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Demographic polarization and increase of social risks in Kazakhstan (the pre-COVID-19 period)

ABSTRACT. The events that took place in January 2022 in Kazakhstan drew attention to the risks and threats to national security. Demographic processes are among the most important factors, but unlike political events, have a greater latent inertia, longtime prerequisites and long-term consequences. The article observes the correlation between the change in the ethnic structure of Kazakhstani cities, the dynamics of fertility rate of the urban population and the increase of social risks. The study methodology is based on: the method of assessing the correlation by K. Pearson, the method of clustering built on the detection of tight links between the processes and the calculation of the fluctuation amplitude between the demographic extremes, the use of case study on separate Kazakhstani cities. The data presented in the Cases reveal features and trends in the development of Kazakhstani cities, as well as the reproductive scenarios that dominate them.

The result of the research is the conclusion about the increasing polarization of reproductive scenarios within a unified demographic system and, as a result, a possible aggravation of the internal social-political and social-economic situation, which will have a reciprocating nature in the foreseeable future.

KEYWORDS: urban fertility, reproductive behavior, urbanization type, fertility traditions, Kazakhs, demographic cluster.

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Демографическая поляризация и нарастание социальных рисков в Казахстане (до пандемии Ковид -2019)

АННОТАЦИЯ. Произошедшие в январе 2022 года события в Казахстане актуализировали внимание к рискам и угрозам национальной безопасности. В числе важнейших факторов находятся демографические процессы, которые, в отличие от политических событий, обладают большей скрытой инерцией, имеют давние предпосылки и длительные последствия. В статье рассматриваются взаимозависимости между изменением этнической структуры казахстанских городов, динамикой процессов рождаемости городского населения и повышением уровня социальных рисков. Методология исследования основана на: методе оценки корреляции К. Пирсона, методе кластеризации, построенной на выявлении плотных связей между процессами и расчете амплитуды колебаний между демографическими крайностями, использовании тематического исследования по отдельным казахстанским городам. Представленные в Кейсах данные раскрывают особенности и тенденции развития казахстанских городов, а также доминирующие над ними репродуктивные сценарии. Результатом исследования становится вывод о нарастании поляризации репродуктивных сценариев в рамках единой демографической системы и, как следствие, возможном обострении внутренней социально-политической и социально-экономической ситуации, которое будет иметь возвратно-рецидивирующий характер в обозримом будущем.

КЛЮЧЕВЫЕ СЛОВА: городская рождаемость, репродуктивное поведение, тип урбанизации, традиции рождаемости, казахи, демографический кластер.

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Қазақстандағы демографиялық поляризация және әлеуметтік қатерлердің өсуі (Ковид-2019 пандемиясына дейін)

АНДАТПА. 2022 жылғы қаңтарда Қазақстанда болған оқиғалар ұлттық қауіпсіздікке төнетін қатерлер мен қауіп-қатерлерге назар аударды. Маңызды факторлардың қатарында саяси оқиғалардан айырмашылығы, жасырын инерцияға ие, ескі алғышарттар мен ұзақ зардаптарға ие демографиялық процестер бар. Мақалада қазақстандық қалалардың этникалық құрылымының өзгеруі, қала халқының туу үдерістерінің динамикасы мен әлеуметтік тәуекелдер деңгейінің артуы арасындағы өзара тәуелділік қаралады. Зерттеу әдіснамасы: К. Пирсонның корреляциясын бағалау әдісіне, процестер арасындағы тығыз байланыстарды анықтауға және демографиялық шектер арасындағы тербеліс амплитудасын есептеуге, жекелеген қазақстандық қалалар бойынша тақырыптық зерттеулерді пайдалануға құрылған кластерлеу әдісіне негізделген.

Кейстерде ұсынылған деректер қазақстандық қалалардың даму ерекшеліктері мен үрдістерін, сондай-ақ оларға үстем репродуктивтік сценарийлерді ашады.

Зерттеудің нәтижесі бірыңғай демографиялық жүйе шеңберінде репродуктивті сценарийлердің поляризациясының өсуі және соның салдарынан ішкі әлеуметтік-саяси және әлеуметтік-экономикалық жағдайдың шиеленісуі мүмкін екендігі туралы қорытынды болып табылады, ол таяу болашақта қайтымды-қайталанатын сипатқа ие болады.

ТҮЙІН СӨЗДЕР: қала тууы, репродуктивті мінез-құлық, урбандалу түрі, туу дәстүрі, қазақтар, демографиялық кластер.

МҮДДЕЛЕР ҚАҚТЫҒЫСЫ: Авторлар мүдделер қақтығысының жоқтығын мәлімдейді.

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INTRODUCTION

One of the most significant contradictions of Kazakhstani demographic system, which became relatively autonomous at the turn of the XXth - XXIst centuries, is the presence of two opposite models in the trends of reproductive behavior. One of these models - it can be labeled as South-Western, - demonstrates constantly growing fertility rates (nowadays the total fertility rate (TFR) is more than 4.0), which allows us to predict the expanded reproduction of the population for at least several decades ahead. The other one - North-Eastern model, is characterized by low birth rates, in some areas of TFR they are below 2.0, which indicates the depopulation scenario. Dynamics of mortality rates (including maternal and infant) can make some adjustments to these opposite trends, but in modern conditions these factors in Kazakhstan are unlikely to play a noticeable role. The special characteristic of the birth rate is its ethnic aspect. For the first time in modern history of Kazakhstan, the demographic situation in the country is fully determined by the Kazakh population (only since the early 1990s the Kazakhs have become the dominant element of the ethnic structure), even in the cities (since 2006 more than 50% (50.62%) of urban population on average in the country) (Ethnodemographic yearbook of Kazakhstan, 2006, pp. 5). Under these conditions, the reproductive models are polarized within the framework of a unified demographic system. Opposite reproductive models are of crisis nature and have significant potential for destabilization of Kazakhstani society.

The problem is that in public opinion, often supported by the statements of political and public figures of Kazakhstan, the "North-Eastern" scenario is considered as definitely negative, and "South-Western" is more like a positive, while both of these scenarios have crisis nature; each of them entails a complex of serious social-economic risks, completely different in their contents.

The risks of depopulation and aging of the population are quite realized by the society while the negative consequences of high fertility in modern Kazakhstani realities have been discussed relatively recently (Sarsembayeva & Krasnobayeva, 2021, pp. 49-50). One of the determining factors in the emergence and development of real and potential threats is women reproductive policies, which reflect historical, social-economic, and social-cultural characteristics of the regions. The combination of demographic problems forms the risks of social and political destabilization, whereas a large number of young people are concentrated in several major cities and certain regions where they do not have prospects for decent employment and socially appreciated self-realization. It is telling that all the risks listed above are at best declared but are not subjected to systemic analysis. The dynamics of their increase or decline is not studied. The main issue is that they are not taken into account while state planning of the social-economic development of the territories.

A brief analysis makes it possible to realize that opposite demographic scenarios create a mirror reflection of risks in all major aspects of social development: from geopolitics to health care system and education. For various reasons, but equally negative, these scenarios prevent the effective development of human resources and the growth of social asset of the state. The authors hope that the results of this study will attract attention of state institutions, expert community and wide circles of Kazakhstani society to the objective and integrated assessment of the demographic processes polarization. Such a development of events entails not only growth of risks, but also the transition to the threat to national security and sudden actualization of social-political crises.

This thesis unfortunately was confirmed in the Kazakhstani events of January 2022. The first decades of the XXI century were marked with significant social and demographic changes in Kazakhstan that were of deep and structural nature. The rapid growth of the Kazakhs proportion in population in the context of intensified urbanization becomes one of the determining factors of the development of the country. The reproductive behavior of Kazakh women in cities (and they indeed determine the content of actual fertility processes) reflects the complex and controversial mutual influence of multidirectional trends - having many children, having a few ones and low fertility. The combination of these trends allows us to determine which phase of the demographic transition the urban Kazakh population in different regions of the country is and which intensity of this process will be in the nearest future.

REVIEW AND ANALYSIS OF REFERENCES ON THE ISSUE OF THE RESEARCH

The subject of the reproductive behavior of the population within the general problem of the birth rate began to draw attention of many scholars since the second half of the 20th century. In the 1950s there were published researches which introduced fertility measurement methods (Bourgeois-Pichat, 1964, pp. 417-438), estimation of the likelihood of a family increase (Henri & Blum, 1997, pp. 43), indicators of the expected number of children (Freedman 1961-1962). There were studied the possibilities of using a cohort-component method for evaluating fertility processes (Bogue, 1971; Shryock, 1971). The practice of social-demographic surveys has been expanding, in the 1960s they already cover all economically developed countries. Extensive reviews and comparative studies of the dynamics and rates of fertility appear.

Issues of reproductive behavior become the main theme of demographic research in the post-Soviet area. The reasons and factors of fertility decline (Borisov, 1997, pp. 29-65) are studied, the cohort-component method is used in the practice (Harutyunyan, 1997). Theoretical and methodological problems of reproductive behavior were considered in the "Sociology of fertility" (Antonov, 1980). The author outlined the theory of reproductive behavior using the materials of Soviet and foreign studies.

The circle of Kazakhstani specialists studying the issues of reproduction of the population is quite narrow. The ethnic aspects of the reproduction of the population were considered in the studies of M. Tatimov (Tatimov, 1989; Tatimov, 1997; Tatimov & Tatimova, 2010). At the end of the twentieth century there was made an attempt to identify the features of the Kazakh Ethnicity demographic development including fertility (Alekseenko & Baykhonova, 2014, pp. 203-208, Sarsembayeva, 2013, pp.7-16). A number of publications were devoted to the study of potential of the traditional "social asset" in the context of fertility processes (Yessimova, 2010, pp. 8-14), to the new trends in the reproductive behavior of the population of southern Kazakhstan (Yessimova & Valitova, 2021, pp. 73-80). The influence of social networks on family reproductive behavior in Kazakhstan was studied by Z.Valitova (2008). The processes of social-cultural adaptation of the Kazakhs in the city, a collision of traditional and modern preferences in urban territory is also covered in some articles (Sultangalieva, 2010; Romanova, 1999, pp. 135-139). This is a brief overview of fertility issues which are studied by the scholars of Kazakhstan.

Recently in international research community there spread the interdisciplinary approaches to the study of the processes of population reproduction in the terms of urbanization. This allows us to use best practice guidelines in geographic, economic, sociological and statistical analysis for studying problems whose main subjects are demographic phenomena. In the authors' point of view, publications on the issues of the birth rate in the cities of European countries are of particular interest, including the use of a statistical approach that brings together global and local indices of spatial autocorrelation by Moran, multivariate methods for studying the influence of the long-term urban cycle (urbanization, suburbanization, counteraction of urbanization, repeated urbanization) on the spatial structure of fertility indicators (Salvati, 2020, pp. 549-575; Egidi & Salvati, 2021, pp. 151-172; Salvati, 2021, pp. 195-215). It is important to consider the birth rate from the position of influence on urban cycles in Europe, the role of suburban fertility in the growth of metropolises and the correlation between changes in fertility and expansion of cities (Rodrigo-Comino et al., 2021, pp. 1-14; Lopez-Gay & Salvati, 2021). The last article also concludes that demographic indicators are important for understanding the processes of settlement (city, suburb, village) and social-economic trends. The conclusion of Halbac-Cotoara-Zamfir, Egidi, Salvia, Salvati, Sateriano, Gimenez-Morera that the birth rate is a spatially nonstationary feature of regional demographic systems seems to be of great importance (Halbac-Cotoara-Zamfir et al., 2021, pp. 1-18). The authors conclude that the fertility rates in the suburbs are systematically higher than in the cities and rural areas, and this conclusion is drawn from the study of countries with low birth rates and a relatively long history of urbanization of the main part of the population. Of particular interest, these statements are for comparative analysis with research results in a country with high birth rates, whose significant part of the population are city-dwellers in the first, maximum second, generation (Kazakhstan).

The authors of this study have some experience in the study of fertility processes in Kazakhstan. Based on cluster analysis of demographic indicators (general and age-related fertility rates, a net reproduction rate, the total fertility rate) Zh.Aubakirova, E.Stolyarova distinguished the regions of Kazakhstan with various reproduction rates, recorded the regional diversity of the reproductive attitudes of the population, considered fertility processes in the context of demographic security RK (Aubakirova & Stolyarova, 2021, pp.106-113).

The purpose of the study is to identify the dynamics of polarization of reproductive processes and to evaluate the increase or decline of social risks due to demographic polarization. The research period: 1999-2009 - the period between censuses, and from 2009 to 2019. The data for 2020 and 2021 is not included in the study as the effect of the COVID-19 pandemic and governmental measures to inhibit it on demographic processes has not been studied yet.

Research tasks:

1. Assessment of the correlation degree between the Kazakhs proportion indicators in urban population and the total fertility rate in Kazakhstani cities.
2. Typology of regional reproductive behavior scenarios with cluster analysis.
3. Determination of dynamic changes in the amplitude of fluctuations between the maximum and minimum indicators of demographic clusters to assess the dynamics of social risks. Identification of the localization trend and increase of risks and threats.
4. Development of comparative cases for four Kazakhstani cities (Petropavlovsk, Ust-Kamenogorsk, Shymkent, Aktau) belonging to different demographic clusters and emphasis on their cultural and historical, social-economic specificity as an environment affecting the choice of reproductive scenario. Hypothesis: If the amplitude of differences in opposite reproductive scenarios is stable, then the risks are "preserved". However, if the polarization of differences in reproductive behavior increases, then the risks are transformed in the threats to demographic safety and social-political stability.

RESEARCH METHODOLOGY

The study methodology is based on: the method of assessing the correlation by K. Pearson, the method of clustering based on the detection of tight links between the processes and the calculation of the fluctuation amplitude between the demographic extremes, the use of case study on separate Kazakhstani cities. First of all, it was necessary to confirm or refute the existence of direct linear relationship, as well as to measure its force during the studied period between the two demographic processes - the urbanization of the Kazakh population and changes in the birth rates in cities. Only if such connection received statistical evidence, the two of these indicators could be used to conduct a demographic clustering procedure.

Logic and scientific intuition allow us to claim with a certain share of confidence that in Kazakhstan there is a connection between the proportion of the Kazakhs as a part of urban population and the total fertility rate. It is the Kazakhs today who determine the birth trends in the cities of the country. This statement defines the selection of two indicators for clustering the proportion of the Kazakhs as part of the urban population and TFR. To check the presence or absence of the necessary connection between these processes, the following formula of the Pearson correlation rate was used (1).

$$r_{xy} = \frac{\sum(x_i - \bar{x}) \times (y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \times \sum(y_i - \bar{y})^2}} \quad (1)$$

where: x_i is the variable value of "the proportion of Kazakhs in the city population";

y_i - the variable value of "the total birth rate of the urban population";

$\bar{x}$ - the arithmetic average variable of "the proportion of Kazakhs as part of the urban population";

$\bar{y}$ - the arithmetic average variable of "the total fertility of the city population".

Calculations have shown that in 1999, the Pearson correlation rate between the proportion of the Kazakh population in the cities and the value of the total fertility rate of the urban population in the Republic amounted to 0.747. The strong positive connection was identified and recorded between two of these indicators: the higher the values on the scale "The share of Kazakhs in the urban population", the more indicators on the scale of the total urban fertility rate were expressed. According to 2009 data, this connection even intensified - 0.752. In 2019, some weakening of this connection - 0.718 - can be noted, but it still remains strong. Thus, the evidence of the validity for studying the regions of Kazakhstan as objects belonging to specific demographic clusters was proved.

The cluster approach in demographic studies allows us to identify similar processes in various areas. The cluster is a relatively autonomous (including a logical meaning) combination of homogeneous objects. In fact, the cluster is a super or meta object with its own characteristics that reflect the synthesis result of the characteristics of objects, which form the cluster. So, the demographic processes of the first level (in this case, the proportion of Kazakhs in the city population and the total urban fertility rate), interacting with each other, form an object of the second level - a demographic cluster - an area or group of areas with similar characteristics of some demographic processes. The object of clustering was the urban population of 14 main regions of Kazakhstan and three cities of republican importance - Nur-Sultan, Almaty, Shymkent. The clustering process begins with the definition of demographic processes, whose condition, firstly, can be calculated and compared, and secondly, whose mutual influence can be statistically confirmed. As the above calculations show, over the past decades, the process of urbanization of the Kazakh ethnicity and the dynamics of the total fertility rate are in close correlation. As it was already noted, the Kazakhs became a majority of urban population only in the first decade of the XXIst century. At the same time, expanded reproduction (the predominance of having a few or many children) becomes characteristic of the overwhelming part of the urban population of Kazakhstan, which is logical if we take into account the confirmed relationship between the two demographic processes. For further analysis, the following selected indicators were grouped into the table (table 1).

Table 1. Dynamics of the total fertility coefficient and amplitude of regional fluctuations (1999-2019)

Year	The maximum value of the total birth rate of the urban population	The minimum value of the total birth rate of the city population	The amplitude of regional fluctuations	The average value in the republic
1999	2.46 (Atyrau region)	1.03 (Nur-Sultan city)	1.43	1.7
2009	4.28 (Turkistan region)	1.64 (Kostanay region)	2.64	2.53
2019	4.45 (Almaty region)	1.74 (North Kazakhstan region)	2.71	3.0
<i>Calculated by: Demographic yearbook of the regions of Kazakhstan, 2006, p. 277; Demographic yearbook of Kazakhstan, 2010, pp. 127-146; Demographic yearbook of Kazakhstan, 2020, pp. 96, 99, 102, 105, 108, 111, 114, 117, 129, 132, 135, 137, 139.</i>				

Comparing of the data by the total fertility rate allows us not only to attest the birth rate leap, that occurred in Kazakhstan in the first decade of the twentieth century, but also identify the growing amplitude of regional fluctuations. If in 1999 the difference between the maximum and minimum indicators of the total fertility rate was 1.7 (which evidenced to significant polarization), in 2019 this difference almost doubled and amounted to 3.0. Such fluctuations within a unified demographic system indicate the crucial imbalance in fertility processes. But the data shown in the table reflects only extremes. Is it possible that the situation did not affect the other regions? To answer this question, the dynamic grouping of the regions was carried out (1999-2019). The grouping by the total fertility rate was carried out as follows: the point of reference is 2.0 - the lower reproduction of the population

usually becomes constricted, higher - extended. Further measuring step is equal to 1. As a result, four groups of regions were obtained (table 2).

Table 2. Regional dynamics of the total fertility coefficient (1999-2019)

Groups	1999		2009		2019	
	Regions	Average Value for the Group	Regions	Average Value for the Group	Regions	Average Value for the Group
Group 1: less than 2.0	Kostanay, North Kazakhstan, East Kazakhstan, Pavlodar, Karaganda, Akmola, Aktobe, Zhambyl and Almaty regions; Almaty city, Nur-Sultan city	1.43	Kostanay, North Kazakhstan, East Kazakhstan, Pavlodar and Karaganda regions; Almaty city	1.84	Kostanay and North Kazakhstan regions; Almaty	1.79
Group 2: from 2.0 to 3.0	Mangistau, Turkestan, Kyzyl-Orda and Atyrau regions; Shymkent city	2.33	Aktobe, West Kazakhstan, Akmola, Almaty and Zhambyl regions; Nur-Sultan city, Shymkent city	2.54	East Kazakhstan, Pavlodar, Karaganda Akmola and West Kazakhstan regions; Nur-Sultan city	2.47
Group 3: from 3.0 to 4.0			Mangystau, Atyrau and Kyzyl-Orda regions	3.32	Aktobe, Atyrau, Kyzyl-Orda and Zhambyl regions; Shymkent city	3.56
Group 4: above 4.0			Turkestan region	4.28	Turkestan, Mangystau and Almaty region	4.38
<i>Calculated by: Demographic yearbook of the regions of Kazakhstan, 2006: 277; Demographic yearbook of Kazakhstan, 2010, pp. 127-146; Demographic yearbook of Kazakhstan, 2020, pp. 96, 99, 102, 105, 108, 111, 114, 117, 129, 132, 135, 137, 139.</i>						

The analysis of the general regional dynamics of the total birth coefficient reveals those areas that formed groups 3 and 4 (TFR is above 3.0 and 4.0) from 1999 to 2009 and from 2009 to 2019. This is the Turkestan, Mangystau, Almaty, Aktobe, Atyrau, Kyzyl-Orda, Zhambyl regions and Shymkent city, all of them are located in the South-West of Kazakhstan. It was them that became the source of a sharp increase in the polarization of reproductive scenarios - there the total birth rate increased almost twice, while in the northeastern regions its growth amounted only to 0.4 (table 2).

The relationship of these processes with the ongoing urbanization of the Kazakhs is additionally confirmed by the data presented in table 3.

The grouping by the proportion of the Kazakhs in the urban population was carried out considering the parameters of the grouping by the total fertility rate. There were identified four groups, the measuring step was determined by the amplitude of the fluctuations of the main indicator at a certain period of time.

Table 3. Dynamics of the Kazakhs proportion in the urban population and amplitude of regional fluctuations (1999-2019)

Year	The maximum value of the Kazakhs proportion in the urban population	The minimum value of the Kazakhs proportion in the urban population	The amplitude of regional fluctuations	The average value in the republic
1999	91.3% (Kyzyl-Orda region)	18.8% (North Kazakhstan region)	72.5% (grouping step - 18.1%)	44.7%
2009	91.2% (Kyzyl-Orda region)	24.1% (North Kazakhstan region)	76.1% (grouping step - 16.8%)	58.4%
2019	93.5% (Kyzyl-Orda region)	29.3% (North Kazakhstan region)	64.2% (grouping step - 16.1%)	64.2%
<i>Calculated by: The national composition of the population of the Republic of Kazakhstan. Results of the 1999 Population census in the Republic of Kazakhstan, 2000, pp. 29,41,53,65,77,89,101,13,125,137,149,161,173,185,195,199; Analytical report "Results of the national population census of the Republic of Kazakhstan of Kazakhstan", 2011, pp. 20. The population of the Republic of Kazakhstan by individual ethnic groups at the beginning of 2020.</i>				

Thus, if the amplitude was 44.7%, then after dividing into four equal parts the step of 18.1% was obtained. Such approach made it possible to keep the comparability of the process of the Kazakhs urbanization and the urban population birth rate (table 4).

Table 4. Regional dynamics of the Kazakhs proportion in urban population (1999-2019)

Groups	1999		2009		2019	
	Regions	Average Value for the Group	Regions	Average Value for the Group	Regions	Average Value for the Group
Group 1	North Kazakhstan, Kostanay, Akmola, Pavlodar, Karaganda and East Kazakhstan regions	26.9%	North Kazakhstan, Kostanay and Karaganda regions	31.8%	North Kazakhstan, Kostanay and Karaganda regions	36.3%
Group 2	West Kazakhstan, Atyrau, Almaty and Zhambyl regions; Almaty city, Nur-Sultan city	44.2%	Pavlodar, Akmola, East Kazakhstan and Almaty regions, Almaty city	48.3%	Pavlodar, Akmola, East Kazakhstan and Almaty regions, Almaty city	56.7%
Group 3	South Kazakhstan, Aktobe and Mangistau regions	65.6%	West Kazakhstan, Zhambyl and Turkestan regions, Shymkent city, Nur-Sultan city	65.5%	West Kazakhstan, Zhambyl, Turkestan, Mangistau and Almaty regions, Shymkent city, Nur-Sultan city	69.6%

Group 4	Kyzyl-Orda region	91.3%	Aktobe, Mangistau, Atyrau and Kyzyl-Orda regions	82.4%	Aktobe, Atyrau and Kyzyl-Orda regions, Nur-Sultan city	84.8%
<i>Calculated by: The national composition of the population of the Republic of Kazakhstan. Results of the 1999 Population census in the Republic of Kazakhstan. T.1 2000, pp. 29,41,53,65,77,89,101,13,125,137,149,161,173,185,195,199. Analytical report "Results of the national population census of the Republic of Kazakhstan" 2011, pp. 20. The population of the Republic of Kazakhstan by individual ethnic groups at the beginning of 2020.</i>						

RESEARCH RESULTS

The demographic clusters were identified after comparing of the two groups (table 5). Judging by the statistics, in the latest decade in Kazakhstan the polarization of demographic clusters not only exists, but increases. Although the total dynamics of the population in twenty years (1999-2019) demonstrates the growth by only 1.4% (Demographic statistical yearbook of Kazakhstan, 2000, pp. 7; Kazakhstan, 2020, pp. 1), the proportion of urban Kazakhs for the same period increases by 19.6% (table 3). Such rates demonstrate that the main content of urbanization processes in Kazakhstan provides the title ethnos due to internal migrations and natural growth.

Table 5. Demographic clusters based on grouping by the TFR and the Kazakhs proportion in the urban population (1999-2019)

Regions	1999		2009		2019	
	Group	Cluster	Group	Cluster	Group	Cluster
Akmola	1-1	1	2-2	2	2-2	2
Aktobe	1-3	2	2-4	3	2-4	3
Almaty	1-2	1.5	2-2	2	4-3	3.5
Atyrau	2-2	2	3-4	3.5	3-4	3.5
East Kazakhstan	1-1	1	1-2	1.5	2-2	2
Zhambyl	1-2	1.5	2-3	2.5	3-3	3
West Kazakhstan	1-2	1.5	2-3	2.5	2-3	2.5
Karaganda	1-1	1	2-1	1.5	2-1	1.5
Kostanay	1-1	1	1-1	1	1-1	1
Kyzyl-Orda	2-4	3	3-4	3.5	3-4	3.5
Mangistau	2-3	2.5	3-4	3.5	4-3	3.5
Pavlodar	1-1	1	1-2	1.5	2-2	2
North Kazakhstan	1-1	1	1-1	1	1-1	1
Turkestan	2-2	2	4-3	3.5	4-3	3.5
Almaty city	1-2	1.5	1-2	1.5	1-2	1.5
Nur-Sultan city	1-2	1.5	2-3	2.5	2-4	3
Shymkent city	2-2	2	2-3	2.5	3-3	3
<i>In the Column "Group" - the first number indicates belonging to the group by the total urban birth rate, the second - belonging to the group by the Kazakhs proportion in the urban population</i>						

In this regard the obtained results confirm the importance of urbanization processes in the TFR dynamics of the urban population. It seems to be essential to point out the definition and characteristics of history of various types of Kazakhstani cities formation and typical scenarios of reproductive behavior. The modern cities of Kazakhstan demonstrate two main historical types: "the old" and "the new" ones. They differ geographically, by the time of emergence, ethnic structure of the population, as well as social-economic and social-cultural characteristics.

In Kazakhstan, urbanization has a pronounced ethno-regional specificity. The noticeable movement of the Kazakhs from the countryside into the cities throughout most of the country, especially in the central, northern and eastern regions, begins in the 1960s and becomes more active

in the period when sovereignty was regained. As a result, an idea of a city as a new, previously not mastered territory has been formed. However, in the South and the West, where most of the population concentrates, in 1999, the share of Kazakhs in the urban population exceeded 50%: in the Kyzyl-Orda region - 91.3%, Mangystau¹ - 72.9%, Aktope - 62.2 %. Hence, the cities in the south-west of the country have long ago become more "Kazakh" to a large extent. It is completely not justified to talk about the urbanization of the Kazakh ethnicity as a new phenomenon in these regions. A completely different picture was observed in the central and north-eastern regions of Kazakhstan in 1999: the proportion of Kazakhs in the urban population reached only 33.1% - the East Kazakhstan region, and the minimal indicators were registered in the North Kazakhstan (18.8%) and Kostanay (20.2%) regions. Thus, on one pole of the urbanization process there were almost mono-ethnic Kazakh cities of the Kyzyl-Orda region (91.3%), and on the other - the city, where Kazakhs were the insignificant part of the population with the background of the representatives of other ethnic groups - the North Kazakhstan region (30.0%). It is important to note that the Russian population prevailed in the cities of the second type. They were represented by migrants from more economically developed regions of the USSR, with a high level of vocational training, which made the city of second type not only industrial in economic terms, but also Russian-speaking in the aspect of different social -cultural medium formation.

The differences in reproductive behavior may be largely influenced by such factor as urban birth cycles (Salvati, 2021, pp. 195-215). It should be noted that Kazakhstani cities, in the terms of progress cyclicality, are unsynchronized, they are at different stages of urbanization-suburbanization-ruralization. The history of their occurrence and formation (pre-industrial and industrial), the population density in the territories surrounding the cities, the conditions of modern post-industrial functioning are of great importance.

Up to date, two different types of the Kazakhs urbanization have been developed. The first type historically rooted in the Middle Ages, when the city did not play a significant role in the productive sector of the traditional society economy, but took a key position in trade, religion, politics. With such cities the Kazakhs in the south-west were well acquainted; the social-cultural space of those cities was formed to a large extent being influenced by the Turkic (including Proto-Kazakh) traditional culture. Currently, the population of these cities is substantially characterized by preservation of preindustrial tradition of high fertility. The second type of urbanization spread in the context of the modern industrial city, which becomes the center of all socially significant processes and, first of all, of economic development. The social-cultural space of these cities was formed primarily by Russian-speaking migrants. A new industrial tradition of low fertility was formed and consolidated there in two or three generations.

Different types of urbanization correspond to a different social-cultural space, which directly forms a system of values and social practices and dictates specific types of behavior, including reproductive. The thesis that urbanization quickly and inevitably leads to a fertility decrease came from experience of the second type urbanization, which is typical of the industrial phase of social development. The authors suggest that the differences in a social-cultural background largely determine the distinctions in the reproductive behavior of the Kazakhs living in the cities of various regions of the country. According to statistics of 2019, these differences are really big – from the constricted reproduction in the North Kazakhstan (TFR 1.74) and Kostanay (TFR 1.8) regions to the well -pronounced expanded reproduction in Almaty (TFR 4.45), Mangystau (TFR 4,4) and Turkestan (TFR 4,28) regions.

Women living in the cities of various regions experience a certain socializing influence of these social-cultural complexes and the degree of that influence largely depends on the duration of living in the certain type of the city, as well as the age the woman arrived in the city. Definitely, the reproductive behavior of a woman is affected by a large number of factors of different origin, but for

¹ The center of Mangystau region - the city of Aktau- is the exception of general way of Kazakhstani cities emergence and development. Having appeared in 1964 at the climax of industrialization, Aktau immediately became a city with the Kazakh population prevalence.

the authors of the article, it is important to find out a relationship or its absence between the designated social-cultural urban complex and the reproductive self-realization of the city Kazakh women. In 2021, the authors of the article started to implement a "Regional features of reproductive behavior of Urban Kazakh women" project (funded by the Ministry of Education and Science of the Republic of Kazakhstan). Qualitative studies into the influence of the social-cultural urban environment on the reproductive attitudes of women are conducted within the framework of this project.

Modern types of reproductive behavior were determined on the basis of statistical and sociological data. It is possible to distinguish a number of components of such behavior: the assimilated reproductive experience of previous generations, personal attitudes towards a certain number of children or refusal to bear children, attitudes towards conditions for children socialization. All these components are under continuous impact of woman's living conditions and can be modified during their reproductive age. The content of these components and their combination form various reproductive scenarios:

The scenario "High fertility rate": the pre-industrial tradition of having many children preserved in the early stages of urbanization (reproductive conformism, non-critical succession), economic feasibility (programs of state support for large families), status-psychological motivation (social significance of motherhood in woman personal attitude), the pressure of the external environment (husband, relatives, micro-society). As a rule, marriage (issued by the secular registration and / or religious ritual) remains an important condition for the implementation of high fertility.

The scenario "Middle fertility rate": transitional option from high fertility to low fertility. The gradual change in the content of the high fertility concept, when three children in family are perceived in society as the upper limit of the reproductive norm. Reverse transition is also possible - from low fertility to high fertility. For Kazakhstan, the second option is associated with the practice of postponed (third) birth after overcoming the crisis of the 1990s.

The scenario "Low fertility rate": two main options are possible: 1) the early phase of urbanization, when the low fertility becomes the result of individual experience, breaking with the tradition of having many children in previous generations (kind of urbanization blow to the pre-industrial tradition of high fertility); 2) a new tradition of low fertility, formed and implemented in the second/third urban generation: new opportunities and motivation for woman's social self-realization; the increased demand for conditions for children socialization; economic inadvisability of high fertility.

The scenario "Refusal of childbearing": Negative background of maturity in a destructive family (the next phase of the low-fertility tradition), dysfunction of family social institution. Decline of the social significance of maternity and growth of social and economic significance of professional self-realization. High expenditure on conditions for children socialization.

Differentiated expansion of these scenarios in different cities and regions of Kazakhstan demonstrate different fertility standards for different social-cultural locations. The authors share views of a number of scholars that the birth rate in cities is cycled, and the growing fertility may (and necessarily early or later will) be changed by stabilization and gradual or fast recession (Salvati, 2020, pp. 549-575). However, how long each cycle will last depends on a number of factors. Under their influence the low birth rates can eventually demonstrate quantitative growth and qualitative transformation, including through the introduction of new social-cultural meanings into the reproductive behavior of citizens. Currently, despite the differences in the intensity of the process, the growth of fertility rates is recorded in all major Kazakhstan cities. This is primarily connected with the changes in the ethnic structure of urban population. However, accession of rural suburbs to the city territories also plays a certain role. In many cases, suburbs, formally included in the city borders, provide rapid fertility growth. Thus, it is not always possible to evaluate statistically the cycling of the birth rate, since the regional data often are not available.

The case study method makes it possible to identify how big the differences in the demographic and social-cultural geography of Kazakhstan are. Four cases, which represent a brief overview of the historical, economic, demographic parameters of Kazakhstani cities will be considered further. In all

cases, there is a conclusion about the most typical reproductive scenario for the particular city and social risks, which are inherent in these scenarios. Each selected city belongs to one of four demographic clusters. The dominance of a reproductive scenario in each specific case does not cancel the presence of other options of reproductive behavior, which, however, do not currently affect significantly the demographic situation.

Case "North". Petropavlovsk city (North Kazakhstan region): in two indicators (TFR - 1.74 and the proportion of Kazakhs in the city population - 29.3%). (The Population of the Republic of Kazakhstan, 2020). Petropavlovsk belongs to the first demographic cluster (table 5).

City's history. Petropavlovskaya fortress was founded in 1752, in 1807 the defensive fortifications were renamed Petropavlovsk. From 1936 up to now, it is the administrative center of the North Kazakhstan region. According to the census of 1897, 19,688 people lived in the city, among them the Kazakhs were 7.5%. Most of the population were the Russians (The first general population census of the Russian Empire, 1897, pp. 2-3).

Demographic characteristics. In 2019, the population amounts 218,956 people, for the first decade of the XXI century, it increased by 7.0% (due to internal migrations) (Demographic yearbook of the North Kazakhstan region, 2020, pp. 9). The ethnic structure is represented by 59.3% of the Russians, 30.0% of the Kazakhs and 10.7% of other ethnic groups (The population of the Republic of Kazakhstan, 2020).

Reproductive scenario. Most of Petropavlovsk women's choice is low fertility. This is confirmed by the data for 2019 - a child care allowance for up to 1 year was received by: for the first child - 31.0%; for the second one - 34.0%; for the third one - 21.3%; for the fourth and more - 13.7%. The number of mothers of many children (four and more underaged children) receiving a special allowance - 1241 (Women and men of the North Kazakhstan region, 2020, pp. 33). According to the medical statistics, 57.5% of Petropavlovsk residents of fertile age use contraception. Among them - 46.8% use condoms, 32.8% - hormonal drugs, 20.3% - intrauterine devices (Women and men of the North Kazakhstan Region 2020, pp. 33). This indicates a significant redistribution of reproductive responsibility, in almost half of the cases men participate in the birth control directly. At the same time, there is a high abortion rate - 42.3 per 1000 women aged 15-49 years (Women and men of the North Kazakhstan region, 2020, pp. 43), the infant mortality rate - 9.88% (Demographic yearbook of the North Kazakhstan region, 2020, pp. 83). This reproductive scenario identified the corresponding age structure of the city: children under 14 are 18.2%, the elderly (over 65 years old) - 11.5% (Demographic yearbook of the North Kazakhstan Region, 2020, pp. 11). Overall, for a long time a depopulation demographic model has been fulfilled and there is no potential to change the situation: the number of female fertile cohort in the city is 49,504 people, which is 22.6% of the total population, a third of them – Kazakh women (Demographic yearbook of the North Kazakhstan region, 2020, pp. 12). The industrial tradition of low fertility or refusal to childbearing has been formed in the city.

Migration factor. Petropavlovsk does not belong to the number of the most attractive for the Kazakh population cities. In the nearest future it cannot expect a large influx of new inhabitants - bearers of the pre-industrial tradition of large families that could turn the current situation.

Social-demographic risks and threats. Ethnic replacement has not greatly influenced the main reproductive scenario yet, which, in combination with negative migration indicators, makes real the following social-demographic risks:

- low population density of the North Kazakhstan region (average value of 5.66 people / km²) and a potential reduction in control over border areas.
- aging of the population, high demographic burden, the deficit of the working-age population.
- high mortality rates of the population as a result of the ageing population structure, which in turn entails a specific pressure on the health care system.
- depopulation and lack of demographic resource to increase fertility.
- high risk of migration outflow, including due to the high proportion of non-Kazakh population.

- high migration potential both of internal nature (moving to other cities of the country) and external (outflow of qualified personnel, including the most competitive youth - loss of human resources).

Case "East". Ust-Kamenogorsk (East Kazakhstan region): According to two indicators (TFR - 2,21 and the share of Kazakhs as a part of the urban population - 46.8%) (The Population of the Republic of Kazakhstan, 2020). Ust-Kamenogorsk takes an intermediate position between the first and second demographic clusters (table 5).

City's history. Ust-Kamenogorsk fortress was founded in 1720, in 1868 the fortress received the status of the city. According to the census of the population of the city was 8,721 people, 85.8% of them Russians, 7.5% Kazakhs (The First general population census of the Russian Empire, 1905, pp. 2-3). Since 1939, it is the Administrative Center of the East Kazakhstan region. Since the late 1940s, the social-economic life of the city is influenced by large metallurgical enterprises. In the immediate vicinity of the city there are dozens of rural settlements.

Demographic characteristics. The data on the population number and the ethnic structure at the end of the 19th century. In 2019, the population was 343,799 people; in two decades it increased by 11.0% (Demographic yearbook of the East Kazakhstan region, 2020, pp. 12). In 2019, the ethnic structure is formed by the Russian and the Kazakh population - 49.1% and 46.8%, respectively (Demographic yearbook of the East Kazakhstan region, 2020, pp. 12).

Reproductive scenario. The main reproductive choice is middle fertility, which ensures simple reproduction of the population. Women of fertile age make up 22.5% of all citizens (Demographic yearbook of the East Kazakhstan region, 2020, pp. 22, 23). In 2019, out of the total number of child care allowance (up to one year) recipients those, who received it for the first child - 27.4%; 29.1% for the second, 23.4% for the third, 21.1% for the fourth or more. The number of mothers living together with four and more under aged children - 746 (Women and men and the East Kazakhstan region, 2020, pp. 30). Infant mortality rate - 10.33 per thousand (Demographic yearbook of the East Kazakhstan region, 2020, pp. 109). According to the medical statistics, 48% of reproductive age women in Ust-Kamenogorsk use contraception, 38.0% use condoms, 39.5 - tablets, 22.4% - intrauterine device (Women and men and The East Kazakhstan region, 2020, pp. 41). The total abortion coefficient in 2019 was 30.4 per 1000 women aged 15-49 years (Demographic yearbook of the East Kazakhstan region, 2020: 99). The age structure of the city's population: children under 14 years old - 20.2%, elderly group over 65 - 12.3% (Demographic Yearbook of the East Kazakhstan Region, 2020, pp. 16). Ethnic substitution is particularly noticeable: natural growth in population among the Kazakhs in 2019 amounted to 11,337 people, the Russians' indicators are negative (-3 322) (Demographic yearbook of the East Kazakhstan region, 2020, pp. 79). Soon, the Kazakhs will become the defining element of the city's ethnic structure, but at the time the fertility indicators of the Kazakh women are noticeably lower than in other cities with the historically predominant Kazakh population.

Migration factor. Mainly Kazakhs arrive in the city (85.3% of the total number of arrivals), but the balance of migration, both external and internal is negative (Demographic yearbook of the East Kazakhstan region, 2020, pp. 149). Ust-Kamenogorsk plays the role of a kind of "transit point" - the Kazakh population, first of all, the youth, is leaving for more attractive to migrants cities of Kazakhstan, the Russians move to the Russian Federation. A prominent role for young people of all ethnic groups is played by internal and external educational migration, often irretrievable.

Social-demographic risks and threats. Ethnic replacement has not greatly influenced the main reproductive scenario yet; that is, in combination with negative migration indicators, makes real the following social-demographic risks:

- Low density of the population of the East Kazakhstan region (the average value of 4.9 people / km²) and a potential reduction in control over the border areas.

- Ageing of the population, high demographic burden, the deficit of the working-age population.

- High mortality rates of the population as a result of the ageing of the population structure, which in turn leads to the specific pressure on the health care system.

- High risk of migration outflow, including due to the relatively high proportion of the non-Kazakh population.
- High migration potential both of internal nature (other cities of the country) and external (outflow of qualified personnel, including the most competitive youth - loss of human resources).

Case "South". Shymkent city (city of republican significance, earlier was the center of the South Kazakhstan region): in two indicators (TFR - 3.32 and the proportion of Kazakhs in the city population - 67.1%) (The population of the Republic of Kazakhstan, 2020) Shymkent belongs to the third demographic cluster (table 5).

City's history. In 1897, the population of the city was 11,194 inhabitants, since 1932 Shymkent is the center of the South Kazakhstan region. At the beginning of the XXI century (2004, 2013, 2015), the area and the population of the city are rapidly growing, including through the accession of adjacent rural areas. At once it added 237 thousand people to the number of residents. Currently, Shymkent has the status of the city of republican significance. There are dozens rural settlements in the vicinity of the city.

Demographic characteristics. In 2019, according to the official data, the population of Shymkent was 1,038,52 people. In 2019 the Kazakhs make up two thirds of the population - 67.1%, the Uzbeks (17.5%), the Russians (8.6%), and other ethnic groups - 5.7% (Demographic yearbook of the city of Shymkent, 2021, pp. 5).

Reproductive scenario. A typical reproductive scenario tends to the middle and high fertility, which is determined by women's choice. Each third woman in the city uses some kind of contraception according to the medical statistics. Condoms make up only 12.1%; other types: hormonal preparations (13.8%), intrauterine device (73.8%) (Demographic yearbook of the city of Shymkent, 2021, pp. 34). Hence, the participation of men in the birth control is minimal. Allowances for the mothers with many children become in great demand, this is confirmed by the following data - a child care allowance (up to one year) in 2019 were received: for the first child 26.5%, for the second - 26.6%, for the third - 21.9%, for the fourth and more - 25.5%. (Women and men of the city of Shymkent, 2020, pp. 20). Each fourth woman- the resident of fertile age in Shymkent has four or more children. Women of fertile age make up a quarter of total population, 2/3 of them are the Kazakhs. Official data on abortions (0.8 per 1000 women aged 15-49 years 2019) are not credible; moreover, they need additional explanation. (Women and men of the city of Shymkent, 2020, pp. 24). In informal communication it is known that Shymkent is the "center of illegal abortions". This fact was repeatedly confirmed while conducting in-depth interviews with the women-residents of the cities of the South of Kazakhstan. The combination of rigid moral and religious condemnation of abortion, corruption in the health care system and low reproductive literacy lead to the situation when the real number of abortions done in the medical institutions of Shymkent cannot be estimated. It can be assumed that this figure is lower than in the northern and eastern regions, but is significantly higher than officially declared. Children under 14 years old make up 33.1% of the city population, the elderly (more than 65) account for less than 5% (Demographic yearbook of the city of Shymkent, 2021, pp. 9). Such age structure not only has great potential for demographic growth, but also requires a developed infrastructure focused on children, as well as an urban economy, capable to provide employment for rapidly growing number of youth.

Social-demographic risks and threats. The current state of the city does not meet these requirements (among the most significant problems, the city authorities note the shortage of student places - 29.7 thousand) (Shymkent city development program for 2021-2025). The city has formed a medium that not only retained the pre-industrial traditions of high fertility, but even prolonged them gaining such support as state programs. Internal differentiation is great that creates additional social tension. For example, infant mortality rates in the city on average amounted to 9.59 per a thousand newborns, but inside the city they range from 5.47 to 15.26, depending on whether the area is fully "urban" or keeps a rural lifestyle (attached rural areas) (Demographic yearbook of the city of Shymkent, 2021, pp. 34). This situation exacerbates such social risks as:

- high figures of real unemployment, arising as a consequence of insufficient industrialization pace in the second half of the twentieth century, which is not able to adapt most of the rural population.

Nowadays it is not possible to achieve the required level of the economy diversification, which should have reduced such risks.

- high demographic burden on the able-bodied population and a significant specific pressure on the health care system due to the large proportion of children's age groups.
- a shortage of educational services, the lack of both pedagogical personnel, and the capacity of preschool and secondary educational institutions.
- high migration potential (from village to city), which is fueled by unqualified and unsatisfactory qualified youth.
- high risk of religious radicalization.

The combination of the mentioned problems forms threats of social and political destabilization, when a large number of young people are concentrated in a big settlement without having prospects for decent employment and socially approved self-realization.

Case "West". Aktau city (Mangystau region): By two indicators (TFR - 4.4 and the proportion of Kazakhs in the city population - 71.9%) (The population of the Republic of Kazakhstan 2020) Aktau takes an intermediate position between the third and the fourth demographic clusters (table 5).

City's history. Aktau is the youngest of Kazakhstani cities. The status of the city it acquired in 1964; before that for three years, it existed as a village. The reason for creating a city in a desert, almost unsuitable for living area on the shore of the Caspian Sea is the uranium ore deposit. Since 1988, it is the administrative center of the Mangystau region. Currently, Aktau is the center of oil and gas mining. Suburban periphery is represented by one village of Umirzak (7 km from Atyrau) with a population of less than 3,000 people (Demographic yearbook of the Mangystau region, 2020, pp. 8).

Demographic characteristics. When the village of Aktau was founded its population was 14,000 people, among them almost 60.0% were employees of enterprises. The population in 2019 amounted 187,690 people, in twenty years the increase was 13.1% (Demographic yearbook of the Mangystau region, 2020, pp. 8). Throughout the short history the Kazakhs dominate in the ethnic structure of the city - in 2019, they accounted for 71.9%, the Russians - 18.2%, about 10.0% are the representatives of other ethnic groups.

Reproductive scenario. The data on the granted child care allowances (for up to one year) is absent in the regional statistics of Aktau. The conclusion that women living there tend to have a few or many children can be made due to general and specific fertility rates that are provided by republican sources. However, it is known that there are 23.9% of women of fertile age in the city, among them 2/3 are Kazakhs (Men and women of Mangystau region, 2020, pp. 15). For Aktau, "young" age structure is typical, the proportion of children 0-14 years in 2019 amounted to 31.0%, residents over 65 years old - 6.2%. (Demographic yearbook of the Mangystau region, 2020, pp. 11). Infant mortality in 2019 was 12.1 per thousand newborns. (Demographic yearbook of the Mangystau region, 2020, pp. 92). According to the medical statistics, only 19.5% of women of fertile age use contraception (11.9% - condoms, 22.8% - hormonal drugs, 65.1% - intrauterine device), participation of men in the birth control is minimal (Men and women of Mangystau region, 2020, pp. 45). In 2019 the number of abortions per 1,000 women aged 15-49 years was 19.5 (Men and women of Mangystau region, 2020, pp. 44). It can be assumed that this figure is underestimated for the same reasons as in Shymkent.

Migration factor. Aktau, due to high salaries in the oil and gas sector, has a high internal migration attractiveness: the migration balance of the urban Kazakhs in 2019 was +372 people and grows annually, the Uzbeks (31 people), this indicator is negative among the Russians (-192 people). For five years (2015-2019), the number of arrivals in the city increased 5 times. (Demographic yearbook of the Mangystau region, 2020, pp.131).

Social-demographic risks and threats. The sustainable scenario for the middle fertility and high fertility is fed by governmental programs for supporting large families. It was in this region that there were no conditions for the formation of pre-industrial tradition of high fertility - the natural and climatic conditions did not allow to engage in agriculture which would justify economically having many children.

Nevertheless, the combination of migration attractiveness of Aktau in recent decades with the support policy has formed a crisis demographic model with following characteristic risks:

- High figures of real unemployment, especially among the woman's part of the population, as the result of low educational level.
- High demographic burden on the able-bodied population and a significant specific pressure on the health care system due to the large proportion of children's age groups.
- A shortage of educational services, the lack of both pedagogical personnel, and the capacity of preschool and secondary educational institutions. As a result of existing and evolving demographic and social-economic situation, Aktau and other territories of the region have repeatedly become the place of spontaneous protest actions - risks are growing and becoming real threats to social and political stability.

CONCLUSIONS

The data presented in the Cases reveal the following features and trends in the development of Kazakhstani cities, as well as the reproductive scenarios that dominate them.

From the point of view of the typology of Kazakhstani urbanization, which reflects the history of emergence, the ethnic composition of the population and the way of economic development, Shymkent ("Case South" - the 3rd demographic cluster) and Ust-Kamenogorsk ("Case East" - the 2nd demographic cluster) are vivid examples of the "old" and the "new" cities. Shymkent, as the regional trade, culture and crafts center, has been known since ancient times, and Ust-Kamenogorsk fully implements urban status only from the middle of the twentieth century. In Shymkent, Kazakhs were the main element of the ethnic structure over the centuries, but in Ust-Kamenogorsk even today their representation in the ethnic structure of the city is less than 50%. Finally, although there are a number of large industrial enterprises in Shymkent - none of them can be fully called the city-forming; there is a tight connection with the agricultural periphery of the city. In turn, Ust-Kamenogorsk is well-known as the largest center of non-ferrous metallurgy and to date the life of the city directly depends on the functioning of several industrial giants.

Two other cases - "North" (Petropavlovsk - the 1st demographic cluster) and "West" (Aktau – the 4th demographic cluster) cannot be attributed in the pure form to any of the two urbanization types. Petropavlovsk is the city with the predominance of the Russian population, but not possessing significant industrial potential. Aktau is the only example of a new industrial city, whose majority of the population from the moment of emergence is Kazakhs. Talking about the birth rate of the urban population, the similarity of Shymkent and Aktau (3rd and 4th clusters) becomes obvious, as the reproductive scenarios of the middle fertility and the high fertility dominate there - the South-West reproductive scenario (TFR is above 3.0). In turn, it can be noted that in the North-East (Petropavlovsk and Ust-Kamenogorsk - the 1st and the 2nd clusters) the scenarios of the middle and low fertility persist. North-East does not have any significant potential for fertility growth and loses the population of reproductive ages as a result of migration outflow. The risks of less control over border territories and desertification come against the background of low birth rates in the cities of these clusters.

In the South-West there are the 3rd and the 4th demographic clusters with alarmingly high and still growing fertility rates. There the pre-industrial tradition of having many children receives a new economic sense due to the combination of governmental programs for supporting fertility and underemployment (especially among women). The risks of domestic political destabilization have already become apparent and constitute direct threats to state security and there is no reason to believe that such events will not repeat in the future.

Thus, the use of the cluster approach demonstrates the increase in the polarization of reproductive processes in Kazakhstan in the period 1999-2019 and allows us to pinpoint the main cause of what happens- the south-western regions of the country. Due to the absence of a coherent state demographic policy, which would take into account and correct cluster differences, the demographic system of Kazakhstan is getting more and more polarized. That already creates additional social and economic stress which will increase in the next decade. In addition to the main conclusion, it seems necessary to make some additional comments:

1. The urbanization process of the Kazakhs has a different content depending on the type of urbanization.

2. The pace of urbanization of the Kazakhs in reality is not as high as official statistics show, since rural areas may be assigned the urban status, when rural residents become citizens only nominally.

3. The phase of demographic transition, for which the decline in fertility indicators is common, has for most of the population of Kazakhstan slow and in some regions delayed nature. As a result, the dominant reproductive scenario over the past two decades remained the trend on middle and high fertility, which was dictated by the south-western demographic clusters.

The situation is aggravated by the fact that in the Republic of Kazakhstan, as in a unitary state, it is difficult to adopt and implement differential demographic policy, as it can run counter to a unified ideological discourse. This discourse includes such ideology as “High fertility is the tradition of the Kazakhs, an integral element of ethnic identity”. It can only be assumed that in the conditions of increasing mono-ethnicity of Kazakhstani society, this premises will lose its attractiveness, and the small generation born in the 1990s will implement its reproductive choice mostly by focusing on the real social-economic conditions and not counting on the state support. If it happens, it will be possible to state that significant changes have occurred in the social-cultural space of Kazakhstani cities and the reproductive choice of urban Kazakh women is transformed according to the general laws of the demographic transition.

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