Institutional, Household, and Individual Influences on
Male and Female Marriage and Remarriage in Northeast China, 1749-1912

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In this chapter we examine marriage behavior in Liaoning and Heilongjiang provinces in Northeast China over 160 years from the mid eighteenth to early twentieth century. We extend on our previous analysis of the influence of household and family context on the timing of male first marriage in Liaoning (Lee and Campbell 1997, Campbell and Lee 2008) in several ways. First, we examine female marriage as well as male marriage. To our knowledge, this is the first quantitative analysis of the determinants of female first marriage for a late imperial Chinese population. Second, we assess the role of institutional affiliation in shaping marriage chances. Our study populations comprised five distinct categories, three in Liaoning and two in Shuangcheng, that differed in terms of the privileges, entitlements, constraints, and obligations imposed by the state on affiliated households. We show that category of institutional affiliation was an important determinant of marriage chances, alongside individual and family socioeconomic status. Finally, we examine timing of remarriage to provide a complete view of marriage behaviors in Northeast China. Again, to our knowledge, this is the first quantitative analysis of the determinants of widow and widower remarriage for a Chinese population before the twentieth century.

We make use of a database of household registers that covers several hundred villages distributed across four distinct regions within Liaoning and Shuangcheng county in Heilongjiang. The household register data cover the Liaoning population on a triennial basis from 1749 to 1909 (Lee and Campbell 1997), and the Shuangcheng population on an annual basis from 1870 to 1912. We apply event history analysis to these data to assess how contextual, family, and individual characteristics such as region of residence, category of institutional affiliation, social and economic attainment of family and self, and household composition affected the timing of first marriage and remarriage for men and women.

We focus on two specific issues related to timing of first marriage and remarriage. The first is the role of institutional affiliation and socioeconomic status in determining chances of first marriage and remarriage. We extend on our previous analysis of the influence of social and economic status on male first marriage (Lee and Campbell 1997, Campbell and Lee 2008) by examining their influence on female first marriage as well as on male and female remarriage. In contrast with previous analysis that has only considered social and economic status at the individual or household level, usually measured by the attainment of elite titles or salaried official positions, here we also consider the role of membership in population categories defined by institutional affiliation. We confirm that socioeconomic status affected marriage timing, demonstrate that institutional affiliation was also important for marriage timing, and perhaps most importantly, show that effects differed for men and women. As we will see, male hypogamy and female hypergamy typically led context and circumstances to have opposite effects on male and female marriage, promoting marriage for one sex, but delaying it for the other.

The second specific issue is the effects of family and kin context on first marriage and remarriage. To examine this issue we study the correlation between individual's marriage timing and the configuration of their kin. Since in late imperial China marriage was a collective decision

and it required resource allocations by the household and possibly more distant kin, features of family and kin context like the presence or absence of particular types of kin influenced marriage chances.   We have shown previously that the presence of parents promoted male marriage, and the presence of unmarried older brothers delayed male marriage.   We extend such analysis to examine how such features of family and kin context affected female marriage.   As was the case for institutional affiliation and socioeconomic status, we find that family and kin context had different effects for males and females.

The remainder of the paper is divided into four parts.   We begin with background on marriage patterns in late imperial China, including a review of our own empirical findings from previous analysis of male marriage timing in the Liaoning data.   We then describe the data from Liaoning and Shuangcheng.   We introduce the event-history models that we use to examine the determinants of marriage timing.   We begin our discussion of results by reviewing age patterns and time trends in first marriage in Liaoning and Shuangcheng, then proceed to a review of the results from our event-history analysis.   We conclude with some remarks about the implications of our findings and thoughts about future directions.

BACKGROUND

Marriage types and patterns

In late imperial China, various forms of marriage existed.   While virilocal marriage, where a female marries and moves in with a male spouse and his family, was the most common and most approved form, such forms as little-daughter-in-law marriage and uxorilocal marriage also persisted throughout the history (Wolf and Huang 1980).   Although cultural factors was important in determining people's attitudes in choosing marriage forms, economic considerations had the same, if not greater, importance in determining the forms of marriage.

In both past and present, virilocal marriage was the major form of Chinese marriage.   The proportion of virilocal marriage among historical populations varied from a scant to an overwhelming majority.   Virilocal marriage usually took place in three steps: partner searching, engagement, and wedding.   Upon engagement the groom's family paid bride price to the bride's family.   On the wedding day, daughters married into the grooms' family with dowry.

Although the practice of bride price and dowry both persisted throughout the history, their importance in securing the marriage was different; bride price was pivotal in securing the marriage, whereas dowry was not necessary.   Paying only partial bride price at engagement risks the marriage agreement for cancellation. Only until the groom paid off the full bride price, could the marriage

happen.[1]   However, far fewer brides or their families had to supply a dowry except to confer special status on their married daughters, or to compensate for unusually low or high family status. Therefore, the different functions of bride price and dowry in Chinese marriage market put men and women to different positions, where marriage for women were highly hypergamous, while for men hypogamous.   Bride price was more important toward the bottom of the social ladder.   At the same time, dowry was essential among the social elite.

Consequently, the female and male patterns of major marriage were almost symmetrically opposite.   In China, females have always married universally and early, while males have married later or not at all.   According to previous studies of Chinese marriage, in nineteenth century most Chinese females were already married by age 20-24.   By age 30-34, virtually no Chinese females remained single.   Contrary to the early and universal marriage of women, the scarcity of females and the cost of marrying had prevented many men from ever marrying.   Previous studies show that in the nineteenth-century China, more than twenty percent of males still remained single by age 30. Even by age 40-45, some fifteen percent of males were still bachelors (Lee and Wang 1999).

This contrast between male and female marriage pattern is the consequence of the scarcity of females in the marriage market caused by sex-selective infanticide and restriction to female remarriage.   In such societies as China where patrilineal rules dominated family institution, parents favored sons over daughters.   This was especially true in rural society and among lower class population, where the request for labor and the scarcity of resource was especially keen.   Previous studies reveal that infanticide rates among 12,000 northeastern peasants born between 1774 and 1873, between one-fifth and one-quarter of all females died from deliberate infanticide (Lee and Campbell 1997).

Moreover, some Qing nobles' sex-selective behavior was also a consequence of the marriage market.   While low-status daughters earned bride price, high-status daughters cost dowry: the higher the social position, the larger the dowry.   As a result, some Qing nobles were almost as likely as high Qing peasants to kill their daughters the overall probability of dying during the first month of life was 45 for males and 160 for females among the Qing imperial lineage born between 1700 and 1830 (Lee and Wang 1999).

In China, as in the West, remarriage was more common for males than females.   Among the peasant populations of Liaoning, the proportions ever remarried were one-third of widowers and one-tenth of widows. (Lee and Wang 1999)   This restriction on female remarriage had both cultural and economic implications.   On one hand, in Qing dynasty China, Neo-Confucianism, the orthodoxy ideology adopted by the court, successfully promoted widows refusing to remarry as the models of chastity.   On the other hand, under pragmatic consideration of childcare and old-age

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[1] In a case filed in the sixth month of 1865, a bannermen Gao Shangxiang was refused by Yu Quan, a civil commoner, to marry Yu's daughter because Gao only paid half of the negotiated price. The local government judge that Gao should pay off the bride price to make the marriage happen. (SCPZGYMDA)

support in the widowed household, the Qing court supported the Neo-Confucian ideology in prohibiting widow remarriage (Elvin 1984; Mann 1987).   The Qing government established a refined system to honor chaste widows who refused to remarry.   However, chaste widows were more common among elite families than commoners' families.

Polygyny, the marriage of one man to more than one wife, was largely an elite behavior, and too rare in the populations considered in this chapter to analyze.   A previous study on the Qing imperial nobility found that even though polygyny was not uncommon for them in the early decades of the dynasty, with one-third of men in polygynous marriage, it was much less common in the nineteenth century.   A study of the genealogies of other elite families indicates a prevalence of 10 percent in such families.   By contrast, analysis of over 4,000 marriages among peasants in eighteenth- and nineteenth-century Liaoning found prevalence of polygyny of perhaps 1 per 1,000, while polygyny rates among early twentieth-century peasants in Taiwan were only slightly higher (Wolf and Huang 1980; Lee and Campbell 1997; Lee and Wang 1999).   Since peasants accounted for the majority of the population in China, it is unlikely that more than 1 or 2 percent of male marriages were polygynous.

In late imperial China, minor marriage mainly refers to three distinct forms of marriage: little-daughter-in-law marriage, levirate, and uxorilocal marriage.   None of these forms of marriage appear in our data, suggesting that they were less common in northeast China than elsewhere.   In little-daughter-in-law marriage, a woman was adopted as a child, normally before the age of 10, and brought up as a future daughter-in-law.   According to the national land utilization survey conducted around 1930, 5-10 percent of all marriages in the Middle Yangzi and erhaps 0.5-1 percent of all marriages in northern China were little-daughter-in-law marriages (Wolf and Huang 1980). Levirate marriage originated from the non-Han people.   For Han Chinese, levirate marriage mainly existed among poor families who could not afford bride price for sons.   In contrast to virilocal marriage, in uxorilocal marriage, a man marries a woman and moves in with her family.   In late imperial China, such form of marriage usually happened in households without male heirs or in rich households who would like to keep their daughter home (Guo 2000).   Men resorted to this form of marriage because of poverty, while women's household employ uxorilocal marriage to acquire labor and heir.   In uxorilocal marriage, coresident sons-in-law need not pay bride price but were expected to assume responsibility for supporting and caring for their in-laws.   Moreover, in most cases, sons-in-law had no right to inherit the property of wife's family.   The estimation of the overall proportions of uxorilocal marriage arrangements in China is 10 plus or minus 5 percent of all marriages (Lee and Wang 1999).

Above all, economic considerations were important in marriage-form selection; people who chose the forms of minor marriage usually had a lower social economic status.   This was especially true among rural populations.   Moreover, another important aspect of Chinese marriage was the involvement of the family and kinship institutions.

Collective decision-making and marriage

Marriage in imperial China, like other Chinese demographic behaviors, is largely a product of the family system. In contrast to Western Europe, where social organization has evolved from a long ideological tradition of individualism, Chinese collective organizations are rooted in a political economic tradition centered on the family. As a hierarchical social institution based on patrilineal rules, the Chinese family specifies clear lines of duty, responsibility, and entitlement for each member according to principles of age, birth order, gender, and generation. Family decisions were based on family and household interests, not the interests of a particular individual. As a result, the extended family and the household, not the individual or the individual couple, was the basic decision-making body.

Therefore, in theory marriage was decided almost entirely by parents with the approval of kin authorities. In traditional China, marriage started with partner searching and, then, engagement. Parents arranged partner searching and made decision of engagement mainly according to partner's family background. In elite families, the engagement could happen as early as the sons and daughters were still child. Thus, engagement in elite families could last from several months to more than ten years.[2] (Guo 2000) However, lower status people had a shorter engagement period because the late start of partner searching and engagement.

As a result, in China none of the ideal life cycles, adulthood, employment, and independence, was considered competing in the sense that marriage, while typically a prerequisite of adulthood, presupposed neither employment nor independence. Daughters married young, typically before 18 in the countryside, later among urban elites. Sons married later, stretching over a long period from their teens to their forties, depending on their wealth and other qualifications. (Lee and Wang 1999) Because of the responsibility to keep up ancestral sacrifice, heirs, usually the eldest son, generally married earlier than others.

Such marriage pattern is also closely related to property transmission system. Throughout China in the imperial period the system of property transmission was partible inheritance for all sons irrespective of mother's status (Wakefield 1998).[3] That being said, married brothers often continued to live together after father's death especially among propertied families and especially while mother or grandfather was alive (Campbell and Lee 2000; Lee and Campbell 1998a, 1998b). In such cases, the authority to dispose of property was in the hands of the household head who was often the eldest brother (Campbell and Lee 2004).

Social economic status and marriage

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[2] According to Songyi Guo's study of engagement time among a group of elite families in the Qing dynasty (1644-1912), the range of engagement time is from several months to more than sixteen years.

[3] The only exception was in Mongolia where the practice of ultimogeniture inheritance is said to have been common.

Social economic status had important impact on timing of first marriage.   This was especially true for major marriage.[4]   First, since marriages were arranged by parents, partner's family background and social status were the most important factors that affected parents' decision making at the partner searching stage.   Second, at the engagement stage, the bride price was a direct test of not only the social economic status of the groom's family but also the groom's own status in his household.

Because of the institution of bride price and dowry, marriage timing had different implications for men and women respectively.   For men, being able to marry early indicates their capability in collecting resources inside and outside of family to pay the bride price and support the new conjugal unit. For women, being able to marry early may indicate their marriage benefits the family with a positive flow of wealth from the groom's family to the bride's family.

Due to the collective nature of marriage decision-making process, in traditional China family social economic status is crucial for individual's chance of getting married or marrying early. Drawing largely from individual level data, recent studies on first marriage timing in relation to economic condition and household composition in Europe and Asia reveal that while economic conditions are not a universal determinant of marriage timing, the impact of household composition and individual position in household on marriage timing was universal. Cameron Campbell and James Lee's researches on kin network and household determinants on male first marriage timing reveal that the probability for males to marry varies according to the economic conditions of their households, their distance to the household head, and their position in the kin network. (1997; 1998; 2006)

Above all, marriage was highly institutionalized in late imperial China.   It involved a wide range of such social behaviors as wealth transmission, household formation, family labors, and fertility.   Social economic status was especially important in determining the forms of marriage. Moreover, marriage in late imperial China was a collective decision of the family.   Therefore family and kinship context were also crucial for individuals' chance of getting married.   In this chapter, we extend our previous studies on determinants of marriage timing to a dataset with a mix of urban and rural populations in Northeast China.   Due to the scarcity of data on minor marriages, we focus our analysis on major marriage only.   By putting marriage behavior into a specific geographical and population context, we study marriage patterns and the determinants of timing of first marriage with individual level data to explore the relationship between marriage behavior and social economic status as well as household and kinship context.

DATA

Liaoning

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[4] Ages at first marriage also differed from each other by forms of marriage.   Wolf and Huang's study show that women choosing uxorilocal marriage usually had a higher age at first marriage (1984).

The data on the Liaoning population consists of triennial household register data for 1749 to 1909 for more than 600 villages in Liaoning province which we have entered into machine readable form. The database comprises 1.4 million observations of one-quarter million people who lived in 28 administrative populations between 1749 and 1909. We have been able to produce such historical data because of the internal consistency of the core household register data, their availability through the Genealogical Society of Utah and the Liaoning Provincial Archives, and the sustained efforts of teams of colleagues and data entry personnel in the People's Republic of China. We have already described the origins of the registers as well as our procedures for data entry, cleaning and linkage in Lee and Campbell (1997, 223-237).

We have discussed features of the registers relevant for studying specific demographic and social outcomes in published investigations of the determinants of individual survivorship (Campbell and Lee 1996, 2000, 2002, 2004), transmission of household headship (Lee and Campbell 1998), migration (Campbell and Lee 2001), ethnic identity (Campbell, Lee, and Elliott 2002), social mobility (Campbell and Lee 2003b), the influence of secular economic change on demographic behavior (Lee and Campbell 2005), and kinship organization (Campbell and Lee 2006). The description of the data here is based in large part on the discussions of the data in these publications, especially Campbell and Lee (2006).

The geographic and economic contexts of these populations varied. As Map 1 shows, the more than 600 Liaoning villages are arranged in four distinct regions spread over an area of 40,000 square kilometers, larger than the province of Taiwan. These regions include a commercialized coastal area around Gaizhou that we identify as Liaoning South in the analysis, a farming region around Haizhou and Liaoyang that we identify as Liaoning South Central, an administrative center on the Liaodong Plain around the city of Shenyang that we refer to as Liaoning Central, and a remote agricultural area in the hills and mountain ranges in the northeast that we refer to as Liaoning Northeast. The institutions, regions and communities covered in the data are diverse enough that even if the population is not representative of China or even Liaoning in a formal statistical sense, results are likely to be relevant for understanding family and social organization in other parts of China.

Map 1 here

The Liaoning household registers provide far more comprehensive and accurate demographic and sociological data than other household registers and lineage genealogies available for China before the twentieth century (Harrell 1987, Jiang 1993, Skinner 1987, Telford 1990). This is because the Northeast, which was the Qing homeland, was under special state jurisdiction, distinct from the provincial administration elsewhere. Regimentation of the population actually began as early as 1625, when the Manchus made Shenyang their capital and incorporated the surrounding communities into the Eight Banners (Ding 1992, Elliott 2001). By 1752, with the establishment of the General Office of the Three Banner Commandry, the population was also registered in

remarkable precision and detail, and migration was strictly controlled, not just between Northeast China and China Proper, but between communities within Northeast China as well. Government control over the population was tighter than in almost any other part of China (Tong and Guan 1994, 1999). Movement within the region was annotated in the registers, and individuals who departed the area without permission were actually identified in the registers as 'escapees' (*taoding*).

The Qing state implemented a system of internal cross-checks to ensure the consistency and accuracy of the registers. First, they assigned every person in the banner population to a residential household (*linghu*) and registered him or her on a household certificate (*menpai*). Then they organized households into groups (*zu*), and compiled annually updated genealogies (*zupu*). Finally, every three years they compared these genealogies and household certificates with the previous household register to compile a new register. They deleted and added people who had exited or entered in the previous three years and updated the ages, relationships, and official positions of those people who remained as well as any changes in their given names. Each register, in other words, completely superseded its predecessor.

The result was a source that closely resembled a triennial census in terms of format and organization. Entries in each register were grouped first by village, then by household group (*zu*) and then by household. Individuals in a household were listed one to a column in order of their relationship to the head, with his children and grandchildren listed first, followed by siblings and their descendants, and uncles, aunts, and cousins. Wives are always listed immediately after their husbands, unless a widowed mother-in-law supersedes them. For each person in a household, the registers recorded relationship to household head; name(s) and name changes; adult occupation, if any; age; animal birth year; lunar birth month, birth day, and birth hour; marriage, death, or emigration, if any during the intercensal period; physical disabilities, if any and if the person is an adult male; name of their household group head; banner affiliation; and village of residence.

The registers also record official positions held by adult males. We have identified four categories of official position: banner, civil service, examination, and honorary. These constituted the local elite. The first three categories were formal governmental offices and included a salary and other perquisites. They predominantly comprise lower-level occupations such as soldier, scribe, or artisan. Positions also included some high administrative offices that entailed not only a salary, but substantial power as well. Positions and titles in the fourth category, honorary, were typically purchased, and indicate substantial personal resources or access to such resources through the family. For the purposes of this analysis, we do not distinguish among the various categories of position. While the positions varied in terms of the incomes they implied, the incomes associated with even the most humble of positions were substantial by the standards of the area.

In contrast with most historical censuses, the triennial registers allow for linkage of the records of an individual in successive registers. Households and their members appeared in almost the same order in each register, even if they moved to another village. Linkage from one register to

the next is straightforward: as our coders transcribe each new register, for each individual they list the record number of his or her entry in the previous register.   Since the coders transcribe each new register by copying over the file for the preceding register and then editing it, this is straightforward. From the linked records for each individual, we reconstruct life histories.   By comparing observations for the same individual in successive registers, we can construct outcome measures indicating whether particular events or transitions took place in the time between two successive registers.

The extensive detail on household relationship, meanwhile, allows for reconstruction of pedigrees and linkage to kin outside the household.   We first link sons to their fathers. Relationships were recorded in great precision in the original registers, and our software parses these relationships and links sons to fathers automatically.   Once we have established links between fathers and sons, we combine them to identify grandfathers, great-grandfathers, and more distant male ancestors.   This process is also automated.   Many of the men who appear in the later registers, for example, can have their ancestry traced back six or seven generations.   We cannot do this for maternal ancestors yet because we have not yet linked the wives recorded in the registers back to their natal households.

These registers have a number of features that distinguish them as a source for historical demography.   The population is closed, in the sense that the registers followed families that moved from one village to another within the region.   Entries into and exits from the region were rare, and when they did occur, their timing was recorded or can be inferred (Lee and Campbell 1997, 223-237; Lee and Wang 1999, 149-153).In contrast with historical Chinese demographic sources such as genealogies that only record adult males, the Liaoning registers record most boys and some girls from childhood, as well as all women from the time of their marriage.   Unlike genealogies, they also provide detail on village and household residence.   In contrast with parish registers, an important source for European historical demography, they allow for precise measurement of the population at risk of experiencing most demographic events and social outcomes.

The registers also have limitations that constrain the analysis.   First, we can marriage timing but not partner choice because we have not yet been able to link the records of wives back to their records as daughters in other households.   When a daughter marries out, we do not know who she marries.   Similarly, when a new wife appears in a household, we do not know her family of origin. Second, the registers omit many daughters completely.   If this omission was selective, so that some families were more likely to omit daughters than others, our analysis of female marriage timing would be based on an unrepresentative set of records.   At this point, we do not know if the omission of daughters was selective.   Third, for each of the populations, we are missing some registers. Because our event-history analysis of mortality requires adjacent registers to identify the three-year period in which an individual married, we have to exclude registers if the immediately succeeding register is missing.   Finally, we do not have information on occupation or income except for those in the employ of the state.   Nor do we have any information about landholding or other forms of

wealth.   Thus the reference category of individuals without official position may contain families that vary in terms of socioeconomic status as a result of variations in landholding or occupation that are not recorded in the registers.   Accordingly, we suspect that our estimates of the effects of official position underestimate the effects of socioeconomic status.

Shuangcheng

The banner population in Shuangcheng was a mix of urban and rural immigrants.   From the 1810s to 1860s, the Qing government relocated a total of 3,689 households of bannermen from Beijing, rural Liaoning and Jilin to the largely unpopulated Shuangcheng in the northeast frontier. The target of this relocation was the bannermen from Beijing, the capital city of Qing China. The government's main purpose in moving bannermen from Beijing to Shuangcheng was to relieve itself of responsibility for financing their livelihood.   In order to facilitate this government initiated migration, the government first relocated a large number of Liaoning and Jilin banner farmers as an advance team; the primary goal of the Qing court was to have them cultivate enough land to make it feasible for the urban bannermen to relocate from Beijing.[5]   The major waves of the relocation took place between 1815 and 1828.   By the 1860s, it was said there were 698 banner households from Beijing and Rehe, a garrison north of Beijing, and 3,000 banner households from Liaoning and Jilin in Shuangcheng.[6]

These banner immigrants were classified into two categories according to their places of origin: *jingqi*, or the Metropolitan bannermen, who came from Beijing, and *tunding*, or the farming adult male, who came from Liaoning and Jilin.   All immigrants were allocated to 120 villages of the Shuangcheng state farm.   Upon their arrival, each *Jingqi* household received 15 *shang* (10 hectares) cultivated land and 5 *shang* (3.33 hectares) uncultivated land as their own property.   Each *tunding* household only received 10 *shang* (6.66 hectares) of land as their own property.   In 1829, more land was distributed among the bannermen.   Each capital bannerman received a total of 35 *shang* (23.33 hectares) land, and each non-capital bannerman only received 18.33 *shang* (12.22 hectares).[7] Moreover, the capital bannermen received many more advantages than bannermen from northeast China.   Each capital banner household received a house with four rooms and tiled roof from the government, while each household from northeast China only received a thatch hut with one room. (Wang 1824)

Similar to that of the Liaoning population, the Shuangcheng population data we analyze in this chapter come from the Qing banner household registers, which were kept in the local banner administration of the state farms.[8]   We have collected the registers of all 120 villages from 1852

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[5] After the Manchu rulers established their regime in Beijing, there were still a large number of bannermen left in northeast China.

[6] *Jilin Tongzhi*. Vol. 23, 624

[7] See the instruction of the Daoguang emperor in 1829. See Wang, 1824, 235.

[8] These registers are collected through the Genealogical Society of Utah.

through 1912,[9] and we have completed data entry for 186 registers. Map 2 shows the geographic distribution of 40 villages that had populations that were a mixture of *tunding* and *jingqi*.[10] Based on the data, we have linked from 1870 to 1912 with 59,761 individual histories, their households, and their demographic and social outcomes. All the individual histories are linked from the observations recorded annually in the registers. Among the 59,761 individuals, 8,710 are immigrants from the capital area and their descendants, while 51,051 are immigrants originally from rural northeast China.

Map 2 here

The Shuangcheng population data differ from Liaoning population data in two ways. First, compared to that of Liaoning, the Shuangcheng data covered a shorter time period. While the Liaoning population data covers the period 1749-1909, the Shuangcheng data only covers the period 1870-1912. To solve the problem of difference in time period coverage, we control time period in our regression analysis. Second, instead of being updated every three years, the Shuangcheng household registers were updated annually. Therefore, the time intervals between two consecutive registers are different for Shuangcheng data and Liaoning data. For Shuangcheng, the time interval is one year, while for Liaoning, the time interval is three years. To solve this problem, we enter the log of time interval as an offset.

METHODS

To examine the influence of context, social economic factors, and household and kin context on the likelihood of getting married for the first time and remarriage as well, we employ discrete-time event-history analysis, estimating a complementary log-log regression model. This assesses the strength of the association between explanatory variables and the chances of an outcome of interest, in this case marriage. Specifically, our outcome variable indicates whether an individual marries by the next register. We code marriage occurrences as 1 and otherwise 0. We restricted our analysis to those years that having two consecutive registers where once a marriage event occurs, we can observe it.

Our explanatory variables, or covariates, measure the influence of aggregate context such as location and period, the socio-economic status of household and individual, as well as family and kin characteristics at risk of getting married. Estimated odds ratios for a covariate reveal the proportional change in the odds of dying associated with a one-unit change in that covariate, holding the values of

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[9] All the banner registers are part of the archives of the local administration called *Shuangchengpu Zongguan Yamen Dang'an*, which is preserved in Liaoning Provincial Archives. Besides the household registers, there are other 1555 volumes of administrative documents dating from 1850-1924. However, most of the records from 1830 to 1866 were burnt during a rebellion happened in 1866. So, we cannot say for sure when the government began to register the banner household annually.

[10] We are in the process of coding the locations of the remaining villages.

other covariates equal.   When an explanatory variable is an indicator variable, for example, membership in a particular group, the odds ratio reflects the proportional difference in the chances of dying in that group, relative to the chances of marrying for a specified reference category.

Variables

Location and population category

We introduce two sets of covariates, population category and location, to control for macro-level context.   Social behaviors have geographic patterns related to regional conditions. Therefore, we measure the correlation between likelihood of getting married and region.   We define five geographical locations in our model: Northern Liaoning, Central Liaoning, South-central Liaoning, Southern Liaoning, and Shuangcheng.   The geographical conditions of these locations had great variance.   Northern Liaoning is a hilly and inland area where agricultural conditions are not as favorable as other places; Central Liaoning is a plain flushed by the Liao River; South-central Liaoning is featured by a mix of plain and hill topography; and South Liaoning is along the coastal area where a post of foreign trade was opened in the 1860s; Shuangcheng is flat and has a higher latitude than the four locations in Liaoning.   Moreover, the Shuangcheng was a new region opened for settlement in the 1820s, which was about a-hundred-and-fifty years later than that of Liaoning.

We divide the population into five categories to account for their status, in particular their specific configuration entitlements and obligations, and privileges and constraints.   The Liaoning royal peasants, Liaoning specialized service population, Liaoning lower status population, *Jingqi* (Metropolitan bannermen) in Shuangcheng, and *Tunding* in Shuangcheng.   The Qing government classified the banner population into many categories with assigned privileges and obligations. Generally speaking, the population we study in this chapter fell into two categories: the imperial bond-servants and the regular bannermen.   All the Liaoning bannermen in our dataset belonged to the imperial bond-servants, while all the bannermen in Shuangcheng belonged to the regular bannermen.   Moreover, in each of the category, sub-categories differentiated these populations politically and economically.   Among the Liaoning imperial bond-servants, there were three sub-categories.

The regular royal farmers in Liaoning lived in the assigned imperial farms and fulfilled their obligation to the imperial household by paying a certain amount of grain product each year.   After paying off the levy, the royal peasants enjoyed flexibility in terms of economic and political life. They could purchase and farm additional land and take exams to acquire an official position. Although the regular royal farmers' political privileges waxed and waned throughout the time, they had a relatively high political status among the imperial bond-servants (Ding et al. 2004; Ren 2003).[11]

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[11] In the early eighteenth century, the bond-servants daughter once had the chance to be selected to serve the emperor as maid or concubine, although this upward mobility was closed later.

The Liaoning specialized service population was assigned to specialized hereditary occupations such as growing cotton, collecting honey, and capturing fish. They did these jobs to fulfill their service to the Imperial Household Agency (*Neiwufu*). Compared to the regular royal peasants, the specialized service population had much heavier burden in terms of paying the levy. Moreover, in the late seventeenth century, the government had once regulated that daughters of the special service population could only marry to families of the same occupational status.(Ren 2003) As a result, they had less flexibility and lower status than the regular royal peasants.

The lower status population in Liaoning consisted primarily of convicted criminals, losers in political struggles, or bannermen who had been expelled for misbehavior. Since removal from the banners was hereditary, descendants were included as well. These people and their descendants carried a hereditary stigma and thus a low political status. For them, chances of upward mobility were limited. They were not allowed to work as soldiers or hold other official positions, and had limited opportunities to advance via the imperial exam system. This group, accordingly, should have had the lowest status of the five categories of population considered in our analysis.

The *Jingqi* (Metropolitan bannermen) in Shuangcheng had the highest economic and political status among the five categories of population. First, they did not have any economic obligations to the state. Instead, they enjoyed ample government land grants. Each *Jingqi* household received twenty *shang* of state land upon their arrival at Shuangcheng. Second, in terms of political status, *Jingqi* enjoyed greater chance to work as soldiers or officers. The percentage of soldier among *Jingqi* males is 4.75, while it is 0.83 among the *tunding* males. The percentage of clerk among *Jingqi* males is 1.2 but 0.23 for *tunding*. Moreover, 3.5 percent of the *Jingqi* males worked as higher salaried officers, while only 1.21 percent of the *tunding* did so.[12] Third, in terms of lifestyle, urban origin distinguished the *Jingqi* population from other population categories in our dataset. Our previous study shows that this urban lifestyle persisted in the *Jingqi* population for a long period and had significant impact on the infant and child mortality. (Chen, Campbell, and Lee 2006) We expect this urban lifestyle also impacted the marriage behavior of the *Jingqi* population.

The *tunding* in Shuangcheng was placed in a lower socio-economic status by the government. They received less land grant than *Jingqi* and had to work as tenants for *Jingqi*. However, compared to the banner population in Liaoning, *tunding* still had an enjoyable life. Politically, *tunding* were free bannermen and enjoyed freedom of education and occupational mobility. Economically, they received ten *shang* of state land as their own property upon their arrival at Shuangcheng. Moreover, they had much less service burden than Liaoning population.

We also control change over time by dividing the entire period under analysis into six time period, with 25 years each.

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[12] These percentages are based on our calculation of the occupation composition among the Shuangchengpu population.

Individual and family social and economic status

Individual and family social and economic standing means power and prestige, all of which are important considerations for a family making a decision about the marriage of their son or daughter or a widower or widow.   In this chapter, our primary measure of individual social standing is what if any salaried position the index individual's father held.   In such rural society as Liaoning and Shuangcheng, where the majority of population were farmers living on their own labor and land, a salaried official position brought stable, non-agricultural income as well as prestige.   Therefore, we classify salaried positions into four categories: farmer, artisan, soldier, and official.   Artisans had the lowest salary and officials the highest.   Effects may differ from what would be expected from the official salaries alone because artisans had opportunities for additional income by virtue of their skill.

To assess the influence of family wealth on marriage chances, we also consider father's educational attainment and possession of purchased titles.   We measure father's educational attainment with a variable indicating whether or not they had a title indicating they had earned a degree by passing one of the official exams.   Such exam titles were very rare in these populations. The education required to succeed on the official exams required substantial investments in education, thus anyone who passed an exam and acquired a degree was not only a member of the local educational elite, but also likely to be from a wealthy family that had the means to invest in education.   Purchased titles were very expensive, and possession of one was similarly indicative of substantial family wealth.

For males, we also consider own official position, exam degree, and purchased title.   We expect own social and economic status to have been an important determinant of marriage prospects, at least for males, but must keep in mind that at the relatively young ages at which most men were marrying, the mid-twenties, it was uncommon to hold a degree, title or high salaried position.   Thus while we expect the effects of own position, degree, or title to be strong, they reflect the experience of only a small segment of the population.

Following on the analysis in Campbell and Lee (2008), we also assess the influence of exam degrees, official positions, and purchased titles held by kin other than the father.   We include as explanatory variables counts of the numbers of brothers, paternal uncles, and paternal cousins who hold degrees, positions, and titles.   We expect based on previous findings that the social and economic status of kin will affect marriage chances, though not as strongly as own or father's social and economic status.   The effect of privileged kin on marriage may have been direct, in the sense that material resources that a family required for a marriage may have been available from such kin, but also indirect, in that families may have sought to form connections with successful families by marrying any of their members, irrespective of whether they were the one who held a position.

We expect social and economic privilege to have had opposing effects for male and female marriage.   From previous results, we expect that degrees, titles, and positions held by father, self, or

other kin to have increased the chances that a male would marry.   Wealthy and high income families had an advantage when it came to securing brides.   They not only had an advantage in terms of economic resources, but also in terms of their status and prestige.   Even relatively undistinguished men in such families may have enjoyed an advantage in marriage because families with daughters may have seen them as a bridge to other, more successful or promising family members.   Because marriage in China was hypergamous, we expect social and economic privilege to have had negative effects on female marriage.   In a society where families sought to marry their daughters into families of higher status, privilege increased the pool of potential brides for males, but reduced the pool of potential grooms for females.   High-status families with daughters may have had to search further afield than low-status families to locate a groom of suitably elevated status.

Family and household context

We expect based on previous findings that the presence of parents will affect marriage.   We measure parents' survival status by four conditions: both parents alive, only father alive, only mother alive, and neither parents alive.   As noted earlier, marriage was arranged, and parents played a key role.   Males who had lost one or both parents were presumably at a disadvantage in that they might be dependent on other more distant senior kin to act on their behalf in the marriage market.   Our previous results have all shown that men were more likely to marry if at least one parent was alive, and most likely to marry if both of their parents were still alive.   Predictions for females are less obvious.   Elderly parents may have relied on their daughters for care, thus may have delayed their departure.   In the same light, we measure the presence of parents-in-law for cases of female remarriage.

Because marriage was a collective enterprise, decided on by parents, we also expect the configuration of siblings to affect marriage chances.   At the very least, we expect based on previous results for males that brothers married in order of seniority.   To assess the role of sibset composition, we include counts of the numbers of married older brothers, unmarried older brothers, unmarried older sisters, younger brothers, and younger sisters.   We expect the presence of unmarried older brothers to lower male marriage chances, and the presence of unmarried older sisters to lower female marriage chances.   We expect the numbers of other types of siblings to have been positively associated with marriage chances for males because of the association between family size and socioeconomic status.

For remarriage analysis, we also consider the effect of sons on the chances of remarriage for widowers and widows.   Since parent figures are important for children, we expect the existence of sons will affect their parent's decision of remarriage.   Young children are especially dependent to mother figures.   Therefore we expect the existence of sons to increase widowers' chance of getting remarried.   On the contrary, the existence of son as dependent may lower widow's chance of remarrying.

RESULTS

Descriptive

Age Patterns

   We begin our discussion of results with a presentation of age patterns of first marriage in Liaoning and Shuangcheng.   Figure 1 compares the proportions of females ever married by age in the four Liaoning regions and Shuangcheng, as estimated by application of life table techniques to the available records of daughters.[13]   Almost all women eventually married but their timing varied by region.   Within Liaoning, females married latest in the prosperous south, and earliest in the remote and hilly north and northeast.   Females in Shuangcheng, however, married later than in any of the Liaoning regions.

Figure 1 here

   Age patterns of marriage for males also differed by region.   According to Figure 2, which compares the proportions of males ever married by age for the four Liaoning regions and Shuangcheng, the prevalence of early marriage had no association or an inverse association with chances of eventually marrying.[14]   Males in south and south-central Liaoning were the most likely to marry early: until age 22 *sui*, proportions married were highest in these two regions.   Men in Shuangcheng were much less likely to marry early than men in any of the Liaoning regions. Differences in male marriage by region within Liaoning were much less pronounced after the mid-twenties except that from age 26 *sui* onward, males in central Liaoning experienced a persistent disadvantage.   Even though men in Shuangcheng were less likely to marry early, they were as likely as men in Liaoning to marry if they reached middle age.   Overall, it appears that roughly 15 percent of men who reached age 40 *sui* remained unmarried.

Figure 2 here

   Institutional affiliation mattered as much as geographic location: differences between population categories were as pronounced, or more pronounced than differences between geographic regions. Figure 3 compares the proportions of females ever married by age for the four Liaoning regions and Shuangcheng. Within both Liaoning and Shuangcheng, female marriage followed the hierarchy of population categories.   Thus in Liaoning, women in the low status populations married the earliest, followed by women in the specialized populations, and then women in the regular populations.   In

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[13] We cannot calculate proportions of females married directly from the data because the data omit many unmarried daughters, especially in Liaoning in the last half of the nineteenth century.

[14] We calculated these proportions directly from the data since the recording of unmarried sons is complete from childhood onward.

Shaungcheng, the women in the Tunding populations married earlier than the women in the Jingqi populations.   Whereas nearly all women in the Tunding populations married, a small fraction of women in the Jinqqi populations, perhaps three to five percent, appeared not to marry even if they survived into late middle age.

Figure 3 here

Population category was similarly important for males.   Figure 4 contrasts the proportions of males married by age according to population category.   Once again, the chances of marrying early appeared independent of or even inversely related to the chances of eventually marrying.   According to Figure 4, men in the low status Liaoning populations were the most likely to marry in early adolescence, but the least likely to marry by age 40.   Conversely, men in the Shuangcheng Jinqqi populations were the least likely to marry in adolescence, but by a wide margin were the most likely to marry eventually.

Figure 4 here

Time Trends

Time trends in ages of male marriage differed between Liaoning and Shuangcheng.   In Liaoning, the chances that a male would marry early increased over time, but there was little change in the chances that a man would eventually marry.   Figure 5 presents for Liaoning the proportions of males ever married at different ages from 1749 to 1909.   The proportion of men who had already married by early adolescence, ages 11-15 sui, rose slowly but steadily over time.   Such early marriage remained rare however.   The most marked increases were in the proportions of males in late adolescence who had already married.   In the middle of the eighteenth century, around 15 percent of males aged 16-20 *sui* had already married.   By the end of the nineteenth century, the proportions had roughly doubled, so that more than 30 percent of males aged 16-20 *sui* had already married.   Dramatic increases were also apparent in the proportion of males aged 21-25 *sui* who had already married.   In spite of this increase in the prevalence of early marriage for males, the chances of marrying by age 40 did not exhibit a secular trend, though fluctuations were apparent.   On average, 15 percent of men remained unmarried at age 40.   Trends in male marriage were less apparent in Shuangcheng.   According to Figure 6, there were fluctuations in the proportions married by different ages, but no obvious secular trends.

Figures 5 and 6 here

Ages at female marriage were stable in both Liaoning and Shuangcheng.   Figures 7 and 8

present mean, median, and first and third quartiles for the age of new brides.[15]   That the age distribution of brides remained stable in Liaoning even though higher proportions of males married at younger ages suggests that a shift in the marriage market took place.   Male death rates fell in childhood and early adolescence and remained stable at later ages, thus for higher proportions of males to marry early, the supply of females had to increase, either because female death rates in infancy, adolescence, and early adulthood fell, or because the population from which it was socially or legally acceptable to recruit brides expanded.

Figures 7 and 8 here

The review of trends and patterns in first marriage identify two phenomena that merit further exploration.   The first is the apparent independence of the chances of early marriage from the chances of ever marrying.   The regions or populations in which higher proportions of men married young were not necessarily the ones where the highest proportions of men eventually married. Similarly, early marriage for males became more common in Liaoning without any change taking place in the proportion of males who eventually married.   Such results suggest that early male marriage be examined separately from male marriage at later ages, since its determinants may differ. Second, as noted above, the stability of female marriage patterns in the face of rising prevalence of early male marriage indicates a change in the marriage market.   To accommodate a higher proportion of males marrying at younger ages, the number of available women had to increase, either because female death rates fell, or because new sources of brides became available.

Determinants of First Marriage

Location and Population Category

Tables 1 and 2 presents the results of an event-history analysis that assess the influence on marriage chances men and women of context, family and individual socioeconomic status, and the composition of close family members.   We juxtapose the results of men and women to compare and contrast the effects of the above factors on men and women.   We organize discussion of results topically, beginning with location and population category, proceeding to family and individual status, and concluding with family and household context.

Population category affected both male and female's timing of first marriage.   For females, the results constantly indicate that daughters from lower status populations were more likely to marry early.   Results in table 2 shows that within the Liaoning population, being from the Liaoning lower status population increased a daughter's likelihood of getting married by 44 percent.   Daughters in specialization populations were 15.8 percent more likely to marry than daughters in regular Liaoning

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[15] There were too few records of unmarried daughters in Liaoning after 1840 to compute life table measures of ages at female marriage.   Since wives are reliably recorded, we approximate age at marriage for women by examining the age distribution for brides who are newly listed in their husband's households.

populations.   Moreover, in Shuangcheng, compared to those from the *tunding* population, being from the *Jingqi* population reduced a daughter's chance of getting married by 33.6 percent.   For males, being from a population with lower status also increased son's chance of getting married.   As table 1 shows, in Liaoning, males from the specialized population were 14.1 percent more likely to get married than those from the regular population.   In Shuangcheng, males of the Jingqi were 13 percent less likely to marry than those from the Tunding category.

Individual and family Social and economic status

Social and economic status had significant impact on timing of first marriage.   Moreover, the impacts of social economic status were opposite for men and women.   Men with higher social economic status usually married earlier while women with higher social status married later.   This pattern of privilege raising male marriage chances but lowering female marriage chances is apparent regardless of whether social and economic status is measured for father, self, or kin.

Thus father's official position, an indicator of family income, raised a son's chances of marrying but lowered a daughter's chances, even after controlling location, population status, household context, and individual characteristics.   As table 1 shows, having a father who worked as artisan increased a son's likelihood of getting married by 25.9 percent in Liaoning.   Father being a high salaried officer increased this likelihood by 20.3 percent in Liaoning and 27.3 percent in Shuangcheng.   Conversely, high social economic status had negative effects on daughter's timing of first marriage.   Table 2 shows that father being a soldier reduced daughter's likelihood of getting married by 14.4 percent in Liaoning and 23.7 percent in Shuangcheng, and father being a salaried official reduced this likelihood by 25.6 percent in Liaoning and 21 percent in Shuangcheng.   This clear-cut gender contrast of the impacts of social economic status suggests different mechanisms of male and female marriage market, where women usually married hypergamously and men married hypogamously.

Father's educational attainment, as reflected in possession of an exam degree, had the same pattern of effects on son and daughter's timing of first marriage as official position in Liaoning. Father holding an exam title increased a son's likelihood of getting married by 25.2 percent but reduced daughter's likelihood of getting married by 15.5 percent in Liaoning.   Father's educational attainment had no significant effects on children's marriage timing in Shuangcheng.

Titles, degrees, and positions held by other kin had similar patterns of effects.   Every additional brother who held a salaried position increased marriage chances for males by 5.7 percent in Liaoning and 32.8 percent in Shuangcheng.   Moreover, every additional uncle who held an exam title increased the chance of getting married for males by 17.6 percent in Liaoning and 30.6 in Shuangcheng.   Even every additional cousin who held an exam title increased the chance of marriage for males by 16.4 percent.   Conversely, every additional brother who held an exam title lowered the likelihood of marriage for females by 30.5 percent in Liaoning and by 15.8 in

Shuangcheng.

Finally, son's own occupational and educational attainments are also important to enhance their likelihood of getting married. After controlling other factors, a man holding an artisan position increased his likelihood of getting married by 89.2 percent in Liaoning. A soldier position doubled a man's likelihood of getting married in Shuangcheng, and a high salaried official position increased this likelihood by 82.7 percent in Liaoning and by two fold in Shuangcheng. Moreover, an exam title enhanced a man's chances of getting married by 79.6 percent in Liaoning.

Family and household context

Family and kinship composition had significant impact on son and daughter's timing of first marriage. First, the presence of parents in family was important for son and daughter's timing of marriage. Sons benefited from the presence of both parents. Compared to those with both parents alive, only having a living father, which means the absence of mother, reduced son's likelihood of marriage by 5.8 percent in Liaoning. The likelihood of marrying was reduced by 25.8 percent in Liaoning and by 14.3 in Shuangcheng if none of the individual's parents was alive. The absence of father did not affect son's timing of first marriage.

By contrast, daughters with both parents present tended to marry later. Compared to those daughters whose parents were both present, the absence of mother increased daughter's likelihood of getting marriage by 17.3 percent in Liaoning, and the absence of father increased this likelihood by 13.1 in Liaoning and 15.6 in Shuangcheng. Moreover, the absence of both parents increased daughter's likelihood of getting married by 39.8 in Liaoning and 29.3 in Shuangcheng. These are true after we controlled geographical location and population social status.

Sibling composition and their marital status had significant impact on timing of first marriage for both men and women. Siblings appear to have married in order of seniority: having unmarried older siblings delayed the timing of first marriage of both men and women. Effects were strongest for unmarried siblings of the same sex, suggesting that sons and daughters were in separate queues, even if they were not of the same sex. Every unmarried older brother reduced a man's likelihood of getting married by 38.3 percent in Liaoning and 46.1 percent in Shuangcheng, and it reduced women's likelihood of first marriage by 10 percent in Liaoning. Every unmarried older sister lowered the likelihood of men's marriage by 11.4 percent in Liaoning and 7.2 percent in Shuangcheng, and lowered women's likelihood of marriage by 29.4 percent in Liaoning and 17.2 percent in Shuangcheng.

In keeping with earlier findings that larger families were more prosperous, additional siblings who were not both older and unmarried tended to improve marriage chances. Every married older brother in the family increased male likelihood of marriage by 8.5 percent in Liaoning and 3.6 percent in Shuangcheng. For males, every younger brother in the household increased the

likelihood of getting married by 7.7 percent in Liaoning, and every younger sister in the household increased this likelihood by 11.2 percent in Liaoning and 9.6 percent in Shuangcheng. For females, the effect of the number of younger brothers in household was not statistically significant, but every younger sister in the household increased the likelihood of getting married by 5.4 percent in Liaoning and 7.1 percent in Shuangcheng.

Determinants of Remarriage

Socioeconomic and demographic characteristics of the household and individual all influenced the chances that a widow or widower would remarry. Gender, of course, was one of the major determinants of remarriage chances. Widowers were much more likely to remarry than widows. According to Table 3, about 8 percent of widowers in Liaoning would remarry in the next three years, versus only 1.3 percent of widows in Table 4. Similarly, in Shuangcheng, where government paid more attention and care to widows who refused to remarriage, 5.6 percent of widowers remarried in the next year, compared with 0.6 percent. That any widows at all remarried is more interesting than the lower rate of remarriage for widows than widowers: remarriage of widows was strongly discouraged in late imperial China, and 'chaste widows' were honored.

Age and duration of widowhood were also important determinants of the chances of remarrying. Widows and widowers were most likely to remarry if they were in their twenties, and steadily less likely to remarry at later ages. There was a gender difference in the age pattern of remarriage: chances declined more quickly with age for widows than for widowers. Remarriage chances were highest for widows and widowers who had been bereaved for less than ten years, and somewhat lower. According to Tables 3 and 4, widows and widowers who had been bereaved in the last ten years were more likely to remarry than those who had been bereaved for more than years. The drop-off in rates, however, was not as steep as for age.

Family and household context

Household characteristics had different, sometimes opposite, patterns of effects for widows and widowers. The presence of parents important for widower remarriage, and the presence of sons was important for widow remarriage. According to Table 3, widowers were more likely to remarry if both of their parents were alive, and least likely to remarry if both were dead. According to Table 4, however, widows were largely unaffected by the survival status of their parents-in-law, except that in Liaoning, widows were more likely to remarry if their mother-in-law was dead and their father-in-law was still alive. The effects of numbers of sons were almost a mirror image. According to Table 4, widows in Liaoning and Shuangcheng were less likely to remarry if they had sons. In Table 3, however, sons had no effect on the remarriage chances of widowers in Liaoning, and a positive effect on the remarriage chances of widowers in Shuangcheng.

Number and marital status of brothers or brothers-in-law had different effects for widows and

widowers.   Widowers were more likely to remarry if they had older married brothers, but much less likely to remarry if they had older unmarried brothers.   In Liaoning, every additional older unmarried brother lowered the chances of remarriage by about 18 percent.   In Shuangcheng, it lowered the chances of remarriage by more than one-quarter.   For widows, patterns were reversed. At least in Liaoning, they were less likely to marry if they had older brothers-in-law.   In both Shuangcheng and Liaoning, they were more likely to remarry if they had older unmarried brothers-in-law.

Socioeconomic status

Socioeconomic advantage increased the chances that a widower would remarry.   According to Table 3, men who were artisans, soldiers, or higher officials were much more likely to remarry in both Liaoning and Shuangcheng.   The magnitude of the advantage corresponded to the economic status of these positions: higher officials earned more than soldiers, who in turn earned more than artisans. Men who held exam titles were also more likely to remarry.   Men whose brothers or cousins held positions also had higher chances of remarrying.   According to Table 4, effects of socioeconomic status were less clear for widows.   There is some suggestion that in Liaoning, socioeconomic advantage reduced the chances of remarrying.   Widows who had cousins-in-law who held position were less likely to remarry.   Soldiers' widows were also less likely to remarry, though the effect is not statistically significant by typical criteria.

CONCLUSION

The most important findings in this chapter are the consistent differences in the patterns of effects for male and female marriage and remarriage timing.   To our knowledge, this study is the first quantitative analysis of the determinants of timing of female first marriage as well as male and female remarriage in late imperial China.   The results are consistent with a situation in which male hypogamy and female hypergamy caused the same contextual, social, and economic characteristics that promoted male marriage to delay female marriage.   In an environment where males married hypogamously and females married hypergamously, anything in terms of institutional affiliation or family and individual context that increased the pool of potential brides for a son should have shrunk the pool of potential grooms for a daughter.

The opposite effects of social and economic status for male and female marriage have important implications for thinking about socioeconomic differentials in reproduction in late imperial China. It has been known for some time that higher status males in China were more likely to marry, and once married, more likely to have children (Harrell 1987; Lee and Campbell 1997), thus it is unambiguous that male socioeconomic status and reproduction were positively correlated.   The results here suggest that female socioeconomic status and reproduction, however, were inversely associated.   The implications for social and economic stratification will depend on the mechanisms, whether genetic or environmental, by which traits and behaviors were transmitted from one

generation to another.

   Moreover, the differences of remarriage behaviors between men and women also had significant impact on the marriage market in late imperial China.   First, the fact that widowers were much more likely to remarry than widows further reduced the pool of available women in the marriage market.   Second, since it is very likely that widowers will remarry never-married women, the remarriage of widowers of higher socio-economic status might create more devastating effects on the likelihood of remarriage for men with lower socio-economic status.   This situation, again, explains the severely imbalanced marriage market for male and female in late imperial China.

   Another important finding is the confirmation that institutional affiliation, in the form of population category, affected marriage chances.   Categories related to institutional affiliation such as work unit (*danwei*) and household register (*hukou*) status have been recognized as sources of inequality in contemporary China in recent work by Wang Feng, Don Treiman, Xiaogang Wu and others.   In this paper, we show that such category membership related to institutional affiliation affected marriage chances in late imperial China.

Table 1. Male First Marriage in Liaoning and Shuangcheng, 1789-1909

	Liaoning			Shuangcheng		
	Mean	exp(B)	p	Mean	exp(B)	p
Marriage by next register	0.199			0.071		
Age (Reference:11-15)						
16-20	0.256	1.808	0.00	0.294	3.549	0.00
21-25	0.151	1.697	0.00	0.149	4.734	0.00
26-30	0.094	1.237	0.00	0.069	3.876	0.00
31-35	0.062	0.866	0.00	0.041	2.336	0.00
36-40	0.047	0.633	0.00	0.030	1.373	0.00
Time Period						
1775-1799	0.063	0.897	0.00			
1800-1824	0.146	0.982	0.45			
1825-1849	0.254	0.873	0.00			
1850-1874	0.242	0.880	0.00	0.128	0.576	0.00
1875-1899	0.143	0.935	0.00	0.656	0.539	0.00
1900-1912	0.152	Reference		0.216	Reference	
Population Type						
Liaoning						
Regular	0.802	Reference				
Specialized	0.132	1.141	0.00			
Low	0.066	0.961	0.15			
Shuangcheng						
Jingqi				0.119	0.870	0.00
Tunding				0.881	Reference	
Parental survival (Ref: Both parents alive)						
Father alive, mother dead	0.104	0.942	0.01	0.087	0.943	0.15
Mother alive, father dead	0.171	0.989	0.53	0.177	1.042	0.17
Both parents dead	0.139	0.742	0.00	0.105	0.857	0.00
Household characteristics						
Father is head	0.528	1.003	0.85	0.404	1.126	0.00
# adult males in household	4.716	1.010	0.00	5.812	0.982	0.00
# older married brothers	0.535	1.085	0.00	0.684	1.036	0.00
# older unmarried brothers	0.275	0.617	0.00	0.353	0.539	0.00
# unmarried older sisters	0.035	0.886	0.00	0.132	0.927	0.04

# younger brothers	0.562	1.077	0.00	0.808	1.014	0.26
# younger sisters	0.028	1.112	0.00	0.114	1.096	0.00
Socioeconomic status						
Father is artisan	0.008	1.259	0.00			
Father is soldier	0.033	1.067	0.08	0.041	0.935	0.28
Father is higher official	0.009	1.203	0.00	0.022	1.273	0.00
Father has an exam title	0.008	1.252	0.00	0.008	0.926	0.56
Father has a purchased title	0.025	1.013	0.02			
# brothers with position	0.012	1.057	0.22	0.016	1.328	0.00
# brothers with exam titles	0.002	1.074	0.50	0.004	0.999	1.00
# uncles with position	0.079	1.004	0.82	0.074	1.004	0.92
# uncles with exam titles	0.012	1.176	0.00	0.009	1.306	0.01
# cousins with position	0.023	0.960	0.23	0.011	1.142	0.13
# cousins with exam titles	0.004	1.164	0.04	0.003	0.993	0.97
Artisan	0.000	1.892	0.02			
Soldier	0.002	1.218	0.16	0.001	2.045	0.00
Higher official	0.001	1.827	0.00	0.000	2.688	0.00
Exam title	0.001	1.796	0.00	0.000	1.414	0.55
Purchased title	0.002	1.005	0.81			
Log likelihood			-58703.45			-25908.90
Observations			122467			110011
Degrees of freedom			38.00			30.00
LR Chi2			4815.74			4366.44

Table 2. Female First Marriage in Liaoning and Shuangcheng, 1789-1909

	Liaoning			Shuangcheng		
	Mean	exp(B)	p	Mean	exp(B)	p
Marriage by next register	0.320			0.084		
Age (Reference:11-15)						
16-20	0.336	3.599	0.00	0.375	10.039	0.00
21-25	0.117	4.380	0.00	0.132	22.106	0.00
26-30	0.034	3.431	0.00	0.026	28.505	0.00
31-35	0.014	1.890	0.00	0.004	26.478	0.00
36-40	0.008	1.477	0.04	0.001	27.949	0.00
Time Period						
1775-1799	0.120	1.023	0.83	0.000		
1800-1824	0.314	0.889	0.24	0.000		
1825-1849	0.334	0.992	0.94	0.000		
1850-1874	0.143	0.971	0.77	0.154	Reference	
1875-1899	0.067	0.603	0.00	0.659	0.641	0.00
1900-1912	0.022	Reference		0.187	0.720	0.00
Population Type						
Liaoning						
Regular		Reference				
Specialized	0.043	1.158	0.03			
Low	0.058	1.440	0.00			
Shuangcheng						
Jingqi				0.262	0.664	0.00
Tunding				0.738	Reference	
Parental survival (Ref: Both parents alive)						
Father alive, mother dead	0.094	1.173	0.00	0.090	1.061	0.31
Mother alive, father dead	0.141	1.131	0.00	0.146	1.156	0.00
Both parents dead	0.050	1.398	0.00	0.055	1.293	0.00
Household characteristics						
Father is head	0.580	1.008	0.80	0.537	1.016	0.68
# adult males in household	4.137	1.002	0.74	4.262	0.999	0.80
# older married brothers	0.510	0.986	0.37	0.576	1.011	0.04
# older unmarried brothers	0.258	0.900	0.00	0.327	1.019	0.54
# unmarried older sisters	0.167	0.706	0.00	0.214	0.828	0.00

# younger brothers	0.277	0.997	0.89	0.340	1.010	0.69
# younger sisters	0.802	1.054	0.01	0.914	1.071	0.00
Socioeconomic status						
Father is artisan	0.025	0.936	0.49			
Father is soldier	0.163	0.856	0.00	0.070	0.763	0.00
Father is higher official	0.030	0.744	0.00	0.064	0.790	0.00
Father has an exam title	0.033	0.845	0.07	0.015	0.555	0.00
Father has a purchased title	0.081	0.988	0.36	0.015	0.955	0.56
# brothers with position	0.064	1.033	0.56	0.032	0.880	0.52
# brothers with exam titles	0.017	0.695	0.00	0.006	0.842	0.00
# uncles with position	0.270	0.960	0.16	0.128	1.299	0.14
# uncles with exam titles	0.045	0.932	0.31	0.010	0.979	0.83
# cousins with position	0.070	0.983	0.70	0.020	0.676	0.15
# cousins with exam titles	0.012	1.109	0.40			
Log likelihood			-8713.76			-10324.79
Observations			15797			42576
Degrees of freedom			33.00			27.00
LR Chi2			2368.68			3894.77

Table 3. Widower Remarriage in Liaoning and Shuangcheng, 1789-1909

	Liaoning			Shuangcheng		
	Mean	exp(B)	p	Mean	exp(B)	P
Remarriage by next register	0.080			0.051		
Age						
21-25	0.025	1.381	0.00	0.042	Reference	
26-30	0.055	Reference		0.065	0.666	0.00
31-35	0.080	0.777	0.00	0.517	0.517	0.00
36-40	0.115	0.558	0.00	0.300	0.300	0.00
41-45	0.148	0.374	0.00	0.247	0.247	0.00
46-50	0.172	0.273	0.00	0.127	0.127	0.00
51-55	0.193	0.152	0.00	0.089	0.089	0.00
56-60	0.212	0.108	0.00	0.064	0.064	0.00
Duration of Widowhood (Reference: 0-2 years)						
Widowed 3-9 years	0.416	1.036	0.67	0.480	0.992	0.94
Widowed 10+ years	0.521	0.692	0.00	0.292	0.730	0.03
Time Period						
1775-1799	0.076	1.153	0.20	0.000		
1800-1824	0.142	0.928	0.47	0.000		
1825-1849	0.291	0.953	0.61	0.000		
1850-1874	0.240	1.116	0.23	0.143	Reference	
1875-1899	0.133	0.904	0.33	0.689	1.067	0.63
1900-1912	0.119	Reference		0.168	1.071	0.68
Population Type						
Liaoning						
Regular		Reference				
Specialized	0.098	1.187	0.03			
Low	0.068	0.961	0.69			
Shuangcheng						
Jingqi				0.123	1.236	0.08
Tunding (Ref.)				0.877	Reference	
Household Characteristics						
Parental survival (Ref: Both parents alive)						
Father alive, mother dead	0.076	0.728	0.00	0.055	0.724	0.04
Mother alive, father dead	0.142	0.788	0.00	0.210	0.826	0.10
Both parents dead	0.701	0.575	0.00	0.617	0.600	0.00
# sons	1.001	0.983	0.51	1.090	1.204	0.00
# adult males in household	4.121	0.995	0.50	5.488	0.991	0.43
# older married brothers	0.501	1.054	0.00	1.537	1.016	0.04

# older unmarried brothers	0.044	0.820	0.04	0.086	0.733	0.03
# unmarried older sisters	0.001	2.043	0.09	0.000	1.978	0.50
# younger brothers	0.868	0.985	0.50	1.108	0.851	0.00
# younger sisters	0.009	1.137	0.30	0.031	1.229	0.08
Socioeconomic Status						
# brothers with position	0.025	1.331	0.01	0.047	1.321	0.07
# brothers with exam titles	0.002	1.896	0.03	0.003	1.152	0.78
# cousins with position	0.035	1.015	0.86	0.021	0.650	0.15
# cousins with exam titles	0.005	1.509	0.04	0.007	2.220	0.03
Artisan	0.006	1.740	0.05			
Soldier	0.012	2.759	0.00	0.021	1.367	0.14
Higher official	0.003	3.604	0.00	0.013	4.092	0.00
Exam title	0.002	3.104	0.00	0.001	2.193	0.07
Purchased title	0.011	0.972	0.49			
Log likelihood			-5323.1928			-2236.24
Observations			22084			12760
Degrees of freedom			35			29
LR Chi2			1706.7			664.06

Table 4. Widow Remarriage in Liaoning and Shuangcheng, 1789-1909

	Liaoning			Shuangcheng		
	Mean	exp(B)	p	Mean	Exp(B)	p
Remarriage by next register	0.013			0.006		
Age						
21-25	0.012	1.111	0.61	0.011	1.685	0.06
26-30	0.033	Reference		0.032	0.542	0.02
31-35	0.055	0.497	0.00	0.061	0.311	0.00
36-40	0.086	0.288	0.00	0.100	0.249	0.00
41-45	0.133	0.231	0.00	0.146	0.124	0.00
46-50	0.176	0.129	0.00	0.181	0.065	0.00
51-55	0.231	0.068	0.00	0.216	0.014	0.00
56-60	0.273	0.015	0.00	0.252	Reference	
Duration of Widowhood (Reference: 0-2 years)						
Widowed 3-9 years	0.427	0.844	0.20	0.488	0.911	0.65
Widowed 10+ years	0.468	0.630	0.01	0.308	0.714	0.28
Time Period						
1775-1799	0.072	1.305	0.33			
1800-1824	0.147	2.471	0.00			
1825-1849	0.283	1.488	0.07			
1850-1874	0.240	0.817	0.38	0.130	Reference	
1875-1899	0.139	0.643	0.11	0.666	0.942	0.81
1900-1912	0.118	Reference		0.204	1.053	0.87
Population Type						
Liaoning						
Regular		Reference				
Specialized	0.122	0.781	0.17			
Low	0.068	0.385	0.00			
Shuangcheng						
Jingqi				0.158	Reference	
Tunding (Ref.)				0.842	0.847	0.48
Household characteristics						
Parental survival (Ref: Both parents-in-law alive)						
Father-in-law alive, mother-in law dead	0.041	1.579	0.03	0.027	0.593	0.29
Mother-in-law alive, father-in-law dead	0.138	1.023	0.90	0.135	0.969	0.90
Both parents-in-law dead	0.752	1.056	0.75	0.771	0.866	0.57
# of sons	1.488	0.645	0.00	1.665	0.464	0.00

# Adult Males in Household	3.621	0.956	0.02	4.426	0.968	0.19
# older married brothers-in-law	1.113	0.921	0.00	1.192	0.973	0.21
# older unmarried brothers-in-law	0.088	1.507	0.00	0.062	1.325	0.10
# younger brothers-in-law	0.378	0.886	0.16	0.314	1.036	0.75
# younger sisters-in-law	0.011	0.851	0.63	0.017	1.053	0.80
Socioeconomic Status						
# brothers-in-law with position	0.042	0.619	0.25	0.034	0.826	0.68
# cousins-in-law with position	0.033	0.271	0.06	0.012	1.188	0.78
# cousins-in-law with exam titles	0.009	1.614	0.31			
Husband was soldier	0.036	0.367	0.09	0.036	0.493	0.23
Husband was higher official	0.007	1.205	0.79			
Husband had exam title				0.007	1.245	0.99
Husband had purchased title				0.012	0.781	0.99
Log likelihood			-1569.0655			-767.90961
Observations			28206			25821
Degrees of freedom			30			26
LR Chi2			743.6			338.74

Map 1 Communities covered by the Liaoning Household Register data, 1749-1909
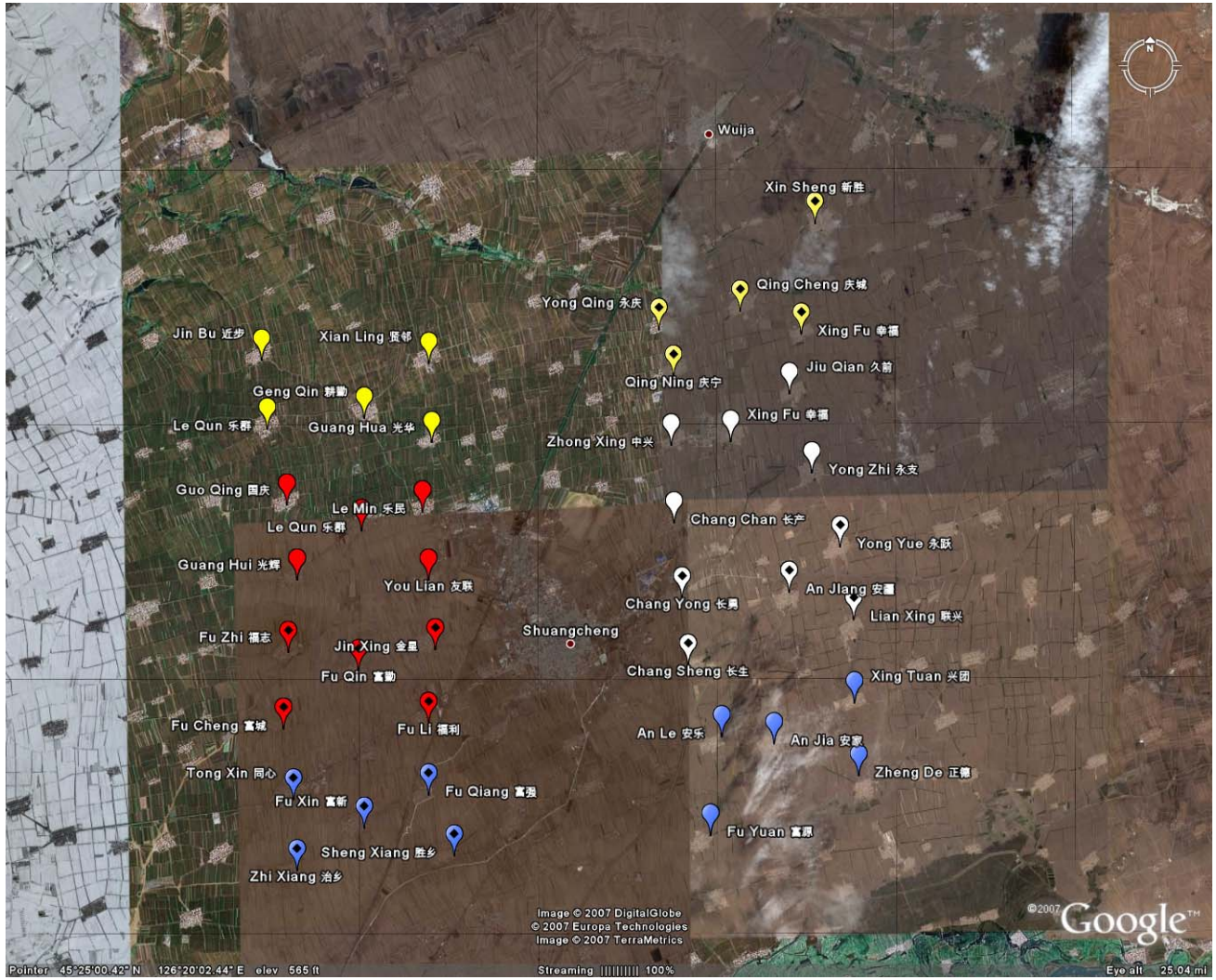
Map 2 Shuangcheng Communities, 1870-1912
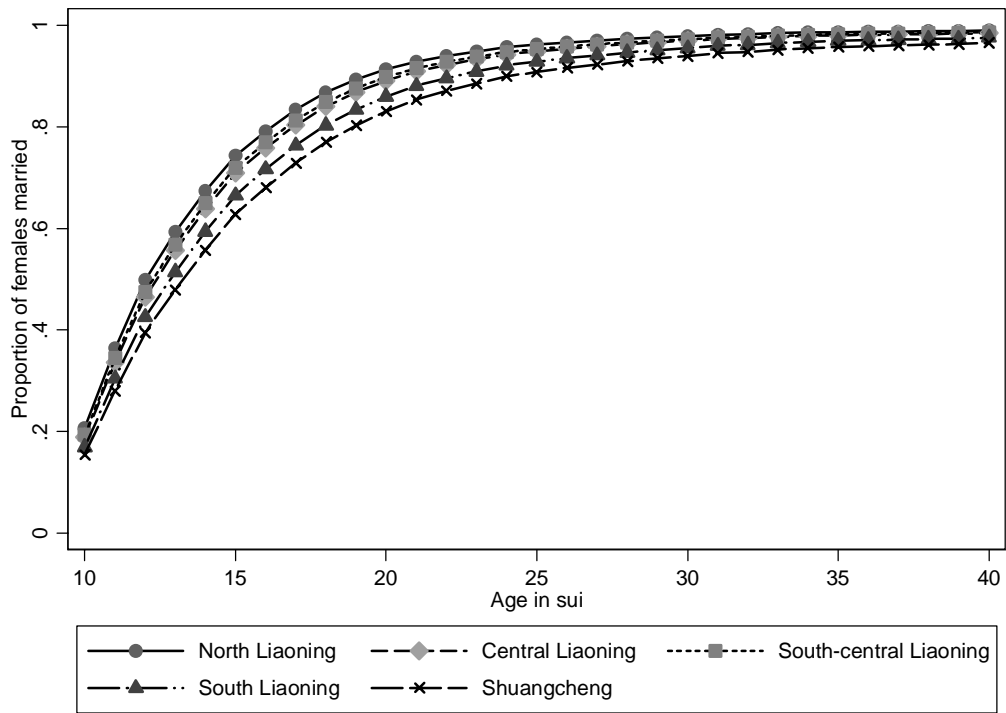
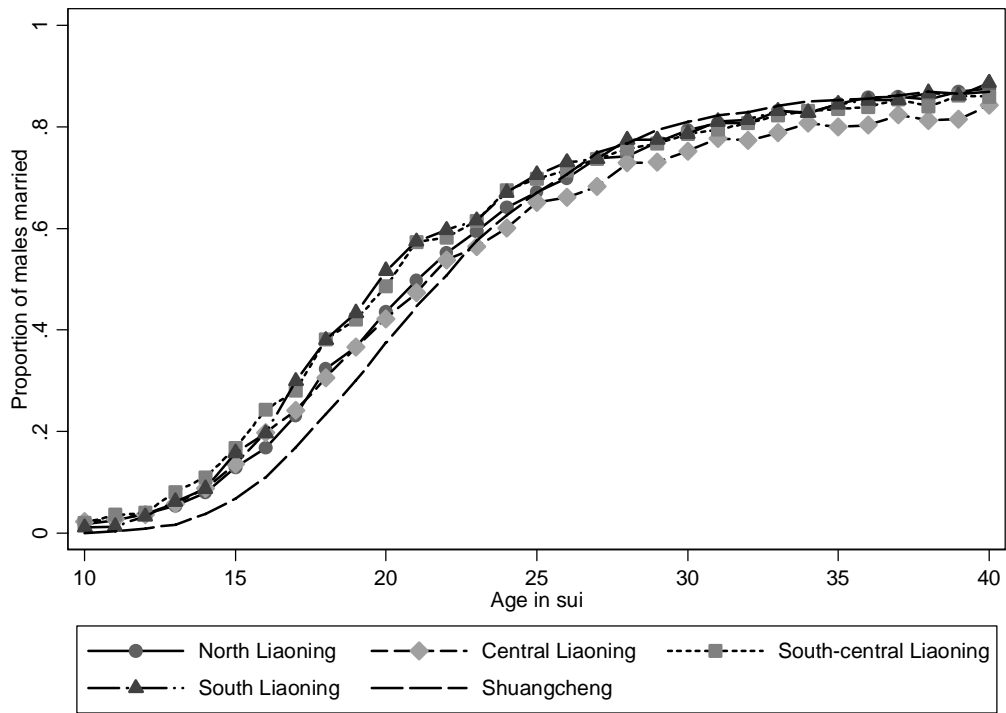**Figure 1 Proportions of Females Ever Married At Each Age 10-40 Sui, by Region**

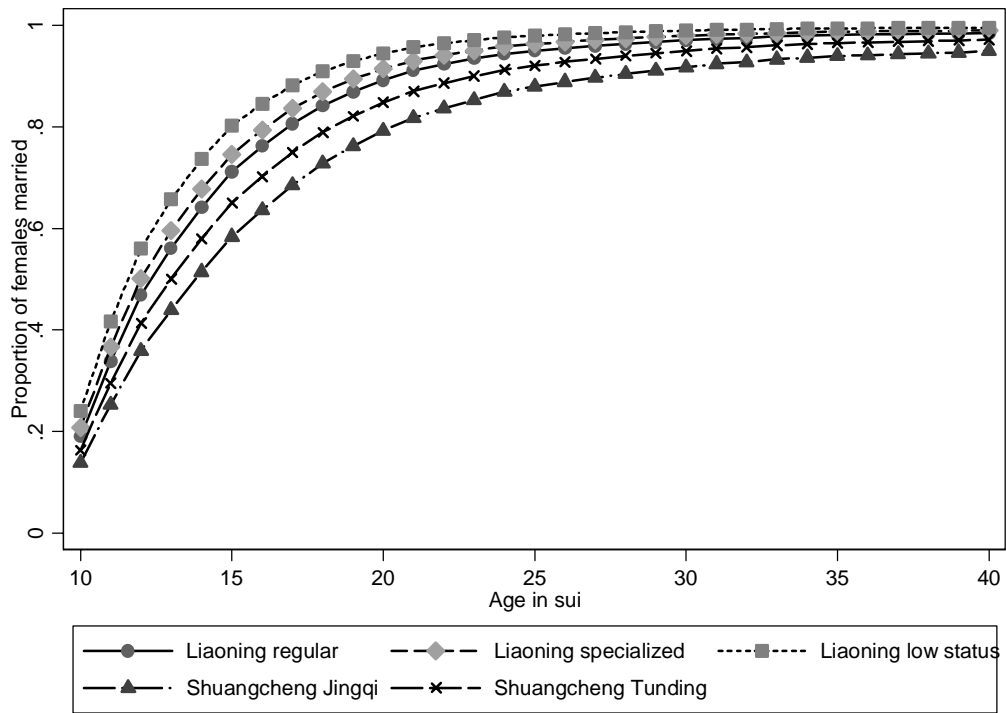**Figure 2 Proportions of Males Ever Married At Each Age 10-40 Sui, By Region**

Figure 3 Proportions of Females Ever Married At Each Age 10-40 Sui, by Population Category
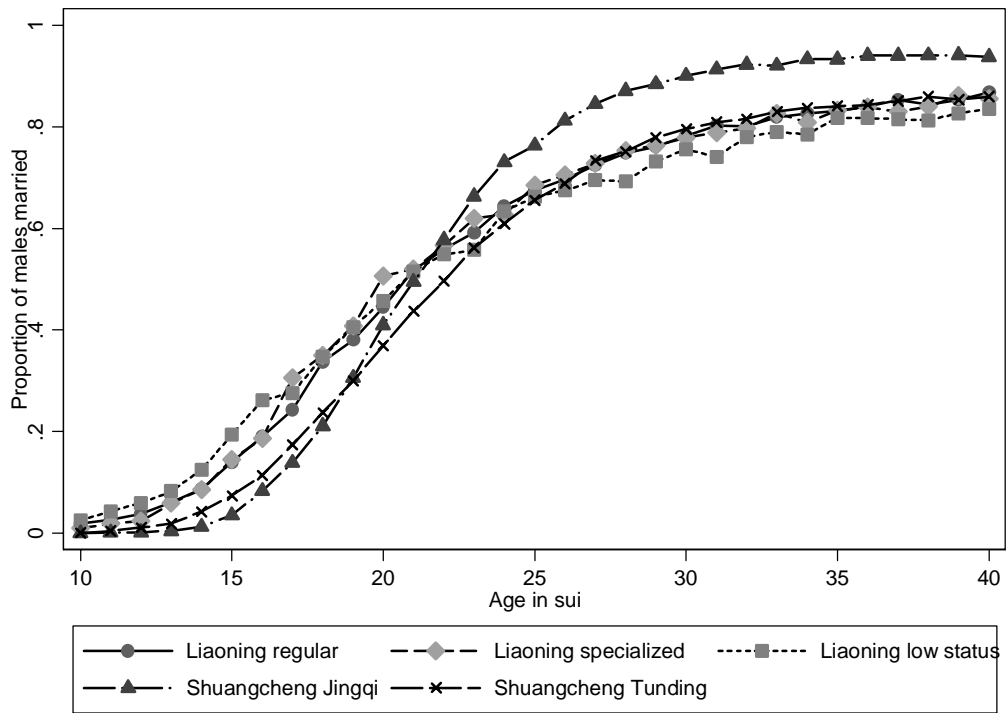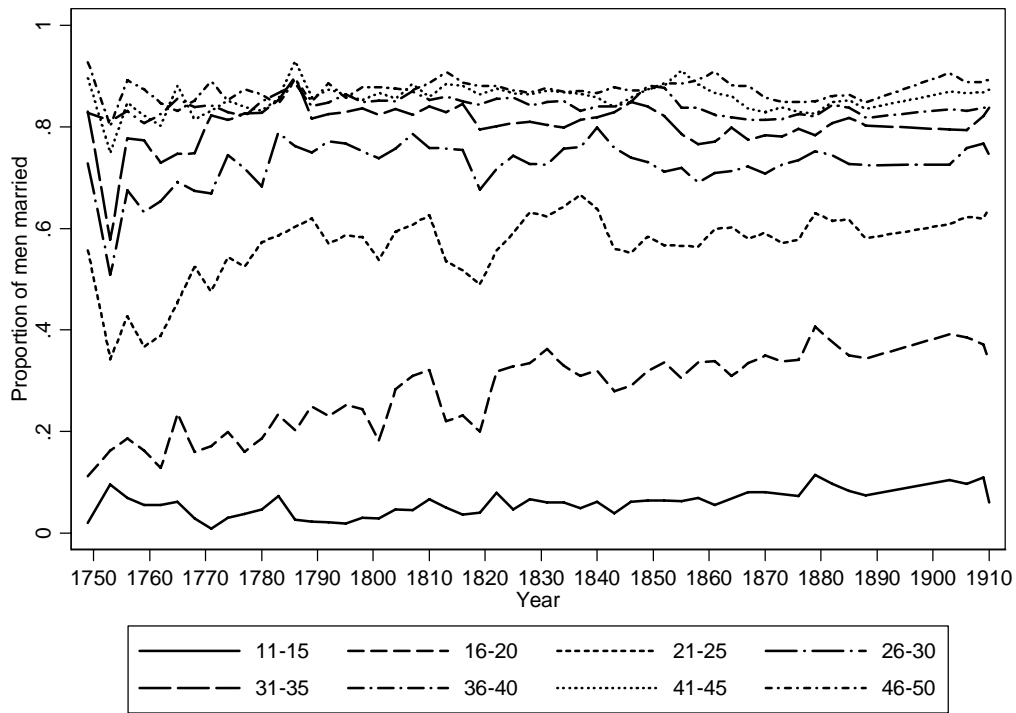
Figure 4 Proportions of Males Ever Married At Each Age 10-40 Sui, By Population Category

Figure 5 Proportions of Males Married at Different Ages in Liaoning, By Year, 1749-1909
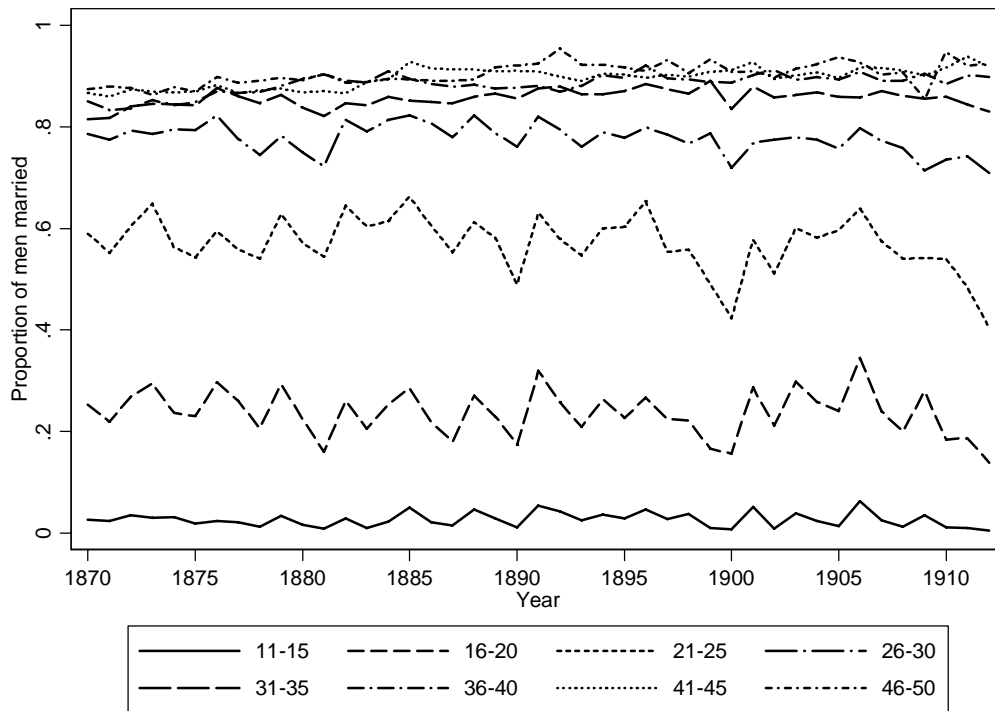
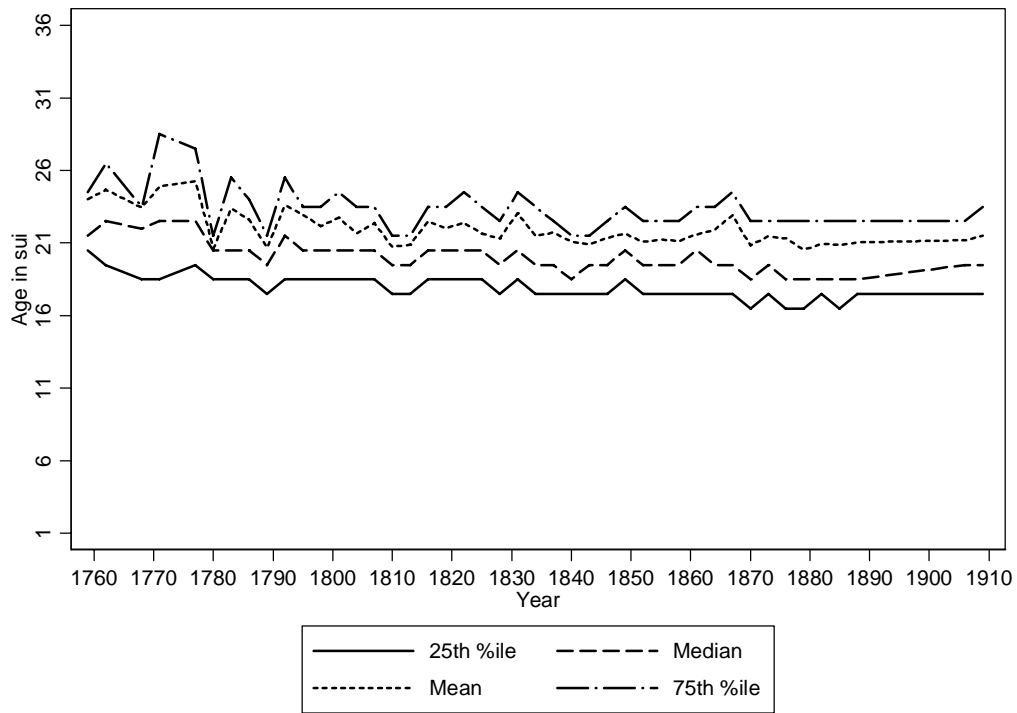**Figure 6 Proportions of Males Married at Different Ages in Shuangcheng, By Year, 1870-1912**

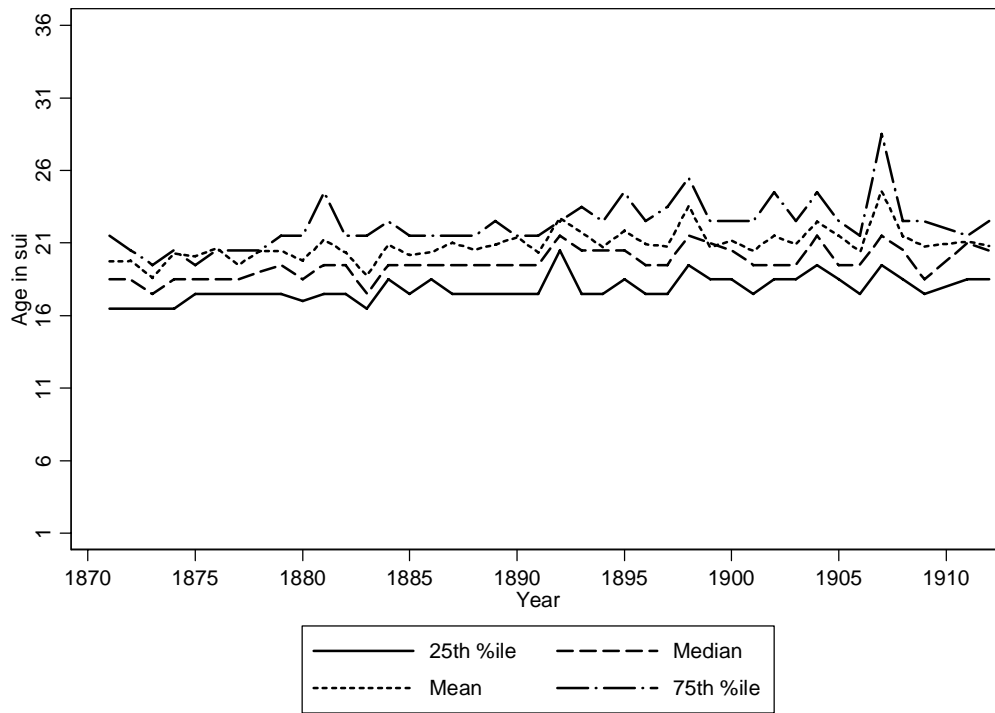**Figure 7 Ages of New Brides, Liaoning, 1760-1909**

Figure 8 Ages of New Brides, Shuangcheng, 1870-1912

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