Published in final edited form as:

Chin J Sociol. 2015 December ; 1(4): 515–539. doi:10.1177/2057150X15614547.

Household Context and Individual Departure: The Case of Escape in Three ‘Unfree’ East Asian Populations, 1700-1900

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Abstract

In the past, many people were ‘unfree’ in the sense that their movement was restricted, and out-migration without permission was regarded and recorded as ‘escape.’ Even though such escape was common in the past, historical studies mostly neglect this form of migration. This paper examines escape in historical East Asia, focusing on the influence of household context and individual characteristics on the chances of escape, taking advantage of large-scale individual panel datasets from three adjacent unfree populations from northeast China, southeast Korea and northeast Japan in the 18th and 19th century. We not only find similar temporal, spatial, and age patterns of escape, but also similar patterns of associations between chances of escape and household context. In particular, the presence of dependent children and elderly in the household makes individuals less likely to escape. Other patterns of association also highlight the importance of gender and social class. Despite significant differences in political, social, and community context across these three East Asian populations, our empirical comparisons suggest important commonalities in terms of motivation driven by shared understandings of obligation to others.

Keywords

Unfree Population; Historical Migration; Household Context; East Asia; Comparison

Introduction

In the past, many populations were ‘unfree’ in the sense that the state or other institutions restricted movement.¹ Such restrictions were especially common in East Asia, where states had a long tradition of restricting people to their home communities or regions. Even in contexts where internal migration was largely unregulated, states sometimes limited the movement of specific subpopulations. Nevertheless, published studies of escape in the past focus only on a very specific form: that of slaves from their owners in the southern United States, the Caribbean, and Latin America. Few historical studies have examined patterns or

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¹Worldwide agreements on suppression and abolition of ‘unfree’ or forced labor in fact took place only in the twentieth century, enforced by the International Labour Organization (ILO) Forced Labor Convention, 1930 (No. 29) and ILO Abolition of Forced Labour Convention, 1957 (No. 105).

determinants of escape in non-slave populations whose movement was nevertheless restricted. Restrictions on movement were common. Understanding such escape is important not only because it illuminates a historically common but previously understudied phenomenon, but also because such movement is a historical analogue to contemporary international or internal migration that contravenes laws or regulations. For example, much rural-to-urban migration in contemporary China occurs in contravention of regulations intended to prevent individuals moving away from their place of household registration (*hukou*).

This paper is one of the first attempts to study such escape in ‘unfree’ non-slave populations in a historical non-Western context. We examine escape in three ‘unfree’ but largely non-slave populations from East Asia’s long eighteenth and nineteenth century. These three populations were embedded in different political and social regimes. The first was from what is now Liaoning province in China during the Qing dynasty (1644-1911) and consisted of hereditary tenants on state-owned land. Within boundaries defined by the state, they appear to have been free to move, but were not supposed to leave without permission. The second was from Tansung county in Korea during the Chosun dynasty (1392-1867) and included otherwise free households, as well as low-status bonded individuals called *nobi* who belonged either to the state or to private individuals, and who required permission to emigrate. The third was from villages in northeast Japan during Tokugawa shogunate (1603-1868), where individuals needed official permission to leave their villages.

Escape is amenable to direct comparison across these three settings because it was defined similarly. In all three populations, the state regulated movement. Individuals were only supposed to move with permission. Escape was an administrative category meaning that an individual had left the registration area without permission, escaping from state purview and consequently from the Qing, Chosun, or Tokugawa system of household registration. Indeed, all three registration systems used the same Chinese character to denote escape, though the pronunciation differed: *tao* in Han Chinese, *do* in Korean, and *kakeochi* in Japanese.

For this analysis, we make use of three recently constructed large-scale individual panel datasets from these populations provide 2.4 million observations of 0.4 million unique individuals, 1300 of whom are recorded to have escaped between 18th and 19th century, make possible the comparative study of escape in East Asia. These datasets provide detailed information on individual, household, and other characteristics before and at the time of escape which helps illuminate the decision-making process. Previous studies of migration confirm that escape was recorded similarly, but that the types and details recorded for other forms of migration were diverse. Campbell and Lee (2001) examined escape and legal internal migration in the historical Liaoning population studied here, Tsuya and Kurosu (2010) and Tsuya and Kurosu (2013) examined multiple forms of migration in the Japanese populations studied here, and in this study, and Kim et al. (2013) examined turnover in the Tansung registers.²

²Note that Tsuya and Kurosu translate *kakeochi* as ‘absconding’ in the two studies.

This paper compares the correlates of escape in these populations, identifies commonalities in patterns of behavior, and then assesses the extent to which such behavior agrees with our understanding of the historical past and of family and individual motivations more generally. We pay particular attention to the role of intermediate social units such as the family and household, which are largely unexplored in the existing literature on escape in historical populations. By contrast, contemporary studies of migration emphasize the role of the family and household, either as the context in which individuals make decisions, or as the decision-maker. Our study contributes to the historical literature on ‘unfree’ populations and their resistance to restriction, with new East Asian cases and with particular attention to household context. We organize the remainder of this paper into six parts. First, to help clarify the contribution of this paper and provide context for discussion, we briefly review the literature on escape in historical populations, as well as the literature on migration in historical East Asia. Second and third, we introduce our data and methodology. Fourth, we compute and compare patterns of escape in these East Asian regimes. Fifth, we compare the household and family circumstances surrounding escape. Finally, we assess the plausibility of recorded patterns of leaving and staying, and discuss their implications. In so doing, we not only draw conclusions about data reliability, but also uncover important new clues to the similarity of certain human migration behavior.³

Background

Previous historical studies of escape mostly examine escaped slaves in the Americas and escaped serfs in Russia. These studies make use of information on escapees in public notices and advertisements seeking their return, or in other sources such as court cases. They examine the characteristics of escapees (e.g. Rodriguez, 1997; Drescher and Engerman, 1998), the roles played by macro-level social institutions (e.g. Kraay, 1996; Franklin and Schweninger, 1999) and the micro-level profiles of escaped groups and individuals (e.g. Johnson, 1981). Some qualitative historical research on escape describes struggles due to family breakups in making escape decisions (e.g. Kolchin, 1990), and others emphasize the importance of kinship ties, in particular between couples and between parents and children, among successful escapees (Johnson, 1981; Franklin and Schweninger, 1999). They do not examine the individual, household, or community contextual influences on the chances of escape because available micro-data only describe those who have already escaped, not the larger population of slaves or serfs at risk of escaping.⁴

Escape in these populations may be best thought of as a historical analogue to unauthorized movement in contemporary societies where legal movement at least in principle is also a possibility. Such movements include undocumented movements across international borders, as well as unauthorized internal migration in places such as mainland China where

³The influence of family on individual migration decision-making also has long been recognized by contemporary migration studies (Byod, 1989; Massey, 1990). As a unit of consumption and reproduction, household characteristics like the household age-sex composition and dependency of children and the elderly substantially influence individuals to migrate or to stay (e.g. Harbison 1981; Root and De Jong, 1986).

⁴This is hardly surprising since historical records of escape frequently do not provide systematic information on the family of ‘unfree’ individuals. Most quantitative studies based on advertisements of runaway slaves only focus on escapees, not the ‘unfree’ population in the community that are at risk of escape. Only a few exceptions like the Afro-Louisiana History and Genealogy Database may include family relationship of individual slaves (see <http://www.ibiblio.org/laslave/> for more information).

individuals ostensibly are supposed to remain in the location associated with their household registration (*hukou*), and can change their official residence only with great difficulty. While the literature on such unauthorized movement in contemporary populations is vast, there is almost no comparable literature for historical populations, even though there are many examples where states regulated movement tightly.

The context and implications of escape in these populations also differed. While they may have had less impetus to escape, escape may also have been less risky. With the possible exception of Korean *nobi*, the households and individuals who made up these populations were less unfree than slaves and serfs in the Western context with far more autonomy in family, social and economic activity. There accordingly may have been fewer ‘push’ factors than in the case for serfs and slaves. Conversely, escape may have been less risky. Slaves and serfs were valuable property, and their owners went to considerable lengths to recover them, with the assistance of the state. By contrast, while the East Asian populations were tied to specific places by institutional affiliation and household registration, with the exception of *nobi*, they were not property, and no specific individual or institution had the same strong incentive to pursue them as owners in the West had to recover their escaped slaves and serfs. While these ‘escapees’ might be punished or remanded to their origin if they came to the attention of authorities, attempts to recover them do not appear to have been as systematic as the ones to recover slaves and serfs.

One key difference of the context of escape in the three East Asian populations from that slave and serf populations is that there were also legal options for migration. Overall, the situation appears to be closer to that of contemporary populations in which movement is regulated, and where unauthorized migration is one of several options. For example, in Liaoning, entire households are sometimes recorded as moving from one to another village and even from one to another region in Liaoning without being considered to have escaped (Campbell and Lee 2001). In the Japanese villages, legal migration recorded in the data included individual moves back and forth to nearby market towns where there were economic opportunities, and individual moves to other villages for the purpose of marriage (Kurosu 2004; Tsuya and Kurosu 2013). In Korea, households could move into or out of villages, in which case the origin or destination village was recorded in the register. Because the options for legal movement varied so much, comparison of patterns and determinants is difficult across the settings, leading us to focus exclusively on escape in this analysis.

Data

The three East Asian historical panel datasets we employ in our study consist of linked individual observations from historical population registers compiled as products of past systems of civil, fiscal and military administration (Narimatsu, 1992; Ding *et al.*, 2004; Son, 2007; Lee *et al.*, 2010). The original registers are either annual or triennial. The China Multi-Generational Panel Dataset-Liaoning (CMGPD-LN) records 1.5 million observations of more than 260,000 individuals living in Liaoning Province at Northeast China from 1749-1909.⁵ The Korean Multi-Generational Panel Dataset- Tansung (KMGPD-TS) includes more than 240,000 observations of around 136,000 individuals residing in Tansung County in southeast Korea between 1678 and 1888. The Japanese *Ninbetsu-Aratame-Cho*)

population register database (NAC-SN) consists of around 118,000 observations of more than 6,000 individuals in two northeast Japanese villages Shimomoriya and Niita between 1716 and 1870. Map 1 presents the geographic locations of these study populations.

Previous assessment of the quality and characteristics of these datasets suggests that they are an excellent basis for comparative studies like the one here (Dong *et al.*, 2015). These register data not only provide individual social and demographic information at multiple points in time, but also cover a very large proportion, in some cases all, of the individuals in the community. Importantly, these datasets all allow us to measure household context dynamically, based on the characteristics of each member in each register year. Comparable detailed information on kinship ties is available in all three datasets.

In contrast with the sources used in studies of escaped slaves and serfs, the historical population registers we use here not only record individuals in great detail, but also their family relationships, households and communities. In contrast with sources such as official notices or advertisements which only identify escapees, these sources describe the population at risk of escaping. And because the registers follow individuals across time prospectively, we are able to use ‘current’ individual characteristics, household and social contexts to explain such ‘future’ events as the incidence of escape.

While we assume for the most part that the behaviors recorded in the registers are real, we acknowledge that the extent to which such administrative records reflect lived social reality is subject to debate. This is especially the case for Chosun Korea.⁶ Thus when interpreting results, we remain open to the possibility that certain observed patterns may be creations of the registration system, in particular the interplay between not records of actual behavior. Our premise is that the better the fit between expected and observed behavior, the more likely the recorded behavior is real, and the more likely that these historical population records in fact record past social as well as administrative realities.

The CMGPD-LN is transcribed from Eight Banner population registers (Lee *et al.*, 2010). The Eight Banner system was a separate civil and military administrative system organized by Qing to govern the Manchurian and Mongolian provinces in Greater North and Northeast China, as well as the Qing garrison populations in China Proper (Lee and Campbell, 1997). The vast majority of the populations recorded in the CMGPD-LN were descendants of Han Chinese migrants who migrated to Liaoning from Shandong and Hebei province in north China in the decades following the founding of the Qing dynasty (Ding *et al.*, 2004). These residents were organized first by their affiliation with administrative populations that had different social and political statuses. Within each register, they were organized by village of residence and then household. Within the household, the register not only specifies the relationship of each member to the household head but also lists spouses and their children together, which facilitates the identification of kinship between individuals in the household.

⁵See <http://www.icpsr.umich.edu/icpsrweb/CMGPD/> for the CMGPD-LN. The data and associated documentation are publically available at the Inter-University Consortium for Political and Social Research.

⁶While numerous studies of specific Qing and Tokugawa populations document a strong link between the administrative record and lived lives (e.g. Lee and Campbell, 1997; Bengtsson *et al.*, 2004; Ding *et al.*, 2004; Tsuya *et al.*, 2010), some historical studies of Chosun population and society, including specific studies of the Tansung population, question the value of these administrative records for understanding actual social organization and behavior (e.g. Kim, 2001; Household Register Working Group, 2003).

By the KMGPD-TS, we refer to a linked Korean Tansung dataset we produced by longitudinal and kinship linkage of records from Tansung data files transcribed and distributed since 2003 by researchers at Sungkyunkwan University.⁷ This linkage was a hybrid of automated and labor-intensive manual procedures: we used software to identify candidate links that we gave to our data entry personnel for detailed examination and adjudication. For the subset of the Tansung data for which surviving registers were adjacent or nearly adjacent, this resulted in a dataset that supports longitudinal analysis.⁸ Researchers at Sungkyunkwan University produced the original Tansung Household Register data files by transcribing local government household registers (*hojok*) from Tansung County (*hyun*) in what is now South Korea (Park and Lee, 2008). There were separate register series for eight sub-areas, *myeon*, of the Tansung County. In each *myeon*, individuals were further grouped in descending order by village (*ri*), household groups (*tong*), and household (*ho*). Because such inclusion was based on administrative jurisdiction of residence, the Tansung registers only observe people who actually resided in Tansung or who were recorded as just having left Tansung. While the Tansung registers record the relationship to the household head, they do not list spouses and children next to husbands and fathers, thus detailed kinship within and outside the household in the KMGPD-TS are harder to identify than in the CMGPD-LN.

The NAC-SN is transcribed from local population registers compiled separately for two villages, Shimomoriya and Niita, located in present-day Fukushima prefecture in northeastern Japan (Hayami, 1979; Narimatsu, 1985; Narimatsu, 1992). The population in these two villages were predominantly peasants. Each year, usually around the third lunar month, officials registered the residents in these villages and recorded any vital event that had happened to that individual during the last twelve months. The registers grouped individuals by household, and recorded their relationship to the household head as well as complete information of their household landholding (*mochidaka*). Such information measured (in *koku*) as expected yield served as the basis for tax assessment, and correlate in a very general sense with household wealth (Tsuya and Kurosu, 2013).

In all three datasets, escape referred to departure from the administrative unit or location of residence without permission. Because our data are transcribed from population registers that cover residential communities, we have longitudinal information about individuals who reside in the community. Whereas for legal migrants we have information about their destination, and in the case of CMGPD-LN legal migrants continue to be recorded in their destination village, for escapees in all three settings we only have information up to the point in time when they escape. Departures without permission are annotated as such, but since individuals are by definition no longer within the purview of the registration system, we have no further information about their destination or outcomes. Thus while our data provide detailed information about individuals at risk of escape and identify those who did

⁷We are grateful to researchers at Sungkyunkwan University for providing access to these data. The data files were firstly distributed on CD-ROM and now are also available online at <http://ddmh.skku.edu/>.

⁸The linked KMGPD-TS identifiers are available from the authors upon request. These can be merged with the Tansung Household Register data files available from Sungkyunkwan University to create longitudinal data.

escape, we do not know what happened to them after they escaped, and are unable to study the consequences of escape.

Moreover, those who were considered at be at risk of escape differed by population. In the CMGPD-LN, the registers only record escape for males. It is unclear whether any females escaped, either on their own or in the company of their husband. In the KMGPD-TS, the registers recorded escape for both males and females, but the overwhelming majority of escapees are from the servant population referred to as *nobi*. In the NAC-SN, escape was recorded for both males and females without apparent restrictions based on social status or identity.⁹ While the unfree population in these communities may well have included other population categories, these data restrictions define the population at risk in this paper.

Methods

To examine how individual characteristics, household context, and other socio- economic factors influence the chances of escape, we employ discrete-time event- history analysis via logistic regression (Allison, 1984). Our outcome variable is a dichotomous indicator variable that is 1 or 0 according to whether the indexed individual is recorded as escaped in the immediately following register. The format of the data require the use of discrete-time methods because they only record that an escape occurred in the interval between two registers, but do not provide the exact date. Application of continuous-time methods would require information on the exact time of escape. The prospective as opposed to retrospective nature of the data enables us to use ‘current’ circumstances to explain ‘future’ outcomes without being concerned about that recall or survival bias that affects retrospective data. The detail on the time ordering in the data helps rule out reverse causality as an explanation for most observed associations: we can be confident that observed characteristics preceded escape, not vice versa. To take account of correlation between individuals within the same household, we adjust standard errors of all our estimations for clustering at the household level.

We apply a variety of restrictions to the data to produce our analytic sample. Because individuals must be at risk of escape in our analysis, we only consider observations of individuals who are recorded as alive and present in the register. Accordingly, we excluded all individuals who are already listed as escaped, including those who were already annotated as escaped the first time they appear in the registers. As noted earlier, concerns about the recording of escape among children and adolescents in CMGPD-LN and KMGPD-TS lead us to restrict our event-history analysis to adults who are aged 15-54 *sui*.

¹⁰ Because discrete-event history analysis requires detail on whether or not escape occurred during a subsequent time interval of fixed length, we only use observations if the immediately succeeding register in which an escape would have been recorded is also available.

¹For discussion on the forms of out-migration in NAC-SN, see Kurosu (2004) and Tsuya and Kurosu (2010).

¹⁰Here *sui* (in Chinese) / *sai* (in Japanese) / *se* (in Korean) is a traditional way to calculate age in China as well as other East Asian societies. For simplicity, we use *sui* in the text. A person is aged 1 *sui* at birth and is one year older after each lunar new year.

Additional restrictions are specific to particular datasets. For the CMGPD-LN, we exclude data before 1789 since before this date we cannot differentiate households, only household groups. We also include only males, since only they were eligible to be recorded as escapees. As a result, our CMGPD-LN analytic sample includes 296202 observations for 82058 males, of whom 460 escaped. As noted earlier, we restrict our KMGPD-TS analytical sample is restricted to *nobi*, since only they were at risk of being recorded as escapees. The sample includes 12132 observations for 8718 male and female *nobi*, of whom 610 escaped. Our NAC-SN analytic sample includes 48568 observations for 3468 individuals, of whom 213 escaped.¹¹

We estimate three sets of models. Our first is a simple model that includes basic individual characteristics such as age and where relevant sex, general household contextual measures as number of co-resident children, adults, and elderly, and other socio-economic contextual variables. Our second tests whether specific kin ties were especially important in determining the chances of leaving or staying. It contrasts effects of individual's own children and parents with effects of other children and old people in the household, and compare between genders. Our final set of models examines whether and to what extent those observed associations between household context and individual departure vary by changing external economic conditions and household socio-economic status.

Our most important explanatory variables consist of general or relation-specific household context measures that are intended to illuminate the role of kinship ties in influencing the chances of leaving or staying. By general household context measures, we refer to number of children (1-14 *sui*), adults (15-54 *sui*), and old people (55-74 *sui*) in the household. For the KMGPD-TS, as only the servile population, *nobi*, are at the risk of escape, we count number of adult *nobi* in the household while the measures for children and old people are the number of all children or old people in the household, regardless *nobi* or non-*nobi*.

To construct the relation-specific household context measures, we distinguish between own children and other children, and between own parents and other elderly household members. Specifically, we have separate count variables for own children, other children in the household, own parents, and other elderly people in the household, respectively. Interpretation of results for this variable in the KMGPD-TS requires special care. In that dataset, the relationship details recorded for many *nobi* don't distinguish between own children and other children. In other words while we can distinguish between *nobi* and non-*nobi* children and between *nobi* and non-*nobi* adults, we cannot identify with confidence which *nobi* adults are the parents of which *nobi* children, which means that the estimates we present here represent lower bounds on the effects of the variables in question.

We also include control variables to account for selected individual characteristics, household socio-economic status, and such socio-economic context measures as village size, regional characteristics, time trend, and economic fluctuations. To control for individual

¹¹Most individuals escaped alone. There are less than 8 percent of escaped males in the CMGPD-LN, around 25% of escaped *nobi* in the KMGPD-TS, and 25% of escaped peasants in the NAC who were together with other individuals from the same household, of whom in the latter two datasets most were females with husbands and/or children. Even escaping with someone else, they still left other members in the registered household. Hence we consider escape as a departure behavior of individuals.

characteristics, our estimations include dichotomous variables for gender and whether or not the individual has been married, and a quadratic expression for age.

Our controls for household socio-economic status differ by dataset because the relevant details available differ. In the CMGPD-LN, we use number of salaried official positions held by members of the household. By salaried official positions, we refer to soldiers, artisans, and officials who receive regular salaries from the state. This has been used as an indicator of socio-economic status in previous studies on CMGPD-LN data (e.g. Lee and Campbell, 1997; Campbell and Lee, 2011; Dong and Lee, 2014). For the KMGPD-TS, the *nobi* population we analyze were already at the lowest rung of Chosun society, and we control for their socio-economic characteristics by using the social status of the heads, virtually their masters, in three strata: high, middle, and low, which is also common in studies based on Korean household register materials (e.g. Kim, 2009; Son and Lee, 2010). For the NAC-SN, we include a continuous variable for household landholding to account for household socio-economic status. Such detailed information has also been employed as an indicator for identifying household socioeconomic status in previous research (e.g. Tsuya and Kurosu, 2013).

We also include controls for characteristics of the community and region. We included logged village population size to account for the possibility that escape chances varied systematically between larger and smaller communities. Fixed effects of different regions are introduced to account for any unobserved regional differentials that may influence the incidence of escape. Specifically, they are four regions – north Liaoning, central Liaoning, central south Liaoning, and south Liaoning – in the CMGPD-LN, eight sub-county areas (*myeon*) in the KMGPD-TS, and two villages, Shimomoriya and Niita, in the NAC-SN. We also include year as a continuous variable to account for secular trends in the chances of escape.

To account for economic fluctuations, we include time series of grain prices. In preindustrial populations, grain prices were a key indicator of economic stress. High grain prices generally reflected poor harvests and economic hardship for most farmers, including those who grew for their own consumption. For the CMGPD-LN and NAC-SN, we follow previous studies and use logged 3-year average sorghum and rice prices (e.g. Lee and Campbell, 1997; Tsuya and Kurosu, 2010). For the KMGPD-TS, we calculate the 3-year average deviation of the rice price from the 3-year moving average, which has been used by Jun and Lewis (2004) to classify harvests.¹²

Descriptive Results

The populations differed in terms of the overall frequency of escape, and there was pronounced spatial variation within each population as well. In the CMGPD-LN, around 2 percent of males escaped. In the KMGPD-TS, around 7 percent of male and female *nobi* escaped. In the NAC-SN, more than 6 percent of male and female peasants escaped. In Liaoning and Tansung, the frequency of escape also varied spatially, while the pattern is

¹²Jun and Lewis (2004) summarize the annual price of paddy and polished rice for Kyongsang-do and Cholla-do from 1713 / 1742 to 1900. See <http://www.iisg.nl/hpw/data.php#korea>.

unclear in the two villages Shimomoriya and Niita given their limited spatial coverage. Men in northern Liaoning were more likely to escape, presumably because of their proximity to more remote frontier provinces, Jilin and Heilongjiang. In Tansung, escape was more frequent in more urban *myeon* such as Shindeung, the previous county center.

In all three populations, as shown in figures 1, 2 and 3, rates of escape fluctuated substantially over time, and peaks were largely consistent with the timing of major climate shocks. The peaks of escape in the CMGPD-LN in 1780s and 1810s occurred during periods in historical Liaoning characterized by cold summers and associated poor harvests (Campbell and Lee, 2010). The relatively large numbers of escape from the 1720s to the 1790s in the KMGPD-TS also coincided with the high frequency of abnormal natural phenomenon in the Korean peninsula (Yi, 2013). Similarly, the two peaks in NAC-SN during the 1780s and 1830s coincide with two severe famines in Japan: *Tempo* and *Tenmei* (Tsuya and Kurosu, 2010). The fit with climatic fluctuations and associated poor harvests suggests that the records of escape in these registers reflects real behavior.

While the age distributions of escapees are broadly similar across the three populations, with peaks in the 30s and 40s, differences in the frequency of escape among teenagers led us to restrict our analysis to individuals who were 15 or older. According to figures 4, 5, and 6, far fewer teenagers escaped in Liaoning than in Tansung and Shimomoriya and Niita. The relative lack of young escapees in Liaoning may reflect the fact that males only started to be recorded as adult males eligible for labor (in Han Chinese, *ding*) and therefore at risk of being considered escapees when they were in their late teens. Indeed, the fact that only in the NAC-SN data were there appreciable numbers of child escapees demonstrates the differing emphases of the registers: in Liaoning and Tansung the registers focused more on tracking adults who provided labor or tax, while in Shimomoriya and Niita the registers tracked individuals for a much wider range of purposes. Because of our concern that there may have been children who escaped in CMGPD-LN and KMGPD-TS but were not recorded as such, we focus on adult escapees (15 *sui* and above) in our following analysis.

Results of Event-history Analysis

Household context

The results for our first set of models, which examine the influence of aggregate characteristics of the household, reveal that basic features of household context all influence the probability of escape, and that patterns of influences are broadly similar across populations. According to the results in table 1, the number of dependent kin matters. Individuals who live in households with more dependent kin are less likely to leave, suggesting that the obligation to care for such dependent kin discourages individuals from leaving. The results for children indicate that the more co-resident children there were, the lower the probability that an adult will escape. The number of elderly in the household has an effect in the same direction, but its magnitude is smaller.

Household labor capacity, measured as the number of working age adults, also influences the probability of escape. In the NAC-SN, the number of adults in the household is inversely associated with the chances of escape. The association in the CMGPD-LN is in the same

direction, but the magnitude is smaller, and the effect is not statistically significant. Other studies suggest that in our study Chinese and Japanese populations, larger households tended to be wealthier households (Lee and Campbell, 1997; Tsuya and Kurosu, 2013). Their members may therefore have had less incentive to escape. Among the KMGPD-TS *nobi*, however, the number of working age adults had the opposite effect: it was positively associated with the chances of escape. This may reflect the relatively low status of the *nobi*. As subordinate members of the household, they may not have shared in the benefits associated with being in a larger household. Alternatively, if larger households were also wealthier, they may have been less dependent on individual *nobi*, and may have been less concerned about preventing them from leaving.

Effects of household socioeconomic status were diverse, but differences are difficult to interpret because status was measured differently across the three settings. As noted earlier, for the CMGPD-LN and KMGPD-TS, the available measures of status are indicators of whether members of a household held official positions. In the NAC-SN, the available measure of status is landholding. In the CMGPD-LN, the number of salaried positions held by members of the household had little or no influence. In the KMGPD-TS, Tansung *nobi* from households of higher social status head were more likely to escape. This is consistent with the effects observed for larger and presumably better-off households. High status households usually own more *nobi* than low status households, and may have monitored them less intensively. In the NAC-SN, household landholding was inversely associated with the likelihood of escape. Property, in other words, made individuals less mobile.¹³

Age, gender, marriage, and grain price effects exhibited many similarities across the three settings. Where data on female escape was available, in the KMGPD-TS and NAC-SN, females were less likely to escape than males. Where data on marital status were available, in the CMGPD-LN and NAC-SN, married individuals were less likely to escape than unmarried individuals. Age patterns of effects were similar in the CMGPD-LN and NAC-SN, but there were no clear age effects among the *nobi* in the KMGPD-TS. Grain prices also had similar effects in the CMGPD-LN and the NAC-SN: individuals were more likely to escape when grain prices were high. In the KMGPD-TS, grain prices had no effect. Because of the restrictions *nobi* faced, they may have had little incentive to migrate in response to bad times.

Household context from an individual perspective

Results for our second set of models, which examine the influence of household context from the perspective of the individual, reveal differences between regular and servile populations and between males and females. In table 2, the effects of number of own children in the CMGPD-LN and NAC-SN are the strongest and most consistent. In all three populations, individuals are less likely to escape if they have children in the household. Thus coefficients are statistically significant and negative among males in the CMGPD-LN and

¹³Following previous studies of migration in Japanese historical populations (Tsuya and Kurosu, 2010; Tsuya and Kurosu, 2013), we also experimented with the categorical socio-economic status variable *mibun*, which categorized individuals into different social groups by their entitlement to land. The estimated results are very similar to our main results in that higher social status as reflected in entitlement to land substantially reduces chance of escape.

both male and female peasants in the NAC-SN. Even though effects for the male and female *nobi* in the KMGPD-TS are not statistically significant, the direction is the same.

Regular and servile populations differed in terms of the effects of the presence of other children in the household. In the CMGPD-LN or the NAC-SN, the number of other co-resident children did not influence escape chances. This is not surprising. Other co-resident children typically were cared for by their own parents, and it is unlikely that the index individual would be their primary caregiver. However, among the *nobi* in the KMGPD-TS, other co-resident children affected escape behavior. Both male and female *nobi* tended to stay when there were more children of non-*nobi*. These co-resident non-*nobi*, of course, were their masters. While masters with dependent children who need care may have monitored their *nobi* more closely, it is also possible that *nobi* were motivated to stay by a sense of obligation to the family, or a feeling of affection for the children. The effect of the presence of master's children on *nobi* escape chances is especially interesting because their relationship is based not on kinship, but rather on class.

When it came to the effects of parents and other co-residing elderly, once again there were differences between regular and servile populations.¹⁴ In the regular populations, males were more responsive than females to the presence of parents: having parents in the household substantially reduces the possibility of escape among males in the CMGPD-LN and NAC-SN. For females, in both the NAC-SN and KMGPD-TS, there is no substantial difference in their escape, no matter how they live with own parents or other elderly.

Numbers of other co-residing elderly had contradictory effects in CMGPD-LN and KMGPD-TS: they increased male escape chances in the CMGPD-LN, but lowered them in the KMGPD-TS. Again, the non-*nobi* elderly in the KMGPD-TS were the masters of the *nobi* included in the analysis. As was the case with the effects of children, *nobi* escape behavior was shaped by their class relation with their masters, not by kinship ties.

Finally, we examine whether patterns of household contextual effects vary in response to economic fluctuations and levels of household socio-economic status. We find that patterns of household contextual effects are very similar for households of different levels of socioeconomic status, and do not vary in response to economic fluctuations. Table 3 summarizes our tests of fifteen separate models that build on the models we estimated and reported in table 2. The new models introduce additional interactions between relationship-specific household context measures, household socio-economic status and grain price. We also estimate the joint statistical significance of interaction effects by Wald test if there are multiple interaction terms in the model. Overall, in all three populations we find little evidence of interactions between household context and economic fluctuations measured by grain prices. In the KMGPD-TS and NAC-SN, we find household contextual effects vary by household socio-economic status to the extent that their interaction terms are jointly

¹⁴For the CMGPD-LN and NAC-SN samples, we also examined whether individual's relative position in the household, measured as relationship to household head, confounds effects of household contextual variables included in our main models in table 2. While for the NAC-SN males, the closer the indexed individual to his household head, the less likely to escape, for the NAC-SN females and CMGPD-LN males, there are no obvious patterns of 'escape' according to relationship within the household. However, even after controlling for this measure, our main findings persist.

statistically significant. But household socio-economic status just moderates effects of one or two household context measures on chance of escape, and such interactions are inconsistent between genders and populations. Last, but of perhaps greatest interest, we find that there is no interaction effect between external economic conditions and household socio-economic status across all these three populations.

Conclusion and discussion

The most basic conclusions from this study are not only that the recording of escape in the Liaoning, Tansung and Shimomoriya and Niita historical population registers, but that there are commonalities across the settings in the role of key determinants. Basic patterns of escape probabilities are plausible: our descriptive statistics demonstrate similar temporal, spatial and age distributions of escape across a variety of ‘unfree’ populations. The similarity of some of these basic patterns is remarkable in light of the considerable differences in the contexts of the population. Despite significant differences in political regimes, populations, social identities and social contexts, our event-history analysis further reveals that household context in all three East Asian historical populations is not only crucial, but also similar in influencing the pattern of individual departure as escape. Living with dependent children and the elderly makes individuals more likely to stay rather than to escape, even if their relationship is rooted not in biological kinship but in social class. In contrast to a story purely driven by self-interest, such empirical results identify important commonalities in the shared understandings of obligations to others that shape individual departure behavior.

At the same time, the influence of household context on escape differs by gender and by regular/servile status. Although the presence or absence of co-resident children influenced escape probabilities for males and females, only males responded to the presence or absence of the elderly. Such gender differences may reflect the patriarchal nature of these East Asian societies. Moreover, while the chances of escape among ordinary adults in the CMGPD-LN and NAC-SN are influenced by the presence or absence of their own parents, ‘escape’ chances among the *nobi* in the KMGPD-TS are associated with co-residence with their masters, not with other *nobi* elderly. Overall, these differences within broader similarities highlight the importance of understanding specific social situations and relations. Our study also contributes to a better understanding of the relationship between household context and individual departure in past times. By focusing on a relatively extreme outcome, escape, we are able to identify a variety of family-centered considerations in the decision making process. Because escape was by definition illegal, individuals who escaped seldom returned. This severed their ties with their families. In other words, while the decision to escape may have been motivated by personal utility, the decision to stay was influenced by obligations to others. Overall, our findings imply substantial differences in departure behavior between those with kinship or other ties, and those who were ‘marginal’ and isolated.

The tendency for family obligation to reduce the chances of unauthorized movement is a striking contrast with patterns in contemporary societies, where family obligation is often a reason for migration that contravenes regulations. In these societies, adults with dependents did not leave them. Those who escaped tended to be individuals with fewer obligations to

kin. By contrast, in many contemporary societies, the need to provide financial support to dependents is a major reason for unauthorized international migration or in the case of China, rural-to-urban migration in contravention of *hukou* regulations. Young adults in settings where economic opportunities are few but obligations to kin are many seek opportunities elsewhere, and send remittances back.

Finally, this study serves as an example of how examination of ‘rare’ outcome variables in very large social and demographic datasets can contribute to general social scientific inquiry. Such systematic consideration of rare outcomes in historical populations has only become possible recently with the creation of large databases from household registers and other materials (Dong *et al.* 2015). Without such large panel data we could not identify enough rare events to compute descriptive statistics, let alone carry out examine their relationships to community, household, and individual characteristics. Comparability across different datasets used here further makes it possible to compare similarities and differences in the determinants of these rare outcomes between the populations under consideration.

Acknowledgements

Earlier partial versions of this paper were presented at the 2012 and 2013 annual meetings of the Social Science History Association, at the XXVII (2013) International Union for the Scientific Study of Population International Population Conference at Busan, at the 7th PhD Conference in Economic Demography at Lund University, and at the Sociology of Consumers and Households research seminar at Wageningen University. We thank Tommy Bengtsson, Martin Dribe, Jadwiga Pieper Mooney, Zhongwei Zhao, and audience members for their comments and suggestions.

Preparation of the China Multi-Generational Panel Dataset-Liaoning (CMGPD-LN) and associated documentation for public release via ICPSR DSDR was supported by NICHD R01 HD057175-01A1 “Multi-Generation Family and Life History Panel Dataset” with funds from the American Recovery and Reinvestment Act. This research was also supported by the Hong Kong Research Grants Council Project No. 642911 “Differentiating Community and Family Contextual Influences on Socioeconomic Attainment and Demographic Behavior: Shuangcheng, 1855-1911,” and the Hong Kong Research Grants Council Project No. 16400714 “Human Agency and Population Behavior in Historical and Comparative Perspective: New Discoveries from East Asian Panel Data.”

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Map 1.

Geographic locations of the three historical populations in East Asia

Figure 1.
Temporal (decadal) distribution of ‘escapes’ and observations in the CMGPD- LN

Figure 2.
Temporal (decadal) distribution of 'escapes' and observations in the KMGPD- TS

Figure 3.
Temporal (decadal) distribution of 'escapes' and observations in the NAC-SN

Figure 4.
Age distribution of 'escapes' in the CMGPD-LN

Figure 5.
Age distribution of 'escapes' in the KMGPD-TS

Figure 6.
Age distribution of 'escapes' in the NAC-SN

Effects of individual characteristics and household and social contexts on individual's probability of escape by next register, 15-54 sui⁷

Table 1

	CMGPD-LN		KMGPD-TS (<i>nobi</i>)		NAC-SN	
	Odds Ratio	P-value	Odds Ratio	P-value	Odds Ratio	P-value
<i>Individual characteristics</i>						
Female	-	-	0.711	0.000	0.709	0.006
Ever married	0.379	0.000	-	-	0.686	0.076
Age	1.272	0.000	1.023	0.428	1.259	0.000
Age ²	0.997	0.000	0.999	0.235	0.996	0.000
<i>Household contexts</i>						
No. of children (1-14)	0.833	0.002	0.889	0.038	0.788	0.035
No. of old people (55-74)	0.960	0.405	0.934	0.144	0.950	0.671
No. of adults (15-54) ²	0.968	0.125	1.048	0.011	0.687	0.000
No. of salaried positions in household	1.155	0.352	-	-	-	-
Status of household head (ref.: High)						
Middle	-	-	0.443	0.000	-	-
Low	-	-	0.043	0.000	-	-
Household land holding	-	-	-	-	0.932	0.000
<i>Social contexts</i>						
Grain price	1.573	0.001	1.040	0.661	3.261	0.000
Log (village population)	0.976	0.520	1.039	0.637	0.010	0.000
Year	0.950	0.000	0.990	0.000	0.997	0.340
Regional fixed effect ³	controlled		controlled		controlled	
Log like lihood	-2924.896		-2143.572		-1219.855	
Pseudo R ²	0.158		0.114		0.109	

	CMGPD-LN		KMGPD-TS (<i>nobi</i>)		NAC-SN	
	Odds Ratio	P-value	Odds Ratio	P-value	Odds Ratio	P-value
N	296202		12132		48568	

Notes :

- ¹Dependent variable: Escape by next register (yes=1; no=0). For CMGPD-LN and KMGPD-TS, this refers to escape in next 3 years, while for NAC this indicates escape in next 1 year. Standard errors are adjusted for clusters at household level.
- ²For KMGPD-TS, this variable refers to number of adult nobi in household.
- ³Specifically, for CMGPD-LN, we control fixed effects of 4 regions; for KMGPD-TS, we control fixed effects of 8 myeon; for NAC, we control fixed effects of 2 villages.

Effects of re fined house hold context measures on individual's probability of escape by next register, 15-54 sui¹**Table 2**

	CMGPD-LN		KMGPD-TS				NAC			
	Male		Male		Female		Male		Female	
	Odds Ratio	P-value	Odds Ratio	P-value	Odds Ratio	P-value	Odds Ratio	P-value	Odds Ratio	P-value
No. of own children [nobi children] ²	0.381	0.000	0.895	0.201	0.949	0.473	0.666	0.008	0.689	0.021
No. of other children [non-nobi children] ²	0.985	0.788	0.760	0.065	0.719	0.020	1.191	0.277	0.845	0.463
No. of own parents [old nobi] ²	0.703	0.000	0.867	0.128	0.963	0.690	0.701	0.028	0.839	0.474
No. of other old people [old non-nobi] ²	1.107	0.064	0.793	0.026	1.080	0.426	1.190	0.256	1.049	0.769
No. of adults in household ²	0.933	0.003	1.022	0.370	1.066	0.018	0.647	0.000	0.735	0.003
Other controls	Yes		Yes		Yes		Yes		Yes	
Log like lihood	-2881.0049		-845.96835		-1275.9905		-732.296		-473.892	
Pseudo R ²	0.171		0.152		0.098		0.117		0.119	
N	296202		4428		7704		24141		24427	

Notes :

¹ Dependent variable: Escape by next register (yes=1; no=0). For CMGPD-LN and KMGPD-TS, this refers to escape in next 3 years, while for NAC this indicates escape in next 1 year. Clustered standard errors are adjusted at household level.

² For KMGPD-TS, as we cannot fully identify inter-personal relationship between nobi, here we alternatively distinguish nobi children or old people from non-nobi children or old people. The number of adults in household refers to number of adult nobi.

Table 3

Interaction effects between house hold context, household socio-economic status, and grain price on probability of escape

	CMGPD-LN		KMGPD-TS		NAC-SN	
	Male		Male	Female	Male	Female
Panel A: Interaction with Grain price						
No. of own children	0		0	0	0	0
No. of other children	0		0	0	0	0
No. of own parents	0		0	0	0	+
No. of other old people	0		0	0	0	0
No. of adults	0		0	0	0	0
Wald test of joint significance:						
Chi ² (5)	2.18		5.27	2.37	2.82	5.41
Prob > Chi ²	0.8216		0.3840	0.7960	0.7270	0.3683
Panel B: Interaction with Household Socio-Economic Status						
No. of own children	0		-	0	-	0
No. of other children	0		0	0	0	-
No. of own parents	0		0	+	0	0
No. of other old people	0		0	+	0	0
No. of adults	0		+	0	0	0
Wald test of joint significance:						
Chi ² (5)	3.44		18.38	16.53	12.27	10.39
Prob > Chi ²	0.6317		0.0025	0.0055	0.0313	0.0649
Panel C: Interaction with Household Socio-Economic Status						
Grain price	0		0	0	0	0

Notes :

1 "0" : Coefficient is not statistically significant and different from 0; "+" : Statistically significant and positive coefficient (p < 0.1); "-" : Statistically significant and negative coefficient (p < 0.1).

2 Each panel reports separate model estimations by population and by gender, concerning one set of interactions of interest.

Appendix table 1

Mean and number of observations in the event-history analysis of escape¹

	CMGPD-LN	KMGPD-TS	NAC-SN
<i>Outcome variable</i>			
Escape by next one or three years	0.002	0.050	0.004
<i>Individual characteristics</i>			
Female		0.635	0.503
Ever married	0.690		0.893
Age	32.332	33.733	33.255
<i>Household contexts</i> ²			
Total no. of children (1-14) in the household	2.374	0.951	1.255
Total no. of old people (56-75) in the household	1.491	0.874	0.674
No. of own children in the household	0.388	0.509	0.760
No. of other children in the household	1.986	0.442	0.495
No. of own parents in the household	0.928	0.388	0.469
No. of other old people in the household	1.020	0.486	0.461
No. of adults (15-54) in the household	8.760	3.644	3.277
No. of salaried positions in household	0.140		
Status of household head			
High		0.667	
Middle		0.113	
Low		0.220	
Household land holding			11.748
<i>Socio-economic contexts</i> ³			
Grain price	-0.560	0.287	-0.190

	CMGPD-LN	KMGPD-TS	NAC-SN
Logged village population size ³	5.532	4.628	5.987
Number of 'escapers'	460	610	213
Number of total individuals	82058	8718	3468
Number of total observations	296202	12132	48568

Notes :

- ¹ All three analytical samples consist of individuals who are 15-54 *sui*. The CMGPD-LN sample only include males. The KMGPD-TS sample include both males and females but only those who are *nobi*. The NAC sample includes all males and females.
- ² For the KMGPD-TS, due to data limitations, own children/parents refer to nobi children/old people, other children/old people
- ³ While not reported here, our socio-economic context measures also include regional fixed effects and time trend.