"*A Tale of Two Labor Markets: Career Mobility in the U.K. (1851-81) and U.S. (1850-80)*"

Jason Long
DEPARTMENT OF ECONOMICS
NORTHWESTERN UNIVERSITY
and
Joseph Ferrie
DEPARTMENT OF ECONOMICS
AND
INSTITUTE FOR POLICY RESEARCH
NORTHWESTERN UNIVERSITY
AND
NBER

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Abstract

Using longitudinal data on individual males linked between censuses separated by 30 years, we examine patterns of geographic and occupational mobility in the last half of the nineteenth century for two industrializing economies: the U.K. (1851-81) and the U.S. (1850-80). We find considerably higher rates of geographic mobility in the U.S. Though the frequency of moves was similar (roughly two thirds moved over 30 years in each country), moves were ten times as great in distance in the U.S. Upward occupational mobility between fathers' and sons' occupations and between an individual's first and last jobs was considerably more frequent in the U.S. For example, only one in five sons of unskilled fathers in the U.S. at the start of the 1850s failed to attain a higher status job by the start of the 1880s; the corresponding figure for the U.K. was nearly one in two. Upward mobility was associated more strongly with education in the U.K. than in the U.S. Background characteristics more generally were better predictors of occupational attainment in the U.K. than in the U.S.

Introduction

The economies of the U.K. and the U.S. have historically had a great deal in common: their shared language, legal tradition, technology are the most obvious. What these otherwise similar economies have not shared, at least in the minds of observers who have looked at both over the last 150 years, is a common faith in the prospect for economic and social

advancement by those who begin their working lives without the benefit of wealth, or skill, or connections. The U.K. has been viewed, since the time of de Tocqueville and Marx, as a considerably more rigid system in which previous background plays a much more significant role is determining current prospects than in the U.S. These differences have been attributed to a number of factors – the frontier and the rapid growth of completely new cities in the U.S., the feudal tradition and guild and apprenticeship systems in the U.K., and the wide availability of free, public education in the U.S.[1]

There has been little data with which to test the assertion that mobility was more often realized in the U.S., let alone to assess the relative importance of various differences between the U.K. and U.S. in generating those differences. In this work , we offer evidence on the extent of the mobility experienced during the careers of more than 17,000 representative young men in the U.K. and the U.S. whose careers are traced from the start of the 1850s to the start of the 1880s. This makes it possible to evaluate the degree of mobility (both across and within generations) in each place and to offer some tentative explanations for the differences that we observe. In particular, it will be possible to examine the links between geographic and occupational mobility and between schooling and occupational mobility.

Such an investigation can yield a number of insights. The first is an understanding of how current beliefs about what the "normal" amount of mobility should be in these two economies were formed. Differences in historical mobility rates between the U.S. and the U.K. may help account for different expectations regarding mobility throughout the twentieth century. The second insight will be a sense of how often workers changed places

[1] For example, de Tocqueville noted in *Democracy in America* more than 150 years ago that in the U.S., "millions of men are marching at once toward the same horizon; their language, their religion, their manners differ; their object is the same. Fortune has been promised to them somewhere in the west, and to the west they go to find it." (p. xxx)

and jobs over three crucial decades in the economic development of these two countries. The U.S. and U.K economies diverged substantially in performance by the start of the 20th century – what role in this process was played by differences in their abilities to allocate labor across regions and industries? Finally, the U.K. and U.S. had very different histories of labor relations and political activity by workers that past scholars (e.g. Turner in the 1890s; Thernstrom in the 1970s) have attributed to different amounts of economic opportunity and mobility by individual workers – can we actually observe sufficiently large differences to explain these differences in labor radicalism?

Previous Research

Great Britain, 1800 – Present

Internal migration in Great Britain after the Industrial Revolution has been the subject of a literature dating back to the 19th century.[2] In 1885, Ravenstein used birthplace data from the 1881 census to reveal seven "laws of migration," which have framed much of the subsequent work on internal migration within Britain and elsewhere. The first and most important of Ravenstein's laws is that most moves covered only a short distance, and that exceptions to this rule generally involved Britain's "great centres of commerce or industry." He also posited that urban natives were "less migratory" than their rural counterparts, and that "females are more migratory than males." Ravenstein's laws have largely stood the tests of time and modern scholarship.

Another major early work is Redford's *Labour Migration in England, 1800-1850,* which confirms the short-distance nature of 19th century British internal migration and refutes any notion of large-scale movement from the overpopulated South to the recently industrialized

[2] See Boyer and Hatton, "Migration" for a recent, thorough survey of the field.

North. Redford also highlights the attractive power of higher wages and better opportunities for employment in the towns and cities as the primary force behind the rural-urban moves.

Perhaps the most comprehensive study of migration within and emigration from Victorian Britain is Baines' *Migration in a Mature Economy.* He uses census birthplace information along with mortality statistics from the *Annual Reports* and *Decennial Supplements* of the Registrar General to estimate for every county in England and Wales, for every decade from 1860 to 1900, the rate of outward-bound overseas emigration and the rate of outward-bound migrants who remained within England and Wales. Measuring internal migration this way, 8.2 percent of the population of England and Wales undertook an internal, intercounty move between 1861 and 1870.[3] His numbers also indicate that outward-bound inter-county migration rates were higher for rural than for urban counties: roughly 11 versus 7 percent.[4] Finally, Baines finds that most interounty migrants were young: 81 percent were aged 15-34, and the rest were children.[5]

Somewhat less attention has been given to the topic of occupational mobility in 19th century Great Britain. Miles and Mitch have each used samples of marriage registry records from 1839-1914 to gauge the extent of intergenerational occupational mobility.[6] At the time of registration, both bride and groom as well as bride's father and groom's father were required to list their occupation. From this information, Miles calculates that 65 percent of grooms married between 1859 and 1874 were in the same occupational class as their father at time of marriage. Only 18 percent had attained a higher class than their father, while 17

[3] This figure is not reported in the book, but is calculated using the raw migration data he reports in Appendix 1.
[4] Baines defines rural counties as those in which fewer than 35 percent of the population lived in towns of more than 20,000 occupants. So defined, there were 34 rural counties and 18 urban counties.
[5] Others have verified this result. See, for example, Friedlander and Roshier, "Internal Migration," and Williamson *Coping*, pp. 40-42.
[6] Miles, "How Open." Mitch, "Inequalities."

percent found themselves in a lower class.[7] Miles thus characterizes the British economy of the time as "stable but far from stagnant." Not surprisingly, Mitch's findings are quite similar, though he does find evidence for slightly more mobility – 61 percent of grooms married between 1869 and 1873 were in the same class as their father, 20 percent were higher, and 19 percent lower. Two features of the marriage registry data are worth noting. First, it includes only couples married in Anglican ceremonies; data for non-Anglican ceremonies remains unavailable. Toward the end of the 19th century, these samples are increasingly unrepresentative. By 1914, 42 percent of all marriages took place outside the Anglican church.[8] Second, the occupations of the groom and his father are recorded at the time of the groom's marriage. So the father's and son's occupations are observed at different points in their life cycles, with the son being considerably younger than the father. If it were possible to observe the father's and son's occupations holding age constant, a different picture of intergenerational mobility might emerge. Specifically, we might expect to observe a greater likelihood of mobility as the son gained years and experience in the labor market.

With respect to socioeconomic mobility in modern Britain, Goldthorpe has used survey data from the 1970s to assess three prominent hypotheses on social mobility in modern Britain: (1) that mobility between classes as opposed to within classes is highly unlikely, (2) that there is a largely impermeable barrier between manual and non-manual occupations, and (3) that gains in intergenerational mobility over time have been offset by declines in intragenerational mobility. He analyzes both inter- and intragenerational occupational mobility.[9] He finds evidence of substantially greater intergenerational mobility

[7] The occupational classification system used by both Miles and Mitch is the five-tiered system developed by Armstrong for 19th century British occupations based upon the Registrar General's social classification schemes of 1921 and 1951. See Armstrong, "Information."
[8] Vincent, *Literacy*, p. 281.
[9] Goldthorpe, *Social Mobility*.

than existed in the 19th century. The data indicate that, even using a courser three-tiered occupational classification, only 51 percent of sons were in the same class as their father. A third had moved up, while 16 percent had moved down.[10] While in the past, data have not existed with which to examine intragenerational mobility for the whole of 19th century Britain, modern survey data do allow occupational mobility over the work-life history to be analyzed. Using the three-tiered classification, 58 percent of survey respondents (aged 25-49) were in the same class as their first job at the time of the survey. A third had moved up and 8 percent had moved down.[11] These findings lead Goldthorpe largely to reject each of the three hypotheses.

U.S., 1800-Present

A large number of studies have been completed for specific communities in the U.S. that give us a rough sense of both geographic and occupational mobility. The ten-year geographic mobility (non-persistence) rates for mid-19th century communities was 56% in 11 cities (1850-80) and 64% in 9 rural counties (1850-80). Higher rates were observed for lower class workers before World War I, but higher rates were then observed for high white collar workers after World War I. Estimates of upward mobility from father's to son's occupation (intergenerational mobility) range between 22 and 47 percent, though most are for the years after 1900 (mean: 34%). Estimates of upward mobility from first to last occupation for an individual (intragenerational mobility) at the end of the 19th century in 2 urban places (Boston and Poughkeepsie) are between 30 and 40%.[12]

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[10] Calculated from Goldthorpe, *Social Mobility*, Table 2.1. The son was asked to give his father's occupation at the time the son was 14 years old. This method improves upon the marriage registry data with regard to the life cycle discrepancy between father and son.
[11] Calculated from Goldthorpe, *Social Mobility*, Table 5.1.
[12] These studies are surveyed in Thernstrom, *The Other Bostonians*.

The principal difficulty with these historical estimates is that they were constructed by observing a single community: those individuals who were observed at two census dates were counted as non-movers (persisters). Thus, our only estimate of the "movers" (non-persisters) include those who died before the second date. The only individuals whose occupational mobility could be observed were those who remained in the same place (generally a city of county). It would be surprising if the movers and non-movers did not have systematically different patterns of occupational mobility, given the positive and often substantial costs of migration. The data used below for the U.S. (like that for the U.K.) is not limited to individuals who remained in place for a decade or more, and thus presents a more representative picture of career mobility than has previously been available.

For the modern U.S., rates of inter-county geographic mobility over ten years are roughly 60 percent for young males, while interstate migration rates are close to 35 percent over a decade.[13] Data on recent patterns of occupational mobility were collected by Featherman and Houser in the "Occupational Change in a Generation" project. These data were collected as supplements to the Current Population Survey (in 1962 and 1973) and show intergenerational upward mobility rates of 45% and intragerational upward mobility rates of 74%.[14]

The Data

The data used here to analyze mobility comparatively in Great Britain and the U.S. were constructed using a common methodology: taking a sample of the male population

[13] See "Internal Migration," *Historical Statistics of the U.S., Millennial Edition* (forthcoming).
[14] See Featherman and Houser, *Opportunity and Change*, for a description of the samples. The data were re-worked based on the underlying individual-level observations contained in Inter-University Consortium for Political and Social Research, Study #6162, to make them consistent, in age composition and time between observations, with those described in the next section.

from a census at the start of the 1850s and locating the same individuals in the manuscripts of a census taken thirty years later. For Britain we use information on approximately 13,000 males linked from the 1851 census to the 1881 census, and for the U.S. on nearly 4,000 males linked from the 1850 to the 1880 Federal Censuses.

The population censuses of Britain and the U.S. have long been regarded as the best sources of individual-level, nationally representative data from the 19th century. However, the cross-sectional censuses do not provide the continuity over time needed to study issues of mobility properly. Two new sources have made it possible to create the necessary continuity from the British and U.S. historical census records. The Genealogical Society of Utah in conjunction with the Federation of Family History Societies has computerized the individual-level records from all the enumerators' books of the 1881 Census of the Population of England, Wales, and Scotland. They have likewise computerized all the individual records from the 1880 U.S. Federal Population Census.[15] With these data, any individual or group of individuals can quickly and easily be located in the 1881 British or 1880 U.S. census.

We searched for individuals from two other censuses: the 1851 British and the 1850 U.S. census. For Britain, the individuals to be matched came from the computerized 2 percent sample of the 1851 census compiled principally by Anderson, Collins, and Stott.[16] From this sample were drawn all the males aged 10-29 and born in England or Wales. For the U.S., all 10-29 year old, native born males from the 1850 Federal Census 1 Percent

[15] The compilers of the data have made the raw data files for the enumerators' books from England and Wales available through the U.K. Data Archive at the University of Essex as study number 3643. See http://www.data-archive.ac.uk/.
[16] It is a stratified two percent systematic cluster sample from the enumerators' books. For England and Wales, settlements with fewer than 2,000 inhabitants are sampled in their entirety, on the basis of one settlement in fifty. For the remainder of these countries, and for all of Scotland, the sampling unit is the enumeration district, every fiftieth successive enumerator's book being selected. In its entirety the sample contains 945 clusters and 415,000 individuals. Regarding the construction of the sample, it is noteworthy that the clustering procedure ensures that family units remain intact; thus, for every individual contained in the sample, we have the complete census information for each member of that individual's household, including immediate family members and anyone else residing in the same dwelling place (servants, lodgers, visitors, etc.). For a full description see Anderson, *National Sample*. This dataset is also available through the Data Archive, as study number 1316.

Public Use Sample comprised the group to be matched.[17]

The matching technique was very similar for the British and U.S. data. Both countries' censuses provide a record of each individual's name, age, and birthplace – information that remains consistent between enumerations and can be used to identify a given individual in more than one census. There are two principal differences between the U.S. and U.K. censuses. First, the U.K. offers much more specific birthplace information. In the U.S. individuals were asked for their state of birth, while in the U.K. they were asked for parish of birth. On the other hand, in the 1880 U.S. census, respondents were asked to give the place of birth (state for those whose parents were born in the U.S. and country for those whose parents were born abroad) of their parents as well; this question was missing entirely from the 19th century U.K. census. With this information, the following matching criteria were used. For Britain, in order to be considered a true match for an individual from 1851, an individual from 1881 had to have either the same name or a close phonetic variation thereof (for example, Aitken and Aitkin were considered to be equivalent), a year of birth different by no more than five years, and the same county and parish of birth. For the U.S., the individual must provide the same state of birth for himself (and his parents if they were present in 1850) in 1850 and 1880, and the year of birth could differ by no more than three years. The variation in birth year was allowed in order to account for age misreporting, a fairly common phenomenon in 19th century societies which lacked the systematic record keeping and where individuals often had only an approximate idea of their age.[18] None of the above information could be missing from an individual's record. Also, only unique matches were considered: if by the match criteria an individual from the 1850 (1851) sample had more

[17] Available through the Minnesota Population Center at http://www.ipums.umn.edu/.
[18] The smaller margin of age reporting error for the U.S. matching process is in response to the less specific birthplace information. For a discussion of age enumeration in the Victorian census, see Higgs,*Clearer Sense*, ch. 7.

than one match in the 1880 (1881) census, then that individual was discarded.

Applying this matching process to an initial pool of 85,830 10-29 year old English and Welsh males from the 1851 2 percent sample yielded a set of 13,070 men observed in Great Britain both in 1851 and 1881, a success rate of approximately 15 percent.[19] From a pool of 21,141 10-29 year old U.S.-born males in 1850, 3,976 were found in the 1880 U.S. census – a 19 percent success rate. For each country, the data come from two nationally representative sources, so as long as the matching process does not skew the sample, the set of matched individuals should also be representative of the two national populations that survived 1850-80 and 1851-81. Table 1 compares the sample of matched individuals and those who could not be matched, and illustrates the representativeness of the matched sample along dimensions measurable with census information.

In general, the matched samples represent the overall population quite well, though not perfectly. In the U.S. people born and residing in the Northeast are over represented, while in the U.K. those born in London and those residing in Yorkshire are slightly under represented. The under representation of people in London is almost certainly due to the fact that London parishes are so populous: what for the rest of the country is a highly specific geographic location is much less so within London. Both matched samples over represent urban residents, the U.K. sample more so than the U.S. In the U.K. those with white collar occupations and sons of white collar fathers are relatively more prevalent in the matched sample; perhaps this group was more likely to consistently report personal information between enumerations. For both countries, those who in 1850 (1851) were living in a state or county other than that of their birth ("interstate/intercounty movers") are underrepresented.

[19] Several thousand Scottish men were also included in the search, but only a handful was matched. Non-migrant Scots could not be matched, as the 1881 data cover only England and Wales, and even migrants could not be matched with much success in the 1881 census since they were not specifically required to give more than simply their country of birth. A small minority did give their full birth information, were able to be matched, and are included in the sample.

A final striking feature of contrast between the U.S. and U.K. data pertains not to sample representativeness but to the occupational structures of the two economies. Farmers were five times larger a share of the labor force in the U.S. than in the U.K., while skilled, semi-skilled, and unskilled workers were three times larger a share of the labor force in the U.K. than in the U.S.

Table 2 shows the results of binary probit regressions of linkage on individual characteristics observable in the census. The pseudo-R^2 suggests that individual characteristics explain twice as much linkage success in the U.K. as in the U.S. For each sample, several of the characteristics exert a statistically significant influence on probability of linkage, though especially for the U.S. the magnitude is small in each case. For the U.S. only birth in the West has an effect on linkage of close to half the predicted probability.

Mobility in the U.S. and the U.K.

Expectations

Much scholarly attention has been paid to social mobility in the U.S. and Europe in the 19th and 20th centuries, particularly in its implications for class formation, labor relations, and the political activity of workers. Marx was particularly concerned with the role of social mobility in preserving a system of class division, where even within a "developed" class society, mobility might serve as a stabilizing, anti-revolutionary process in the form of "recruitment from below."[20] To Marx, this was particularly true in America, which he saw as more open and fluid than the older European societies, with their "developed formation of classes." American classes, on the other hand, "have not yet become fixed but continually change and interchange their elements in constant flux." He related "this situation to the

[20] Marx, *Capital, v.3*, 1863-83. This and subsequent quotations of Marx from Goldthorpe,*Social Mobility*.

immature character of the American working-class movement."[21] In a more complete description, he characterized the U.S. as having "a continuous conversion of wage laborers into independent self-sustaining peasants. The position of wages laborer is for a very large part of the American people but a probational state, which they are sure to leave within a longer or a shorter term."[22]

Thernstrom shared Marx's belief that 19th century American workers enjoyed greater opportunity for social mobility than did their European counterparts, and that this heightened class fluidity had much to do with America's particular environment of class relations and labor organization:

> American workers…failed to flock into labor and socialist parties to the same extent as their European counterparts in the late 19th and 20th centuries because of the greater permeability of the class structure that governed their lives…The American class system…allowed substantial privilege for the privileged and extensive opportunity for the underpriveleged to coexist simultaneously. It is tempting to argue that…[this] explains…the relative absense of acute class conflict in our political history.[23]

Thernstrom goes on to point out that "as yet, there have not been enough quantitative studies of mobility in the European past to make systematic comparison possible."[24] According to both Marx and Thernstrom, the systematic comparison which is the aim of the present study should reveal greater socioeconomic mobility in 19th century America than in 19th century Britain.

In their analysis of mobility in the modern U.S., Featherman and Houser offer a number of hypotheses that can guide our comparison between the U.K. and U.S. They suggest first that in more industrialized societies there will be less influence of father's

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[21] Marx, "The Eighteenth Brumaire of Louis Napolean," 1852, *Selected Works.*
[22] Marx, "Value, Prices, and Profits," 1865, *Selected Works.*
[23] Thernstrom, *Other Bostonians,* p. 258.
[24] Ibid, p. 259.

occupation on son's occupation, more influence of education on occupation, less influence of parental status on educational attainment, and in general more occupational mobility. Greater levels of geographic mobility will be associated with more occupational mobility.

Results on Geographic Mobility

We expect 19th century Americans to be more socially mobile than the British. They were almost certainly more geographically mobile. The U.S. populace was rapidly expanding throughout its three million square miles, persistently pushing its internal frontier westward until by 1880 the frontier had disappeared. Conversely, Great Britain's 88,000 square miles had not contained an internal frontier for centuries. The British were, of course, a mobile people. They were virtually free of institutional barriers to mobility during the second half of the 1800s, and the cities in particular were drawing a steady stream of migrants from the rural areas of England, Wales, and Scotland. And though Britain itself is small, a substantial number of British people were making one particular move of tremendous distance: across the Atlantic Ocean to the U.S. and Canada. Still, in frequency and distance of internal moves, the British must be expected to be less mobile than the Americans.

Table 3 bears out this expectation conclusively. More than 60 percent of the 10-29 year old males in the U.S. sample changed their county of residence between 1850 and 1880. Only 27 percent of the British sample did the same. U.S. men changed *state* of residence with greater frequency than British men did county. Not surprisingly, in the average distance of internal moves, the discrepancy was even greater. Only 14 percent of the British sample made a move of greater than 50 miles, while 46 percent of the American men made such a long distance move. The average move made by an American man covered a distance of 213

miles. The average distance moved in Britain was 24 miles.

Figures 1 through 4 show rates of in- and out-migration by county in the U.K. and by state in the U.S. from the start of the 1850s to the start of the 1880s. As anticipated, the regional pattern of geographic mobility is much clearer in the U.S. than in the U.K. A particularly useful feature of our longitudinal data, however, is its ability to measure something that has been quite difficult to capture until now: the significant turnover of the population on the western frontier. Several of the same states that were major recipients of population over the thirty years examined here were also major providers of states to still newer places ever farther west. If all we had was information on *net* population flows, instead of the *gross* inflows and outflows we now can see, these patterns would remain invisible to us.[25]

The same is true for several places in England and Wales (Cheshire, for example). It is also worth noting that there is a band of counties in northern England with very low out-migration rates, comprising the historical boundaries of Lancashire and Yorkshire, where we would expect to observe a net inflow of migrants moving in search of factory work. One of the highest areas of in-migration is southeastern England, in and around the London metropolitan area. London had been a magnet for internal migrants within Great Britain at least since the 1600s, and it was still during the Victorian decades.

[25] These patterns were observed by de Tocqueville: " I have spoken of the emigration from the older states but how shall I describe that which takes place from the more recent ones? Fifty years have scarcely elapsed since Ohio was founded; the greater part of its inhabitants were not born within its confines; its capital has been built only thirty years, and its territory is still covered by an immense extent of uncultivated fields; yet already the population of Ohio is proceeding westward, and most of the settlers who descend to the fertile prairies of Illinois are citizens of Ohio. These men left their first country to improve their condition; they quit their second to ameliorate it still more; fortune awaits them everywhere, but not happiness." (de Tocqueville,*Democracy in America*, Book I, Chapter XVII, Part I, 1835).

Results on Occupational Mobility

Table 4 describes occupational mobility across generations in the U.K. and the U.S. The figures should be read down each column to determine the destination of sons based on their fathers' occupations. For example, the figures in the upper left cell of the U.K.'s panel reveal that 35.6 percent of sons of white collar fathers attained white collar jobs thirty years later in the U.K., while the corresponding figure for the U.S. was 39.3 percent. Perhaps the most striking result is the substantially higher rate of ascent for the sons of unskilled fathers in the U.S. relative to the U.K. This measure of mobility was nearly 50% greater in the U.S. (80% versus 54%). Most of the difference is accounted for by the far greater fraction of sons of unskilled fathers entering farming in the U.S. compared to the U.K., which suggests that the continuing availability of relatively inexpensive land throughout the second half of the 19th century provided a route to upward intergenerational mobility in the U.S. unavailable in the U.K. But differences are also apparent in the rate of ascent into white collar jobs among the sons of unskilled fathers: such moves were nearly twice as common in the U.S. as in the U.K. In fact, the rate of ascent into white collar jobs was greater for the sons of all U.S. fathers, regardless of their occupation, than it was for the sons of U.K. fathers. Rates of descent (sons of fathers who were not laborers becoming laborers themselves) were similar in the two countries.

Less dramatic changes in occupational status across two generations also point to somewhat greater fluidity in the U.S. Most of the fathers in the U.K. sample were in either skilled or semi-skilled jobs in 1851. More than two thirds of their sons were in such jobs thirty years later. In the U.S., less than half of the sons of fathers who were skilled or semi-skilled in 1850 were themselves in such jobs in 1880. A smaller fraction of the sons of skilled

and semi-skilled fathers were found in lower status jobs and a larger fraction were found in higher status jobs after thirty years in the U.S. than in the U.K. Though those whose fathers were in white collar jobs had nowhere to go but down, a far smaller fraction did so in the U.S. than in the U.K. with many of those who did not attain white collar jobs in the U.S. entering farming.

Patterns of intrageneratonal mobility also reveal some striking differences. Table 5 shows that upward mobility among those who began their own careers as unskilled workers was considerably more frequent in the U.S. (82.3 percent) than in the U.K. (42.3 percent). Movement into both white collar jobs and farming by those who began their careers in skilled or semi-skilled work was also more frequent in the U.S. than in the U.K. For example. 47.8 percent of males who began their careers in skilled or semi-skilled jobs were in white collar jobs or farming three decades later in the U.S., while in the U.K. only 17.6 percent made such a move. Among those who began careers in white collar jobs, the U.S. had more workers move from white collar jobs into farming than in the U.K. (and a smaller fraction remaining in white collar jobs or moving into skilled and semi-skilled jobs), but this should not be counted as evidence of downward mobility in an economy with a robust farm sector. Individuals who began their careers in farming were as likely to remain in farming in the U.K. as they were in the U.S.

What are the sources of differences in occupational mobility patterns? Two variables that are available in both the U.K. and U.S. data are geographic mobility and school attendance. Table 6 shows that, among those who changed county over thirty years, upward intergenerational mobility from unskilled jobs to better jobs occurred more often among those who moved than among those who did not move in the U.K,. but not in the U.S.

where movers and nonmovers fared the same. Among movers in the U.K., the probability of upward mobility increased with the distance moved (for moves up to 250 miles); in the U.S., there is also a positive association between upward mobility and distance among movers (for moves up to 500 miles). Downward mobility was negatively associated with distance moved in both countries. Though this might seem evidence for the role of migration in enhancing one's prospects for mobility even in the U.K. where both fewer and shorter moves were made, it might reflect instead the selectivity of internal migration in both places. The migrants who performed so well might have performed no less impressively if they had not migrated. An analysis that allows the migration decision to occur endogenously is necessary to draw further inferences. We are at work on such an analysis.

The rates of upward intragenerational mobility in Table 7 paint a slightly different picture: movers in the U.S. actually were less likely to move up than nonmovers, while in the U.K. where geographic moves occurred less often, the opposite was true. If the ability to make easy geographic moves in the U.S. was an important source of its superior levels of intragenerational occupational mobility, it was not because of simple differences in upward mobility rates between movers and non-movers. There remains the possibility that mobility was more selective in the U.S. (i.e. that in the U.K., migrants would have moved up regardless of the geographic moves they made, but that in the U.S. migration made possible upward moves for individuals whose prospects for advancement were poor at their original location), but this will require further investigation.

The impact of school attendance on intergenerational mobility can be seen in Table 8: in the U.K., school attendance was associated with substantial improvement in upward mobility (upward moves were 16% more frequent among those who were attending school

at the start of the 1850s than among those who were not), and some protection against downward moves, while in the U.S. is was associated with only slightly more upward moves (5% more upward mobility) and, if anything, a slight increase in downward moves. Some of this difference may be the product of the ubiquity of education in the U.S.: three quarters of the males age 10-19 in the U.S. sample were attending school in 1850, while only a third of those in the U.K. sample were doing so in 1851. The smaller fraction attending school in the U.K. may indicate a more selected student population, where attendance may be correlated with parental characteristics associated with better prospects for advancement. There is also the possibility that the U.S. and U.K. systems were providing different kinds of education: the U.S. offering basic literacy and numeracy sufficient to allow informed civic participation but little more, and the U.K. system offering instead a set of skills linked to specific careers (e.g. bookkeeping).

Finally, it is also possible to control simultaneously for several individual characteristics as correlates of intergenerational mobility. Tables 9 and 10 show the results of multinomial logistic regressions in which occupational categories are the outcomes, and the regression coefficients measure the impact of a change in the independent variable on the probability of entering a particular occupation. Unlike an ordered probit regression, the multinomial logistic regression does not require a natural ordering of the occupations on some underlying scale. The figures in Tables 9 and 10 are partial derivatives. Thus, the entry of 0.0173 for “Attended School” in the first column of Table 9 indicates that having attended school in 1851 made it 1.7 percentage points more likely that an individual in the U.K. would enter a high white collar occupation by 1881 than one who was not attending school in 1851, after controlling for the individual’s other observable characteristics.

In the U.K., the father's occupation at the start of the 1850s was a statistically significant predictor of the son's occupation at the start of the 1880s. These effects were both statistically significant and large in magnitude. For example, having a father in a high white collar job increased the probability of entering a high white collar job oneself by 39 percentage points more than having a father in an unskilled job (the omitted category). School attendance raised the odds of entering white collar jobs (particularly low white collar jobs such as clerks) and lowered the chances of ending up in semi-skilled or unskilled jobs.

In the U.S., far fewer background characteristics influenced occupational mobility between fathers' and sons' jobs. In fact, the only background characteristic that exerted a statistically significant impact on occupational attainment was the presence of a father in a low white collar job, which made entry into low white collar work more likely and entry into farming less likely than the presence of an unskilled father. These results are the strongest evidence to date that, in terms of occupational mobility across generations, the U.S. was more fluid and less prone to the influence of prior circumstances in shaping outcomes later in life.

Table 10 includes as a regressor whether an individual changed county of residence between the start of the 1850s and the start of the 1880s. As this is a decision that could be made in conjunction with a move in occupational status, these results should be read as provisional. They show that internal migration in the U.K. was associated with greater movement into white collar and skilled jobs, and less movement into farming and unskilled jobs. In the U.S., reduced the odds of entering farming and raised the odds of entering all other occupations, but this effect was not statistically significant.

Conclusions and Extensions

The new longitudinal data we have created has made it possible, for the first time, to compare rates of geographic and occupational mobility in the U.K. and the U.K. over three decades in the second half of the nineteenth century, when both economies were experiencing rapid urbanization and industrialization. Not surprisingly, the U.S. population was the more geographically mobile of the two. As contemporary commentators suggested, that mobility in occupational status both across and within generations was substantially different in these places. U.S. workers moved up more often when we compare their jobs in the 1880s to either their fathers' jobs or their own jobs in the 1850s than did workers in the U.K. This is consistent with the views of Marx, de Tocqueville, and Thernstrom.

The relative patterns of occupational mobility predicted on the basis of recent experience described by Featherman and Houser fared less well. They suggested that in more industrialized societies there will be less influence of father's occupation on son's occupation, more influence of education on occupation, less influence of parental status on educational attainment, and in general more occupational mobility. They also believed that greater levels of geographic mobility will be associated with more occupational mobility. If we take the U.K. as the more industrialized of these economies in the 1850s, then only the prediction regarding the influence of education on occupational attainment is borne out: the difference in intergenerational upward occupational mobility between those who attended school and those who did nit is considerably greater in the U.K. than in the U.S.

The superior upward mobility of U.S. men was not the simple result of greater geographic mobility (though the possibility of more selective migration in the U.S. remains). When several background characteristics are controlled simultaneously, the influence of past

circumstances (such as father's occupation at the start of the 1850s) on occupational attainment by the start of the 1880s is much smaller in the U.S. than in the U.K., suggesting that the U.S. labor market was indeed somewhat more fluid overall than that in the U.K.

A number of additional question will be pursued in subsequent analyses:

1. Allowing for the endogenous choice of location

2. Accounting for the determinants of schooling

3. Looking for the "missing" English long-distance migrants – the ones who went to the U.S. after 1851 – by locating them in the 1880 U.S. Census of Population

4. Examining finer distinctions in occupations (e.g. mobility from manual to non-manual, from low white collar to high white collar)

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Table 1: Sample Representativeness

	U.K. Sample		U.S. Sample	
	Linked	Not Linked	Linked	Not Linked
Region of Residence				
U.K., 1851				
East	8.0%	6.0%		
Midlands	21.4	19.7		
North	5.0	5.1		
South	20.1	17.6		
Lan-Chs	13.0	11.5		
London	18.6	21.4		
York	9.3	13.7		
Wales	4.7	4.9		
U.S., 1850				
Northeast			47.5%	37.3%
Northwest			25.2	30.5
Southeast			16.7	16.2
Southwest			10.6	15.9
Urban (pop. > 2,500)	63.9%	52.0%	13.6%	12.4%
Rural	36.1	48.0	86.4	87.6
Father's Occupation				
White Collar	12.0%	5.8%	6.6%	6.2%
Farmer	11.1	12.8	67.2	66.3
Skilled/Semi-Skilled	48.6	50.5	17.7	16.9
Unskilled	28.3	30.9	8.6	10.6
Father's Real Estate Wealth			$2,095.70	$1,916.60
Father's Literacy			92.4%	90.0%

(continued)

Table 1, continued

	U.K. Sample		U.S. Sample	
	Linked	Not Linked	Linked	Not Linked
Region of Birth				
U.K., 1851				
East	8.5%	6.9%		
Midlands	21.1	20.2		
North	5.0	5.3		
South	21.3	21.3		
Lan-Chs	12.8	11.2		
London	16.9	20.5		
York	9.7	8.7		
Wales	4.7	5.9		
U.S., 1850				
Northeast			52.4%	41.9%
Northwest			19.9	26.0
Southeast			19.5	19.6
Southwest			8.2	12.5
Age				
10-14	30.8%	28.3%	43.4%	45.9%
15-19	26.1	26.1	32.3	32.7
20-24	23.5	24.4	18.4	16.5
25-29	19.6	21.2	6.0	4.9
Attending School	14.4%	16.1%	51.4%	49.0%
Literacy			95.4	93.3
Own Occupation				
White Collar	6.3%	3.6%	5.9%	6.0%
Farmer	0.9	1.0	55.0	55.2
Skilled/Semi-Skilled	53.9	54.4	18.5	15.5
Unskilled	39.0	41.0	20.7	23.4
Interstate Mover			17.7%	22.5%
Intercounty Mover	10.6%	20.8%		
Obs.	13,070	59,796	3,976	17,165

Table 2: Binary Probit Regression (partial derivatives) on Linkage (Linked=1, Not Linked=0)

	U.K. Sample	U.S. Sample	U.S. Sample
Variable	$\partial P/\partial X$	$\partial P/\partial X$	$\partial P/\partial X$
Region of Residence			
U.K., 1851			
East			
Midlands	-0.088		
North	-0.155*		
South	-0.031		
Lan-Chs	-0.080		
London	-0.046		
York	-0.224***		
Wales	-0.061		
U.S., 1850			
Northeast			
Northwest		-0.002	-0.008
Southeast		-0.002	0.008
Southwest		-0.009	0.025
Urban			-0.005
Rural			
Father Missing		0.020***	-0.022***
Father's Occupation			
White Collar	0.257***	-0.007	-0.009
Farmer			
Skilled/Semi-Skilled	0.109***	-0.019***	-0.019**
Unskilled	0.104***	-0.050***	-0.037***
Father's Real Estate Wealth x 10^{-6}			0.002
Father's Literacy			0.012

(continued)

Table 2, continued

Variable	U.K. Sample Coefficient	U.S. Sample Coefficient	U.S. Sample Coefficient
Region of Birth			
U.K., 1851			
East			
Midlands	0.092		
North	0.134		
South	0.015		
Lan-Chs	0.131**		
London	0.046		
York	0.221***		
Wales	0.016		
U.S., 1850			
Northeast			
Northwest		-0.072***	-0.065***
Southeast		-0.032**	-0.019
Southwest		-0.081***	-0.072***
Age	-0.002**	0.002	0.001
Attending School			0.029***
Own Occupation			
White Collar	0.065	-0.012	-0.001
Farmer			
Skilled/Semi-Skilled	-0.048	0.009	0.021
Unskilled	-0.086	-0.020***	-0.016*
Interstate Mover		-0.043***	-0.044***
Intercounty Mover	-0.159***		
Predicted Probability	0.190	0.184	0.180
Pseudo R^2	0.027	0.014	0.018
N	15,935	21,295	18,176

Note: significant at *** 1% ** 5% * 10%.

Table 3: Geographic Mobility

	U.K. Sample	U.S. Sample
Changed State[a]		35.3%
Changed County[b]	27.4%	61.6
Distance Moved		
no move	32.5%	34.0%
under 49 miles	53.3	19.7
50-99	8.0	8.9
100-249	5.6	13.4
250-500	0.6	9.7
over 500	0.0	14.3
Mean	23.9 miles	213.4 miles
Median	4.7 miles	35.6 miles
Obs.	13,070	3,976

Note: [a] U.S. states were 71,000 square miles in area; [b] English counties were roughly 1,000 square miles in area, while U.S. counties were 1,300 square miles in area.

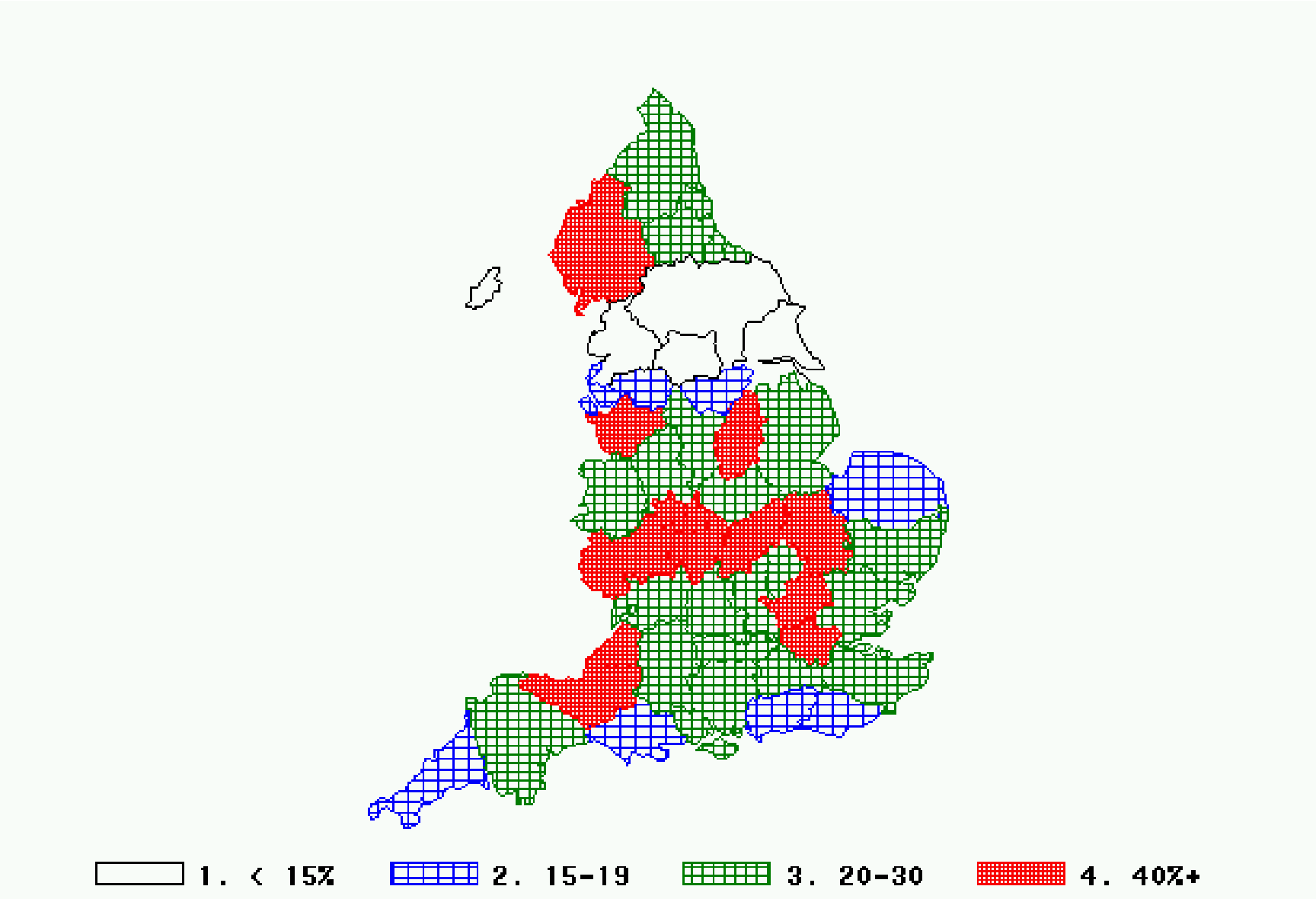

Figure 1: U.K. Rates of Out-Migration, 1851-81.

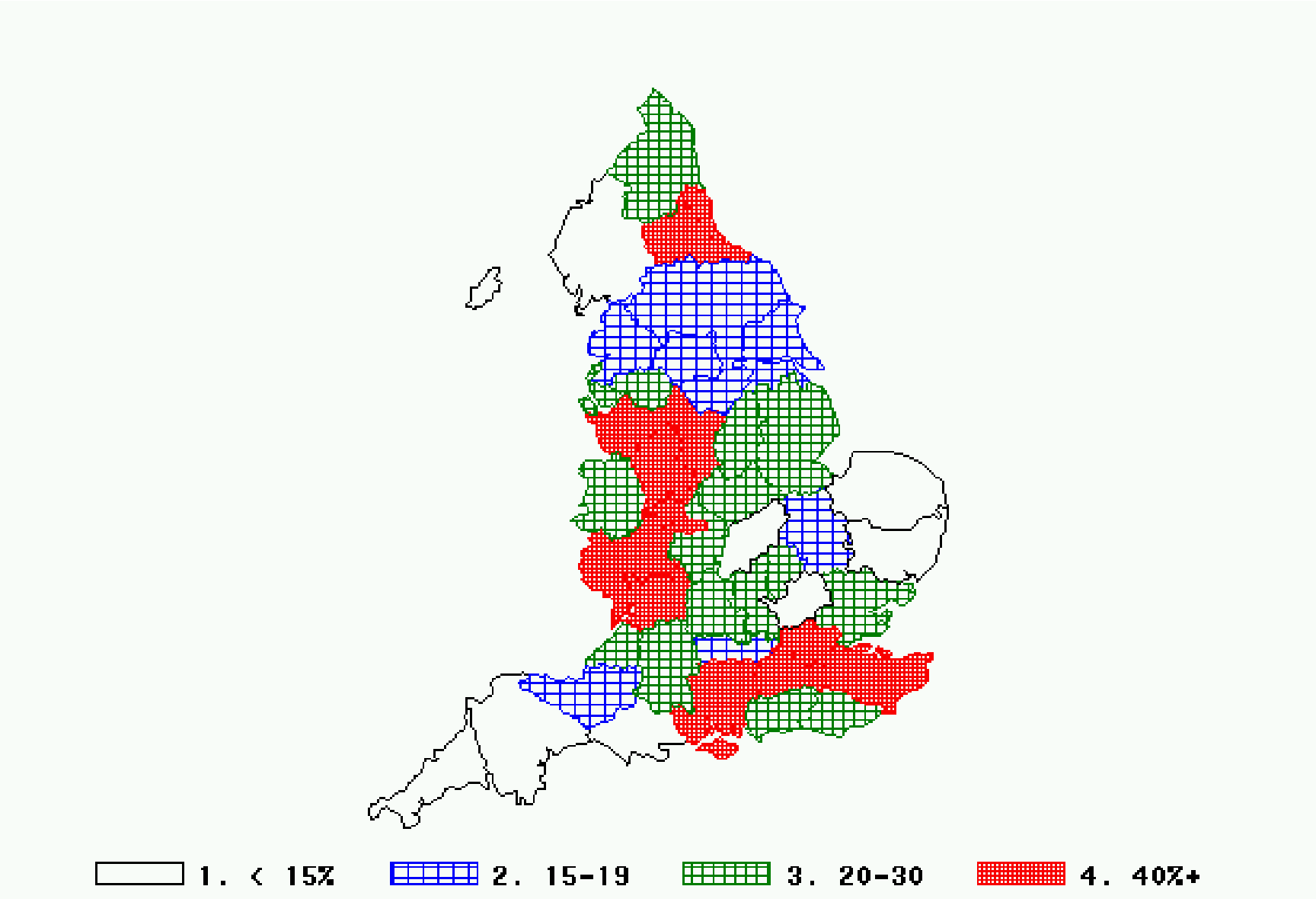

Figure 2: U.K. Rates of In-Migration, 1851-81.

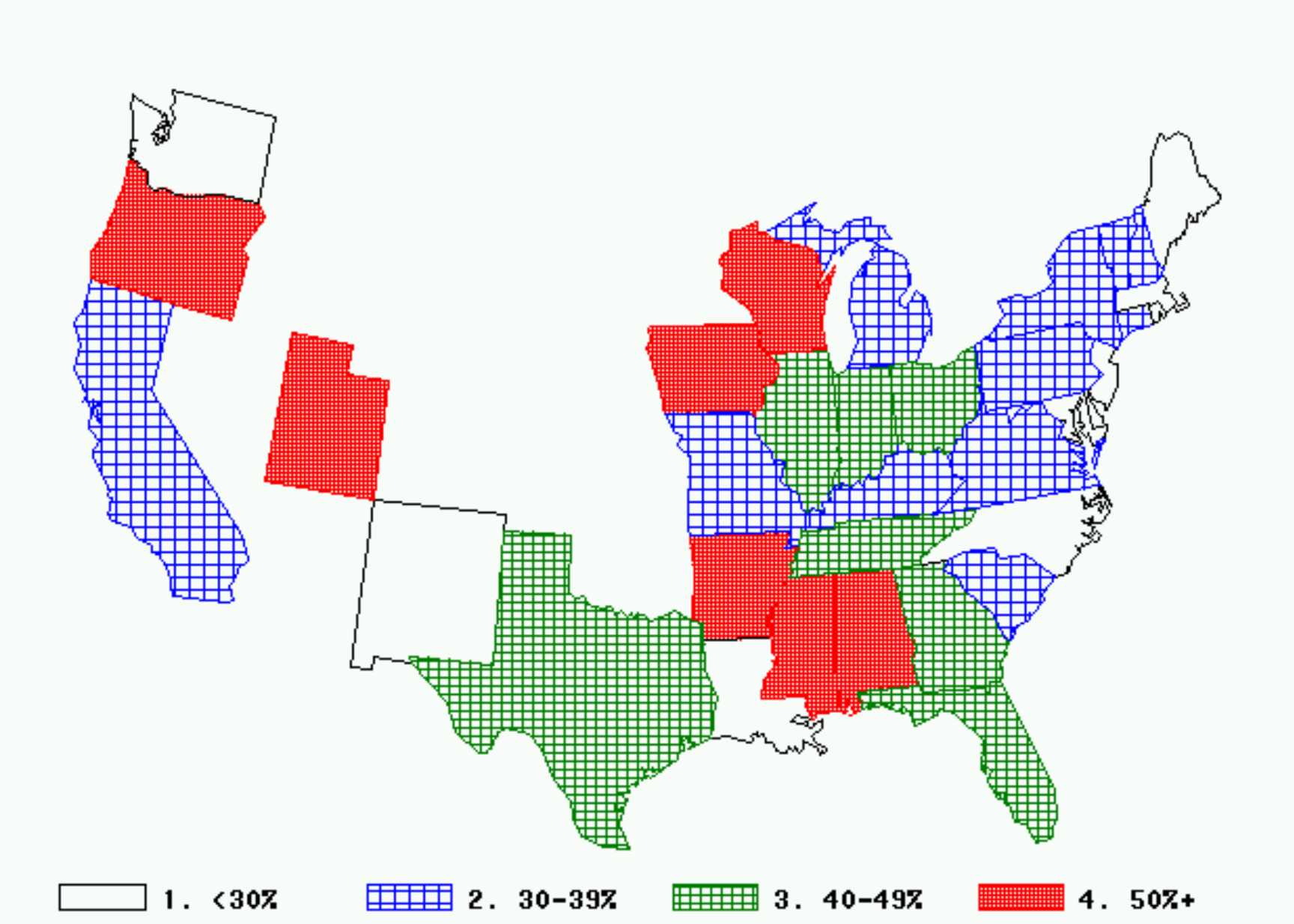

Figure 3: U.S. Rates of Out-Migration, 1850-80.

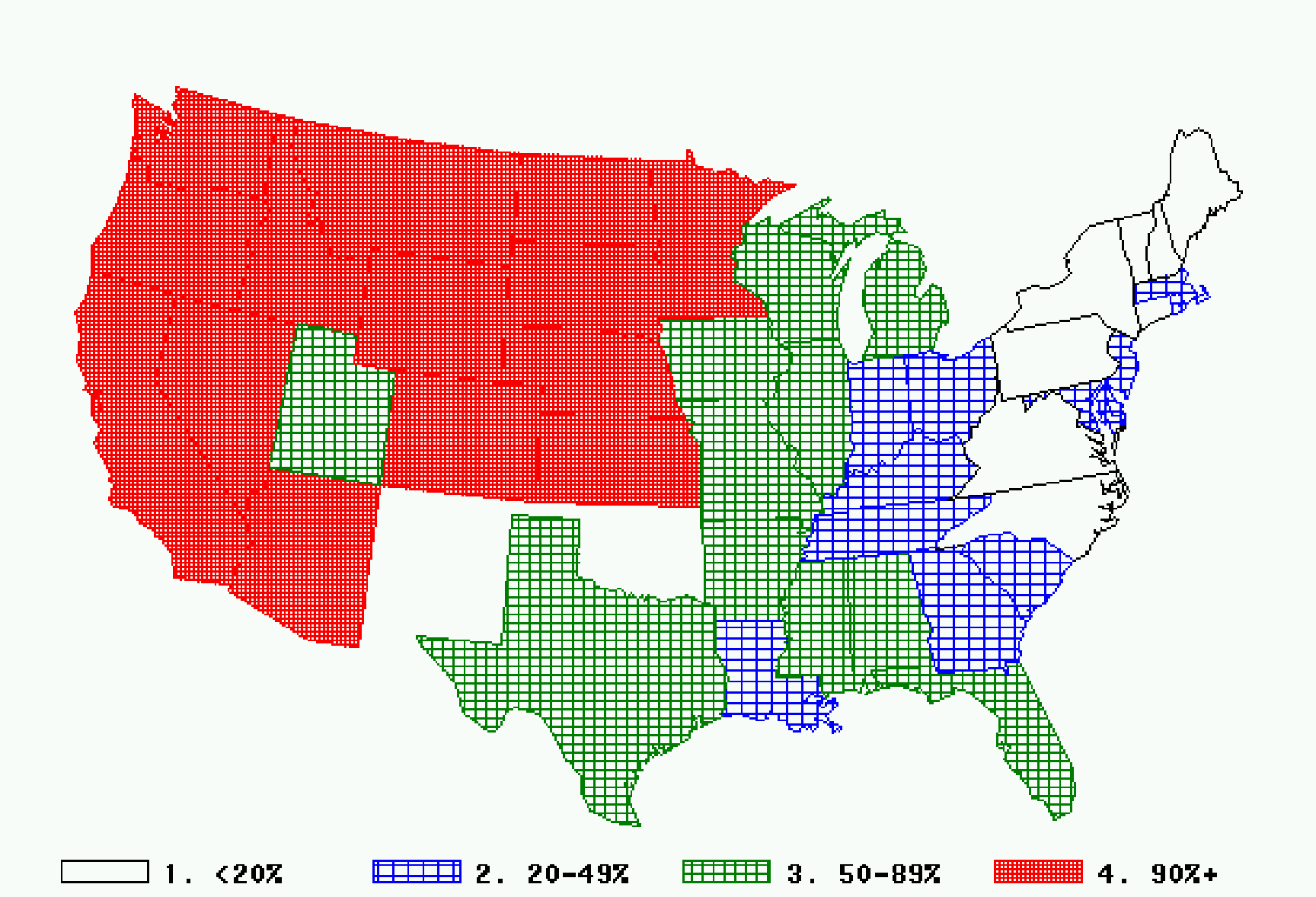

Figure 4: U.S. Rates of In-Migration, 1850-80.

Table 4: Intergenerational Occupational Mobility

	Father's 1850 Occupation							
	U.K. Sample				U.S. Sample			
	WC	F	S/SS	U	WC	F	S/SS	U
Own 1880 Occupation								
White Collar	35.6	11.6	14.0	6.9	39.3	13.2	20.9	12.1
Farmer	3.6	38.2	2.0	2.3	23.7	62.9	26.2	34.4
Skilled/Semi-Skilled	50.7	33.8	68.7	44.9	24.9	14.8	42.3	33.9
Unskilled	10.1	16.4	15.3	46.0	12.1	9.1	10.6	19.6
Obs.	665	526	2,889	1,667	173	1668	454	224

Note: Males age 10-19 in 1850 or 1851.

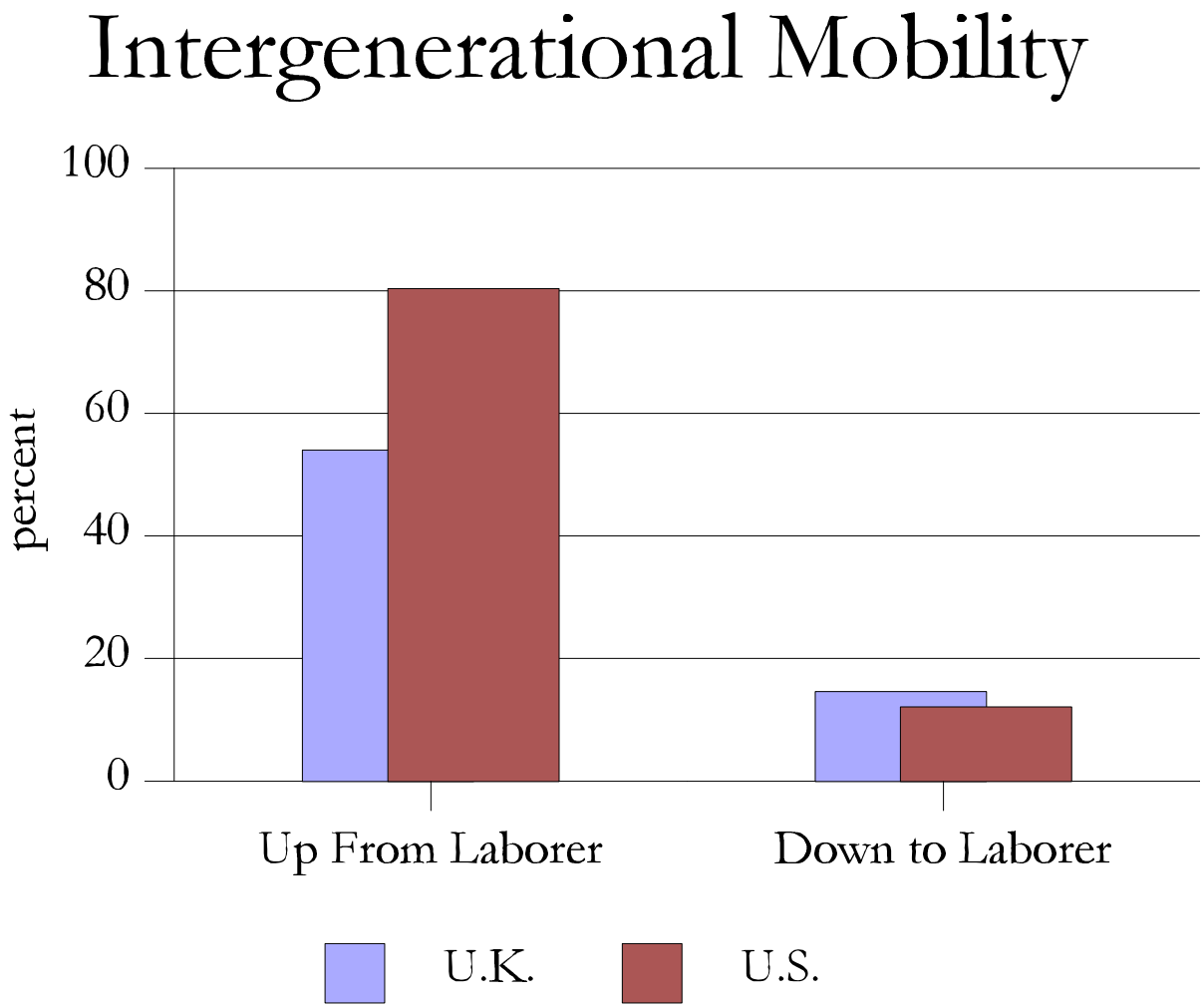

Table 5: Intragenerational Occupational Mobility

	Own 1850 Occupation							
	U.K. Sample				U.S. Sample			
	WC	F	S/SS	U	WC	F	S/SS	U
Own 1880 Occupation								
White Collar	54.2	9.0	14.2	5.2	44.6	9.6	17.1	9.2
Farmer	5.6	70.5	3.4	6.8	28.6	69.4	30.7	53.9
Skilled/Semi-Skilled	34.2	12.8	69.3	30.3	16.1	9.1	43.2	19.2
Unskilled	6.0	7.7	13.0	57.7	10.7	11.9	9.1	17.7
Obs.	448	78	2,962	1,757	56	428	176	141

Note: Males age 20-29 in 1850 or 1851.

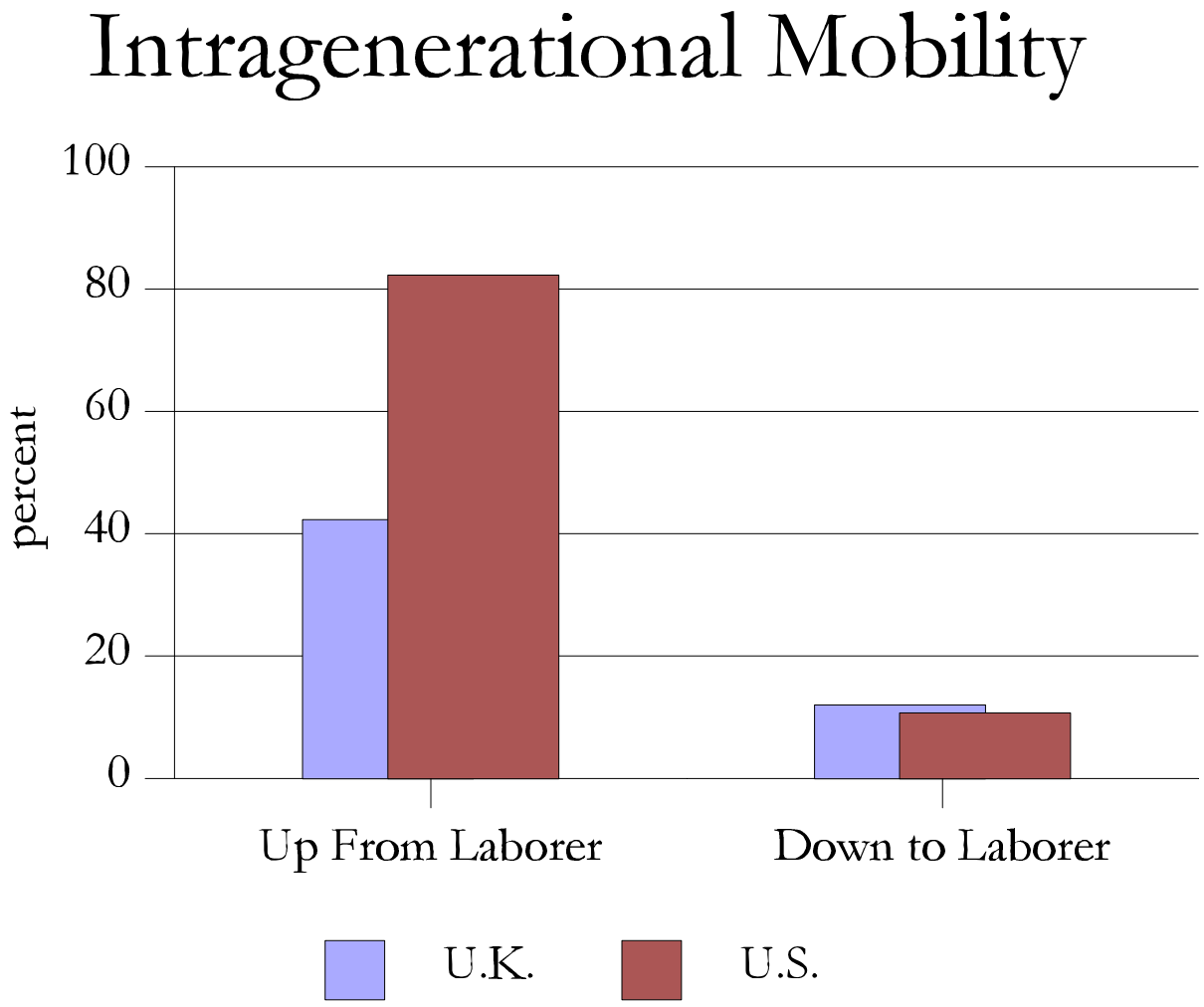

Table 6: Geographic and Intergenerational Occupational Mobility

	U.K. Sample		U.S. Sample	
	Up	Down	Up	Down
Total	53.9%	14.7%	77.6%	9.4%
No move	43.5%	16.0%	76.3%	8.0%
under 49 mi.	56.4	14.5	62.5	10.0
50-99	71.0	14.6	66.7	12.5
100-249	78.9	10.0	90.0	10.4
250-500	75.0	9.1	91.7	10.3
over 500	na	na	82.9	8.3
Obs.	1,490	3,605	232	2,354

Note: Males age 10-19 in 1850 or 1851.

Table 7: Geographic and Intragenerational Occupational Mobility

	U.K. Sample		U.S. Sample	
	Up	Down	Up	Down
Total	41.6%	11.9%	79.5%	10.7%
No move	31.8%	11.6%	84.3%	9.7%
under 49 mi.	45.7	11.9	78.8	13.8
50-99	63.1	14.1	62.5	8.7
100-249	57.8	11.5	80.0	9.9
250-500	na	7.4	70.0	9.2
over 500	na	na	84.2	12.0
Obs.	1,561	3,092	146	684

Note: Males age 20-29 in 1850 or 1851.

Table 8: School Attendance and Intergenerational Mobility

	U.K. Sample		U.S. Sample	
	Up	Down	Up	Down
Total	54.3%	11.8%	81.6%	10.7%
In School				
Yes	60.6%	11.8%	83.2%	10.9%
No	52.3	15.9	79.0	9.9
Obs.	1,206	3,551	163	1,570

Note: Males age 10-15 in 1850.

Table 9: Partial Effects From Multinomial Logistic Regressions on Occupational Attainment, Without Controlling for County Mover

Variable (X)	High White Collar	Farmer	Low White Collar	Skilled	Semi-Skilled	Unskilled	E[X]
U.K., 1851-81							
Father High White Collar	0.3939***	0.0502	0.0326	-0.1909***	-0.073***	-0.2128***	0.02
Father Farmer	0.0096	0.3018***	0.0258	-0.1311***	-0.047***	-0.1592***	0.09
Father Low White Collar	0.0776***	0.0117	0.138***	0.0433	-0.0711***	-0.1995***	0.09
Father Skilled	0.0223***	-0.0061	0.0366**	0.2458***	-0.0493***	-0.2494***	0.41
Father Semi-Skilled	0.0079	-0.0043	0.0045	0.0841**	0.048**	-0.1403***	0.08
Not in Birth County	0.0103	-0.0255***	0.0106	0.0392	-0.0404***	0.0058	0.07
Attended School	0.0173***	-0.0013	0.0625***	0.0039	-0.0194*	-0.0629***	0.35
Age gap = 0	0.0116**	0.0027	0.0218*	0.0428**	-0.0128	-0.066***	0.47
Age gap = 1	-0.0029	0.01	-0.0084	0.0058	-0.0031	-0.0013	0.28
Age	0.0008	-0.0006	0.0052	0.0081	-0.0023	-0.0112***	12.34
Pr(Y | X=E[X])	0.02	0.03	0.11	0.53	0.09	0.22	
U.S., 1850-80							
Father High White Collar	0.2828	-0.2103	0.0712	-0.054	-0.0327	-0.0568	0.07
Father Farmer	0.0558	0.1743	0.0042	-0.1102	-0.0707	-0.0535	0.64
Father Low White Collar	0.4311**	-0.5059***	0.087	-0.0168	-0.0186	0.0231	0.01
Father Skilled	0.0909	-0.0955	0.0505	0.0261	-0.0078	-0.0643	0.12
Father Semi-Skilled	0.0603	-0.0971	0.0331	-0.0541	0.0467	0.0111	0.05
Not in Birth County	0.0151	-0.0285	-0.0079	0.0062	0.0136	0.0015	0.14
Attended School	-0.0089	-0.036	0.0211	0.0157	0.017	-0.009	0.75
Age gap = 0	0.0054	0.1184	0.0099	-0.0516	-0.0276	-0.0545	0.36
Age gap = 1	-0.0251	0.0796	0.0099	-0.0308	-0.0342	0.0006	0.34
Age	-0.0005	-0.0026	-0.0009	0.0066	-0.0009	-0.0018	12.38
Pr(Y | X=E[X])	0.15	0.46	0.03	0.12	0.07	0.16	

Note: significant at *** 1% ** 5% * 10%.

Table 10: Partial Effects From Multinomial Logistic Regressions on Occupational Attainment, Controlling for County Mover

Variable (X)	High White Collar	Farmer	Low White Collar	Skilled	Semi-Skilled	Unskilled	E[X]
U.K., 1851-81							
Father High White Collar	0.3645***	0.0485	0.0359	-0.1658**	-0.0724***	-0.2247***	0.01
Father Farmer	0.0084	0.2753***	0.0276	-0.115***	-0.0442***	-0.1522***	0.08
Father Low White Collar	0.0732***	0.0109	0.1362***	0.0507	-0.0717***	-0.1992***	0.09
Father Skilled	0.021***	-0.0051	0.0359**	0.2493***	-0.0501***	-0.2511***	0.41
Father Semi-Skilled	0.0075	-0.0027	0.0036	0.0797**	0.0503**	-0.1383***	0.07
Changed County 1851-81	0.0152***	-0.0318***	0.0675***	0.0417**	-0.0105	-0.0822***	0.26
Not in Birth County	0.0034	-0.0176***	-0.0089	0.0238	-0.039**	0.0382	0.06
Attended School	0.016***	-0.0002	0.0584***	0.0043	-0.0188*	-0.0597***	0.34
Age gap = 0	0.0121**	0.0002	0.0268**	0.0463**	-0.0137	-0.0718***	0.46
Age gap = 1	-0.0027	0.0057	-0.0053	0.0098	-0.0034	-0.0042	0.27
Age	0.0008	-0.0007	0.0054	0.0078	-0.0022	-0.0111**	12.33
Pr(Y | X=E[X])	0.02	0.02	0.11	0.53	0.09	0.22	
U.S., 1850-80							
Father High White Collar	0.2854	-0.2045	0.0685	-0.0561	-0.034	-0.0593	0.07
Father Farmer	0.0582	0.1686	0.0049	-0.109	-0.0707	-0.052	0.64
Father Low White Collar	0.4374**	-0.5056***	0.0802	-0.0172	-0.0185	0.0237	0.01
Father Skilled	0.0926	-0.1	0.0512	0.0283	-0.0076	-0.0646	0.12
Father Semi-Skilled	0.06	-0.0951	0.0326	-0.0551	0.0469	0.0107	0.05
Changed County 1850-80	0.0178	-0.1188	0.0132	0.0364	0.0154	0.036	0.61
Not in Birth County	0.0133	-0.0118	-0.0094	0.0006	0.0111	-0.0038	0.14
Attended School	-0.0079	-0.0398	0.0214	0.0164	0.0176	-0.0077	0.75
Age gap = 0	0.0099	0.0953	0.0131	-0.0447	-0.0249	-0.0487	0.36
Age gap = 1	-0.0234	0.0665	0.012	-0.0268	-0.0331	0.0048	0.34
Age	-0.0005	-0.0032	-0.0008	0.007	-0.0008	-0.0017	12.38
Pr(Y | X=E[X])	0.15	0.45	0.03	0.13	0.08	0.17	

Note: significant at *** 1% ** 5% * 10%.