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Frontier and Urban-Industrial Explanations of U.S. Occupational Mobility in the late 1800'S

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FRONTIER AND URBAN-INDUSTRIAL EXPLANATIONS
OF U.S. OCCUPATIONAL MOBILITY IN THE LATE 1800'S

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ABSTRACT

This paper analyzes U.S. geographic differences over nine regions in patterns of occupational mobility between 1880 and 1900 among the National Panel Study (NPS) of white men in the age cohorts 5-14 and 25-34. Comparisons focus on father-to-son mobility for the younger age cohort as it reached adulthood, and on intergenerational movement in midlife for the older cohort. Overall levels of upward occupational mobility are found to vary positively in both cohorts with levels of regional urbanization, while, contrary to the "frontier thesis" of American historians, location in the most recently settled parts of the United States has little relationship to occupational mobility. Using log linear models, the paper analyzes the importance of structural growth versus exchange mobility in understanding the higher mobility of the urban regions. Most of the geographic variation is explained by differential occupational structure rather than the degree of inheritance of occupational position over time.

The relationship of geographical location to American social opportunity has long interested historians and sociologists. Each group has been intrigued by a specific perspective on the relationship of geography to social mobility. The historians have primarily asked whether frontier or growing areas create more social opportunity than more established, older areas. This interest stems from fascination with the writings of the historian Turner (1920) who argued that the flexible and individualistic frontier society countered the more established and traditional culture of the settled areas, and individuals found the frontier to be a site where individual dreams were realized. The sociologists have shown more interest in the role of urban-industrialism. Marxist perspectives emphasize the power of dominant capitalist classes to protect their family interests over time (Bendix and Lipset 1966), but others do not share this view. Some (Treiman 1970) have argued that urban-industrialism enhances social mobility, while others (Grusky and Hauser 1984) claim that urban-industrialism is not significantly associated with one generation's ability to influence occupational position of the next generation.

This paper tests the frontier and urban-industrial theses by analyzing differential patterns of occupational mobility between 1880 and 1900 among a national sample of white men. We will analyze variations in occupational attainment across nine major regions of the United States that are constructed to represent the social diversity of the population. The data set is the National Panel Study (NPS), a sample of 4041 white men who were sampled from the 1880 census manuscripts and then matched with their records in the 1900 census manuscripts. The theses will be tested for two cohorts of men, 5-14 and 25-34 in 1880. For the younger men, their occupational position in 1900 will be studied in relationship to the household head, generally the father in 1880. For the older men, their occupational positions in 1880 and 1900 will be compared directly.

The validity of the frontier and urban-industrial hypotheses in the 19th Century United States remain virtually untested. Undoubtedly, a major reason for

the ambiguous historical conclusions is the limited nature of previous mobility samples. Studies have typically but not always focused on middle-sized communities, usually in the more established parts of the United States (Griffen and Griffen 1978; Katz et al. 1974; Sassler and White 1997; Thernstrom 1964, 1973). Rural communities, especially those based on farming, have been virtually ignored. In addition, very large places have not received as much attention as their size might warrant, possibly due to the difficulties in linking individuals in big cities.

THE FRONTIER HYPOTHESIS

Writing in the early Twentieth Century, Turner (1920) argued that the American frontier has been a site of unusual social opportunity throughout most of American history (although he believed the frontier was disappearing at the turn of the century). The thesis garnered general interest because of Turner's important idea that frontier opportunity enhanced belief in and the actual existence of democratic values. He suggested (1949:31) that "American democracy is fundamentally the outcome of the experiences of the American people in dealing with the West."

Reactions to the Turner thesis have ranged widely. On the positive side, Billington (1974: 37-38) notes that ... "the sequential development of successive Wests created an opportunity for upward social mobility unparalleled in other nations. Men literally 'grew up with the country' as the enterprising became merchants or lawyers with all the status that went with such positions, the less fortunate enjoyed greater affluence as their lands increased in value, and the least fortunate were pushed upward on the social scale by the continued influx of newcomers even less fortunate than themselves."

In contrast to this positive view of frontier society, Shannon (1949: 51-60) attacks what he believes to be a romantic view of Western society. As he notes (1949:60), "There never was a freeland or even a Western safety valve for industrial labor....The rapid growth of industry and commerce in the cities provided a release from surplus farm population. The safety valve that actually existed worked in entirely the opposite direction from the one so often extolled." In essence, Shannon

associates opportunity with the city, a position which is most often associated with sociologists.

Mixed positions have been taken by other historians. In an important essay on the "pioneer", Bogue (1960) makes various criticisms of the Turner thesis. He notes (1960:22) that the West may have selected the least successful members of society as migrants, and that their chances may not have been greatly affected by their Western experience. In addition, Bogue (1960:31) emphasizes the fact that pioneers, just as individuals in more established areas, often moved within well-defined institutional cultures such as those associated with New England and the South; those cultures may have affected or at least constrained their opportunities.

At the same time, Bogue (1960:33) recognizes that "...individuals on the frontier lacked both well-established institutions and the social customs which had assisted them in patterning their behavior in the communities from which they came..." As a result, pioneers on the frontier often experienced more conflict (due to a lack of group ties) and more cooperation (due to the need for mutual help) than others. The resulting consequences for social opportunity were different on the frontier, but ultimate status was not necessarily different.

A similar viewpoint is emphasized by Doyle (1978) in his study of social mobility in what he describes as a "frontier" community, Jacksonville, IL. Doyle reports unusually high occupational mobility into white collar jobs in the 1850's and 1860's among those who continued to live in the community. But he also argues that life chances of frontier men were affected by ties to social groups and kinship networks. The individualistic nature of frontier life was apparently overemphasized by Turner.

EFFECTS OF INDUSTRIALISM

Pre-occupied with delineating evolutionary theories of societal change, sociologists have been more interested in whether the transition from agrarian, low technology to urban-industrial, high technology societies increases social

opportunity. Certainly, much of the interest stems from Marx's idea that advanced capitalism creates increasingly distinguishable social classes, characterized by differential opportunity (Bendix and Lipset 1966). In contrast, other theorists (Treiman, 1970) have suggested exactly the opposite trend, formulating what might be called the "logic of industrialism" thesis. Societal development presumably leads to a more rational, universalistic (rather than ascriptive) allocation of roles. The high geographic mobility of industrial society also reduces the opportunity for parents to control the occupational chances of their off-spring. This viewpoint is also implicit in the work of Wirth (1938) who argues that urbanization and big cities are characterized by rationalistic social relations and, by implication, the decline of social inheritance.

The debate over urban-industrialism and mobility frequently focuses on the role of educational attainment. For those emphasizing high rates of mobility in industrial societies (Blau and Duncan, 1967), extensive development of educational systems leads to increasing occupational recruitment by merit, rather than family background. Others (Bowles and Gintis, 1976; Collins, 1979) argue, however, that educational systems in advanced societies represent the interests of elites; they are largely a means to certify their children for top occupational positions, regardless of their ability or merit. Thus, "urban-industrialism" need not lead to greater occupational mobility.

PREVIOUS RESEARCH

Unfortunately, the previous studies on the nature of geographical variations in U.S. social mobility are difficult to interpret because they rarely make what we perceive as an important distinction, between structural and exchange mobility. High mobility may occur because changes in job structure produce a high forced upward mobility. Thus, an evolutionary trend toward increasing white collar employment will produce a disjunction between the actual jobs that are occupied by fathers and the jobs that their sons may attain. Structural change in the overall opportunity structure creates what appears to be high rates of social mobility.

Alternatively, mobility may result from the weak exchange relationship between occupations at two points in time, regardless of structural change. That is, the association between father's and son's occupations may be weak; high status fathers may have little ability to transmit a relatively high status occupation to their son, producing much downward mobility among sons who under-achieve their fathers and upward mobility among sons who out-achieve their fathers.

Historians have achieved little consensus on the degree to which social mobility varied across parts of the United States in the late 1800's, much less agreeing on the major social factors underlying the differences (Kaeble 1981). After reviewing a number of U.S. individual community studies from the Nineteenth and Twentieth Centuries. Hazelrigg (1974) and Thernstrom (1973) conclude that inter-community differences in social mobility were relatively small, or at least not related in systematic ways to structural characteristics of the communities. Thernstrom (1973: 220), for instance, concludes that the patterns of mobility he found historically in Boston "were not peculiar to that city, but rather were products of forces that operated in much the same way throughout American society in the nineteenth and twentieth centuries."

Others have provided more qualified conclusions. In a study of social mobility in Seattle in the late 1800's and early 1900's, Reiff (1981) found that upward occupational mobility was high in the early formative (frontier) years of the city, but then decreased over time, as it became more settled. Hardy (1976) compared occupational mobility rates in Indianapolis, Houston, Boston, and Philadelphia during the middle 1800's, and argued that the two relatively new cities (Indianapolis and Houston) were characterized by higher rates of social mobility than the two older cities.

Perhaps surprisingly, more contemporary evidence from the United States does not support those who argue that social attainment processes operate differently across cities. Lane (1968) finds some mild evidence of varying status attainment processes across cities for some age groups

of Americans, but Mueller (1974) finds little evidence at all, including for the groups identified by Tyree. In addition, Curtis and Jackson (1977) find the social attainment process seems to work similarly across a small number of cities.

Most of the extensive research on the relationship of urban-industrialization to social mobility has focused on inter-country comparisons, with some reporting a positive relationship (Tyree et al. 1979; Hazelrigg 1974; Cutright 1968), but others finding no significant association (Hazelrigg and Garnier 1976; Hardy and Hazelrigg 1978).

In one of the most comprehensive analyses of cross-national inter-generational variation, Grusky and Hauser (1984: 29) "...found that observed rates of mobility vary dramatically between countries while social fluidity is relatively invariant." Thus, they emphasize the importance of structural versus exchange mobility to understanding differences in social opportunity (also see Featherman et al. 1975). Although they do not analyze the social correlates of variations in structural mobility, Grusky and Hauser do provide an innovative investigation of exchange mobility. Drawing inspiration from the research of McClendon (1980), they focus on the specific degree of occupational inheritance among the three groups in their tables, white collar, blue collar, and farm. Degree of exchange inheritance is then related to various characteristics of the countries.

While their detailed results defy easy summary, they find that measures of political system organization (such as presence of socialism) have greater influences on exchange mobility than indicators of industrialization, educational development, and income inequality. When considered alone, industrialization had a negative effect on blue-collar and farm inheritance, but no statistically significant effect on white collar inheritance (Grusky and Hauser, 1984: 34). In contrast, educational enrollment had positive effects on farm inheritance, but did not have statistically significant relationships with white collar and blue collar inheritance.

In another large-scale analysis of intergenerational mobility, Ganzeboom et al. (1989) analyzed 149 tables from 35 countries. They argue that exchange mobility varies widely over the tables and is decreasing clearly over time. Wong (1994), however, argues in a re-analysis of the data that little longitudinal trend is evident.

NPS DATA

A more extensive discussion of the NPS linked sample and its characteristics is found elsewhere (Guest 1987). Matches were typically made on such characteristics as age, name, birthplace information, and the presence of related individuals in the household. Of particular relevance to our study is the fact that linkage between 1880 and 1900 was forbidden on the basis of community location and occupational status.

Consistent with most analogous 19th Century studies, the linkage rate, 39.3 percent, was moderate at best. A variety of factors undoubtedly explain failure to link, including both influences beyond control of the research project (such as mortality) and human failures in the search process. Nevertheless, the linkage rate is comparable with those found for good 10 year studies (Parkerson 1982). While the broad geographic range of the study might imply relatively high linkage rates, there were also problems created by the scope. For instance, it was often difficult to link individuals when several persons in 1900 had the same names, and often similar characteristics.

A limitation of the sample is an underrepresentation of inter-state migrants. All the men in the 1880 sample were searched in the same state in 1900, using the census Soundex file. For those individuals not linked within state (most of the 1880 respondents), it was not feasible to launch a full national search. A useful compromise was achieved, however. For individuals not found in their state of enumeration, we drew a 50 percent sample. Then these individuals were searched in the states (generally nearby) which accounted for at least 90 percent of the out-migrants from their state, using published census data on state of birth and

enumeration for the time period. This search, of course, largely precluded the analysis of inter-regional movement or migration over extremely long distances.

The out-of-state yield was not impressive, as only 169 of the 4041 linked cases were found in a 1900 state that was different from 1880 enumeration. To some degree, the low yield may have stemmed from human factors. The out-of-state search yielded low payoffs in each searched state, and thus research assistants may not have been as careful or diligent in pursuing such individuals. Furthermore, the out-of-state search occurred near the end of the data-gathering when some of the searchers, generally graduate students, were clearly suffering from "burnout". Among respondents in the sample, nevertheless, we found that distance of migration was largely unrelated to the degree of occupational mobility, both within and across generations (Guest 1991)

DATA AND METHODS

Given the sample size of matched cases in two separate cohorts, some clear limitations are necessary in regard to the number of occupational categories and geographic units. Otherwise, it would be difficult to conduct a valid log linear analysis since many cells of very large tables would have virtually no expected cases, thus making it difficult to compare actual with expected frequencies. The following analysis will be based on four occupational categories and nine geographic regions (based on aggregation of state units) of the United States.

Occupations will be divided into these categories: all white collar workers, skilled blue collar workers, other blue collar workers, and farmers. While a further subdivision of white collar workers would certainly be desirable, they formed a relatively small proportion of the workforce in many states, and the criteria for making an internal distinction was not always clear. The distinction among blue collar workers allows us to differentiate between what some might see as "noble" or "honorable" blue collar work and more menial manual labor. Certainly, it seems important to recognize occupational differences between unskilled day

laborers and skilled blue collar workers who have survived extended job apprenticeships.

Using the 48 states and the District of Columbia as building blocks, we have constructed nine geographic regions to serve as the major foci of the analysis. Regions or subregions that are generally recognized by the U.S. Census Bureau include: New England, Middle Atlantic, South Atlantic, East South Central, West South Central, East North Central, West North Central, Mountain, and Pacific. Unfortunately, some of these regions lacked enough cases in 1900 to produce very useful mobility tables. As a result, we used the census categories to develop nine regions that did not vary widely in number of cases and seemed to have some geographic integrity. They are essentially constructed as subdivisions of the nine census regions or as combinations of those regions. They are: New England, New Jersey-New York, Pennsylvania, South Atlantic, South Central, Indiana-Ohio, Illinois-Michigan-Wisconsin, West North Central (Iowa, Minnesota, and Missouri but not the Dakotas, Kansas, and Nebraska), and the West (including the Mountain and Pacific subregions and the Dakotas, Kansas, and Nebraska. A clear limitation of the analysis is the geographic size of the West, but there seemed to be little choice given the geographic concentration of the 1900 population (and the sample) in the more eastern areas of the United States.

Due to our difficulties in assembling geographic units, some of the nine regions have small numbers in specific occupational categories. Because of the small numbers, there is undoubtedly low reliability in estimating the true universe mobility patterns for any specific geographic unit. Nevertheless, even accounting for measurement error, we believe the data are useful for testing some general hypotheses about the major social structural correlates of varying social mobility rates.

REGIONAL MOBILITY VARIATIONS

Two useful summary measures of overall mobility are the percentages upwardly and downwardly mobile, based on a ranking of the four occupations from white collar

(high) to farm (low). Percentage stable or persistent is the residual from the other two categories but will not be highlighted in this paper.

Table 1 About Here

Table 1 shows the degree of social mobility for the 18 tables (two cohorts by nine regions). In all regions, the predominant theme is upward mobility from father to son. In some areas, upward mobility across generations is roughly twice as great as within the same generation, a finding that would be expected since the older cohort is in mid-career. Such high levels of upward mobility from father-to-son provide some support for historical images of the United States as a society of opportunity, although they do not generally match those found in the post-World War II United States (Guest et al. 1989).

Among the nine regions, the greatest variation occurs for upward mobility from father-to-son. The data provide much support for the idea that social mobility was positively related to urban-industrialism, while benefiting very little from "frontier" location. The highest rate of upward mobility (44.8 percent) occurs for New England, which is relatively long-settled and is among the most urban-industrial. Other high and relatively similar levels of upward mobility are found in what might be described as the "traditional" North of the United States, the area that formed the heart of support for the Union forces in the Civil War. These include, in order, New Jersey-New York, Pennsylvania, Indiana-Ohio. Two regions, representing the Confederate agrarian heartland, the South Atlantic and the South Central, have the lowest upward mobility. Outside the South, the West (the most frontier region) has the lowest upward mobility, followed by the more easterly Iowa-Minnesota-Missouri and Illinois-Michigan-Wisconsin.

Table 2 About Here

While variations in upward mobility within generation are typically quite small, Table 2 shows a strong correlation (.65) over the nine regions between their levels of upward mobility across the two cohorts. Thus, in general, areas of high

father-to-son upward mobility also had high levels of within generation upward mobility.

Levels of downward mobility are generally low, regardless of region, and they vary little in relationship to each other. In addition, levels of downward mobility have a low correlation (.24). Interestingly, downward and upward mobility vary little with each other, within cohort, although the relationships are positive. Thus, high upward mobility did not necessarily discourage downward social mobility. We comment more on this below.

CONTEXTUAL CORRELATES

As a more rigorous test of the frontier and urban-industrial hypotheses, we correlate two indicators of each with the various rates of mobility. The greatest interest is in father-to-son mobility where the regional variations were the largest. The "frontier" will be measured by a commonly used indicator, the sex ratio of the population, defined as number of males/number of females (U.S. Census Office 1904a:Table 35). In addition, we have calculated regional population growth ratios, as indicated by the following formula:

$$1 - (\text{civ. pop. 1880} / \text{civ. pop. 1900})$$

where civ. pop. refers to the total civilian population in 1880 or 1900 (U.S. Census Office 1904a:Table 35). Growth ratios calculated in this manner tend to have more "normal" distributions than those calculated as percentage growth rates. As Table 2 shows, these two variables are highly correlated ($r=.89$) over the nine regions.

Previous work (Guest 1979) has shown that indicators of urbanization and industrialization were highly correlated across states in 1900 but were correlated only moderately with the degree to which educational systems were well developed and children stayed in school through the teenage years. Thus, one measure of urban-industrialism will indicate urbanization, drawn from data collected in the 1900 census on the percentage of the population living outside "country districts", generally defined as places with at least 2500 population (U.S. Census Office 1904a:Table 37). The other measure will be the percentage of males, 10-15, who were

not working in the paid labor force, with most of them presumably concentrating on educational attainment (U.S. Bureau of the Census 1904b:Table LIII). These two variables had a Pearsonian correlation of .69. We could have used a measure of child employment for all children (regardless of gender), but the male measure seems especially germane since this study focuses on males and the gender-specific measures were highly intercorrelated, in any case.

Focusing first on mobility that showed the greatest regional variation (upward movement from father-to-son), We find that the strongest social structural correlate is urbanization, with a .91 Pearsonian r , as shown in Table 2. When these two variables are graphed, there is an almost perfect linear increase in upward mobility with urbanization. When urbanization is regressed on rates of upward social mobility, the unstandardized regression coefficient indicates a substantial positive effect so that a 10 percentage point increase in urbanization is matched by a 2.9 percentage point increase in the rate of upward social mobility. The child employment variable also has a strong correlation (.71) with upward mobility. The rate of mobility steadily increases as male children do not work.

The relationships of the frontier variables to social mobility are lower, and the pattern is opposite to prediction. Upward mobility shows some tendency to be lowest in the areas with the greatest predominance of men ($r=-.31$) and high population growth ($r=-.45$).

We have already found that upward mobility for the older men is positively related to that for the younger men, although with less variation across regions. Thus, as anticipated, urbanization ($r=.58$) and male children not working ($r=.82$) are correlated positively with upward mobility rates for the older men. The frontier variables show even less relationship with upward mobility for the older than the younger men ($r=-.03$, sex ratio; $r=-.23$, population growth).

Turning to downward social mobility, we find that its social correlates across the regions are less clearcut than those of upward mobility. Nevertheless, the key finding is that urbanization is the strongest correlate of downward mobility for

both cohorts ($r=.42$, younger cohort; $r=.78$, older cohort), indicating that high urbanization is associated with high rates of both upward and downward mobility.

Consistent with all the previous analysis, the "frontier" variables do not have impressive relationships with rates of downward mobility, especially in the intergenerational comparisons ($r=.06$, sex ratio; $r=.17$, population growth). Stronger relationships are found in the older cohort, where both the sex ratio and population growth all have some relationship to downward mobility ($r=-.53$, sex ratio; $r=-.39$, population growth), suggesting that "frontier" areas have less downward mobility.

A REGIONAL MODEL

There are essentially two possibilities, structural and exchange perspectives, to explain the differences in mobility patterns among the regions.

Structural perspectives tend to focus on social mobility as due to the overall changes in the number of opportunities or slots that are available to workers. Structural mobility might also be considered "forced" in the sense that the creation of new types of job opportunities means that some types of individuals will have to be recruited from pre-existing job categories. Given the massive changes in the U.S. social structure in the late 1800's (Higgs 1971; Wiebe 1967), it seems probable that such factors as urbanization and industrialization increased the occupational opportunities for each generation as it entered the labor force.

Urban regions in the late 1800's had occupational structures that were heavily weighted away from farming, which we have categorized as the lowest position in the four category hierarchy. For instance, only 26.6 percent of the young men's fathers in New England were farmers compared to 71.7 percent of the sons in the South Central region. This fact alone could produce high rates of upward mobility if sons were moving out of farming. But why might downward mobility also be high in the more urban regions? Another probable characteristic of urban regions is a more diverse occupational structure, so, there would also be heightened

opportunities to move downward in occupation (in other words, both upward and downward mobility would be possible).

One should not conclude that the variation of farming alone with urbanization could totally influence social mobility rates. For instance, we have recalculated the rates of upward mobility in the father-to-son comparisons when only three categories are used (white collar, skilled blue collar, and other blue collar). This, of course, excludes any individuals who had farmer fathers or were themselves farmers. The new rates of upward mobility still vary greatly, from 43.2 percent among New Englanders to a low of 23.3 percent among Westerners. The correlation of our regional urbanization measure with these rates over the nine regions is actually .66, indicating that upward mobility still varies positively with urbanization even among the non-farm population.

Occupational mobility could also be due to patterns of exchange or the actual influence of the original occupation on the subsequent one. In this case, the status ordering of occupations at the origin and the destination could be extremely weak in the most urban regions, so that the sons of high status father had an extremely low probability of ending up in high status jobs relative to the sons of low status fathers. Another real possibility is that societies may have very high rates of upward social mobility but hardly any unusual "exchange". In such a circumstance, urban societies might create a large number of new, high status jobs but entrance into them would be restricted to persons who had started in relatively high status positions. More specifically, a large number of new white collar opportunities might be created, but entrance would be almost completely limited to descendants of white collar workers plus skilled blue collar workers.

This analysis is heavily influenced by the work of Sobel et al. (1985) who argue convincingly that structural and exchange mobility may be separated in tables characterized by quasi-symmetry, a condition in which the flows between any two occupational categories i and j are similar, regardless of which one is considered the origin and the destination.

Under conditions of quasi-symmetry, the cell frequencies in a mobility table may be expressed in terms of three types of parameters: the Beta coefficients, which represent the general structural tendency of individuals to be found in specific occupations at the origin time point; the Alpha coefficients, which represent the marginal shifts between origins and destinations; and the exchange (Delta) parameters, or the measures of symmetric movement between occupational pairs. The Beta and Alpha coefficients have been interpreted as indicators of the "structural" opportunities available to groups, or the changes in societal demand for certain skills. From a theoretical view, the Alpha coefficients seem especially important because they measure the degree to which mobility is due to the creation of new occupational opportunities for the whole population. If the Alpha values vary across regions that are differentiated, say, by urbanization, they could be crucial in explaining why occupational mobility was greatest in the most urban parts of the United States. Thus, the most urban regions might have the greatest upward social mobility because white collar jobs were especially being created in these territories.

To use this methodology, we need to verify that the model of quasi-symmetry fits the data for each of the nine regions over the two cohorts (18 tables). Using standard loglinear methodology, we calculated the log likelihood (L-squared) value for each table, finding that the data "fit" the quasi-symmetry model, when conventional .05 levels of significance are used.

FATHER-TO-SON MOBILITY

The role of geographic context in mobility may be integrated with the Sobel et al. methodology by creating variables that represent the standing of each region on the urban-industrial and frontier variables. Our initial consideration will be limited to the influence of urbanization on social mobility. Previous work (Guest et al. 1989) has shown that the quasi-symmetry model fits the overall occupational mobility data for the United States in the NPS sample, and we therefore assume that

the overall cell counts in our data set will need to consider Beta, Alpha, and Exchange effects.

Table 3 About Here

Table 3 shows the following models:

1. A baseline model in which consideration is given only to parameters for overall Beta, Alpha, and Exchange values, and to parameters to account for the variations in the total number of observations in each regional table. In essence, this assumes that the basic nature of social mobility is constant across all the regions. It serves as a useful baseline model, but is implausible because we know from the previous descriptive statistics that the rates of social mobility (especially upward) vary across regions.

2. A more complex (Urbanization and Social Structure) model in which we assume that the Beta values vary across urbanization, in addition to the parameters that are included in the previous model. This highly plausible model would be compatible with the view that occupational diversity (including both low and high status) varies in strength across the regions by urbanization (as we have already noted), and the composition of this category will constrain the opportunities for upward and downward mobility.

3. A model (Urbanization and Opportunity Growth) in which we assume that the Alpha values also vary with urbanization, in addition to the parameters that are included in the previous model. This model posits that the growth of occupational opportunities will also vary by urbanization. Thus, it would be compatible with the view that the more urban regions would have higher social mobility because high status occupations such as white collar are being created at an unusual rate and low status occupations such as farming are dying out fastest in the most urban regions.

4. A final model (Urbanization and Origins Effects) in which we assume that the Exchange values also vary with urbanization, in addition to the parameters that are included in the previous model. This model argues that the effects of father's

occupation on son's differ by level of urbanization. It could be compatible with the view that urbanization either reduces or enhances the influence of origin on destination occupations.

For each model, both L-squared (with corresponding degrees of freedom) and the BIC value (Raftery 1986) are presented. The more negative the BIC value, the greater the acceptability of the model. Small reductions in L-squared may provide a statistically significant improvement to the model, but the practical implications with a large sample size may be small. The BIC attempts to correct for small variations in L-squared between relatively simple and more complex models that have limited practical significance.

The results are quite clear for interpreting the relationship of regional urbanization to father-to-son occupational mobility. As anticipated, the baseline model, not recognizing any interactions with urbanization is clearly an unacceptable fit to the data, as it provides a poor fit in comparison to more complex models.

Clearly, the best model is one that recognizes the interaction of urbanization with Beta values (Model 2). This model has the most negative BIC value, and the L-squared value is not statistically significant at the conventional .01 level, one tailed F-test. Since this model fits, it is not (strictly speaking) necessary to consider the other two models that are sketched above. However, we present the resulting statistics to indicate that consideration of Alpha and Exchange parameters in relationship to urbanization does little to enhance the explanation of social mobility patterns. While consideration of each set of parameters reduces the L-squared value, the change is quite small in absolute terms relative to the loss of degrees of freedom (as suggested by comparison of the BIC values).

What do these results mean? They indicate that social mobility is high in both upward and downward directions as a consequence of the more varied occupational structures in the most urban regions. There are more occupational positions to move among, and this encourages occupational change in the urban regions. Interestingly,

the data imply that the growth of occupational opportunities between 1880 and 1900 was relatively uniform across the different urban regions, and could account for little of the difference in occupational mobility. In other words, the trend away from occupations such as farmer was relatively uniform across the regions, although the regions started from different points in their occupational structures (the Beta values). Finally, the data indicate that the exchange effects of father's on son's occupation did not vary much by level of urbanization. The most urban regions had the same levels of inheritance as the least urban regions.

Our previous results have shown that regional urbanization and child labor variables (compared to the frontier variables) were most strongly correlated with levels of social mobility across the regions. It is useful to determine whether similar log linear models, replacing urbanization with the other three contextual variables, lead to similar conclusions. Thus, we present in Table 3 the same statistics for interactions involving the three other variables that have been used to indicate the urban-industrial and frontier perspectives.

There are three noteworthy conclusions. First, regardless of which specific model is considered, urbanization is much more effective than any of the other three social variables in reducing the L-squared value. As might be expected, the child labor variable is second most efficacious in comparison to urbanization, but clearly has much less impact in explaining variations across the regions. Second, in each case the strongest effect of Beta, Alpha, or Exchange parameters in interaction with the contextual variables occurs when we consider the Beta values. In other words, context seems most useful for understanding variations in the basic distribution of types of jobs. Third, in each case, considering the Alpha and Exchange parameters seems to add little to the explanation, especially given the expense in degrees of freedom. As in the case of urbanization, social context seems to have little usefulness in explaining the relative temporal growth of opportunities (Alpha) or the degree of occupational inheritance (Exchange).

INTRAGENERATIONAL MOBILITY

The conclusions are very similar when we inspect the "fit" statistics for analogous models that involve mid-career mobility for the older men between 1880 and 1900. As true with father-to-son mobility, consideration of the interaction of urbanization with Beta values is especially important in improving the prediction of cell sizes. Also analogous to the father-son comparison, consideration of differential occupational growth and exchange has little impact on the relationship of urbanization to social mobility. In contrast to the father-to-son case, the best model involving urbanization does not fit the data at conventional levels of statistical significance, indicating that there are some regional variations that are due to other factors than urbanization.

When we consider the same models as above for the child labor, sex ratio, and population growth variables, we reach very similar conclusions to those previously expressed. These variables are clearly much less efficacious than urbanization, and the strongest claims for their effects may be made in regard to predicting basic occupational structure (Beta) rather than the growth of occupational categories or the inheritance of occupation over time.

ORIGIN DIFFERENCES

Urban-industrial and frontier variables clearly provide little help in understanding the growth of occupational opportunities between the two points and the ability of father (or time) to transmit occupational position. One possibility is that total regions are not especially useful for capturing the dynamics of occupational attainment. As Bogue (1960) and Doyle (1978) have argued, individuals were also part of social groups (often defined by geographic origins), and their status attainment may have occurred within these specific communities. The Midwest is a good site to test such theories because it was a crossroads for various population movements. Specifically, it was a principal site for migration of "Yankees" from the Northeast and Southerners from the South Central and South Atlantic areas. In addition, many international immigrants, especially from Ireland and Germany, settled in this area.

Our analysis will focus on three Midwestern regions that have been part of the previous analysis, involving the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. We have divided the younger cohort of men into four groups based on the reported state of birth in 1880 of their fathers: Yankees, born in New England and the MidAtlantic states of New Jersey, New York, and Pennsylvania; Southerners, with fathers born in the South Atlantic and South Central regions; Foreign Born, with births outside the United States; Other U.S., with births outside the Northeast and South. A few men did not have legible birthplace data for their fathers, and they have been eliminated from the sample.

The sample men are difficult to divide by their regions of origin because the vast majority lived in the same state in 1880 and 1900, and were typically born in that state. Fathers have a wider range of geographic origins. It was also difficult to divide the men by geographic origins for other 1900 regional areas, since the Northeastern and Southern parts of the United States infrequently drew individuals from other sections. The number of men in the area west of the Mississippi River was too small to conduct a separate analysis.

Table 4 About Here

While some differences exist among the samples, there also are great similarities. Yankees and those with foreign origins have backgrounds that are less oriented to farming than Southerners and Other Origins. In addition, the Yankees were slightly more likely to come from white collar origins. As Table 4 shows, the highest rates of upward mobility are found for the Yankees, consistent with the pattern found for Northeasterners when 1900 state of residence is used. Among those with U.S. born fathers, the Southerners have the lowest rate of upward mobility, again consistent with the data for the original regions. Nevertheless, those with foreign born fathers have an even lower rate of upward mobility. Rates of downward mobility are amazingly similar across the samples.

The small sample sizes and mobility differences suggest that the patterns may be quite similar across the tables. Testing a model involving constant Beta, Alpha,

and Exchange parameters over the four migrant groups, we find the L-squared value is 65.329, with 48 degrees of freedom, indicating statistical significance at the .049 level, but marginally so. When separate Beta-Migrant group parameters are added, the L-squared value falls to 50.221, with 39 degrees of freedom, which is statistically non-significant at the .05 level. According to the BIC test, the less complex model is preferred, and thus one must conclude that the process of social mobility was quite similar across groups in the Midwest. This conclusion agrees generally with Landale and Guest (1990) who found that 1900 inter-generational occupational mobility by familial longevity in the United States showed little variation in terms of exchange patterns.

SUMMARY AND CONCLUSION

The data clearly suggest that occupational mobility rates were highest (particularly upward) in the most urban regions. However, much of this relationship is an artifact of the greater diversity of occupational structure in the urban states. When occupational positions are heterogeneous (as in the heavily urban regions), it is likely that high proportions of the population will move among the positions.

In some sense, this is a trivial finding because it contradicts ideas about interesting sociological processes that might allocate individuals to positions. Urban-industrialism by itself seemed to have minimal effects in opening up or shutting off new opportunities. Yet, simply knowing that more occupational mobility existed in the most urban regions has important sociological implications. For instance, it would seem difficult to develop and sustain militant class consciousness when individuals had relatively high rates of movement across occupational strata.

Contrary to Turner's interesting thesis about the role of the frontier, occupational mobility rates did not vary much with regional variations in the sex ratio or population growth. If anything, upward mobility was most often found in the most settled regions of the United States. The fact that occupational mobility

was greatest in the oldest region, New England, would seem especially detrimental to the Turner hypothesis. It might be argued that the frontier had already closed by 1900, and thus that the data do not provide an adequate test of the thesis. While this is a reasonable point, it is indeed surprising to us that so little evidence for the frontier thesis is evident.

An alternate idea, that occupational mobility largely occurred within cultural and geographic origin groups, was also not supported. As far as we could tell, the process of occupational attainment in the Midwest worked quite similarly, regardless of whether individuals came from Southern, Yankee, foreign, or other backgrounds.

Since this study deals only with occupation, it cannot make conclusions about other measures of social and economic opportunity. For instance, it is possible that wealth or income opportunities were especially enhanced by moving to the frontier. Indeed, success at farming was undoubtedly highly variable, and frontier farmers may have had unusual opportunities to enhance their wealth or income. Unfortunately, there is no data in the 1880 and 1900 manuscripts that would permit an assessment of this idea. It is also possible, even likely, that individuals believed they would enhance their occupational opportunities by moving to the less settled areas. In this sense, Turnerian theses about the social consequences of the frontier might have been right, not because opportunity was actually much greater there but because the new settlers believed it was.

To our knowledge, there is no convincing evidence that geographic location within the United States in the Twentieth Century has had much impact on occupational mobility, as indexed by structural growth of opportunities or by longitudinal exchange patterns. Thus, the findings in this paper for the Nineteenth Century largely re-enforce more contemporary research results. If opposite results had occurred, it would have suggested more research attention to local cultures and power structures and how they furthered or hindered occupational mobility. But

such is not the case, indicating the importance of national social forces that overcame the peculiarities of individual place.

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TABLE 1

OVERALL OCCUPATIONAL MOBILITY RATES, NINE U.S. REGIONS

Region	Younger Cohort			Older Cohort		
	Upward	Downward	N	Upward	Downward	N
New England	44.8	14.0	143	22.2	17.8	135
NJ-NY	39.3	16.7	234	22.7	13.9	251
Pennsylvania	38.1	15.7	210	20.9	14.2	211
South Atlantic	27.6	14.3	196	20.1	11.9	159

South Central	24.7	12.1	223	15.9	8.2	182
Indiana-Ohio	36.1	12.9	249	24.1	10.8	249
IL-MI-WI	35.0	12.2	246	24.9	11.2	277
IA-MN-MO	34.6	15.9	208	22.7	8.4	154
West	32.1	15.1	106	21.0	9.4	138

Regions: New England, New Jersey-New York, Pennsylvania, South Atlantic, South Central, Ohio-Indiana, Illinois-Michigan-Wisconsin, West North Central (Iowa, Minnesota, and Missouri but not the Dakotas, Kansas, and Nebraska), and the West (including the Mountain and Pacific subregions and the Dakotas, Kansas, and Nebraska)

TABLE 2

PEARSONIAN CORRELATIONS OF REGIONAL CHARACTERISTICS

Variable	IEUM	IEDM	IAUM	IADM
Urban Percent	.91	.42	.58	.78
Non-Labor Force Children	.74	.31	.82	.26
Sex Ratio	-.24	.06	-.03	-.53
Pop. Growth Rate	-.24	.17	-.23	-.39
Inte. Up. Mobility	1.00	.37	.65	.79

(IEUM)				
Inte. Down Mob.	.37	1.00	.14	.24
(IEDM)				
Intra. Up. Mobility	.65	.14	1.00	.27
(IAUM)				
Intra. Down Mob.	.79	.24	.27	1.00
(IADM)				

TABLE 3

ANALYSIS OF ASSOCIATION BETWEEN ORIGIN AND DESTINATION
MOBILITY, NINE U.S. REGIONS, 1900

	Father-to-Son			Intragenerational		
	L2	d.f.	BIC	L2	d.f.	BIC
1. Baseline	351.2	123	-571.8	416.2	123	-502.7
Urban Model						
2. Beta*structure	144.5	120	-755.9	186.0	120	-710.5
3. Alpha*structure	140.1	117	-737.9	181.2	117	-692.8
4. Exch.*structure	131.5	111	-701.5	176.0	111	-653.3
Child Labor Model						
2. Beta*structure	268.2	120	-632.2	345.8	120	-550.7

3. Alpha*structure	258.8	117	-619.1	344.6	117	-529.5
4. Exch.*structure	253.4	111	-579.5	340.8	111	-488.4
Sex Ratio Model						
2. Beta*structure	311.3	120	-589.2	366.7	120	-529.8
3. Alpha*structure	295.9	117	-582.0	362.0	117	-512.1
4. Exch.*structure	280.7	111	-552.2	359.3	111	-469.9
Pop. Growth Model						
2. Beta*structure	333.6	120	-566.8	395.9	120	-500.6
3. Alpha*structure	331.1	117	-546.8	392.4	117	-481.7
4. Exch.*structure	325.9	111	-507.0	388.5	111	-440.8

TABLE 4

FATHER-TO-SON OCCUPATIONAL MOBILITY RATES, 1880-1900,
BY FATHER'S ORIGIN, MIDWESTERN REGIONS

Father's Origin	Upward	Downward	N
Yankee	39.6	14.9	101
Southern	32.9	13.2	76
Other-U.S.	37.9	12.6	261
Foreign Born	30.7	14.6	254