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Social Class as a Moving Average

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NON-TECHNICAL SUMMARY

Social Class as a Moving Average

Social class – a classification of occupations – is a well-known concept. It is widely used by social analysts to measure the degree of inequality in society. This works in two ways. First, mobility analysts can compare the class of parents (typically fathers) to that of their children. Is society becoming more open? Second, it is used as a ‘gold standard’ against which other measures can be compared. For instance, has the health of manual classes risen relative to that of non-manual classes?

Many social scientists, primarily economists, have no interest in class at all, preferring measures of income as a basis for understanding inequality. Many sociologists are critical too. These critics have a wide variety of reasons for concern, but in the main these are that society is too complex to be reduced to a few small groupings. Other factors such as gender, ethnicity, but also consumption and lifestyle are more important. Even those who believe that class is useful wrangle over whether particular classifications are up to the job.

The analysis in this paper is based on the idea that classes are useful but are more mixed and fragmented than sociological theory allows. Each class contains such a wide range in terms of earnings that a significant proportion of one class might earn less than the average for a class below or more than the average for a class above. To test this, artificial groupings are created based on the two highest classes (higher managers and professionals on the one hand and lower manager and professionals on the other) where each of these is divided into three pay bands. Looking at two descriptive indicators – gender and education – it is found that their distribution is described not only by class but by pay within class. Looking at various outcomes – social mobility, voting, feelings of economic wellbeing, and what class people themselves think they belong to – the same happens.

Overall, the picture is not of a clear class distinction but of groups defined by both class and pay. For instance, in some cases a highly paid group in the lower of the two classes has characteristics closer to the highly paid in a higher class than to the low paid in their own class. However, this still means that class is a useful concept, as pay alone fails to describe people’s situations. The occupation they are in makes a big difference, for instance, even to their feelings of economic wellbeing, and regardless of their pay. Further, father’s class is also an important predictor of some outcomes regardless of own class or pay. Class tells us a lot, but not enough.

What is going on socially and economically to produce these results? Is it that life is simply too complex to be summarised by class, or that the occupations are changing too rapidly for class to remain a consistent measure? A different argument is put forward based on the idea that change to the class structure is socially rather than economically driven. It seems likely that at least one cause of change is the growth of education. It is argued that, contrary to human capital theory within economics, the supply of education has outstripped demand. Some indication of this is given in the paper through showing that the value of having a degree has declined and that wages are slightly lower the higher the proportion of graduates in an occupation. It seems probable therefore that some occupations within social classes are effectively being ‘downgraded’, producing a greater spread of pay within them than before. There are good jobs and bad jobs within classes, which are paid accordingly. Class is not dead but is more complex than it used to be.

SOCIAL CLASS AS A MOVING AVERAGE

Malcolm Brynin

Abstract

Are social (occupational) classes coherent, distinct entities? While they reflect an underlying reality, they are more fragmented than theory suggests. It is hypothesised that skill mismatches mean that each class includes a substantial proportion of poorly paid people who could be in the class below and highly paid people who could be in the class above, or in a class alone. This is tested for the service classes using the British Labour Force Survey. It is then shown using the British Household Panel Study that people within the service classes have differing class backgrounds, different class perceptions, and different political views depending on their hourly pay.

Key words

Social class Wages Skills

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Introduction

Is class dying or merely changing? Is the difficulty with class analysis the result of the complexity of the subject (society) or merely a local problem within sociology?

If class is changing, the cause is generally held to derive in part from increased demand for skills, involving new or re-ordered occupational groupings (Esping-Andersen 1993), and ultimately affecting social behaviour, for instance reducing the dependence of vote on social background.¹ If class is dead this is because it is not so much the economy as society that has changed. It has become more complex and multilayered. People can no longer be easily allocated to the boxes that analysts assign to them. There are perhaps social fabrics if not structures – a smaller warp and weft than large-scale surveys, or what Crompton (1998) calls the ‘employment aggregate approach’ – can elicit. It has been argued that surveys lead to a ‘severe underestimation of the rich complexity and diversity of the social world (Stones 1996: 1). The flux that postmodernists or others opposed to ‘modernism’ see is reflected in a fluidity of association across class boundaries based on education, modes of thought (eg feminism), or competing affiliations such as ethnic identities (Beck 1992), while growing affluence has allowed people to ‘buy themselves out’ of the class positions to which analysts allocate them. In the view of some critics of ‘modernism’ we then arrive at the idea that class is a lifestyle, denoted by how people choose to appear not by what they are (Featherstone 1991 ; Pakulski 2005 ; Wagner 1994). People count, not positions.

While that is true, the distinction between positions and people is different from the problem of statistical analysis. In respect of the latter, large-scale social surveys are of course surveys of people but about social averages rather than individuals. If people share characteristics it seems strange that we should ignore this fact, whatever individual-level variation occurs over and above this. That working-class children are on average shorter than middle-class children is not a lifestyle choice, whatever the differences in the lifestyles of individual children (Marshall 1997: 16-17). In respect of people against positions, post-modernists ignore the fact that people compete for positions. While their emphasis on the individual and on choice has a paradoxical affinity with economics, an economist would point out that one person’s choice has to contend against others.² Further, consumption cannot be considered in isolation. It is possible that producers of culture and fashion can be

considered a middle-class ‘fraction’ on the basis of their *lifestyle* (Bourdieu 1984 ; Featherstone 1991 ; Lury 1996), but as producers they have to make a profit. To look at this from another angle, private health care might enhance consumer choice less than the professional power of the providers (Busfield 1992).

Nevertheless, even if we can say that de-industrialisation rather than the post-industrial society has altered the balance of the classes (Rose 1988: 14), this does not mean that people simply fill positions. Whatever the constraints, people *do* choose occupations. There has to be an element of agency. The problem that ‘choosers’ have is simply that choice is constrained and competitive. For instance, they cannot be sure that the skills they acquire will meet demand.

The concern of this paper is what happens to the class structure when demand and supply do not match: that is, when choices are constrained. The argument is that classes in this case become more fragmented on the basis of a number of characteristics but especially of earnings. Classes subdivide and overlap. Each class is then merely a sort of central tendency or, as Pahl (1996) charmingly describes it, a ‘lump’, with indefinable and mobile edges.

The analysis below, using the British Labour Force Survey (LFS) 1993-2008 and the British Household Panel Study (BHPS)1991-2007, has three main aims: first, to see how far variation in pay within classes occurs and is associated with other characteristics such as education; second, to test the inter-generational basis of pay inequalities within classes; and third, to see whether we can see these ‘class-pay groups’ as being socially as well as economically meaningful.

Class and pay

One of the difficulties of the various class schemas is their reliance on occupational codes which give only partial information about a job. To this is added information on management status (Goldthorpe) or skills (Wright)³, but not pay. Even though the exchange economy was central to the class formulation of Weber, consideration of the role of pay is left almost entirely to economists. Wages reflect productivity, have clear welfare implications, provide a simple metric (which class does not), and also mediate demand and supply. Sociologists tend to assume that class and pay correlate well, and therefore to a view of pay as subsidiary to class. In arguing that class position is linked ‘to differential rewards and differential rewards to outcomes’ Breen and

Rottman (1995: 52) see rewards as an intermediate step between class and outcomes such as health or vote.

To some extent this neglect of pay is a healthy corrective to over-reliance on this by economists. Class analysts generally have little interest in the *causal* analysis of income, partly because as a continuum income cannot distinguish qualitatively between social groups. More fundamentally, who are the main actors in stratification? Employment economists see the individual and the 'firm'. Firms select and pay workers on the basis of their skills, people select firms. But this lacks a critical stage in the causal process. People choose an occupation before a firm, and occupations (rarely of interest to economists) are the building blocks of classes.

Even in their own terms economists are wrong in their lack of attention to occupation. If someone wants to become a doctor the hospital or practice is secondary. After making this occupational choice, that person then aims at the best pay possible, not first at a doctor's pay and becoming a doctor in order to earn it. When making their critical educational decisions many people probably have only vague career intentions, which means they choose a skill level before a job. This further means that the supply and demand for skills will often not meet. Indeed, it seems reasonable that supply will mostly exceed demand because education is a cultural good in its own right. This is not mere 'credentialism' or 'signalling' as the signal is as much social as economic.⁴

But if economists are wrong to ignore occupational choices, class analysts pay too little attention to pay, which has to come into the equation, not because supply and demand must match but precisely because they often do not. The result of this is that pay is sometimes either compressed or stretched within social classes. Pay is one of the indicators of heterogeneity within classes. Offering to the labour market the education they choose, only partially related to the needs of the labour market, workers polarise pay within classes, producing class fragmentation.

The most influential concept of class, the EGP schema, is based entirely on employment relations, in which pay figures implicitly and indirectly. At its heart is the existence, or otherwise, of a 'service relationship', a mutually dependent relationship between employers and workers dictated in part by the skills of the latter. In the face of problems dealing with 'specialised knowledge and expertise' (Erikson and Goldthorpe 1992: 42) 'employing organisations' concede work autonomy to acquire and retain commitment to the organisation. But this reduces the relationship

precisely to the ‘firm-employee’ form which economists espouse. Where does occupation come into this? If skills, seen as ‘asset-specific’, are in fact occupation rather than job-specific then the term ‘employing organisation’ is ambiguous. A doctor can switch hospitals comparatively easily, though not sectors. The doctor can acquire a ‘service-type’ relationship whoever the employer. The factors that influence marketability of skills might therefore be harder to predict than the concept of employment relations allows (Tåhlin 2007). In particular, if moral commitment cannot be obtained by contract it has to be bought, perhaps in terms of so-called ‘efficiency wages’, or in more specific cases where, for example, firms hoard skills through a wage premium to limit innovation by competitors (DiPrete 1990). Supply also makes a difference. As a result of rising education, the off-the-peg skills this provides relate increasingly poorly to jobs and employers can no longer easily discriminate on the basis of skills. They discriminate by performance instead and pay accordingly. We might therefore expect considerable pay variation within classes and even within occupations.

Class fragmentation

Many people, and from a variety of perspectives, have asserted that classes are far less homogeneous than class theory often seems to assume. Beck argues that as a result of cross-cutting social forms ‘new hierarchies and differentiations develop which are internal to social classes’ (1992: 97). That is uncontroversial, but are we, as Beck also argues, an ‘individualized society of employees’? Surely occupations are important to stratification. Nevertheless, occupational groupings can be big or small, and this is a problem. Seeking a mid-point between traditional classes, ‘big classes’, and status, which can be viewed as a continuum, Jonsson *et al* (2009) argue that we should fragment classes into their constituent occupations, into ‘micro-classes’. There are practical problems with this idea⁵, yet it is important as it shows that classes are fragmented to the extent that the level of aggregation within classification systems is possibly arbitrary. After all, what *is* an occupation? In coding terms is it one, two, three, or four digits? For the class analyst the number of levels is a matter of choice (Erikson and Goldthorpe 1992: 44-46; Goldthorpe *et al.* 1987), and so we could choose if we wished to isolate elites within occupations (Goldthorpe 1987: 46-7). There is also overlap between classes, for instance through convergence of employment relations between lower non-manual and manual workers (Gallie 1996).

Giddens' 'structuration' clearly fragments class groupings (1981: 110). For Scott unlimited 'class situations' underpin class formations and class boundaries move. 'Systems of social stratification ... are complex structures characterized by fissures, folds, faults and intrusions' (Morris and Scott 1996: 54). If we do not have class dissolution we do have greater class complexity. Yet we must draw a line somewhere and so there is little point in analysing extreme fragmentation. As Jonsson *et al* (2009) themselves say, it makes no difference whether there is much or little mobility between occupations which are functionally equivalent, and this equivalence is the point of class analysis.

One factor in class fragmentation is within-class variation in pay. Wright (1979) finds considerable pay variation within the managerial classes. His work is therefore a study not only of class but of heterogeneity within classes. It has also been argued that rising inequality in the UK is associated with increasingly skewed incomes in the middle classes (Westergaard 1995: 131-136). Savage *et al* show much the same, with a very considerable 'spike' for top managers (1992: 77-78). As already indicated, this sort of change can also lead to overlap between classes. Changing incomes might have led to convergence of some groups, for instance relatively affluent manufacturing workers and proletarianised clerical workers (Goldthorpe 1969 *et al*; Lockwood 1958).

It is perhaps in the service class where this is most apparent, however. Indeed, there seems to have been a shift in attention from the declining working classes to the growing middle-classes. Goldthorpe's emphasis on forms of contract which define the service class (the main component of the middle classes) acknowledges the shift; mobility studies mostly test the chances of entry into the service class. As a result 'the problematic of the new service class has replaced that of the new working class' (Lockwood 1995: 2-3), the 'problematic' being the question of class unity. Goldthorpe (1995) sees the service class, both higher and lower managers and professionals, as one loose grouping.⁶ Others (eg Crompton 1992 ; Savage 1992 *et al*) see fragmentation. Common distinctions are division by skills (Wright 1997: 22-25), cultural capital (Bourdieu 1984 ; Savage 1992), consumption (Featherstone 1991 ; Lury 1996) or tasks (Guveli *et al.* 2007), though these forms of distinction can overlap.⁷

Such distinctions tell us little about causality. One process of fragmentation hypothesised above is the mismatch between the supply of and demand for education. In particular, a rising proportion of potential job entrants are seeking a service-class job. If this at times leads to excess supply, do people then change their occupational choice or instead accept a poorer version of the occupation they want? Almost certainly both things happen. In the latter case, however, pay has to adjust. It could directly go down but this creates differentials between new entrants and the less recently recruited doing the same job. Employers might instead create more professional jobs rather than lose available skills (Acemoglu 2001). However, rather than upgrading, as Acemoglu argues, this produces the reverse. If people are coming to employers with degrees, whether or not these are needed, employers might weaken rather than enrich the content of the jobs on offer. To compensate, they adjust pay downwards. Thus more professional jobs are created but with lower returns and we have greater polarisation of pay within classes. People near the edges of classes become peripheral and could be considered as part of the adjacent class.

One avowed aim of the Goldthorpe or EGP schema is to make comparative analysis possible, especially of social mobility and voting. As a result, in Breen's words "relatively little attention is now paid to issues of demographic class formation and their consequences" (2005: 50). Scott (1996) makes the same point, forcefully arguing that we cannot understand class without examination of demographic causation. Pahl (1996) goes further. Lee and Turner suggest that the widespread reliance on Weber gives rise to a 'reluctance to conceptualise classes as having independent causal force' and therefore to 'explanatory failure' (1996: 17). But as Crompton (1998) points out, class schemas have a job to do and none will be perfect or perfectly consistent. One might even say that classes do not need to have causal force. They are simply a convenient analytical means for examining other causal forces at work (Savage 1995: 25). And work is one place where this happens. Who gets what job, how, and with what effect, are the causal connections that determine life chances for most of us. But classes describe these processes only poorly. People pull and tug at the structure available to them until, partly as a result of their individual efforts, it evolves.⁸ Classes exist but are apt, like tectonic plates, to break up, combine, or collide and overlap. Information on pay tells us when this is happening.

Methods

The term ‘moving average’ in the title of this paper implies that class boundaries are arbitrary. This is tested here by ‘inventing’ occupational groups (which are indeed arbitrary) within the service class and seeing what they tell us. Goldthorpe expects that ‘Class II positions guarantee income levels that rank directly below that of Class I’ (1987: 41). How far is this the case? One would at least not expect people in one class to be paid less than the average for the class lower down, or higher than for the class above. The two service classes, as created with the NSSEC (Rose et al. 2005) are therefore divided on this basis, as shown in Figure 1.

Figure 1: Service class groups defined by relative pay

Upper Service Class	Lower Service Class
1. Above USC mean	4. Above USC mean
2. Below USC but above LSC mean	5. Below USC but above LSC mean
3. Below LSC mean	6. Below LSC mean

If class overrides pay then we should see 1-3 and 4-6 as two groups in terms of characteristics and behaviour. If pay is more important than class then we will see three groups defined by 1/4, 2/5, 3/6.

The data are the Labour Force Survey (LFS) 1993-2008 and the British Household Panel Study (BHPS) waves 1-17 (1991-2007). The analysis is obviously restricted to those in work, excluding the self-employed, with some further restrictions to exclude extreme pay values, but it includes both men and women as well as part-time workers who work 10 hours a week or more. As the NSSEC is implemented in the LFS from 2001 using SOC2000, this was created for 1993-2000 for this analysis using a standard algorithm based on SOC90. The change in coding scheme seems not to create a break in the various trends associated with the class schema and so the sequence is treated as a unity. Average hourly pay (deflated) was then calculated within these classes for each year and quarter. Figures for graduate density and percentage women in occupations are based on two-digit occupations, again by year and quarter, thus creating small cell sizes in some cases, though in practice some is averaged over a year anyway.

ANALYSIS

The relationship between class and wages

The first results use the format in Figure 1 but for all six classes. Table 1 reveals large overlaps in income, especially in the intermediate and the routine classes, where nearly two thirds earn less per hour than the average for the class numerically below. This does *not* mean the NSSEC (based on the EGP classification) schema, which is not hierarchical, is wrong. Indeed, some nominally equivalent classes have similar average hourly wages: classes 3 (average £9.4) and 5 (£9.9) and classes 6 and 7 (both average £7.5). Gender is also obviously an issue, with for instance over 70% of class 3 and less than 30% of class 5 being female, though restricting the analysis to men still produces sizeable overlaps in proportional terms, if less in absolute terms.

Taking men and women together, 24% of the LSC have lower pay than the intermediate class average, while another 22% have higher pay than the USC average (although the LSC is over 50% female compared to less than 30% of the USC). Nearly 50% of the LSC are paid above or below the averages for the adjacent classes.

Table 1: % of each class where pay is higher or lower than average for adjacent class

Whole sample	<i>Class:</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>5</i>	<i>6</i>	<i>7</i>
% higher than average for class above			22.2	14.4	43.1	20.0	41.2
% lower than average for class below		23.3	24.3	65.2	33.5	60.1	
Men only							
% higher than average for class above			27.2	22.8	39.6	24.5	39.0
% lower than average for class below		25.2	30.2	53.5	34.4	53.5	

Note: 1=Upper Service, 2=Lower Service, 3=Intermediate, 4=Lower supervisory, 5=Semi-routine, 6=Routine

The analysis is now solely of the service class. The USC grew between 1993 and 2008 from 11.8% to 15.8% of employed people while the LSC grew from 27.9% to 30.7%, so in 2008 over two out of every five employees were in the service class.

Both classes are likely to be more heterogeneous than in the past, and will therefore exhibit greater pay inequality. Table 2 shows the sizes of these groups as a percentage of the entire service class as well as the average hourly pay of each group, the percentage of graduates and the percentage of women in both 1993 and 2008.⁹ The most significant result is that groups 1 and 4 have been growing.¹⁰ Although the table does not show this directly, group 4 grows from 18% to 28% of the LSC while group 6 falls from only 57% to 52%, so the gap is widening.

The second pair of columns shows the pay relationships. While constructed by the schema they reveal large absolute differences. Groups 1 and 4 earn more than twice the hourly rate of 3 and 6. The third pair of columns shows the percentage of graduates in each group. Within each class the higher paid are more likely to be doing graduate work, but there is also a class divide, with in both years the percentages in the LSC uniformly lower than those in the USC at each pay level. However, the largest growth in graduate employment is below the top group. Finally, group 4 (LSC but highly paid) is more graduate than 3 (USC and poorly paid). Although this tells us nothing about demand and supply, it is possible in the light of the earlier argument that increased supply of highly educated people is a factor in polarising pay within classes. The biggest increases in education are amongst the most poorly paid within the two classes (who also receive the lowest absolute rise in hourly pay).

Table 2: Occupational groups within the service class defined by pay (LFS)

Group	Size (%)		Hourly pay (£)		% graduates		% women	
	1993	2008	1993	2008	1993	2008	1993	2008
1	13.0	20.1	15.8	21.3	65.3	66.0	14.6	29.6
2	8.7	6.5	10.0	15.2	49.7	57.3	21.4	36.1
3	8.1	7.4	6.6	10.5	32.7	43.4	35.1	43.4
4	12.7	18.4	14.9	20.5	46.5	53.7	37.4	42.8
5	17.4	13.3	9.9	15.0	32.3	41.9	49.0	55.6
6	40.2	34.3	6.0	9.7	12.9	23.4	59.3	62.5

Note: N in 1993=10,077 N in 2008=18,997

The final pair of columns shows the percentage of women in each group. In both classes women predominate in the lower paid groups. However, there is also a

ranking by class and this is not just a matter of women predominating in the LSC. Where pay is equal, for instance in groups 1 and 4, women are far more likely to be in the lower class. Similarly for 2 and 5 and 3 against 6. However, 3 and 4 are very close; on this basis at least the class boundary is vague.

Some of the above pay dispersion within classes might be the result of measurement error in occupation or pay or problems with the classification. For instance, it is odd that nursery nurses are classified as LSC or technical and wholesale sales rep's as USC. However, the result has little to do with how occupations are grouped. For instance restricting the above to people in jobs with a minimum 50% of graduates in their occupation in 1993 changes the proportions in the groups (from 1 to 6 respectively) to 19, 12, 12, 24, 17 and 15, still suggesting considerable fragmentation. To pick on the most prominent occupations, using Soc90, 27% of class-pay group 1 comprises 'specialist managers', compared to 14% of group 3 (and 8% of group 4). 30% of group 4 are 'teaching professionals' against 18% of group 5, then much smaller percentages. This suggests some occupational class fragmentation. However, most pay variation occurs despite this. If we look at the percentage of 'specialist managers' falling into each class-pay group, then the percentages are 38, 13, 10, 10, 9, 20 across the six groups (from 1 to 6).

Overall it would appear that much pay variation within classes is the result of education and gender. Those who are paid poorly relative to others in their class are likely to be women or less likely to have a degree. On the basis of these distinctions, the third pair of columns in Table 2 suggests the following groups: 1, 2/4, 3/5, 6. This is what can almost be called a 'slipped ratchet' effect whereby people are ranked by class but pay differences upset the ranking to produce 1-4-2-5-3-6. In Table 2 we see considerable polarisation between the extremes but with a middle mass which straddles the class divide. The final two columns suggests three simple pairings: 1/2, 3/4, 5/6. A class classification based solely on occupation obscures not merely more refined distinctions, which is inevitable, but underlying currents which pull in quite a different direction from class as traditionally defined.

A ranking based solely on pay need not be any better though. Despite wage variation within classes, the latter carry important information. For instance, returning to the third pair of columns, each second half of the class-pay pairs 1-4, 2-5, 3-6 has a much lower typical education than the first, despite receiving the same pay. Further, the flattening of the class distribution of graduate employment when comparing 2008

to 1993 in Table 2 suggests a declining relationship between education and pay. To demonstrate this further, the first pair of columns in Table 3 presents the results of a regression analysis of the log of hourly wages. Just three coefficients out of the full regressions controlling also for age, gender and tenure, are shown. These are having a degree, being in the USC and being in the LSC.

Wage equations within economics would not include occupation (here, social class) because the aim is generally to test its effect without intermediate steps. For a sociologist this intermediate step, entry into an occupation, is critical¹¹, so has to be included (as in Wright 1979). In the first pair of columns we see a decline in the effect of having a degree over time (though in absolute terms, that is, without the use of logs, there is a slight increase). The second pair of columns looks at the effects of education in the USC only and now the decline is even greater. Although this is not shown in the table, this decline occurs too in the LSC.¹² In the final two columns the dependent variable is working in the USC and here the effect of having a degree actually declines. This applies also to jobs in the LSC (not shown). Just as the third pair of columns in Table 2 had perhaps indicated some saturation of education amongst relatively highly paid workers in the USC, Table 3 suggests that having a degree does not guarantee as big a pay premium within the USC, or service class generally, as before. Nor does it distinguish work in the USC as clearly as before.

Table 3: Relationship between class, education and wages (LFS)

	Log of hourly wages ¹				USC occupation ²	
	<i>Whole sample</i>		<i>USC only</i>		<i>Whole sample</i>	
	1993	2008	1993	2008	1993	2008
Degree	0.32	0.27	0.34	0.21	16.83	11.63
USC	0.56	0.56				
LSC	0.41	0.39				
<i>(Pseudo) R squared</i>	<i>.49</i>	<i>.46</i>	<i>.28</i>	<i>.14</i>	<i>.23</i>	<i>.18</i>
<i>N</i>	<i>23885</i>	<i>38297</i>	<i>2910</i>	<i>5096</i>	<i>24100</i>	<i>40702</i>

Notes: 1 OLS regression 2 Logistic regression

p < 0.001 in all cases

The relationship between education and hourly wages needs to be unpacked a little further, especially in the light of the earlier argument that increasing education is creating a mismatch between supply and demand, leading to a downgrading of the returns to education, and within classes to polarisation and fragmentation. In the following analysis, as in the above table, hourly pay is regressed on education as well as the other variables included above but now also including the graduate density measure, that is, the proportion of workers in an occupation who are graduates. This it is assumed is a measure of competition between graduates. It could of course be an indicator of productivity in the occupation, but if the coefficient is negative this is unlikely. Table 4 shows the results of this for four years in order to give an idea of trends, and in both the service classes. Finally it also includes an interaction term with having a degree to see how far the effect of graduate density, whether negative or positive, affects graduates relative to non-graduates. The form of regression is OLS and again the dependent variable is the log of hourly wages.

Table 4: The effect of graduate density on wages in the service classes (LFS)

	Upper Service Class				Lower Service Class			
	1993	1998	2003	2008	1993	1998	2003	2008
Degree	0.33 ^{***}	0.22 ^{***}	0.24 ^{***}	0.26 ^{***}	0.38 ^{***}	0.36 ^{***}	0.34 ^{***}	0.31 ^{***}
Density	-0.15 [*]	-0.14 ^{**}	-0.00	0.02	0.65 ^{***}	0.52 ^{***}	0.49 ^{***}	0.44 ^{***}
D*D	0.06	0.06	-0.07	-0.09	-0.32 ^{***}	-0.29 ^{***}	-0.19 ^{***}	-0.12 [*]
R ²	.28	.21	.15	.14	.33	.30	.29	.24
N	2910	6087	5507	5096	6828	14289	14085	11782

*Note: D*D = interaction term between having a degree and graduate density*

The first row of the table shows that the returns to a degree decline in both the USC and LSC though they make a slight come-back in the later period in the USC. It should be noted that this is the percentage rather than absolute returns and that these end up higher in the LSC than in the USC. The effect of graduate density on non-graduates is shown in the second row. This has a negative effect in the USC in the earlier period which fades away later, implying an improved position. The effect is very different in the LSC – always large and positive, if declining. Thus graduate density seems to indicate a productivity effect in lower managerial and professional

occupations for non-graduates. The total effect for graduates is the sum of the second and third rows, and this is broadly unchanging. But the negative coefficient in LSC jobs means that graduates gain less from working in highly graduate occupations than do non-graduates. Thus, in both classes a degree is becoming of less value in itself, while in the LSC at least non-graduates gain more from being in graduate jobs than do graduates, implying some sort of crowding effect for graduates.

These results imply though do not prove that increasing education has led to a stretching of pay within occupational classes such that, as will be argued below, we should view these classes as consisting of very different groups of people.

Occupational mobility

It was suggested above that as a result of increasing competitive pressure for good jobs within classes, parental and in particular paternal class provides a competitive edge, so that pay polarisation within classes has a class origin. The necessary data are available in the BHPS.¹³ Table 5 shows the relationship between the class-pay groups as described in Figure 1 and father's class (controlling for age, as the effect is likely to change over the career). Results are shown for just two age groups (26-35 and 36-45), and for the two service classes, as well as comparing an earlier period (1991-94) to a later period (2004-07).

The following results are of particular interest: (1) within the service classes USC fathers influence both class and pay far more than do LSC fathers, whether looking at the younger or older group; (2) early in the career the class effect is strong: USC fathers are especially important to entry into the USC (first row), though there is also an effect on pay within both classes; (3) later in the career the effect is on pay more than on class, producing greater pay polarisation within classes (third row); (4) the combined effect of paternal class (USC plus LSC) on class and pay declines during the career, suggesting that merit and performance become the predominant factors; (5) there is an increase in the polarising effect of paternal USC over time (last two rows) with the gap widening between groups 1 and 6, but also slightly between 1 and 3 on the one hand and, more so, between 4 and 6 on the other.

Table 5: % of class-pay groups with USC or LSC paternal background (BHPS)

	1	2	3	4	5	6
<i>Age 26-35</i>						
Father USC	52.7	44.8	43.5	37.4	39.9	25.8
Father LSC	10.9	17.3	16.3	16.4	19.9	14.1
<i>Age 36-45</i>						
Father USC	40.2	30.5	23.3	34.7	25.2	18.9
Father LSC	19.1	21.1	20.3	15.0	14.7	13.0
<i>Father USC</i>						
Waves 1-4	37.2	27.4	29.4	30.1	27.1	23.5
Waves 14-17	37.8	32.9	28.2	34.7	27.4	19.5

Weighted N for younger group=5823, older group=6525, waves 1-4=5208, waves 14-17=4410¹⁴

Overall, whatever the mechanism¹⁵ class background is important to entry into career but its impact declines over private if not over public time. The effect of paternal class does in fact seem to be increasing slightly. It is possible that rising entry into professional and managerial jobs is indicative of growing competition for such jobs, to which father's class might have become more, not less important. There is an increasingly powerful 'class on class' effect which, though, is also associated with growing pay polarisation.

Table 6 combines the above elements into three regression models. Similarly to Table 3, one model features pay as the dependent variable, one pay within the USC only, while in the last having a job in the USC is the dependent variable. How far does father's class influence these outcomes? In the first two columns it is clear that although own class and education play by far the stronger role in determining pay, some role is played by father's class, the relative impact of which also increases over time.¹⁶

Table 6: Effects of education, class and father's class on career (BHPS)

<i>Waves</i>	Pay		Pay in USC		Job in USC	
	<i>1-4</i>	<i>14-17</i>	<i>1-4</i>	<i>14-17</i>	<i>1-4</i>	<i>14-17</i>
USC	0.54***	0.64***				
LSC	0.36***	0.43***				
Degree	0.24***	0.27***	0.15***	0.17***	9.40***	8.55***
Father USC	0.06***	0.09***	0.08*	0.15***	2.63***	2.21***
Father LSC	0.06***	0.08***	-0.02	0.10**	2.04***	1.90**
<i>(Pseudo) R²</i>	.43	.47	.15	.14	.21	.18
<i>N</i>	9562	6927	1269	1093	14294	10272

This finding of an increased effect of paternal class applies even more if we restrict the analysis to pay within the USC where in the later period this is nearly as important as the effect of education. Being in the USC is also associated with father's class (which applies even restricting the analysis to under 35s, ie closer to the start of a career – not shown). The effect of education on having a job in the USC is much the same as in the LFS results, that is, it declines over time, but the effect on pay within the USC, which here shows a slight increase rather than a fall, is not (though restricting the analysis to those near the start of a career does show a slight fall over time). Overall, it seems likely that the effect of education on wages has not increased in the USC in this period, certainly not relative to the effect of class background.

Class solidarity

We would expect class to be denoted by some sort of subjective cohesion. Here three dimensions are examined: what social class people see themselves in (a variable available only in some waves), how well-off they see their households, and which political party they support.

Using the BHPS, 60% of USC people see themselves as middle-class, falling to 50% of the LSC (and ultimately 24% of the less skilled). The gradient is strong, and some apparent misfit is because some people do not believe in class, see all people as workers, or as middle-class, and so on. Nevertheless, there is a lot of clear-cut self-misclassification. For instance, 25% of the USC see themselves as working-class and about the same proportion of the less skilled as middle-class. Some apparent

mismatch seems related to variation in pay. For example, the hourly pay of USC people viewing themselves as middle-class is £12.6, falling to £10.4 where these perceptions are working class. For those in the LSC who see themselves as middle-class pay is £9.1, otherwise £7.7. Objective class positions do count, as USC people who say they are working-class (not even LSC) are paid more than those in the LSC who see themselves as middle-class. Nevertheless, where people are middle-class but paid less than others they are more likely to see themselves as working-class. Pay is influencing their self-perceptions.

The average perceptions in class-pay groups are shown in Table 7. Again there is a ‘slipped ratchet’ effect. If class were predominant the order would be 1-3, 4-6, while ordering on pay would produce 1/4, 2/5, 3/6. We see a mixture of both.

Table 7: The percentage of class-pay groups that see themselves as middle-class

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
68.5	56.0	49.6	60.4	54.1	40.9
<i>N=1180</i>	<i>551</i>	<i>528</i>	<i>1558</i>	<i>1139</i>	<i>2416</i>

In Table 8 middle-class perceptions are regressed (using logistic regression, where people with self-perceptions as classless are excluded in the second column) on the class-pay groups along with additional controls not shown (age, gender, education and family). The class-pay groups have a clear effect compared to being in group 6. Again there is a ‘slipped ratchet’ effect, with both class and pay being important; but it is of note that when the contrast is of middle against working-class feelings, group 4 are more likely to see themselves as middle-class than are group 3 (a difference which is in fact statistically significant). It is also of note that father’s class is more powerful. People’s feelings on belonging to a class are largely inherited.

Table 8: Effect of father's class and own class-pay groups on feeling middle-class

	<i>Including no class</i>	<i>Excluding no class</i>
Father USC	3.89***	5.29***
Father LSC	2.74***	3.49***
Father intermediate	2.05***	2.26***
Father skilled	1.35**	1.40**
Class-pay group 1	2.35***	3.60***
Class-pay group 2	1.41**	1.53**
Class-pay group 3	1.17	1.16
Class-pay group 4	1.71***	1.77***
Class-pay group 5	1.35**	1.40**
<i>Pseudo R²</i>	.10	.15
<i>N</i>	4952	4300

Turning to perceptions of well-being, Table 9 shows the results for the regression of these perceptions as a five-point scale. The additional controls are the same as in Table 8 but now the results – not powerful given the low R^2 – are split by gender.

Table 9: Effect of class-pay groups on feelings of financial well-being (ordered probit)

	<i>Men</i>	<i>Women</i>
Class-pay group 1	0.61***	0.67***
Class-pay group 2	0.36**	0.59***
Class-pay group 3	0.06(*)	0.11**
Class-pay group 4	0.39***	0.21***
Class-pay group 5	0.23***	0.26***
<i>R²</i>	.03	.03
<i>N</i>	14872	12704

Compared to the reference category, group 6, both men and women in the other groups feel better off. There is also a clear class effect, with group 1 being higher than 4 and 2 higher than 5, despite having similar pay. But within the USC there is a strong pay effect for both men and women. It seems reasonable that men in group 1 or 2

might feel closer to men in group 4 than in group 3. Indeed, at least for men we could propose a classification either as 1, 2/4, 5, 3, 6, again almost a slipped ratchet structure, or alternatively 1, 2/4/5, 3/6.

In respect of party identification, pooling the waves (therefore discounting time) around 29% of the USC supports the Conservatives while exactly the same percentage supports Labour; the corresponding figures for the LSC are 25% and 30%. Clearly class tells us little here, though the net gain to Labour is zero in the USC growing to over 20 percentage points in the routine class. Overall there is a strong class gradient but the service class, especially the USC, is highly divided. When we look at the class-pay groups there is greater differentiation than the above suggests. The net lead for Labour over the Conservatives is -7% in group 1, 6% in group 2, 8% in 3, zero in 4, 6% in 5 and 9% in 6. 34% of group 1 supports the Tories compared to 22% of group 6. Political affiliation therefore depends on pay as well as class. This is demonstrated in Table 10 which shows Conservative identification in contrast with Labour (not presenting controls for age, gender and education). Here we see that pay is a clear predictor of party identification, to the extent that we could view groups 1 and 4 as one class, groups 2 and 5, as another, and perhaps 3 and 6 as a third.¹⁷

Table 10: Odds of identifying with the Conservative Party by class-pay groups

<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
1.97***	1.42**	1.13	1.80***	1.36**
(0.19)	(0.14)	(0.10)	(0.14)	(0.10)

N=31,286; pseudo R²=.04; standard errors in brackets

‘Class solidarity’ (admittedly an inflated term for what is discussed here) is the result of a complex mix of stratifications involving class background, achieved class, and pay. Achieved class plays only a limited role.

Conclusions

Interest in the causal analysis of class structure has waned in favour of its use as a measure of inequality. However, class is not an outcome. Income, consumption, health are outcomes. So why the roundabout way of analysing inequality through an additional concept? The reason is that there remains a vestige of theoretical thinking

in the idea that life chances are distributed for most people through occupation, and as certain occupations are roughly similar, these can be usefully grouped into classes. But how? They can be grouped by employment relations, typical skills, or average pay, or some mix of these. They can also be grouped into any number of levels. Yet it seems probable that these groups, however defined, will always remain heterogeneous – federations rather than states, and secession is always likely to occur in time.

Why are social classes heterogeneous? The problem is theoretical rather than empirical. One reason might be that class analysts look at only one side of the class equation – demand. Employers know what they want, they offer a range of positions, and people fill these unequally, whether at the micro level through the operation of favouritism or at the macro level when on the basis of their background a cumulative process of disadvantage excludes some rather than others from better jobs.

The other side of the equation is agency, in this case supply. People want good jobs, they educate themselves to raise their chances, and many find that good jobs are in short supply. But there is no unchanging set of positions, so new types of job arise – the less demanding managerial job, or the exceptionally demanding managerial job. This means that classes become coalitions of a shifting array of position; they are fluid and dynamic. Wright (1989) recognises this in respect of career. Class is fulfilled over the life course. Whether or not there are ‘contradictory class locations’ there are what Wright calls ‘objectively ambiguous locations’. Because supply and demand never match, the typical skills and typical pay of classes vary, stretching in the case of high demand until the class in question becomes less and less a tenable collection of jobs. The class structure changes because employers have to adapt to the supply of skills and this is partly socially driven. Class is malleable.

None of the above analysis proves this particular mechanism of agency against structure, though the analysis of the declining effect of higher education and of the growing negative effect of graduate competition within the service classes, as well as some other outcomes, certainly conform with this. It can be argued in return that classes have always been known to be broad churches, yet this, while empirically true, is not an explanation. The various impacts of gender, career, regional variation and so on no doubt also contribute, though are by no means full explanations either. In terms of the supply and demand issues discussed above it could also be that demand is the sole factor. Perhaps employers differentiate between different types of jobs which appear occupationally distinct on the basis of the actual skills required in these, and

pay accordingly. In this case, though, class really is of little analytical use. But it appears to be. It has been shown above that class does explain a lot of other things – simply not enough.

One analytical solution to the problem of pay variation within classes would be to subdivide the class structure. They are averages, and indeed, insofar as the boundaries can be relocated, moving averages. The analysis above suggests that on a purely empirical basis highly paid USC people can be considered as a group apart, though sometimes they sit well with USC people on average pay, sometimes with highly paid LSC workers. At the other extreme, poorly paid people in the LSC do seem to be a group apart. If class is to be retained then some means of relocating this group would better reflect their real circumstances. But this can become a bit of a board game, like the Marxists of old pushing around class fractions between classes to ensure they win the endgame. Better would be to try to understand how and why the class structure is changing. There is after all no real empirical problem. As most class analysis is in fact of social mobility, whatever the nature of the collectivities, you are mostly comparing like with like: a child of a father in a professional or managerial job has a certain chance of getting a similar job. The exact nature of that job is a problem but not critical – we are dealing with probabilistic assessments. The problem is theoretical. Class is not just social mobility. We need to understand how the class structure evolves in terms of its occupational coherence. The facts underpinning the basic concept of employment relations as evolved by Goldthorpe over a long period are changing. No class schema can be a gold standard.

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¹ The evidence for this is unclear, with some arguing that there has been class-dealignment in many countries while others (Evans 1999) see no clear trend.

² It does not help, therefore, that people from a different discipline can talk about the ‘bizarre nature’ of the premises imputed to the economics of consumption (Miller 1995: 13), as if an entire discipline can be disregarded. One should perhaps smile wryly with W.H. Auden as quoted in Goldthorpe’s famous 1980 book on mobility: ‘Lovers of small numbers go benignly potty... carry pentagrams... Lovers of big numbers go horribly mad... They empty bars, spoil parties...’

³ Some have argued that required skills should be the primary indicator (eg Tahlin 2007), but survey information on skills mostly relate to the person, not the job, and there is often considerable mismatch between required and actual skills (Hartog 2000).

⁴ Even if educational acquisition is rational, as argued by Breen and Goldthorpe (1997), this does not mean it is related to pay. For instance, those from a higher class invest more in education to avoid the risk of going down socially.

⁵ First, occupational coding is notoriously unreliable (Lynn and Sala 2006). In a study of career where a change in occupational code is checked against questions on job change Longhi and Brynin (2009) find that most apparent changes are errors. Testing intra-generational mobility by change in stated occupation is risky while this raises questions even for intra-generational mobility. However, the higher the level of aggregation the lower the risk. Second, even if the log odds of within-occupation immobility are high, absolute mobility of people with the same job as their fathers is small and therefore unimportant numerically. Third, substantively speaking it seems reasonable that people can maintain social position more easily the fewer the class levels (Lin 1990).

⁶ In research on voting in the service class Goldthorpe himself finds that the two service classes are equally likely to vote in line with their predicted party (Conservative) but that the lower, unlike the upper, are not negative towards Labour (Goldthorpe 1999: 71).

⁷ Though the same distinction between economic and cultural interests exists within the working classes (Rupp 1997).

⁸ Ultimately such an idea can be considered Weberian, but Weberian ideas are themselves bewilderingly varied, producing traditional classes, class fragmentation, income classes, and individualist or consumption-based accounts (Pakulski 1996: 63-64).

⁹ These are the start and end points of straightforward trends with little very little fluctuation.

¹⁰ Wages are skewed. Most of the results in this paper change little if the class-pay groups are defined on the basis of the median, though this would change, but also fix over time, the relative sizes of the groups.

¹¹ Unsurprisingly, the effects of education on wages are much larger if class is excluded from the models, and the same the other way round.

¹² It is possible that the new occupational codes from 2001 explain the apparent decline of the effect of having a degree within the USC. This does not appear to be the case. There is in fact a sharper decline than shown in the table before 2001 and thereafter some recovery.

¹³ The average pay within the class-pay groups within the BHPS is derived from the LFS and is similar to Table 2, with though a slightly larger gap between group 1 (£17.8 averaged over all waves) and group 4 (£16.6).

¹⁴ The number of observations is slightly misleading as the observations are person-waves, meaning people appear more than once; while their jobs might change, their fathers’ jobs will not.

¹⁵ It is not only father’s occupation doing the work but his education. But this is available in only one wave and within this small sample only the father being a graduate makes a difference. For instance, 18% of group class-pay 1 have fathers with a degree, compared to 13% of group 2 and 10% of group 3.

¹⁶ It is also possible that the pay effects vary by career, as suggested by Table 5. While these results are not shown in the table the effects of father’s USC on pay are larger for the over 40s than for the under 40s (nearly three times as large in the first period and twice as large in the second).

¹⁷ It is possible to use both class and pay as explanatory variables with an interaction term between the two. This turns out to be less helpful than the method of dividing class by pay. Even though the class-pay groupings are arbitrary, they are still groupings, or ‘lumps’, that seem to be important. However, the use of interaction terms suggest that the greatest impact of pay is in the classes below the USC.