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Return to the countryside: The return intentions of highly educated young people in the Akmola province of northern Kazakhstan

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RESEARCH ARTICLE

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Return to the countryside: The return intentions of highly educated young people in the Akmola province of northern Kazakhstan

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Abstract

The rural out-migration of young people leads to problems such as "brain drain" and the overageing of the rural population. The purpose of this paper is to study return migration motives among students originating from rural areas. The case study relates to the province of Akmola, northern Kazakhstan. Based on data collected from college and university students (n = 357), a binary logistic regression model is used to identify rural return motives. Noneconomic and economic motives are equally important in forming a return intention. Our findings do not suggest that particularly underperforming students intend to return. As expected, compared with those in major cities, students who study in a regional town intend to return more often. We also found a large difference in return intentions along ethnic lines. Students of non-Kazakh decent are much more likely to return than ethnic Kazakhs, and the two ethnic groups have quite distinct motives indicating signs of ethnic discrimination against non-Kazakhs in the job market.

KEYWORDS

binary logistic regression, graduates, Kazakhstan, rural return migration

1 | INTRODUCTION

The rural out-migration of young people is a global phenomenon (Chen, Ye, Cai, Xing, & Chen, 2014; Haartsen & Thissen, 2014; Kooiman, Latten, & Bontje, 2018; Stockdale, 2006; Thissen, Fortuijn, Strijker, & Haartsen, 2010). This leads to several well-known issues, the most prominent of which are the loss of human capital, known as "brain drain," and the consequent overageing of the sedentary population. In many cases, young people in rural areas leave with aspirations of obtaining higher education (Thissen et al., 2010). Due to the lack of higher education facilities in rural areas, the rural–urban migration of young people may be considered a natural process (Erickson, Sanders, & Cope, 2018; Rérat, 2016; Stockdale, 2006). Many of those who move to the city for higher education do, however, not return to their rural home region. Often, students simply stay put in the place of their study or, after graduation, move on to another city in search of their first job (Bednaříková, Bavorová, & Ponkina, 2016; Liu, Shen, Xu, & Wang, 2017).

This first migration experience, independent of the family of origin, may be considered the starting point from which migrants begin to distance themselves from their place of origin and create new social networks. This first movement if often triggered by the wish

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of the rural youth for higher education (Pedersen & Gram, 2018). Thus, "migrating-to-learn" may become "learning-to-migrate" (Li, Findlay, Jowett, & Skeldon, 1996). Yet, a number of graduates still decide to return. Rérat (2014b) reports that 40% of students from a rural region in Switzerland returned home after their studies. As pointed out by Du (2017), migrants remain more attached to their place of origin than to the destination, even educated young adults. Graduate returnees are a source of great potential for rural areas, as they typically return with new skills and insights (Gibson & Argent, 2008). Nevertheless, most of the research on migration that looks at the young generation in rural areas has focused on their motivations to emigrate. Very little information is available on young returnees who have obtained a higher education degree (Rérat, 2014b), their motivations (Haartsen & Thissen, 2014), or their personal characteristics (Artz & Yu, 2011). Thus, our work provides a valuable contribution to this nascent literature on the return migration of highly educated young people.

Policies designed to effectively motivate college and university graduates to start their professional careers in the countryside have largely proved ineffective. One explanation for this is the limited knowledge on the motivations and characteristics of returning graduates (Bjerke & Mellander, 2017). Our main objective is therefore to determine, in relation to their characteristics, young graduates' motivations to return to rural areas.

We choose Kazakhstan as a country case study because it is facing severe rural–urban migration, especially of younger people in pursuit of higher education. These students have already "learned-to-migrate" (Rérat, 2016) and, after graduation, they are torn between the desire to return, and the wish (or need) to stay, or move on (King, 2002).

2 | LITERATURE REVIEW ON THE RURAL RETURN MIGRATION OF HIGHLY EDUCATED YOUNG PEOPLE

2.1 | Return motivations

Although migration is frequently viewed as a one-way move, more complex migration patterns, including circular and return migration, can be observed (Dumont & Spielvogel, 2008; Lang, Glorius, Nadler, & Kovács, 2016). As specified in Ravenstein's (1885) "migration laws," each migration flow produces a counter flow in the opposite direction —for example, in the form of financial remittances or return migration —that bears a tremendous potential for migrant-sending areas. Although the effect of remittances on the sending households and economies has received a lot of interest in the past decades (de Haas, 2010), the return migration of educated young people has only recently gained new public and scientific attention.

Return migration is influenced by a combination of factors that comprise the social and personal life of the migrant, the living environment, and the labour market (Rérat, 2014a). However, the complexity of return migration has been partly masked by the parochial focus on labour migration, for example, migration in the hope of obtaining a higher income (Sage, Evandrou, & Falkingham, 2013). It appears, however, that return migration is not only driven by economic, often work-related reasons, but also by noneconomic motives, for example, the dream of self-realisation or the adherence to cultural norms (King, 2002; Lang et al., 2012).

Student migration is an important aspect of the internal mobility of young adults and forms part of their life course. After the initial move to university, students need to decide to stay after graduation, return home, or move elsewhere.[1] Crescenzi, Holman, and Orru (2017) find that professional reasons are important for graduates who do not return, whereas family and sentimental ties are the key drivers of returning graduates. Therefore, limiting the focus to economic issues, particularly in the rural labour market, would not provide a clear picture (Niedomysl & Amcoff, 2011).

In general, young people in rural areas whose parents are better educated and/or economically better endowed demonstrate higher levels of (inter-regional) mobility (Belfield & Morris, 1999; Rye, 2011). Clearly the graduate's family background has an influence on their decision to return. Interestingly, graduates whose fathers have not completed higher education are more likely to return. Furthermore, the migration experience of family members may also reduce the likelihood of young people to return home, as they perceive migration as an acceptable family norm. Having a partner from the parental region increases the chance of returning to that area, as both partners know the region and have social ties there (Rérat, 2014b). Strong social networks in the place of origin do not only emotionally draw students back but may also play an instrumental role in helping them to find a job. Du (2018) shows that in China, students from economically better-off families are more likely than those from underprivileged families to return after graduation. It can be assumed that the returning student's family connections are used to secure an adequate job or to open a business. This was explicitly shown in a study on students retuning to Sardinia in Italy. The returning students expected members of their social networks to support them in finding a job or starting a business (Crescenzi et al., 2017). Life cycle stages are important, too. For instance, having children is a very strong motive for returning to the rural home region after graduation (Bjerke & Mellander, 2017)

> Research question 1 . Which factors influence the decisions of (college and university) students originating from rural areas to return to the countryside after graduation?

2.2 | Return intentions and regional institutions of higher education

Several policy options exist to retain the high-potential youth in their rural origins. One such option is to set up colleges and universities or other institutions of higher education in rural regions. These institutions are explicitly built to create attractive rural jobs in academia

and stimulate regional innovation and, thus, more jobs (Bjarnason & Edvardsson, 2017). They may also serve to keep rural students in touch with their rural area of origin and/or their social surroundings and, thus, to break the "migrating-to-learn/learning-to-migrate" chain (Haapanen & Tervo, 2012; Li et al., 1996; Pedersen & Gram, 2018; Venhorst, Van Dijk, & Van Wissen, 2010). Moreover, there is a general tendency among students to stay in the region where they have studied (Busch & Weigert, 2010). This may be caused by the pronounced inertia and regional "homophily" of students (Buenstorf, Geissler, & Krabel, 2016).[2] However, regional colleges/universities may find it difficult to attract highly qualified staff or students (OECD, 2007; Yusuf, 2008). The government could provide incentives to study at these rural institutions of higher education by issuing financial aid packages to students (Tang, Rowe, Corcoran, & Sigler, 2014). Nonetheless, nonpecuniary goals and values, such as family traditions, often have more weight with students who seek employment in rural areas than monetary incentives. Thus, these monetary incentives may be an unnecessary burden on the public budget (Artz & Yu, 2011). Sometimes, though, regional colleges/universities even may stimulate brain drain, for example, when the graduates do not find adequate jobs in the rural region (Hamm, Jäger, Kopper, & Kreutzer, 2013; Liu et al., 2017).

> Research question 2 . Do students who study at a regional college or university have a higher intention to remain in a nonmetropolitan area?

2.3 | Selectivity of returning students

It is usually assumed that return migrants return with improved skills. However, it is less clear whether those who completed higher education with good results have a higher likelihood of returning. Nevertheless, even returning graduates who did not finish at the top of their peer group are likely to be better qualified than those who stayed back, and thus still offer a development potential for rural regions.[3] However, if only underperformers return, this would surely lower the development potential of rural areas compared to the case when mainly above average graduates would return. The self-selection process of the return migrants crucially depends on the type of selection that generated the migrant in the first place, for example, if higher qualified migrants are selected from the population in the area of origin, return migrants are likely to be less qualified compared with the migrant group (Borjas & Bratsberg, 1996; Wahba, 2015). This is a plausible selection mechanism in some contexts, for example, lifecycle migration, but it is less so in the context of "target migrants." This is because the more successful target migrants are those who are more capable of reaching their target and then returning more quickly, whereas the unsuccessful continue to stay away from their place of origin (Carling, 2008). In general, less research has been conducted on the selectivity of return migrants compared with the selectivity of migrants (Chiswick, 2008). Although it is plausible to assume that young people who are striving for higher education are more qualified than rural stayers, little is known about the level of qualification of the graduates who return to rural areas. It is plausible to assume that people with higher university degrees usually prefer urban environments to the countryside because the former usually provide better professional opportunities, see, for example, Corcoran, Faggian, and McCann (2010). Empirical evidence seems to confirm that return graduates are less qualified, that is, display a poorer academic performance or lower qualifications than those remaining in urban areas (Du, 2017; 2018; Marinelli, 20130; Rérat, 2014b).

> Research question 3 . Are (college or university) students who return to the countryside after graduation under-achievers compared to those who stay in urban areas?

3 | RESEARCH AREA, SAMPLE, AND LOGIT MODEL OF RURAL RETURN BEHAVIOUR

3.1 | Research area

We focus our study on Astana and the surrounding province of Akmola in northern Kazakhstan for several reasons outlined below. Kazakhstan displays extreme international but also intra-national migration dynamics. During Soviet times, notable parts of the population (from and to Kazakhstan) moved and have been moved across the region. After the collapse of the Soviet Union, many migrants moved back to their place of origin or titular states, most notably ethnic Germans and Russians. In 1990, the Kazakhstan population was estimated at 16.3 million. Due to the collapse related emigration, this number declined to 14.9 million until 2003. To counter those losses, the Kazakh government initiated a return programme (oralman programme) in the late 1990s (a more political motivation for the return programme is discussed below). It aimed at the reverse movement of ethnic Kazakh people living, for example, in Mongolia, Uzbekistan, or China. In the following years, the Kazakh economy consolidated. Thus, significantly fewer people left the country and slightly more ethnic Kazakhs made the way to their titular state. This has resulted in a positive migration balance since 2004. Combined with a high natality of ethnic Kazakhs, the total population grew back to 16.3 million in 2010 and to 18.3 million in 2018. In recent years, Kazakhstan also became a destination for migrants from its poorer neighbouring countries (StatKaz, 2012, 2019).

As there had never previously been a Kazakh nation state (except for a few years in the 1920s), the government's most important task following the collapse of the Soviet Union and independence in 1991 was to establish a new Kazakh concept of nationhood. The government followed two main strategies. The first was to increase the ethnic Kazakh population above 50% because Kazakhstan was the only successor state of the Soviet Union whose titular group was an ethnic minority (Schatz, 2000). On the one side, the government did not undertake any countermeasures to stop the emigration of Russians

and other minorities from its territory, whereas, on the other side, it actively promoted the immigration of ethnic Kazakhs (Alff, 2010; Kesici, 2011). The national population composition has since changed. Today, ethnic Kazakhs are the majority (63%) and ethnic Russians are a rather large minority with 24% of the population (Abdramanova, 2017; Peyrouse, 2007, 482). But regional imbalances still existed. Thus, the change in population composition was accompanied by a second strategy: the promotion of internal movement into the northern regions, for example, in Akmola province, where traditionally Kazakhs had been a minority (Smailov, 2011). Anacker (2004) considers the relocation of the capital from Almaty to Astana as the heart of the official nation-building project of Kazakhstan. Astana was declared the "new" capital of Kazakhstan in 1997. The formal justification for the relocation was the creation of a focal point for economic growth in the north. However, it was also a geopolitical decision to claim the northern region as ethnic Kazakh territory, physically separate the economic and cultural Russian elites from the new Kazakh political elite in Astana, and place emphasis on Kazakhs as the dominant ethnic group.

Kazakhstan, as most post-Soviet states, experienced a general rural exodus leading to the substantial growth of bigger cities in the 1990s (see, e.g., Bissenova, 2017). Compared with rural areas, bigger cities have disproportionately profited from the transformation process of a planned to a market oriented economy (Alff, 2010). The urban job market experienced a boost with comparably high salaries. Furthermore, the Soviet narrative of cities as the cradle of modern amenities and economic progress is still alive and is reflected, for example, in propagating Astana as a cosmopolitan metropolis (Alexander, Buchli, & Humphrey, 2007). These institutional changes created an enormous pull on people from the surrounding countryside towards urban centres, especially to Astana. Not surprisingly, the city grew rather quickly from a medium-sized regional town to the national political and intellectual centre. From the late 1980s until 1997, the number of inhabitants in Astana fluctuated below 300,000. The city subsequently grew to 600,000 in 2008 and 1 million in 2018 (StatKaz, 2019). Astana is now being promoted as a city designed for more than 3 million inhabitants, which may further spur rural–urban mobility (Tengrinews, 2016). Astana and other bigger cities function as a magnet for migrants, especially for younger people in search of higher education and jobs. The greatest share of incoming migrants to Astana and to other cities in Akmola originates from the surrounding, mostly agrarian/rural province, Akmola.

3.2 | Student sample

Identifying Kazakh students who have returned to rural areas is rather difficult. Therefore, we decided to approach students at their college or university to investigate their intentions to return to rural areas after graduation.[4] Our focus was on fields of study that are more or less equally relevant for either a rural or urban job market, such as medicine, agribusiness, or teaching. Thus, we selected colleges and universities in the province of Akmola and in Astana that offer courses and degrees in these fields (for details see Table 1).[5]

Although colleges offer only bachelor degrees and can be accessed after nine school years, universities offer both bachelor and master degrees and require eleven years of schooling (OECD, 2007). We drew our sample of students of higher education (bachelor and master) from eight colleges and universities in Astana (capital, 1 million inhabitants), Kokshetau (province capital, 140,000 inhabitants), Stepnogorsk (medium-sized regional town, 47,000 inhabitants), and Astrakhanka (small rural town, 6,313 inhabitants). This sample structure was intended to reveal the differences in the motivations underlying the return intentions of students based on the decreasing degree of urbanity of their place of study. The four research towns are depicted in Figure 1.

We interviewed only students in their graduation phase, due to the assumption that at that point, return migration intentions have already been developed to a certain extent and should better reflect actual relocation behaviour in the future. As we are interested in the return intentions of students to rural areas, we interviewed only students

TABLE 1 Sample description

City/town	College/university	Number of interviews
Astana	Astana Humanitarian College	75
	Astana Medical University	69
	Kazakh Agro Technical University	81
	Academy of Public Administration (University)	11
Kokschetau	Kokshetau State University	62
Stepnogorsk	Construction Technical College[a]	55
	Industry Technical College[a]	7
Astrakhanka	Agro-Technical College[a]	21
Total number of interviews		381
	In all, 24 interviews were excluded: seven because the students were not looking for a job, and 17 due to missing data. Final sample size	357

[a]The colleges in Stepnogorsk and Astrakhanka are subsidiaries of Kokshetau State University. Colleges run by local authorities are not considered as part of higher education (OECD, 2007, p. 24).

FIGURE 1 Research area.
Source: Downloaded and adapted from: www.mapsof.net

who did not grow up in their place of study, but were of rural origin.[6] The students were identified and approached by the dean of their faculty and gathered in an auditorium for the interviews.

All students received a short self-administered questionnaire. Research personnel were available to answer questions. In addition to their return intentions, we collected information about their family background, educational achievements, and economic and noneconomic preferences to better determine the motives underlying their return intentions.

The cleaned dataset with 357 observations contained less than 1.3% missing individual values. For one explanatory variable ("academic achievement"), we could not reject the hypothesis that the values are missing completely at random because the missing completely at random test based on the expectation-maximisation algorithm gives a chi-square of 3.934 with a significance level of 0.049. Therefore, we addressed the missing values by multiple imputation of means, which allows an asymptotically unbiased estimation under the weaker assumption of missing at random conditional on measured variables (Allison, 2001).

On a final note on our sample, we have to admit that our sample size is rather small, although we addressed this issue through bootstrapping (see Footnote 8 below for further details). In addition, we do not claim that our sample of the target population, namely students of rural origin in fields of studies relevant for the rural job market, is representative. Therefore, the results of our empirical analysis have an explorative character and are interpreted as such.

3.3 | Predictors of rural return migration

After graduation, students from rural areas have to decide whether they will remain in the place where they studied, move on, or return to the rural countryside. Even if graduates do not return to their rural place of origin, they seem to have a strong tendency to work in regions that show similar traits to those where they grew up (Buenstorf et al., 2016; Pedersen, 2018; Venhorst, 2013). Furthermore, Pedersen (2018) points out that graduates from rural areas often perceive the countryside as a favourable place to raise children but are still reluctant to return to the exact place of their origin. Therefore, from a policy point of view, focusing only on those who return to their exact place of origin would neglect important rural return groups of young adults. These arguments led us to broaden our perspective with regard to our *dependent variable*, asking students about their rural return intentions—but not necessarily to the rural place of origin—within 3 years of their imminent graduation. The rural option usually means to return from an urban area to the rural countryside. However, as mentioned earlier, we also interviewed students in regional towns with higher education facilities, that is, Astrakhanka and Stepnogorsk. In the Kazakh context, these towns are considered to be part of the countryside. Thus, students who intend to remain in one of these rural towns also choose the rural option and are included in the group of students having a rural return intent. The dichotomous dependent variable was coded 1 for students who reported a return intention and 0 otherwise.

As often done in migration research, we imply a microanalytic utilitarian perspective to approach the question why students return to the countryside after graduation, whereby we use a so-called subjectively expected utility (SEU) model. Based on this reasoning, a graduate will compare his/her SEU at the current residence with that arising from executing the rural return option.[7] SEU models have several advantages. For instance, they easily integrate utility as well as disutility considerations of economic and noneconomic nature. Furthermore, we follow Posner (1997), who outlines utilitarian rationality as "choosing the best means to the chooser's ends." He continues to say that rational behaviour does not imply omniscience in the sense of "unbound" information; in fact, it might be irrational to spend all resources on acquiring complete information. Bounded willpower can also be analysed within the utilitarian rational choice framework. "Most of us have experienced the sensation of being torn between two selves – a 'good' self that has our long-run welfare in mind and a 'bad,' short-sighted self […]" (Posner, 1997). All the selves are assumed to act in a rational way but to have inconsistent preferences. An example would be a young self and an older self; with the former a present-oriented self that lives for the moment. Posner (1997) continues to explain with regard to bounded self-interest that presumably altruistic behaviour or behaviour along cultural norms is a form of rational self-interest, assuming interdependent utilities.

Clearly, return migration is not only driven by economic but also noneconomic motives, which are reflected in the "return components" of Haartsen and Thissen (2014) and in Rérat's (2016) "logic of internal migration." The derived *predictors* modelling the rural return intention are grouped into five comprehensive categories, whereby the first two reflect economic motives, namely "job market access" and "living standard," whereas the remaining categories illustrate noneconomic motives: "social and affective fulfilment," "residential amenities," and "cultural norms."

The deterministic utilitarian logic is that *economic motives* related to the labour market are a main driver of (internal) migration, whereby regional disparities, such as job and/or career opportunities are central. As outlined above, social contacts/networks may be important for entrants, particularly in a highly competitive urban environment. We

associate this set of motives with the individually perceived job market access (King, 2002). It is interesting to note that in the rural Kazakh context, there is a shortage of academically qualified employees (Petrick, 2015), thus making rural social networks less important as door opener for entrants. Accessing the job market should be high on the agenda of young college and university graduates. Closely related to job market access are indicators revolving around the living standard. Here, costs and benefits are compared. In this internal migration logic, we subsume the availability of affordable housing, the cost of living in general, and the expected salary level. In Kazakhstan, salaries in urban areas, especially in Astana, are substantially higher than in rural areas but, at the same time, the costs of living, for example, for housing, are extremely high.

In addition to economic motives, we hypothesise that subjectively perceived utility is also profoundly influenced by *noneconomic motives*. For instance, Rérat (2016) emphasises the influence that the wider social and affective context has on migration decisions. Posner (1997) talks about emotional and altruistic (dis)utilities. Young adults who intend to start a life as a couple may have to engage in what King (2002) calls "love migration." There may also be a link between staying intentions and the experience of more personal freedom in the urban environment as compared with the more traditional lifestyle of the countryside. Finally, the emotional wish to maintain ties to family and friends also clearly influences residential choice (Haartsen & Thissen, 2014; Mulder, 2007; Mulder & Cooke, 2009; Niedomysl & Amcoff, 2011). We summarise these motives in the migration logic termed social and affective fulfilment. It is also plausible that residential amenities, for example, the availability of a cultural life or the provision of public services, are important (Mulder, 2007; Rérat, 2016). It is assumed that urban areas have more amenities to offer than the countryside. Finally, the migration logic termed cultural norms summarises variables that are related to normative motives in relation to return intentions, that is, aligning my behaviour to that of my peers, meeting the exceptions of my family, taking care of other people, and the general perception of rural return as a personal failure. These predictors relate to rational behaviour with bounded self-interest and bounded will-power.

A number of predictors are summarised as *control proxies*. To answer our Research Question 2, whether or not students who study at a regional college or university show a more pronounced rural return intention, we included the predictor "location of study" (1, regional town; 0, city). We hypothesise that those students who study at a regional college or university are more often in the group of rural return intenders. Research Question 3, whether students who intend to return to the countryside after graduation are underachievers compared with those who decide to stay in urban areas is tested by including a control for academic achievement (1 to 5, where 5 is the best grade) and by a predictor linking the student to a college or university (1, college student; 0, otherwise), as in Kazakhstan, most college students had hoped to go to university, but failed the entry tests (OECD, 2007).

Gender is controlled for by a binary dummy (1, male; 0, female). We also include a proxy for ethnic affiliation (1, ethnic Kazakh; 0, non-Kazakh). The majority of the students in our sample are of Kazakh decent (84%) although the national share is 63%. Nevertheless, the former distribution; represents exactly the ethnic composition at the higher education facilities from which the sample is drawn. The non-Kazakh students were mainly of Russian but also of European descent (i.e., Ukraine, Polish, and German) and a few were Uzbeks and Tatars (less than 1%). The last control proxy refers to governmental programmes (e.g., the programme "*S Diplomom v Selo*" or "*Molo*"). The purpose of these programmes is to attract young professionals (e.g., administrators, teachers, economists, and health specialists) to rural regions (GovReKaz, 2018; IPL, 2009). Buenstorf et al. (2016) provide evidence suggesting that targeted recruitment strategies by private rural employers are a viable strategy to retain (or lure back) graduates. The same can therefore be assumed for public employers.

4 | THE RETURN MIGRATION OF GRADUATES—RESULTS AND INTERPRETATION

4.1 | Choice of parametric model and model fit

The parametric model that best fits our empirical data is a binary logistic regression. Binary logistic regression analysis predicts the natural log of the odds that a particular subject (i.e., student) will be in one of the two groups (1 for rural return intenders, which is the target group and 0 otherwise). In other words, the results of the binary logistic regression can be used to classify students with respect to their reported rural return intentions. The model is summarised as follows:

$$\text{Presence of rural return intention: } \left\{ \begin{array}{l} 1 = yes \\ 0 = no \end{array} \right\} = f(\alpha + \beta X_i, \varepsilon),$$

whereby α= intercept, β= regression coefficient, X_i= predictors, and ε= error term.

The β coefficient can be interpreted as the predicted change in the log odds of a particular student falling into the target group for every one unit increment on a given predictor (holding the other predictors constant at a certain value). Positive (negative) β coefficient implies an increased (reduced) likelihood to fall into the target group. The exponentiated β coefficient is the odds ratio (i.e., $Exp(\beta)$) or the change in odds for every one unit increment on a given predictor.

Apart from the basic binary logistic regression assumptions, for example, that our dependent variable is of dichotomous scale, we inspected the data for multicollinearity and linearity in the logit. The predictors were tested for multicollinearity using the variance inflation factors. The variance inflation factors were all below the conservative critical value of 5. Therefore, we could safely ignore the issue of multicollinearity. Furthermore, we checked for the linear relationship between the dichotomous dependent variable and any continuous independent variable using the Box-Tidwell transformation test, keeping only those continuous predictors in the model whose logs were not significant.

The regression diagnostics are all within standard range. With regard to the omnibus test of model significance, the chi-square is

significant at the 1% level, indicating that the current models (compared with the null model) significantly increase our ability to predict the rural return intention of students. The pseudo R^2 ranges between 45% (Cox & Snell pseudo R^2) and 65% (Nagelkerke pseudo R^2). A pseudo R^2 above 40% can be considered a more than good model fit (Gautschi, 2010). Nevertheless, as the pseudo R^2 assumes higher values the more explanatory variables are contained in the model, it is desirable to use a model that not only best fits the data but is also specified with as few predictors as possible (Best & Wolf, 2010) to assure a sufficient number of cases per predictor. Therefore, we ran a partial model containing only the control proxies and significant variables from the full model. The number of observations per predictor in the partial models is 22, which is twice the recommended minimum of 10 (Vittinghoff & McCulloch, 2007). In the partial model, the two pseudo R^2 lose just 2 to 4 percentage points of explanatory power with regard to the model fit. Therefore, we interpret the partial model only.

Overall, both models correctly classify above 90% of all observations and between 75% and 80% of the return intentions (see Table 2). Finally, we ran a regression model on the original dataset using bootstrapping (bootstrapping is not available for datasets based on multiple imputation) to account for the relatively small sample size. The direction and the significance of the estimators for both datasets turned out to be robust.[8]

4.2 | Students intending to return to the rural countryside after graduation

Almost 30% of the students in the sample (n = 357) reported a rural return intention. This overall estimate of rural return intenders is in line with an assessment by Haartsen and Thissen (2014), who point out that 20%–30% of internal moves can be considered return migration. Obviously, not all of those coded as rural return intenders will effectively return, likely shifting our estimate more towards the middle or lower boundary of the 20%–30% range.

TABLE 2 Classification of correctly predicted observations for students intending to return to the rural countryside within 3 years after graduation

Observed	Predicted 1	Predicted 0	Percent correct
Full model			
1 = Student intends to return	80	20	80.0
0 = Student intends to stay in city	7	250	97.3
Overall per cent correct predicted			92.4
Partial model			
1 = Student intends to return	75	25	75.0
0 = Student intends to stay in city	9	248	96.5
Overall per cent correct predicted			90.5

Note. n = 357

Source: Own data.

Table 3 shows the coefficients of the binary logistic regression, the Wald chi-square statistics for the significance of individual coefficients and the odds ratios. We concentrate our interpretation on the partial model that mirrors the complete set of control proxies and the significant predictors from the full model.

We observed only three significant *economic predictors*: "job opportunities," "future career possibilities," and "salary level," whereby job opportunities has the highest odds ratio. The odds of falling into the nonreturn group are about 50% higher for each point increase on the 7-point Likert scale of future career possibilities. Thus, students placing more importance on their future career are less likely to return. The same logic applies to the predictor salary level. For each one point increase in the importance associated with the salary level, the odds that a student intends to stay in the city almost doubles. These are straightforward results and in line with Gunko and Medvedev (2018) who state that in Russia, employment related factors, such as wage levels and career advancement, are the most popular reasons for not wishing to return. Interestingly, those students who attach a high rank to job opportunities are more often in the rural return group. This result seems to be counterintuitive because there are usually fewer job opportunities for academics in the countryside. Nevertheless, in rural Kazakhstan, there is a shortage of academically qualified employees, although the salary level may be somewhat lower than for academics in urban areas. This coincides with the students reporting that qualified entrants more easily find jobs in the field of their specialisation in the countryside and that they are given the chance to take on more professional responsibility earlier.

Six *noneconomic predictors* turned out significant. We start with those predictors that reflect social and affective fulfilment. Generally, increasing the importance attached to "personal freedom" or "proximity to friends" by one increment reduces the odds that a student forms a return intention by 35% and 37%, respectively. Students may have developed a preference for an independent lifestyle, which places the individual and not the traditional social group at the forefront. Life in the countryside may also be associated with paternalism and backwardness (Gunko & Medvedev, 2018). It is also quite likely that students made close friends over the course of their urban-based studies and subsequently want to stay where their friends are, which is most often in the city. Rérat (2016) reports a similar finding for Swiss graduates.

Not surprisingly, students who place a high importance on remaining close to their rural-based families show a higher rural return intention. Interestingly, the predictor "exploring another type of life," which implies getting to know new things and/or accepting professional challenges, also has a positive coefficient. This indicates that the odds of being in the rural return group increases for those students who attach a higher importance to this predictor. As mentioned earlier, jobs in rural areas involve a great deal of professional responsibility for entrants; this may partly explain the direction of this predictor. None of the predictors associated with the internal migration logic that we

TABLE 3 Predictors for rural return intentions of students

		Rural return intention within 3 years after graduation			
		Full model		Partial model	
Predictors[a]		β	Odds ratio	β	Odds ratio
Control proxies	Location of study,[b] 1 = regional town, 0 = city	3.488***	32.723	3.260***	26.062
	Attending college = 1, 0 = university	−0.294	0.745	−0.157	0.855
	Academic achievement,[c] 1 = upper 30%, 0 = else	0.495	1.641	0.565	1.759
	Sex, 1 = male, 0 = female	0.551	1.736	0.477	1.612
	Ethnic affiliation, Kazakh = 1, 0 = else	−4.318***	0.013	−4.063***	0.017
	Governmental scholarship, 1 = having/intending to use, 0 = else	0.957**	2.605	0.898**	2.456
	Highest educ. of parent, 1 = high school, 2 = college, 3 = university	−0.075	0.927	−0.039	0.962
	Family's position on the local income ladder, 1–10, 10 = highest	0.005	1.005	0.012	1.012
Job market access	Job opportunities	0.709***	2.033	0.750***	2.117
	Future career possibilities	−0.525***	0.593	−0.411***	0.663
	Personal networks helping to find a job	−0.014	1.014		
Living standard	Availability of affordable housing	0.164	1.178		
	Cost of living, e.g., purchasing power	−0.258	0.773		
	Salary level	−0.651***	0.522	−0.680***	0.507
Social & affective fulfilment	Explore another type of life	0.488***	1.630	0.455***	1.577
	Personal freedom	−0.467***	0.627	−0.306**	0.737
	Find a partner	−0.158	0.854		
	Proximity to family	0.402**	1.494	0.415***	1.515
	Proximity to friends	−0.331**	0.718	−0.316**	0.729
Residential amenities	Short commuting time	−0.038	0.963		
	Access to cultural & recreational activities	0.150	1.162		
	Public service infrastructure (e.g., health)	0.191	1.211		
Cultural norms	Do as my peers will do	0.246	1.279		
	Meet expectations of family	−0.455***	0.635	−0.360***	0.698
	Take care of parents or family members	0.625***	1.869	0.524***	1.719
	Rural return is perceived as failure	−0.131	0.877		
Intercept		0.296		0.720	
Omnibus chi-square		231.535***		216.403***	
Cox and Snell R^2		0.477		0.455	
Nagelkerke pseudo R^2		0.687		0.654	
Total observations		357		357	

[a]Variables, if not indicated otherwise, are based on a Likert scale, ranging from 1–7, where 7 represents "very important" or "fully agree."

[b]Regional towns with higher education facilities are Astrakhanka and Stepnogorsk, major cities are Astana and Kokshetau.

[c]Academic achievement is based on grades ranging from 1–5, 5 being the best grade.

*Significant at 10% level (Wald chi-square).

**Significant at 5% level (Wald chi-square).

***Significant at 1% level (Wald chi-square).

summarised as residential amenities were significant, although this empirical result does not exclude the existence of causal relations to the rural return intention. However, we may speculate that residential amenities do not yet play a decisive role for entrants, who are usually single and are looking for their first jobs to gainwork experience.

The return migration category termed cultural norms also points at the importance of family ties and normative expectations. For instance, if a student places more prominence on "taking care of parents and family members," the odds that he/she will be in the group of rural return intenders increases. Nevertheless, the opposite is true when it comes to "meeting family expectations." The more a student respects his/her family's expectations, the lower the odds are that he/she will fall into the group of rural return intenders. This result could indicate that the rural-based parents consider the future of their academically trained children to lie in the city and not in the countryside.

The *control proxies* primarily shed light on Research Questions 2 and 3. The empirical results appear to suggest that students who study in a rural region have a higher intention to remain in this region or even relocate to a more remote rural area (see location of study). The odds of displaying a return intention for students studying in a regional town, that is, Astrakhanka or Stepnogorsk, increase by a

factor of 26, which is by far bigger than the effect of any previous single economic or noneconomic predictor. However, we cannot say whether this result is due to a self-selection process whereby those students who choose to study in a rural town may do so because they already have a return intention. Therefore, we ran the partial model just for the students studying in Astana or Kokshetau (not presented here). Whether or not they studied in Astana or Kokshetau did not influence the return intention. All other predictors that turned out significant before continued to do so and maintained their direction. These results taken together suggest that attending a regional college/university tremendously raises the odds that a student will form a rural return intention (see Research Question 2).

The predictors "attending college" and academic achievement were not significant. Thus, we found evidence of neither a negative nor a positive self-selection with regard to the academic achievement of students with a rural return intention (see Research Question 3). A "governmental scholarship" works in favour of rural return intentions, the log odds to display a rural return intention increase by a factor of 2.456, which is not surprising as these scholarships usually require the scholarship holder to work in rural areas for a prespecified period after graduation. Furthermore, the students' family background ("highest education of parent" and "family's position on the local income ladder") had no significant influence on forming a return intention (although the explorative analysis suggests that students with parents who have a higher level of education do not intend to return).

Ethnic affiliation was found to play an important role when forming the rural return intention. The predictor "ethnic group" (1 for ethnic Kazakh students) turned out negative. This implies that students of Russian or European background (which make 99% of the non-Kazakhs in our sample) are more likely by a factor of 58 to be in the group of rural return intenders. This strong result came to our surprise, even though northern Kazakhstan still hosts a relatively high share of non-Kazaks, especially ethnic Russians. Because this deserved further analysis, we conducted a two-sample *t* test for non-Kazakh as well as for Kazakh students. This serves as a descriptive analysis to investigate the differences associated with ethnic belonging and the formation of rural return intentions (see Section 4.3).

We did a binary logistic regression (results are not shown) for the ethnic Kazakh students, but not for the non-Kazakhs because the sample size of the latter is just 57. The regression results confirmed the findings of the *t* test shown in Section 4.3 below; however, with some predictors in the category social and affective fulfilment showing only a significance level of 10% (these were personal freedom, "find a partner," and proximity to friends). This calls for a conservative interpretation of the descriptive results presented in Section 4.3.

4.3 | Exploring the differences in the return intentions of ethnic groups in northern Kazakhstan

While 79% (45 of 57) of the non-Kazakh students report a rural return intention, only 18% (54 of 301) of the Kazakhs intend to return. The explorative results regarding differences in the return intentions of non-Kazakhs and Kazakhs are presented in Table 4. Students with a rural return intention, regardless of the local ethnicity, are significantly more likely to study in a regional town, their parents are less likely to have a university degree, and they place more importance on the prospective salary level. But apart from these similarities, the motives of rural return are quite distinct for Kazakhs and non-Kazakhs.

Non-Kazakh job entrants who attach a higher importance to job opportunities are more likely to be in the group of rural return intenders (for ethnic Kazakhs, we found no significant difference, but the importance is slightly reversed). This may indicate a slight discrimination of non-Kazakhs in the urban job market. In line with this, ethnic Kazakh students who put more emphasis on their future career possibilities intend to stay in urban areas. In addition, more ethnic Kazakh students who consider "affordable housing" and the general "cost of living" as important intend to stay in urban areas. Affordable housing is connected to subsidised housing schemes, which are offered to government employees at all levels. Kazakh students appear to perceive it more feasible to handle the very high housing costs in cities such as Astana because ethnic Kazakhs are more likely to get a government job in a city and thus are more likely to benefit from subsidised housing.[9]

Two noneconomic predictors turn out significant only for non-Kazakh students: their higher evaluation of staying close to their family and their respect for the norm of taking care of their family members. In rural Kazakhstan, parents often follow their migrated children to urban areas in later life stages. Thus, the latter finding could be an indication that parents of non-Kazakh students have a reduced intention to move to urban areas and, therefore, students are expected to return to the countryside to take care of them.

Kazakh students seem to take more motives into account than non-Kazakh students when forming their rural return intention. Kazakh students intending to return study more often at a college. Although this might be linked to the observation that most college students had hoped to go to university, but failed the entry tests (OECD, 2007), it does not show in the academic performance in relation to the rural return intention. Interestingly, in the Kazakh rural return intender group, there are more male students and students who are interested in governmental programmes that aim to stimulate rural return. If the government targets the Kazakh ethnic group with these programmes, they appear to work. However, it could also be a sign of ethnic discrimination. When it comes to social and affective fulfilment, ethnic Kazakh students who intend to stay in urban areas place more importance on "finding their personal freedom" and on "finding a partner." Overall, residential amenities appear to be low on the agenda of entrants—with one exception. Ethnic Kazakhs who intend to stay in urban areas show a higher appreciation of the "short commuting time," which they find in urban areas. Although not significant, the parents of ethnic non-Kazakhs seem to expect their children to return to the countryside after finishing their academic studies. This is just the opposite for ethnic Kazakh students, and the difference here is significant. This again points in the direction of an urban–rural opportunity bias along ethnic lines.

Still, about 25% of the inhabitants of northern Kazakhstan are ethnic Russians although the process of what is known as Kazakhification

TABLE 4 Two-sample *t* test for equality of means, non-Kazakhs versus ethnic Kazakh students

Predictors[a]		Intention to return	Non-Kazakh subsample[b] Mean	*p* value (Cohen's *d*)	Kazakh subsample[c] Mean	*p* value (Cohen's *d*)
Control proxies	Location of study,[d] 1 = regional town, 0 = else	Yes	0.64	2.540** (0.83)	0.39	4.380** (0.66)
		No	0.25		0.09	
	Attending college = 1, university = 0	Yes	0.64		0.57	3.523*** (0.53)
		No	0.58		0.31	
	Academic achievement, grades, 1–5, 5 = best grade	Yes	4.08		4.10	
		No	3.97		4.20	
	Sex, 1 = male, 0 = female	Yes	0.42		0.54	3.284*** (0.49)
		No	0.33		0.29	
	Governmental programme, 1 = having/intending to use, 0 = else	Yes	0.42		0.72	3.147*** (0.47)
		No	0.42		0.50	
	Highest education of parent, 1 = high school, 2 = college, 3 = university	Yes	2.05	2.034** (0.66)	2.25	2.145** (0.32)
		No	2.51		2.50	
	Family's position in the local income ladder, 1–10, 10 = highest	Yes	5.87		6.00	
		No	5.91		6.29	
Job market access	Job opportunities	Yes	5.84	3.186*** (1.04)	5.54	
		No	3.33		5.70	
	Future career possibilities	Yes	5.71		5.30	2.053** (0.31)
		No	4.58		5.97	
	Personal networks helping to find a job	Yes	4.31		3.91	
		No	4.42		3.93	
Living standard	Availability of affordable housing	Yes	5.49	2.915*** (0.95)	4.67	2.181** (0.33)
		No	4.83		5.37	
	Cost of living, i.e., purchasing power	Yes	5.47		4.37	2.011** (0.30)
		No	5.67		5.01	
	Level of salary	Yes	6.13		4.65	3.588*** (0.54)
		No	6.83		5.91	
Social & affective fulfilment	Explore another type of life	Yes	5.67	2.246** (0.73)	5.48	
		No	5.58		5.70	
	Personal freedom	Yes	5.20		4.50	2.650*** (0.40)
		No	5.42		5.38	
	Find a partner	Yes	4.44		3.20	2.005** (0.30)
		No	4.08		3.93	
	Proximity to family	Yes	5.69		5.02	
		No	4.25		5.03	
	Proximity to close friends	Yes	4.73		4.17	
		No	4.67		4.57	
Residential amenities	Short commuting time	Yes	5.22		4.37	2.331** (0.35)
		No	4.83		5.15	
	Access to cultural and recreational activities	Yes	4.60		4.43	
		No	4.33		4.71	
	Public service infrastructure (e.g., health)	Yes	5.47		4.59	
		No	5.42		5.22	
Cultural norms	Do as my peers will do	Yes	2.60	3.022*** (0.98)	3.22	
		No	2.83		2.83	
	Meet expectations of my family	Yes	5.69		4.11	2.790*** (0.42)
		No	4.50		5.05	
	Take care of parents or family members	Yes	6.42		5.65	
		No	4.25		5.40	
	Rural return is perceived as failure	Yes	3.20		3.39	
		No	3.75		3.64	

Source: Own data.

Note. Cohen's *d* is presented as a measure for effect size; absolute values of more than 0.2, 0.5, and 0.8 imply a small, medium, and large effect, respectively.

[a]All variables, if not indicated otherwise, are based on a Likert scale, ranging from 1–7 with 7 representing "very important," "fully agree," or "excellent."

[b]Non-Kazakh sample *n* = 57, thereof 45 (79%) intending to return.

[c]Kazakh sample *n* = 300, thereof 54 (18%) intending to return.

[d]Regional towns with higher education facilities: Astrakhanka and Stepnogorsk; major cities: Astana and Kokshetau.

*Significant at 10% level.

**Significant at 5% level.

***Significant at 1% level.

already stared in the early 1990s (Kaiser & Chinn, 1995). There are a multitude of related policies, to name a few: (a) moving the capital from Almaty to Astana, (b) making Kazakh an official national language, and (c) increasing the share of ethnic Kazakhs in administration to a level that it is now dominated by ethnic Kazakhs. All these policies were also meant to increase the ethnic Kazakh population in the north (Bissenova 2017; Peyrouse, 2007; Wolfel, 2002). Not surprisingly, as a consequence of these policies, many non-Kazakhs, such as ethnic Russians, feel they do not have the same opportunities as Kazakhs (Laitin, 1998). Our descriptive results seem to confirm this, as non-Kazakhs assess their chances of getting good jobs in Kazakh-dominated urban areas as rather low and decide to return to their rural origins.[10] Although relatively more non-Kazakh students intend to return to the countryside, in absolute terms, a larger number of ethnic Kazakh students report a return intention. However, when putting the focus on northern Kazakhstan, a region that was the main target of the politically promoted Kazakhification, the picture is different. In our sample, 99% of all non-Kazakh students originate from the north, compared with only 50% of the ethnic Kazakh students. This means that if we look only at the north, almost twice the number of non-Kazakhs return to rural areas. Although this process of Kazakhification seems to have worked for urban areas, the effects on the countryside seem to be the reverse.

5 | CONCLUSIONS AND DISCUSSION

With this study, we investigate the rural return motives of young college and university graduates who study in regional towns and more urban areas in the Akmola province, northern Kazakhstan, and who origin from a rural area. First of all, we have to point out that our sample is rather small and not representative. Because any generalisation beyond our research area would be speculative, we took great care to account for this through a cautious and conservative conclusion.

We theoretically deduced rural return logics appropriating utility and disutility perceptions linked to economic and noneconomic motives. Not surprisingly, economic motives related to employment are important for the locational choices of students. Our results show that students in our sample who place a higher importance on the salary level or on future career possibilities show a significantly reduced rural return intention. Counter-intuitively, we found that students who rank job opportunities high are more often among those intending to return. This result appears to be specific to (Akmola) northern Kazakhstan because (academically) qualified graduates appear to more easily find jobs in the field of their specialisation in the countryside (than in the city) and can take on more professional responsibility earlier. The possibility of taking on more responsibility at an early point in one's career may also help to change the widespread image of young people in rural areas being losers or underachievers (which may also inhibit young graduates from returning) to an image of people seizing an opportunity or taking on a challenge. Attaching a positive image to those young adults who decide to stay or to return to the rural countryside is another noneconomic determinant for locational choice (Pedersen, 2018; Pedersen & Gram, 2018).

In fact, noneconomic motives appear to be at least as important, if not more important, for forming a rural return intention for the students in our sample. Students who derive a higher social and affective fulfilment from a rural lifestyle, from being close to their family, or those who find it important to take care of their parents will more likely return to the countryside in Akmola. Interestingly, this is not necessarily what the family—at least among the ethnic Kazakhs—expects. The expectations seem to go in the opposite direction, namely to pursue a professional career in the city. We cannot confirm in Northern Kazakhstan, however, that residential amenities play an important role with regard to forming a rural return intention. It seems that the provision of residential amenities is a necessary but by no means sufficient condition for the locational choice of entrants when looking for their first jobs to gain work experience.

Our results suggest that students who study in a regional town, that is in Astrakhanka or in Stepnogorsk, have a higher rural return intention. Thus, from a policy point of view, decentralising higher education facilities might support the intention to remain in the region and hence may reduce/slow down the exodus of young people from rural areas. This may be combined with scholarships especially targeted towards these higher education facilities. Finally, we found no evidence that students who return to the countryside after graduation might be underachievers compared with those who intend to stay in the city. However, this result stays in contrast to research results in other countries (Du, 2017; 2018; Marinelli, 2013; Rérat, 2014b). Whether (northern) Kazakhstan really is the exception here would require a larger and more representative study in the future.

The most striking result is the large difference in return intentions along ethnic lines. In our sample, students of non-Kazakh decent are much more likely to return than ethnic Kazakhs. Moreover, the descriptive analysis has shown that the two ethnic groups have quite distinct motives. Thus, any policies supporting the rural return of graduates in Northern Kazakhstan should accommodate these differences. Furthermore, we found signs of ethnic discrimination against non-Kazakhs in the job market. Therefore, policies should be carefully designed so as not to entrench this tendency.

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CONFLICT OF INTEREST

The authors declare that there is no conflict of interest that could be perceived as prejudicing the impartiality of the research reported.

ENDNOTES

[1]If students are unable to find employment right after their graduation, the family home is often used as a safety net until an adequate job is found.

[2]Distance education courses may be even more effective in diminishing brain drain towards urban centres, see, for example, Bjarnason and Edvardsson (2017) for an overview.

[3]We thank one of the referees for pointing this out.

[4]Migration intentions are good predictors of migration behaviour (de Jong, 2000; van Dalen, Groenewold, & Schoorl, 2005), and, as such, so are return migration intentions. However, the use of intention data as a proxy for actual behavior is not uncontested (see, e.g., Manski (1990) for a critical evaluation).

[5]The final sample structure was determined by those institutions that provided permission to interview their students. Of the institutions we contacted, seven universities and one college did not participate. These were the Eurasian National University, the Institute for Leadership, the University of Astana, the University Turan Astana, the Kazakh University of Technology and Business, the Eurasian Humanitarian Institute, Nazarbayev University, and the Higher Medical College.

[6]As mentioned earlier, students with an urban origin also have the potential to counterbalance the rural brain drain. However, research shows that they rarely move to rural areas, see, for example, De Vries and Reid (2003) or Bjarnason and Edvardsson (2017). Therefore, we explicitly focus on graduates from a rural place of origin.

[7]The SEU model is based on the Expected Utility Theory. As the SEU model of rural return behaviour provides greater depth to the paper it is hosted online as supporting information.

[8]Bootstrapping is a way of obtaining more robust estimates with a relatively small sample size by using a data resampling technique that imitates a larger random sample from a quasi-infinite population of the dataset. We use "simple" bootstrapping, based on resampling with replacement from the original dataset with 1,000 draws, the confidence interval (CI) equals 95%, and the type of bootstrap CI is percentile.

[9]Kazakh and Russian are recognised as equal national languages (GovReKaz, 1997). Officials must be able to speak both languages at a sufficiently high level, which is assessed by a language test at the time of recruitment. Although many ethnic Kazakhs speak Russian at that level, the same cannot be said for ethnic Russians and their command of the Kazakh language (see, e.g., Peyrouse, 2007).

[10]In most fields of study, ethnic Kazakhs are above their national share or close to the national share. Even in courses related to agriculture and subjects summarized as vocational training (taught at colleges), where people have a high return intention, ethnics Kazaks are still overrepresented. Thus, we can rule out that ethnic non-Kazakhs are overly drawn to study subjects, which have a lower urban employment perspective.

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