

Economic Swings, Political Instability and Migration in Kyrgyzstan

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Abstract Individual-level migration responses to economic fluctuations and political instability remain poorly understood. Using nationally representative survey data from Kyrgyzstan, we look at variations in levels and propensities of internal and temporary international migration and relate them to changes in the economic and political environment in that Central Asian nation in the first decade of the century. A multinomial event history model predicting yearly risks of both types of migration detects no clear association of internal migration risks with episodes of heightened political instability but shows a decrease in those risks in response to the strongest economic shock of the observation period. In comparison, international migration risks, while also insensitive to political turmoil, appear to increase at the time of the most pronounced economic downturn. The results also point to instructive patterns in migration propensities by type of area of residence, education, gender, and ethnicity. These findings are interpreted in light of complex intersections of demography with politics, economy, and culture in this transitional Eurasian setting.

Keywords Internal migration · Temporary international migration · Economic and political instability · Central Eurasia · Kyrgyzstan

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1 Introduction

Whereas the effects of economic swings on migration within or toward developed countries have been relatively well studied, little is known about such effects on migration in developing and transitional contexts. In addition to the paucity of adequate data, research on the influence of macroeconomic fluctuations on migration in less developed settings faces challenges of more fundamental analytical nature. Thus, in many developing and transitional countries the effects of global economic oscillations on individual well-being are often indirect and are conditioned by these countries' economic dependence on more developed countries, including through the flow of migrant remittances (e.g., Begley et al. 2016; Bettin et al. 2017; De Haas 2010; Durand et al. 1996; Guarnizo 2003; Lindstrom 1996; Massey 1988; Villarreal 2014). Yet, local manifestations of global economic trends in developing and transitional settings may also be confounded by outbursts of political instability.

While economic and political fluctuations may uniquely imprint the nature and scale of migration, they do not necessarily override its fundamental drivers such as job and housing market constraints, human capital, or gender ideology. Moreover, due to the nature and the distribution of political and economic power and resources in some countries, migration propensities may vary along ethno-linguistic and regional lines at least as much as along conventional (from the developed world's perspective) socioeconomic and demographic axes. These factors may operate independently of the impact of economic and political perturbations, but they may also mediate or moderate this impact.

In sum, the direction, magnitude, and timing of migration response to societal turbulence remain subjects of considerable debate in the literature. Besides measurement problems, this debate is clouded by theoretical ambiguities surrounding the nature of societal tumult, the pathways of its influence on individual and household well-being, and the resources available to and engaged by individuals and households to navigate the turbulent economic and political waters.

These complex processes are especially poorly understood in the nations that gained independence after the collapse of the Soviet Union in 1991. The unique legacies of the socialist system—residential registration requirements, inflexible labor markets, and pervasive shortage of housing—have compounded the complexities inherent in the effects of economic fluctuations and political instability on the scope, destinations, and patterns of migration.

An important feature of the independent history of the post-Soviet nations, especially of those located on the southern fringe of the former empire, is a dramatic increase in international migration. Many of these migration flows have been directed from Central Asia and the Caucasus toward the Russian Federation, where massive mineral resources and shrinking population, among other factors, have generated a need for outside labor. International migration in the region, its connection with economic and political development, and its effects on both sending and receiving areas have been addressed in the literature (e.g., Abashin 2014; Agadjanian et al. 2008a, b; Agadjanian and Sevoyan 2014; Gerber and

Torosyan 2013; Schmidt and Sagynbekova 2008; Torosyan et al. 2016). Studies of permanent emigration from Central Asia point to its highly pronounced ethnic nature in the early post-Soviet period reflecting the disproportionate outflow of ethnic minorities of European origin to Russia, compared to ethnic groups that can be considered indigenous to the region (Schuler 2007). While non-native ethnic groups still have a much higher propensity for emigrating compared to natives (Agadjanian et al. 2008a, b; Bandle and Rather 2013; Ibraeva and Ablesova 2016), recent international migration flows from the region have involved a growing number of members of indigenous groups moving to Russia and, to a lesser extent, other economically attractive destinations, such as Kazakhstan, as temporary labor migrants (Abazov 1999; Schmidt and Sagynbekova, 2008; Schuler 2007; Schuler and Kudabayev 2004). Although international labor migration remains predominantly male, the share of women in it has been on the rise (Rocheva and Varshaver 2017; Tyuryukanova 2011).

In contrast to international migration, internal migration within post-Soviet nations has not attracted much attention. Yet, internal migration flows have been of non-negligible and probably growing scale, at least after an initial decline in the immediate aftermath of the disintegration of the USSR (Heleniak 1997). Many patterns and determinants of internal migration in the region have been universal, but it has also been colored by the unique historical, socioeconomic, and ethnic features of the post-Soviet context (e.g., Alymbaeva 2013; Kulu and Billari 2004). Importantly, internal and international migration processes bear many similarities and are often closely interconnected (King and Skeldon 2010). Such interconnections may be particularly pronounced in the post-Soviet space, where international borders are historically recent and movements across these borders exhibit clear continuities with what once was domestic mobility (Di Bartolomeo et al. 2014; Schuler 2007). Yet, at the same time, as evidence from various parts of the world suggests, drivers of internal and international migration may differ across specific settings (e.g., Bohra and Massey 2009; De Jong et al., 1983; del Rey Poveda 2007; Mberu and Pongou 2021).

Our study is focused on Kyrgyzstan, a transitional society in Central Asia, and seeks to make a contribution to the literature in two substantive areas. First, we assess how economic and political tribulations of the first decade of this century might have influenced internal and international migration trends in that country. And second, we examine whether variations in migration propensities across several universal axes, such as area of residence, education, gender, and ethnicity, are present in transitional Kyrgyzstan, while also exploring if these universal factors may moderate the association of economic and political fluctuations with migration propensities. From the methodological standpoint, our study contributes to the migration scholarship by modeling internal and international migration risks simultaneously. We use data from a nationally representative household survey in Kyrgyzstan that collected retrospective information on respondents' own internal and international moves. Therefore, while we can measure both temporary and permanent internal migration, only temporary international migration can be assessed with our data.

In the following section, we outline the context of transitional Kyrgyzstan. Next, we deploy our conceptual model and hypotheses that adapt the cross-national evidence to this context. We then describe our data and methods and present the results of the tests of our hypotheses. We conclude by situating our findings within the scholarship on determinants and correlates of international and internal migration processes.

2 Setting

Kyrgyzstan (the Kyrgyz Republic) is a low-income nation in Central Asia of six million people with a GNI per capita of about 1110 USD (World Bank 2016). It is a multiethnic country, with considerable demographic and cultural differences between the majority Kyrgyz, constituting about two-thirds of the population, and ethnic minorities, especially those of European origin (e.g., Agadjanian et al. 2008; Agadjanian and Dommaraju 2011; Agadjanian and Qian 1997). Since its birth after the disintegration of the Soviet Union over a quarter-century ago, Kyrgyzstan has lived through spells of massive economic ups and downs and considerable political instability. Although the end of the Soviet rule led to major declines in economic outputs and incomes throughout the post-Soviet space, Kyrgyzstan's economic collapse was among the most dramatic. Like the rest of the post-Soviet region, Kyrgyzstan has experienced an economic recovery since the late 1990s, but unlike the rapid economic growth in some parts of the region, Kyrgyzstan's economic upturn was relatively modest. Besides, in the first decade of this century, which is the focus of our analysis, Kyrgyzstan lived through two violent changes of power—a coup d'état known as the “Tulip Revolution” in 2005, which overthrew the government of President Akayev, and the 2010 coup, which dethroned President Bakiyev, Akayev's successor. In the wake of this second violent change of government, Kyrgyzstan also experienced large-scale ethnic violence, primarily between Kyrgyz, the nation's titular and largest ethnic group, and the Uzbek minority.

Figure 1 shows trends in Kyrgyzstan's annual GDP growth rate over the first two decades of Kyrgyzstan's independence. It illustrates the collapse of the nation's economy in the first half of the 1990s and an unsure pace of recovery thereafter. Although the figure offers evidence of a decline in the national GDP growth rate after the 2008 global recession, a decline lasting into 2010, the year of the second coup d'état and widespread violence, it also shows nearly as dramatic drops in 2002 and then in 2005 (the year of the first coup).

The demise of the USSR triggered massive international migration from this former Soviet Republic, first characterized mainly by permanent emigration of ethnic Russians and other groups of European origin (Bandle and Rather 2013; Kumskov et al. 1997), and later, by increasing labor migration that has included a growing number of ethnic Kyrgyz as well as Uzbeks, two groups that in the Soviet era had very low migration rates (Ergeshbayev 2006; Kumskov 2002; Schmidt and Sagynbekova 2008). As in other developing countries with large-scale labor out-migration, Kyrgyzstan's economy and its residents' well-being are highly dependent

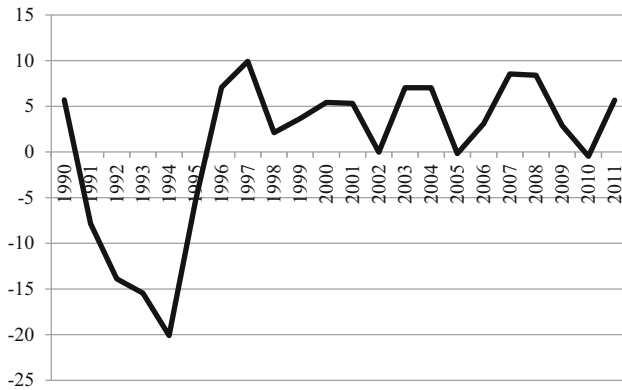


Fig. 1 Annual GDP growth rate in Kyrgyzstan over 1990–2011 (percent). *Source:* The World Bank (2016)

on migrant remittances (Malyuchenko 2015). Not surprisingly, the global financial and economic crisis of 2008–2009 led to a reduction in the volume of remittances flowing into the country (Lukasheva and Makenbaeva 2009). In parallel with large and growing international migration, Kyrgyzstan experienced massive internal migration flows after the initial post-Soviet slump (NSK 2010). These migration flows were directed mainly toward cities, especially the capital Bishkek, and were composed mainly of ethnic Kyrgyz (Alymbaeva 2013). Although more recent official statistics point to stabilization of internal migration, these statistics may underestimate real trends due to the deterioration of the residential registration system (Mkrtychyan and Sarygulov 2011).

3 Conceptualization

From a classical push–pull perspective on migration, decisions to migrate are affected by the perceptions of factors at the origin, factors at the destination as well as by individual characteristics and “intervening obstacles” such as distance or monetary migration costs (Lee 1966). While income disparities have been identified as primary stimuli for migration across the world, including the post-Soviet space (e.g., Aldashev and Dietz 2014; Andrienko and Guriev 2004; Gerber 2006; Shen 2012; Todaro 1980; Van Lottum and Marks 2012), time-invariant individual factors such as ethnicity and gender as well as time-varying personal characteristics such as education may affect the likelihood of migration by shaping perceptions of costs and benefits of migration. These perceptions, however, are often based on limited and otherwise imperfect information on the chosen or desired migration destination. Political and economic volatility may further obfuscate the cost–benefit considerations of potential migrants and their families. If societal upheavals increase uncertainties about prospects at the place of destination, then such upheavals should discourage migration.

3.1 The Effects of Economic and Political Fluctuations on Migration

Economic downturns have been historically associated with decrease in internal migration (e.g., An et al. 2017; Cooke 2013; Ferrie 2003; Rosenbloom and Sundstrom 2004). The effects of economic crises on international migration have been less straightforward (Fix et al. 2009; Rendall et al. 2011). Thus, some international migration flows contracted as a result of declining demand for immigrant labor in receiving economies during the last global recession (Tilly 2011; Villareal 2014). Yet, it has also been argued economic crises may push more people in less developed countries to migrate abroad (e.g., Cairns 2012; Chort and de la Rupelle 2016; Naudé 2010). Existing evidence on the influence of the latest global economic recession on international labor migration from Central Asia has been moot (e.g., Marat 2013). The negative economic effects of the global recession on Kyrgyzstan's economy may have increased pressures to migrate abroad in search of work. However, shrinking employment opportunities in Russia and in other potential migration destinations during the global crisis may have made international migration somewhat less attractive for Kyrgyzstani workers (Lukasheva and Makenbaeva 2009). In comparison with these countervailing tendencies, internal migration should have a clearly diminished appeal—primarily because of the decreased capacity of the national economy to absorb workers but also because of some increase in *relative* attractiveness of the international option. Accordingly, we hypothesize that the global economic downturn will be associated with a decline in the probability of internal migration (Hypothesis 1a). In contrast, we expect to detect a net positive, even if not very pronounced, association of the economic crisis with the probability of international migration (Hypothesis 1b).

There is much less evidence to guide hypotheses on possible influence of political upheaval on migration. A major theoretical challenge here is that political turbulence may translate into economic downturn, and vice versa; empirically separating the effects of political instability from that of economic decline is therefore often difficult (e.g., Naudé 2010). Besides, the effects of political upheaval may be shorter lasting and more localized than those of an economic downturn. Our goal with respect to the effect of political turbulence is therefore exploratory: We want to see whether any meaningful connections of migration with the two coups/revolutions might transpire in population-based survey data. Accordingly, our tentative hypotheses are: Political instability will be associated with a decline in the probability of internal migration (Hypothesis 2a), and political instability will be associated with an increase in the probability of international migration (Hypothesis 2b).

3.2 Other Axes of Variation in Migration Propensities

In addition to investigating the effects of macrosocial cataclysms of economic and political nature, we examine whether more conventional variations in migration propensities observed in other settings are also present in transitional Central Asia. Thus, there is little disagreement in the migration literature that economic forces, such as the imbalance of employment opportunities between sending and receiving

settings, are central drivers of voluntary migration, both international and internal. For internal migration, employment and income disparities between rural and urban areas have determined the predominant directions of migrant flow in both historical western settings and contemporary developing and transitional settings, including Kyrgyzstan (Harris and Todaro 1970; Schuler 2007; Schuler and Kudabayev 2004; Stark 1991). In this study, we move beyond the standard rural vs. urban dichotomy and examine migration risks across three types of areas of residence—large cities (the nation's capital Bishkek and its second largest city of Osh), small cities and towns, and rural areas. We hypothesize that rural residents will have the strongest propensity to migrate internally, net of other factors. At the same time, given the economic collapse of small-town industries that ravaged Kyrgyzstan and many other parts of the former Soviet Union after the independence, we also expect a relatively high propensity for internal migration among residents of small cities and towns (Hypothesis 3a). The international migration literature typically points to higher rates of such migration from rural areas than from cities (Castles, de Haas, and Miller 2016, Hamilton and Villareal 2011, Stark 1984). Projecting the described socioeconomic imbalances across the three types of area of residence to the propensity for temporary international migration, we expect that this propensity will also be higher in rural and small urban areas (Hypothesis 3b).

Migration has also been shown to be selective on individual human capital characteristics, especially education, with more educated people being generally more likely to migrate (Basker 2003; Borjas et al. 1992; Feliciano 2005; Kanaiaupuni 2000; Malamud & Wozniak 2010). We therefore look at variations in migration risks across different levels of education, expecting to find a positive association between education and the risks of both internal migration (Hypothesis 4a) and temporary international migration (Hypothesis 4b). Migration processes throughout the world are also increasingly gendered. While both internal and international migration moves historically have been dominated by men, the share of women among migrants has been rising in most countries, including those of the former Soviet Union (e.g., Tyuryukanova 2011), and in some developing settings women have come to outnumber men among migrants (e.g., Camlin, Snow, and Hosegood 2014). Although globally the stimuli for and patterns of women's migration increasingly resemble those present in men's migration (e.g., Donato and Gabaccia 2015), men's and women's migration decisions are shaped by gender-niched economic opportunities in both sending and receiving contexts (Curran et al., 2006; Donato et al. 2006; He and Gober 2003; Kanaiaupuni 2000). Women are also still more likely than men to migrate for family or other social (i.e., noneconomic) reasons, especially when migrating internally (e.g., Brandén 2014; He and Gober 2003; Kanaiaupuni 2000; Yang and Guo 1999). In addition, women may migrate for gender-unique reasons such as to escape repressive and abusive environments (Phizacklea 1997). At the same time, costs and constraints associated with international migration are generally higher for women than for men (Chort 2014). The existing data on gender composition of migration in Kyrgyzstan are inconclusive, but data from the 2013 World Bank/GIZ Kyrgyz Republic Jobs, Skills, and Migration Survey point to somewhat higher rates of internal migration among women while also showing a clear predominance of men in international

migration (Ajwad et al. 2014, p. 9). In our analysis, we compare migration risks between men and women, expecting to confirm this contrasting pattern: Women will be more likely than men to migrate internally (Hypothesis 5a), while men will be more likely to migrate internationally (Hypothesis 5b).

Finally, ethnicity can also be an important dimension of migratory behavior, especially in multiethnic societies such as those of Central Asia, where titular ethnic groups may differ from ethnic minorities in terms of cultural and demographic baggage and economic and political stakes. As mentioned earlier, independent Kyrgyzstan has had pronounced ethnic-specific patterns of permanent international migration, with minorities, especially of Russian and other European origin being more likely to emigrate (Agadjanian et al. 2008a, b; Ibraeva and Ablesova 2016). However, the titular group has experienced a massive rise in *temporary* international labor migration (Schmidt and Sagynbekova 2008). At the same time, the noted predominance of ethnic Kyrgyz in internal migration flows (Alymbaeva 2013) may not be entirely due to the relative size of the majority and minorities groups: For ethnic minorities, in general, internal migration should be a less attractive strategy, especially in comparison with permanent international migration. We therefore hypothesize that ethnic Kyrgyz will display higher risks of both internal migration (Hypothesis 6a) and temporary international migration (Hypothesis 6b).

4 Data and Method

The study uses data from a nationally representative household survey conducted in Kyrgyzstan in the end of 2011—the beginning of 2012. The survey sample included 2032 households selected through a multistage cluster sampling procedure. In each household, a randomly chosen resident aged 18–49 was interviewed. The survey questionnaire was administered face-to-face and included a variety of questions on individual and household characteristics. The survey instrument included detailed questions about respondents' history of internal migration (a move lasting at least three continuous months) and temporary international migration, as well as questions on changes in respondents' key socio-demographic characteristics over time.

Our analysis takes advantage of this detailed retrospective information. We start the analysis with a descriptive exploration of voluntary migration trends and correlates (non-voluntary moves, such as change of residence due to military draft, are not treated as migration). For the multivariate analysis, we fit a multinomial discrete-time repeated-event logistic regression model in which internal migratory moves and temporary/short-term international migratory moves in a given year t are the events of interest. The model treats the risks of internal and international migration, relative to not migrating, as competing. Exposure to risk of migration starts in 2002 or at age eighteen (typical age of secondary school graduation and entry into tertiary education) if a respondent reached the age of 18 after 2002 (respondents who were younger than 18 in a given year are not included in the risk pool for that year). We choose to focus only on the period of approximately ten years preceding the survey because the exposure to risk of migration and,

correspondingly, the number of migration events decrease significantly in the sample as one goes farther back into the past, thus threatening the robustness of statistical estimates. Besides, theoretically we are interested in migration risks during the period of the socioeconomic recovery after the early post-Soviet slump. Importantly, because even temporary international labor migration typically lasts several years, international migrants who left Kyrgyzstan a few years before the survey may not have returned by the time when the survey was carried out.

To relate the yearly risks of migration to changes in the country's economic and political environment, we include a set of dummies for calendar years from 2002 to 2011. To test for variations in migration risks by individual characteristics, we include a battery of corresponding time-invariant and time-varying predictors. These predictors are: type of area of residence in year $t - 1$ (operationalized as a trichotomy—large city, small city/town, or rural), educational attainment in year $t - 1$ (also a trichotomy: incomplete secondary or less, i.e., up to 9 years of school; standard secondary, or 10–11 years of school; and above secondary education, i.e., secondary special, vocational, or tertiary), and time-invariant gender and ethnicity (Kyrgyz vs. non-Kyrgyz).

In addition to the predictors of interest, several other covariates are included in all models as controls. The time-varying controls are respondent's age and age squared in year t , marital status (married or not) and the number of children. As marriage and childbearing may interact with migration dynamically (Nedoluzhko and Agadjanian 2010), these time-varying controls are lagged by one year to guard against possible reverse causality. Migration propensities are conditioned by employment characteristics; specifically, unemployed individuals are typically more likely to migrate than those who are employed (Haurin and Haurin 1988; Hernández-Murillo et al. 2011). Accordingly, our analyses control for gainful employment in year $t-1$ (employed vs. not employed).

Because prior migration experience, internal or international, may affect subsequent moves (Skeldon 2006), the model controls for previous migration—separating internal and international migration episodes. In the person-year file, each of the two variables takes the value of 1 if a migration move (internal or international, respectively) occurred at least once prior to year t ; it takes the value of 0 otherwise. Finally, we exclude from both analyses years that respondents spent outside Kyrgyzstan as those are periods of non-exposure to the risk of starting either type of migration.

5 Results

5.1 Descriptive Results

During the observation period, 376 individuals, or 18.5% of the sample, experienced at least one internal migration move (473 distinct internal migration events occurred). Twenty-nine percent of these internal moves took migrants to large urban centers, cities of Bishkek and Osh, twenty-one percent of the migrants went to smaller cities or towns, and fifty percent of the migrants moved to rural areas.

Relatively high migration to and within rural areas may be reflective of the availability and attractiveness of agriculture as a means of subsistence, particularly for migrants from small industrial towns which saw net population losses and economic decline over the past decades (Schuler 2007). In comparison, only 72 individuals, or 3.5% of the sample, reported at least one temporary international migration (84 distinct international migration moves). All but four international migrants went to cities in Russia.

Figure 2 displays the percentages of the survey respondents who experienced internal and international migration moves in every year between 2002 and 2011 (each year's percentage is based only on respondents who were eighteen or older and were present in Kyrgyzstan in that year). Although the migration rates are generally low, the overall rise in internal migration over the observation span is noticeable. The year of the first coup, 2005, does not stand out in any way. The graph shows a noticeable dip in internal migration rate in 2009, the year when the effects of the global economic recession would probably be most noticeable, followed by a rise in 2010. The percent of migrants declines again in 2011, but the last year's figure may be biased because of the time of survey (a sizeable portion of interviews was conducted before the end of 2011) and because at least some recent internal migrants may not have settled in places of destination to be captured in the survey sample. In comparison, the rate of temporary international migration does not display a comparably consistent pattern. The rate appeared to increase over the first half of the observation span, declined in 2007–2008, but rose again in 2009. The rate of international migration was low in the last two years under observation, but this may, again, reflect a selection bias: At least some of international migrants who left in those years were still outside Kyrgyzstan at the time of data collection.

Table 1 compares the distribution of contextual and individual predictors of interest among respondents who internally migrated at least once, respondents who migrated internationally at least once, and those without any migration experience during the observation span. Among respondents with internal migration experience, the share of those originating in small cities/towns is larger than the share of small city/town residents in the survey sample; in contrast, the share of internal

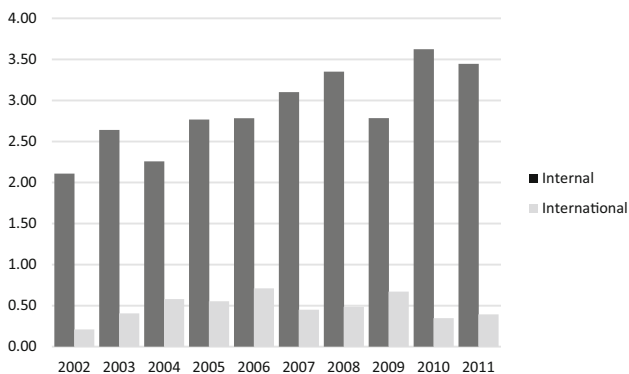


Fig. 2 Percent of respondents who migrated internally and internationally in a given year

Table 1 Composition of migrants and non-migrants on predictors of interest (percent)

	Migrated at least once internally between 2002 and 2011 (18.4%)	Migrated at last once internationally between 2002 and 2011 (3.6%)	Never migrated between 2002 and 2011 (78.0%)	All
Area of residence in previous year (2001–2010, at age 17 or higher)				
Big city	19.4	9.5	20.2	20.7
Small city or town	36.6	26.2	16.2	18.2
Rural	44.0	64.3	63.6	61.1
Education				
Incomplete secondary	25.6	11.9	11.0	11.8
Complete secondary	47.8	48.8	54.3	54.0
Vocational or higher	26.6	39.3	34.7	34.2
Gender				
Man	40.8	75.0	44.8	44.6
Woman	59.1	25.0	55.2	55.4
Ethnicity				
Kyrgyz	83.7	63.1	65.8	68.4
Non-Kyrgyz	16.3	36.9	34.2	31.6
Number of respondents	375	72	1584	2031
Number of migration events	473	84		

migrants coming from rural areas is smaller than the share of rural residents in the sample. In comparison, for international ever-migrants, it is the low share of those coming from Bishkek or Osh that stands out. International ever-migrants are better educated than internal ever-migrants. Women are slightly overrepresented among internal migrants; however, among international migrants, men outnumber women by a ratio of 3:1. Finally, internal migrants are disproportionately ethnic Kyrgyz; in comparison, among international migrants the ethnic breakdown is similar to that among never-migrants.

5.2 Multivariate Results

5.2.1 Temporal Variations in Internal and International Migration

Table 2 shows the results of the multivariate analysis. These results are presented as parameter estimates and standard errors from the multinomial discrete-time logistic regression model predicting yearly risks of internal and temporary international migration, relative to not migrating. The corresponding coefficients refer to the

Table 2 Parameter estimates from a multinomial event history logistic regression model predicting internal and temporary international migration risks (relative to non-migrating)

Covariate	Internal		International	
	Estimate	SE	Estimate	SE
Calendar year [2002]				
2003	0.332	(0.255)	0.706	(0.715)
2004	0.046	(0.268)	1.110	(0.670)
2005	0.329	(0.251)	1.111	(0.680)
2006	0.419	(0.252)+	1.395	(0.654)*
2007	0.603	(0.237)*	0.986	(0.688)
2008	0.643	(0.238)**	1.105	(0.677)
2009	0.455	(0.248)+	1.448	(0.655)*
2010	0.837	(0.231)**	0.841	(0.709)
2011	0.819	(0.233)**	1.004	(0.702)
Area of residence in year $t - 1$ [Rural]				
Big city	- 0.225	(0.133)+	- 1.034	(0.422)*
Small city/town	0.829	(0.113)**	- 0.125	(0.255)
Level of education in year $t - 1$ [Incomplete secondary]				
Complete secondary	- 0.680	(0.148)**	- 0.061	(0.362)
Vocational or higher	- 0.504	(0.187)**	0.542	(0.451)
Woman [man]	0.491	(0.116)**	- 0.953	(0.318)**
Ethnic Kyrgyz [other ethnicity]	1.009	(0.141)**	- 0.028	(0.256)
Age in year t	0.141	(0.063)*	0.363	(0.139)**
Age in year t , squared	- 0.004	(0.001)**	- 0.006	(0.002)**
Employed in year $t - 1$ [not employed]	- 0.577	(0.120)**	- 0.658	(0.292)*
Was in a marital union in year $t - 1$ [not in a marital union]	- 0.396	(0.141)**	- 0.017	(0.294)
Number of children in year $t - 1$	- 0.266	(0.077)**	- 0.183	(0.124)
Migrated abroad prior to year t [never migrated abroad]	1.396	(0.203)**	1.670	(0.405)**
Migrated internally prior to year t [never migrated internally]	0.549	(0.123)**	- 0.870	(0.378)*
Intercept	- 5.171	(0.843)**	- 9.841	(2.089)**
Model chi-square	595.3			
Log likelihood	- 2336			
Pseudo R2	0.135			
N of observations (person-years)	17,420			

Reference categories in brackets; robust standard errors in parentheses; significance levels: ** $p < .01$, * $p < .05$, + $p < .10$

effect of a particular outcome—moving domestically or internationally, relative to not moving, in year t . The internal migration pattern displayed in Table 2 is reminiscent of that in Fig. 2. Overall, the yearly risks of internal migration increase over the observation period, with the difference from the reference year, 2002,

become statistically significant at $p < .05$ starting in 2007. The year of the first violent change of power, 2005, does not stand out in any way. Conforming to our expectation, the risks of internal migration drop somewhat between 2008 and 2009, i.e., when the effects of the global recession would have been most pronounced (the difference between migration risks in 2009 and in the reference year is only marginally significant) but then recover strongly in the following year. In contrast to the generally ascending trend in the probability of internal migration over time, the temporal pattern in the risks of international migration is less consistent. Similarly to trends in Fig. 2, however, we can observe, a relatively large increase in year 2006, i.e., the year following that of the Tulip revolution, and in 2009, i.e., around the height of the global economic crisis. In general, the results point to a negative association of the economic crisis with the probability of internal migration, thus supporting Hypothesis 1a. The results also offer partial support for the hypothesized connection of internal migration propensities with political instability (Hypothesis 2a). At the same time, the analyses do not support our hypotheses regarding possible association of temporary international migration with economic shocks (Hypothesis 1b) or political upheaval (Hypothesis 2b).

5.2.2 Variations Across Socio-Demographic Axes

We now turn to the effects of the other predictors of interest. With respect to area of residence, the results hint at the hypothesized difference in internal migration risks between urban and rural areas but only for large cities, where the risks of migration appear lower than in rural areas (the effect is only marginally significant). This result offers qualified support to Hypothesis 3a. At the same time, conforming to earlier insights (Mkrtychyan and Sarygulov 2011) and also supporting Hypothesis 3a, the risks of internal migration for those living in smaller urban settlements were higher than those for residents of rural areas. However, residents of smaller cities and towns were no different from rural residents in the propensity to migrate internationally. Yet, large city inhabitants were significantly less likely to migrate internationally than were rural dwellers. Hypothesis 3b is therefore partially supported.

The results for educational attainment contradict our Hypothesis 4a: having only incomplete secondary education in the year preceding the year of exposure significantly raises the risks of internal migration compared to having completed secondary school or post-secondary education. This pattern may reflect the nature of Kyrgyzstan's labor market, with fewer opportunities for higher skilled and better paying jobs compared to relatively abundant low-skilled niches, especially in the informal sector. Yet, education does not show any association with risks of temporary international migration. Hence, Hypothesis 4b is not supported either.

With respect to gender differences, Hypotheses 5a and 5b are generally confirmed: Women were significantly more likely than men to migrate internally, but the opposite is true for the risks of temporary international migration. Finally, the results of the internal migration model concur with our hypothesis regarding ethnic differences (Hypothesis 6a), displaying a strong contrast between the titular ethnicity and minority ethnic groups in migration risks: As we predicted, the former

were significantly more likely to migrate internally, net of other factors. Yet, in comparison, ethnicity had no significant effect on international migration risks; Hypothesis 6b is therefore not supported.

The effects of control variables displayed in Table 2 are also noteworthy. Risks of both internal and international migration first increase and then decline with age. The number of children is negatively associated with the risk of internal migration, and so is being married. However, neither covariate is significantly associated with the risk of a temporary international move. In comparison, being gainfully employed in the previous year reduces the risk of either type of migration. Finally, prior migration experience, be it of internal or international nature, shows a strong positive association with internal migration risks. In comparison, while the association of international migration risks with prior experience of international migration is positive, the risks of international migration are negatively related to earlier experience of internal migration.

As an exploration of possible variations in the effects of contextual and socio-demographic predictors of interest across years of the observation span, we also fitted separate models in which we included the interaction terms for calendar year and each of the four predictors—area of residence, education, gender, and ethnicity. These models did not point to any informative patterns, and we therefore do not present these results here (the results of the interactive models are available from the authors upon request).

6 Discussion and Conclusion

The direction, magnitude, and timing of migration response to societal turbulence remain subjects of considerable debate, clouded by theoretical ambiguities and measurement problems. Although our study does not overcome all the challenges, it nonetheless makes an important contribution to this debate.

Our findings suggest some reaction of temporary international migration to the global economic crisis: International migration risk increased when the effects of the macroeconomic slowdown were most to be felt (i.e., in 2009). This pattern, while not universal, generally aligns with those observed in several other migration origin settings (e.g., Cairns 2012; Chort and de la Rupelle 2016; Naudé 2010). In comparison, echoing the evidence on internal migration response to economic downturns in more developed contexts (Cooke 2013; Ferrie 2003; Rosenbloom and Sundstrom 2004), including Kazakhstan, Kyrgyzstan's more prosperous northern neighbor (An et al. 2017), the internal migration risks registered a decrease, however modest, at the peak of the impact of the global crisis. At the same time, the analysis did not reveal any clear association between the political turmoil of 2005 or 2010 and internal or international migration risks. Of course, the economic swings and political upheavals whose effects we chose to examine are very different in their societal manifestations—the effects of the global economic downturn, especially their “indirect” variety as in the case of Kyrgyzstan, are typically less immediately noticeable but are also longer lasting than those of a violent political crisis. Besides, as we noted earlier, economic and political problems often go hand-in-hand, and the

second coup d'état that occurred in 2010 and surrounding violence may be linked to the lingering impact of the global economic recession. Yet, regardless of the migration response to the economic downturn and the variation in this response across several axes detected in our analysis, we should also acknowledge a continuous overall increase in internal migration in Kyrgyzstan during the first decade of the century, even if the levels of internal mobility there, as in the rest of the post-Soviet world (e.g., Andrienko and Guriev 2004), remain low in comparison with western countries. Compared to this ascending trend in internal migration, no clear long-term pattern could be detected with respect to temporary international migration.

For the selected contextual and individual predictors of interest, the analysis produced some informative results. For example, with respect to the type of area of residence, rural-to-urban migration, commonly observed in less developed settings, was not the dominant pattern of internal migration in Kyrgyzstan; instead, residence in small cities and towns showed the strongest association with internal migration risks. As we suggested, an explanation of the higher proclivity to migrate internally among residents of small cities and towns, rather than among rural dwellers, should be sought in the more volatile nature of employment opportunities there compared to both large cities, with their relatively more robust and diversified economies, and rural areas, where animal husbandry and farming offer more stable, even if meager, sources of livelihood. For temporary international migration, however, it is the contrast between large city dwellers and rural residents that was most pronounced, the former being less attracted to this migration option. This finding, echoing the evidence from some other migrant-sending settings (e.g., Fussell and Massey 2004, Hamilton and Villareal 2011; Massey 1988), suggests that employment and social opportunities offered by large cities may act as relative deterrents of temporary international migration.

Our findings for education contradict a common observation that migrants are positively selected on educational attainment (e.g., Basker 2003; Borjas et al. 1992; Feliciano 2005; Malamud and Wozniak 2010). These findings may reflect more limited labor market opportunities for relatively better educated and generally higher skilled workers compared to less educated and less skilled ones within transitional Kyrgyzstan. At the same time, temporary international migration, unlike permanent emigration, may not be as selective on education (cf., Borjas 1987, Dustmann 1993, Feliciano 2005, Massey et al. 1993).

With respect to gender, the findings generally correspond to our expectations. Despite a recent increase in the share of women among international migrants from Kyrgyzstan and other parts of Central Asia (Rocheva and Varshaver 2017; Tyuryukanova 2011), international migration in the region is still dominated by men. In contrast, as we expected, women are more likely than men to engage in internal migration. We should remind, however, that as in other similar settings (e.g., He and Gober 2003; Yang and Guo 1999), at least some of women's internal migratory moves may be driven by noneconomic pressures and rationales. The relatively small sample size does not allow us to disaggregate internal migration events by type of migratory motivation.

Finally, internal migration risks clearly divided the titular group and ethnic minorities, with the former exhibiting a higher propensity to move domestically. However, the risks of temporary international migration appeared to be ethnically neutral. Considered jointly, these results may reflect the fact that minorities, especially of non-indigenous origin, are disproportionately oriented toward permanently emigrating from the country, mainly to Russia (see e.g., Agadjanian et al. 2008a, b ; Bandlely and Rather 2013), paralleling ethnic-specific “return” migration observed in other settings (see e.g., Tsuda 2009). The data at hand, however, did not allow us to account for these ethnic-specific tendencies. Importantly, while our analyses detected significant variations along several socioeconomic and demographic axes, these patterns appeared to be independent of macroeconomic and political fluctuations. Admittedly, a larger sample size would have allowed for a more nuanced investigation of possible interactions between individual characteristics and time trends.

Several limitations of the study must again be acknowledged. Most obviously, the survey sample, by design, excluded permanent international migrants as well as temporary international migrants who might not have returned home by the time of the survey, a sizeable and arguably distinct portion of the international migration flow. We are not aware of any comparable data from other sources on long-term international migrants that would allow us to examine the extent to which they might differ from temporary migrants in our sample. In regard to internal migration, we must also acknowledge that the survey may have missed some recent internal migrants who had not yet established a permanent residence at places of destination or whose newly established residence location had not been captured in the survey sampling frame. Specifically, vast areas of *samostroi* (literally “self-built,” i.e., irregular housing) surrounding the capital Bishkek and inhabited largely by recent internal migrants may not have been well accounted for in the sampling process. On the covariate side, our retrospective data could not document yearly variations in respondents’ and their households’ economic well-being, which may have influenced their migration intentions and decisions. Migration moves are also known to be facilitated or hindered by social networks both at the sending and receiving ends of the migration process (e.g., Agadjanian et al. 2014; Epstein 2008; Haug 2008); while acknowledging the importance of networks, we cannot reconstruct their composition over the observation span from our retrospective data. Because of a relatively small sample size, we were unable to conduct sound analyses for specific internal and international migration destinations and their unique economic and demographic characteristics. For the same reason, we could not look at migration propensities among smaller ethnic minorities, and especially to separate native minority groups from non-native (mainly European origin) minorities. These limitations notwithstanding, our study helps to fill an important gap in the knowledge and understanding of both universal and unique forces that shape migration processes in Kyrgyzstan and in Central Eurasia in general, and as such, suggests important avenues for further research.

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Compliance with Ethical Standards

Conflict of interest Neither author has any conflict of interest.

Ethical Approval and Informed Consent All procedures performed in the study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Informed consent was obtained from all individual participants included in the study.

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