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DEMOGRAPHIC CONDITIONS FOR THE FORMATION OF LABOR RESOURCES OF THE TURKESTAN REGION

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Abstract: Despite the huge changes in the economy and the sphere of labor of the Republic of Kazakhstan in its individual regions, in particular in the Turkestan region, the employment paradigm that meets modern conditions and is consonant with the main vectors of socio-economic strategies has not yet been developed, institutional approaches to ensuring more effective employment of the population. This issue is especially acute in labor-surplus regions, where for a long time attention was not paid to the problems of the territorial organization of production, to the reproduction of labor potential, to the mechanism of training and retraining of enterprise personnel, which caused a significant discrepancy between the supply of labor and the demand for it in the economic structures of the regions. One of the main factors that determine the region's labor surplus is the demographic factor.

Keywords: population, region, demography, labor market, fertility, mortality, demographic load, able-bodied population

Introduction

As noted earlier, the Turkestan region belongs to the labor surplus regions of the Republic of Kazakhstan. The socio-economic situation in the region is characterized by contradictions and certain complexity. On the one hand, this is an area with a favorable demographic situation, which indicates a sufficient number of labor resources, and on the other hand, for decades, the number of labor resources in the region significantly outstripped the number of jobs created [1]. And as a result of this - the formation of a large number of unemployed population.

"Labor surplus" Turkestan evolved over the decades, as the rate of labor force growth significantly outpaced the increase in the number of newly created jobs. The demographic situation also contributes to the increase in the region's labor surplus. Turkestan region ranks first in the republic in terms of natural population growth, on average, the annual increase is 40.8 thousand people.

Experimental technique

Before the exit of Shymkent in 2018 from the Turkestan region, the latter was the most densely populated in Kazakhstan with a population approaching 3 million people. Before the exit of the city of Shymkent from the region, a number of settlements closest to it began to be included in the future metropolis. Therefore, already in 2017, there was a sharp decrease in the population of the region compared to 2016 by 901.6 thousand people (table 1). Since 2018, there has been an increase in the population from 1984.0 to 2011.6 in 2019 (1.4%).

Table 1 - Dynamics of the main demographic indicators of the Turkestan region

	2015	2016	2017	2018	2019
Population, thousand people	2840,9	2878,6	1977,0	1984,0	2011,6
Number of births, thousand people	81,7	81,5	53,2	54,1	55,7
The number of deaths, thousand people	14,8	14,7	10,1	9,9	10,3
Natural increase, thousand people	66,9	66,8	43,1	44,2	45,4
Arrived, thousand people	48,7	56,7	57,9	102,0	129,7
Retired, thousand people	62,6	85,7	90,3	139,2	143,0
Migration balance, thousand people	-13,9	-29,0	-32,4	-37,2	-13,3

Fertility rate (per 1000 people)	29,0	28,5	27,0	27,3	27,9
Mortality rate (per 1000 people)	5,3	5,1	5,1	5,0	5,1
Marriage rate (per 1000 people)	7,8	7,7	7,3	6,7	7,0
Divorce rate (per 1000 people)	1,8	1,8	1,6	1,6	1,8
Natural growth rate (per 1000 people)	23,7	23,4	21,9	22,3	22,7

In 2016, compared to 2015, there was a slight decrease in the indicators of births and natural population growth in the region, from 2017 to 2019, the number of births annually increased by an average of 1.1 thousand people, the natural increase over the same period by 1.2 thousand. person.

Among the cities and districts of the Turkestan region, the largest value of the total coefficient of natural population growth is in the city of Turkestan, in the Ordabasy and Sairam districts. The smallest indicators of the coefficient of natural population growth are in Baidibek, Otrar and Tyulkubas districts, in the city of Kentau.

The birth rate in 2019 in the region was 27.3 per 1000 population, this figure is significantly higher than the average for the Republic of Kazakhstan (21.64 ‰), and one of the highest among regions and cities of Kazakhstan. In recent years, the overall mortality rate of the region's population has been decreasing; it is one of the lowest in Kazakhstan. However, it should be borne in mind that this is facilitated by the relatively young age structure of the region's population[2].

After the separation of the Turkestan region from the former South Kazakhstan region, age-specific mortality rates available for analysis are available only for the rural population of the region. In men, they are lower than in Kazakhstan as a whole, in most age groups, except, on the one hand, the youngest (under 15), and on the other hand, the elderly population aged 75 and over. The situation is different for rural women. In most age groups, their mortality rates are higher than in general among rural residents of Kazakhstan.

As far as can be judged from the data for the rural population, the average life expectancy in the Turkestan region for the analyzed period is increasing almost steadily. Its growth is likely to continue, but it will slow down as its higher values are reached. Forecast estimates show that in the region as a whole by 2050 it may be about 79 years for men, 83-83.5 years for women and about 81.0 years for both sexes. In recent years, in the Turkestan region, as well as in the Republic of Kazakhstan as a whole, there has been a decrease in the number of marriages and the total marriage rate (the number of marriages per 1000 population) (table 2).

Table 2 - Number of marriages per 1000 population

	2015	2016	2017	2018	2019
Republic of Kazakhstan	9,89	9,22	8,48	7,96	7,86
Turkestan region	8,6	7,8	7,7	7,3	6,7
Urban population	10,66	10,21	8,93	8,96	9,06
Rural population	9,33	7,99	7,65	7,44	6,82

This trend can be seen in all cities and regions. Among the urban population, the number of marriages decreased from 10.66 to 9.06 (15.1%), among the rural population from 9.33 to 6.82 (26.9%). Despite the general decline in the number of marriages, it can be noted that more marriages are made in urban areas than in rural areas, although the rural population in the region is much larger than urban. This is most likely due to the fact that most of the youth leave the villages for the cities and get married there.

A negative trend is also developing in the Turkestan region in relation to an increase in the number of divorces, respectively, and the overall divorce rate (the number of divorces per 1000 population). This trend is also typical for all cities and districts of the Turkestan region. However, the divorce rate in the region is lower than the average for Kazakhstan.

A decrease in the number of marriages and an increase in divorces have a negative effect

on the demographic situation of the region, as they can lead to a decrease in the birth rate, and, accordingly, to a decrease in the total population of the Turkestan region. From the data in Table 2, it can be seen that the negative balance of migration increased over the course of five years. So, for the period from 2015 to 2018, this indicator increased from 13.9 to 37.2 thousand people. And only in 2019, the negative migration balance decreased by almost 3 times and amounted to 13.3 thousand people in 2019.

In general, in the period from 2015 to 2019, 395 thousand people arrived in the region, and 520.7 thousand people left. The total negative soldo over these years amounted to 125.7 thousand people. In recent years, in a number of cities and districts, the migration loss of population was significantly greater than in previous years, and in some cases it was not fully compensated for by natural growth, that is, there was a decrease in the population (Arys city, Maktaaral and Otrar districts - 2018; Baidibek and Kazygurt regions - 2017 and 2018, Ordabasynsky region - 2017, Shardara region - 2015-2018) [2].

Most of the dropouts are rural residents. The bulk of them leave for the cities of Shymkent, Almaty and Nur-Sultan. However, in recent years, the number of migrants to the northern cities of the country has increased. Mostly young people of working age leave the Turkestan region, which of course also negatively affects the demographic situation and the labor market.

Most of the population of the Turkestan region lives in rural areas - 79.9% (1.6 million people), in urban areas - 20.1% (403.5 thousand people). The share of the rural population in the Turkestan region is the highest among all regions of the Republic of Kazakhstan and still shows an upward trend (table 3).

Table 3 - The population of the Turkestan region in the context of districts and cities as of October 1, 2019
person

	1 October, 2019		
	Whole	city	village
Turkestan region	2 011 628	403 566	1 608 062
Turkestan city	170 253	170 253	-
Arys city	76 272	46 134	30 138
Kentau city	206 222	68 549	137 673
Baydibek	54 171	-	54 171
Zhetysaysky	173 270	27 430	145 840
Kelesky	142 071	-	142 071
Kazygurt	107 411	-	107 411
Maktaaral	131 554	-	131 554
Ordabasynsky	121 409	-	121 409
Otrar	54 103	-	54 103
Sairam	213 605	-	213 605
Saryagash	190 031	36 590	153 441
Suzak	61 946	-	61 946
Tolebi	118 269	25 363	92 906
Tulkubassky	112 325	-	112 325
Shardarinsky	78 716	29 247	49 469

206.2 thousand people, in the city of Turkestan - 170.2 thousand people and the city of Arys - 76.2 thousand people. In such cities of the region as Zhetysay, Saryagash, Lenger, Chardara, there are an average of 29.6 thousand people. Among rural areas in terms of population, the leaders are Sairam - 213.6 thousand people, Saryagash - 153.4 thousand people and Zhetysaysky - 145.8 thousand people. The smallest number of inhabitants is in Shardara - 49.4 thousand people, Otrar and Baidibek - 54.1 thousand people each. The growth of the urban population in the Turkestan region continued until the beginning of 2016, but in 2016 -2018y

was replaced by its reduction. In 2019, the urban population increased by 14.7 thousand people compared to 2018 and amounted to 403.5 thousand people (table 4).

Table 4 - Dynamics of the urban and rural population of the Turkestan region for 2015-2019

Years	Population at the beginning of the year (thousand people)		Population growth over the previous year			
			thousand people		%	
	городское	сельское	городское	сельское	городское	сельское
2015	389,2	1540,7	2,1	-122,7	0,53	-7,38
2016	391,5	1563,1	2,3	22,4	0,59	1,46
2017	389,7	1576,6	-1,8	13,5	-0,45	0,86
2018	388,8	1588,2	-0,9	11,6	-0,23	0,73
2019	403,6	1608,0	14,7	19,8	3,78	1,24

Data on the population of the Turkestan region by sex indicate that the number of men in the region is greater than that of women in both urban and rural areas. In 2019, out of the total number, the male population was 1,025.9 thousand people, and the female population was 985.7 thousand. person. In urban areas, 204.1 thousand people live. men and 199.5 thousand. women. There are 821.8 thousand men and 786.2 thousand women living in rural areas (table 5).

Table 5 - Population of the Turkestan region by sex thousand people

	2019 ГОД		
	total	men	women
Turkestan region	2 011,6	1 025,9	985,7
city	403,6	204,1	199,5
village	1608,0	821,8	786,2

The share of the population aged 15-64 in the Turkestan region is the lowest in the country. If in 2019 in the Republic their share was 64.6%, then in the Turkestan region the same indicator was 58.3% (table 6).

Table 6 - Distribution of the population of the Turkestan region by main age groups in 2015-2019(%; for the beginning of the year)

Годы	0-14 year	15-64 year	65 years and older
2015	35,8	60,3	3,9
2016	36,3	59,7	4,0
2017	36,3	59,1	4,2
2018	37,1	58,6	4,3
2019	37,3	58,3	4,4
Republic of Kazakhstan, 2019	28,1	64,6	7,3

Also, the data in Table 6 indicate a decrease, in recent years, in the proportion of the population aged 15-64. If in 2015 it was 60.3%, then by the end of 2019 it was 58.3%. At the same time, the proportion of the population under the age of 15 has increased in all cities and districts of the Turkestan region. The number of children under 14 years old in the Turkestan region is more than in the whole country, this is due to the high birth rate. So, if in 2019 their number in the country was 28.1% of the total population, then in the Turkestan region - 37.3%,

the difference is 9.2%.

The share of the population aged 65 and over in the Turkestan region is almost two times lower than the national average. In 2019, their share in the region accounted for 4.4%, in the country this figure was 7.3%, a difference of 2.9% [2].

Demographic load indicators are one of the main characteristics of the population's age structure. First of all, they are important from a socio-economic point of view, as they show the burden on society by an unproductive population. A lesser burden on the working-age population from the disabled, on the one hand, allows more funds to be directed to the economic development of the region, thereby contributing to it, and on the other hand, creates opportunities for better provision of the disabled population. The burden on the working-age population from children and adolescents differs in essence from the burden on the part of people over working age. Firstly, the provision of the population of these two age groups at the expense of the results of labor of the working-age population differs both in types and, accordingly, in financial support. Secondly, the relatively large workload of children and adolescents predetermines in the future large contingents of people reaching working age. An important indicator is the demographic load, which is a generalized quantitative characteristic of the age structure of the population and reflects the load on society by the unproductive population. It can have different meanings: positive - when the load by children exceeds the load by the elderly, and vice versa, extremely negative - if the load by the elderly prevails.

The Turkestan region has the largest demographic burden among the regions of Kazakhstan. At the beginning of 2019, the demographic load was 717 people, in the Republic - 535 people per 1000 able-bodied population (table 7).

Table 7 - Coefficient of demographic load in the Turkestan region in 2015-2019 (for the beginning of the year)

Years	Per 1000 population aged 15-64, there are people aged 0-14 and 65 and older 1	Including aged	
		0-14 year	65 and older
2015	676	609	67
2016	692	621	71
2017	706	633	73
2018	717	640	77
2019	808	744	92

The Turkestan region is distinguished by a high load of children and adolescents under the age of 15 years on the able-bodied population. At the beginning of 2019, the ratio of this load was 640 and accounted for 90% of the total demographic load. In general for Kazakhstan, this figure is 425.

The coefficient of this load increased from 2015 to 2019 from 593 to 640. The load factor of the population aged 65 and over in the Turkestan region (77 per 1000) in 2019 is significantly lower than the republican one (110).

The high birth rate in the Turkestan region is confirmed by such an indicator as the estimated value of the total fertility rate, which in 2019 was 3.24, which is also significantly higher than in the country as a whole (2.17) (table 8).

Table 8 - Estimated value of the total fertility rate in the Turkestan region in 2015-2019

	2015	2016	2017	2018	2019
Fertility rate (total population), people	4,06	4,00	3,89	3,86	4,29
Urban population	5,49	5,64	5,96	5,82	7,27
Rural population	3,76	3,67	3,48	3,24	3,72

Republic of Kazakhstan, (all population), people	2,74	2,77	2,73	2,64	2,90
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The highest value of the total fertility rate is in the Kazygurt and Ordabasy regions, and the lowest - in the Otrar region and the city of Kentau.

In the Turkestan region, there is a high proportion of families with four, five or more children. Nevertheless, the data on the rural population of the region indicate an annual decrease in the total fertility rate (table). So, from 2015 to 2019, this ratio decreased by 17.3%. Given this trend, the total fertility rate in 2050 could be approximately 2.90 for the rural population.

Results and discussion

In the next 30 years, the age structure of the population of the Turkestan region will continue to transform. The main direction of changes is an increase in the absolute and relative number of persons in older ages, or, in other words, demographic aging. At the same time, there will be fluctuations in the number of individual age groups (contingents) or demographic waves. The latter, in turn, will have a strong impact on the labor market and, in general, on the socio-economic development of the country.

The main patterns of changes in the age composition can be traced on the example of three main age groups: 0-14 years old, 15-64 years old, and 65 years and older (according to the international classification). In the next thirty years, the number of elderly people will increase markedly. It will grow especially rapidly in the next ten years - by 4–5% on average per year. The number of people aged 65 and over will increase by 2.5 times by 2050 compared to 2019 - from 1.4 million to 3.4 million people.

In the Turkestan region, there is a high proportion of young people aged 15 to 24 years. So, in 2018, the share of people in this age group was 12.8% in the total population and 20% in the population aged 15 to 64 years. 84820 to 85922 people

The population of working ages from 15 to 64 years will grow by 1.3 times over this period - from 1,056,925 to 1,374,002 people. Accelerated growth of this population is expected between 2023 and 2036.

However, then the growth rate will decrease. From a demographic point of view, the dynamics of the number of women in the most active reproductive ages - from 20 to 39 years old - is of particular interest. The dynamics of the number of births and population growth in the region as a whole largely depends on it. Until 2029, the number of this contingent will decrease. But in subsequent years, as many generations of the 2010s enter the reproductive age, it will begin to increase rapidly.

The increase in the number of potential mothers will partially offset the negative impact on the total number of births of a decrease in the total fertility rate. The development of the vocational education system, the state of the labor market, the burden on the social sphere, the rate of spread of innovations in the life of society, as well as the actual trends in the field of fertility, marriage, and migration directly depend on trends in the change in the number of young people. The results of the forecasts show that in the next 5 years in the Turkestan region the number of persons aged 15 to 19 will sharply increase, which is a distant consequence of the increase in the number of births in the 2000s – 2010s. By 2035, it will increase 1.7 times. Accordingly, after it with a time lag of 5 years, starting from 2022, the number of young people aged 20 to 24, inclusively, will increase steadily until 2040[3]. In just the next 15 years, the proportion of young people aged 15-24 in the population aged 15-64 will increase from 20% to 27%.

The dynamics of the number of children under 15 years old follows changes in the birth rate and in the number of the reproductive contingent of women. The current trend of an increase in the child contingent will continue for several more years and in 2024–2025, following a decrease in the number of potential mothers, will be reversed. Then, after 2035, a new increase in the child population will begin. But, unlike the dynamics of the number of the two older age groups, the future number of children will slightly increase (by 7%).

Differences in the dynamics of the size of the three age contingents will change their proportions in the population. The proportion of the elderly will grow every year. By the end of the period, it will increase 1.9 times - from 7.5% in 2018 to more than 14% in 2050. The aging rate of the population of the Turkestan region, especially after 2030, will primarily depend on the rate at which the birth rate decreases[3]. But in any case, even in 2050, the region remains one of the regions of the Republic of Kazakhstan with a relatively young population.

The increase in the share of older people will be accompanied by a decrease in the share of the child population. This process is projected to begin around 2022–2023 and by 2050 the proportion of the child population will decline from 29% to 23%.

The proportion of the population aged 15–64 will change in waves. As a result, the share of people of working age by 2040 will be higher than in 2019, then the decline will resume.

The total dependency ratio will vary within narrow limits. After a slight decrease in 2030, the share of the population by working age in 2050 will approach the 2024–2026 level and exceed the 2019 level. But at the same time, the structure of the demographic load will change markedly: the share of the load by the elderly will increase from 20.8% in 2019 to 37.8% in 2050, and the share of the load by children will decrease, respectively, from 79.2% to 62.2%. Undoubtedly, this structural transformation will affect the socio-economic development of the country and should be taken into account in development plans[4].

The forecast was carried out using the cohort-component method (a method for calculating the future age-sex structure of the population). The essence of the cohort-component method is that at each step of forecasting (a year or five years) for each age-sex group (or cohort of births in the same period), an equation of the demographic balance is constructed, including the expected numbers of deaths and births (for the most the younger group), as well as the number of arrivals and departures. As a result, the size of the cohort is calculated for the new date. A similar operation is repeated as many times as necessary to reach the forecast horizon - the final date for which the forecast is made, in this case, January 1, 2050. The population as of January 1, 2019 was taken as the initial population.

Conclusion. The demographic situation on a national scale has an ambiguous impact on the formation and functioning of the labor market and social and labor relations, largely determining its specifics.

Currently, the population of the Turkestan region is growing. However, in the Turkestan region, the positive impact of natural growth on the population dynamics is partly "extinguished" by the negative migration balance, which significantly increased in 2016-2017. As a result, the relative increase in the population of the Turkestan region has significantly decreased in recent years. The transformation of the age structure of the population of the Turkestan region in the coming years will contribute to a decrease in overall fertility rates, an increase in overall mortality rates and, consequently, a slight reduction in natural population growth. The decline in natural population growth in the future will affect the decline in the able-bodied population of the region[5]. The conducted study of demographic processes allows us to conclude that in the Turkestan region there has been a clear tendency towards a decrease in the birth rate, an increase in mortality, which together leads to a decrease in the rate of natural population growth. The high growth rates of labor resources, characteristic of the republic, also require adequate rates of creation of new jobs. Failure to comply with this most important requirement for the development of a market economy leads to various negative consequences of social and economic nature, creates tension in interethnic relations, and exacerbates the problem of employment. This, in turn, should force state bodies and the government to look for ways out of this situation as a priority. Otherwise, high unemployment puts citizens, especially young people, in a dilemma: go to the forest to join the ranks of militants; travel outside the region of residence; engage in criminal activities (theft, contract killings, etc.); engage in informal labor activities (shadow business, shadow employment, etc.).

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Аннотация: Несмотря на огромные изменения в экономике и сфере труда Республики Казахстан в отдельных ее регионах, в частности в Туркестанской области, парадигма занятости, отвечающая современным условиям и созвучная основным векторам социально-экономических стратегий, не имеет. Пока не разработаны институциональные подходы к обеспечению более эффективной занятости населения. Особенно остро этот вопрос стоит в трудозатратных регионах, где долгое время не уделялось внимания проблемам территориальной организации производства, воспроизводству трудового потенциала, механизму подготовки и переподготовки кадров предприятий, что привело к существенное несоответствие предложения рабочей силы и спроса на нее в экономических структурах регионов. Одним из основных факторов, определяющих избыток рабочей силы в регионе, является демографический фактор.

Ключевые слова: население, регион, демография, рынок труда, рождаемость, смертность, демографическая нагрузка, трудоспособное население.

Түйін: Қазақстан Республикасының кейбір аймақтарында, атап айтқанда Түркістан облысында экономикасы мен еңбек саласындағы орасан зор өзгерістерге қарамастан, қазіргі заманғы жағдайларға жауап беретін және әлеуметтік-экономикалық стратегиялардың негізгі векторларымен үндес жұмыспен қамту парадигмасы, әлі күнге дейін халықты тиімді жұмыспен қамтуды қамтамасыз етудің институционалдық тәсілдері әзірленбеген. Бұл мәселе ұзақ уақыт бойы өндірісті аумақтық ұйымдастыру проблемаларына, еңбек әлеуетін ұдайы өндіруге, кәсіпорында кадрларды даярлау және қайта даярлау тетіктеріне мән берілмеген, әсіресе еңбекке қабілетті аймақтарда өткір болып отыр, бұл әкелді. аймақтардың экономикалық құрылымдарындағы жұмыс күші ұсынысы мен оған деген сұраныс арасындағы айтарлықтай сәйкессіздік. Аймақтағы жұмыс күшінің артықтығын анықтайтын негізгі факторлардың бірі - демографиялық фактор.

Кілт сөздер: халық, аймақ, демография, еңбек нарығы, құнарлылық, өлім, демографиялық жүктеме, еңбекке қабілетті халық.