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MARRIAGE, HOUSEHOLD CONTEXT AND SOCIOECONOMIC DIFFERENTIALS: EVIDENCE FROM A NORTHEASTERN TOWN IN JAPAN, 1729-1870

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This study utilizes one of the best sets of surviving historical registration records from a non-rural population in early modern Japan to examine whether and how socioeconomic status (property) and household context (power) influenced the first marriage of sons and daughters. Different incentives and disincentives associated with socioeconomic status and household context shaped differential marriage behavior. Males and females of higher socioeconomic status were more likely to marry. The presence of parents favored marriage, especially of inheriting sons and daughters. The presence of siblings also influenced the timing and type of marriage. This study confirms the property–power framework of the Eurasian Population and Family History Project (EAP), a comparative study of demographic behavior across diverse socioeconomic and cultural settings. It is also among the first empirical studies on determinants of nuptiality for a non-rural population in early modern Japan.

Introduction

In many traditional societies, marriage was an important institution for reproduction, stability, and well-being of the family. It also shaped kin networks, and made possible the transmission of property as well as human and social capital across generations (Lundh and Kurosu 2014). In early modern Japan, the household was organized based on the premise of a stem-family system, in which each household commonly contained only one married couple from each generation (Cornell 1987). Marriage was the crucial transition point at which one of the siblings stayed and brought his or her spouse into the household, while all the others eventually left. This stem-family living arrangement was necessary to keep the family farm and property intact (Smith 1977, 134-135), as well as to secure the farm's labor force in the household and by-employment (Saito 2000). Marriage thus offered a safe and economic means to achieve the optimal household size and gender balance of labor in family farming (Tsuya and Kurosu 2014).

Unlike studies on nuptiality in early modern Japan among rural households (e.g. Hanley 1985; Hanley and Yamamura 1977, 246-250; Kurosu, Tsuya, and Hamano 1999; Tsuya 2001; Tsuya and Kurosu 2014), research on marriage in non-rural settings remains limited (Hayami 1990; Miura 2004; Sasaki 2005; Takahashi 2005; Hamano 2007; Nagata and Hamano 2009). This is not only due to the lack of historical population registers from urban areas but also the high geographic mobility of urban residents that makes following their life histories difficult. Indeed, marriage practices differed between rural and urban households. Existing studies suggest that age at marriage was higher for urban residents than rural peasants, and that the celibacy rates were higher particularly among men. There were also differences in household formation and marriage patterns between permanent residents (with tax obligations) and temporary residents (Saito and Tomobe 1988; Minami 1978; Hamano 2007). However, we know especially little about the influence of socioeconomic differences between households on the marriage of sons and daughters in historical non-rural settings. Did high socioeconomic status, like it did in rural areas, increase the chance of

marriage for urban residents? To what extent were urban parents important for the marriage of their children? And, did sibship size and birth order also matter to marriages of urban residents?

This study utilizes one of the best sets of surviving population registers from a booming local post town,[1] Koriyama, in northeastern Japan, to answer these questions. Based on individual- and household-level longitudinal data on seven historical populations from East Asia and Western Europe, the Eurasian Population and Family History Project (EAP hereafter) systematically demonstrated that socioeconomic status of household ("property") and household relations and co-residents ("power") are two important determinants of marriage in the past (Lundh, Kurosu, et al. 2014). Access to resources facilitated marriage for men in all EAP rural communities (Lundh and Kurosu 2014, 443). Also, although the direction of influence and the reasons for it varied due to differences in family system and institutions, the presence of parents and siblings in the household influenced individual marriage chances (Lundh and Kurosu 2014, 445). For agricultural households in the two Japanese villages studied in EAP (Shimomoriya and Niita, neighboring villages in the current study area), the prevailing patrilineal stem-family system structured people's lives. The presence of parents enhanced the likelihood of male marriage since parents were instrumental in finding their child a partner; and birth order, in particular, influenced the timing of marriage for both males and females in rural areas (Tsuya and Kurosu 2014).

Koriyama, unlike rural villages in the northeast that suffered from population decline triggered by a series of famines and crop failures from the late eighteenth to early nineteenth century, achieved stable expansion as a result of moderate fertility and a large volume of in-

[1] Post towns, *Shukuba-machi* in Japanese, were constructed along the major routes/streets in the Edo period. They provided lodgings for public officials, who were forced to periodically travel between their domain and Edo with their vassals; as well as rest for travelers, who were observed more frequently as traveling became more popular throughout the country during this period. Commercial sectors also developed in these towns and catered to the needs of commoners and neighboring villagers.

migration (Takahashi 2005). With the development of sericultural work and local commercial sectors, many households engaged in various kinds of businesses. This diversity among Koriyama households makes it particularly interesting to study how socioeconomic status (property) and household context (power) influenced the marriage of sons and daughters. Following the EAP, we take a sequential approach that unmarried individuals are seen as repeatedly exposed to potential partners and therefore make successive decisions in response to opportunities and constraints (Kurosu and Lundh 2014, 66). We apply discrete-time event history models to examine determinants of marriage at individual, household, and community levels.

Marriage and Household in Early Modern Japan

Marriage not only concerns the couple, but also parents and siblings, households, and communities. Families and households in early modern Japan formed themselves into stem families with strong normative orientations towards inheritance and succession by the eldest child.[2] Parents, kin, and sometimes village elites were instrumental in finding partners and arranging marriages for the young. Post-nuptial residence, in principle, was either *virilocal*, where inheriting sons stayed in their parental households while their wives came to live with them, or *uxorilocal*, where inheriting daughters stayed in their parental households while their husbands came to live with them upon marriage. Marriage therefore mattered to all household members, as the addition of a new member required reallocation of resources, space, and labor, as well as establishing a relationship with her/him. It was typically the eldest son who succeeded household headship in northeastern Japan (virilocal marriage). However, the succession by an eldest daughter (uxorilocal marriage) was also practiced, being particularly prevalent in northeastern

[2] This attitude was reinforced by the community-based taxation system in which households were jointly responsible for paying tax levied on the community as a unit (Arimoto and Kurosu 2014). Loss of a household meant more of the burden had to be shared by other households.

Japan, even when her younger brothers were present (Maeda 1976; Narimatsu 1992, 170-182).

Our earlier study showed that the age of marriage was almost four years later among Koriyama men and women than rural villagers (Kurosu and Takahashi 2008). Singulate Mean Ages at Marriage (SMAM) for the neighboring villages of Shimomoriya and Niita, and the town of Koriyama respectively, were 18.1, 18.2 and 21.8 for males and 14.3, 13.1 and 17.9 for females. The proportions never-married at age 45-49 were, in the same order, 3.2%, 5.2% and 5.4% for males and 0.3%, 0.8%, and 1.8% for females. Although SMAM and the proportion never-married appear higher in the town of Koriyama compared to neighboring villages, they are still at the lower end of the observed distribution of age at first marriage in preindustrial Japan, which ranged from 14 to 25 for women and 17 to 28 for men (e.g. Tsuya 2001; Mosk 1980; Hayami 1973; Kurosu, Tsuya and Hamano 1999). The low celibacy rates particularly stand out compared to the Western counterparts of the time (Kurosu and Lundh 2014, Figure 3.2).

Overall, marriage was early and universal in early modern Japan. Marriage in northeastern Japanese villages was even earlier and more universal compared to other parts of Japan (Kurosu, Tsuya and Hamano 1999). The comparative analysis of EAP revealed clear two features that were behind this early and universal marriage system. First, early and universal marriage did not lead directly to reproduction. It took four years on average to observe the first recorded child (Tsuya and Kurosu 2010). Marriage was more of an agreement concerning future reproduction than access to immediate reproduction as in European communities (Dribe et al. 2014). Second, for both males and females, remarriage rates were much higher than other communities studied in EAP (Kurosu et al. 2014) as marriage often ended with the death of one of the spouses, or more frequently, was terminated by divorce. Flexible attitudes and practices of divorce and remarriage were behind the early and universal marriage system in the northeastern villages. Koriyama was not an exception to the northeastern pattern of marriage, which was frequently broken and followed by remarriage (Takahashi 2005).

Local Economic and Population Settings

During the Tokugawa period, Koriyama belonged to the Nihonmatsu domain that governed the central part of the current Fukushima prefecture. Koriyama was a post town on Sendai-Matsumae-do (street) with diverse economic activities. As the local population kept increasing and commercial sectors developed, Koriyama was formally designated as a town (*machi*) in 1824. While agricultural and commercial residents were in principle segregated by the Tokugawa government, Koriyama developed in a unique way, keeping both agricultural and commercial residents together, and therefore mixing the nature of village-ship and township. For example, it was common for Koriyama residents to farm and run inns at the same time. According to local financial records (Koriyama-shi 1981: Table 46), a variety of shops existed, including *kimono* shops, pawnshops, *sake* stores, bean paste and soy source stores, and so on. There were also demands for labor to carry baggage and for prostitutes. The town had a domain office and tax rice storehouses, and held markets (*rokusai-ichi*) six times a month. As a result, Koriyama served as both the economic and political center of Asaka County.

The population of Koriyama[3] at the beginning of the observation in 1729 was 793. Afterwards, unlike neighboring villages where the population sizes were in overall decline (Tsuya and Kurosu 2004), it experienced stable population growth. Koriyama only experienced slight population decreases at the time of two great famines (the Tenmei famine of the 1780s and the Tenpo famine of the 1830s). However, in contrast to its neighboring villages where the famine damage was huge and the local population never recovered to the level of the early eighteenth century, the population of Koriyama soon recovered because of both in-migration and natural increase. By the end of our data in 1870, the population of Koriyama was 2,606. In other words, different population trends between Koriyama and neighboring villages suggest contrasting dynamics between the rural and urban communities. On one hand, low fertility and out-migration played roles in the decline of the rural population, which was

[3] This study only employs records from the south part of Koriyama (*kamimachi*). Records from the north part (*shimomachi*) were not preserved in good condition.

affected seriously by food shortages caused by widespread crop failures. On the other hand, moderate fertility and a high volume of in-migration from rural villages, both neighboring and distant, contributed to the population gain in Koriyama (Takahashi 2005). It should also be noted that Nihonmatsu domain promoted a population policy that enforced marriage and reproduction to ensure recovery from the decline in population during the time of famines. The recruitment of females outside the domain and financial support by way of lending money to marital households were some of the policies the domain employed. A considerable number of women were recruited from the Echigo area (current Niigata prefecture) to Koriyama for work and for marriage in the belief that they were fertile.[4] Such policy certainly encouraged marriages between Koriyama natives and migrants from Echigo.

Thus, the town of Koriyama became increasingly diverse in its population composition and its socioeconomic variation. There were two distinct groups in terms of taxpaying status in the register of Koriyama: (a) tax-paying residents with property rights, and (b) residents without taxpaying responsibilities. (a) Households that owned land and property were *takamochi*. They shouldered tax responsibilities, placed on the town as a whole, based on their own landholdings and properties (expressed in the amount of rice, *koku*).[5] The larger *koku* is associated with higher socioeconomic status. At the top of these households were town officials and elites. They had been residents of Koriyama since as early as the start of Edo period (1603) and served as village officials from the initial stage of the village development. They also included merchants who were successful in the businesses of silk, clothes, brothels, inns, as well as banking. These households tended to have a large number of young servants co-residing in the households. (b) A large proportion (about 70%) of landless residents, both permanent and temporary, characterizes the urban nature of Koriyama.

[4] This observation is based on the second author's reading of the original document, *Imaizumi monjo, Shihai 476*.

[5] One *koku* is equivalent to approximately 5 bushels. Takahashi (2005) finds a high correlation between landholding size and the physical size of the house.

These *mizunomi* households were mixed in their social backgrounds, including landless residents (who were landless from the beginning of the observation), and in-migrants who came from other domains. They also included households that had branched out from landholders before they established themselves as *takamochi*. The landless residents from the villages of Nihonmatsu domain were distinguished from *mizunomi*, and were called *tanagari*.[6] They were more transitory than those who came from other domains as they could return to their own villages because of their physical proximity. However, there were in-migrants who continued to reside in Koriyama until the end of observation. Some *mizunomi* and *tanagari* could be promoted to *takamochi* status by accumulating land/property; while some *takamochi* could fall into *mizunomi* status if they were unable to maintain their land and property. In other words, in Koriyama socioeconomic status was not totally hereditary, and the town's population was socially and geographically mobile.

Data

This study makes use of data transcribed from local population registers called "*ninbetsu-aratame-cho*" (NAC) in the northeastern post town of Koriyama. NAC was enumerated annually at the beginning of the third lunar month. Data based on NAC registers are among the best comparable historical population panel data in East Asia (Dong et al. 2015). The surviving Koriyama NAC registers cover 142 years from 1729 to 1870 with 20 missing years in between. Koriyama NAC includes all town residents and records their names, ages, relationship to household head, origins and destinations of migrants with reasons (e.g. marriage, adoption or service), as well as socioeconomic status and landholding of household.[7]

[6] The term *tanagari* was usually used for "renters" in urban population registers, in contrast to owners of houses (*iemochi*) (Hamano 2007). Thus, the use of *tanagari* in terms of social and migration status in Koriyama should be considered unique to this register.

[7] More details about NAC as well as a general discussion of the sources for historical demography in Japan can be found elsewhere (Tsuya and Kurosu 2004; Cornell and Hayami 1986).

Thus, in addition to its long coverage, the NAC of Koriyama provides detailed information about the timing of individual "entrance" under observation (due to birth or immigration) as well as the timing of death and other "exits," despite the heavy in- and out-migration of the town. While there are numerous longitudinal records of rural populations in historical Japan, Koriyama NAC is unique because historical registers of urban populations are extremely rare.

The timing (year) of marriage can be determined from the annotated event of marriage in the NAC. A marriage event is usually annotated with information about the identity of the spouse, which household (usually the name of the head of the household one married into), or which village one married into. For inheriting sons and daughters who did not marry out, marriage can be determined by the entry of a new household member with an annotation of marriage, in this case including information about the village/household of origin. Identification of first marriage is straightforward for those who were under constant observation from birth. For those who first appeared in the registers sometime after birth, we define "first" marriage as follows: if marriages were observed for the first time for individuals who first appeared in the population registers under age 50 with no spouse and no children, they were regarded as "first" marriages. A substantial number (about 15%) of marriages took place under the age of 15. Therefore, we include ages in the range 10-49 for males and females but confine the study to individuals who were born and/or resided in the villages prior to first marriage. The population at risk includes males and females aged 10-49 who were born and/or resided in Koriyama prior to their first recorded marriages. Since many of the servants in Koriyama were in-migrants, we could not determine their marital status (ever married or not). We therefore excluded servants from the analyses.

Methods and Measures

Our analysis includes two steps. We first conduct discrete-time event history analysis via logistic regressions to examine determinants of the probability of first marriage in the next year. The dependent variable is a dichotomous variable measuring whether or not a never-married man/woman had a recorded marriage within one year from a registration to the immediately succeeding registration. We then

apply multinomial logit models and distinguish the differential probability of three mutually exclusive competing outcomes: virilocal, uxorilocal, and no marriage. This is a methodological advance from previous studies (Tsuya and Kurosu 2014), in the sense that this setting allows for direct comparisons between estimated coefficients of different marriage outcomes. In addition, considering the possible correlation between multiple observations of the same individual, we fit our multinomial logit models with clustered standard errors at individual level.

The models build on the EAP design (Kurosu and Lundh 2014). The discrete-time event history analysis model has three general groups of covariates: (1) socioeconomic factors, (2) family and household contexts, and (3) demographic variables. First, socioeconomic factors consist of local rice price and household socioeconomic status. Local economic fluctuations are measured by the logged rice price in the local market of Aizu, which indicates annual local agricultural outputs. Such variation in rice price in Aizu has been found to reflect crop failures in the area reasonably well (Tsuya and Kurosu 2004). Household socioeconomic status is based on the categories of landless non-taxpayers (*mizunomi* and *tanagari*) and landholding taxpayers with property rights (*takamochi*). *Takamochi* are further divided into three groups: those with small (less than average) landholdings, those with large (average and above) landholdings, and village officials/elites. We also include the number of non-kin per household in order to measure the socioeconomic condition of households (e.g. size of business), the influence of which may not be captured by the above categories. Non-kin in Koriyama are mostly servants and a small number of lodgers (noted as *yakkai* in the register). The presence of non-kin/servants often meant that a household was in business: the larger the business, the larger the size of non-kin (i.e. living-in servants).

Second, household context is measured by the presence of biological parents and siblings. Presence of parents in the household is divided into four categories: both parents present, only father present, only mother present, and no parent present (the reference group in model estimation). Parents facilitated a child's first marriage by helping/encouraging him/her to recruit a spouse into their household (Tsuya and Kurosu 2014). The

presence of siblings had a strong effect on rural marriage, suggesting a strong preference of gender and age hierarchy in rural households (Tsuya and Kurosu 2014). As an improvement to the procedure used for EAP, and in line with recent studies (e.g. Suanet and Bras 2014), our models include two sets of sibling variables: sibship size and birth order. Sibship size is considered to measure the competition for resources. This is especially important considering that fertility in Koriyama is higher than that in neighboring villages. Birth order is a dichotomous variable indicating whether one is the eldest sibling in the household or not. As primogeniture was considered common in Koriyama, being the eldest meant inheriting sons and daughters who married and stayed in their native households, i.e. virilocal marriage for sons and uxorilocal marriage for daughters.

Finally, we include control variables for periods and age patterns. There are four time periods: 1729-1759, 1760-1799, 1800-1839, and 1840-1870. Using the earliest period of 1729-1759 as the reference, three dummy variables were constructed. Appendix table 1 shows the means of the variables used in the analysis.

Descriptive Patterns

Table 1 describes the patterns of marriage among different socioeconomic groups. Over the entire study period of 1729-1870, the mean age at first marriage was 22 for men and 17 for women. In particular, age at first marriage for men appears to decline as the socioeconomic status rises. Also, according to the standard deviation, marriage appears to become more concentrated within certain age bounds as the status rises. A similar but less clear pattern is found for females. For both males and females, those from the village officials group stand out for the low standard deviation, which indicates the concentration of age at marriage around the mean, suggesting an adherence to a normative age of marriage. For males, the difference between this group and the *tanagari* group was about seven years. The difference is also apparent in the proportion of never-married males. By age 20, more than 70 percent of men among large landholders and village official groups married, while half of men among small land

holders and *mizunomi* were still never married. *Tanagari* males appear to have started to marry earlier than *mizunomi*, as the proportion never married (32%) at age 20 was closer to the higher socioeconomic status groups. By age 30, more than 90 percent of men in all groups are married. The celibacy rates are particularly low among the two highest socioeconomic groups.

Table 1

Mean age at first marriage, proportion never-married and proportion of marriage types: By socioeconomic status of household, males and females in Koriyama 1729-1870

	Age at first marriage			% never-married		Marriage type	
MALE	Mean	s.d.	*N*	age 20	age 30	% viri-local	% uxori-local
Tanagari	25.89	9.38	143	32.3	5.8	81.12	17.48
Mizunomi	22.49	6.74	551	49.9	7.8	78.22	20.51
Takamochi (*koku*<10)	21.07	5.91	167	54.7	7.4	84.43	14.37
Takamochi (*koku*>=10)	19.33	5.12	196	29.9	3.3	83.67	15.82
Village officials	18.90	4.07	49	28.8	1.9	89.80	10.20
Total	22.00	6.96	1,106	43.8	6.3	81.01	17.90
FEMALE							
Tanagari	16.31	4.68	133	14.7	0.5	53.38	45.11
Mizunomi	17.54	4.93	595	21.6	3.7	62.18	36.81
Takamochi (*koku*<10)	17.10	3.68	166	17.7	1.9	56.63	42.77
Takamochi (*koku*>=10)	16.85	5.25	234	12.5	1.5	62.82	36.75
Village officials	15.93	2.88	59	4.5	0.0	64.41	35.59
Total	17.13	4.75	1,187	17.5	2.4	60.66	38.50

The difference in mean age at first marriage between the socioeconomic groups is much smaller among females than among males. Females from village officials' households were the youngest to get married, almost two years earlier than *mizunomi* females. In addition, only 4.5 percent of the females from the village officials group were unmarried at age 20, followed by those of large landholders. By age 30, however, most females in any socioeconomic groups were married.

In terms of marriage types, the majority of males (78-90%) married virilocally, with the village official group showing the lowest percentage

and landless *mizunomi* the highest. As discussed earlier, although not in the population at risk for the current study, many women migrated into Koriyama and married Koriyama males. Between the socioeconomic groups, the proportion of *mizunomi* males married uxorilocally was twice that of village officials. As for Koriyama females, a considerable proportion of marriages (almost 40%) were uxorilocal. The proportion of uxorilocal marriage was higher among *tanagari* and small landholders.

In summary, we find substantial differences in the timing of marriage between males and females and between socioeconomic groups. The socioeconomic differences in the mean age at marriage and proportion never-married were particularly salient among males.

Event History Analysis

Tables 2A and 2B report the results of our event history analysis on the influence of socioeconomic status and household context on chances of first marriage of males and females, respectively. While Model 1 focuses on probability of first marriage as a whole, model 2 further differentiates virilocal and uxorilocal marriage as opposed to remaining unmarried. Rice price had a substantial and negative impact on all males and females: the probability of first marriage decreased significantly for both sexes when local rice prices went up. Marriage of Koriyama males and females responded quickly to a downturn in local economic conditions. It is interesting to note that marriages between peasants in the neighboring villages of Shimomoriya and Niita also responded to price changes, but only after two years (Tsuya and Kurosu 2014). In other words, Koriyama residents responded faster to the economic fluctuation than neighboring villagers. Additional analysis (not shown here) also revealed that marriages among landless households (*mizunomi* and *tanagari*) and females responded more quickly to rice price fluctuations than those of male landholders. This suggests that marriages of females and landless males, but not landholding males, were postponed when the local economic conditions deteriorated.

Household socioeconomic status substantially influenced the likelihood of both male and female first marriage. Compared to *mizunmoi* males and females, *tanagari* males and females were 22-26 percent less

likely to marry. This suggests that because of the transient nature of *tanagari* households, they were less inclined to maintain households via the heir's marriage. Compared to *mizunomi* men, those of larger landholders and village officials were 1.5-1.6 times more likely to marry. These results suggest that the economic resources of their households strongly enhanced chances of first marriage among males. However, this positive relationship between household socioeconomic status and the likelihood of marriage was observed only for male virilocal marriages. According to the results for females by marriage type, daughters of village officials were twice more likely to marry than *mizunomi* in both types of marriage. Daughters of landholders were also likely to marry uxorilocally compared to their *mizunomi* counterparts. In other words, the enhancing effect of household economic resources, concentrated largely on male virilocal marriages and on female uxorilocal marriages.

The number of non-kin household members had a strong and positive effect on first marriage of males, but not of females. As described earlier, non-kin members were mainly servants, indicating that households were engaged in large-scale farming or business. The concern of these households to secure the next generation via the heir's marriage might have been larger than those of households without comparable property and wealth. Alternatively, the size of non-kin members relates to the strength of socioeconomic standing of the household, which had a favorable influence on finding partners for sons in these households. This is indeed a part of the household socioeconomic influence that is not captured by landholding or tax-paying statuses.

Household context also mattered. First, the presence of both parents or only fathers (but not mothers) had positive and significant effects on male first marriage. Living with both parents or fathers, males were 1.4-1.5 times more likely to marry and reside at their parental household than those without. The presence of parents meant a strong and stable family as well as greater bargaining power in searching for partners for their children among rural stem family households (Tsuya and Kurosu 2014). The presence of parents and father probably had a similar effect in non-agricultural households as well. Parental influence was not apparent at all

among female marriages. However, this is due to a confounding effect of the two marriage types.

Looking into marriage types, the presence of both parents facilitated female uxorilocal marriages but was associated negatively (although not statistically significant) with female virilocal marriages. These findings suggest that parents served to facilitate their inheriting children's marriage probably by helping/encouraging him/her to find a partner.

Second, birth order mattered more than sibship size in the marriage of men. When one was the eldest, his chance of marrying virilocally increased 1.6 times and marrying uxorilocally decreased by 62 percent. This demonstrates clearly the preference and hierarchy of marriage among Koriyama households suggesting that the eldest son stayed and succeeded the family (and its business). As for women, sibship size also mattered when the marriage type was examined. When the sibship size was large, virilocal marriage was 1.2 times more likely, while uxorilocal marriage was 22 percent less likely. Also, the eldest daughters were 2.5 times more likely than the second and third children to marry uxorilocally and 24 percent less likely to marry virilocally. Altogether, this suggests the practice of primogeniture. Just like those rural households in neighboring villages, in the absence of other siblings (probably males), the eldest daughters of Koriyama were likely to become inheriting daughters, having their husbands marrying into their natal household.

Table 2A

Effects of socioeconomic status and household characteristics on the probability of first marriage:
Males aged 10-49 in Koriyama, 1729-1870

	Males					
	Model 1 (logit model)		Model 2 (multinomial logit model)			
	All		*Virilocal*		*Uxorilocal*	
	exp(*b*)	*P*>|z|	exp(*b*)	*P*>|z|	exp(*b*)	*P*>|z|
Logged local rice price	0.722	0.005	0.713	0.008	0.718	0.202
Socioeconomic status						
Tanagari	0.781	0.053	0.815	0.142	0.622	0.063
Mizunomi (ref.)	1.000	—	1.000	—	1.000	—
Takamochi (<10 koku)	1.212	0.074	1.303	0.023	0.928	0.754
Takamochi (>=10 koku)	1.608	0.000	1.703	0.000	1.278	0.307
Village officials	1.533	0.033	1.722	0.012	0.877	0.789
Non-kin	1.076	0.000	1.084	0.000	1.042	0.176
Household context						
Presence of parents						
both parents	1.499	0.000	1.622	0.000	1.093	0.716
only father	1.435	0.007	1.603	0.001	0.970	0.913
only mother	0.905	0.428	0.937	0.633	0.781	0.320
no parent (ref.)	1.000	—	1.000	—	1.000	—
Sibship size	1.000	0.998	1.002	0.961	1.016	0.802
Eldest of the siblings	1.246	0.005	1.603	0.000	0.382	0.000
Time period						
1729-1759 (ref.)	1.000	—	1.000	—	1.000	—
1760-1799	0.922	0.634	0.891	0.525	1.336	0.417
1800-1839	0.609	0.003	0.591	0.003	0.775	0.468
1840-1870	0.580	0.001	0.574	0.002	0.704	0.345
Age	1.712	0.000	1.692	0.000	1.840	0.000
Age squared	0.991	0.000	0.991	0.000	0.989	0.000
Constant	0.000	0.000	0.000	0.000	0.000	0.000
Log-likelihood	-3470.189		-3878.524			
Chi-square	689.57		781.09			
(d.f.)	(16)		(32)			
Prob.>chi-square	0.000		0.000			
Number of observations	16,682		16,682			
Number of events	1,040		1,040			
Number of individuals	2,401		2,401			

Notes: Standard errors are adjusted for individual clusters. Servants are excluded. The multinomial logit model uses never-married as the base outcome.

Table 2B

Effects of socioeconomic status and household characteristics on the probability of first marriage:
Females aged 10-49 in Koriyama, 1729-1870

	Females					
	Model 1 (logit model)		Model 2 (multinomial logit model)			
	All		*Virilocal*		*Uxorilocal*	
	exp(*b*)	*P*>|z|	exp(*b*)	*P*>|z|	exp(*b*)	*P*>|z|
Logged local rice price	0.634	0.000	0.602	0.000	0.647	0.011
Socioeconomic status						
Tanagari	0.740	0.025	0.644	0.006	0.826	0.319
Mizunomi (ref.)	1.000	—	1.000	—	1.000	—
Takamochi (<10 koku)	1.204	0.087	1.064	0.653	1.446	0.018
Takamochi (>=10 koku)	1.133	0.270	1.122	0.389	1.141	0.417
Village officials	2.208	0.000	2.227	0.000	2.126	0.003
Non-kin	0.999	0.967	0.987	0.443	1.020	0.406
Household context						
Presence of parents						
both parents	1.106	0.417	0.963	0.806	1.469	0.027
only father	1.087	0.536	0.992	0.961	1.300	0.182
only mother	0.836	0.193	0.733	0.062	1.055	0.780
no parent (ref.)	1.000	—	1.000	—	1.000	—
Sibship size	1.014	0.614	1.165	0.000	0.788	0.000
Eldest of the siblings	1.229	0.010	0.761	0.007	2.542	0.000
Time period						
1729-1759 (ref.)	1.000	—	1.000	—	1.000	—
1760-1799	0.529	0.001	0.486	0.001	0.618	0.072
1800-1839	0.256	0.000	0.201	0.000	0.361	0.000
1840-1870	0.178	0.000	0.125	0.000	0.292	0.000
Age	2.410	0.000	2.244	0.000	2.751	0.300
Age squared	0.981	0.000	0.983	0.000	0.977	0.000
Constant	0.000	0.000	0.000	0.000	0.000	0.000
Log-likelihood	-3184.978		-3799.274			
Chi-square	454.33		650.53			
(d.f.)	(16)		(32)			
Prof>chi-square	0.000		0.000			
Number of observations	11,286		11,286			
Number of events	1,106		1,106			
Number of individuals	1,970		1,970			

Notes: See Table 2A.

There is a temporal effect on the likelihood of first marriage. Compared to the first observation period (1729-1759), the probability of male first marriage declines in the nineteenth century. There were even stronger and clearer temporal trends in the probability of female first marriages. The likelihood of female first marriages declined significantly and almost linearly with time. Since a similar tendency has also been found in neighboring villages (Tsuya and Kurosu 2014), the increasing delay of female first marriage is confirmed in both rural and urban settings towards the end of the nineteenth century.

Moreover, we found no interaction effects between socioeconomic status and other variables included in the model. We also tested the same model in two separate groups—taxpayers and non-tax payers—but could not find any substantial difference in the factors associated with the first marriage, except its response to short-term economic stress (rice price) as discussed above. While systematic research remains in need, we tentatively conclude that the economic condition of the town as well as the context of household (i.e. co-resident parents and siblings) were important for marriage no matter which socioeconomic status group males and females belonged to. Moreover, in all socioeconomic groups, men and women tend to marry late towards the end of Edo period.

Conclusion

This study utilized one of the best sets of surviving records from a non-rural Japanese population in Koriyama and applied the EAP framework (Lundh, Kurosu, et al. 2014) to examine whether and how socioeconomic status (property) and household context (power) influence the first marriage of sons and daughters. This study contributes, first, to showcasing the power of the EAP approach in comparative study of demographic behaviors between diverse socioeconomic and cultural settings; and second, to filling the gap in our understanding of nuptiality in non-rural communities in early modern Japan. The development of sericultural work and local commercial sectors in Koriyama might have made marriage less imperative for many households and individuals, as they could easily obtain jobs in the

town. That might reflect in the higher ages at marriage among urban than rural males and females. Nevertheless, the event history analysis identified that the marriages of Koriyama males and females responded to variations in local economic conditions, household socioeconomic status and co-resident parents and siblings, just like those of rural villagers (Tsuya and Kurosu 2014).

Three major findings of this study regarding marriage in the booming local post town are noteworthy. First and foremost, the difference in the timing of marriage came from the difference in the incentives and disincentives of individuals and households according to their socioeconomic status. We found that the average ages of first marriage of males and females among large landholders and village elites were in fact close to those in rural areas. Marriage among *mizunomi* and *tanagari*, non-taxpayers, and to some extent small landholders of Koriyama was, however, delayed. Our event history analysis confirmed the pattern that males and females of higher socioeconomic status were more likely to marry. *Takamochi*, landholder and tax-payers, were permanent residents and tended to engage in large farming or business in Koriyama; therefore, their concern for the continuity of the household via the heir's marriage may serve as a strong incentive, just like that of affluent peasants in rural households.

Second, household context exerted a significant influence in shaping the choice of marriage among men and women. The presence of parents benefited male marriages in general and female uxorilocal marriages. This suggests the importance of parents, probably in providing household resources as well as social networks for spouse recruitment, to inheriting children's marital unions. The presence of siblings, in terms of both number and birth order, shapes the timing and type of marriage. Eldest sons and daughters married earlier than their younger siblings, and stayed in their natal households. This indicates that primogeniture and the stem family principle were influential in keeping Koriyama's households and family businesses intact.

Third, over the course of a 142-year period, women, and to a lesser extent, men as well, were decreasingly likely to marry, more so than their rural counterparts (Tsuya and Kurosu 2014). A rise in the age at first marriage is observed in various regions of Japan in the nineteenth century. Koriyama was not an exception. Such a time trend in marriage needs to be considered together with other trends, including the improvement in women's status, and in relation to the proto-industrialization thesis, according to which rural industrialization was supposed to precipitate a fall in the age of marriage for women (Saito 1983, 34).

Overall, while the social and demographic contexts diverged and the age at first marriage varied, we found striking similarities in the response of first marriage to household context and period between Koriyama and neighboring rural villages in comparison with an earlier study (Tsuya and Kurosu 2014). Gender asymmetries in marriage were embedded in the socio-cultural context of the urban communities. Consistent with previous studies on other rural populations, property and power were important. In that sense, this study confirms the conceptual hypothesis of *Similarity in Difference* (Lundh, Kurosu, et al. 2014) that there may be much more similarity in individual and family behaviors than is revealed by aggregate rates, once we study determinants of marriage with meaningful comparisons.

APPENDIX 1

Means of the covariates used for the discrete-time event history analysis of first marriage: Males and females aged 10-49 in Koriyama, 1729-1870

	Males	Females
Logged local rice price	-0.166	-0.150
Socioeconomic status		
Tanagari	0.127	0.108
Mizunomi	0.547	0.548
Takamochi (<10 koku)	0.145	0.128
Takamochi (>=10 koku)	0.138	0.172
Village officials	0.037	0.039
Number of servants	0.742	1.067
Presence of parents		
Both parents	0.461	0.512
Only father	0.114	0.122
Only mother	0.181	0.174
No parent	0.244	0.191
Sibship size	1.663	1.850
Eldest of the siblings	0.464	0.425
Time period		
1729-1759	0.055	0.029
1760-1799	0.165	0.151
1800-1839	0.374	0.376
1840-1870	0.405	0.444
Age	18.189	15.636
Age squared	394.575	284.684

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