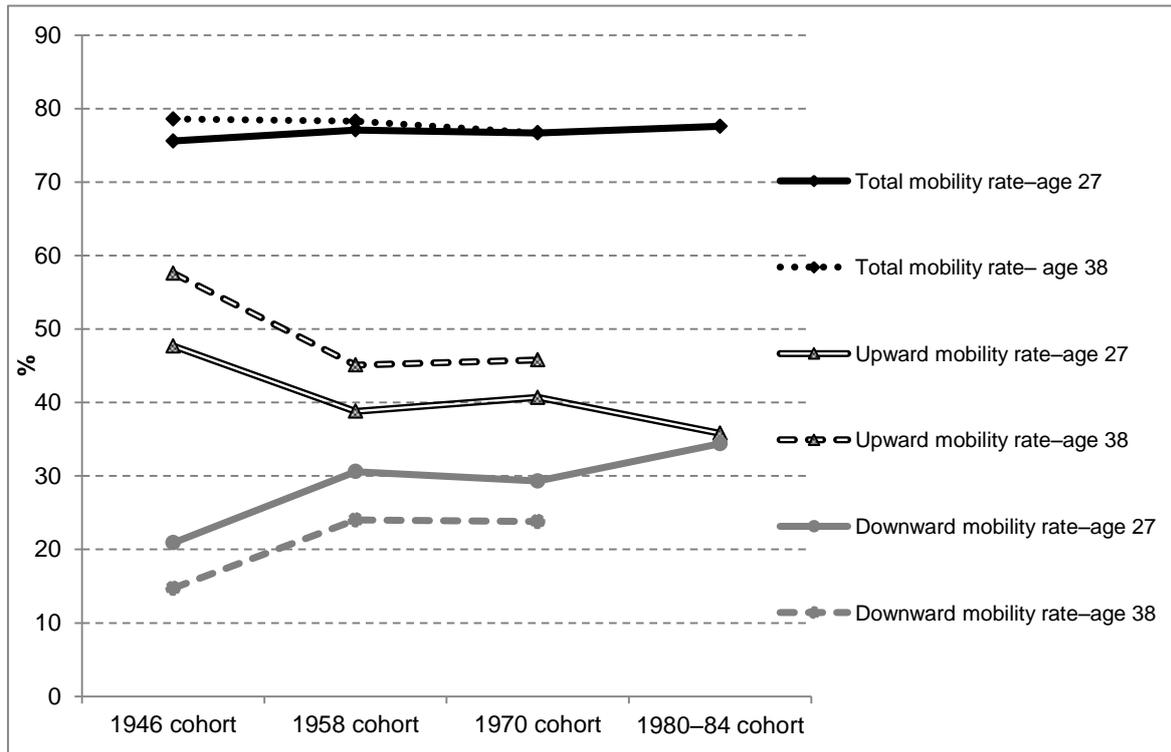
Figure II: *Total mobility rate and upward and downward components across four cohorts at cohort members' age 27 and across three cohorts at 38: women*
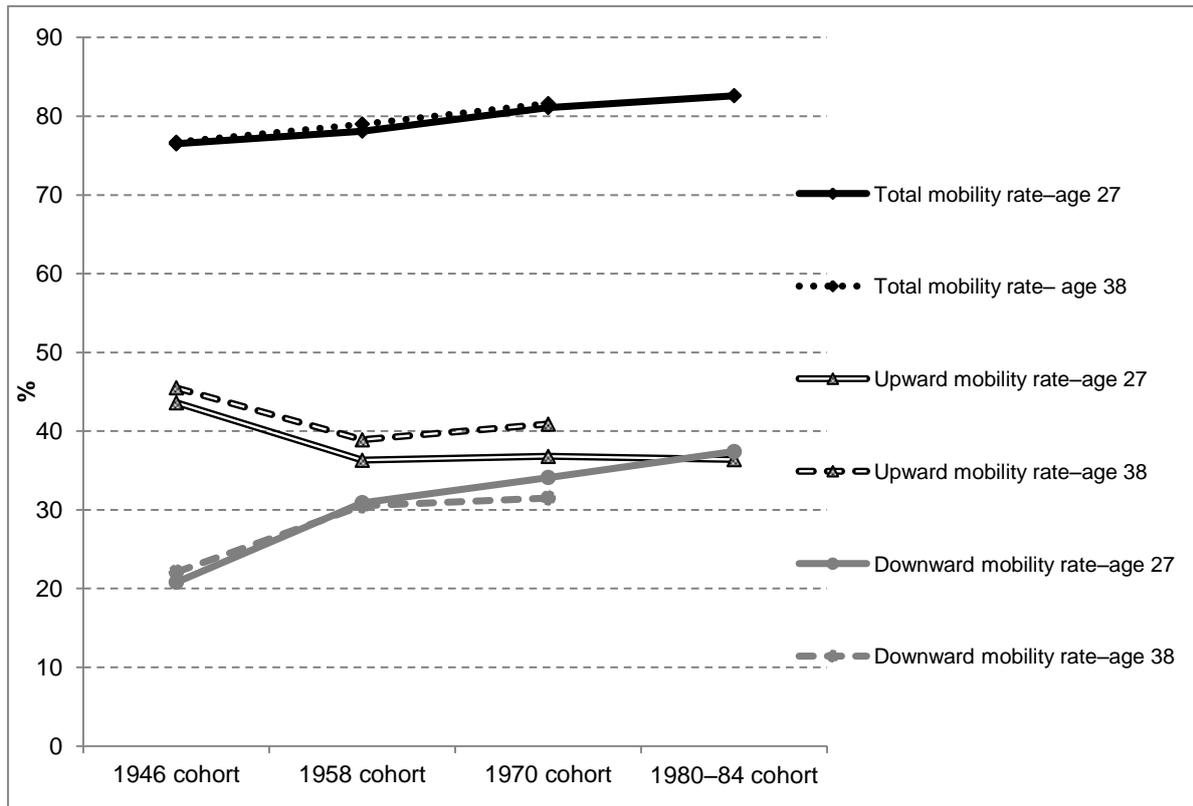
Table III: *Fit of independence, CSF and UNIDIFF models to intergenerational class mobility tables for men in four cohorts at age 27 and in three cohorts at age 38*

	Modified LR test[a]	df[b]	p	DI
Age 27				
(1) Independence	11.26	144	0.00	0.15
(2) CSF	1.25	108	0.04	0.04
(3) UNIDIFF	1.14	105	0.15	0.04
(2) versus (3)	4.50	3	0.00	
β parameters under UNIDIFF				
1946 set at	1.00			
1958	0.81			
1970	0.76			
1980 – 84	0.65			
Age 38				
(1) Independence	10.63	108	0.00	0.15
(2) CSF	1.12	72	0.24	0.04
(3) UNIDIFF	1.09	70	0.29	0.04
(2) versus (3)	2.56	2	0.08	
β parameters under UNIDIFF				
1946 set at	1.00			
1958	1.03			
1970	0.90			

Notes

a: The likelihood ratio test was calculated using the method for multiply imputed data proposed by Meng and Rubin (1992).

b: The p-value of the test statistic is obtained from an F distribution. Only its first degrees of freedom are reported. These are identical to the degrees of freedom for the likelihood ratio test if the data were complete.

Figure III: *β parameters under UNIDIFF with comparison intervals: men*
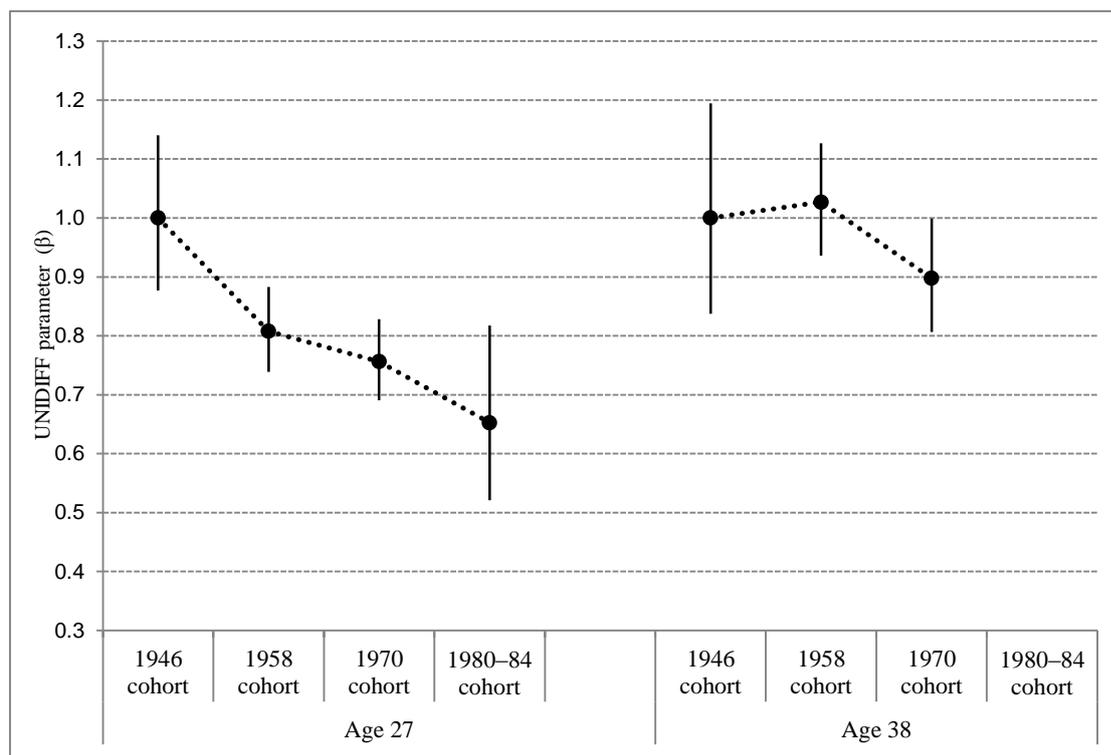
Table IV: *Fit of independence, CSF and UNIDIFF models to intergenerational class mobility tables for women in four cohorts at age 27 and in three cohorts at age 38*

	Modified LR test[a]	df[b]	p	DI
Age 27				
(1) Independence	8.47	144	0.00	0.12
(2) CSF	1.41	108	0.00	0.04
(3) UNIDIFF	0.91	105	0.73	0.03
(2) versus (3)	13.64	3	0.00	
β parameters under UNIDIFF				
1946 set at	1.00			
1958	0.61			
1970	0.49			
1980–84	0.40			
Age 38				
(1) Independence	7.83	108	0.00	0.11
(2) CSF	1.14	72	0.19	0.03
(3) UNIDIFF	0.82	70	0.86	0.03
(2) versus (3)	10.33	2	0.00	
β parameters under UNIDIFF				
1946 set at	1.00			
1958	0.69			
1970	0.54			

Notes

a, b: See Table III.

Figure IV: *β parameters under UNIDIFF with comparison intervals: women*
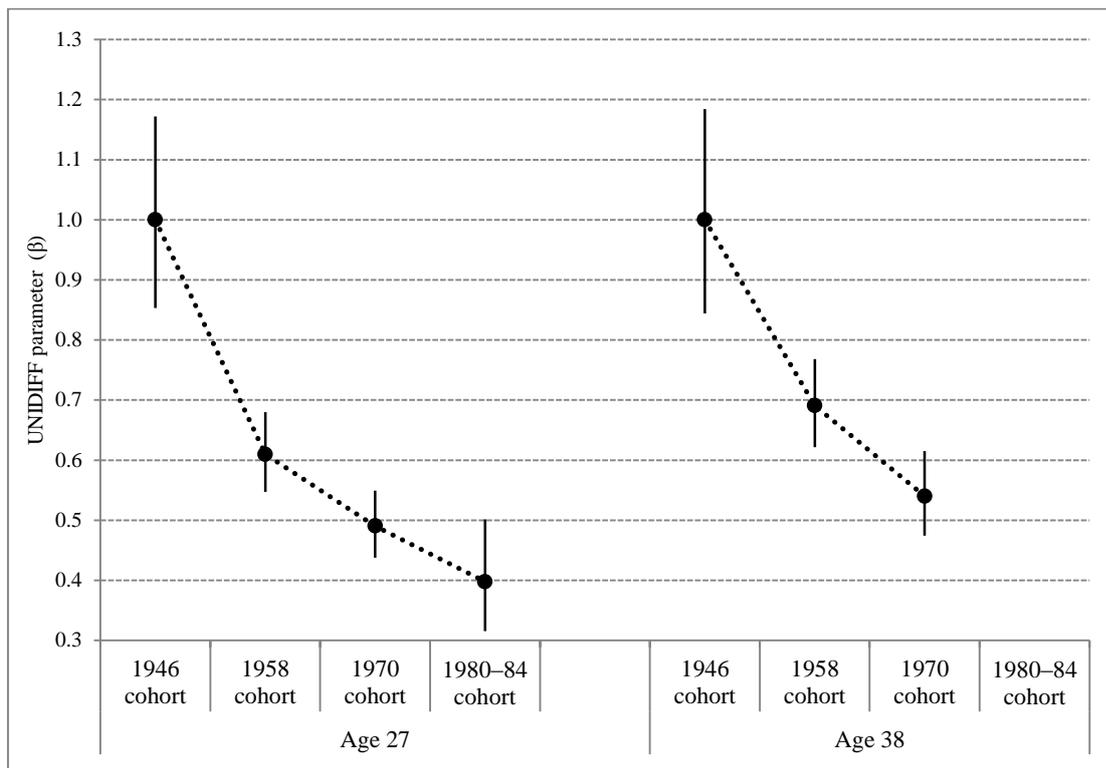
Table V: *Symmetrical odds ratios (at age 38): Class 1/Class 7 and Classes 1–2/Classes 6–7*

	Men			Women		
	1946 cohort	1958 cohort	1970 cohort	1946 cohort	1958 cohort	1970 cohort
Class 1/Class 7	–	23.7	24.1	–	18.7	14.5
95% confidence interval		(12.3–45.7)	(12.5–46.6)		(9.7–36.3)	(8.2–25.8)
Class 1–2/Class 6–7	6.2	5.1	6.2	7.7	5.4	4.1
95% confidence interval	(3.8–9.9)	(4.0–6.4)	(5.0–7.7)	(4.5–13.4)	(4.5–6.6)	(3.4–4.9)

Notes

[1] These results and all others referred to in the text but not presented are available on request.

[2] The proportion of women not in employment at either age 27 or 38, and thus allocated to a class position on the basis of their last employment, is in the range of 20 to upwards of 30 per cent across the cohorts. The corresponding proportion of men is always lower, being less than 10 per cent except for men in the 1980–4 cohort where it rises to almost 15 per cent.

[3] For the 1946 and 1980–84 cohorts we have also checked whether or not coding all occupational information into SOC90 makes any substantial difference to cohort members' allocation to NS-SEC classes. For the 1946 cohort we have not found any large effect of mapping information on occupations into SOC90 rather than into other SOC classifications (see Bukodi and Neuburger 2009). For the 1980–84 cohort we find some differences between NS-SeC allocations based on SOC90 and on SOC2000 (Waller 2013), but not sufficient to outweigh the advantages for comparative purposes of using the same, SOC90 basis for all of our four cohorts.

[4] Here and in what follows, we refer, simply as a convenience, to the class destinations of members of the 1980–4 cohort as being taken at age 27, although, as earlier noted, they were in fact taken within the age–range 24–30.

[5] The 9-class version of the schema used by Goldthorpe and Mills (2004, 2008) with GHS data does in fact yield a still lower total mobility rate for men. But this seemingly paradoxical result comes about because the classes differ unduly in size. When using the GHS data, Classes I, II and IVa of the Goldthorpe schema have to be collapsed into one, while,

following cross-national comparative practice, Goldthorpe and Mills distinguish classes of farmers (IVc) and agricultural workers (VIIb) which in the British case are very small.

[6] The horizontal component of the total mobility rate in the case of men is remarkably stable across the cohorts at around 30 per cent; in the case of women, it tends to decline from a little above to a little below 30 per cent.

[7] As can be seen from the hierarchical ordering of classes indicated in Tables I and II, downward mobility can occur in other ways than from Class 1 and 2 origins and likewise upward mobility in other ways than from Class 6 and 7 origins. But the aspects of vertical mobility on which we concentrate are numerically as well as sociologically the most important.

[8] It is in fact in this respect that analyses based on the data deriving from our multiple imputation exercise chiefly differ from analyses of 'complete cases' – the latter indicating steadily increasing fluidity. This outcome is in line with the suggestion previously made (Goldthorpe 2007: vol. 2, ch. 7, n. 34) that such a finding could result from increasingly biased non–response, relating, especially, to respondents from disadvantaged backgrounds.

[9] We are grateful to Michelle Jackson for help she provided in this work.

[10] Two further minor differences are that we take women's class destinations at ages 27 and 38 rather than at age 33 (1958 cohort) and 30 (1970 cohort) and that we use information on father's class at age 16 if not available at age 11 (1958 cohort) or 10 (1970 cohort).

[11] Goldthorpe and Jackson use the approximate version of the Goldthorpe schema that can be obtained via SEGs. However, in our comparative analyses we have in fact used the full

version obtained via the standard algorithms based on SOC90 and related employment status codes.

[12] Although the selected odds ratios shown in Table V are generally lower for women than for men, this should not be taken to mean that social fluidity overall is greater among women. Preliminary comparisons of our mobility tables for men and women suggested that fluidity was in fact *less* among women than among men in the 1946 cohort but then increased so as to be above the level for men for the 1970 cohort. However, this is one case in which the checks that can be made with these two cohorts using the full version of NS-SEC suggest caution, and the matter is one we will investigate further.