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FACTORS AFFECTING THE EMPLOYMENT OF ETHNIC MIGRANTS IN AGRICULTURE

АУЫЛ ШАРУАШЫЛЫҒЫНДА ЭТНИКАЛЫҚ КӨШІП-ҚОНУШЫЛАРДЫҢ ЖҰМЫСПЕН ҚАМТЫЛУЫНА ӘСЕР ЕТЕТІН ФАКТОРЛАР

ФАКТОРЫ, ВЛИЯЮЩИЕ НА ЗАНЯТОСТЬ ЭТНИЧЕСКИХ МИГРАНТОВ В СЕЛЬСКОМ ХОЗЯЙСТВЕ

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Abstract. The author notes that the study of issues of modern migration processes in the country, the analysis of the scales, directions and factors determining them, the definition of various aspects of the impact of migration on the state of agriculture are relevant and timely. The econometric model is presented to identify stable variables that affect the employment of ethnic migrants in agricultural production. Econometric analysis showed that the main factors which influence on ethnic migrants in agriculture are as follows: the place of residence, the level of education, age and satisfaction with life in the countryside. In agriculture of the Akmola region, mainly middle-aged ethnic migrants are employed, with education below the secondary vocational level, living in rural areas, who do not want to change their place of residence in short term period.

Аңдатпа. Республикадағы қазіргі заманғы көші-қон процестерін талдауды зерттеу, масштабтары, бағыттары мен олардың анықтаушы факторларын, ауыл шаруашылығы жағдайына көші-қонның әр түрлі аспектілерінің ықпал етуін анықтау автордың пайымдауынша өзекті және уақтылы болып табылады. Ауыл шаруашылығы өндірісінде этникалық көшіп-қонушылардың жұмыспен қамтылуына әсер ететін тұрақты айнымалы анықтау үшін эконометрикалық модель ұсынылған. Эконометрикалық талдау ауыл шаруашылығындағы этникалық көшіп-қонушылардың жұмыспен қамтылуы негізгі факторларға тәуелді: тұратын жері, білім деңгейі, жасы және ауылдағы өмірге қанағаттануы екенін көрсетті. Ақмола облысының ауыл шаруашылығында этникалық көшіп-қонушылардың көбінесе орта жастағылары, білімнен орта кәсіптіктен төмен, ауылды аймақтарда тұратын, жақын болашақта тұрғылықты жерін ауыстырғысы келмейтіндер еңбекпен қамтылған.

Аннотация. Автор констатирует, что изучение проблем современных миграционных процессов в республике, анализ масштабов, направлений и факторов их определяющих, выявление различных аспектов влияния миграции на состояние сельского хозяйства являются актуальными и своевременными. Представлена эконометрическая модель для определения устойчивых переменных, влияющих на занятость этнических мигрантов в сельскохозяйственном производстве. Эконометрический анализ показал, что основными факторами, от которых зависит занятость этнических мигрантов в сельском хозяйстве, являются: место проживания, уровень образования, возраст и удовлетворенность жизнью на селе. В сель-

ском хозяйстве Акмолинской области заняты преимущественно этнические мигранты среднего возраста, с образованием ниже среднеспециального, проживающие в сельских регионах, не желающие менять место проживания в ближайшей перспективе.
Keywords: agriculture, migration processes, ethnic migrant, econometric model, employment, working conditions, infrastructure, level of education, employment.

Тұтқалы сөздер: ауыл шаруашылығы, миграциялық үдерістер, этникалық көші-қон, эконометрикалық модель, жұмыспен қамтылу, еңбек жағдайы, инфрақұрылым, білім деңгейі, жұмысқа орналастыру.

Ключевые слова: сельское хозяйство, миграционные процессы, этнический мигрант, эконометрическая модель, занятость, условия труда, инфраструктура, уровень образо-вания, трудоустройство.

In contrast to traditional economy which considers man as a rational economic agent, the discipline of behavioral economics is exploring impact of social, cognitive and emotional factors in the economic decision-making by individuals. Thus, the main objects of study of behavioral economics are the boundaries of rationality of economic agents.

The choice of this theory based on the fact that the traditional economics considers man as logical thinking machine. In contrast, behavioral economics declares that people are inclined to irrational behavior and that it is not the deviation of the norm. in terms view of the traditional economy, the choice of ethnic migrants to change habitual and stable living environment to move to a "foreign" country and the uncertainty can be regarded as irrational. As the results of a sociological survey conducted by the authors, the motive for the move for about 90% of the respondents had a desire to live and bring up the children in their historic homeland, keep culture and identity. That is ethnic migrants is primarily pursued not economic benefits and emotional and social need for relocation. The choices of economic activities of ethnic migrants are also difficult to explain the theory of traditional housekeeper and rationality. So, following her after moving ethnic migrants should continue its previous professional activity where they have the skills, experience, knowledge and consequently a competitive advantage. However, we are witnessing today that not all ethnic migrants who have experience and skills in animal husbandry can realize themselves in this area after moving to their historical homeland. Barriers can act as an economic factor is the lack of opportunities to buy livestock, equipment, land, etc. As well and other psychological factors the authors intend to identify in the course of this study.

According to research by Western scientists [1] a farmer's productivity increases with age, reaches a certain "middle-aged" peak, and then with further increasing age decreases. Thus, "the effectiveness of the age" the farmers affect the "viability" of beginning farmers and for successful succession planning, in fact, the competitiveness of domestic and foreign farmers. Methods Tower suggests that agricultural technologies used also differ by age groups of farmers and reflect varying efficiency in the use of technology. Thus, according to its evaluation, effectiveness tends to increase from 5 to 10% every 10 s interval until age 35-44 years, and then decreases at the same rate.

According to the foreign countries the average age of farmers in Denmark is 52 years in the US 58 years, in Japan 70 years, Russia 50 years (Richard, 2015). In general, there is a global trend of increasing age of farmers. In this high-tech country like Japan, the US do the rate in ensuring food security in the innovative technology that does not require a person's involvement in the production process. Unfortunately, the researchers could not find information on the average age of the agricultural worker in Kazakhstan, but it is expected that the global trend is also reflected in the situation in Kazakhstan. The available statistics states that the average age is 31.6 years, Kazakhstan. According to research by NPP "Atameken" the average age of business in Kazakhstan is 40 years.

Thus, according to the global trend of demographic "aging" of the farmers the econometric model of this study examines the respondent's age as a predictive variable. In this case, it is expected the younger the age of the respondent the less likely that the economic activity of the respondent related to agriculture.

According to research by American scientists' accommodations for people directly affects their lives. Thus, people living close to markets, public transport and the city's parks are more active than others. However, according to the assertions of some scholars, it is currently the farmer does not necessarily live in rural areas for farming. In practice, there are many examples of urban entrepreneur acquires land in rural areas and without leaving the familiar environment is a farm. If there is a need may involve workforce in place. Based on this practice in the econometric model place of residence of the respondent acts as a predictive variable does not affect the employment in agriculture. Thus, residents of the village

and the inhabitants of the same district centers are involved or are not involved in agriculture. Everybody knows that the traditional labor prevailing in most ethnic Kazakhs living in Mongolia and China is livestock. For example, the results of the expedition of the Institute of History and Ethnology. Ch.Ch. declare that a significant proportion of ethnic Kazakhs of Altai region in Mongolia and China (with the exception of the administrative center of Bayan-Ulgii aimak) leads in general the traditional pastoral economy in his semi-nomadic and semi-settled forms of dilution the main types of livestock: sheep, horses, camels, cows and yaks. Are respected by centuries of grazing and principles of Pet, People's veterinary practices; the system remains relevant traditional settlements and dwellings in the form of stationary winter roads and gers. In these areas, the traditional crafts of the Kazakhs are mainly stored and played in the economic life of the local population an important role. While most ethnic Kazakhs from Russia, Uzbekistan and other countries engaged in wage labor. Thus, in this study, the econometric model assumes that immigrants from Mongolia and China are more adapted to farming and the possibility of their employment in agribusiness more. In the model of this study country descending ethnic migrants is seen as a stable predictive variable.

Empirical research works of many foreign authors [2-11] as the Phillips J. (1994), D. Jamieson (1982, 1984), Lockheed (1980) and A. Hak (2013) state that there is a direct positive relationship between the farmer's level of education and productivity of its operations. That is, the higher the degree of the farmer the more activity increases its productivity. However, according to the Kazakhstani expert in the field of international migration E. Sadovskay during the years of independence Kazakhstan has lost its ethnic diversity that has been formed by the mid 80-ies of XX century, while the GDP of the Kazakh SSR was agriculture. In those days, the Germans, whose numbers in Kazakhstan, according to the 1989 census, there were 957 thousand. Man squad was industrial agricultural potential of the working class and farmers market economy agents. The republic has developed drain farming and livestock. After the migration of skilled professionals of the agricultural sector (it is 10 thousand people with higher agricultural education.) Kazakhstan began to experience tangible problems in agriculture decreased arable land, crops, labor productivity in the industry. The consequence of this was that, in spite of the employment of 28% of the population in agriculture today the contribution of this sector to GDP is only 4%. Therefore, in this study, the authors suggest that the formation of the respondent adversely affect its employment in agriculture. That is respondents with secondary and higher education is likely to be busy in the wage labor. It is assumed that satisfaction with life in rural areas, knowledge of state programs to support agro-industrial complex are also positively affecting the predictive variables. Engaged in professional activities before moving as a resultant variable.

Econometric model data which is based on probit regression model to predict the probability of respondent involvement in agriculture according to the values of the set of characteristics (country of departure, occupation, education, age, previous professional activities, etc.) As follows:

$$y_i^* = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \ldots + \varepsilon$$

where y * is the resultant of / hidden variable that cannot be detected directly and observed by yi defined as (Figure 1):

$$y_i^* = \begin{cases} 0 \text{ if} y_i^* \leq 0 \\ 1 \text{ if} y_i^* > 0 \end{cases}$$

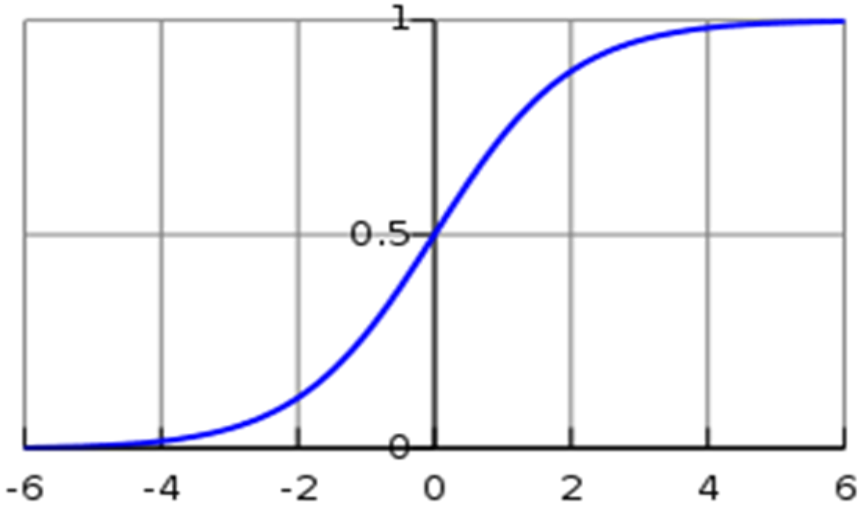

Figure 1- Schedule of the dependent variable

The dependent variable in this model is the "involvement in agricultural activities" of the respondent - {y}, receiving one of two values - the number 0 (not engaged in agriculture) and 1 (the main source of income - agriculture), and the independent predictive variables {X1, X2, ..., Xn}, (X age, place of residence X X The country of departure, ... Xn.) based on the values that you want to calculate the probability of adoption of a dependent variable values {y} (age, place of residence, country of departure et al.) (Table 1). Consequently, the econometric model of the research is as follows:

$$Y\text{'s involvement in agriculture} = X_{place\ of\ residence} - X_{education} + X_{age} + X_{country\ of\ departure} + X_{occupatiojn} + X_{government\ programm} + X_{satisfaction}$$

The analysis of empirical data Implemented based software STATA 12, the regression model PROBIT.

The hypotheses of this study suggest the following:

* The older the respondent, the more likely that he is involved in agribusiness;

* Position the respondent's residence (village, regional center) has no effect on employment in agriculture;

* Immigrants from Mongolia and China are more adapted to farming.

Table 1- The values of variables

Involvement in Agriculture	= 1 - if the respondent's main activity is related to agriculture, = 0 - if there is no
Locations	= 1 - if the village = 2 - if the regional center
Education	= 1 if the mean = 2 - if a special medium, 3 = higher if
Age	Age of respondent
Age ^{2}	Age of respondent squared
Country descending	= 1 -if Mongolia, = 2 - if Uzbekistan = 3 -if the PRC = 4 - if Russia and others.
Previous occupation	= 1- if the APC = 2 - if the hired labor = 3 - if the budget organization = 4 - if the entrepreneur = 5 - if the housewife
Government program	= 1- if the respondent knows about the government programs to support agriculture, = 2 - if there is no
Satisfaction with life in rural areas	Based on 5-point scale, from 1 to 5 where 1 = completely dissatisfied with life in the countryside, 5 = very satisfied

Thus, the analysis revealed that the average age of ethnic migrants employed in agriculture is 44.7 years. It is assumed that the average age of the population of the Republic of Kazakhstan as a whole, employment in agriculture at the same level. It should be noted that this indicator is a positive factor for Kazakhstan, where in the world the average age of farmers is significantly increased. Kazakhstan has potential in the development of agriculture at the current relatively favorable demographic situation.

The hypothesis which assumes that the respondent's place of residence (village, regional center) has no effect on employment was not confirmed in agriculture. Predictive variable assesses the place of residence of the respondents showed a high resistance ($p < 0.01$) (Table 2).

Thus, it can be concluded that most often employed in agribusiness ethnic migrants residing not in regional centers and in rural areas. This fact can be explained by the fact that in the town the possibility of obtaining land for the construction sector is less likely. However, respondents' answers show the same attitude with respect to the issue of land. Thus, 16 respondents living in rural areas noted the absence of the possibility of obtaining land for farming as the main barrier against the 19 respondents in the regional centers.

The author's suggestion that immigrants from Mongolia and China are more adapted to farming has not been confirmed. Predictive variable measuring this factor turned out to be unstable. Thus, the country is decreasing ethnic migrants is not a determining factor in their employment in agriculture.

In general, it should be noted that the empirical analysis of the raw data shows the main factors affecting employment in the agro-industrial complex - is education, place of residence, age. However, according to the results to be presumptive conclusion that employment in

the agro-industrial complex is not a motivated decision of the respondents but rather the only option of economic activity. For a comprehensive study of this issue is required to carry out in-depth interviews with focus groups.

The authors suggest that the results of this research can be disseminated to the Republic of Kazakhstan engaged in agribusiness population. Since the problem of employment in agribusiness rather are systemic and generic, rather than private. Well-known systemic problems as the lack of qualified personnel and low labor efficiency in the agribusiness and supported by empirical data of this study.

Table 2 - Regression Results

Indicators	(1)	(2)	(3)
Locations	-	-1.4397*** (.3489)	-2.8589*** (.7347)
Education	-0.5352* (.3193)	-0.5648** (.2613)	-0.6085** (.2821)
Age	0.9297*** (.1946)	-	-
Age ^{2}	-0.0094*** (.0021)	0.0011*** (.0001)	-0.0013 (.0002)
Country descending	0.3662 (.3112)	0.2996 (.2368)	0.2364 (2464)
Previous occupation	-0.1564 (.1426)	-0.0321 (.1132)	0.0767 (.1271)
Government program	0.5827 (.4225)	-	-.2068 (.3756)
Satisfaction with life in rural areas	0.1972 (.2732)	-	1.2544*** (.2263)
Constant	-22.3758 (4.7929)	1.0511 (.6276)	-1.8887 (1.4203)
Number of observations	124	124	124
Pseudo R2	0.6671	0.5104	0.5749
Loglikelihood	-26.197094	-38.5282	-33.4567
Prob> chi2	0.0062	0.0000	0.0000
Note - In parentheses are robust standard deviation coefficients *p< 0.1, **p< 0.05, ***p< 0.01			

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