Kinship and the Long-Term Persistence of Inequality in Liaoning, China, 1749–2005

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Abstract

We demonstrate that in northeast China before the 20th century, kin groups played a important role in structuring patterns of inequality. There were substantial differences in the demographic behavior and social attainment of individuals according to kin group membership even after differences between villages and households were accounted for. There was also considerable continuity in the relative status of kin groups before the 20th century. More tentatively, there was continuity in the relative status of kin groups from the 19th century through the last half of the 20th century. Our results are based on quantitative analysis of demographic behavior and social attainment of families covered by contemporary survey data that we have linked to a database of historical household registers, the CMGPD-LN. The results confirm the need for studies of stratification to move beyond the current focus on parent-child associations in outcomes to examine the role played by larger kin networks in creating and sustaining patterns of inequality.

Introduction

In this study we introduce a new approach to the study of stratification that accounts for the role of kin groups in sustaining inequality over the very long term. By doing so, we respond to the call by Mare (2011) to move beyond traditional approaches to the study of stratification that only consider transmission of status from parent to child. Our key innovation is that we use the kin group itself as a unit of analysis. We measure the contribution of kin group membership to inequality between individuals, and assess long-term persistence in the relative statuses of kin groups. By explicitly treating the kin group as a unit of analysis, we not only move beyond the traditional approaches to stratification that focus on the influence of parental characteristics on the outcomes of children, but also our own earlier studies in which we showed that characteristics of specific kin other than parents shaped the socioeconomic and demographic outcomes of individuals (Campbell and Lee 2003, 2008).

We exploit a unique dataset that follows selected families in rural Liaoning in northeast China from 1749 to the present. The core of the dataset comprises the China Multigenerational Panel Datatset - Liaoning (CMGPD-LN), which consists of data from historical household registers from rural Liaoning between 1749 and 1909 and has been

publicly released via ICPSR (Lee and Campbell 2010; Lee, Campbell, and Chen 2010). The CMGPD-LN is distinctly suited for our purposes because it allows for linkage of individuals into broadly defined kin groups, and for the measurement of aggregate characteristics of these kin groups such as their attainment. To the CMGPD-LN we have linked retrospective survey data that describe social and economic outcomes during the twentieth century of the descendants of a small number of kin groups covered by the registers. The result is a dataset that follows a specific and well-defined population from the middle of the eighteenth century to the present, and allows for a systematic examination of changes over time in father-son correlations in attainment, and the rankings of families in terms of their attainment.

Through analysis of the CMGPD-LN and linked retrospective survey data, we show that kin groups played an important role in structuring inequality before 1911. Even after accounting for differences between villages and households, differences between descent groups contributed to inequality between individuals in demographic and socioeconomic outcomes. We also demonstrate that during the 19th century, there was considerable stability in the relative statuses of kin groups. Finally, we suggest that there was continuity in the social order from the 19th to the period after 1949 by showing that rankings of kin groups by various measures of social status were correlated.

The paper is organized as follows. First, we review the literature on historical and contemporary stratification in China, and the historical and anthropological literature. Based on this review, we argue that studies of stratification in China must move beyond the usual focus on parent-child correlations to account for the role of kin group membership in contributing to inequalities between individuals. Second, we introduce our data. We describe the CMGPD-LN, contemporary survey data, and the combined dataset from both sources that describes the members of a subset of descent groups from the middle of the eighteenth century to the present. Third, we introduce our methods. Fourth, we present our results. We present results from the estimation of multi-level models that confirm that differences between kin groups were an important source of inequalities between individuals. We then present correlations of kin group rankings during the Qing and after 1949 to show that there was continuity in the relative statuses of kin groups. We conclude with remarks about the implications of our results for our understanding of stratification in China, and directions for future research.

Background

In this section we briefly review the separate literatures on stratification and kinship in historical and contemporary China to clarify the contributions of this study. We show that the literatures on stratification in historical and contemporary have until now been separate, and that ours is the first study to bring them together by considering stratification processes over the very long term, from the period before the 20th century to the period after 1949. We also show that the recent literature on stratification in contemporary China and the vast literature on kinship in historical and contemporary China have been largely separate, and that our study of quantitative stratification in China is one of the first to be informed by an appreciation of the importance of kin groups as demonstrated by decades of anthropological and historical research on China. We conclude by arguing that an appreciation of the potential role of kin groups is important for any study that seeks to assess the long-term impact of changes after 1949.

For the most part, early discussions of stratification in China before the twentieth century took place among historians, and focused on the role of family background in the attainment of national-level government positions through success in the imperial examination system

(Ho 1962, Hymes 1986). Ho (1962) argued that the national elite was relatively open in the sense that large proportions of successful exam candidates were men whose fathers and grandfathers had not succeeded in the exams. Hymes (1986) made the important point that consideration of parent-child associations might exaggerate the openness of the system because it neglected the possibility that successful men whose fathers or grandfathers were undistinguished may nevertheless have been advantaged by being members of kin networks that had other successful men.

Our own studies of stratification in historical northeast China focus on more mundane forms of attainment. Lee and Campbell (1997) examined father-son associations in attainment of official positions in an early version of the CMGPD-LN. Following Hymes (1986), our follow-up studies considered the roles played by larger networks of kin. Campbell and Lee (2003) demonstrated that characteristics of kin other than the father also influenced a son's attainment chances. Even after accounting for these influences, the stratification system appeared relatively open in that father-son associations in attainment were much weaker than in the historical West, and large proportions of men who attained high status in each generation appeared to be from undistinguished backgrounds. Campbell and Lee (2008) replicated and extended these results by showing that networks of kin outside the household not only influenced attainment chances, but other outcomes such as male marriage and reproduction that typically reflected socioeconomic status. Chen (2009) examined intergenerational wealth stratification in Shuangcheng county in Heilongjiang by analysis of another set of household registers.

The literature on stratification in contemporary China is much larger. Most relevant to the work here are studies of trends and fluctuations since 1949 in the influence of family background on educational and occupational attainment. They examine trends and fluctuations in parent-child associations after 1949. Examples include Cheng and Dai (1995), Deng and Treiman (1997), Whyte and Parish (1984) and Zhou, Moen and Tuma (1998). These have generally focused on impact of specific policy changes, such as educational and occupational preferences based on family class background introduced in the era around the Cultural Revolution. They generally find little in the way of a long-term trend since 1949 in the influence of family background on educational or occupational attainment, but substantial fluctuations for specific cohorts in the influence of family class background. These fluctuations are typically related to policy changes.

Some studies have focused on specific time periods or phenomena. Studies inspired by the 'market transition debate' examined how the restoration of the market economy in the last decades of the twentieth century modified the influence of human capital and political status on income. Prominent examples include Nee (1989) and Bian (1996). More recently, studies of intergenerational mobility have examined the role of *hukou* status in conditioning relationships between the characteristics of parents and the attainment chances of their children (Wu and Treiman 2007).

A few studies draw conclusions about the possible impacts of policies imposed after 1949. In a classic study based on interviews with emigrants from China to Hong Kong, Whyte and Parish (1984) concluded based on their analysis that policies introduced after 1949 altered stratification processes. To the extent that other studies drew conclusions about changes in stratification and mobility processes as a result of policies after 1949, they are speculative, typically because they are based on comparison of the earliest available cohorts in the data with later born cohorts. Since the earliest available cohorts in any retrospective survey carried out in the late twentieth century likely came of age during the turmoil of the 1930s and 1940s, this is not an ideal basis for comparison. Thus while some studies such as Deng and Treiman (1997) have suggested that parent-child correlations in attainment were

relatively weak for cohorts coming of age in China immediately after 1949, it isn't clear if this weakness reflects increased fluidity, or continuity with the past.

Comparison of stratification before and after 1949 is important because the era that followed the founding of the People's Republic saw one of the most ambitious attempts at social and economic leveling in human history. Through the Land Reform of the nineteen-fifties, the Cultural Revolution of the late nineteen-sixties, and numerous other efforts, the socioeconomic order that had existed before 1949 was to be erased or even inverted. The elites that had dominated society before 1949 were to be stripped of their power and influence. Through the assignment of class labels based on family socioeconomic standing right after 1949, and introduction of educational and employment policies that discriminated based on these class labels, former elites were to lose their position. Society would be opened up, so that individual attainment would be based on characteristics such as political commitment and merit, not family socioeconomic status. To the extent that family socioeconomic background mattered, associations should have been reversed, so that members of previously elite families should have been disadvantaged, or at least undistinguished, and members of previously undistinguished families should have risen to the top.

The only stratification study to examine change across the 1949 divide by direct before and after comparison of a longitudinally linked population is our earlier, preliminary analysis using these data (Li and Kang 2008). We found that father-son associations in the attainment of official position did not change between the Qing and the period after 1949, even though the system for recruiting officials changed completely. In other words, there was no change in social fluidity as reflected in the strength of parent-child associations. Especially in light of weak parent-child associations in attainment outcomes reported in historical studies like Ho (1962) and Campbell and Lee (2003, 2008), such continuity at least raised the possibility that relatively weak parent-child associations for cohorts coming of age immediately after 1949 were not a break from the past, but a continuation.

The vast literature on kinship in China in the fields of anthropology and history suggests an urgent need to consider the kin groups as units of analysis in studies of stratification in China. It is obvious from this extensive literature that kin group membership had a strong effect on individual outcomes. Indeed, given the obvious importance of kin group membership apparent in the anthropological and historical literature, the ongoing emphasis in the Chinese stratification literature in sociology on the influence of parental characteristics and neglect of other kin is surprising. Cultural and other capital transmitted within descent groups may have raised the chances of attaining elite positions for all members even in the absence of strong parent-child correlations that are typically taken as evidence of social rigidity. In China and other non-Western societies, various tangible and intangible resources circulated among kin who lived in different households (Bian 1997; Das Gupta 1997, 1998; Davis 1955; Skinner 1997; Wolf 2005). Many Chinese kin groups followed formal rules to define the jurisdiction of kin authority by residence, family relationships, and gender (Ebrey 1984, 1991; Liu 1959). Especially in south China, lineage organizations often engaged in collective activities (Freedman 1958, 1966; Szonyi 2002; Zheng 2001). Lineages were also important units of organization in north China, even if they were not organized as formally as in south China (Cohen 1990).

This suggests that any study of the long-term impact of changes after 1949 in China needs to measure directly the roles played kin groups, and focus on long-term continuity in the relative statuses of kin groups. If there is any continuity in the status of kin groups across the 1949 divide, it is likely to reflect the role of kin groups, and less likely to reflect a chain of direct transmission of status from parent to child for multiple generations. Weak parent-child

associations in attainment outcomes reported in historical studies and for early post-1949 cohorts in some contemporary studies would make it difficult for specific descent lines to maintain their status for more than a few generations. Moreover, policies after 1949 specifically targeted parent-child transmission of status. Class labels were assigned because on parental characteristics, not on kin group characteristics.

Data

We combine the eighteenth- and nineteenth- century Liaoning population registers in the China Multigenerational Panel Dataset (Lee and Campbell 2010) with twentieth-century retrospective surveys of the descendants of register families in selected villages. From these linked data, we generate an extract in which each record describes an adult male who was a member of one of the surveyed descent groups. Information on the male descent group members who lived during the eighteenth and nineteenth century are drawn from the historical household registers, while information on those who lived during the twentieth century is drawn from the retrospective surveys. Each record includes outcome measures such as attainment of official position and education, basic control variables, and constructed explanatory variables that measure the characteristics of the individual's father and the aggregate characteristics of their descent group and descent group branch. In the remainder of this section, we describe the household registers and retrospective surveys, and then describe the extract file that we constructed for the analysis in this paper.

Household registers

The household registers in the China Multigenerational Panel Dataset - Liaoning (CMGPD-LN) follow the descendants of Han Chinese settlers who migrated from Shandong and elsewhere in the seventeenth and eighteenth century and became hereditary tenants on frontier land owned by the state and administered through the Eight Banners, a civil and military administration under the Qing (Ding, Guo, Lee and Campbell 2003). Altogether the CMGPD-LN consists of 1,513,357 triennial observations of 266,091 individuals between 1749 and 1909, organized by household, kin group, village, administrative district, and region. Map 1 summarizes the geographic distribution of the villages covered by the Eight Banner registers. They are scattered across a swath of Liaoning province that includes the coastal area around Gaizhou that was the hinterland of Yingkou, the agricultural plain that surrounded Haicheng, Shenyang and intervening cities, and the remote and hilly area around Kaiyuan and Tieling in the northeast of the province.

Our discussion of CMGPD-LN is brief because we have already described its origins, contents, and strengths and weaknesses in great detail in Lee and Campbell (1997: 223–237) and Lee, Campbell, and Chen (2010). Moreover, we have publicly released the CMGPD-LN as well as accompanying documentation at the Inter-university Consortium for Political and Social Research (ICPSR) (Lee and Campbell 2010). Overall, the Liaoning household registers provide far more comprehensive and accurate demographic and sociological data than the household registers and lineage genealogies available elsewhere in China (Harrell 1987, Jiang 1993, Skinner 1987, Telford 1990).

Throughout this analysis, we focus on male attainment of official position as a marker of high status. Broadly speaking, the CMGPD-LN recorded five types of salaried position: banner, civil service, examination, and honorary. The first three categories were formal governmental offices and included a salary and other perquisites. While they predominantly comprise lower-level occupations such as soldier, scribe, or artisan, they do include some high administrative offices that entailed not only a salary, but power as well. For most of these offices, we have been able to identify salaries by consulting relevant archival sources. The fourth category, honorary, was typically purchased, and indicates substantial personal

resources or access to such resources through the family. The Liaoning household registers do not record any employment other than official position. Since the populations were largely rural and agricultural during the period covered by the household register data, it is unclear how serious a limitation this was.

We divided the 266,091 individuals recorded in the household registers into 1,051 broadly defined descent groups and 25,540 more narrowly defined descent group branches. This linkage was automated, and the relevant constructed identifier variables are available in the CMGPD-LN.[1] We define descent groups to comprise individuals with the same surname whose households and household groups were listed adjacent to each other in the earliest available register in a series. Households or household groups that were adjacent to each other in the earliest available register were almost invariably related to each other by common descent from a male ancestor who died before the earliest available registers. We define descent group branches much more narrowly. They consist of individuals in the registers who share common descent from an actual male recorded in the earliest available register.

Retrospective Surveys

From 1999 to 2006, we carried out fieldwork in rural Liaoning that included retrospective surveys of the contemporary descendants of the CMGPD-LN populations. Our retrospective surveys gathered information on the respondents and their co-residing kin. Via proxy reports, we also gathered data on more distant relatives who lived elsewhere in the village, or who had left the village. Linkage of respondents and their relatives to the household registers is based on the ancestor of the respondent, usually a grandfather or great-grandfather, who we located in the household registers. We also gathered additional historical materials from the families covered by the household registers, such as genealogies and grave inscriptions, and we used those data in analysis of completeness of recording in such sources (Campbell and Lee 2002).[2]

Altogether, our retrospective surveys contain data on 10,329 people in 27 distinct descent groups in 12 villages in three distinct areas within Liaoning. Figure 1 identifies the villages where we carried out fieldwork. These were divided into three areas corresponding roughly to Qing administrative districts and contemporary prefectures. The first area was the agricultural plain around Shenyang, where we collected data in five villages. Some of these villages have already become northern suburbs of Shenyang. The second area was in the hilly area to the east of Tieling, where we collected data in four villages. These villages are located in remote valleys and remain primary agricultural. The third area was outside of Haicheng and Liaoyang, where we collected data in three villages.[3] Many of these villages also remain primarily agricultural.

In the surveys, we only collected basic social and demographic data for individuals. Demographic data included timing of birth, marriage, and death. We also collected basic data on social attainment, including educational attainment, occupation, Party membership, and selected other characteristics. Educational attainment was reported as highest level attained, for example, lower elementary, elementary, middle school, high school, technical college, or university.[4]

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[1]In the CMGPD-LN, the variable UNIQUE_GROUP identifies members of a descent group. FOUNDER_ID identifies members of a descent group branch.

[2]To express our appreciation to the families we visited, we provided them with copies of their ancestors' materials from the registers, and genealogical charts that we constructed from the registers.

[3]We also visited villages around Gaizhou in the south and collected historical materials such as genealogies and grave inscriptions, but we did not have the opportunity to carry out retrospective surveys there. There are several other villages around Shenyang and Tieling that we visited to gather historical materials, but did not carry out retrospective surveys.

The retrospective survey data have limitations that suggest caution in generalizing from the findings of our analysis of continuity between past and present. Since we rely on proxy reports for information about most of the individuals in the dataset, information about many individuals is incomplete. Thus, for example, we are missing years of birth for one-quarter of individuals. The individuals for whom data are most likely to be incomplete are ones who have been away from the village for some time and for whom we received proxy reports from a relative who was still in the village. In such cases, we may only have a name and a relationship. We restrict our analysis to the subset of individuals for whom we have necessary information including year of birth, occupation, and attainment.

The villages in which we carried out fieldwork were not a statistically representative sample of the villages covered in the CMGPD-LN. They were selected in consultation with our partners at the Liaoning Provincial Local History Office. One of the primary criteria for selecting villages to visit was the presence of large numbers of families whose ancestors were in the CMGPD-LN, and the availability of genealogies, grave markers, bells, and other local sources. Local History Office staff visited a wide variety of villages and carried out preliminary assessments before we settled on the villages to visit. Practical matters such as logistics and the availability of support from local officials also affected the choice of villages. That said, the villages we visited were distributed over three areas of Liaoning with very different contexts, so results should at least be suggestive, if not statistically representative.

Another, more subtle limitation of the data is that demographically successful descent groups in the CMGPD-LN are overrepresented among the descent groups that we can locate in present day Liaoning. The very fact that we can locate a contemporary descendant of someone recorded in the CMGPD-LN implies that his or her ancestors avoided extinction over the generations covered by the CMGPD-LN and from the end of the Qing to the present. Thus, Kang and Li (2008) found that in the CMGPD-LN, the members of descent groups that were covered in the contemporary retrospective surveys had more favorable demographic and attainment rates than other individuals in the CMGPD-LN.[5] The implications for correlations in rankings are unclear.

While we believe the results from our analysis of linked contemporary and historical data are highly suggestive because they represent the experience of a number of villages in widely differing contexts, definitive confirmation must await a larger scale effort that includes more systematic data collection in a much wider variety of villages covered in the CMGPD-LN, or other regions in China for which appropriate historical data are also available. At this point, given the limitations, we treat the evidence from our long-term analysis of continuity between past and present as the basis for a conjecture that is compelling but requires substantial additional research.

Methods

Descent Groups and Inequality Before the Twentieth Century

We first establish the importance of the descent group membership as a stratifying variable by assessing the contribution to inequality of kin groups by comparing the importance of village, descent group, and household as units of social and economic organization in the CMGPD-LN. We estimate random effects models that decompose individual-level variation

[4]Some individuals born before 1949 were identified as illiterate or as having had a form of traditional education known as *sishu*. For the purposes of analysis, we converted these to estimates of the corresponding numbers of years of education.
[5]In the CMGPD-LN, the members of descent groups for which we could locate genealogies and other sources in our fieldwork had higher rates of marriage and fertility, and higher rates of social attainment (Campbell and Lee 2002).

in social and demographic outcomes into components attributable to variation between villages, descent groups, households. Formally speaking, our analysis includes four levels. The first level consists of individuals, the second level consists of households, the third level consists of descent groups, and the fourth level consists of villages. Since we do not include separate controls for region and district, the substantial differences between them in social attainment and demographic behavior reported in Lee and Campbell (2005) will be attributed to between-village variation.

To assess the contributions of differences between villages, descent groups, and households to differences between individuals in demographic and social outcomes, we compare standard deviations of the random intercepts for village, descent group, and household.[6] We treat the standard deviations as indices of the between-unit differences in the outcome at that level. Standard deviations close to zero for a particular level indicate that differences between units at that level contribute little to overall inequalities between individuals in that outcome. Larger standard deviations indicate that more of the inequality between individuals in the outcome of interest are accounted for by differences between units at that level.

We are most interested in comparing the relative importance of villages and descent groups, since we already expect variation between households to have been substantial. Previous results from analysis of the CMGPD-LN have demonstrated the importance of household characteristics for the outcomes of members, thus within-household correlations should have been strong. If there is variation between descent groups even after differences between villages and households are controlled for, the implication is that descent group membership makes an independent contribution to patterns of inequality between individuals, and that descent groups deserve to be analyzed in their own right as important units of social organization.

We not only consider social outcomes such as attainment and male marriage that we expect to reflect status, but also demographic outcomes such as mortality and age-specific marital fertility based on male births that we expect to reflect local ecology. For social determined outcomes such as attainment and male marriage, we expect variations between descent groups in the same village to be as pronounced as variations across villages, if not more so. Specifically, we expect descent group membership to have had a more important influence than village on access to the resources needed to attain an official position or acquire a spouse.

Conversely, for outcomes such as mortality and age-specific fertility, we expect variation across villages to be as important or more important than variation across descent groups. The basis for this expectation is clearest for mortality. Residents of the same village experienced a common disease environment. Differences in recorded fertility reflect unrecorded infant and early childhood mortality that should have varied substantially across villages because of environmental differences.

The details of each model differed according to the outcome under consideration. For the analysis of attainment of position, we only included men who survived to at least age 30 *sui*. The outcome was a dichotomous indicator of whether they attained official position by the time they were last observed in the registers. For the analysis of proportions married, each male was represented by their earliest observation in the specified age group. The outcome was a dichotomous indicator of whether they had ever married. The analysis of age-specific

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[6]We use the gllamm (Rabe-Hasketh et al. 2004) procedure in STATA for our estimations. gllamm constrains the variance of the random intercepts at the first level to be equal to one. In the CMPGD-LN, the variables corresponding to our levels are UNIQUE_VILLAGE_ID, UNIQUE_GROUP, and UNIQUE_HH_ID.

marital fertility applied poisson regression. We collapsed observations of the same married individual together to produce a single observation that included their total number of sons as an outcome, and the total number of years they were under observation as an exposure measure. Control variables included counts of the numbers of times observed in each five-year age group. For the analysis of mortality, we applied binomial regression. We collapsed observations for the same individual within each age range to produce a single observation that included an indicator of whether or not they died, and a count of their total number of observations in that age range. Control variables included counts of the numbers of times observed in each five-year age group.

Change and Continuity in the Relative Status of Kin Groups During the Qing

To examine change and continuity in the rural social order before 1911, we computed field ranks for descent groups and descent group branches in each twenty-five year period after 1800 according to the proportion of adult males who held position.[7] We then computed correlations in rankings across the twenty-five year periods.[8] We did this using overall rankings, as well as rankings within region, district, and village.[9] By district we refer to Qing administrative units that correspond roughly to contemporary prefectures (*shi*). We considered rankings within these smaller geographic units to account for the possibility that substantial and persistence geographic differences in the availability of opportunities might exaggerate stability in the rank ordering of descent groups, or that geographic differences in trends in the availability of opportunities might exaggerate fluidity. For analysis using within-unit rankings, we normalized the field ranks by dividing them by the total numbers of descent groups or descent group branches. Normalizing in this fashion addressed the possibility that variations between geographic units in the total numbers of descent groups or descent group branches might lead the units with especially large numbers of descent groups or descent group branches to be especially influential.[10]

Change and Continuity in the Relative Status of Kin Groups from the Qing to the Present

For analysis of correlations between the rankings of descent groups before 1911 and after 1949, we first produced a combined dataset that includes observations of individuals drawn from both datasets. Each observation corresponded to one adult male. A dichotomous indicator variable indicates whether they lived during the contemporary or historical period. Table 1 summarizes the observations available for the analysis after applying restrictions. The data drawn from the contemporary surveys consists of males born between 1930 and 1980. These are males who reached adulthood after the formation of the People's Republic of China in 1949 but before we began to carry out retrospective surveys in 2001. To be included, the observation for a male also had to include detail on their educational attainment and their occupation. For consistency with the sample used in Li and Kang (2008), we further restrict to males for whom there are information on fathers, including occupation and educational attainment.

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[7]We used field ranks rather than raw ranks to be conservative. Handling ties by assigning the average rank to all the tied units led the descent groups or descent group branches with no positions at all to be highly influential in the correlation. For example, if out of 50 out of 100 descent groups had no males with position, they would all be assigned a rank of 75. Field ranks were based on the numbers of descent groups or descent group branches with a higher proportion of men. The 50 descent groups with no positions would all have a field rank of 51. This substantially reduced their influence. Correlations using field ranks were actually much weaker than correlations with ranks in which ties were broken by assigning average ranks.

[8]For descent groups, we used the variable UNIQUE_GROUP in the CMGPD-LN. For descent group branches, we used FOUNDER_ID.

[9]For correlations in within-village rankings, we only included villages that had more than one descent group or descent group branch. Accordingly, the numbers of descent groups and descent group branches over which correlations are calculated are much smaller for the analysis of within-village rankings.

[10]Correlations using the non-normalized rankings tended to be stronger.

We then constructed an dichotomous indicator variable to indicate whether a man held an official position. Men in the CMGPD-LN were defined to hold an official position if they held any official position. Approximately three percent of men in the household registers held such official positions. Men from the period after 1949 were defined to hold an official title if they served as village head, Party secretary, or accountant, or held a higher administrative or political office. Slightly more than four percent of adult males in the retrospective surveys held such positions.

For men observed in the period after 1949, we also constructed an indicator for whether or not they held what we called a prestigious position. We define prestigious positions as ones that were locally respectable, associated with a non-agricultural income, but not necessary a leadership position. While these positions may appear mundane, in an otherwise agrarian society with few opportunities for commercial activities like the one that characterized the area until the 1990s, they were nevertheless important.

We treat attainment of official position as an identifier of membership in the local social and political elite, not as a marker for possession of specific skills and training. Official positions in the CMGPD-LN are comparable to official positions after 1949 only in the sense that the holders had relatively high status in local status. The selection criteria for official positions differed fundamentally, as did the associated skills. Official positions in the historical registers were ostensibly awarded according to merit in a highly bureaucratic process. Many if not most of the salaried positions had formal criteria. After 1949, some form of merit may have played a role in appointment to official positions, but other criteria such as political reliability and family class background mattered as well.

We also constructed a dichotomous indicator variable to identify men with high educational attainment. For men covered in the historical household registers, we used possession of an exam title to identify highly-educated males. Exam titles identified men who had taken one of the official exams. Only 0.4 percent of adult males held such titles. For men in the retrospective surveys, we defined high educational attainment to include anyone who had more than twelve years of completed education. Roughly 5 percent of adult males met the criteria. As was the case with official position, attainment of an exam title before the twentieth century is not directly comparable to attainment of more than twelve years of education after 1949. For the men after 1949 covered in the retrospective surveys, we also considered a variable identifying number of years of completed education.

From these individual indicators, we computed aggregate indices of the performance of descent group branches.[11] We used descent group branch as the unit of analysis because results from our fieldwork suggested that they are more likely than descent groups to correspond to a socially meaningful unit of contemporary kinship organization in the contemporary villages. In our fieldwork, we observed that descent groups within a village were typically divided into branches based on descent from a more recent ancestor than the original descent group founder, and that the characteristics of these branches could vary widely. Descent group branches tended to correspond more closely to the networks of kin that held meaning for individuals.

For 36 descent group branches that had five or more adult males recorded in the twentieth century data, we calculated several aggregate measures of attainment using these indicator variables. These branches accounted for more than 90 percent of the surveyed contemporary

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[11]Again, the descent group branches in the CMGPD-LN corresponded to individuals with the same value of FOUNDER_ID. For the contemporary population, descent group branch for an individual was based on the FOUNDER_ID of the ancestor in the CMGPD-LN to whom they were linked.

population. For branch members in the CMGPD-LN, we calculated the proportions who attained official position, average income from official positions, the proportion of boys who were given high status names, the proportion of boys who were given low status names, and the proportion who held an exam title. We include naming because our unpublished analyses have suggested that family naming practices were correlated with their socioeconomic standing, so that better-off families were more likely to give their boys high-status names and less likely to give them low-status names. Because we were interested in comparison with the period after 1949, not further comparisons between periods during the Qing, we calculated these measures across the entire period covered by the CMGPD-LN.

After 1949, we calculated proportions of males born between 1930 and 1980 who attained official position, proportions of males born between 1950 and 1980 who attained high education, the average number of years of education for these males, and the proportion of males born between 1930 and 1980 who attained locally prestigious non-official positions such as educator, doctor or nurse, manager, or soldier that implied a non-agricultural income but were not administrative positions. For obvious reasons, we would prefer to consider the periods before and after the beginning of economic reform in 1978 separately, but at present our data are not sufficient for such a fine-grained analysis.

We then ranked descent group branches before 1911 and after 1949 based on these aggregate measures. For example, for the attainment of official position in the CMGPD-LN, the descent group branch with the highest proportion of males who held position was ranked first, and the remaining branches ranked in order of proportions of males with position. To account for differences by area or village in the availability of opportunities for education and official position during the twentieth century, we not only computed overall rankings, but rankings within districts and villages.

To assess long-term continuity in the ordering of descent group branches according to these attainment measures, we then estimated correlations in the historical and contemporary rankings. To the extent that there was long-term continuity in the ordering of descent group branches according to their attainment, correlations between historical and contemporary rankings should have been high. To the extent that leveling efforts after 1949 were successful, correlations across time should have been weak. If efforts to invert the social order succeeded, the correlations should have been negative. We computed the correlations for overall rankings, within district rankings, and within village rankings.

Results

Descent Groups and Inequality Before the Twentieth Century

For social outcomes such as marriage and attainment, differences between descent groups were more pronounced than differences between villages. Table 2 presents results from estimates of hierarchical models that allow for random effects of village, descent group, and household. The importance of descent group over village as a source of inequality was most apparent for official position and use of diminutive names. For those outcomes, variation between descent groups in the same village was at least twice as large as variation between villages. For male marriage chances above age 16 *sui*, variation between descent groups within the same was roughly 1.5 times that of variation between villages. While differences between households were generally the most pronounced, this is entirely as expected based on the large number of prior results on the importance of household context for individual outcomes, and do not remark further on them.

For more clearly demographic outcomes such as mortality and fertility, differences between villages were generally the same as differences between descent groups in the same village,

or slightly larger. This is in line with expectations. Unless descent groups in the same village were highly segregated and the different neighborhoods in which they lived had very different ecologies even though they were in the same village, residents of the same village should have experienced a common disease environment. Moreover, as noted earlier, in the absence of separate controls for region and district to account for the previously reported differences between them (Lee and Campbell 2005), such differences will have been attributed to village level differences. Given this, it is somewhat surprising that differences between descent groups in mortality and fertility are as strong as they are. This may reflect the spread of communicable diseases within social networks, the most important of which would have been kin networks.

Taken together, these results confirm the importance of kin group membership to individual-level inequality in historical China. In rural Liaoning before the twentieth century, kinship was more important than village in accounting for inequality between individuals in social outcomes, and roughly as important as village for inequality in demographic outcomes. Even though descent groups in northeast China took on fewer collective activities and were less likely to have formal organizations than their well-studied counterparts in south and southeast China (Szonyi 2002; Freedman 1958, 1966), the results here confirm that like the north China descent groups described by Cohen (1990) they were important units of social and economic organization. While the father-son associations in attainment we estimated for Liaoning were weaker than in the historical West and were suggestive of a relatively fluid society (Lee and Campbell 1997; Campbell and Lee 2003), Hymes' (1986) insight that measures of social fluidity such as father-son associations that were developed in the analysis of Western contexts may overestimate openness by neglecting the role played by kin groups in China appears to be borne out.

Change and Continuity in the Relative Status of Kin Groups During the Qing

Before 1911, there was substantial continuity in the relative statuses of descent groups. Table 3 presents correlations in field ranks of descent groups and descent group branches within districts and within villages across time. For the 562 descent groups that could be traced from 1800–24 to 1900–11, the correlation in within-district rankings was 0.38. The correlation was actually stronger when we considered within-village rankings for 149 descent groups in villages with more than one descent group: 0.47. Long-term correlations in rankings within districts were weaker but nevertheless statistically significant for the 3483 descent group branches that we could follow from 1800–24 to 1900–1911, and for the 1046 descent group branches in villages with more than one descent group branch that we could follow over the same period. Correlations in descent group rankings were 0.22 within districts, and 0.25 within villages. Descent group branches were much more narrowly defined than descent groups and the proportions of men with position computed over fewer men, thus more noise and less apparent association is to be expected.

This leads us to conclude that there was persistence in the status of kin groups in China from the nineteenth century to the present that classic approaches to the study of stratification are not capable of detecting. We believe that the correlations we observe are much stronger than could be accounted for by a Markovian model of transmission of status over multiple generations implied by the usual focus on parent-child correlations. Depending on the approach, estimates of father-son correlations in attainment measures such as occupational prestige, socioeconomic index, or permanent income typically range between 0.4 and 0.6. Chained together across at least four generations, such parent-child correlations could not account for the continuity in relative status that we observe for descent groups between 1800–24 and 1900–1911. Based on previous results on the implications of Markovian processes for multigenerational processes (Mare 2011), we suspect that they are similarly insufficient to account for the weaker correlations observed within smaller and more

narrowly defined descent group branches. Based on the results from Table 2, we suggest that such continuity may be sustained by correlations in attainment within kin networks. We further speculate that such correlations were the result of the circulation within kin networks of knowledge, beliefs, and practices conducive to attainment. Availability of these important intangibles within the kin network reduced the dependence of children on the specific characteristics of their parents.

Change and Continuity from the Qing to the Present

When we extend this analysis of continuity to the present day, continuity is also apparent in the ordering of descent group branches within areas according to levels of occupational and educational attainment. Table 4 presents correlations across and within time periods in rankings of descent group branches according to our various measures of attainment.[12] To account for the possibility that persistent regional differences in the availability of opportunities could exaggerate stability, or that regional differences in trends could exaggerate fluidity, the correlations are for rankings computed within districts. According to table 4, attainment of official position before the twentieth century and after 1949 were correlated. Attainment of exam titles before the twentieth century, meanwhile, was a strong predictor of attainment of official position and education after 1949. The families that before the twentieth century had a habit of giving their boys high-status non-Han names, meanwhile, were more successful at attaining prestigious positions after 1949.

We doubt very much that this continuity reflected a Markovian chain of direct transmission of status from parent to child across multiple generations. Parent-child correlations were too weak and the intervening time period too long for direct transmission of status from parent to child across multiple generations to produce such stability in the rank ordering of descent line branches. Especially in the two decades after 1949, targeting of the elite and their children should have interrupted the direct transmission of status from parent to child. Accordingly, the specific individuals who succeeded after 1949 were unlikely to have been the direct lineal descendants of individuals who were prominent in the first half of the twentieth century. They may very well have been other members of the descent group branch who benefitted from access to the intangibles that circulated within the larger kin network, but did not suffer after 1949 because of their parentage.

Rather, we suggest that the mechanism underlying such long-term correlations is the circulation within descent groups of knowledge, behaviors, orientations, and other intangibles that were conducive to success in different environments. In this scenario, every member of a kin group might have a common advantage or disadvantage in attainment as a result of their access to particular knowledge, behaviors, and so forth. In this scenario, the descent group members who succeeded in one generation might not be the sons and grandsons of the ones who succeeded in the previous generations, but their nephews or other relatives. This would also provide a specific mechanism by which kin group status could persist in spite of efforts at social leveling after 1949. Even though the most prominent families within a descent group branch may have been targeted during the Land Reform and subsequent campaigns, there were likely to be children from less prominent families in the same branch who had the same knowledge, behaviors, and aspirations but were not

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[12]We also calculated correlations based on overall rankings, and rankings within villages. For calculations based on overall rankings, the correlation between historical exam titles and contemporary education and official position remained strong and statistically significant. However, contemporary official position was weaker and not statistically significant. The correlation between historical use of high status names for boys and contemporary attainment of prestigious positions was also weaker and not statistically significant. This likely reflects differential change between areas in the availability of opportunities before 1911 and after 1949, which would have weakened associations in overall rankings, but left rankings within areas intact. For correlations based on rankings within villages, the only difference was that the correlation between historical exam titles and contemporary official position was weaker and no longer statistically significant.

burdened by an unfavorable class label. We suspect that it is these children who may have succeeded in the decades immediately after 1949.

As for the period after 1978, results from studies of transitions in other post-socialist societies suggest that transitions away from a planned economy back to a market economy created opportunities for previously elite families to re-emerge. Szelényi (1988) argued that in Hungary, entrepreneurial families that had been successful in the first half of the 20th century but were less prominent under socialism reemerged after market reforms opened up the economy. In China, the reforms after 1978 that opened up the economy, changed the criteria for the recruitment of officials, and restored the educational system created opportunities for the families that had succeeded before 1949 to make use of knowledge and behaviors that had been passed down through the kin group. It may very well be that the persistence we observe across the 1949 reflects the re-emergence of previously prominent families. As noted earlier, we do not have sufficient data to distinguish between the periods before and after 1978.

Conclusion

Descent group membership was an important stratifying variable before 1911 and that there was considerable persistence in the relative statuses of descent groups and even descent group branches before 1911. Such results confirm the need to account for kin groups in studies of stratification, and the value of analyzing multigenerational datasets like the CMGPD-LN. Traditional approaches to the study of stratification that focus on parent-child correlations in attainment are incapable of discerning inequalities between individuals attributable to kin group membership, or detecting continuity in kin group status over the very long term. One concrete implication for contemporary surveys in China and other societies is that they should move beyond collection of information on parental characteristics to seek information on more distant kin.

More tentatively, the results from the analysis of linked contemporary data suggest that there was remarkable continuity in the relative statuses of descent groups from the late Qing to the present. We say tentatively because of the relatively small size of the sample from which the evidence of very long-term continuity is drawn. That said, we believe we have presented sufficient evidence of continuity to at least offer a conjecture that elsewhere in China, and perhaps in many other societies, there may have been similar previously undetected continuities over the very long term in the relative statuses of kin groups. Confirmation awaits collection of appropriate data that allow for linkage of contemporary and historical populations and reconstruction of kin groups over multiple generations.

That there was any continuity at all in the relative statuses of descent group branches from the nineteenth century to the last of the twentieth century comes as something of a surprise. As noted in the introduction, the period after 1949 in China was one of the most ambitious efforts in human history at social and economic leveling. Policies were introduced that not only sought to flatten the social and economic hierarchy, but even invert it. Certain policies introduced after 1949 would if successful have led not to a classless society, but the formation of a caste system based on social class before 1949. Through introduction of hereditary class labels and policies of discrimination based on these labels, previously high status families and their descendants were to be made into a new disadvantaged class. Of course, there was no evidence of inversion in the results in table 4.

A possible explanation for any such long-term continuity is that intangibles like cultural capital that are transmitted within families and which are difficult to manipulate via policy interventions may be a key source of persistent advantage across generations in China and in

other societies. Economic leveling through the redistribution of wealth or active discrimination in the allocation of education, occupations and official positions may have little effect on the transmission of attitudes, knowledge, and orientations within families. Families that successfully transmit attitudes, knowledge, and orientations conducive to economic success and the attainment of status may be likely to prosper in any political, social, or economic environment because they are more likely to adapt to changing rules, and eventually take advantage of them.

Acknowledgments

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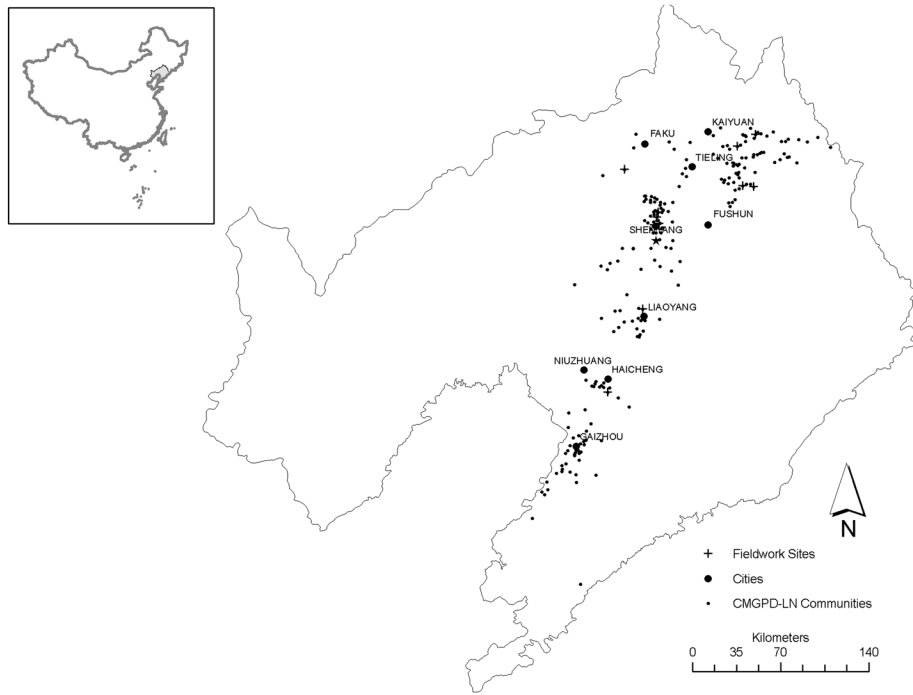
Figure 1.
Villages Covered by Liaoning Household Registers, 1749–1909

Table 1

Numbers of Adult Males in the Linked Descent Groups

Area	Village	Contemporary Surveys	Historical Registers	Total
Liaoyang/Haicheng	1	47	118	165
	2	249	281	530
	3	257	1159	1416
Shenyang	4	208	1369	1577
	5	253	664	917
	6	117	541	658
	7	57	153	210
	8	165	140	305
Tieling/Kaiyuan	9	54	122	176
	10	171	549	720
	11	187	376	563
	12	205	1237	1442
	Total	1970	6709	8679

Table 2

Standard Deviations of Intercepts for Villages, Descent Groups, and Households from Random Effects Models, Liaoning, 1789–1909

	Village		Descent Group		Household		
	S.D. of Intercept	S.E.	S.D. of Intercept	S.E.	S.D. of Intercept	S.E.	N
Age-specific marital fertility ages 11–50 *sui*							
Male	0.17	0.02	0.13	0.01	0.09	0.02	71308
Female	0.18	0.02	0.15	0.01	0.09	0.02	76223
Male Mortality							
Age 1–15	0.43	0.04	0.27	0.04	0.51	0.04	76405
Age 16–55	0.25	0.03	0.23	0.02	0.36	0.03	102257
Age 56–80	0.20	0.02	0.17	0.03	0.00	0.04	28776
All ages	0.22	0.02	0.23	0.02	0.36	0.01	151677
Married and Widowed Female Mortality							
Age 16–55	0.29	0.03	0.21	0.02	0.33	0.03	89022
Age 56–80	0.21	0.03	0.17	0.03	0.00	0.03	28114
All ages	0.23	0.02	0.21	0.02	0.24	0.02	99854
Male Proportion Married							
11–15 sui	0.52	0.06	0.36	0.06	0.88	0.05	58673
16–20 sui	0.22	0.03	0.32	0.03	0.76	0.02	54396
21–25 sui	0.27	0.03	0.44	0.03	0.91	0.02	51548
26–30 sui	0.29	0.04	0.43	0.03	0.98	0.03	48651
31–40 sui	0.32	0.04	0.51	0.03	1.06	0.03	56985
Official Position	0.19	0.03	0.52	0.10	8.01	0.24	74554
Proportion of Males 31–50 *sui* with Diminutive Name	0.39	0.08	0.87	0.05	0.99	0.05	40645

Note: All analyses included controls for twenty-five year time periods to account for possible secular trends. See text for specifications of the outcome variables and additional details on estimation.

Table 3

Correlations in descent group and descent group branch rankings within district and village by proportion of adult males holding an official position, 1800–1911

| | Rankings within Districts | | | | | | | | | | Rankings within Villages | | | | | | | | | |
| | 1800–1824 | | 1825–1849 | | 1850–1874 | | 1875–1899 | | 1900–1911 | | 1800–1824 | | 1825–1849 | | 1850–1874 | | 1875–1899 | | 1900–1911 | |
	Corr.	N	Corr.	N	Corr.	N	Corr.	N	Corr.	N	Corr.	N	Corr.	N	Corr.	N	Corr.	N	Corr.	N
By descent group																				
1800–1824	1.00	788									1.00	359								
1825–1849	0.69	733	1.00	751							0.67	269	1.00	342						
1850–1874	0.52	681	0.70	693	1.00	722					0.50	249	0.69	266	1.00	362				
1875–1899	0.47	610	0.53	615	0.66	639	1.00	650			0.46	197	0.59	197	0.66	232	1.00	273		
1900–1911	0.38	562	0.38	565	0.46	583	0.56	578	1.00	629	0.47	147	0.44	157	0.46	169	0.54	143	1.00	237
By descent group branch																				
1800–1824	1.00	8044									1.00	4286								
1825–1849	0.59	6327	1.00	6945							0.57	2974	1.00	3859						
1850–1874	0.34	5053	0.64	5528	1.00	6601					0.33	2242	0.66	2769	1.00	3702				
1875–1899	0.27	4089	0.39	4361	0.59	5235	1.00	5557			0.23	1616	0.39	1833	0.62	2191	1.00	2493		
1900–1911	0.25	3483	0.31	3691	0.37	4294	0.49	4385	1.00	6279	0.22	1046	0.31	1165	0.39	1364	0.53	1238	1.00	2524

Correlations based on field ranks computed for descent groups and descent group branches within districts and villages and then normalized by dividing by total numbers of descent groups or descent group branches within the district or village.

Table 4

Correlations in the Historical and Contemporary Rankings of Descent Group Branches Within Areas (n=36)

		Historical Rankings of Descent Group Branches within Areas					Contemporary Rankings of Descent Group Branches within Areas		
		Official Income	Official Position	Exam titles	Low status boys' names	High status boys' names	Official position	Prop. > 12 years of education	Average years of education
Official position	r	0.98							
	p value	0.00							
Historical Rankings of Descent Groups within Areas — Exam titles	r	0.53	0.48						
	p value	0.00	0.00						
Low status boys' names	r	−0.19	−0.16	−0.08					
	p value	0.28	0.34	0.64					
High status boys' names	r	0.54	0.51	0.34	−0.07				
	p value	0.00	0.00	0.04	0.70				
Official position	r	0.40	0.40	0.34	0.15	0.24			
	p value	0.01	0.02	0.05	0.39	0.17			
Contemporary Rankings of Descent Group Branches within Areas — Prop. > 12 years of education	r	0.23	0.19	0.47	0.10	0.17	0.40		
	p value	0.18	0.27	0.00	0.57	0.31	0.02		
Average years of education	r	0.23	0.21	0.30	−0.05	0.23	0.29	0.50	
	p value	0.18	0.21	0.07	0.78	0.18	0.09	0.00	
Prestige position	r	0.14	0.10	0.22	−0.17	0.34	0.03	0.20	0.58
	p value	0.43	0.58	0.19	0.33	0.04	0.85	0.23	0.00

Aggregate characteristics of contemporary descent group branches are calculated from observations in households that could be assigned to a descent group branch via direct linkage between a household member and an ancestor in the household registers. We are currently carrying out additional linkage within the contemporary data that will eventually result in the assignment of remaining households to descent group branches.