

The Class Pay Gap in Higher Professional and Managerial Occupations

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Abstract

This article demonstrates how class origin shapes earnings in higher professional and managerial employment. Taking advantage of newly released data in Britain's Labour Force Survey, we examine the relative openness of different high-status occupations and the earnings of the upwardly mobile within them. In terms of access, we find a distinction between traditional professions, such as law, medicine, and finance, which are dominated by the children of higher managers and professionals, and more technical occupations, such as engineering and IT, that recruit more widely. Moreover, even when people who are from working-class backgrounds are successful in entering high-status occupations, they earn 17 percent less, on average, than individuals from privileged backgrounds. This class-origin pay gap translates to up to £7,350 (\$11,000) lower annual earnings. This difference is partly explained by the upwardly mobile being employed in smaller firms and working outside London, but it remains substantial even net of a variety of important predictors of earnings. These findings underline the value of investigating differences in mobility rates *between* individual occupations as well as illustrating how, beyond entry, the mobile population often faces an earnings "class ceiling" *within* high-status occupations.

Keywords

class pay gap, social mobility, class ceiling, class origin

People in higher professional and managerial occupations tend to command large incomes, exercise substantial power in the workplace, and pass significant advantages on to their children. Sociology has a rich history of research looking at social mobility into such high-status occupations (Heath 1981; Hout 1984; Lipset and Bendix 1991; Stanworth and Giddens 1974). However, in recent decades this line of enquiry has been largely abandoned as researchers have increasingly focused their attention on debates surrounding *generalized rates* of mobility and how best to interpret them (e.g., Bukodi et al. 2014). Moreover, when looking at these generalized rates, most sociologists follow Goldthorpe's

lead and concentrate on mobility into "big classes," such as the Erikson-Goldthorpe-Portocarero (EGP) schema in the United States or the National Statistics Socio-economic Classification (NS-SEC) in the United Kingdom. As Hout (2015) notes in a recent essay on the state of mobility research,

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this usually involves examining standard mobility tables by comparing origins and destinations taken from two points in time, measured with a single occupation-based variable. In many national contexts, we therefore know a great deal about mobility between large categories of occupations, but little about the potentially important differences that exist within these big classes.

We argue here that class analysis needs an approach that registers class destinations more effectively. Weeden and Grusky's (2005) "micro-class" concept is an important move toward this. Indeed, as we will show, one can understand the full effects of class origin in Britain only when destinations are broken down into specific micro-class occupational groups. This is because the effect of "big" class origins varies substantially between and within particular occupations, in ways that are obscured using standard mobility tables.

But this is only a first step. Nearly all sociological research—in the United States, Britain, and beyond—conceptualizes social mobility as an issue of *occupational* access,¹ whether at the big-class (Goldthorpe) or micro-class (Weeden-Grusky) level. Occupation is clearly important, but one problem with both approaches is that they ignore the differences in the *resources* people bring into occupations, as well as the different rewards they reap once there. Here, we advocate an approach rooted in Bourdieusian theory (Bourdieu 1987) and recent Bourdieu-inspired research (Atkinson 2010; Flemmen 2012; Savage et al. 2014), which stresses that class position can be fully understood only as the sum total of resources at a person's disposal: particularly earnings and education, as well as other forms of economic, cultural, and social capital. Many of these resources are strongly associated with occupation, and occupational access may indeed be the best *single* proxy class analysis has at its disposal, but it is important to recognize that occupation does not fully, or even adequately, capture the effects of social origin on a person's class destination. In fact, a wealth of research indicates that class origin matters well into the

life course, and particularly in high-status occupations. This work stresses that even when individuals do experience occupational upward mobility, they still face challenges stemming from their different social, economic, and cultural resources, class bias, or a sense of emotional dislocation (Ashley et al. 2015; Friedman 2016; Lareau 2015; Rivera 2015; Skeggs 1997).

Following in this vein, this article advances a new way of conducting class analysis capable of investigating specific forms of class-origin inequality within big-class and micro-class occupational groups. In developing this agenda, we adapt the "glass ceiling" concept, which feminist scholars have used to examine the hidden barriers—in terms of earnings and occupational position—experienced by women and ethnic minorities (Babcock et al. 2003; Davies 2011; McGovern et al. 2007; Wilson, Sakura-Lemessy, and West 1999). We show that there is also a "class ceiling" at play, which prevents upwardly mobile members of high-status occupations from enjoying equivalent earnings to people who come from intergenerationally stable backgrounds. This, we argue, not only points toward a previously undetected form of intra-occupational inequality, but it also underlines the theoretical limitations of using occupation alone to understand class destination. Our results suggest, for example, that a Glasgow-based lawyer earning £50,000/year whose parents were factory workers is not meaningfully in the same class destination as a City of London lawyer earning £75,000, raised in a family of lawyers.

Our analysis capitalizes on newly released UK Labour Force Survey (LFS) data to provide the first large-scale and representative study of social mobility *into* and *within* Britain's higher professional and managerial occupations.² We investigate two key research questions. First, we examine whether upward mobility is more common into some NS-SEC 1 occupations than others. Second, we move beyond the issue of occupational access to examine how the upwardly mobile fare once they have entered NS-SEC 1 occupations. In

particular, do mobile individuals attain the same levels of earnings as people from more privileged backgrounds? If not, can this be explained by differences in educational qualifications, human capital, or work context between the two groups, or does a “class ceiling” persist when we compare otherwise similar people from different class backgrounds?

BACKGROUND AND THEORY

Mobility into Higher Professional and Managerial Occupations

Over the past 20 years, the goal of increasing social mobility has become a rare point of convergence among Britain’s political parties (Milburn 2012). At the root of this is a widely held anxiety that mobility is declining. This concern has been fuelled by economists who point toward a significant decrease in upward *income* mobility (Blanden et al. 2004; Blanden, Gregg, and Macmillan 2007). However, their findings have been disputed by sociologists (Erikson and Goldthorpe 2010; Goldthorpe 2013) who stress the importance of measuring mobility in terms of occupational class rather than income and, using this approach, find that relative mobility rates have remained fairly constant.

This debate is important, but it has detracted attention from a number of key issues of social reproduction and inequality. In particular, the focus has remained fixated on *general aggregate* mobility rates (or inflow and outflow rates into seven big-class categories) rather than examining how rates of mobility vary among smaller groups, such as higher professional and managerial occupations. This played a historically central role in status-attainment approaches to class (Bielby 1981; Blau and Duncan 1967; Heath 1981; Stanworth and Giddens 1974). However, it was effectively critiqued by Goldthorpe, Llewellyn, and Payne (1980), who argued that status attainment approaches failed to place elite mobility within the context of broader shifts in the postwar class structure, particularly the “more room at the top” expansion of professional and managerial jobs.

Goldthorpe’s critique was rightly influential, but it has stymied more focused and granular analyses of mobility into particular occupations. This is especially important for understanding dynamics at the higher levels of the social structure. It is clearly inadequate to examine inflow into high-status occupations as if this is the only, or even main, task for social mobility research. However, we contend that this remains a pivotal question to explore empirically, particularly in a contemporary context where the power and resources of those at the top of the social hierarchy are becoming more concentrated (Dorling 2014; Gilens 2012; Piketty 2014).

There are also two important conceptual reasons for reviving this line of analysis. First, in the process of aggregating all higher professional and managerial occupations into big-class categories such as NS-SEC 1 or EGP 1,³ the specific dynamics of occupational contexts remain obscured. In particular, individual occupations with distinct histories, work and market situations, entry requirements, and recruitment structures are problematically classified together (Weeden and Grusky 2005).

Second, and linked to this, examining mobility into aggregated top-class categories may mask important distinctions or fractures within social groups. In class analysis, divisions of this kind have been the subject of long-standing debate, from Wrightian (Wright and Wright 1998) concerns about types of assets to the Bourdieusian (1984) divide between dominant occupations situated at different ends of the capital composition axis. In Britain these debates have focused largely on divisions between management and the professions. Although the NS-SEC officially separates these sectors—distinguishing NS-SEC 1.1 (“large employers and higher managerial and administrative occupations”) from NS-SEC 1.2 (“higher professional occupations”)—they are almost never operationalized in contemporary mobility studies (for notable exemplars of this omission, see Bukodi et al. 2014; Goldthorpe and Mills 2008; Li and Devine 2011). Yet management and the

professions have distinct histories. Unlike many capitalist nations where a unified service class developed in the nineteenth century, in Britain only a state-sponsored professional class emerged at this time. When a managerial sector began to appear at the beginning of the twentieth century, it assumed a subordinate position within the service class, lacking cultural capital and dependent on capitalist employers. This historical legacy continued to set these two sectors apart throughout the twentieth century, with the professions enjoying greater job security and cultural capital (Butler and Savage 1995; Savage et al. 1992). There is therefore good reason to explore, as we do here, whether these groups remain distinct in their ability to reproduce themselves.

The question of how to develop a more occupationally specific analysis of social mobility has been advanced in the United States, particularly by Grusky, Weeden, and their various collaborators (e.g., Grusky and Sørensen 1998; Jonsson et al. 2009). These authors argue that it is at the localized level of disaggregated occupational groups that the key processes of class formation—social closure and reproduction, identification and awareness, collective mobilization, and exploitation—most clearly emerge. Drawing on U.S. surveys with large sample sizes, they demonstrate that substantial differences in mobility exist *between* individual occupational groups, which they argue should be understood as “micro-classes.”

One problem with the micro-class approach, however, is that like Goldthorpean big-class analysis, it tends to remain tied to mobility tables that track identical origins and destinations. This means it frequently elides the question of how big-class origins may affect micro-class destinations. A micro-class perspective may effectively capture the specialized resources that doctors transmit to their children (that will advantage them in the field of medicine), but it is still important to ask what kinds of resources come from parents’ big-class position, and how this may profoundly affect their children’s occupational destination. Moreover, we contend that this is a particularly important

issue for sociology to address, because it allows us to identify the precise channels through which intergenerational class inequalities are reproduced or, put another way, the particular occupations where diffuse big-class resources can be effectively cashed in.

Until now, the kind of large-scale representative data needed to conduct this kind of analysis (i.e., containing large sample sizes and detailed social origin data) have not been available in Britain. The newly released LFS data we draw on here thus provide an unprecedented opportunity. In its July to September 2014 quarterly survey, the LFS, the largest representative sample of employment in the United Kingdom ($n = 95,950$), included for the first time detailed questions on parental occupation. Capitalizing on the addition of this social origin variable, we first examine mobility inflow rates among higher professional and managerial occupations in Britain, and ask whether mobility is more common into some sectors or occupations than others.

Class and the Glass Ceiling

Another by-product of the dominant focus on big-class mobility rates is that it reduces social mobility to a one-dimensional measure of occupational *entry*. More specifically, it simply compares two (or occasionally three) moments in a respondent’s life—that is, social origin, current job, and occasionally also first job (Erikson and Goldthorpe 1992; Goldthorpe et al. 1980). This is problematic because it conflates occupational access with *class position*, and inadvertently suggests that all individuals enter occupations on an equal footing. Yet although people from working-class backgrounds may secure admission into elite occupations, they do not necessarily enter with the same resources as individuals from more privileged backgrounds, and therefore do not necessarily achieve the same levels of success.

The issue of relative success *within* occupations has been explored more effectively in relation to the experiences of women and ethnoracial minorities. Studies consistently

demonstrate the considerable hidden barriers, or glass ceilings, that women and ethnoracial minorities face (Cohen and Huffman 2007; Davies 2011). Such barriers manifest in myriad forms. First, there is reliable evidence that a gender pay gap exists in most professional and managerial occupations, even when a wide array of variables are controlled for (e.g., Gorman and Kmec 2009; Petersen and Morgan 1995). The same is true for certain ethnoracial groups (Brynin and Güveli 2012; Modood and Khattab 2016; Wilson et al. 1999). Other research points to the lack of women in senior positions in fields as diverse as law, culture, and business (Cohen, Huffman, and Knauer 2009; Griffiths, Miles, and Savage 2008; Hagan and Kay 1995).

Questions of class origin are largely absent from work on glass ceilings or pay gaps, but we believe these concepts may be usefully imported into the field of class analysis. In particular, there is already some evidence that origin has a persistent impact on labor market outcomes, particularly earnings. For example, Hansen (2001a, 2001b), Mastekaasa (2011), and Flemmen (2009) in Norway and Hallsten (2013) in Sweden show that individuals originating in the highest social classes go on to obtain the highest level of economic rewards.⁴

Until recently, such illuminating work has not been matched in the United Kingdom. However, recent work (Friedman, Laurison, and Miles 2015) drawing on the Great British Class Survey (GBCS) found that even when people from routine/semi-routine backgrounds enter NS-SEC 1 occupations, they are less likely to accumulate the same economic, cultural, and social capital as people from privileged backgrounds. Many such differences can be explained by the direct inheritance of wealth, social connections, legitimate tastes, and educational opportunities. However, this research also finds that mobile individuals have considerably lower average incomes, pointing toward the kind of glass ceiling normally associated with women and ethnoracial minorities. Indeed, even when controlling for education, location, age, and cultural and social capital, the upwardly

mobile had, on average, considerably lower annual incomes (£8 to 14k) than did their higher-origin colleagues.

These results point toward lingering class disadvantages within NS-SEC 1. Nevertheless, the GBCS data have three important limitations. First, the GBCS was a self-selecting, web-based survey, so one cannot use it for statistical inference about the national population (Savage et al. 2014). Second, the income question in the GBCS was imprecise: it asked about net annual household income in wide bands rather than having any measure of individual earnings. Third, the GBCS lacked detailed questions concerning respondents' employment situation, including measures of the types of mechanisms shown to affect earnings in other studies of wage gaps.

In contrast, the LFS is free of these problems: it is a random sample, nationally representative survey; it contains detailed measures of individual earnings and employment context; and, perhaps most significantly, it includes measures allowing us to analyze three key sets of factors widely thought to affect earnings. First, it includes measures of educational attainment, and specifically, whether a respondent has attended university. This may be particularly telling in a British context, as the average wage return to a degree remains high in both absolute and comparative terms (Gregg et al. 2013; Jerrim 2012; Walker and Zhu 2010). Second, scholars in sociology and economics (e.g., Becker 1962; Coleman 1988; Groot and Oosterbeek 1994; Piketty 2014) routinely hypothesize that inequalities in earnings can be explained largely in terms of human capital. Here we examine this thesis directly via educational attainment and other key human capital measures, such as job tenure, job training, and health. Finally, the LFS also includes measures of an individual's work context that are known to be associated with distinct occupational advantages, such as working in London (Cunningham and Savage 2015), in big firms (Ashley et al. 2015), and in the private versus public sector (Office of National Statistics [ONS] 2014).⁵

The LFS data thus facilitate a much more in-depth investigation into whether, beyond entry, mobile individuals continue to face lingering disadvantage within Britain's higher professional and managerial occupations. Specifically, these data allow us to examine not only the relationship between social origin and income, but also whether this relationship can be accounted for by other pertinent social differences between the upwardly mobile and the intergenerationally stable.

DATA AND METHODS

We draw on newly released data from the UK Labour Force Survey that provides, for the first time, detailed information about parental occupation. Drawing on this social origin variable, we begin by examining the parental occupations of respondents employed in Class 1 of the National Statistics Socio-economic Classification (NS-SEC)—denoting “higher managerial, administrative and professional occupations.”⁶ Throughout the article, our analysis examines divisions within NS-SEC 1 as a whole, its two constituent sectors—NS-SEC 1.1 and 1.2—and 63 individual occupational titles within NS-SEC 1⁷ that we combine throughout into 15 larger occupational groups. Our goal in creating these was to account for occupational groupings with similar training, skills, and work contexts (Hout 1984), while also having a sufficiently large *n* within each group to allow for meaningful inference. Drawing on Weeden and Grusky (2005), eight of the groups can be conceptualized as micro-classes. Two of these are composed of one occupation each (medical practitioners and higher education teachers, both of which have their own SOC 2010 code), and six additional groups are made up of closely related occupations: law, engineering, scientists, accountants, IT professionals, and finance managers. The remaining seven occupational groups are necessarily more ad hoc, but we grouped them to be as coherent as possible. Table 2 presents the individual occupations and occupational groups.

It is important to explain how we operationalize social mobility. To measure respondents'

social origin, we refer to the LFS question asking respondents the occupation of the main earner parent when they were 14. We then group respondents' social origin into the eight NS-SEC classes.⁸ To simplify our analyses, we consolidate these further at various points. Here we use a four-class scheme, comparing NS-SEC-1 origins (higher managers and professionals, the intergenerationally stable) to NS-SEC 2 (lower managers and professionals, short-range upwardly mobile); NS-SEC 3, 4, and 5 (intermediate and clerical occupations,⁹ mid-range mobile); and NS-SEC 6, 7, and 8 (routine and semi-routine occupations and individuals with no earning family member,¹⁰ long-range mobile). We also use respondents' parents' specific occupations to identify people who are in the same occupational group as their main income-earning parent. We code these respondents as “micro(class)-stable,” and occasionally we refer to individuals who are stable in NS-SEC 1 occupations but not in the same group as their parents as the “macro(class)-stable.”

We draw on a sample of 95,950 respondents from the July to September 2014 LFS Wave. We remove all individuals under age 23 or in full-time education from the analyses.¹¹ We also omit respondents over age 69; the LFS collects data on people older than 69 differently, because most people in this age group have moved into retirement. This leaves an analytic sample of 43,444 respondents between the ages of 23 and 69 who have sufficient origin information to assign to one of the above groups, and 6,104 in NS-SEC 1 occupations. The LFS uses a rolling longitudinal design, where respondents are surveyed in each of five consecutive quarters, with a fifth of the survey entering and another fifth leaving in each quarter. Not all questions are asked of each respondent in each quarter, however; most importantly for our purposes, respondents answer earnings questions only in their first and final quarters in the survey. Thus, to access earnings data (as well as detailed information for respondents' social origins) we obtained a special license for this data. This allowed us to link records across four quarterly LFS questionnaires, so we had

earnings data for as many people as possible who answered the social origin question. This resulted in a sample of 3,510 NS-SEC 1 respondents who also have earnings information, and 3,377 with data on all covariates used in regression models.

Our analysis proceeds in three steps: first, we describe the social origins of respondents in different NS-SEC 1 occupations. Second, we compare the earnings averages of individuals in these occupations according to their social origin;¹² we then model the extent to which class origins predict earnings net of a host of controls, and we decompose the earnings difference into portions that are explained and unexplained by our models. Third, we compare the class pay gap within NS-SEC 1 disaggregated by gender, ethnicity, age, and smaller occupational groups.

ORIGINS AND DESTINATIONS

We begin by providing the most up-to-date analysis of rates of social mobility into Britain's higher professional and managerial occupations. Table 1 shows the distribution of social origins of respondents in NS-SEC 1 occupations as well as the subcategories of NS-SEC 1.1 and 1.2.

Table 1 displays two key findings.¹³ First, it demonstrates that respondents in NS-SEC 1 occupations are *disproportionately* drawn from privileged occupational backgrounds. Specifically, people from NS-SEC 1 backgrounds are nearly twice as common in NS-SEC 1 as in the general population (26.6 versus 14.1 percent). The relationship for people with parents who worked in routine employment is reversed: they constitute 18.3 percent of the population but only 9.5 percent of NS-SEC 1. It is clear that Goldthorpean big-class origins are strongly associated with big-class destinations.

Second, Table 1 also reveals substantial differences in the relationship between social origins and destinations between the managerial and professional sectors of NS-SEC 1. In particular, we find that the greater social exclusivity of the professions—originally highlighted by Savage and colleagues (1992)—persists in

contemporary Britain, with significantly higher inflow rates of recruitment into higher managerial occupations than into the higher professions. Note, too, that higher managers in our sample earn, on average, 24 percent more than higher professionals (see Table S1 in the online supplement [<http://asr.sagepub.com/supplemental>]). This is significant because it suggests that greater economic capital does not necessarily map onto greater social closure in the British context.

One of the main advantages of the new LFS data is that they allow us to move beyond big classes, or even class sectors, toward a more fine-grained analysis of mobility into *individual* high-status occupations. Table 2 (and Figure 1) display rates of recruitment and reproduction into the 63 occupational titles, and 15 occupational groups, that make up NS-SEC 1. Table 2 and Figure 1 are sorted by the relative openness of these 15 occupational groups. The first column of Table 2 reports rates of intergenerational micro-class reproduction for each occupational group—that is, where occupational group *destination* directly matches parental occupational group *origin* (e.g., respondents in law whose main-earner parent was also in law); this group is a subset of the intergenerationally stable. Figure 1 illustrates the extent to which each origin group is over- or under-represented in each occupational destination group compared to their prevalence in the population (of 23- to 69-year-olds) as a whole; that is, a value of 1 for long-range mobile would indicate that the same proportion of people from working-class backgrounds are in that occupational group as there are in our target population.

Table 2 and Figure 1 demonstrate that NS-SEC 1 is by no means a coherent class in terms of its incumbents' origins.¹⁴ On the contrary, there is tremendous diversity in the exclusiveness of different high-status occupations in Britain.¹⁵ First, we see a pattern of distinct micro-class reproduction, where children with parents in medicine and law are 21 and 18 times (respectively) more common in these fields than in the population as a whole (see Figure S1 in the online supplement). On

Table 1. Class Origins and Destinations, All NS-SEC Categories

	Respondent's NS-SEC Group/Destinations							
	1	1.1	1.2	2	3 to 8	All		
	NS-SEC 1 All	Higher Managers	Higher Professionals	Lower Managers & Professionals	All Others	Total		
Parent's NS-SEC Group/Origins								
1. Higher managerial and professional	26.6%	23.1%	27.7%	18.5%	9.3%	14.1%		
2. Lower managerial and professional	20.6%	17.6%	21.5%	20.4%	11.5%	15.0%		
3. Intermediate occupations	12.2%	12.0%	12.3%	11.5%	9.1%	10.1%		
4. Small employers and own account workers	11.2%	13.6%	10.4%	12.9%	15.8%	14.4%		
5. Lower supervisory and technical	10.5%	12.5%	9.9%	11.2%	12.2%	11.7%		
6. Semi-routine occupations	7.1%	8.0%	6.8%	10.1%	13.9%	12.0%		
7. Routine occupations	9.5%	11.0%	9.1%	12.9%	22.6%	18.3%		
8. No earner in household	2.3%	2.3%	2.3%	2.6%	5.6%	4.4%		
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Percent of population	14.2%	3.3%	10.8%	25.1%	60.8%	100.0%		
<i>N</i>	6,418	1,499	4,919	11,362	27,572	45,356		

Note: Total *N* = 45,356. Respondents age 23 to 69, not in full-time education, with origin and destination data. Percentages above the *total* row are column percentages; they give the percent of respondents *from* each origin *in* each NS-SEC class or grouping, that is, the 26.6 percent in the upper left indicates that 26.6 percent of respondents in NS-SEC 1 occupations have NS-SEC 1 origins. Percentages calculated using survey weights; *n*'s are actual, unweighted number of respondents in each category.

Table 2. Social Origins of Adults (Age 23 to 69) in Higher Managerial and Professional Occupations

	Micro- Stable	NS- SEC 1	NS- SEC 2	NS- SEC 3 to 5	NS- SEC 6 to 8	N
Medical Practitioners	17.2%	52.3%	22.4%	20.6%	4.5%	260
Law	8.1%	40.9%	18.9%	23.8%	16.6%	219
Barristers and judges		46.6%	20.5%	13.7%	17.8%	35
Legal professionals n.e.c.		40.4%	16.5%	21.1%	22.0%	55
Solicitors		39.0%	19.1%	27.6%	13.8%	129
Other Life Science Professionals	3.0%	37.2%	19.9%	31.8%	11.3%	183
Speech and language therapists		46.7%	36.7%	19.3%	0.0%	17
Veterinarians		45.7%	23.9%	26.1%	5.0%	26
Dental practitioners		43.0%	19.8%	31.4%	5.8%	46
Psychologists		36.6%	25.4%	32.4%	5.2%	41
Pharmacists		26.2%	9.7%	37.9%	26.2%	53
Other Professionals	6.2%	33.5%	23.0%	25.7%	17.9%	148
Aircraft pilots and flight engineers		44.6%	21.4%	17.5%	16.8%	31
Clergy		34.4%	17.7%	30.2%	17.7%	58
Environment professionals		33.8%	17.6%	29.7%	17.6%	40
Environmental health professionals		10.3%	54.8%	14.8%	19.7%	19
Finance	4.6%	30.3%	16.0%	38.3%	15.6%	253
Brokers		35.8%	15.8%	32.6%	15.8%	42
Financial mngrs and directors		29.1%	16.1%	39.3%	15.6%	210
Finance and investment analysts and advisers		.0%	.0%	100.0%	.0%	1
Scientists	2.2%	29.0%	23.9%	31.7%	15.3%	256
Biological scientists and biochemists		31.7%	15.9%	33.7%	18.7%	140
Physical scientists		33.3%	37.9%	25.8%	4.7%	33
Social and humanities scientists		30.0%	17.8%	50.0%	.0%	16
Natural and social science professionals n.e.c.		22.2%	42.9%	14.8%	19.0%	31
Chemical scientists		20.3%	25.0%	37.5%	15.6%	36
Higher Education Teaching Professionals	3.9%	29.0%	26.1%	30.3%	15.0%	170
Business Professionals	2.2%	27.0%	21.7%	31.3%	20.0%	977
Business and related research professionals		31.6%	29.5%	22.1%	16.8%	45
Management consultants and business analysts		28.2%	26.9%	30.9%	14.4%	201
Business and finan. proj. mngmnt professionals		27.7%	22.3%	33.0%	17.0%	231
Sales accounts and business development mngrs		25.8%	18.8%	30.8%	24.7%	458
Research and development mngrs		26.3%	16.3%	41.3%	16.3%	42
Accountants	4.6%	25.6%	18.8%	40.3%	15.7%	330
Taxation experts		29.2%	12.2%	29.2%	30.6%	39
Chartered and certified accountants		27.8%	17.5%	38.8%	16.0%	223
Insurance underwriters		16.2%	18.9%	40.5%	24.3%	36
Actuaries, economists, and statisticians		16.1%	17.7%	32.3%	33.9%	32
Built Environment Professionals	1.5%	25.5%	17.1%	37.2%	20.3%	151
Architects		28.8%	17.8%	43.2%	10.2%	62
Chartered surveyors		23.4%	17.1%	39.6%	18.9%	58
Town planning officers		21.5%	21.5%	35.4%	20.0%	31
Managers and Directors in Business	7.3%	24.4%	17.7%	36.7%	21.2%	788
Advertising and public relations directors		47.1%	28.2%	14.1%	9.7%	17
Purchasing mngrs and directors		39.3%	7.3%	46.4%	8.3%	48
Functional mngrs and directors n.e.c.		34.2%	17.1%	25.6%	23.1%	66

(continued)

Table 2. (continued)

	Micro- Stable	NS- SEC 1	NS- SEC 2	NS- SEC 3 to 5	NS- SEC 6 to 8	N
Chief executives and senior officials		30.2%	17.0%	41.5%	10.4%	56
Marketing and sales directors		29.4%	21.7%	34.4%	14.4%	88
Human resource mngrs and directors		27.1%	15.6%	38.7%	18.6%	112
Production mngrs and dirs in mining and energy		20.9%	0.0%	65.5%	15.5%	7
Production mngrs and dirs in manufacturing		17.4%	18.4%	35.7%	28.4%	332
Property, housing, and estate mngrs		14.4%	18.9%	45.9%	20.7%	62
Protective Civil Service	8.2%	24.2%	11.8%	35.9%	28.1%	83
Officers in armed forces		37.3%	3.1%	41.2%	18.8%	27
Snr offcrs in fire, amblnc, prison, and rel. srvc		23.0%	10.5%	25.6%	41.9%	24
Snr police officers		21.5%	6.1%	48.5%	22.1%	18
Probation officers		5.6%	36.3%	28.1%	29.3%	14
Information Technology	1.9%	23.9%	24.3%	33.0%	18.9%	752
IT and telecommunications directors		31.0%	13.4%	42.3%	13.5%	38
IT project and programme mngrs		25.7%	30.9%	29.3%	14.7%	97
IT specialist mngrs		24.8%	21.9%	32.6%	20.7%	227
Programmers and software development profs		23.1%	25.2%	33.7%	17.7%	277
IT business analysts, archtcts, and systems designers		20.9%	23.7%	31.3%	24.2%	113
Engineers	8.6%	21.1%	21.2%	36.9%	20.7%	462
Mechanical engineers		30.8%	18.9%	31.4%	19.5%	89
Civil engineers		24.9%	18.1%	36.2%	20.3%	92
Engineering professionals n.e.c.		19.0%	15.5%	38.9%	26.5%	120
Electronics engineers		16.1%	22.6%	38.7%	22.6%	35
Design and development engineers		15.9%	25.6%	42.7%	15.9%	88
Electrical engineers		12.1%	39.5%	31.6%	17.1%	38
Public Sector Managers and Professionals	1.1%	16.2%	23.7%	41.1%	19.0%	303
Education advisers and school inspectors		22.7%	22.7%	30.3%	24.2%	39
Senior professionals of educational establishments		18.0%	24.9%	39.2%	18.0%	126
Health servcs and public health mngrs and dirs		16.4%	14.8%	45.9%	23.0%	69
Social servcs mngrs and directors		10.1%	28.4%	43.1%	17.4%	60
Elected officers and representatives		.0%	43.5%	54.7%	.0%	9
Total	4.8%	27.6%	20.9%	33.4%	18.2%	5,335

Note: Percentages for stable include the micro-stable. All percentages calculated using recommended survey weights, $N = 5,335$ (some respondents who can be classed as NS-SEC 1 do not have four-digit SOC 2010 codes and cannot be included here). Table S7 in the online supplement gives Soc 2010 codes for each individual occupation and standard errors for proportions from each social origin group.

the other hand, rates of micro-class reproduction are much lower in other occupational groups; children of people in accounting, for example, are only about 1.75 times as common in accounting occupations as elsewhere.

Second, Table 2 illustrates that the broader social origins of people in different elite occupations also vary considerably. For example, 53

percent of doctors¹⁶ are the children of higher managers and professionals, whereas only 16 percent of senior public sector managers and professionals have similarly privileged roots. Echoing the recent results of Friedman and colleagues (2015), Figure 1 and Table 2 also suggest a telling distinction within these occupations between the traditional and the technical. For

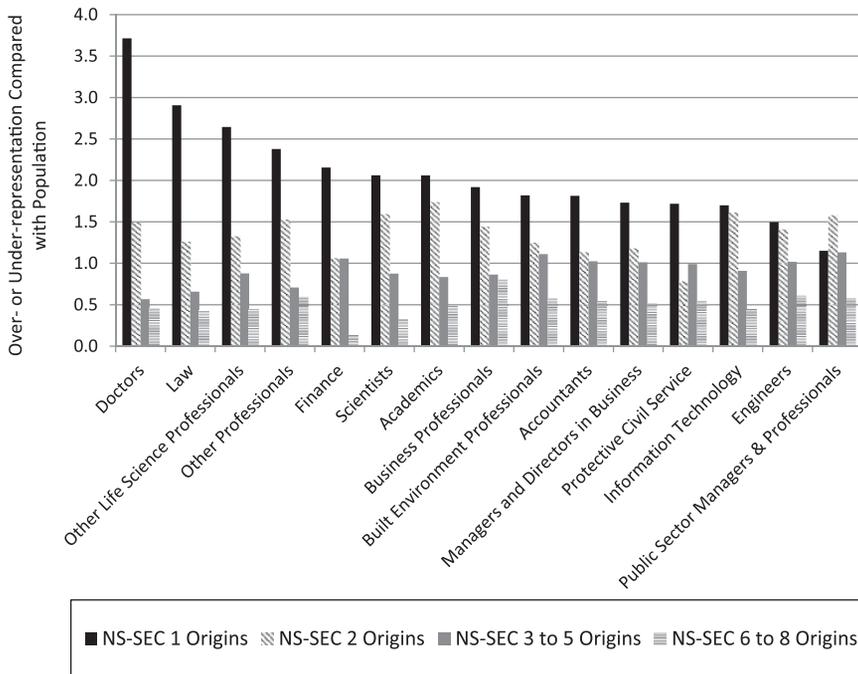


Figure 1. Over- and Under-representation of Social Origins in Higher Managerial and Professional Occupations

Note: All respondents age 23 to 69 with origin and destination information in higher managerial and professional occupations, not in full-time education. $N = 5,327$. Height of bars gives the over- or under-representation of each origin group in each occupational group. This is generated by dividing the percentage of people from an origin group in each occupation by the percentage of people in our target population as a whole from that origin. Values over 1 indicate over-representation; a value of exactly 1 would mean people from a given social origin are no more or less likely to be found in that occupational group than in the rest of the population. For example, people with NS-SEC 1 origins are over 3.5 times over-represented in medicine, and only about 1.15 times as likely to be found among public sector managers as anywhere else. Table S7 in the online supplement gives standard errors for the proportion stable in each individual occupation.

example, the traditional—or “gentlemanly” (Miles and Savage 2012)—professions of law, medicine, finance, life science, academia, and science contain a particularly high concentration of people from NS-SEC 1 backgrounds, with the intergenerationally stable over-represented by a factor of more than two in each case. Similarly, Table 2 shows that these traditional professions are among the most closed to people from relatively disadvantaged backgrounds: less than 7 percent of doctors, veterinarians, dentists, and physical scientists, for example, are from routine or semi-routine working-class or no-earner family origins.

In contrast, a set of technical professions—engineering, IT, and the built environment—contain a higher than average percentage

(compared to NS-SEC 1 as a whole) of upwardly mobile people. Furthermore, in certain public sector occupations, such as public sector managers and protective civil servants, the majority do *not* come from professional or managerial backgrounds.¹⁷

These findings are significant in two ways. First, they underscore the limitations of using big-classes like NS-SEC 1 to understand the social composition of the top end of the occupational order. In Britain at least, this elides an important distinction between higher professionals and managers (Savage et al. 1992). Higher managers earn more, but the higher professions remain significantly more *elitist* in terms of restricting access for people from working-class backgrounds (Macmillan 2009).

Second, our results indicate that the long-standing theoretical tendency to pitch big-class mobility analysis against micro-class approaches has foreclosed important analytic avenues. In particular, both of these approaches proceed from the logic of the standard mobility table. Yet by looking *asymmetrically* at both macro- and micro-class origins and destinations, our analysis underlines the importance of resources that stem from *both* big- and micro-level class origins. Micro-class reproduction is especially strong in areas like law and medicine, but it is really at the level of micro-class *destination* that, contra Goldthorpe, the effects of big-class origins are brought sharply into focus: the largest proportions of the intergenerationally stable are within specific occupations, such as veterinarians, dentists, airline pilots, and those working in finance, science, and academia.

INTRODUCING THE CLASS CEILING

Our analysis so far has demonstrated wide variation in the openness of different high-status occupations, but it does not tell us how people from lower origins fare relative to others *within* NS-SEC 1 occupations. To tap this intra-occupational question, we analyze logged weekly gross earnings. Earnings do not necessarily provide a definitive measure of occupational position, or level of prestige, but they are the best available proxy and also an important marker of success in their own right. Figure 2 shows the average logged weekly gross earnings of respondents in NS-SEC 1 occupations, according to their social origins.

Figure 2 shows substantial and significant earnings differences among people in NS-SEC 1 occupations according to their social origin. Respondents whose parents were in higher managerial and professional occupations have (geometric) mean earnings of £844 a week, whereas upwardly mobile individuals earn, on average, £56 to £173 less per week, depending on the range of their mobility. Particularly striking here is the pay gap encountered by people from working-class (NS-SEC 6, 7, and 8) backgrounds; as a group, they

earn an average of only 83 percent as much as the intergenerationally stable. This translates into £141 less per week, or an annual difference of about £7,350 (\$11,000).¹⁸ These differences are not only substantively but also statistically significant. The average logged earnings of each origin group are lower than the stable group at $p < .05$, as is the difference between people from routine manual or non-earner households and the overall mean across all of NS-SEC 1.

Of course, a simple distribution of earnings averages cannot tell us whether the upwardly mobile face a “class ceiling” or pay discrimination, or whether they are simply different from the intergenerationally stable in other respects. To disentangle potential sources of class-origin income difference, Table 3 shows a series of nested linear regressions that control for four sets of factors that we identified as sources of income inequality. In the base model, we include controls for gender, ethnicity, and age as well as paid hours worked and the quarter in which the respondent gave earnings information.¹⁹ In Model 2, we add measures of education: the highest degree or qualification respondents achieved and their degree classification.²⁰ Model 3 adds additional measures of human capital—training, job tenure, and current and past health.²¹ Model 4 adds work context: the region of the United Kingdom in which respondents worked, the industry their job was in, whether they worked in the public or private sector, the size of the firm at which they worked, and whether their occupation is classified as NS-SEC 1.1 or 1.2. Finally, in Model 5, we add dummy variables for each of the individual occupations in NS-SEC 1. Coefficients are exponentiated and can therefore be understood as giving the predicted percentage change in earnings for a one-unit change in the independent variable (e.g., the coefficient of .792 for respondents with NS-SEC 7 parents in Model 1 indicates predicted earnings 79.2 percent of those for NS-SEC 1-origin respondents).

Table 3 shows that even when we control for all of these variables, the class pay gap remains across NS-SEC 1. Specifically, in Model 5, with all the controls included, the

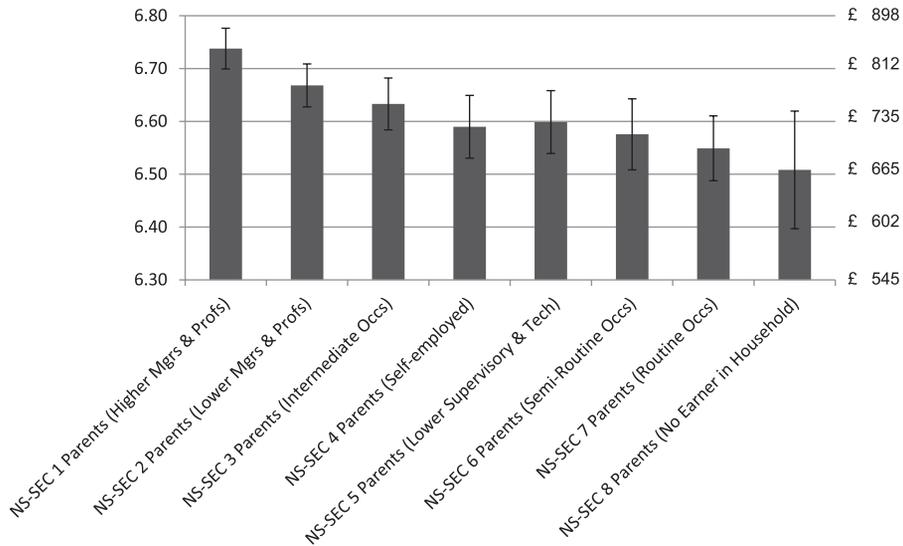


Figure 2. Mean Logged Weekly Earnings by Origin for Respondents in NS-SEC 1

Note: Mean natural log of weekly earnings for all respondents age 23 to 69, in NS-SEC 1 occupations, not in full-time education, with origin, destination, and earnings data. $n = 3,510$. Mean logged earnings given on left axis, exponentiated value on right axis. 95% confidence margins shown.

pay gap remains statistically significant for all respondents from NS-SEC 3 through 8 social origins. Moreover, there is still a substantial difference (9 to 12 percent) in earnings by origin between respondents who are otherwise similar in every way we can measure—this translates to £4,342 (\$6,500) per year²² lower earnings for people from NS-SEC 6, 7, and 8, compared with the mean for NS-SEC 1 origins. This is very similar in size and persistence to the estimate of the gender wage gap, where we find women earning 88.2 percent of otherwise similar men in NS-SEC 1. This is worth underlining. Even when the upwardly mobile are successful in entering Britain's higher professional and managerial occupations, they still face a class pay gap that persists even when adjusting for a range of factors believed to affect earnings.

DECOMPOSING THE CLASS PAY GAP

Table 3 points to a previously undetected class pay gap, and it allows us—in conjunction with Table 4—to unravel some of the mechanisms responsible for driving this inequality.

Although we cannot conduct a truly causal analysis here, in Table 4 we conduct a Blinder-Oaxaca decomposition (Blinder 1973; Jann 2008) to see how much the measured attributes of the upwardly mobile account for the class pay gap.²³ This model uses the same variables as the full model in Column 5 of Table 3, but simply compares respondents who are mid- or long-range upwardly mobile to the intergenerationally stable.²⁴ Overall, measured differences between the stable and the upwardly mobile account for 46 percent of the class pay gap, but 54 percent remains unexplained.

The percentages in the second column of Table 4 can be read as the amount that the pay gap would increase (negative) or decrease (positive) if the upwardly mobile had the same average values on those measures as the intergenerationally stable. For example, the negative 24 percent for age in Column 2 is due to people with intermediate- or working-class parents being older, on average, than respondents whose parents were in NS-SEC 1; if the average ages of the two groups were the same, the pay gap between them would be 24 percent larger. (These negative effects mean that other effects can and do

Table 3. Models of Earnings Gaps

	Model 1	Model 2	Model 3	Model 4	Model 5
	Only Demographic Controls	Adding Education	Adding Human Capital	Adding Work Context	Adding Specific Occupations
Origins (vs. NS-SEC 1 Parents)					
NS-SEC 2 (Lower Mgrs and Profs)	.929**	.946*	.947*	.955*	.974
NS-SEC 3 (Intermediate Occs)	.880***	.916**	.913***	.932**	.947*
NS-SEC 4 (Self-employed)	.833***	.872***	.870***	.899***	.917**
NS-SEC 5 (Lower Supervisory and Tech)	.872***	.911**	.907**	.916**	.937*
NS-SEC 6 (Semi-Routine Occs)	.818***	.878***	.874***	.891***	.911**
NS-SEC 7 (Routine Occs)	.792***	.848***	.845***	.867***	.883***
NS-SEC 8 (No Earner in Household)	.834***	.886*	.889*	.881**	.897*
Age (in years)	1.091***	1.095***	1.090***	1.085***	1.080***
Age Squared	.999***	.999***	.999***	.999***	.999***
Female	.862***	.855***	.853***	.887***	.882***
Not White	1.051	1.024	1.024	1.004	.983
Country of birth (vs. England)					
Outside the UK	1.023	.997	1.003	.954	.954
Northern Ireland	.919	.92	.907	1.066	1.039
Scotland	1.002	.98	.976	1	1.007
Wales	.975	.955	.948	1.021	1.01
Paid Hours Worked in Week	1.021***	1.022***	1.022***	1.021***	1.021***
Educational Qualifications (vs. University Degree)					
PhD		1.01	1.011	1.065*	1.139***
MA		1.047	1.049	1.038	1.059*
Post-Graduate Ed. Cert.		.968	.972	1.039	1.065
Other Post-Graduate		.994	.995	1.065	1.014
Higher Ed.		.810***	.808***	.827***	.837***
A-Levels		.819***	.817***	.815***	.818***
GCSEs		.764***	.763***	.756***	.751***
Other Qualifications		.790**	.796**	.755***	.784***
No Qualifications		.619***	.627***	.622***	.626***
Degree Class (vs. 2:2/Lower 2nd Class)					
N/A (e.g., no degree, foreign degree)		1.079*	1.074*	1.088**	1.075*
Pass		1.044	1.035	1.156*	1.047
Third Class		1.144*	1.137*	1.114*	1.089*
2:1/Higher Second Class		1.118***	1.118***	1.121***	1.105***
1st Class		1.116**	1.116**	1.110**	1.081*
Current Health Problems Scale			.972*	.975*	.974**
Past Health Problems Scale			.965	.959	.968
Job Tenure in Years			1.005***	1.004***	1.004***

(continued)

Table 3. (continued)

	Model 1	Model 2	Model 3	Model 4	Model 5
	Only Demographic Controls	Adding Education	Adding Human Capital	Adding Work Context	Adding Specific Occupations
Job-Related Training Past 3 Months			1.027	1.032*	1.024
Region of Work (vs. London)					
North East				.762***	.776***
North West				.794***	.815***
Yorkshire and Humberside				.800***	.816***
East Midlands				.790***	.803***
West Midlands				.787***	.804***
Eastern				.813***	.827***
South East				.866***	.874***
South West				.799***	.809***
Wales				.736***	.778***
Scotland				.819***	.843***
North Ireland				.638***	.685***
Industry (vs. Public Admin., Educ., and Health)					
Agriculture, forestry, and fishing				.85	.868
Energy and water				1.055	1.099
Manufacturing				1.043	1.108**
Construction				.946	1.004
Distribution, hotels and restaurant				1.022	1.063
Transport and communication				1.163***	1.162***
Banking and finance				1.072*	1.102***
Other services				.792***	.94
Public sector (vs. private)				.877***	.909***
Firm Size (vs. Less Than 25 Employees)					
25 to 49				1.257***	1.219***
50 to 499				1.251***	1.219***
500 or more				1.356***	1.315***
Professionals (vs. Managers)				.906***	
Constant	56.76***	47.51***	52.12***	55.20***	78.35***
<i>N</i>	3,377	3,377	3,377	3,377	3,377
<i>r</i> ²	.222	.268	.275	.386	.433

Note: Coefficients are exponentiated and can be read as predicted percent changes. Cases missing data on any variable are deleted from all models. Survey weights used. Models also include dummy variables for all individual occupations included in models, and for the wave in which the respondent reported income. Average values for each variable for each origin group are given in Table S3 in the online supplement.

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests).

account for more than the total percentage of explained difference.)

Table 4 demonstrates that differences in educational attainment account for 45 percent of the earnings gap. This is because respondents in NS-SEC 1 from working- or intermediate-class origins are less likely to have attained university or post-graduate degrees, and people with higher degrees tend to earn more; if the upwardly mobile had the same qualification levels as the stable group, and none of their other attributes changed, the earnings gap would be (just under) half what it is. Conversely, differences in degree classification are not a strong contributor to the pay gap; all the explanatory work is done by qualifications.

It is important to note here, however, that the LFS lacks more fine-grained educational measures, such as private schooling and elite university attendance, that are known to be strongly associated with both class origin and earnings in Britain (Crawford and Vignoles 2014; Macmillan, Tyler, and Vignoles 2014). Indeed, in previous work on the class ceiling with the Great British Class Survey (Friedman et al. 2015), intergenerationally stable respondents' greater rates of attending private schools or elite universities contributed substantially to the class pay gap.

Model 3 of Table 3 shows earnings once human capital measures of job tenure, training, and health are added. However, Table 4 makes clear that differences in human capital make little overall difference, and most of the difference is negative—if the upwardly mobile had the same job tenure as the stable group, the pay gap would actually be larger. This, along with the education controls, indicates that the dominant, individualizing argument that inequality in earnings can largely be explained in terms of individual knowledge, credentials, and skill, appears fundamentally limited in a British context.

Finally, Models 4 and 5 of Table 3 add measures of work context. These appear to do the bulk of the work in accounting for the class pay gap. We find class-origin differences across all the variables included in this model, but the largest differences, and the

largest effects on earnings, are for firm size, work region, and specific occupation. In terms of firms, people in companies with more than 500 employees earn over 35 percent more than respondents in firms with 25 or fewer employees. Yet only 27 percent of people from working-class origins are in these larger firms, compared with 37 percent of people from NS-SEC 1 origins; this difference accounts for nearly 10 percent of the class-origin pay gap. It is impossible to say with these data precisely *why* people from lower class origins may not be entering the biggest and best paying firms, but recent work in Britain (Ashley et al. 2015; Purcell, Elias, and Wilton 2004) highlights how large employers routinely evaluate talent according to attributes rooted in middle-class socialization. For example, recruiters typically seek a polished appearance, strong debating skills, and a confident manner, traits these authors argue can be closely traced back to advantaged social backgrounds—what Bourdieu ([1986] 2001) calls middle-class “embodied cultural capital” (i.e., legitimate ways of speaking, dressing, and being). Rivera (2012, 2015) also highlights the process of “cultural matching” at elite firms in the United States, whereby people in senior positions, who are themselves disproportionately likely to be from stable backgrounds, misrecognize as merit social and cultural traits rooted in class backgrounds similar to their own.

We also see a huge gradient in pay by region, with people outside London earning between 13 and 23 percent less in England, and even less in Wales, Scotland, and Northern Ireland, than do otherwise similar NS-SEC 1 respondents whose workplaces are inside the metropolis. Moreover, the intergenerationally stable are more than 1.5 times as likely to work in London as are the long-range upwardly mobile (27 versus 16 percent, see Table S3 in the online supplement). Again, although it is beyond our scope to explain why the upwardly mobile are less likely to work in London, a number of British studies suggest that graduates from working-class backgrounds are less willing and less financially

Table 4. Blinder-Oaxaca Decomposition

Overall	Logged Values	Exponentiated Values	<i>P</i> > <i>t</i>
NS-SEC 1 Origins	6.729	£ 836.4	.00
NS-SEC 3 to 8 Origins	6.582	£ 721.8	.00
Difference	.147	115.9%	.00
Explained	.068	107.0%	.00
Unexplained	.080	108.3%	.00

Explained	Contribution to the Pay Gap	Percent of Difference Explained	<i>P</i> > <i>t</i>
Base Model Controls		-25.0%	
Age and Age Squared	-.0351	-23.8%	.00
Female	-.0049	-3.4%	.07
Not White	.0002	.2%	.70
Country of Birth	-.0012	-.8%	.59
Quarter Responded to Survey	.0010	.7%	.36
Paid Hours Worked	.0032	2.2%	.64
Education		45.0%	
Educational Qualifications	.0698	47.4%	.00
Degree Classification	-.0036	-2.4%	.32
Human Capital		-5.3%	
Current Health Problems Scale	.0011	.7%	.26
Past Health Problems Scale	-.0001	-.1%	.81
Job Tenure in Years	-.0087	-5.9%	.00
Job-Related Training Past 3 Months	.0019	1.3%	.16
Work Context		31.2%	
Region of Work	.0222	15.1%	.00
Industry	-.0039	-2.7%	.23
Public Sector	-.0065	-4.4%	.03
Firm Size	.0142	9.6%	.00
Specific Occupation	.0182	12.3%	.02
Sum	.0677	46.0%	

Note: Models are identical to those in Column 5 of Table 3, except that only NS-SEC 3 to 8 origin respondents ($n = 1,758$) were compared to NS-SEC 1 origin respondents ($n = 887$). Variables are grouped into the same categories as in the five nested models in Table 3, and the effects for each group and subgroup of variables are shown, rather than individual categories for each variable. We used the pooled model, where the decomposition is based on comparing models for each group to a pooled model containing a dummy variable for the groups; we included a term to make the choice of reference category for sets of dummy variables in the models irrelevant to the estimation of the effects of that categorical variable. Results obtained using the *oaxaca* command in Stata 13 (Jann 2008).

able to capitalize on career opportunities in the capital. They often lack the familial economic resources required for geographic relocation, and they are less able to negotiate the high costs of housing and the precariousness of the early-career labor market once in London²⁵ (Friedman, O'Brien, and Laurison forthcoming; Furlong and Cartmel 2005;

Pollard, Pearson, and Wilson 2004). Finally, as we saw in Table 2, there are substantial differences in the class-origin composition of different occupations within NS-SEC 1. These differences (and the differences in the average pay of these occupations; see Tables S2 and S7 in the online supplement) explain 12.3 percent of the pay gap.

Taken together, the variables in Model 5 account for almost half of the difference in earnings between the upwardly mobile and the intergenerationally stable. Yet, this leaves 54 percent of the difference unexplained. The data at hand cannot account for this unexplained class pay gap. However, we suggest two possibilities. First, the class pay gap might be explained by the behaviors, practices, and resources of the upwardly mobile themselves. As previous work suggests, mobile individuals may specialize in less lucrative areas (Ashley et al. 2015; Cook, Faulconbridge, and Muzio 2012), be more reluctant to ask for pay raises, rely less on networks for work opportunities (Macmillan et al. 2014), and in some cases even exclude themselves from seeking promotion because of anxieties about fitting in or abandoning class-cultural origins (Friedman 2016).

Second, the upwardly mobile might be victims of class discrimination: they may be consciously or unconsciously given fewer rewards in the workplace than people from more advantaged backgrounds. This may manifest as outright discrimination or snobbery (Friedman et al. forthcoming), or it may have to do with more tacit processes of homophily in contexts such as interviews or performance appraisals (Ashley et al. 2015; Rivera 2012). That is, we believe many of the same well-documented processes that disadvantage women and ethnic minorities in the labor market and workplace may also affect the upwardly mobile.

DISAGGREGATING THE CLASS PAY GAP

Tables 3 and 4 show that the upwardly mobile face a significant pay penalty in higher professional and managerial occupations; it is important to deepen this analysis by asking whether this disadvantage looks the same across all of NS-SEC 1. In Figures 3 through 7, we look at origin-income differences for men and women, whites and non-whites, different age groups, NS-SEC 1.1 and 1.2, and finally for each of our 15 occupational subgroups. For simplicity of presentation and interpretation,

in the two-way comparisons we collapse some of the categorical variables into fewer categories;²⁶ aside from these changes, all coefficients shown in Figures 3 through 7 are from models that are otherwise identical to those reported in Table 3, columns 1 and 5.²⁷ These figures were produced using the package *coefplot* in Stata (Jann 2014); they display the exponentiated point estimates of coefficients for origins as well as the 90 (thicker lines) and 95 (thinner lines) percent confidence intervals.

In terms of gender, Figure 3—combined with the predicted earnings deficit of about 12 percent for women reported in Table 3—illustrates that upwardly mobile women face a significant double disadvantage based on class origin *and* gender. Long-range upwardly mobile women have predicted earnings of about 25 percent less than otherwise similar intergenerationally stable men.²⁸ Figure 4 shows the results for separate regressions for ethnic minorities and whites, and Figure 5 for five different age groups. The overall patterns for all these groups are similar: the long-range upwardly mobile face the most disadvantage; the closer one's origins are to NS-SEC 1, the less disadvantage one experiences. There are not enough ethnic minorities in NS-SEC 1 occupations (only 300 with earnings data) for much statistical power: only the coefficient for long-range upwardly mobile ethnic minorities is statistically significant. In terms of age, pay penalties also tend to be larger for older age groups; they do not reach significance for the 30 to 39 age group. This points to two possible explanations: first, the class ceiling could be declining across cohorts, although the strikingly negative coefficient for the youngest long-range mobile group challenges this story. Perhaps more plausibly, and in keeping with existing research, the greater penalties experienced by people in their 50s could be due to a cumulative effect over the course of their careers (Abramson 2015; Hansen 2001b). We do not have the data to adjudicate between these accounts here, but whatever the cause, we see a pattern of greater pay disadvantage among older mobile respondents.

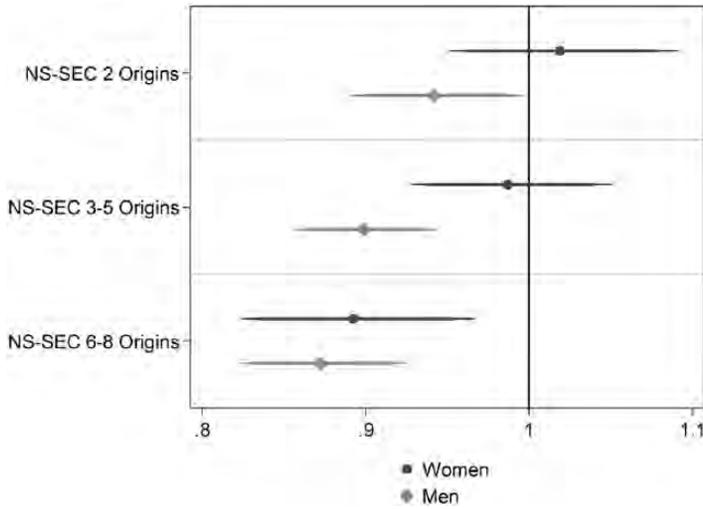


Figure 3. Class-Origin Earnings Gaps by Gender

Note: Coefficients for upwardly mobile origins (compared to intergenerationally stable) from models of logged gross weekly earnings for men only ($n = 2,097$) and women only ($n = 1,216$) with full controls, that is, the same covariates (with some categories collapsed) as those in Column 5 of Table 3. The marker is the point estimate for each coefficient, the thinner region of each bar is the 95% confidence interval, and the thicker region is the 90% confidence interval; bars that do not cross the vertical line at 1 are statistically significant at $p < .05$. Created in Stata 13 using the *coefplot* command (Jann 2014).

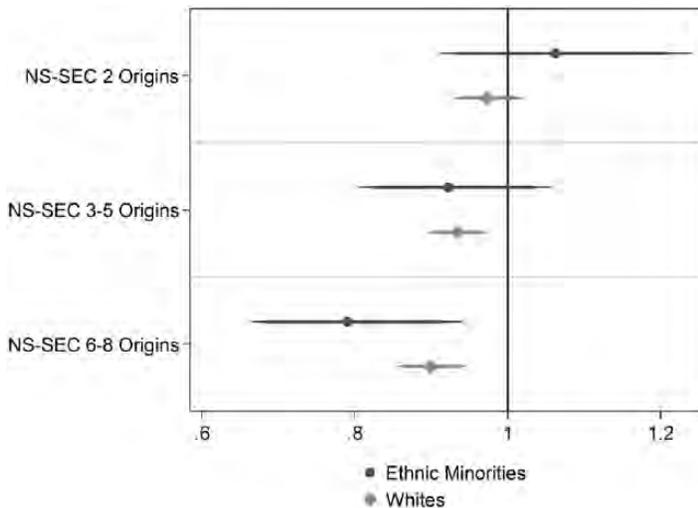


Figure 4. Class-Origin Earnings Gaps by Ethnicity

Note: Coefficients for upwardly mobile origins (compared to intergenerationally stable) from models of logged gross weekly earnings for ethnic minorities only ($n = 300$) and whites only ($n = 3,013$) with full controls, that is, the same covariates (with some categories collapsed) as those in Column 5 of Table 3. The marker is the point estimate for each coefficient, the thinner region of each bar is the 95% confidence interval, and the thicker region is the 90% confidence interval; bars that do not cross the vertical line at 1 are statistically significant at $p < .05$. Created in Stata 13 using the *coefplot* command (Jann 2014).

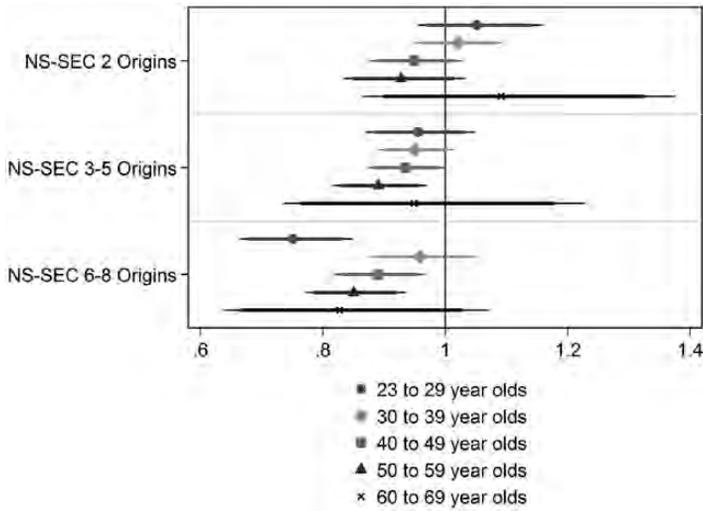


Figure 5. Class-Origin Earnings Gaps by Age Group

Note: Coefficients for upwardly mobile origins (compared to intergenerationally stable) from models of logged gross weekly earnings for each age group ($n = 265$ for 23 to 29 group; $n = 952$ for 30 to 39 group; $n = 1,055$ for 40 to 49 group; $n = 786$ for 50 to 59 group; and $n = 250$ for 60 to 69 group) with full controls, that is, the same covariates (with some categories collapsed) as those in Column 5 of Table 3. The marker is the point estimate for each coefficient, the thinner region of each bar is the 95% confidence interval, and the thicker region is the 90% confidence interval; bars that do not cross the vertical line at 1 are statistically significant at $p < .05$. Created in Stata 13 using the *coefplot* command (Jann 2014).

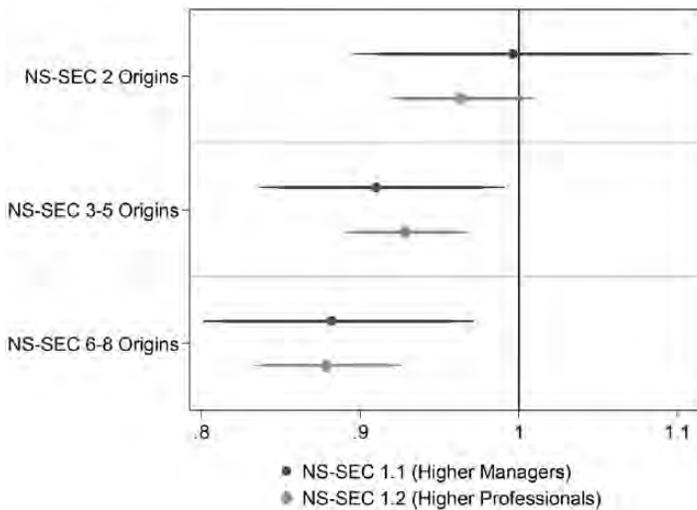


Figure 6. Class-Origin Earnings Gaps in NS-SEC 1.1 versus 1.2

Note: Coefficients for upwardly mobile origins (compared to intergenerationally stable) from models of logged gross weekly earnings for higher managers only ($n = 815$) and higher professionals only ($n = 2,498$) with full controls, that is, the same covariates (with some categories collapsed) as those in Column 5 of Table 3. The marker is the point estimate for each coefficient, the thinner region of each bar is the 95% confidence interval, and the thicker region is the 90% confidence interval; bars that do not cross the vertical line at 1 are statistically significant at $p < .05$. Created in Stata 13 using the *coefplot* command (Jann 2014).

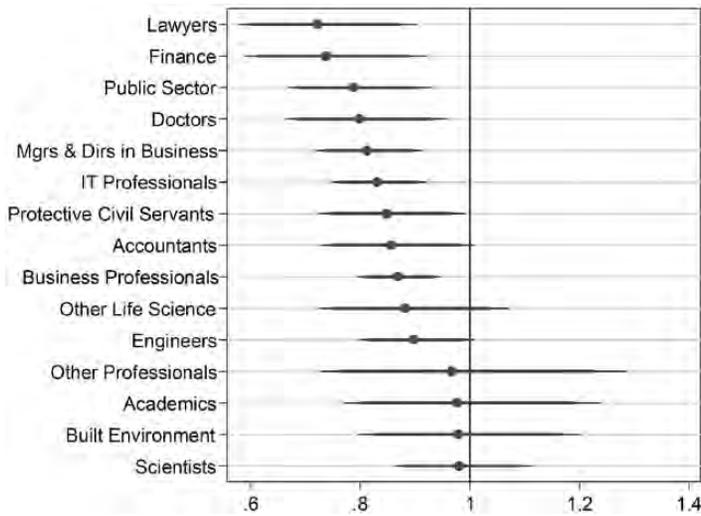


Figure 7a. Class-Origin Earnings Gaps within Micro-Classes, Base Model

Note: Coefficients for upwardly mobile origins (people from NS-SEC 3 to 7 origins, compared to intergenerationally stable respondents) from models of logged gross weekly earnings for each micro-class group ($n = 76$ for lawyers, $n = 129$ for finance managers, $n = 164$ for public sector managers and professionals, $n = 108$ for doctors, $n = 421$ for managers and directors business, $n = 377$ for IT professionals, $n = 47$ for protective civil servants, $n = 161$ for accountants and related, $n = 501$ for business professionals, $n = 74$ for other life science professionals, $n = 221$ for engineers, $n = 76$ for other professionals, $n = 92$ for academics, $n = 60$ for built environment professionals, $n = 138$ for scientists) with only base controls, that is, the same covariates (with some categories collapsed) as those in Column 1 of Table 3. The marker is the point estimate for each coefficient, the thinner region of each bar is the 95% confidence interval, and the thicker region is the 90% confidence interval; bars that do not cross the vertical line at 1 are statistically significant at $p < .05$. Created in Stata 13 using the *coefplot* command (Jann 2014).

Beyond demographic differences, it is also important to examine whether the class ceiling is a uniform phenomenon across all high-status occupations, or whether it is the result of a marked pay gap in certain occupations. We look at this in two ways. First, Figure 6 shows that the pattern of class-origin disadvantage is broadly similar across the subdivision of NS-SEC 1 into managers and professionals: respondents who have been upwardly mobile into either part of NS-SEC 1 from NS-SEC 3 through 8 origins face significant earnings gaps, but those from NS-SEC 2 origins do not.²⁹

Next, we look at our 15 occupational groups. For these last analyses, we collapse origins into a binary variable as we did in the decomposition shown in Table 4, comparing respondents from NS-SEC 3 to 8 origins with those from NS-SEC 1 origins, excluding NS-SEC 2 origin respondents from the models.

Figure 7a shows the coefficients from the simplified version of the base model in the first column of Table 3 (with controls only for age, gender, ethnicity, birth country, and wave of response), and Figure 7b shows the coefficients from the simplified version of Table 3's full model (column 5). These figures show striking levels of variation between the occupational groups in terms of the class pay gap. At one end of the scale, science, academia, and work on built environment all have pay gaps estimated to be close to zero in both models. In contrast, the results reveal the scale of disadvantage experienced by children of the working classes in the traditional professions of law, accountancy, and finance. Not only are these occupations comparatively exclusive in terms of membership (see Table 2), but the socially mobile have predicted earnings around 20 percent less

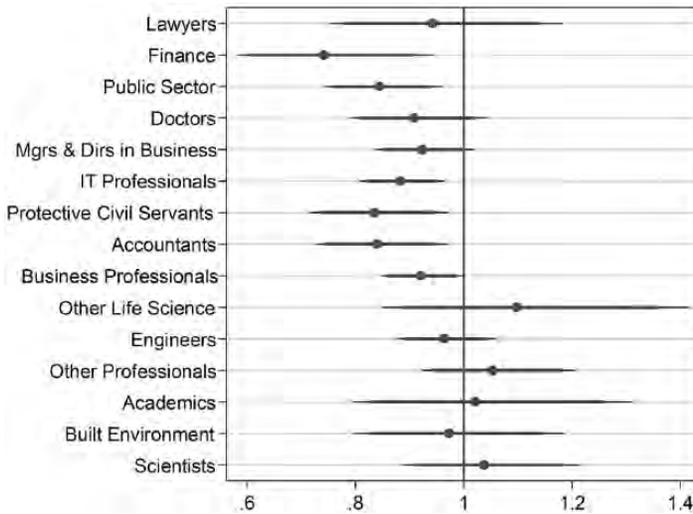


Figure 7b. Class-Origin Earnings Gaps within Micro-Classes, Full Model

Note: Coefficients for upwardly mobile origins (people from NS-SEC 3 to 7 origins, compared to intergenerationally stable respondents) from models of logged gross weekly earnings for each micro-class group ($n = 76$ for lawyers, $n = 129$ for finance managers, $n = 164$ for public sector managers and professionals, $n = 108$ for doctors, $n = 421$ for managers and directors business, $n = 377$ for IT professionals, $n = 47$ for protective civil servants, $n = 161$ for accountants and related, $n = 501$ for business professionals, $n = 74$ for other life science professionals, $n = 221$ for engineers, $n = 76$ for other professionals, $n = 92$ for academics, $n = 60$ for built environment professionals, $n = 138$ for scientists) with only base controls, that is, the same covariates (with some categories collapsed) as those in Column 1 of Table 3. The marker is the point estimate for each coefficient, the thinner region of each bar is the 95% confidence interval, and the thicker region is the 90% confidence interval; bars that do not cross the vertical line at 1 are statistically significant at $p < .05$. Created in Stata 13 using the *coefplot* command (Jann 2014).

than their more socially privileged colleagues (see Figure 7a). We also see substantial disadvantages for the upwardly mobile in comparatively more accessible occupational groups, such as IT, and among a number of public sector professions, such as medicine, where salaries are widely thought to be tightly regulated by the British government.

Even after the full battery of controls, earnings differences are substantial and significant in six of our groups: finance, accounting, public sector professions, protective civil servants, IT professionals, and business professionals, and near significant in a number of others, including medicine.³⁰ In finance, for example, the upwardly mobile have average predicted earnings less than 75 percent of the intergenerationally stable. Compared with the geometric average earnings for finance (see Table S2 in the online supplement), this translates to an estimated annual pay gap of over

£11,100 or about \$16,700.³¹ This echoes similar results from previous work (Friedman et al. 2015).

CONCLUSIONS

This article provides the most fine-grained analysis to date of social mobility into and within Britain's higher professional and managerial occupations. The analysis contains two key findings. First, we uncover meaningful variation in the social composition of different higher managerial and professional occupations; traditional professions, such as medicine, law, and finance, remain dominated by the children of managers and professionals, but more technical occupations, such as engineering and IT, appear to recruit more widely. Second, we demonstrate that even when people from non-professional and managerial backgrounds are successful in

entering many of Britain's most prestigious occupations, they face a powerful class ceiling in terms of earnings. This pay gap persists even after controlling for important factors such as age, gender, ethnic origin, education, human capital, and various aspects of work context. This, we believe, points toward worrying and previously unobserved³² disadvantage within some of Britain's most prestigious and highly paid occupations—particularly finance and accountancy.

A number of mechanisms may be at work in producing this class pay gap. In particular, we find that the most prominent drivers (accounting for over 30 percent) are aspects of work context—specifically, which particular occupations individuals enter, and the greater likelihood that people from privileged backgrounds will enter bigger firms and work in London. In other words, a good portion of the gap is accounted for by what could be termed *sorting* mechanisms: although all respondents are employed in NS-SEC 1, they work in different places and different contexts, which has a large effect on their earnings.

It is important to reiterate that this still leaves over 50 percent of the class pay gap unexplained. Clearly, follow-up work is needed to examine this unaccounted difference. We would stress, however, that any such future work should focus on the numerous resources associated with class origin that we *cannot* measure here, such as parental income and wealth, powerful social networks, elite private school or university attendance, and cultural tastes or practices with widely shared legitimacy.

It is important to also acknowledge the limitations of our analysis. The LFS certainly provides the most detailed understanding of mobility into NS-SEC 1 to date, but the sample size for many individual occupations is small. Moreover, our results provide only a snapshot of social mobility. It is worth reiterating that the size and composition of many of these occupations in Britain has changed, and continues to change, considerably. This has an important bearing on our results. In 1972, for example, when our oldest respondents were entering the workforce, “higher salariat” occupations in Britain made up 13.6

percent of the (20- to 64-year-old) male workforce (Goldthorpe et al. 1980: Table 2.2); in the 2014 LFS data, the comparable figure rose to 17.2 percent (our analysis). Similarly, the size of individual occupations has changed significantly. Occupations such as IT and higher education have grown rapidly in absolute terms since the 1970s, but other elite occupations have remained relatively stable as a proportion of the workforce. All of these changes have important implications for understanding our findings. In particular, the relative disadvantage faced by the upwardly mobile is likely to vary significantly according to the size and composition of their occupation when they entered, and the particular, occupationally specific, cohort they were part of. Future research might examine these cohort and compositional effects in more detail, or compare relative and absolute rates of mobility into NS-SEC 1 occupations.

We also believe our approach and findings have two important implications for class analysis. First, we show that existing social mobility research fails to effectively capture the persistent impact of class origin in shaping people's lives. Both big-class and micro-class approaches proceed from the logic of the standard mobility table, which compares identically measured social origins and destinations at, usually, two points in time. However, we believe this fundamentally elides the stickiness of class origin. In particular, it fails to capture how the resources that flow from class origin often shape individuals' life courses well beyond occupational entry. To some researchers of class, this may seem a somewhat banal observation. After all, a wealth of qualitative research indicates that class identities tend to always carry—at least in some form—the symbolic baggage of the past, and this historical imprint often has important consequences for how people act in the present (Lareau 2015; Skeggs 1997). However, in the dominant quantitative arena of class analysis, sensitivity to how class origin lingers is often absent. In this regard, we believe our introduction of the feminist concept of a glass ceiling may act as a vital means of sharpening the tools of class analysis. In particular, it

provides an analytic strategy with which researchers can begin, as we have done here, to examine the hidden barriers that people from low class origins may face *within* elite or prestigious occupations.

Second, and very much relatedly, we believe these analyses demonstrate that a person's class *destination* is never fully captured by big-class or micro-class occupational variables. Big classes simply hide too much pertinent information. Occupations within NS-SEC1, for example, are characterized by enormous variation in rates of mobility, differences that surely shed important light on the precise channels through which intergenerational class inequality is reproduced. Yet meso- and micro-classes are also not sufficient for understanding destination. These groupings certainly provide a more accurate *indication*—their members are clearly closer in earnings and other resources than are those in their wider macro-class—but even they lack information about intra-occupational position and earnings, and how these vary according to class origin. Indeed, following Bourdieu (1987) and more recently even Goldthorpe,³³ we argue here that a full understanding of class destination must take into account multiple indicators of social position and resources. Examining income and occupation in tandem, as we do here, represents one such way forward.

Yet there is much more to do if we are to better understand the long shadow that class origins³⁴ cast on life outcomes (Lareau 2015). In particular, we stress the need for more longitudinal research that can go beyond static measures of earnings and occupation to better elucidate intra-occupational *trajectories* and their relationship to class origin. This can be achieved by making further use of panel data sources, as demonstrated by Bühlmann (2010), but also by using qualitative tools such as life course interviews (Friedman 2016) or longitudinal tracking of matched cohorts of employees (Bathmaker, Ingram, and Waller 2013). We also encourage researchers to broaden methodological repertoires away from the standard mobility table. In the past, one of the key obstacles in operationalizing more innovative and fine-grained approaches to social mobility

has been the lack of large-scale representative data. New sources, however, such as tax data in the United States (Mitnik et al. 2015) are emerging to allow us to bridge this gap. Taking advantage of these new empirical materials, or innovations in existing datasets as we do here, will likely reveal previously unrecognized inequalities—such as the class ceiling—that are profoundly important in reproducing class disadvantage.

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Notes

1. For a notable exception see Bühlmann (2010).
2. The most relevant antecedent is Heath (1981).
3. The NS-SEC was developed from a sociological classification known as the Goldthorpe Schema (Erikson and Goldthorpe 2010; Goldthorpe et al. 1980) and is now widely used in official statistics and academic research in Britain.
4. A similar effect has been reported in the United States (Torche 2011), although curiously is only mentioned in passing by the author.
5. This is, of course, not a comprehensive account of everything that affects earnings. We do not have measures, for example, of respondents' social networks, social capital, or cultural capital, or their parents' education or economic capital, all of which are likely to be important.
6. This is essentially the same as Class I of the Goldthorpe-derived scheme, used in the United States and international comparisons, also called Erikson-Goldthorpe-Portocarero or EGP based on their seminal article (Erikson, Goldthorpe, and Portocarero 1979).
7. These are the 60 SOC 2010 codes assigned to NS-SEC 1 in the ONS's simplified analytic scheme, plus three additional occupations (taxation experts, information technology and telecommunications directors, and functional managers and directors n.e.c) with more than 35 LFS respondents assigned to NS-SEC 1 (NS-SEC assignment is not based solely on SOC code).
8. We use Table 10 from <http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/soc2010-volume-3-ns-sec-rebased-on-soc2010-user-manual/index.html> at ONS, the simplified scheme to match parents'

- four-digit SOC2010 occupational codes to the analytic NS-SEC categorization.
9. This includes occupations that are normally self-employed, and technically skilled and craft occupations.
 10. People who said no one was earning in their household at age 14.
 11. Although it is standard in mobility table analyses to look only at people age 30 or 35 or older, we include the widest reasonable age range because we are interested in the composition of NS-SEC 1, not mobility chances by origin.
 12. The Labour Force Survey provides multiple measures of earnings. We take the natural log of weekly gross earnings, a constructed variable provided by LFS based on respondents' earnings over their reported pay period. When presenting and discussing our results, we use the exponentiated values or coefficients; coefficients can be directly interpreted as percentages (e.g., a coefficient of .90 indicates a 10 percent decrease in predicted earnings for a move of one unit in that variable). We also analyzed hourly earnings and untransformed weekly income (analyses available upon request) and obtained substantively similar results.
 13. Tables 1 and 2 examine occupations at the time the origins question was asked—the July to September 2014 wave of the LFS; analyses in the remainder of the article, which look at earnings, use respondents' reported occupation at the time the earnings question was asked. For roughly two-fifths of respondents this was also July to September 2014; the other three-fifths reported earnings 1 to 3 quarters earlier. See the Data Note in the online supplement for fuller explanation.
 14. Table S3 in the online supplement gives standard errors and confidence intervals for the percentage stable in each of our 15 occupational groups.
 15. The patterns reported are for all respondents in these occupations between the ages of 23 and 69; future analysis might examine differences by gender, ethnicity, or age group. Our purpose here is to capture the overall composition of each occupation by social origin.
 16. This is very similar to the rates of reproduction identified by Miles (1999) for 1839 to 1914 data.
 17. The intergenerationally stable are still slightly over-represented compared to the population as a whole.
 18. Because we are using logged income, these are geometric rather than arithmetic means. The percentage differences between categories using arithmetic means are roughly similar, but the figures in GBP are larger: the difference between the stable and the long-range mobile *arithmetic* mean weekly income is £165, which is £8,614/year or nearly \$13,000.
 19. See the online supplement for sources and distributions of all variables used in the regressions. Individual occupation coefficients are not shown in Table 3.
 20. British undergraduate degrees are classified categorically on a five-point scale: first-class, 2:1, 2:2, third, and pass.
 21. Higher values on each of these health scales indicate greater levels of health problems, see the online supplement for more detail.
 22. Calculated based on a model that groups NS-SEC 6, 7, and 8 origins together (predicted earnings for this group as a whole are 10.4 percent less than for the stable group). The annual difference is larger—£5,500—when the dependent variable is untransformed weekly earnings.
 23. This is the standard approach for studies of gender and other earnings gaps (Weichselbaumer and Winter-Ebmer 2005); the procedure conducts separate regressions for each group, allowing each group's attributes/control variables to affect their predicted earnings differently. The observed gap in earnings can then be attributed to differences between the groups and other (unexplained) differences.
 24. We exclude those with NS-SEC 2 origins because they represent minimal upward mobility (many analyses treat moves from NS-SEC 2 to 1 as stability), and because they do not have significantly lower earnings than the stable in most of our analyses.
 25. Based on geographic distribution of industries in the United Kingdom, people with working-class origins are also more likely to have grown up outside London.
 26. We use the four-category origin variable described in the Data and Methods section, and we collapse the categories for educational qualifications, degree classification, wave, firm size, and birth country.
 27. Full results are in the online supplement.
 28. We use a model with an interaction term for origin \times female to generate this estimate.
 29. We also examined whether there were differences between people with NS-SEC 1.1 and 1.2 *origins*; we found evidence of an earnings advantage for the children of higher managers, compared with those of higher professionals, who were themselves in NS-SEC 1.1 occupations, and no evidence of advantage for either group in NS-SEC 1.2 or NS-SEC 1 as a whole (see Table S6 in the online supplement).
 30. Table S2 in the online supplement shows that these results are quite robust, whether the dependent variable is logged earnings, untransformed earnings, or earning percentile within each micro-class. It further shows that while the controls explain the gap between the stable and the upwardly mobile as a group in law, there are significant differences between micro-class stable lawyers (the children of lawyers) and those from NS-SEC 1 origins with parents not in law, as well as between the long-range upwardly mobile and the stable.
 31. This may in fact be an under-estimate given the prevalence and size of annual pay bonuses in banking and finance; however, LFS data on bonuses are too sparse for any further conclusions on this issue.

32. It is important to stress that we are not suggesting the class pay gap is necessarily new.
33. In his keynote address to the 2014 Spring RC 28 Meeting in Budapest.
34. Here, we are clearly focusing on class destination, but we would also stress the need for more differentiated understandings of class origin, such as including measures of parental income and education (not available in the LFS) or examining differences between specific parental occupations.

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