A Life-Course Study on the Migration Biographies of Russians

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ABSTRACT:
Migration in any context may be approached from myriad perspectives and with varied techniques; in this study, we examine migration in Russia using the life-course perspective. We investigate two core issues: the factors of migration and the position of migration in the Russian life course. In addition, we perform data exploration and assess at what stage of the Zelinsky mobility transition model Russia is. We use exploratory analytical tools and life-course analytical methods such as event history analysis (EHA) and sequence analysis (SA) in this study. The exploratory data analysis (EDA) and EHA reveal interesting, albeit in some cases contradictory, results.

We find that Russians are not very mobile, particularly in large cities; movement more often occurs in mid-sized cities and towns. One intriguing observation is the prevalence of what may well be return migration to rural areas among women born in 1990-1995. Furthermore, the military is shown empirically to be a major factor; in all, we find that enlistment, sex, generation, and type of education are significant factors in migration, with soldiers, women, younger generations, and those with higher education exhibiting higher likelihoods of migration.

The SA results show that migration is often positioned as a starting event in Russians biographies; more interestingly, it is also positioned to work potentially as a deferment or avoidance tool (e.g., draft avoidance). Our observations and test results lead us to conclude that Russia is at the "advanced society" stage of the Zelinsky mobility transition model.

KEY WORDS:
Russia, migration, life course, exploratory data analysis, event history analysis, sequence analysis

Introduction

Being the most dynamic type of demographic behavior, migration has often proven an enigmatic phenomenon to grasp and analyze. The challenges of studying such dynamism are compounded in world regions which themselves experience great shifts or revolutions. Russia, where great upheaval and mass migrations as part of and resulting from the dissolution of the Soviet Union remain a painful memory for many, is such a world region where migration processes are far from simple or one-dimensional. This study is one attempt out of many to make some sense of the dynamism of Soviet Russian and modern Russian migration. In this paper, we apply the life-course approach to the study of Russian migration.

The research goals of this study are to explore the given data to better understand them in general, to explicate migration as a life-course concept via the key research problem, and to assess at what stage of the Zelinsky mobility transition model Russia is. The key research problem concerns two features of migration: the factors of migration in the Russian life course and the position of migration within the Russian life course. In addition, Russia's position in the Zelinsky mobility transition model, as interpreted from the life-course perspective, is a secondary research problem. Reframed, the research problems become the following research questions: what are the factors of migration in the Russian life course, what is the position of migration within the Russian life course, and where does Russia lie in the Zelinsky mobility transition model? To put the first two questions in slightly different terms, what influences the likelihood of migration, and how does that migration fit sequentially in the life of a person? Before discussing our own approach to these questions, we should examine the pertinent literature on migration and the life course.

Theoretical framework of the life-course concept of migration

Review of the pertinent literature

The discourse on voluntary human migration logically concerns the factors of migration. Perhaps most fundamental, then, is Lee's (1966) origin and destination factor model, whereby individuals move based on a series of factors pushing them from a place of origin and pulling them to a potential destination, alongside personal factors – e.g., life-course stages and transitions – and a series of intervening obstacles between the two places.

Among the myriad approaches to the study of migration, we focus on three: geographical, economic, and social (or socioeconomic) approaches. For each of these approaches, the general body of theory on migration provides either a foundation or a point of contrast for the life-course literature on migration. In addition, we examine some of the literature dealing specifically with the Soviet Union and Russia.

The geographical approach to migration in general was developed rather early: both Ravenstein (1885, 1889) and Stouffer (1940) examine the relationship between movement and distance. The former concluded that rural inhabitants are more mobile than their urban counterparts; some of the other economic literature concentrates on rural-urban migration (Todaro 1969, 1980; Harris and Todaro 1970). In comparing the modernization of migration processes to the demographic transition model, Zelinsky (1971) shows that migration evolves in form and frequency (e.g., from frontier and rural-urban to circular and inter/intra-urban) and increases in complexity as societies modernize from traditional to super-advanced societies. Mobility in Russia has already been found to be quite low, showing a downward trend through the 1990s and only a tenuous increase in the 2000s (Zakharov and Surkov 2009).

In the life-course literature on migration, ties to place and one's context constitute the foremost geographical factors. Migration behaviors reflect the association of life stages and life transitions with place (Ní Laoire 2008). Among retirees, location of previous residence or birth and proximity of friends and family members influence migrants' destination choices (Haas and Serow 1997). Those in late midlife who are have a long history of living on a single property usually expect to stay in their current abode, whereas

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those with weaker ties to their property more often expect to move around retirement (Robison and Moen 2000).

A migrant's immediate context matters as well. In the case of university-educated Americans, the spatial-demographic setting of such individuals affects whether they will move out of an urban zone (Whisler et al. 2008). Even when it comes to transportation use behavior, whether for commutes or other purposes, spatial context is a significant factor (Scheiner and Holz-Rau 2012).

In the Soviet Union, the nature of industry-led urbanization was such that urban planning and development (e.g., territorial-industrial complexes) would attract migrants, thus requiring more urban planning and development, thus attracting more migrants, and so on (Perevedentsev 1975). Soviet Russians urbanized in a stepwise progression from rural areas to cities: the goal was residence inside a regional capital or major city; logically, big-city denizens would hold tightly to their properties, as they considered their status and conditions to be the best in the USSR (Perevedentsev 1975; Perevedentseva 1992).

The economic approach, like its geographical counterpart, rose to prominence early; Ravenstein (1885, 1889) accounts economic factors the leading factors of migration. The theses of this approach largely fall in line with neoclassical economic theory: rational, utility-maximizing individuals make their own cost-benefit decisions to migrate, generally based on a spatial disparity in wages, so that they can increase their expected real incomes (Lewis 1954; Sjaastad 1962; Todaro 1969, 1980; Harris and Todaro 1970; Borjas 1989; Massey et al. 1993; Jennissen 2007).

Despite the socio-demographic bent of the life-course approach, economic factors remain an integral element of previous research. In line with neoclassical economic theory, perceived differences in opportunities between the place of origin and the potential destinations, as well as resources available to the migrant, matter greatly in the decision to move (Kley 2011). Relocation across regions tends to be related to people's economic characteristics, unlike short-distance changes of residence (Courgeau 1990).

Considering the effects of exogenous economic changes, Crockett, Shanahan, and Jackson-Newsom (2000) note that major shocks increase out-migration of talented youth from rural areas: these young migrants usually move to seek either educational or employment opportunities in metropolitan zones. By extension, then, unemployment is a notable trigger of migration (Kleinepier, de Valk, and van Gaalen 2015).

Quality of life, especially in urban areas, also influences human migration. In fact, cultural and recreational institutions tend to reduce urban flight among the young, and mild climates usually retain the elderly (Whisler et al. 2008). Education, too, has a part to play in people's mobility: Robison and Moen (2000) argue that, among other factors, less education among upcoming retirees indicates in part their disinclination to change residence.

Some of the literature emphasizes the central importance of economic factors (Perevedentsev 1975; Ribakovsky 1987). More specifically, spatial disparities in living conditions and standard of living, along with the understandable desire to improve one's living conditions and standard of living, do appear paramount among the factors in the migration process (Perevedentsev 1975; Ribakovsky 1987; Perevedentseva 1992). Better conditions of and greater opportunities for employment, education, housing, and infrastructure were very common motives for making a move in the Soviet and early post-Soviet eras, especially in major cities and regional centers (Perevedentsev 1975; Ribakovsky 1987; Perevedentseva 1992). The movement and concentration of major industries in urban zones, which includes the establishment of territorial-industrial complexes, played a major role in the Soviet labor migration. In single-industry towns and cities, population dynamics were contingent upon the productivity of the industry, but in economically diverse cities and regional centers, there was an additional pull towards universities and scientific and cultural institutions (Perevedentsev 1975; Ribakovsky 1987).

In considering the order of migration motives across the life course, Perevedentseva (1992) argues that people migrate first for education, then for work, and then for improving their living conditions otherwise. Interestingly, while she emphasizes the role of education in mobility, Perevedentsev (1975) appears to underline the influence of employment and salary needs. One particularly intriguing finding from Ribakovsky (1987) is that the lack of specialists or skilled labor in more remote, traditional areas tended to hinder migration from them.

The consequences of migration in this Eurasian context are also worth note. Perevedentsev (1975) holds that rural-urban migrants looking to increase their salaries did so successfully and immediately following their arrival in a city, even without the help of further education. Interestingly, however, Perevedentseva (1992) concludes that migration would generally lead to worse living conditions; in fact, young migrants would more quickly marry and have children, due to which their living conditions would likely worsen.

The social (or socioeconomic) approach builds atop the economic approach with a critical perspective. The new economic theory of migration emphasizes the role of the family in the migration decision-making process, as well as the household-level benefits of diversifying risk via migration; the network theory of migration further explicates the influence of social ties in the migration process (Stark and Bloom 1985; Massey 1990; Massey et al. 1993; Bauer and Zimmermann 1997; Jennissen 2007). The relative deprivation theory of migration holds that relative income also matters in familial or personal migration decisions, and that relative poverty and inequality within communities may better predict individuals' rural-urban migration than absolute poverty (Stark 1984, 2005; Stark and Taylor 1989; Massey et al. 1993; Jennissen 2007).

In the life-course literature, too, social ties undoubtedly shape any migration decision across the life course; in fact, Gardner (2009) calls the life course a design for life which is relation-oriented. However, the nature of those ties and their dynamics have different effects on a migrant's mobility.

One type of tie comprises marriage and partnership. Kley (2011) shows that the sway of significant others figures heavily in the migration decision-making process. A migrant may have a union with someone in his or her place of origin, or a migrant might enter a union with a person at his or her destination. Kleinepier, de Valk, and van Gaalen (2015) reveal that the origin of a migrant's partner in the destination strongly influences both the type of union they will have and whether the migrant will return home.

Studying the effect of marriage as a synchronized event on migration, Mulder and Wagner (1993) conclude that migration shows less dependence on age than on marriage; in fact, they find that marriage increases short-distance mobility. Raley, Durden, and Wildsmith (2004) infer that migration self-selection plays a large role in nuptial behaviors of Mexican immigrants to the US, finding that migrants possess qualities (e.g., little education) which incentivize early marriage, that the experience of migration may increase incentives to marry, and that marriage itself may provide more resources which migrant women could use to migrate.

Familial relationships are an important category of social ties as well. Family structures and their changes over time influence migration patterns (Clark and Withers 2007; Kulu and Milewski 2007). More specifically, Clark and Withers (2007) find that, as family composition becomes more varied, movement becomes less predictable. Kulu and Milewski (2007) reveal the importance of considering also the life trajectories of non-resident family members, who may be able to, for example, help raise a migrant's children.

Intergenerational ties can have a pronounced effect on people's mobility. Döring et al. (2014) point out that, regarding individuals' commute behaviors, the attitudes and residential-locational characteristics of parents affect the very same attitudes and characteristics of their children. Looking at the consequences of migration, Clark, Glick, and Bures (2009) find that second-generation immigrant children have competing influences of their parents' experiences and their own experiences socializing according to the norms and institutions of the host society; apart from their economic circumstances and cultural backgrounds, the family experiences of immigrants are affected by their place in the life course. In Russia, the education level of parents has been found to influence the mobility of children: higher education is associated with higher mobility (Perevedentseva 1992).

Not only do family ties matter, but so do larger community ties, as well as ties in the destination. Gardner (2009) argues that households and communities form a meso-level structure which mediates the interactions between macro-level structures (e.g., labor markets, cultural institutions, etc.) and the individual. Robison and Moen (2000) conclude that late-midlife individuals eyeing retirement more often expect to relocate if they have relatively weak ties to their community. Haas and Serow (1997) find that

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pre-existing social ties in the migration destination are a crucial factor in the decision-making process for retirement relocation.

Naturally, life-course and demographic phenomena have a place in the mix. Life-course events, such as starting higher education or a job, are naturally a crucial part of the migration decision-making process and experience (Kley and Mulder 2010; Kley 2011). In fact, Uhlenberg (1996) argues that the act of migration, itself a life-course event, influences migration later in life; such migration, according to Apitzsch and Siouti (2007), comprises intentional or conditional sequences which may disrupt one's control over his or her life course (e.g., a migrant's cultural adaptation). Concerning people's transportation use, Scheiner and Holz-Rau (2012) argue that life-course changes influence latent changes in travel behavior. Whisler et al. (2008) hold that the life-course stage of college-educated individuals influences their urban out-migration.

Life-course events often consist in familial and professional developments. Courgeau (1990) unveils that changes in living spaces across short distances are associated with the family life course, and that migration to cities is related both to a person's position in his or her family life cycle and to the state of his or her career development. Robison and Moen (2000) point out that life-course shifts concerning wedlock and career in part predict near-future migrations among late-midlife individuals. According to Clark and Huang (2003), life-course events such as a marital-status change or a childbirth affect people's decisions to change residence.

In the USSR and Russia, socio-demographic (i.e., life-course) factors have played their part, too. Nuptial behavior was most commonly cited; marriage was in fact found both to cause and to impede migration, depending on the regional setting (e.g., the latter in remote, traditional regions) (Perevedentsev 1975; Ribakovsky 1987; Perevedentseva 1992). Alongside early marriage, Ribakovsky (1987) argues that family-building at early ages hampers migration prospects, and Perevedentsev (1975) contends that divorce and migration itself are central factors in the migration process.

Continuing the thread on marriage, Muszynska and Kulu (2007) study the link between migration and union dissolution, finding that migration puts couples at greater risk of union dissolution, especially when the woman is employed and the migrants' destination is a city. This risk was more pronounced in the Soviet period than in the 1990s because female migrants had more economic stability and guarantees up to 1991; the vicissitudes of the post-Soviet transition compelled women to find stability within their unions.

As concerns life-course stages, Perevedentseva (1992) argues that the need for relocation varies according socioeconomic and demographic status; for example, young couples expecting a child have more need for a larger home than single students or older couples whose children have grown up and relocated. Thus, the life course and its constituent events shape migration decisions in Soviet in Russian contexts.

Apart from events in the life course, age is sometimes found to shape migration outcomes. Stockdale and Catney (2012) come to a somewhat surprising conclusion that younger cohorts in their family-building years are more likely to leave cities than their older counterparts; moreover, they find little evidence of urban flight among older cohorts. Among other factors, Clark and Huang (2003) find that age plays into people's decisions to change residence. Testing Ravenstein's argument on rural-urban step migration, Plane, Henrie, and Perry (2005) find a trend amid a great variety of movement patterns across the life course: teenagers and young adults show a proclivity for migrating from rural areas and small towns to slightly larger urban zones. Age is also considered a key migration factor by Karachurina and Mkrtchyan (2016). They discovered two migration peaks in the life course – one around college age and, in some regions, another around retirement age.

The final demographic factor is sex, which is often touched upon but rarely the main subject of research; in some cases, researchers simply note migration-behavioral differences between the sexes (Curran and Saguy 2001; Davis and Winters 2001; Kleinepier, de Valk, and van Gaalen 2015). Ravenstein (1885, 1889) was the first to argue that women migrate across short distances more than men; as short-distance migration outpaced long-distance migration in his study, women were thus found to be more mobile than men.

Soviet and Russian migration institutions

Any study on migration in the Soviet and Russian space requires an understanding of the Soviet and Russian institutions which shape migration processes. The first and arguably most crucial Soviet institutions were the internal passport and the *propiska*. The first was a multifunctional identification document which was necessary for obtaining a *propiska*; the second served as a kind of registration or residence permit, as well as an instrument for regulating migration. The internal passport and *propiska* institutions themselves were not fully developed until the early 1930s; the latter lasted until 1993, but the former remains in use today.

Soviet citizens underwent a process of passportization from the 1930s to the 1970s; this process was slow in reaching rural inhabitants, especially in remote regions, thus making relocation a challenge for village dwellers. In fact, up through the 1950s, restrictions on the issuance of passports was one way of inhibiting out-migration from villages to cities. These restrictions disproportionately hurt women in villages, as men's military conscription rendered all the necessary documents for relocating for training and deployment. As of the 1970s, all Russian adults are obliged to have an internal passport; the *propiska* and registration (*registratsia*) since became the foremost institutional regulator of migration in the Soviet Union and Russia (Lyubarsky, 2002; Popov, 1996).

The *propiska* was succeeded by a registration system in 1993; a registration is an internal passport stamp containing a citizen's address information. In the Soviet era and today, the *propiska*/registration institution took two main forms: one for permanent residence and one for temporary residence. A temporary *propiska* could supplement a permanent one when someone would move for study or work (Lyubarsky, 2002; Popov, 1996). The *propiska* system greatly impeded movement of all kinds: it was most restrictive in major cities, but it also posed challenges in regional centers. *Propiska* restrictions caused serious problems for inter and intra-urban movement for students and young professionals. Thus, the act of migration reflects a powerful desire to do so, given the obstacles to movement (Perevedentseva 1992).

A *propiska* was needed for someone to take up employment somewhere. There were other employment-related institutional regulators of migration as well. When students graduated from university (with exceptions for postgraduate students), the graduate was required to relocate to another city or town to work for two or so years. This compulsory assignment to work, also known as employment "by distribution" (*po raspredeleniu*), was not very popular but nevertheless provided a *propiska*, a place to live, and employment. This institution lasted until the end of the Soviet era. Its quick dismantling resulted in residential insecurity felt by students and others with temporary registration. Perevedentseva (1992) finds that, when students followed this model, they usually took up residence in poor living conditions wherever they were sent.

Another way to gain employment was through a quota system, also known as employment "by limit" (*po limitu*), a system which existed in the last few decades of the Soviet era. This was the main avenue available to town and village dwellers for obtaining residence in large cities. Factories, construction enterprises, and many other employers in need of labor would prepare residential facilities – usually hostels – to house new workers, and quotas would be issued. These quotas would allow workers from nearby towns and villages to work, whether for a short or long term, in the city. Depending on the length of the term, a worker could receive an apartment and permanent *propiska* in the city upon termination of the work arrangement. People who worked in this quota scheme were known pejoratively as *limitchiki*; they were among the groups most hindered by the *propiska* system. Perevedentseva (1992) argues that moving, especially when solely to improve one's living conditions, is greatly complicated by the *propiska* system and the lack of a regular residential property market.

Migration within cities, towns, and rural areas was also feasible, but a local change of residence also had its own obstacles. Apart from obtaining official permission (*razreshenie*), those young people intending to move into their own spaces would have to register a formal request for new housing. The waiting list for these requests was understandably long, and certain segments of the population, such as the *nomenclatura*, military personnel, scientists, and large families were prioritized. Citizens could also exchange their current property and, in some cases, employers would provide housing (e.g., for workers "by limit").

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In part to deal with the immense urbanization in Moscow and other large cities, initiatives to incentivize relocation to Siberia and the Far East were implemented in the 1960s and 1970s. Among the more notable such initiatives were territorial-industrial complexes (or territorial-production complexes), such as the Baikal-Amur Mainline (BAM). Such programs were largely successful in attracting people, namely young workers, but they were less successful at retaining them in the long run. Industry movement in general influenced both the urban concentration and frontier dispersion of Soviet Russians looking for work (Perevedentsev 1975; Ribakovsky 1987).

Another crucial institution which impacts the life course of Russians, namely Russian men, is the military. In the Soviet era and the post-Soviet era, military service was and is, with some mechanisms for exemptions (e.g., university enrollment), required for all young men aged 18 to 27. Mitrofanova and Artamonova (2015) examine military service and its impact on the life courses of young Russian men. While their research does not incorporate migration as a constituent element of the life course, they do find that men who served have more socioeconomic and demographic events in total than men who avoided military service. In short, military men begin their adult lives earlier and more intensively, and they more likely live apart from their parents following their service than those who do not serve.

Since 1993, migration within Russia has been liberalized and people may seek employment or study opportunities freely. A registration system is still in place, and those who wish to move to a new locale to work or study must obtain either a new permanent registration or a supplementary temporary one in the destination of work or study.

Analytical framework of the life-course concept of migration

Key terms

Before proceeding further, we should define some key terms. The first term is "migration," which Lee defines as "a permanent or semi-permanent change of residence" (1966: 49). Zelinsky supplements this definition with the following: "a spatial transfer from one social unit or neighborhood to another which strains or ruptures previous social bonds" and "a perceptible and simultaneous shift in both spatial and social locus" (1971: 224-226). For this study, it may be reframed as "any permanent or semi-permanent change of residence – either indefinite or for a lengthy, defined period – from one specific location to another, whether within an administrative-territorial unit or between two such units."

There are many nuances to the definition of migration, but what is more important here is the operational definition, that is, how the concept of migration is framed in the survey used in this study. The key migration question in the survey consists in two parts: (1) how many times, from the age of 15, did you move to another locality for a period of more than 6 months, and (2) what were the month and year of each move?

A biography, which in this study is synonymous with the term "career," is defined as a sequentially ordered record of events in a person's life which, in total, reveal key socioeconomic and other characteristics of that person. Events themselves are developments – moments, achievements, and changes – in a person's life, such as graduating from university, getting married, or having a child.

Data and design

The data for this study come from the nationwide social survey Person, Family, Society (PFS, or ChSO [*Chelovek*, *Sem'ya*, *Obshestvo*]), which was conducted by the Russian Presidential Academy of National Economy and Public Administration (RANEPA) in 2013. The survey covers a wide array of socioeconomic and demographic topics, and it has some features in common with the Generations and Gender Survey (GGS), showcased by Vikat et al. (2007) and conducted as part of the Generations and Gender Program for analyzing societies' multifaceted demographic and social development. The two surveys' common features consist of a life-course approach focusing on social, economic, and demographic events, as well as variables such as economic well-being, mobility, and education. In using a social survey

as the key data source, the design of this study is a retrospective observational study, and the study's methodology is entirely quantitative.

As the PFS data are relatively new, they have been studied rather little; thus, this study represents a fresh look at recent biographical data pertaining to Russians and their various socioeconomic and demographic characteristics across time. Moreover, the use of sequence analysis in the life-course analysis of migration is a relatively new approach in the field of demography. As the data are rather new, exploratory data analysis should also be useful in understanding the survey data better overall.

As this study is based on a social survey, the two candidate units of analysis are the individual and the household; this study considers only the individual. The full sample comprises 9,557 such individuals (4,333 men and 5,224 women), and subsets are used in the exploratory data analysis and sequence analysis sections.

Methods

The analyses utilized in this study are exploratory data analysis, event history analysis, and sequence analysis, the latter two of which are core analytical approaches to biographical data in life-course studies. Kulu and Milewski (2007) attest to the value of applying life-course analytical methods and – specifically – EHA to the study of people's migration behaviors, and Mitrofanova (2016), Mitrofanova and Artamonova (2015, 2016), Muszynska and Kulu (2007), and Kleinepier, de Valk, and van Gaalen (2015) apply one or both analytical methods to life-course studies of individuals.

A crucial perspective within the life-course approach which renders deep and useful insights into migration is the biographical perspective. Biographical analysis is used both by Döring et al. (2014) and Apitzsch and Siouti (2007); the latter discuss in detail the application of the biographical method to the study of migration. The biographical approach is quite fitting for studies of migration processes because it can effectively capture the complexity, diversity, and transformative nature of migration in the life course. This approach is conducive to the reconstruction of migration paths of individuals. The approach thus allows researchers to examine the adaptation of migrants.

As concerns the biographical study of migration in Soviet and Russian contexts, Zayonchkovskaya (2008) contends that studying migration biographies is an essential component of any study on migration or mobility. Such biographies contain rich information not just about an individual's movements, but also his or her feelings, intentions, and expectations about such movements; this is particularly crucial in cases of mismatches between migrants' relocation expectations and realities. It is moreover applicable to the study and prediction of group or society-level migratory behaviors and preferences. Among the most critical components of a migration biography are the migrant's birthplace, travel frequency, length of stay at a place, and social origin. Perevedentseva (1992) studies the migration biographies of Russians during the late Soviet period to ascertain how the educational-professional and socioeconomic levels of the population relate to the frequency of migrations and explain the migration behavior and migration intentions of young Russians.

The repertoire of tools applied herein is quite diverse. The first set of tools for exploring the data consist of distributions and descriptive statistics, odds ratios, one-way analysis of variance (ANOVA), and Spearman, Pearson, and Kendall's Tau correlation tests. For event history analysis, we use Cox regression tests, including survival and hazard functions. The sequence analysis of the migration biographies entails the use of chronograms.

The full list of variables examined in this study are grouped as follows: general variables, age variables, fact variables, and other migration variables. The general variables include age, sex, generation, type of location at survey, type of location at birth, type of education, religion, federal district, and country of birth. The age variables consist of age at first job, age at completing education, age at first migration, and age at second migration. The fact variables comprise fact of job, fact of education, fact of migration, fact of migration for men only, and fact of military service. Other migration variables include time interval (measured in months) between first and second migrations, first migration destination type, second migration destination type, reason for first migration, and reason for second migration. The event history

analysis in this study also uses date data to derive duration variables for the length of time between age 15 and the event of migration. The sequence analysis uses date data of events as variables.

Hypotheses

The hypotheses for this study consist of the following:
    (1) Migration, i.e. the likelihood of migration, is influenced by the following factors:
        (a) military service (for men only)
        (b) sex
        (c) generation
        (d) type of locality
        (e) type of locality at birth
        (f) type of education

whereby military service, male sex, younger generation, large or mid-level urban locality, large or mid-level urban locality at birth, and higher level of education are associated with a *higher* likelihood of migration.

    (2) The position of migration in the life course is largely at the beginning, that is, migration is a biography-initiating event which enables the subsequent acquisition of further events.
    (3) Russia's position in Zelinsky's mobility transition model is the "advanced society" phase.

1. Exploratory data analysis of Russian migration biographies

The purpose of the exploratory data analysis is two-fold: first, it aims to provide general insight into the selected variables altogether; second, it will help in ascertaining which factor variables correlate with and influence the key migration variables. For all tests, aside from those concerning military service, the sample size is the full sample of 9,557 individual respondents. The tests focusing on military service use a subsample excluding all women. The variables included in the exploratory data analysis are those which fall within the full list of variables.

1.1. Descriptive statistics and distributions across sexes, generations, etc.

Table 1 below provides some descriptive statistics on some of the key continuous, ratio-level variables used in the data exploration. Interestingly, some of the age variables, such as age at completion of education and age at first migration, are somewhat surprisingly low. Moreover, some of the minimum and maximum statistics uncovered some curious survey responses, such as starting one's first job at age four and completing one's education as early as age nine.

Table 1: Descriptive statistics for ratio-level variables
Source: Person, Family, Society (2013)

	Age at survey	Age at completion of education	Age at first job	Age at first migration	Age at second migration	Time interval between migrations (months)
N	9557	9557	8827	3562	1362	1362
Mean	45.578	19.472	20.042	21.478	25.778	81.338
Median	45	19	20	18	22	51
Mode	35	17	20	18	20	24
Std. Deviation	17.499	4.549	4.073	8.492	9.374	88.854
Minimum	18	9	4	14	15	3
Maximum	93	67	68	80	78	673

The following tables examine the key migration variables by showing the distribution of survey respondents across two dimensions: sex and generation. The first migration variable below is fact of migration, which actually has three degrees: zero, one, or two (or more) migrations. Table 2 below reveals that Russians are a largely immobile population, with as much as 80% of women in the 1990-1995 generation experiencing no migration (caveat: the two youngest generations' percentages are artificially inflated in the "no migrations" column because they experience censoring and thus have not lived long enough to have ample opportunity to migrate). In all female generations, and in nearly all male generations, most do not migrate. The overall cross-generational trend we see for both sexes is an increasing tendency not to migrate. The share of men who migrate once appears to remain relatively stable; for women, the share of those who migrate once shows an overall downward trend (apart from the increase from the 1940-1949 generation to the 1950-1959 generation). For both sexes, the share of those who migrate two or more times generally decreases, with a couple exceptions, across generations.

Table 2: Fact of migration (zero, one, or two [or more] migrations), by sex and generation
Source: Person, Family, Society (2013)

		No migrations	One migration	Two migrations
Men	1930-1939	48.43%	23.32%	28.25%
	1940-1949	49.44%	26.12%	24.44%
	1950-1959	51.09%	29.09%	19.83%
	1960-1969	52.45%	27.33%	20.22%
	1970-1979	61.39%	24.26%	14.36%
	1980-1986	62.83%	25.17%	12.00%
	1990-1995	**79.16%**	16.21%	4.63%
Women	1930-1939	55.09%	26.30%	18.62%
	1940-1949	56.51%	22.71%	20.77%
	1950-1959	59.32%	23.26%	17.42%
	1960-1969	64.78%	23.21%	12.01%
	1970-1979	70.08%	20.60%	9.32%
	1980-1986	72.61%	18.98%	8.42%
	1990-1995	**80.28%**	17.61%	2.11%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Table 3 below, which looks at migrants' first type of destination, is perhaps revealing of the institutions at play during the Soviet era and the post-Soviet era. Very few Russians move to rural areas, across virtually all generations and for both sexes, and most move to mid-level cities and towns. What is more interesting are (1) the shares of men migrating to (medium-sized) cities and towns which then shift a bit to large cities and regional centers and (2) a similar pattern occurring among women, albeit with slightly more balance between mid-range and larger settlements up to the late Soviet era and also greater balance in the post-Soviet period.

Table 3: First migration destination type, by sex and generation
Source: Person, Family, Society (2013)

		Large city/regional center	City/town	Rural area
Men	1930-1939	15.65%	60.87%	23.48%
	1940-1949	16.11%	**65.56%**	18.33%
	1950-1959	18.93%	**64.79%**	16.27%
	1960-1969	19.85%	64.69%	15.46%
	1970-1979	20.51%	64.42%	15.06%
	1980-1986	27.80%	55.16%	17.04%
	1990-1995	26.26%	62.63%	11.11%

		Large city/regional center	City/town	Rural area
Women	1930-1939	19.23%	57.26%	23.50%
	1940-1949	25.51%	54.66%	19.84%
	1950-1959	22.49%	**59.35%**	18.16%
	1960-1969	23.61%	57.70%	18.69%
	1970-1979	26.54%	52.69%	20.77%
	1980-1986	31.33%	52.41%	16.27%
	1990-1995	34.52%	55.95%	9.52%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Table 4 concerns the migrants' second destination type. There is a slightly increased tendency to migrate to rural areas for both sexes (namely women), a slightly greater tendency to migrate to larger urban areas among men, a reduced tendency to migrate to larger urban areas among women, and still relatively high shares of both men and women migrating to medium-sized urban areas.

Table 4: Second migration destination type, by sex and generation
Source: Person, Family, Society (2013)

		Large city/regional center	City/town	Rural area
Men	1930-1939	22.22%	57.14%	20.63%
	1940-1949	16.09%	**59.77%**	24.14%
	1950-1959	19.71%	59.12%	21.17%
	1960-1969	27.88%	53.33%	18.79%
	1970-1979	34.48%	43.97%	21.55%
	1980-1986	26.39%	51.39%	22.22%
	1990-1995	22.73%	50.00%	27.27%
Women	1930-1939	16.49%	49.48%	34.02%
	1940-1949	18.64%	54.24%	27.12%
	1950-1959	17.72%	59.49%	22.78%
	1960-1969	16.35%	**60.58%**	23.08%
	1970-1979	20.99%	49.38%	29.63%
	1980-1986	23.53%	49.02%	27.45%
	1990-1995	11.11%	33.33%	55.56%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

As can be seen in Table 5 below, the foremost reason for men's migration is military service, although there is a bit of a change in the youngest generation, where a slightly larger share of men migrates for education than for military service. The main reasons for women's migration are, by and large, for family reasons and for education. Most women in the 1990-1995 generation who migrate move for education (51.19%).

Table 5: Reason for first migration, by sex and generation
Source: Person, Family, Society (2013)

		For education	For work	For family reasons	For military service	For other reasons
Men	1930-1939	15.65%	22.61%	22.61%	29.57%	9.57%
	1940-1949	15.56%	18.89%	22.22%	36.11%	7.22%
	1950-1959	16.57%	15.98%	21.01%	39.05%	7.40%
	1960-1969	16.49%	16.49%	19.07%	41.24%	6.70%
	1970-1979	14.74%	17.63%	22.12%	40.06%	5.45%
	1980-1986	21.08%	14.80%	24.66%	33.63%	5.83%
	1990-1995	37.37%	12.12%	12.12%	35.35%	3.03%

Women	1930-1939	20.51%	26.92%	**45.30%**	0.43%	6.84%
	1940-1949	30.77%	19.43%	42.51%	1.62%	5.67%
	1950-1959	35.77%	18.70%	39.84%	0.00%	5.69%
	1960-1969	34.43%	19.67%	40.00%	0.33%	5.57%
	1970-1979	34.23%	11.92%	**47.31%**	0.38%	6.15%
	1980-1986	38.55%	12.65%	42.77%	0.60%	5.42%
	1990-1995	**51.19%**	9.52%	33.33%	0.00%	5.95%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Regarding the second migration (Table 6), men's main motives are work and family affairs, with the dominant share oscillating on occasion. For women, the clear motive across all generations is family affairs, and work stands as a secondary reason for migration for all but the youngest generation.

Table 6: Reason for second migration, by sex and generation
Source: Person, Family, Society (2013)

		For education	For work	For family reasons	For military service	For other reasons
Men	1930-1939	7.94%	41.27%	28.57%	14.29%	7.94%
	1940-1949	11.49%	37.93%	33.33%	12.64%	4.60%
	1950-1959	6.57%	27.74%	31.39%	21.90%	12.41%
	1960-1969	10.30%	33.94%	25.45%	17.58%	12.73%
	1970-1979	3.45%	34.48%	37.07%	14.66%	10.34%
	1980-1986	4.17%	38.89%	33.33%	15.28%	8.33%
	1990-1995	13.64%	13.64%	31.82%	27.27%	13.64%
Women	1930-1939	6.19%	38.14%	51.55%	0.00%	4.12%
	1940-1949	6.78%	38.14%	49.15%	0.85%	5.08%
	1950-1959	6.33%	31.01%	51.27%	1.90%	9.49%
	1960-1969	6.73%	32.69%	50.96%	0.96%	8.65%
	1970-1979	2.47%	25.93%	**67.90%**	0.00%	3.70%
	1980-1986	9.80%	25.49%	**58.82%**	0.00%	5.88%
	1990-1995	22.22%	11.11%	**55.56%**	0.00%	11.11%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

The next set of tables considers other key variables by showing the distribution of survey respondents across dimensions of sex, generation, and number of migrations. Some of the tables come in pairs, divided by sex. Table 7 below shows that men who are currently (i.e., at the time of the survey) living in larger urban zones are comparatively immobile, whereas men located in smaller urban areas tend to experience at least one migration. Somewhat similar remarks can be made about women. Women who live in large urban zones in 2013 largely experienced no migration.

Table 7: Type of locality at time of survey, by sex, generation, and number of migrations
Source: Person, Family, Society (2013)

		Men			Women		
		Large city/regional center	City/town	Rural area	Large city/regional center	City/town	Rural area
No migrations	1930-1939	40.7%	32.4%	26.9%	40.8%	34.1%	25.1%
	1940-1949	37.5%	34.7%	27.8%	**48.6%**	34.0%	17.4%
	1950-1959	41.6%	36.0%	22.4%	42.2%	37.7%	20.1%
	1960-1969	**44.2%**	34.3%	21.5%	46.7%	33.0%	20.3%
	1970-1979	43.8%	34.5%	21.8%	40.2%	38.4%	21.3%
	1980-1986	42.4%	35.5%	22.0%	42.5%	37.7%	19.8%

		Large city/regional center	City/town	Rural area	Large city/regional center	City/town	Rural area
	1990-1995	42.6%	32.7%	24.7%	42.4%	39.5%	18.1%
Only one migration	1930-1939	**44.2%**	36.5%	19.2%	39.4%	35.8%	24.8%
	1940-1949	32.3%	41.9%	25.8%	34.9%	41.1%	24.0%
	1950-1959	34.8%	39.8%	25.4%	38.4%	36.5%	25.1%
	1960-1969	34.5%	40.4%	25.1%	34.8%	39.8%	25.4%
	1970-1979	28.1%	**47.4%**	24.5%	33.5%	36.3%	30.2%
	1980-1986	33.1%	39.7%	27.2%	39.1%	33.9%	27.0%
	1990-1995	42.9%	32.5%	24.7%	44.0%	40.0%	16.0%
Two or more migrations	1930-1939	38.1%	42.9%	19.0%	32.0%	36.1%	32.0%
	1940-1949	29.9%	42.5%	27.6%	27.1%	**47.5%**	25.4%
	1950-1959	29.2%	38.0%	32.8%	24.7%	41.8%	33.5%
	1960-1969	30.9%	36.4%	32.7%	22.1%	40.4%	37.5%
	1970-1979	31.9%	37.1%	31.0%	29.6%	28.4%	42.0%
	1980-1986	34.7%	34.7%	30.6%	33.3%	31.4%	35.3%
	1990-1995	31.8%	31.8%	36.4%	11.1%	33.3%	**55.6%**

Top 33%, 20%, and 10% color-coded; top 5% in bold text

According to Table 8, the share of men who were born in smaller urban areas and experienced one migration is quite pronounced. This is also true, though to a lesser degree, for men who migrate a second time. Women born in smaller urban areas seem often to experience one (or two in many cases) migrations. Men and women born in mid-level cities and towns, as well as in large cities and regional centers, also have a propensity to keep to their birthplace.

Table 8: Type of locality at birth, by sex, generation, and number of migrations
Source: Person, Family, Society (2013)

		Men			Women		
		Large city/regional center	City/town	Rural area	Large city/regional center	City/town	Rural area
No migrations	1930-1939	37.0%	42.6%	20.4%	32.1%	45.6%	22.3%
	1940-1949	35.8%	49.4%	14.8%	40.8%	38.9%	20.2%
	1950-1959	36.8%	45.3%	17.8%	37.7%	45.7%	16.5%
	1960-1969	40.7%	43.5%	15.9%	41.4%	43.5%	15.2%
	1970-1979	39.5%	45.6%	14.9%	35.8%	48.9%	15.3%
	1980-1986	37.7%	49.6%	12.7%	40.0%	46.4%	13.6%
	1990-1995	39.6%	41.5%	18.9%	37.7%	50.6%	11.7%
Only one migration	1930-1939	19.2%	42.3%	38.5%	13.9%	36.5%	49.6%
	1940-1949	23.7%	41.9%	34.4%	19.4%	45.7%	34.9%
	1950-1959	17.4%	51.7%	30.8%	11.4%	49.8%	38.9%
	1960-1969	23.3%	49.3%	27.4%	14.9%	52.2%	32.8%
	1970-1979	22.4%	**58.2%**	19.4%	20.1%	52.0%	27.9%
	1980-1986	22.5%	56.3%	21.2%	21.7%	**57.4%**	20.9%
	1990-1995	16.9%	**57.1%**	26.0%	13.3%	**54.7%**	32.0%
Two or more migrations	1930-1939	14.3%	47.6%	38.1%	18.6%	28.9%	52.6%
	1940-1949	14.9%	37.9%	47.1%	12.7%	45.8%	41.5%
	1950-1959	16.1%	40.9%	43.1%	16.5%	35.4%	48.1%
	1960-1969	18.8%	47.3%	33.9%	12.5%	53.8%	33.7%
	1970-1979	15.5%	**58.6%**	25.9%	18.5%	49.4%	32.1%
	1980-1986	25.0%	45.8%	29.2%	11.8%	51.0%	37.3%
	1990-1995	18.2%	50.0%	31.8%	11.1%	**77.8%**	11.1%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Table 9 looks at respondents' education characteristics. Concerning education, there are no clearly distinguishable patterns for either men or women, but it does seem there is something of a shift from general to vocational education, even to higher education for women, across generations, irrespective of the number of migrations.

Table 9: Type of education, by sex, generation, and number of migrations
Source: Person, Family, Society (2013)

| | | Men | | | Women | | |
		Higher education	Vocational education	General education	Higher education	Vocational education	General education
No migrations	1930-1939	15.7%	25.9%	**58.3%**	11.5%	26.8%	**61.7%**
	1940-1949	15.9%	36.4%	47.7%	19.3%	36.1%	44.5%
	1950-1959	23.5%	43.1%	33.4%	23.8%	45.0%	31.2%
	1960-1969	25.5%	46.5%	28.0%	35.7%	39.9%	24.4%
	1970-1979	29.4%	45.2%	25.4%	37.9%	38.3%	23.8%
	1980-1986	36.9%	43.2%	19.9%	54.5%	31.1%	14.3%
	1990-1995	9.3%	23.7%	**67.0%**	12.6%	22.5%	**64.9%**
Only one migration	1930-1939	7.7%	34.6%	**57.7%**	5.8%	27.0%	**67.2%**
	1940-1949	19.4%	47.3%	33.3%	20.2%	35.7%	44.2%
	1950-1959	19.4%	47.3%	33.3%	26.5%	46.4%	27.0%
	1960-1969	24.2%	48.9%	26.9%	34.8%	42.8%	22.4%
	1970-1979	26.0%	51.5%	22.4%	40.2%	34.6%	25.1%
	1980-1986	29.8%	43.7%	26.5%	41.7%	33.9%	24.3%
	1990-1995	9.1%	36.4%	54.5%	18.7%	28.0%	53.3%
Two or more migrations	1930-1939	28.6%	28.6%	42.9%	23.7%	22.7%	53.6%
	1940-1949	33.3%	35.6%	31.0%	28.8%	47.5%	23.7%
	1950-1959	31.4%	43.1%	25.5%	31.6%	51.9%	16.5%
	1960-1969	35.2%	42.4%	22.4%	41.3%	49.0%	9.6%
	1970-1979	35.3%	43.1%	21.6%	35.8%	45.7%	18.5%
	1980-1986	20.8%	44.4%	34.7%	45.1%	41.2%	13.7%
	1990-1995	18.2%	40.9%	40.9%	22.2%	44.4%	33.3%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Table 10 considers religion. As for religion, the survey respondents are overwhelmingly orthodox, and there are no striking shifts over time or between sexes or number of migrations.

Table 10: Type of religion, by sex, generation, and number of migrations
Source: Person, Family, Society (2013)

| | | Men | | | Women | | |
		Orthodoxy	Islam	Other religion	Orthodoxy	Islam	Other religion
No migrations	1930-1939	90.9%	9.1%	0.0%	92.0%	7.6%	0.4%
	1940-1949	90.4%	8.8%	0.9%	93.5%	6.1%	0.4%
	1950-1959	90.8%	7.8%	1.4%	93.1%	5.5%	1.4%
	1960-1969	89.5%	10.1%	0.4%	92.1%	6.5%	1.4%
	1970-1979	91.8%	8.2%	0.0%	92.3%	5.9%	1.8%
	1980-1986	89.7%	8.6%	1.7%	91.7%	7.7%	0.6%
	1990-1995	86.7%	9.6%	3.7%	87.6%	10.3%	2.1%
Only one migration	1930-1939	93.1%	6.9%	0.0%	93.6%	4.8%	1.6%
	1940-1949	**96.6%**	3.4%	0.0%	91.1%	5.4%	3.6%
	1950-1959	82.6%	15.7%	1.7%	87.4%	12.1%	0.6%
	1960-1969	81.8%	15.3%	2.9%	88.4%	10.9%	0.7%
	1970-1979	86.2%	11.4%	2.4%	84.2%	14.3%	1.5%
	1980-1986	92.3%	6.6%	1.1%	85.5%	13.3%	1.2%
	1990-1995	89.6%	8.3%	2.1%	86.0%	8.0%	6.0%
Two or more migrations	1930-1939	86.1%	11.1%	2.8%	94.0%	3.6%	2.4%
	1940-1949	**96.5%**	1.8%	1.8%	**97.8%**	2.2%	0.0%
	1950-1959	89.2%	7.2%	3.6%	90.7%	9.3%	0.0%
	1960-1969	85.4%	10.7%	3.9%	96.1%	2.6%	1.3%
	1970-1979	81.4%	15.7%	2.9%	**98.4%**	0.0%	1.6%
	1980-1986	91.8%	6.1%	2.0%	87.2%	12.8%	0.0%
	1990-1995	**93.8%**	6.3%	0.0%	**100.0%**	0.0%	0.0%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

The following two tables (11a and 11b, divided by sex) examine the representation of the federal districts across the sexes, generations, and number of migrations. The observable patterns here are not necessarily stunning: the shares of respondents, across the sexes, generations, and number of migrations, are largely in the Central and Volga Federal Districts, although there are also noteworthy shares of respondents in the Siberian Federal District who migrated once or twice. What is most striking about these shares is their shift from the Central Federal District to the Volga Federal District between the first migration and the second migration.

Table 11a: Federal district, by generation and number of migrations (men)
Source: Person, Family, Society (2013)

		Central	Northwestern	Southern	N. Caucasus	Volga	Ural	Siberian	Far Eastern
No migrations	1930-1939	26.9%	7.4%	12.0%	9.3%	26.9%	4.6%	11.1%	1.9%
	1940-1949	30.7%	9.1%	8.0%	8.5%	22.2%	9.1%	8.5%	4.0%
	1950-1959	26.1%	8.5%	12.5%	6.5%	20.1%	8.2%	13.9%	4.2%
	1960-1969	29.0%	9.3%	9.1%	8.6%	21.3%	7.2%	12.1%	3.3%
	1970-1979	25.4%	9.7%	10.7%	7.7%	22.0%	8.5%	12.5%	3.6%
	1980-1986	28.4%	12.2%	9.5%	7.4%	19.1%	8.0%	12.5%	2.9%
	1990-1995	28.7%	10.6%	11.2%	6.1%	21.0%	6.6%	11.4%	4.3%
Only one migration	1930-1939	26.9%	9.6%	11.5%	3.8%	25.0%	9.6%	11.5%	1.9%
	1940-1949	31.2%	10.8%	5.4%	4.3%	20.4%	7.5%	16.1%	4.3%
	1950-1959	31.8%	6.5%	10.0%	9.5%	21.4%	7.5%	10.0%	3.5%
	1960-1969	32.3%	9.4%	10.3%	6.7%	13.0%	8.5%	16.6%	3.1%
	1970-1979	29.1%	6.6%	7.1%	6.1%	23.5%	5.6%	17.9%	4.1%
	1980-1986	27.8%	5.3%	9.3%	7.3%	19.9%	7.9%	14.6%	7.9%
	1990-1995	32.5%	5.2%	2.6%	1.3%	22.1%	6.5%	22.1%	7.8%
Two or more migrations	1930-1939	23.8%	12.7%	14.3%	4.8%	11.1%	12.7%	17.5%	3.2%
	1940-1949	19.5%	5.7%	10.3%	5.7%	24.1%	10.3%	18.4%	5.7%
	1950-1959	21.9%	12.4%	6.6%	3.6%	21.9%	8.8%	19.0%	5.8%
	1960-1969	18.8%	8.5%	8.5%	3.6%	28.5%	8.5%	15.8%	7.9%
	1970-1979	31.9%	8.6%	7.8%	3.4%	20.7%	10.3%	11.2%	6.0%
	1980-1986	23.6%	8.3%	1.4%	2.8%	34.7%	12.5%	8.3%	8.3%
	1990-1995	18.2%	4.5%	0.0%	9.1%	45.5%	0.0%	18.2%	4.5%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Table 11b: Federal district, by generation and number of migrations (women)
Source: Person, Family, Society (2013)

		Central	Northwestern	Southern	N. Caucasus	Volga	Ural	Siberian	Far Eastern
No migrations	1930-1939	28.9%	9.8%	10.1%	7.0%	21.6%	8.7%	11.8%	2.1%
	1940-1949	31.5%	7.8%	8.4%	5.9%	22.4%	7.5%	12.5%	4.0%
	1950-1959	30.7%	10.0%	8.4%	6.9%	19.1%	7.8%	13.4%	3.7%
	1960-1969	31.4%	10.0%	9.6%	6.6%	18.9%	9.4%	10.3%	3.7%
	1970-1979	25.9%	9.9%	9.2%	7.4%	19.9%	8.5%	14.9%	4.3%
	1980-1986	27.7%	10.2%	10.7%	5.7%	21.4%	8.9%	11.6%	3.9%
	1990-1995	25.7%	10.5%	8.5%	7.9%	20.5%	10.8%	12.6%	3.5%
Only one migration	1930-1939	26.3%	6.6%	10.9%	8.0%	24.8%	7.3%	10.9%	5.1%
	1940-1949	24.8%	11.6%	6.2%	9.3%	19.4%	7.8%	14.0%	7.0%
	1950-1959	21.8%	9.5%	12.8%	9.0%	18.0%	7.1%	15.6%	6.2%
	1960-1969	26.4%	9.0%	7.0%	8.0%	23.4%	8.0%	13.9%	4.5%
	1970-1979	30.7%	6.1%	6.1%	8.4%	22.3%	5.0%	15.6%	5.6%
	1980-1986	35.7%	7.8%	10.4%	7.8%	21.7%	3.5%	11.3%	1.7%
	1990-1995	30.7%	4.0%	6.7%	5.3%	24.0%	9.3%	10.7%	9.3%
	1930-1939	22.7%	9.3%	14.4%	6.2%	27.8%	6.2%	10.3%	3.1%

Two or more migrations	Year								
	1940-1949	18.6%	12.7%	11.9%	1.7%	24.6%	9.3%	18.6%	2.5%
	1950-1959	20.3%	10.8%	7.6%	4.4%	30.4%	7.6%	12.7%	6.3%
	1960-1969	19.2%	7.7%	10.6%	1.9%	27.9%	9.6%	14.4%	8.7%
	1970-1979	18.5%	7.4%	17.3%	2.5%	27.2%	6.2%	16.0%	4.9%
	1980-1986	17.6%	7.8%	3.9%	3.9%	**31.4%**	11.8%	11.8%	11.8%
	1990-1995	22.2%	22.2%	0.0%	0.0%	**33.3%**	0.0%	22.2%	0.0%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Table 12 bears some similarity to Table 3, but this table depicts the differences in the shares of respondents according to their number of migrations, in addition to sex and generation. Nevertheless, there is little worth note here: most male and female respondents (with one exception) who migrate once appear to migrate to mid-sized urban zones. Tabulating the respondents' second migration destination type would be redundant with the previous Table 4, so it is not shown here.

Table 12: First migration destination type, by sex, generation, and number of migrations
Source: Person, Family, Society (2013)

		Men			Women		
		Large city/regional center	City/town	Rural area	Large city/regional center	City/town	Rural area
Only one migration	1930-1939	13.50%	55.80%	30.80%	25.50%	51.10%	23.40%
	1940-1949	15.10%	64.50%	20.40%	23.30%	53.50%	23.30%
	1950-1959	15.40%	65.20%	19.40%	19.40%	60.20%	20.40%
	1960-1969	18.40%	62.30%	19.30%	23.90%	53.70%	22.40%
	1970-1979	19.90%	65.30%	14.80%	26.30%	50.80%	22.90%
	1980-1986	26.50%	51.70%	21.90%	31.30%	48.70%	20.00%
	1990-1995	27.30%	62.30%	10.40%	33.30%	57.30%	9.30%
Two or more migrations	1930-1939	17.50%	65.10%	17.50%	10.30%	**66.00%**	23.70%
	1940-1949	17.20%	**66.70%**	16.10%	28.00%	55.90%	16.10%
	1950-1959	24.10%	64.20%	11.70%	26.60%	58.20%	15.20%
	1960-1969	21.80%	**67.90%**	10.30%	23.10%	**65.40%**	11.50%
	1970-1979	21.60%	62.90%	15.50%	27.20%	56.80%	16.00%
	1980-1986	30.60%	62.50%	6.90%	31.40%	60.80%	7.80%
	1990-1995	22.70%	63.60%	13.60%	44.40%	44.40%	11.10%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

The following two tables concern respondents' reasons for migration. Tables 13a and 13b below look at the reason for respondents' first migration. Tabulating the reasons for respondents' second migration would be redundant with the previous Table 6. For men, there are virtually no noteworthy patterns or changes: whether migrating once or two or more times, men's main reason for the first migration, namely among Soviet generations, is for military service. The key exception is found in the youngest generation, in which an increased share of men migrates for education.

Women, on the other hand, exhibit an interesting shift between the number of migrations: those who migrate once most often do so for family reasons, but those who migrate twice more often migrate for education the first time, that is, namely among the younger generations.

Table 13a: Reason for first migration, by generation and number of migrations (men)
Source: Person, Family, Society (2013)

		For education	For work	For family reasons	For military service	For other reasons
Only one migration	1930-1939	11.5%	25.0%	25.0%	26.9%	11.5%
	1940-1949	8.6%	23.7%	24.7%	33.3%	9.7%
	1950-1959	9.0%	18.9%	22.9%	**41.3%**	8.0%
	1960-1969	10.3%	20.2%	25.6%	37.2%	6.7%
	1970-1979	11.7%	17.9%	25.0%	39.3%	6.1%
	1980-1986	20.5%	15.9%	25.8%	32.5%	5.3%

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		For education	For work	For family reasons	For military service	For other reasons
	1990-1995	37.7%	13.0%	11.7%	33.8%	3.9%
Two or more migrations	1930-1939	19.0%	20.6%	20.6%	31.7%	7.9%
	1940-1949	23.0%	13.8%	19.5%	39.1%	4.6%
	1950-1959	27.7%	11.7%	18.2%	35.8%	6.6%
	1960-1969	24.8%	11.5%	10.3%	**46.7%**	6.7%
	1970-1979	19.8%	17.2%	17.2%	**41.4%**	4.3%
	1980-1986	22.2%	12.5%	22.2%	36.1%	6.9%
	1990-1995	36.4%	9.1%	13.6%	40.9%	0.0%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

Table 13b: Reason for first migration, by generation and number of migrations (women)
Source: Person, Family, Society (2013)

		For education	For work	For family reasons	For military service	For other reasons
Only one migration	1930-1939	13.1%	27.0%	51.1%	0.7%	8.0%
	1940-1949	17.1%	22.5%	53.5%	1.6%	5.4%
	1950-1959	26.1%	19.9%	46.9%	0.0%	7.1%
	1960-1969	27.4%	20.4%	45.3%	0.0%	7.0%
	1970-1979	24.6%	15.1%	52.0%	0.6%	7.8%
	1980-1986	29.6%	15.7%	47.8%	0.9%	6.1%
	1990-1995	45.3%	10.7%	37.3%	0.0%	6.7%
Two or more migrations	1930-1939	30.9%	26.8%	37.1%	0.0%	5.2%
	1940-1949	45.8%	16.1%	30.5%	1.7%	5.9%
	1950-1959	48.7%	17.1%	30.4%	0.0%	3.8%
	1960-1969	48.1%	18.3%	29.8%	1.0%	2.9%
	1970-1979	**55.6%**	4.9%	37.0%	0.0%	2.5%
	1980-1986	**58.8%**	5.9%	31.4%	0.0%	3.9%
	1990-1995	**100.0%**	0.0%	0.0%	0.0%	0.0%

Top 33%, 20%, and 10% color-coded; top 5% in bold text

The final table in this set (Table 14) concerns only men: it looks at the shares of men according to number of migrations, generations, and military service. Rather intuitively, migrating once or two or more times largely coincides with military service, as conscription often requires fresh recruits to relocate for training for at least a few months.

Table 14: Military service, by generation and number of migrations (men only)
Source: Person, Family, Society (2013)

		Served	Did not serve
No migrations	1930-1939	81.5%	18.5%
	1940-1949	83.5%	16.5%
	1950-1959	85.0%	15.0%
	1960-1969	80.1%	19.9%
	1970-1979	66.1%	33.9%
	1980-1986	48.8%	51.2%
	1990-1995	16.8%	83.2%
Only one migration	1930-1939	**92.3%**	7.7%
	1940-1949	86.0%	14.0%
	1950-1959	**90.5%**	9.5%
	1960-1969	89.2%	10.8%
	1970-1979	73.0%	27.0%
	1980-1986	59.6%	40.4%
	1990-1995	49.4%	50.6%
Two or more migrations	1930-1939	85.7%	14.3%
	1940-1949	80.5%	19.5%
	1950-1959	89.8%	10.2%
	1960-1969	88.5%	11.5%
	1970-1979	77.6%	22.4%
	1980-1986	70.8%	29.2%

| | 1990-1995 | 63.6% | 36.4% |

Proceeding a small step forward, Table 15 just below provides means for several of the key ratio-level variables used in this study, this time partitioned by sex and generation. While the mean age at first job and mean age at completion of education remain relatively stable for both sexes across generations, the average age of first migration and the average age of second migration show a declining trend with each generation. This should be interpreted delicately, however, for the final two generations, as these generations experience censoring. Many members of these generations have not had quite enough time to migrate, so the average is artificially suppressed.

Table 15: Descriptive statistics of ratio-level variables: means by sex and generation
Source: Person, Family, Society (2013)

Sex and generation		Age at survey	Age at first job	Age at completion of education	Age at first migration	Age at second migration	Time interval between migrations (months)
Men	1930-1939	77	19	19	23	28	99
	1940-1949	67	20	19	22	26	88
	1950-1959	58	20	20	22	26	85
	1960-1969	48	20	20	21	24	57
	1970-1979	38	21	20	20	24	64
	1980-1986	29	20	19	19	22	47
	1990-1995	20	19	18	18	19	26
Women	1930-1939	77	18	18	26	31	118
	1940-1949	68	20	19	24	29	117
	1950-1959	58	20	20	22	27	96
	1960-1969	48	21	20	21	26	86
	1970-1979	38	21	21	21	25	67
	1980-1986	30	21	20	20	22	58
	1990-1995	20	19	18	17	19	37

1.2. Odds ratios

An odds ratio (OR) is a measure of association between a factor variable and an outcome variable. It represents the odds of an outcome given the presence of a particular factor relative to the odds of that outcome given the absence of that factor. The OR is used to determine whether a factor heightens or lowers the risk of an outcome. Confidence intervals at the 95%-confidence level are used here to assess the precision and *arguable* significance of the OR results. The confidence interval is used in lieu of a p-value. Where the interval does not intersect 1, the OR will be considered – for all practical purposes – statistically significant. The hypotheses for the following OR tests are below, and odds ratio test results are shown in Table 16.

H_0: OR = 1
H_1: OR $\neq$ 1

Table 16: Odds ratios for first and second migrations
Source: Person, Family, Society (2013)

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First migration (outcome)	Odds ratio	Second migration (outcome)	Odds ratio
Military service	**2.491**	Military service	**2.358**
Male sex	**1.306**	Male sex	**1.332**
Higher education	0.975	Higher education	**1.191**
Had a first job	**2.965**	Had a first job	**7.104**
Born in Russia	**0.129**	Born in Russia	**0.317**
Urban residence	**0.705**	Urban residence	**0.618**
Urban residence at birth	**0.376**	Urban residence at birth	**0.385**
Religious	1.048	Religious	1.078

Bold text indicates significance at 0.05 level

The OR results reveal higher odds of migrating – both the first time and the second time – if they serve in the military (by factors of 2.491 and 2.358, respectively). Migration also appears to be associated with male sex, which shows higher odds of first migration by a factor of 1.306 and second migration by a factor of 1.332. Interestingly, having higher education does not appear to have any bearing on the odds of first migration, but obtaining a first job does: in fact, having a first job means heightened odds of first migration by a factor of 2.965, as well as higher odds of second migration by a factor of 7.104. Being born in Russia seems to be associated with reduced odds of migrating, by a factor of 0.129 for the first migration and a factor of 0.317 for the second migration. Urban residence, even more so urban residence at birth, is also associated with lowered odds of migration. Religion shows no association with the odds of migration.

1.3. One-way analysis of variance and Tukey HSD tests

One-way ANOVA tests are used here to discover which categorical independent variables influence the key continuous, ratio-level dependent variables concerning migration (i.e., age at first migration, age at second migration, and time interval between migrations [measured in months]). The hypotheses for the following one-way ANOVA tests are the following:

H_0: $\mu_{\text{factor response 1}} = \mu_{\text{factor response 2}} = \mu_{\text{factor response 3}} \ldots = \mu_{\text{factor response n}}$

H_1: the μ's are not all equal

wherein "factor responses" are the categorical characteristics, such as male sex, higher education, or Volga Federal District, which comprise the independent variables. The ANOVA tests rendered the following significance results, provided in Table 17.

Table 17: One-way ANOVA test results
Source: Person, Family, Society (2013)

Factor	Age at first migration	Age at second migration	Time interval between migrations (months)
	p-value		
Sex	**0.000**	**0.000**	**0.000**
Generation	**0.000**	**0.000**	**0.000**
Military service	0.396	0.995	0.255
Type of location	**0.000**	0.141	0.162
Type of location at birth	0.713	**0.012**	0.352
Type of education	**0.000**	**0.000**	**0.001**
Religion	**0.034**	0.694	0.772
Federal district	**0.000**	**0.022**	**0.016**
Country of birth	**0.000**	0.997	0.977

First migration destination type	**0.000**	**0.001**	**0.006**
Second migration destination type	0.921	0.815	0.814
Reason for first migration	**0.000**	**0.000**	**0.000**
Reason for second migration	**0.000**	**0.000**	**0.000**

Bold text indicates significance at 0.05 level

The ANOVA results indicate which factors influence age at first migration, age at second migration, and the time interval between migrations. Those factors which consistently influence ages at migration consist of the following: sex, generation, type of education, federal district, first migration destination type, reason for first migration, and reason for second migration. The factors which appear to influence the time interval between migrations consist of sex, generation, type of education, federal district, first migration destination type, reason for first migration, and reason for second migration.

So as to get further insights into *how* the factors influence the dependent variables, Tukey honest significance difference post-tests (see Table 1 in the Appendix) were used to show which categorical responses of each factor variable stood out from the rest. Looking first at the age of first migration according to generation, it appears that the mean age at migration is much significantly higher in the 1930-1939 generation than in virtually all other generations, with the mean difference ranging from 3.051 years (1950-1959) to 7.783 years (1990-1995). This general trend holds for each generation: a given generation has a significantly higher mean at first migration than all those successive generations except the one immediately following. Likewise, a given generation has a significantly lower mean at first migration than all those successive generations the one immediately preceding. The full range of differences in means spans –7.8 to 7.8.

The age at second migration shows a slightly different pattern, and with greater variance. This difference is visible in the 1950-1959 generation, the 1970-1979 generation, and the 1990-1995 generation. The first of these shows *no* significant difference in means not only with the two proximate generations, but also the 1970-1979 generation. The 1970-1979 generation is not significantly different from any other generation except the 1930-1939 and 1940-1949 generations.

A relatively similar pattern to the that of the age at first migration is discernible in the time interval between migrations variable. However, the 1930-1939 generation differs significantly only with the generations falling between 1960 and 1995, with the mean difference ranging from 42.719 months (1960-1969) to 81.7 months (1990-1995). The 1960-1969 generation differs significantly only with those falling between 1930 and 1959 (note that there is a sharp difference of 23.229 months between the 1950-1959 and 1960-1969 generations). The final four generations (1960-1995) show *no* significant differences among themselves in the time interval between migrations.

The Tukey tests also show that the mean age at first migration differs according to the type of locality at the time of the survey. The mean age at first migration appears to be lower in large cities and regional centers than in rural areas by 1.597 years, and it is lower in cities and towns than in rural areas by 0.964 years. The Tukey test on the influence of the type of locality at birth on the migration variables reveals that people born in large cities and regional centers migrate a second time at later ages than those born in cities and towns (by 1.776 years), or even rural areas (by 2.221 years).

Education is a significant factor of the key migration variables. The test results indicate that Russians with a general education migrate at later ages both the first time (by 1.514 years for vocational education and 1.944 years for higher education) and the second time (by 2.471 years for vocational education and 2.440 years for higher education). People with a general education also have longer time intervals between migrations (by 20.872 months for vocational education and 21.184 months for higher education).

Religion too seems to have some effect, at least on age at first migration. The test results reveal that followers of Islam migrate the first time 1.554 years later than followers of Orthodox Christianity.

When it comes to the federal districts, the one region which shows, significantly across the board, the highest age at first migration is the Northern Caucasus Federal District, which has a mean age higher than the Northwestern Federal District by as much as 4.97 years and higher than the Central Federal District by 3.076 years. Following the Northern Caucasus is the Southern Federal District, which has a mean age at first migration higher than those of the Northwestern (2.441 years), Ural (2.347 years), and Far Eastern (2.788 years) Federal Districts. The third district in terms of highest mean age at first migration is the Central Federal District. The federal districts which exhibit the lowest mean ages at first migration are the Far Eastern Federal District and the Ural Federal District. When considering the time interval between migrations according to federal district, those in the Central Federal District have a significantly longer interval than those in the Volga Federal District (22.377 months).

Looking now at how migration factors influence the migration dependent variables, the Tukey tests show that people who migrated to large cities and regional centers did so at earlier ages than those who migrated to cities and towns (by 0.913 years) and to rural areas (by 4.4 years). The results also reveal that those who migrate to cities and towns migrate at earlier ages than those migrating to rural areas (by 3.487 years). For migrating Russians whose destination is a large city or regional city, the average age at second migration is also lower than for those who move to cities and towns (by 1.996 years) and rural areas (by 2.803 years). Finally, Russians which migrate to large cities and regional centers have a shorter mean time interval between migrations (by 18.342 months) than those who migrate to cities and towns.

Considering the reasons for the first migration and their influence on the key migration dependent variables, the Tukey test results show that, in the case of the reasons for the first migration, Russians who migrated for education did so at much earlier ages than those who migrated for work (by 6.168 years), for family reasons (by 7.324 years), for military service (by 1.366 years), for other reasons (by 7.945 years). After migration for education, the reason with the overall lowest mean age at first migration was service in the military. Migration for other reasons and for family reasons had the highest mean ages at first migration. For the second migration, there is a somewhat similar pattern: those who migrate for education do so very early relative to work (by 8.111 years), family reasons (7.092 years), military service (1.883 years), and other reasons (5.509 years). Military service also reflects a low mean age at second migration. Migration for work and migration for family reasons have the highest mean ages at second migration. Looking further at the interval between migrations, migration for education reflects the shortest such interval relative to work (by 38.852 months) and family reasons (by 46.087 months). Military service too has a short interval relative to work (by 35.706 months) and family reasons (by 42.902 months).

The final factor to examine is the reason for second migration. The test results show that the factor resulting in the overall lowest mean age at second migration is military service, which is followed by migration for education. As with the reasons for first migration, relocation for family reasons and for other reasons exhibit the highest mean ages at second migration, showing a gap of about 7-8 years with education and military service and a 3.473-year gap with work.

1.4. Correlation testing

An important facet of any data exploration is testing for dependencies between variables. Given that some variables are ratio and interval-level variables and others are ordinal variables, it seems appropriate to use a few different correlation tests. Here we test for Pearson product-moment correlations, Spearman rank correlations, and Kendall rank correlations. The hypotheses for the correlation tests are below, and the correlation test results are shown in Tables 18, 19, and 20.

Pearson's r correlation tests:
H_0: r = 0
H_1: r ≠ 0
Spearman's rho correlation tests:
H_0: ρ = 0
H_1: ρ ≠ 0
Kendall's tau correlation tests:

$H_0: \tau = 0$
$H_1: \tau \neq 0$

Table 18: Pearson produce-moment correlation coefficients
Source: Person, Family, Society (2013)

	Age at first migration	Age at second migration	Time interval between migrations (months)
Age at time of survey	0.242**	0.299**	0.273**
Age at first job	−0.007	0.003	−0.018
Age at completing education	−0.033**	−0.046	−0.062*
Age at first migration	-	0.617**	0.107**
Age at second migration	0.617**	-	0.847**

** Indicates correlation is significant at the 0.01 level (2-tailed).
* Indicates correlation is significant at the 0.05 level (2-tailed).

The Pearson correlation tests first show a dependence between age at survey and age at first migration (0.242). The tests also indicate a correlation between age at survey and age at second migration (0.273), as well as between age at survey and time interval between migrations (0.273).

Table 19: Spearman's rank correlation coefficients
Source: Person, Family, Society (2013)

	Age at first migration	Age at second migration	Time interval between migrations (months)	First migration destination type	Second migration destination type
Age at time of survey	0.160**	0.234**	0.240**	0.089**	0.047
Age at first job	0.008	0.028	−0.006	−0.106**	−0.086**
Age at completing education	−0.021	−0.024	−0.041	−0.136**	−0.128**
Age at first migration	-	0.607**	0.088**	0.144**	−0.005
Age at second migration	0.607**	-	0.771**	0.064*	−0.018
Time interval between migrations	0.088**	0.771**	-	0.029	−0.016
Generation	−0.138**	−0.200**	−0.202**	−0.078**	−0.058*
Type of location	0.043*	−0.045	−0.036	0.299**	0.419**
Type of location at birth	−0.059**	−0.117**	−0.038	0.104**	0.296**
Type of education	0.078**	0.030	0.012	0.185**	0.153**
First migration destination type	0.144**	0.064*	0.029	-	0.236**
Second migration destination type	−0.005	−0.018	−0.016	0.236**	-

** Indicates correlation is significant at the 0.01 level (2-tailed).
* Indicates correlation is significant at the 0.05 level (2-tailed).

The Spearman correlation tests reveal several interesting dependencies. The first such dependency is between age at second migration and age at survey (0.234); there is also a dependency between age at

second migration and generation (–0.200). This is rather intuitive given the similarity, despite opposite ordering, between age at survey and generation. The time interval between migrations also has a moderate dependency with age at survey (0.240), as well as with generation (–0.202). Type of location at birth shows a mild dependency with second migration destination type (0.296). Finally, the first migration destination type has a moderate dependency with the second migration destination type (0.236).

Table 20: Kendall's rank correlation coefficients
Source: Person, Family, Society (2013)

	First migration destination type	Second migration destination type
Generation	–0.066**	–0.049*
Type of location	0.276**	0.385**
Type of location at birth	0.093**	0.265**
Type of education	0.168**	0.136**
First migration destination type	-	0.220**
Second migration destination type	0.220**	-

** Indicates correlation is significant at the 0.01 level (2-tailed).
 * Indicates correlation is significant at the 0.05 level (2-tailed).

The one dependency of interest resulting from the Kendall correlation test is that between the first migration destination type and the second migration destination type (0.220).

1.5 Takeaways and migration profiles

Considering the descriptive statistics first, the overall picture that can be drawn from is quite colorful and insightful. Russians, regardless of sex or generation, are largely immobile, that is, most do not move at any point during their life course. They appear to migrate at a rather early age (mean age of 21 across all generations and sexes), not long after completing their education (age 19) and beginning their first job (age 20). Even the second migration comes at an early age (mean age of 25-26). Russians' foremost destination type consists in mid-level cities and towns, although larger cities and regional centers are also relatively popular destinations (for women migrating their first time and men migrating their second time). Women in the youngest generations also appear to migrate to rural areas for their second migration.

When men migrate the first time, it is usually for military service, with an exception for the youngest generation which largely migrates for education. When men migrate the second time, it is either for work or for family reasons. Women relocate either for family reasons or education the first time, and they move largely for family reasons the second time, especially among the younger generations.

Men and women currently located in large cities and regional centers usually have not experienced migration. Those in cities and towns are a bit more likely to migrate once, particularly among men. Town dwellers are also more likely to migrate a second time. When it comes to rural areas, women in the youngest generation are rather prone to moving two or more times, which may indicate that being in such a setting is the result of a return migration. In fact, a rural setting is fairly common for those who migrate two or more times, notably more so than those who migrate once or not at all; this could be an indicator of return migration.

Those born in cities in towns, as well as those born in large cities and regional centers, show a tendency not to migrate. Nevertheless, those who are more prone to a single migration are born in mid-level cities and towns. Those who migrate twice or more tend to be those born in cities and towns, but among older generations they may also be those born in the country.

While it is difficult to distinguish the role of education, it does appear that Russians with vocational education do have a tendency to migrate once or twice. The role of religion is effectively null. The most

mobile federal districts by far are the Central and Volga Federal Districts, though it appears that the Central Federal District enjoys larger proportions of non-migrants and one-time migrants and the Volga Federal District has larger shares of second migrations, which may be return migrations.

Irrespective of sex, generation, or the number of migrations, the frontrunner migration destination is mid-level cities and towns. Moreover, men tend to migrate for military service with almost no difference across generations or the number of migrations. The one notable exception is the youngest generation, a considerable share of which migrates, whether the first or second time, for education. For women, the foremost reason for migrating the first time is for family reasons, though there is a shift to education in the youngest generation, and the primary reason for migration the second time around is education. Finally, most men – up until the latest generation – serve in the military, but the divide between those who served and did not serve is even more pronounced for those who migrated once or twice.

The average age of first and second migration appears to move downwards with each generation, but there seems to be no clear patterns which distinguish the sexes. It is worth noting, however, that women on average migrate the first time at a later age than men do in the two oldest generations, and this gap is even more pronounced for the average age at second migration.

Turning now to the odds ratios, the test results show that the odds of migrating are consistently higher for those with the following qualities: military service, male sex, and having a first job. The same can be said for higher education and the likelihood of a second migration. Likewise, the figures show that the odds of migrating are consistently lower for those with the following qualities: being born in Russia, urban residence, and urban residence at birth. Religion shows no relationship with the likelihood of migration, and higher education shows no relationship with the odds of a first migration.

The ANOVA and Tukey HSD tests uncovered the way in which the selected categorical variables significantly influence ages at migration and the time interval between migrations. The tests showed that younger generations migrate at earlier ages, and show quicker turnaround between migrations, particularly starting with the 1960-1969 and 1970-1979 generations. A caveat to keep in mind, though, is that the youngest generations are still quite young, such that they have not all had enough time to migrate.

Current rural inhabitants migrate the first time at slightly later ages than those living in cities and towns and even more so than those living in large cities and regional centers. Those born in large cities and regional centers migrate a second time at later ages than those born in cities, towns, and rural areas. As concerns education, Russians with a general education migrate at later ages and have a slower turnaround between migrations. Looking at religion, Russian Muslims migrate the first time at later ages than Orthodox Christians. Interestingly, the Tukey tests on federal districts showed that the districts with the highest mean ages at first migration are the Northern Caucasus, Southern, and Central Federal Districts, and that the districts with the lowest such means are the Far Eastern and Ural Federal Districts.

Considering migrants' destinations, Russians who migrate to larger cities and regional centers generally do so at earlier ages than those who migrate to cities, towns, and rural areas, and with shorter time intervals between migrations. Those who migrate to cities and towns do so at earlier ages than those who move to rural areas.

When it comes to the reason for migration, those who migrate for education or for military service for the first migration tend to do so much earlier than those who migrate for work, for family reasons, or other reasons. Furthermore, those whose first migration is for education or military service migrate a second time at an earlier age relative to those migrating for any other reason. First migrations for education or military service are accompanied by shorter intervals between first and second migrations, relative to migrations for any other reason. For those whose first migration is for family reasons, the average age at first and second migrations is consistently high, relative to other reasons. Those whose first migration is for work have a comparatively high mean age at second migration. As with reasons for first migration, Russians who migrate a second time for education or military service move on average at an earlier age than those who move for any other reason, especially for family and other reasons.

The trio of correlation tests also provide some useful insights. First, there is a positive dependency between age at survey and age at first migration, as well as between age at survey and age at second migration, indicating that younger generations tend to migrate at younger ages. Second, there appears to be

a positive correlation between age at survey and the time interval between migrations, meaning that older generations tend to wait longer to migrate a second time. Third, the tests reveal a dependency between first and second migration destination types, indicating that people tend to repeat destination types from their first to their second migrations (e.g., someone migrates to a rural area the first time and a rural area again the second time).

From these findings we can glean some patterns and craft a few migrant profiles. It may be useful to begin with those who actually do not migrate. These are the big city non-migrants, who are current urbanites and may have been born in either a large city, regional center, mid-level city, or town. This fits the logic presented in the theoretical framework in that those who already live in the most coveted places – namely cities and towns, but also large cities and regional centers – hold tightly to their urban residence and do not quickly relinquish it.

It appears that the localities experiencing the most migration are mid-level cities and towns. Another profile we can form is of a mid-sized city migrant, who may originate from a rural area or another city or town. For men, an important and indisputable pattern is military migration, so the military migrant certainly finds its place in the ranks of the migrant profiles. The military migrant experiences a short interval between the first and second migration, so it is possible that a soldier migrates for work or family reason upon the second migration. It is worth note that the military migrant is largely a Soviet-era profile, as men exhibit different behaviors in the youngest generation (i.e., they prefer to migrate for education).

Student migrants are also worth note, especially in the youngest generation. This goes for both sexes, but for men it seems more to relate to the first migration, and for women the second migration. Women in this profile will more likely migrate for family reasons first, and then education. Such migrants more often go to larger cities and regional centers, where more universities are located, but they also move to cities and towns. The time interval between migrations is quite short for young students, which show that they likely return home or move to another place after graduating (logical, given the registration system).

One particularly interesting trend we can glean here is that of the return migrant, especially in rural areas. This pattern is most noticeable for women in the youngest generation, who seem often to migrate for family reasons; return migration is also discernable in the Volga Federal District. One last pattern worth note is the intra-destination type migrant, that is, migrants who engage in rural-rural, town-town, or large city-large city migration.

2. Event history analysis of Russian migration biographies

Event history analysis (EHA) is applied to assess the risk, or likelihood, of migration over time. EHA looks at the relationship between certain predictors and the outcome variable – migration – over a period measured in months. For this analysis, we study the full sample of 9,557 individuals, and we consider our main list of variables, plus a time variable counting the number of months starting from the beginning of age 15. We use the backward variable selection technique, and we stratify the data according to two different variables: sex and generations. The hypotheses for the Cox regression analysis are the following:

H_0: all B's = 0 and all Exp B's = 1
H_1: at least one B ≠ 0, at least one Exp B ≠ 1

2.1. Functions for Cox regression

Traditional linear analytical methods utilize the probability density function, *f(t)*, and the cumulative distribution function, *F(t)*. However, event history analysis stands apart by examining two other functions: the survival function, *S(t)*, and the hazard function, *h(t)*.

The survival function shows the probability of the nonoccurrence of an event until time *t*. The hazard function, or hazard rate, consists in the ratio of the probability density function to the survival function; it shows the immediate risk of experiencing an event at *T = t*, given that the event did not occur before *t*. This study is not concerned with building models, but it is important to understand the basics of these two functions in order to understand the Cox regression test results.

Survival function: $S(t) = P(T > t) = 1 - F(t) = 1 - \int_0^t f(u)\, d(u)$
Hazard function: $h(t) = \lim_{\Delta t \to 0} ((P(t \leq T < t + \Delta t | T \geq t)) / \Delta t) = f(t) / S(t)$

2.2. Cox regression results

The results of the Cox regression test are provided in Table 21 below, and Figure 1 shows the survival and hazard functions of the Cox regression test. Column "B" shows the beta coefficient which would fit into the functions above, and column "Exp B" shows the risk of migration of a particular factor response (like in ANOVA), relative to 1 (like in the OR tests), which is represented by a selected base factor response.

Table 21: Event history analysis Cox regression test results
Source: Person, Family, Society (2013)

Predictors	Model 1 Coefficients			Model 2 Coefficients			Model 3 Coefficients		
	B	Sig.	Exp B	B	Sig.	Exp B	B	Sig.	Exp B
Sex *base: male*	**0.169**	**0.001**	**1.184**	-	-	-	**0.169**	**0.001**	**1.184**
Generation *base: 1990-1995*	-	**0.000**	-	-	**0.000**	-	-	-	-
1930-1939	**-0.658**	**0.000**	**0.518**	**-0.628**	**0.000**	**0.534**	-	-	-
1940-1949	**-0.500**	**0.000**	**0.606**	**-0.473**	**0.000**	**0.623**	-	-	-
1950-1959	**-0.399**	**0.001**	**0.671**	**-0.368**	**0.003**	**0.692**	-	-	-
1969-1969	**-0.439**	**0.000**	**0.645**	**-0.405**	**0.001**	**0.667**	-	-	-
1970-1979	**-0.368**	**0.004**	**0.692**	**-0.337**	**0.008**	**0.714**	-	-	-
1980-1986	-0.204	0.119	0.815	-0.176	0.180	0.839	-	-	-
Edu. Type *base: Higher*	-	**0.005**	-	-	**0.008**	-	-	**0.005**	-
General	-0.103	0.086	0.902	-0.089	0.138	0.915	-0.098	0.103	0.907
Vocational	**-0.171**	**0.001**	**0.843**	**-0.165**	**0.002**	**0.848**	**-0.172**	**0.001**	**0.842**
Rel. Type *base: ROC*	-	-	-		0.101	-	-	0.085	-
Islam	-	-	-	-0.180	0.032	-	-0.187	0.027	0.829
Other	-	-	-	-0.020	0.901	0.980	-0.037	0.822	0.964
Fed. District *base: Central*	-	**0.001**	-	-	**0.001**	-	-	**0.000**	-
Northwest	-0.081	0.344	0.922	-0.080	0.351	0.923	-0.087	0.312	0.917
South	0.061	0.446	1.063	0.051	0.526	1.053	0.064	0.426	1.066
N. Caucasus	0.117	0.203	1.124	**0.195**	**0.048**	**1.215**	0.191	0.054	1.210
Volga	**0.131**	**0.027**	**1.140**	0.140	0.019	1.151	**0.152**	**0.011**	**1.164**
Ural	**0.389**	**0.000**	**1.476**	0.385	0.000	1.470	**0.403**	**0.000**	**1.497**
Siberia	**0.153**	**0.041**	**1.166**	0.147	0.052	1.158	**0.160**	**0.034**	**1.173**
Far East	0.201	0.098	1.223	0.190	0.119	1.209	0.198	0.105	1.219
Age at 1st *Migration*	**-0.049**	**0.000**	**0.952**	**-0.049**	**0.000**	**0.952**	**-0.048**	**0.000**	**0.953**
Why did you move (1st mig.)? base: for education	-	**0.000**	-	-	**0.000**	-	-	**0.000**	-
For work	**-0.467**	**0.000**	**0.627**	**-0.442**	**0.000**	**0.643**	**-0.478**	**0.000**	**0.620**

	-0.686	0.000	0.504	-0.660	0.000	0.517	-0.701	0.000	0.496
For family reasons	**-0.686**	**0.000**	**0.504**	**-0.660**	**0.000**	**0.517**	**-0.701**	**0.000**	**0.496**
For military service	0.135	0.096	1.144	**0.210**	**0.015**	**1.234**	0.125	0.124	1.133
Other	**-0.619**	**0.000**	**0.538**	**-0.604**	**0.000**	**0.547**	**-0.639**	**0.000**	**0.528**
Stratification variable	None			Sex			Generation		
Model specs	-2 LL*	Chi-sq.	Sig.	-2 LL*	Chi-sq.	Sig.	-2 LL*	Chi-sq.	Sig.
*Log Likelihood	28847	899.5	0.000	25875	886.15	0.000	21012	787.79	0.000
Sample size		Event	2187		Event	2187		Event	2187
		Censored	74		Censored	74		Censored	74
		Total	2261		Total	2261		Total	2261

Bold text indicates significance at 0.05 level.

For the first model (no stratification), the most notable results are that women are shown as being *more* likely (by a factor of 1.184) than men to migrate, which contrasts with the results of the odds ratio tests. Also rather peculiar is that older generations appear *less* likely to migrate (by factors of 0.518, 0.606, 0.671, 0.645, and 0.692 for each successive generation leading up to and relative to the 1990-1995 generation).

A third interesting find, and somewhat in contrast with the findings from the exploratory data analysis, is that those with vocational education are significantly less likely to migrate than those with higher education, by a factor of 0.843. Religion, like in the exploratory data analysis, did not have any significant bearing on the risk of migration.

Of the federal districts, those which showed a higher risk of migration were the Volga (factor of 1.14), Ural (factor of 1.476), and Siberian (factor of 1.166) Federal Districts. As regards the reason for migration, education came out ahead: migrating for work, for family reasons, and for other reasons (but not military) showed reduced risks of migration by factors of 0.627, 0.504, and 0.538, respectively.

When stratified by sex (Model 2), the factors of the risks of migration do not change much for the generations: the generations still show reduced migration risks relative to the 1990-1995 generation. The same can be said for education, wherein vocational education reflects a lower risk of migration than higher education which is comparable to that of the first model. There is, however, an interesting change in the federal districts. In the second model, the Northern Caucasus, Volga, and Ural Federal District all reflect higher risks of migration, relative to the Central Federal District, by factors of 1.205, 1.151, and 1.47, respectively. Also like the first model, migration for work, for family reasons, and for other reasons show reduced risks of migration relative to migration for education by factors of 0.643, 0.517, and 0.547, respectively. In contrast to the first model, though, migration for military service turned out to be significant, reflecting a higher likelihood of migration by a factor of 1.234.

The final model, which stratifies by generation, gets either the same or almost the same results as the first two models for the sex and education variables. This model is also quite similar to the first model in the federal district variable, where the Volga, Ural, and Siberian Federal Districts had higher risks of migration by factors of 1.164, 1.497, and 1.173, respectively. Like the other models, the reasons for migration generally showed reduced likelihoods of migration, that is, for migration for work (0.62), for family reasons (0.496), and for other (non-military) reasons (0.528).

Figure 1: Survival and hazard functions of Cox regression test (Source: Person, Family, Society [2013])
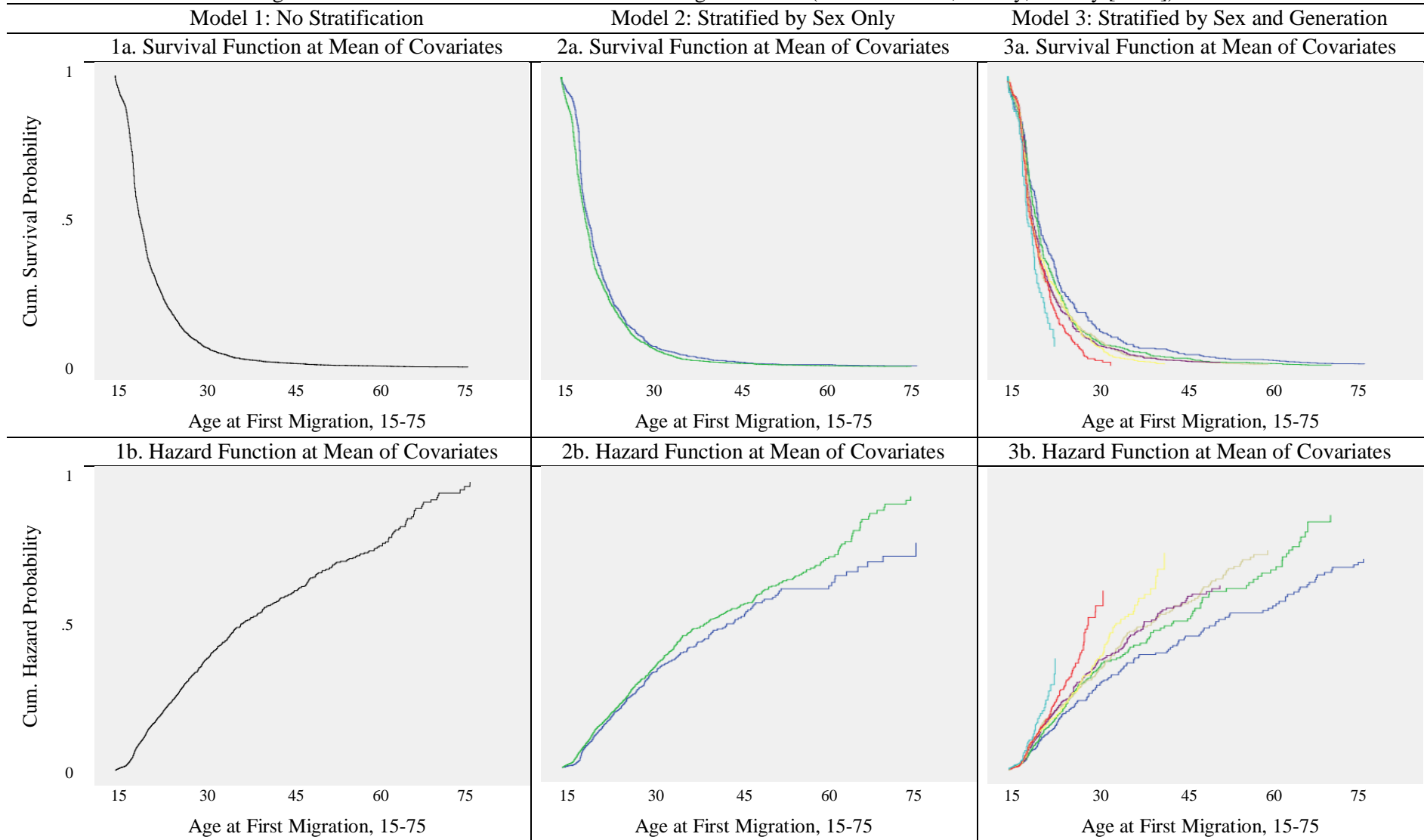
Charts 2a and 2b: blue = men; green = women.

Charts 3a and 3b: blue = 1930-1939; green = 1940-1949; tan = 1950-1959; purple = 1960-1969; yellow = 1970-1979; red = 1980-1986; light blue = 1990-1995.

Column 1 of Figure 1, that is sections 1a and 1b, indicate as time, measure in age, continues from age 15 to age 75, the likelihood of migrating at least once increases. This is intuitive, of course. What is noteworthy, however, is the slight stalling around ages 35 and 53, as well as the uptick round age 60, which is followed by another stall at about age 70.

Column 2 (sections 2a and 2b) indicate that women pretty consistently show a higher risk of migration than men do across the life course. This risk gap becomes rather pronounced at a few points, such as between ages 30 and 47, as well as at age 52, when the two sexes diverge. This does in part reflect the small sample size of men at these ages, but this divergence still merits attention. Starting around their early to mid-50s, women are increasingly more likely than men to have experienced a migration.

Column 3 (sections 3a and 3b), look at the data across generations. The lines of younger generations are shorter than those of older generations because of censoring: those born in 1995 have not lived to the age of 75, for instance. The general patter is that older generation appear to have lower risks of migration across the life course, that is, from age 15 to age 75. The two generations that somewhat defy this trend are the 1950-1959 and 1960-1969 generations, which seem nearly intertwined. The divergence among the generations begins around age 20, and the first group that splits most noticeably is the 1990-1995 generation. After that, the next moment of divergence is around age 24, when the 1930-1939 and 1980-1986 generations separate in different directions; the former stalls over time, and the latter ascends at a higher rate. The third divergence point is around age 31, when the 1970-1979 generation begins showing an increasing likelihood of migration and the 1940-1949 generation begins stalling, albeit intermittently. At no point do the 1950-1959 and 1960-1969 generations diverge; interestingly, they converge briefly with the 1940-1949 generation at around age 48.

2.3. Takeaways

Zooming out a bit, the results of the Cox regression reveal a few general insights. First, the test results show that the factors which are, relative to their respective bases, attributable to a higher risk of migration are female sex (relative to male sex) and the Volga and Ural Federal Districts (relative to the Central Federal District). Second, they indicate that all generations up to 1979 (relative to the 1990-1995 generation), vocational education (relative to higher education), age at first migration, and migration for job, for family reasons, and for other reasons (relative to migration for education) were all associated with a lower risk of migration. Third, the functions reveal that women are more likely than men to migrate across the life course, particularly later in life, and that with each successive generation – save the 1950-1959 and 1960-1969 generations – there is a perceptible increase in the likelihood of migration across the life course, with the youngest three generations showing very vertical trends and little sign of stalling.

3. Sequence analysis of Russian migration biographies

The goal of analyzing the sequences of migration biographies is to depict migrations alongside other events in the form of statuses across the life course, as well as to show these statuses' changing shares over time. In this particular case, the life course will be confined to ages 15 to 35, the prime years of the life course when lives tend to be relatively dynamic.

This analysis studies a subsample of PFS survey respondents who reported migrating once between the ages of 15 and 35. The size of the sample is 1,521, which is comprised of 611 men and 910 women. These men and women span the full range of generations from 1930 to 1995 (Figure 2). The variables included in the analysis consist of the following: birth year, generation, number of migrations from age 15 (migrations beyond age 35 excluded), year of migration, purpose of migration, year of beginning first job, and year of completing education.

Figure 2: Distribution of respondents by sex and generation (N = 1,521)
Source: Person, Family, Society (2013)
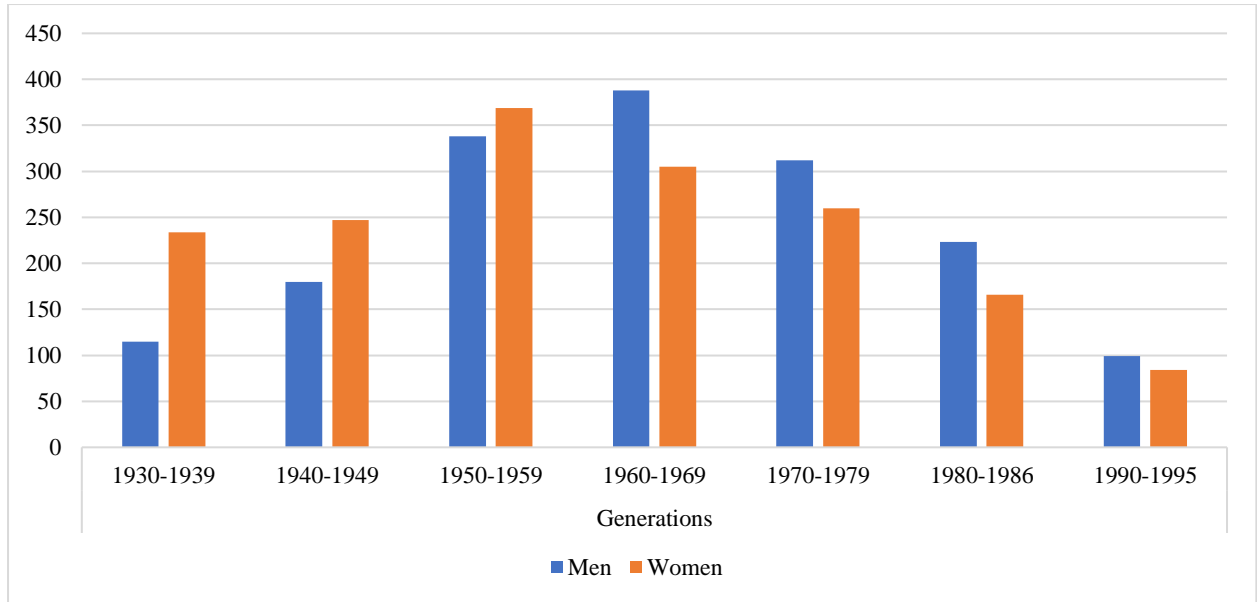
Table 22 shows the average ages at migration of each generation of men and women for the subsample. The overall trend for both sexes is a decline in the average age across generations; however, the final two generations are incomplete cohorts, as not all respondents within those generations have reached age 35. Thus, their average ages are somewhat suppressed relative to the completed cohorts.

Table 22: Average ages at migration, by sex and generation
Source: Person, Family, Society (2013)

Men							Women						
1930-1939	1940-1949	1950-1959	1960-1969	1970-1979	1980-1986	1990-1995	1930-1939	1940-1949	1950-1959	1960-1969	1970-1979	1980-1986	1990-1995
Average													
22	22	22	21	20	19	17	21	20	19	19	19	18	17

To use one of the most fundamental tools of sequence analysis, chronograms, we first need to generate a color palette which will serve to distinguish the various statuses that individuals may hold at different ages (see Table 2 in the Appendix). It is worth noting here that migration for military service, migration for family reasons, and migration for other reasons have all been aggregated to form one status: migration for other reason (code TO). This will shape the way that the TO status dynamics are interpreted in the chronograms.

Figures 3 below provides a pair of chronograms, which are divided by sex. The chronograms depict the shares of statuses according to the color coding shown in Table 2 in the Appendix, as well as their dynamics over time, depicted in years from age 15 to age 35.

Figure 3: Sequence analysis chronograms, by sex
Source: Person, Family, Society (2013)

Men	Women
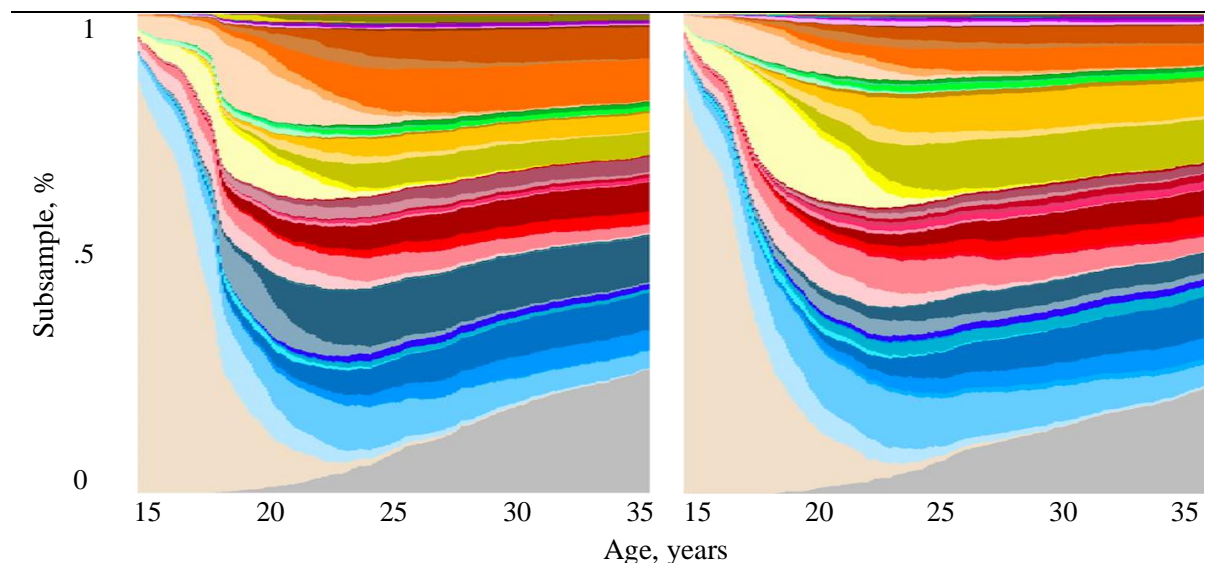
The chronograms in Figure 3 unveil several interesting patterns. First, they reveal that men experience slightly more censoring and are a bit more likely to jumpstart their careers (biographies) in their late teen years with education, which they follow up with a job and relocation for other reasons. They also show that women begin their biographies and generally obtain events slightly more rapidly up through age 24; men, on the other hand, seem to stall on the first event in their teen years. Women are overall more likely to start their biographies with migration for education, and women who begin with this migration or with education more rapidly obtain further events. The most striking dividing point, however, is the influence of migration for other reasons among men, which in this case is relocation for military service. Right at age 18, military service migration holds a large share among men, and obtaining further events beyond this first status is not a rapid process. When it comes to women and migrating for other reasons, we can infer that this is migration for family reasons. One other interesting difference between the sexes is that men seem to stall a bit around age 18 to age 21 on the status ETO (education→migration for other reason), which may also point to military service following the completion of education.

The chronograms by sex reveal that men have a greater propensity to migrate for other reasons and then either complete education and find a job or find a job and complete education. At age 35, the foremost statuses among men are ETOJ (education→migration for other reason→job), TOEJ (migration for other reason→education→job), EJTO (education→job→migration for other reason), and TOJE (migration for other reason→job→education). Across the life course, and by age 35, men have a much smaller share of biographies beginning with migration for education, a much larger share of biographies beginning with migration for other reasons, a slightly smaller share of biographies beginning with work, and a comparable share of biographies beginning with education. More specifically, men's share of the status ETOJ (education→migration for other reason→job) is much larger than women's across the life course and at age 35. Women's leading statuses at age 35 are TEEJ (migration for education→education→job), TEJE (migration for education→job→education), and EJTO (education→job→migration for other reason). Women show impressive and balanced variety in their biographies which begin with education or work.

The chronograms divided by sex and generation provide some intriguing insights into the lives of Russian migrants over time. Considering just generation for a moment, we see that there is considerable censoring among the younger generations; this is natural, as some individuals in the younger generations have not yet reached age 35. The coarseness of the chronograms for the older generations, namely for men of the 1930-1939 generation, is due to the small sizes of their subsamples. One trend that is observable across the generations is the increasing postponement of starting biographies. Another cross-generational trend is the gradual reduction in the share of biographies beginning with a job. Most of the broad biography groups show no striking trends across generations, irrespective of sex, however. The 1980-1986 and 1990-1995 generations appear to obtain events a bit

faster, namely in the biographies beginning with education. One last thing to note is the curious predominance of the ETE (education→migration for education) status from age 18 to 22, especially among men. Young people are following up education with migration for further education. This may reflect the challenges of the 21ˢᵗ century labor market and the difficulties that young people face in finding work. Since it is more distinguished among men, it may also reflect young men's attempts to avoid conscription via university enrollment, especially in the context of a tough labor market.

Considering now both generation and sex, but focusing just on men, the share of biographies beginning with education jumps between the 1930s and 1940s, and it appears to stabilize across subsequent generations. For most generations, the most prevalent age-35 statuses are ETOJ (education→migration for other reasons→job) and TOEJ (migration for other reason→education→job), TOJE (migration for other reason→job→education), and EJTO (education→job→migration for other reason). Biographies beginning with education are overall the most prevalent. The influence of military conscription and relocation around age 18 is evident across virtually all the generations. There is noticeably more stalling on the ETO (education→migration for other reason) status in the 1970-1979 and 1980-1986 generations, which, in the case of military conscription, may be linked to the difficulties of finding a job following military service in a post-Soviet, free-market economy.

With regards to women across generations, there is a steady increase in the share of biographies beginning with migration for education with each generation. There is also a sudden reduction in the share of biographies beginning with education which occurs between the 1930-1939 and 1940-1949 generations. The share of biographies beginning with migration for other reasons grows pretty steadily across generations. In the 1990-1995 generation, there is a strikingly large share of women who migrate for education from age 18 to age 22, which overlaps a large share of women migrating for other reasons (i.e., family reasons) from age 16 to age 20. The most prevalent age-35 statuses across most generations are TEEJ (migration for education→education→job), TEJE (migration for education→job→education), and EJTO (education→job→migration for other reason).

Figure 4: Sequence analysis chronograms, by sex and generation (Source: Person, Family, Society [2013])
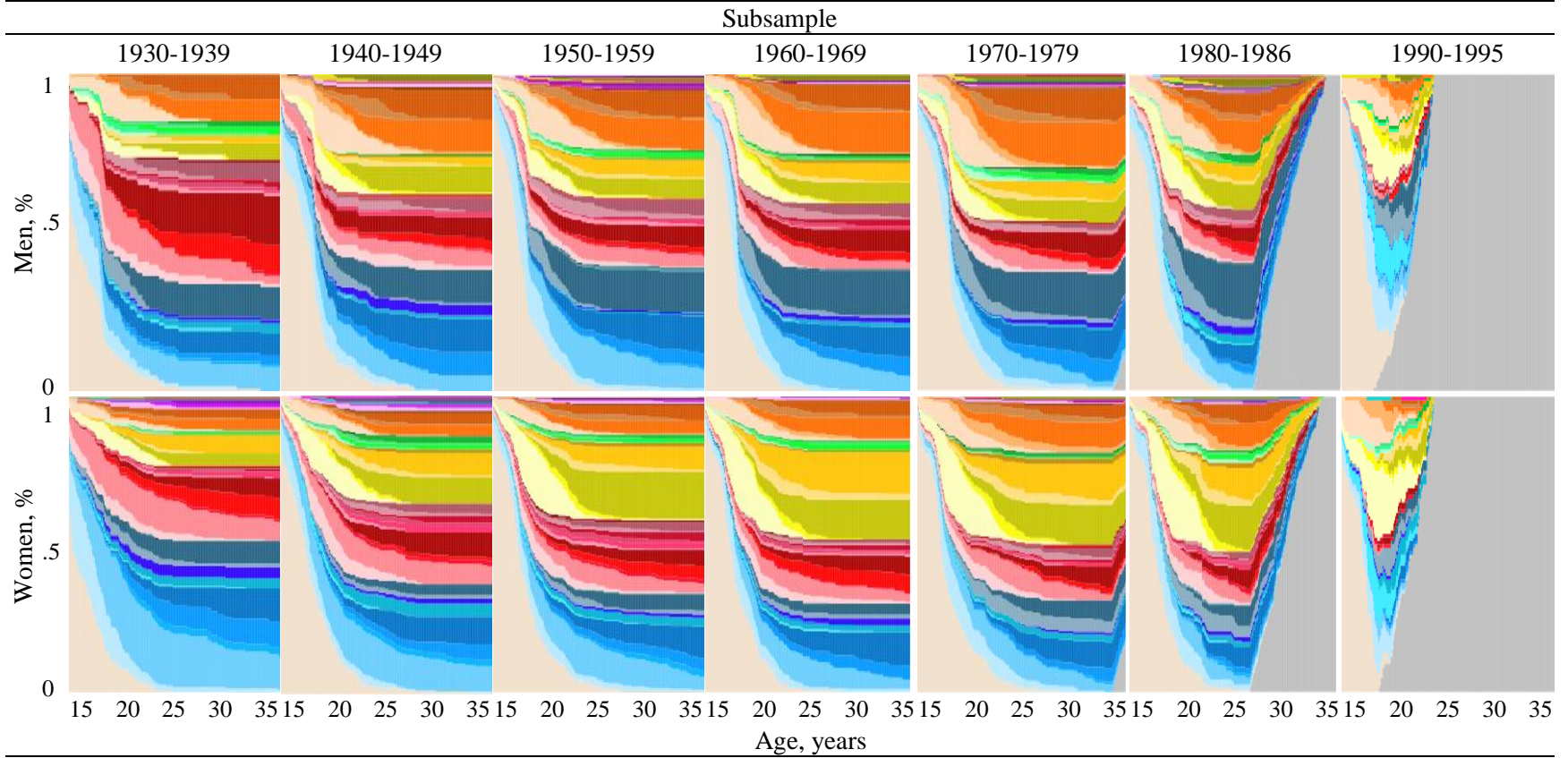
Conclusion

The various tests in this study unveiled a wide range of useful results. The exploratory data analysis showed that, while Russians are largely immobile across all generations, especially those currently located in or born in large cities and regional centers, those who do migrate tend to move to or among mid-level cities and towns, in some cases larger cities. In fact, those in mid-level cities and towns seem to be the most mobile overall. This form of migration seems to be tied in part to education, especially in cases involving larger cities. This type of migration also tends to have a relatively short duration (before a second migration), as does a first migration for military service. This may be a consequence of the registration system; it may also be a consequence of the liberal and competitive nature of the labor market. In addition, this type of migration naturally happens at an early age, as does migration for military service.

While both young men and women show a tendency to migrate for education, this is really only true for men (or women) of the youngest generation moving the first time, or for women of most generations moving the second time. In the Soviet era, men's first migration was usually devoted to the military.

Across many generations, when people would migrate a second time, it was not inconceivable for the destination to be rural. This is distinctly the case for women of the 1990-1995 generation, a majority of whom when to the countryside for the second migration. While it is not certain, it is rather curious whether this migration is a form of return migration, especially given the fact that so many women migrate for family reasons during their second migration. If this is the case, then it begs the question of why exactly they return. It could be to support family members or to start a family, or it could be a number of other reasons.

Based on the findings from the exploratory data analysis, that is, mostly from the descriptive statistics, distributions, and ANOVA and Tukey tests, we were able to craft a handful of migrant profiles which capture the key migration patterns of Russians: these profiles are the big city non-migrant, the mid-sized city migrant (which is very similar to the intra-destination type migrant and somewhat similar to the student migration), the military migrant, and the return migrant. In this regard, the exploration of the data was a successful endeavor.

Regarding the first research question and hypothesis on the factors of migration, the exploratory data analysis revealed several factor variables which are associated with higher (e.g., military service, male sex, and having a first job) and lower (e.g., being born in Russia, urban residence, and urban residence at birth) odds of migration, as well as factors of the age of migration and time interval between migration. The correlation tests of the exploratory data analysis showed dependencies of different tones and strengths between migration variables (e.g., age, time interval, destination, and reason) and variables such as age, generation, and type of location at birth, among others.

The event history analysis also uncovered factors contributing to higher (e.g., female sex, the youngest generation, higher education, and migration for education) and lower (e.g., male sex, generations up to 1979, vocational education, migration for work, family reasons, or other reasons) likelihoods of migration and assessed the risk of migration over the life course, starting from age 15 and stratified by sex and generation. Many of the results of the exploratory data analysis and event history analysis contradicted one another – a dilemma which merits discussion. Naturally, it makes it rather difficult to assess whether the hypothesis can be addressed sufficiently. In general, it seems that exploratory data analysis tools – at least those used herein – are not necessarily the most appropriate tools for survey-based observational studies in the social sciences. The reasons for this are (1) there is little to no control over the variables, (2) there is absolutely no control over group assignment, and (3) the exploratory tests could not deal with covariates and potential confounders. Moreover, event history analysis's ability to stratify the data and build survival and hazard functions which show changing risk over the life course is absolutely indispensable for studying life-course events and their occurrence over time.

With this in mind, it seems more appropriate to give credit to the event history analysis results in cases where results conflict. We can say that most of the factors listed in the first hypothesis were proven. The event history analysis served to prove the factors sex, generation, and type of education, and the exploratory data analysis served to prove the factors military service, sex, and type of education.

Unfortunately, type of locality and type of locality at birth remain unproven. We believe this may be because the odds ratio test involved combining large cities and mid-level cities into one variable. A conflict between the two analyses arose for the factors sex and type of education. In all, we can say that military service, female sex, younger generation, and higher education are all factors in a higher likelihood of migration in Russia.

Looking at the second research question and hypothesis on the position of migration within the life course, the sequence analysis results show migration as something of an enabler or gateway event, that is, migration is a very common starting event: TOEJ, TOJE, TEEJ, and TEJE are primary examples of common biography statuses which begin with migration: the first two are more common among men and are strongly associated with military service, and the latter two are more common among women and reflect their preference for moving for education. The migrations in these biographies commonly occur between ages 16 and 24, revealing mobility at an early age and the subsequent realization of one's migration intentions. In the case of these four biography statuses, based on what we know about the durations of intervals between first and second migrations, men and women who have these biographies may well experience a second migration relatively quickly after undergoing the first migration. Thus, we were successful in proving the first second hypothesis. This does not provide a complete picture, however. There is more to consider.

Migration appears to be not only an enabler, but also a closer, that is, many men and women have the biography status EJTO (education→job→migration for other reason) at age 35. For men, interpreting the "other" reason for migration is a bit challenging, though the migration is mostly likely either for military service or family reasons; for women, the migration is very likely for family reasons. As this is a closing event, it may be associated with marriage or starting a family, among other explanations.

A third interpretation of the role of migration is migration as a deferment or avoidance tool. Given the logic that migrating opens up new opportunities, whether for work or education, *inter alia*, migration may also serve to help people defer difficult decisions or tasks, or even to avoid them altogether. This may be visible in the commonly male biography status ETOJ (education→migration for other reason→job), in which case migration falls after the completion of education and before obtaining a job. Moving from education to work can be a challenging process; the chronograms by sex and generations revealed that the ETOJ status was stretched remarkably long in the life courses of men, especially in the generations since the 1970s. Given that the TO status for men really means migration for military service, we believe this may reflect a stalling or delay tactic used by men to bide time in the military before finding work later. On the other hand, there are many young men in the 1990-1995 generation which have the status ETE. The presents of a migration for education following the completion of education seems as though it would be rather unnecessary for most, but given that university enrollment permits a man to avoid conscription, we believe that this type of migration may reflect men's attempt to avoid military service.

While only a descriptive analytical tool, sequence analysis proved quite useful in visualizing and understanding life course complexity and the trajectories of individuals between sexes and across generations. The ability of sequence analysis and event history analysis – two of the most commonly used and advanced methods in life-course studies – to stratify samples by groups such as sexes and generations is invaluable, for example, for observing patterns and differences between cohorts.

What remains now is to assess in what phase Russia currently stands in the Zelinsky mobility transition model. While modern Russia does not fall neatly into any one of the phases (premodern traditional society, early transitional society, late transitional society, advanced society, or future super-advanced society), it appears that many of the qualities of migration shown in this research coincides with those of an advanced society. Looking closely at the individual characteristics of an advanced society, it is not clear whether residential mobility has leveled-off in recent history, as migration has been relatively stable across generations since the 1930s and, if anything, it is showing something of a decline in the 1990-1995 generation. In this sense, Russia may actually reflect a future super-advanced society. Movement from countryside to city does seem reduced, and migration usually comes in the form of inter-city movement. Both of these are qualities of an advanced society. Russia's frontier closed long ago, and while migration there seems to have declined, new public efforts to incentivize movement to Siberia and the Far East are underway. While it falls out of the purview of this research, immigration of unskilled labor from nearby

developing countries is very prevalent and is unlikely to dissipate anytime soon. International migration and circulation also occur, though not necessarily to such a large degree as in highly developed countries. This study has not examined circulation in any great detail, so it is not possible to assess Russia's position in this capacity. In all, though, given all the qualities of an advanced society in Zelinsky's model, it appears that Russia to one degree or another qualifies as an advanced society. While this analysis is quite subjective, it nonetheless proves the third research hypothesis.

While this study has managed to cover a large swath of ground in exploring the PFS data and examining the factors and positions of migration in the Russian life course, it appears that even with so many results, findings, and inferences, just as many questions have sprung up in the process of this research. This work is just the first step in a larger project of delving into the PFS survey data to better understand the social, economic, and demographic dynamism of Russian society.

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Appendix

Table 1: Tukey HSD test results
Source: Person, Family, Society (2013)

Dependent Variable	Factor Pairings		Mean Difference (I-J)	Sig.
	Generation (decade of birth)			
Age at first migration	1930-1939	1940-1949	1.558	.125
		1950-1959	**3.051**[*]	**.000**
		1960-1969	**3.987**[*]	**.000**
		1970-1979	**4.507**[*]	**.000**
		1980-1986	**5.753**[*]	**.000**
		1990-1995	**7.783**[*]	**.000**
	1940-1949	1930-1939	-1.558	.125
		1950-1959	1.494	.052
		1960-1969	**2.430**[*]	**.000**
		1970-1979	**2.949**[*]	**.000**
		1980-1986	**4.195**[*]	**.000**
		1990-1995	**6.225**[*]	**.000**
	1950-1959	1930-1939	**-3.051**[*]	**.000**
		1940-1949	-1.494	.052
		1960-1969	0.936	.346
		1970-1979	**1.456**[*]	**.030**
		1980-1986	**2.701**[*]	**.000**
		1990-1995	**4.731**[*]	**.000**
	1960-1969	1930-1939	**-3.987**[*]	**.000**
		1940-1949	**-2.430**[*]	**.000**
		1950-1959	-0.936	.346
		1970-1979	0.519	.926
		1980-1986	**1.765**[*]	**.014**
		1990-1995	**3.795**[*]	**.000**
	1970-1979	1930-1939	**-4.507**[*]	**.000**
		1940-1949	**-2.949**[*]	**.000**
		1950-1959	**-1.456**[*]	**.030**
		1960-1969	-0.519	.926
		1980-1986	1.246	.251
		1990-1995	**3.276**[*]	**.000**
	1980-1986	1930-1939	**-5.753**[*]	**.000**
		1940-1949	**-4.195**[*]	**.000**
		1950-1959	**-2.701**[*]	**.000**
		1960-1969	**-1.765**[*]	**.014**
		1970-1979	-1.246	.251
		1990-1995	2.030	.091

	1990-1995	1930-1939	**-7.783***	**.000**
		1940-1949	**-6.225***	**.000**
		1950-1959	**-4.731***	**.000**
		1960-1969	**-3.795***	**.000**
		1970-1979	**-3.276***	**.000**
		1980-1986	-2.030	.091
Age at second migration	Born 1930-1939	1940-1949	1.864	.414
		1950-1959	**2.966***	**.011**
		1960-1969	**4.865***	**.000**
		1970-1979	**5.297***	**.000**
		1980-1986	**7.703***	**.000**
		1990-1995	**10.266***	**.000**
	1940-1949	1930-1939	-1.864	.414
		1950-1959	1.103	.816
		1960-1969	**3.001***	**.005**
		1970-1979	**3.434***	**.002**
		1980-1986	**5.839***	**.000**
		1990-1995	**8.402***	**.000**
	1950-1959	1930-1939	**-2.966***	**.011**
		1940-1949	-1.103	.816
		1960-1969	1.898	.142
		1970-1979	2.331	.063
		1980-1986	**4.736***	**.000**
		1990-1995	**7.300***	**.000**
	1960-1969	1930-1939	**-4.865***	**.000**
		1940-1949	**-3.001***	**.005**
		1950-1959	-1.898	.142
		1970-1979	0.433	.999
		1980-1986	**2.838***	**.050**
		1990-1995	**5.401***	**.022**
	1970-1979	1930-1939	**-5.297***	**.000**
		1940-1949	**-3.434***	**.002**
		1950-1959	-2.331	.063
		1960-1969	-0.433	.999
		1980-1986	2.405	.211
		1990-1995	4.969	.056
	1980-1986	1930-1939	**-7.703***	**.000**
		1940-1949	**-5.839***	**.000**
		1950-1959	**-4.736***	**.000**
		1960-1969	**-2.838***	**.050**
		1970-1979	-2.405	.211
		1990-1995	2.563	.777

	1990-1995	1930-1939	**-10.266***	**.000**
		1940-1949	**-8.402***	**.000**
		1950-1959	**-7.300***	**.000**
		1960-1969	**-5.401***	**.022**
		1970-1979	-4.969	.056
		1980-1986	-2.563	.777
Time interval between migrations	Born 1930-1939	1940-1949	6.144	.993
		1950-1959	19.490	.227
		1960-1969	**42.719***	**.000**
		1970-1979	**45.370***	**.000**
		1980-1986	**59.212***	**.000**
		1990-1995	**81.700***	**.000**
	1940-1949	1930-1939	-6.144	.993
		1950-1959	13.346	.597
		1960-1969	**36.575***	**.000**
		1970-1979	**39.226***	**.000**
		1980-1986	**53.068***	**.000**
		1990-1995	**75.556***	**.000**
	1950-1959	1930-1939	-19.490	.227
		1940-1949	-13.346	.597
		1960-1969	**23.229***	**.021**
		1970-1979	**25.880***	**.017**
		1980-1986	**39.722***	**.000**
		1990-1995	**62.210***	**.002**
	1960-1969	1930-1939	**-42.719***	**.000**
		1940-1949	**-36.575***	**.000**
		1950-1959	**-23.229***	**.021**
		1970-1979	2.651	1.000
		1980-1986	16.494	.559
		1990-1995	38.981	.191
	1970-1979	1930-1939	**-45.370***	**.000**
		1940-1949	**-39.226***	**.000**
		1950-1959	**-25.880***	**.017**
		1960-1969	-2.651	1.000
		1980-1986	13.842	.792
		1990-1995	36.330	.289
	1980-1986	1930-1939	**-59.212***	**.000**
		1940-1949	**-53.068***	**.000**
		1950-1959	**-39.722***	**.000**
		1960-1969	-16.494	.559
		1970-1979	-13.842	.792
		1990-1995	22.488	.844

1990-1995		1930-1939	**-81.700**[*]	**.000**
		1940-1949	**-75.556**[*]	**.000**
		1950-1959	**-62.210**[*]	**.002**
		1960-1969	-38.981	.191
		1970-1979	-36.330	.289
		1980-1986	-22.488	.844

Type of locality at time of survey				
Age at first migration	Large city/regional center	City/town	-0.633	.142
		Rural area	**-1.597**[*]	**.000**
	City/town	Large city/regional center	0.633	.142
		Rural area	**-.964**[*]	**.017**
	Rural area	Large city/regional center	**1.597**[*]	**.000**
		City/town	**.964**[*]	**.017**

Type of locality at birth				
Age at second migration	Large city/regional center	City/town	**1.776**[*]	**.042**
		Rural area	**2.221**[*]	**.009**
	City/town	Large city/regional center	**-1.776**[*]	**.042**
		Rural area	0.444	.703
	Rural area	Large city/regional center	**-2.221**[*]	**.009**
		City/town	-0.444	.703

Type of education				
Age at first migration	Higher education	Vocational education	-0.430	.430
		General education	**-1.944**[*]	**.000**
	Vocational education	Higher education	0.430	.430
		General education	**-1.514**[*]	**.000**
	General education	Higher education	**1.944**[*]	**.000**
		Vocational education	**1.514**[*]	**.000**
Age at second migration	Higher education	Vocational education	0.031	.999
		General education	**-2.440**[*]	**.001**
	Vocational education	Higher education	-0.031	.999
		General education	**-2.471**[*]	**.000**
	General education	Higher education	**2.440**[*]	**.001**
		Vocational education	**2.471**[*]	**.000**
Time interval between migrations	Higher education	Vocational education	-0.312	.998
		General education	**-21.184**[*]	**.002**

	Vocational education	Higher education	0.312	.998
		General education	**-20.872***	**.001**
	General education	Higher education	**21.184***	**.002**
		Vocational education	**20.872***	**.001**

Religion				
Age at first migration	Orthodoxy	Islam	**-1.554***	**.038**
		Other	-1.341	.601
	Islam	Orthodoxy	**1.554***	**.038**
		Other	0.212	.989
	Other	Orthodoxy	1.341	.601
		Islam	-0.212	.989

Federal district (at time of survey)				
Age at first migration	Central FD	Northwestern FD	**1.894***	**.017**
		Southern FD	-0.517	.982
		N. Caucasus FD	**-3.076***	**.000**
		Volga FD	0.589	.832
		Ural FD	**1.830***	**.034**
		Siberian FD	0.760	.710
		Far Eastern FD	**2.272***	**.017**
	Northwestern FD	Central FD	**-1.894***	**.017**
		Southern FD	**-2.411***	**.010**
		N. Caucasus FD	**-4.970***	**.000**
		Volga FD	-1.305	.296
		Ural FD	-0.064	1.000
		Siberian FD	-1.134	.572
		Far Eastern FD	0.377	1.000
	Southern FD	Central FD	0.517	.982
		Northwestern FD	**2.411***	**.010**
		N. Caucasus FD	**-2.559***	**.015**
		Volga FD	1.106	.498
		Ural FD	**2.347***	**.017**
		Siberian FD	1.277	.392
		Far Eastern FD	**2.788***	**.008**
	N. Caucasus FD	Central FD	**3.076***	**.000**
		Northwestern FD	**4.970***	**.000**
		Southern FD	**2.559***	**.015**
		Volga FD	**3.665***	**.000**
		Ural FD	**4.906***	**.000**
		Siberian FD	**3.836***	**.000**
		Far Eastern FD	**5.347***	**.000**
	Volga FD	Central FD	-0.589	.832
		Northwestern FD	1.305	.296

		Southern FD	-1.106	.498
		N. Caucasus FD	**-3.665**[*]	**.000**
		Ural FD	1.241	.403
		Siberian FD	0.171	1.000
		Far Eastern FD	1.683	.203
	Ural FD	Central FD	**-1.830**[*]	**.034**
		Northwestern FD	0.064	1.000
		Southern FD	**-2.347**[*]	**.017**
		N. Caucasus FD	**-4.906**[*]	**.000**
		Volga FD	-1.241	.403
		Siberian FD	-1.070	.675
		Far Eastern FD	0.442	.999
	Siberian FD	Central FD	-0.760	.710
		Northwestern FD	1.134	.572
		Southern FD	-1.277	.392
		N. Caucasus FD	**-3.836**[*]	**.000**
		Volga FD	-0.171	1.000
		Ural FD	1.070	.675
		Far Eastern FD	1.512	.396
	Far Eastern FD	Central FD	**-2.272**[*]	**.017**
		Northwestern FD	-0.377	1.000
		Southern FD	**-2.788**[*]	**.008**
		N. Caucasus FD	**-5.347**[*]	**.000**
		Volga FD	-1.683	.203
		Ural FD	-0.442	.999
		Siberian FD	-1.512	.396
Age at second migration	Central FD	Northwestern FD	0.935	.982
		Southern FD	1.299	.898
		N. Caucasus FD	0.351	1.000
		Volga FD	2.002	.123
		Ural FD	1.175	.943
		Siberian FD	-0.274	1.000
		Far Eastern FD	3.258	.101
	Northwestern FD	Central FD	-0.935	.982
		Southern FD	0.364	1.000
		N. Caucasus FD	-0.584	1.000
		Volga FD	1.067	.954
		Ural FD	0.241	1.000
		Siberian FD	-1.209	.946
		Far Eastern FD	2.324	.647
	Southern FD	Central FD	-1.299	.898
		Northwestern FD	-0.364	1.000
		N. Caucasus FD	-0.948	.999

		Volga FD	0.703	.996
		Ural FD	-0.124	1.000
		Siberian FD	-1.573	.814
		Far Eastern FD	1.959	.818
	N. Caucasus FD	Central FD	-0.351	1.000
		Northwestern FD	0.584	1.000
		Southern FD	0.948	.999
		Volga FD	1.651	.929
		Ural FD	0.825	.999
		Siberian FD	-0.625	1.000
		Far Eastern FD	2.908	.637
	Volga FD	Central FD	-2.002	.123
		Northwestern FD	-1.067	.954
		Southern FD	-0.703	.996
		N. Caucasus FD	-1.651	.929
		Ural FD	-0.826	.991
		Siberian FD	-2.276	.101
		Far Eastern FD	1.257	.957
	Ural FD	Central FD	-1.175	.943
		Northwestern FD	-0.241	1.000
		Southern FD	0.124	1.000
		N. Caucasus FD	-0.825	.999
		Volga FD	0.826	.991
		Siberian FD	-1.449	.879
		Far Eastern FD	2.083	.775
	Siberian FD	Central FD	0.274	1.000
		Northwestern FD	1.209	.946
		Southern FD	1.573	.814
		N. Caucasus FD	0.625	1.000
		Volga FD	2.276	.101
		Ural FD	1.449	.879
		Far Eastern FD	3.532	.075
	Far Eastern FD	Central FD	-3.258	.101
		Northwestern FD	-2.324	.647
		Southern FD	-1.959	.818
		N. Caucasus FD	-2.908	.637
		Volga FD	-1.257	.957
		Ural FD	-2.083	.775
		Siberian FD	-3.532	.075
Time interval between migrations	Central FD	Northwestern FD	12.628	.882
		Southern FD	13.445	.847
		N. Caucasus FD	15.112	.946
		Volga FD	**22.377**[*]	**.032**

	Ural FD	11.396	.936
	Siberian FD	2.646	1.000
	Far Eastern FD	33.260	.056
Northwestern FD	Central FD	-12.628	.882
	Southern FD	0.817	1.000
	N. Caucasus FD	2.484	1.000
	Volga FD	9.749	.962
	Ural FD	-1.232	1.000
	Siberian FD	-9.982	.974
	Far Eastern FD	20.632	.719
Southern FD	Central FD	-13.445	.847
	Northwestern FD	-0.817	1.000
	N. Caucasus FD	1.667	1.000
	Volga FD	8.932	.977
	Ural FD	-2.049	1.000
	Siberian FD	-10.798	.961
	Far Eastern FD	19.815	.762
N. Caucasus FD	Central FD	-15.112	.946
	Northwestern FD	-2.484	1.000
	Southern FD	-1.667	1.000
	Volga FD	7.265	.999
	Ural FD	-3.715	1.000
	Siberian FD	-12.465	.984
	Far Eastern FD	18.148	.940
Volga FD	Central FD	**-22.377***	**.032**
	Northwestern FD	-9.749	.962
	Southern FD	-8.932	.977
	N. Caucasus FD	-7.265	.999
	Ural FD	-10.981	.937
	Siberian FD	-19.730	.178
	Far Eastern FD	10.883	.974
Ural FD	Central FD	-11.396	.936
	Northwestern FD	1.232	1.000
	Southern FD	2.049	1.000
	N. Caucasus FD	3.715	1.000
	Volga FD	10.981	.937
	Siberian FD	-8.750	.989
	Far Eastern FD	21.864	.670
Siberian FD	Central FD	-2.646	1.000
	Northwestern FD	9.982	.974
	Southern FD	10.798	.961
	N. Caucasus FD	12.465	.984
	Volga FD	19.730	.178

		Ural FD	8.750	.989
		Far Eastern FD	30.613	.142
	Far Eastern FD	Central FD	-33.260	.056
		Northwestern FD	-20.632	.719
		Southern FD	-19.815	.762
		N. Caucasus FD	-18.148	.940
		Volga FD	-10.883	.974
		Ural FD	-21.864	.670
		Siberian FD	-30.613	.142

		First migration destination type		
Age at first migration	Large city/regional center	City/town	**-.913***	**.022**
		Rural area	**-4.400***	**.000**
	City/town	Large city/regional center	**.913***	**.022**
		Rural area	**-3.487***	**.000**
	Rural area	Large city/regional center	**4.400***	**.000**
		City/town	**3.487***	**.000**
Age at second migration	Large city/regional center	City/town	**-1.996***	**.003**
		Rural area	**-2.803***	**.003**
	City/town	Large city/regional center	**1.996***	**.003**
		Rural area	-0.807	.522
	Rural area	Large city/regional center	**2.803***	**.003**
		City/town	0.807	.522
Time interval between migrations	Large city/regional center	City/town	**-18.342***	**.005**
		Rural area	-18.012	.066
	City/town	Large city/regional center	**18.342***	**.005**
		Rural area	0.330	.999
	Rural area	Large city/regional center	18.012	.066
		City/town	-0.330	.999

		Reason for first migration		
Age at first migration	For education	For work	**-6.168***	**.000**
		For family reasons	**-7.324***	**.000**
		For military service	**-1.366***	**.005**
		For other reasons	**-7.945***	**.000**

For work	For education	6.168[*]	.000
	For family reasons	-1.156[*]	.027
	For military service	4.802[*]	.000
	For other reasons	-1.777[*]	.035
For family reasons	For education	7.324[*]	.000
	For work	1.156[*]	.027
	For military service	5.958[*]	.000
	For other reasons	-0.621	.825
For military service	For education	1.366[*]	.005
	For work	-4.802[*]	.000
	For family reasons	-5.958[*]	.000
	For other reasons	-6.579[*]	.000
For other reasons	For education	7.945[*]	.000
	For work	1.777[*]	.035
	For family reasons	0.621	.825
	For military service	6.579[*]	.000
Age at second migration	For education	For work	-8.111[*]	.000
		For family reasons	-7.092[*]	.000
		For military service	-1.883[*]	.035
		For other reasons	-5.509[*]	.000
	For work	For education	8.111[*]	.000
		For family reasons	1.019	.684
		For military service	6.228[*]	.000
		For other reasons	2.602	.214
	For family reasons	For education	7.092[*]	.000

		For work	-1.019	.684
		For military service	**5.209***	**.000**
		For other reasons	1.583	.662
	For military service	For education	**1.883***	**.035**
		For work	**-6.228***	**.000**
		For family reasons	**-5.209***	**.000**
		For other reasons	**-3.626***	**.020**
	For other reasons	For education	**5.509***	**.000**
		For work	-2.602	.214
		For family reasons	-1.583	.662
		For military service	**3.626***	**.020**
Time interval between migrations	For education	For work	**-38.852***	**.000**
		For family reasons	**-46.087***	**.000**
		For military service	-3.146	.989
		For other reasons	-30.669	.052
	For work	For education	**38.852***	**.000**
		For family reasons	-7.235	.880
		For military service	**35.706***	**.000**
		For other reasons	8.183	.962
	For family reasons	For education	**46.087***	**.000**
		For work	7.235	.880
		For military service	**42.942***	**.000**
		For other reasons	15.418	.674
	For military service	For education	3.146	.989
		For work	**-35.706***	**.000**

		For family reasons	-42.942*	.000
		For other reasons	-27.523	.133
	For other reasons	For education	30.669	.052
		For work	-8.183	.962
		For family reasons	-15.418	.674
		For military service	27.523	.133

Reason for second migration				
Age at second migration	For education	For work	-2.785*	.040
		For family reasons	-7.512*	.000
		For military service	0.954	.933
		For other reasons	-6.258*	.000
	For work	For education	2.785*	.040
		For family reasons	-4.727*	.000
		For military service	3.739*	.000
		For other reasons	-3.473*	.002
	For family reasons	For education	7.512*	.000
		For work	4.727*	.000
		For military service	8.466*	.000
		For other reasons	1.254	.634
	For military service	For education	-0.954	.933
		For work	-3.739*	.000
		For family reasons	-8.466*	.000
		For other reasons	-7.212*	.000
	For other reasons	For education	6.258*	.000
		For work	3.473*	.002

			Mean Difference	Sig.
		For family reasons	-1.254	.634
		For military service	**7.212***	**.000**
Time interval between migrations	For education	For work	**-26.466***	**.044**
		For family reasons	**-64.542***	**.000**
		For military service	2.152	1.000
		For other reasons	**-49.717***	**.000**
	For work	For education	**26.466***	**.044**
		For family reasons	**-38.076***	**.000**
		For military service	**28.618***	**.009**
		For other reasons	-23.251	.067
	For family reasons	For education	**64.542***	**.000**
		For work	**38.076***	**.000**
		For military service	**66.694***	**.000**
		For other reasons	14.825	.430
	For military service	For education	-2.152	1.000
		For work	**-28.618***	**.009**
		For family reasons	**-66.694***	**.000**
		For other reasons	**-51.869***	**.000**
	For other reasons	For education	**49.717***	**.000**
		For work	23.251	.067
		For family reasons	-14.825	.430
		For military service	**51.869***	**.000**

Bold text indicates significance at 0.05 level

Table 2: Color palette for sequence analysis chronograms

Number of starting events	First event(s)	Second event(s)	Third event(s)
0	N (no events)		
1	E	EJ	EJTE
		EJ	EJTJ
		EJ	EJTO
		ETE	ETEJ
		ETJ	ETJJ
		ETO	ETOJ
		E(JTJ)	-
		E(JTO)	-
	J	JE	JETE
		JE	JETJ
		JE	JETO
		JTE	JTEE
		JTJ	JTJE
		JTO	JTOE
		J(ETE)	-
		J(ETJ)	-
		J(ETO)	-
	TE	TEE	TEEJ
		TEJ	TEJE
		TE(EJ)	-
	TJ	TJE	TJEJ
		TJJ	TJJE
		TJ(EJ)	-
	TO	TOE	TOEJ
		TOJ	TOJE
		TO(EJ)	-
2	(EJ)	(EJ)TE	-
		(EJ)TJ	-
		(EJ)TO	-
	(ETE)	(ETE)J	-
	(ETJ)	(ETJ)J	-
	(ETO)	(ETO)J	-
	(JTE)	(JTE)E	-
	(JTJ)	(JTJ)E	-
	(JTO)	(JTO)E	-
3	(EJTO)	-	-
-	Censoring		

( ) indicates events occurring simultaneously