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RESEARCH ARTICLE

ECONOMIC AND DEMOGRAPHIC CONSEQUENCES OF DEPOPULATION PROCESSES IN BOSNIA AND HERZEGOVINA

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ABSTRACT

The research subject of this paper are migration from BiH starting from the end of the 20th century until today. The aim of the study is to analyze the consequences of total migration and other demographic losses in BiH, that have reached the highest percent of migration during the nineties of the 20th century in Europe after the Second World War. The results of the research show that migration demographic losses were approximately 50% of nowadays population in BiH. The long-term effects of emigration have come to its fullest. Emigration of the most vital age groups has led to the reduction of fertile cohorts, which results in a decrease of birth, increase in mortality rates and the population aging. In the first decade of this century, there was a negative birth rate. Several factors have had the influence to biological (natural) depopulation and the first was emigration. Continuous and intense emigration was one of the main cause why BiH was in the group of European countries with expressed population aging. After the 20th century where population of BiH was doubled, 21st century was marked by the total depopulation. Among various factors that have an influence to the demographic perspective of BiH, the most important one is the negative migration balance. The social impact of migration in BiH is visible and multidimensional. War and post-war changes have led to the sensibility of many groups to economical and political turmoil, and the consequence is a lag in the overall development.

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INTRODUCTION

Migrations, in terms of content and methodology are considered to be the most comprehensive variation of population movements. Therefore, unfortunately, there are rare methodological solutions from this area whose aim is to contribute to understanding of migration movements. The most important reason for insufficient migration research lies in the fact that in many statistics there is no quality empirical data on migration, which significantly complicates the calculation of relevant indicators. The general picture of migration movements can be obtained by using absolute and relative data for a longer period. Considering that the absolute numbers of immigrated, evicted and mechanical growth are in direct relation with the number of inhabitants, the relative indicators are used in comparative analyzes for the presentation of migration changes in a certain period, i.e. coefficients or rates. The most commonly used rates are the migration balance and the gross migration rate. The structure of the population is a key demographic determinant of migration, therefore a more

detailed and more substantial analysis of the migration movements that are the subject of this paper and it includes other, specific indicators and more complex methods. According to the relevant demographic-statistical indicators, the population of BiH is characterized by reduced fertility, negative natural increase (natural depopulation), emigration depopulation, total depopulation and aging of the population. Such population picture of BiH is an expression of demographic trends and social events throughout centuries, but in its formation, the main role have had the occasions in the 20th century, with more emphasized acceleration to the present time. That is the period that is burden with social, post-war, military and economic events and groundbreaking changes. In that circle, the general factors, but also many special ones, which, by their interaction, differently contribute to the formation of a complex picture of demographic reality. One of these general factors, which has a particularly "local" meaning, is external migration, that is, emigration as the output variable of that process and the negative side of the overall demographic balance. The question is: why do people move? Or, why do ones go and the others do not? Part of the answer unambiguously arises from uneven socio-economic development and its temporal and spatial dimensions. It has

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been proven in numerous studies that economic factors are an important determinant of the population migration between the two areas. It is understood that other factors (which are sometimes prevailing) are not taken into account: natural-geographic, social, cultural, political, and others. Since migration is a kind of innovation process, there is no doubt that disposing of information about the "outside world" is a precondition for migration. The availability of transport vehicles and technical-traffic revolutions have contributed to an increase in the propensity to seek out earnings and a better life in a foreign country. The role of information and the availability of transportation goods in the considered process leads to the conclusion that emigration is not always the largest from the poorest (peripheral) regions, as is usually thought. In the early phase of emigration, mostly wealthy ones, those who are more capable and more willing to risk, leave. Who will migrate, depends largely on the motives, preferences and opportunities of an individual or group, therefore, on an individual determinants. It should be noted that not all parts of a particular country participate equally in the "export" of the population. In the areas where the situation was intensified, the emigration has left the more difficult demographic, economic and other consequences.

As a constituent part of the overall population movement, migration affects: a) the size of the total population and its spatial distribution; b) the natural movement (birth and mortality); and c) the composition of the population: demographic, socioeconomic and cultural-anthropological (Nejašmić, 2005). In addition, it should be emphasized that the emigration has two time effects: a) the momentum, which immediately reduces the number of inhabitants, and b) the long-term (delayed), which arises from the current one, and it is reflected in the fact that the population who leaves the homeland, at the same time "takes with them" future births, deaths, marriages and divorces that this population would have experience in their lifetime in the place of origin, if they had not migrate. Accordingly, the emigration-induced reduction of fertility cohorts leads to migrant's origin to a decrease in the birth rate, but also to an increase in the mortality rate, as the younger part of the population moves, which is at least less susceptible to the risk of death. The result is a reduction in natural growth, which can ultimately lead to natural depopulation. Nevertheless, it must be pointed out that at the early stage of emigration, it may have a beneficial effect in the short term, relatively it appears as a "demographic regulator" with a mild effect. It is widely known that (e)migration is of utmost importance for every country of the general public, population and ethnicity. In this paper we will consider the case of BiH in the period from 1948 to 2016, starting from its current territorial coverage. The focus is on the recognition of the significance of half-century emigration (dynamics, directions, scope) and its impact on the main demographic changes in BiH. The purpose of this work is to give a modest contribution to the general understanding of the population processes, and above all to contribute to the knowledge base on the demographic and economic development of the national space.

MATERIALS AND METHODS

Several methodological difficulties arise in the study of demographic changes in the decades-long period in BiH. When asked about the number of emigrants in such a long period, it is difficult to precisely respond. In many countries, researchers

have difficulty with static property about migration. This is a particular problem in BiH. The main reason is the lack of any data. External migration is generally the worldwide worst-tracked part of demographic statistics, although this profession of spatial mobility has a great interest in the profession and politics. Obviously there is a gap between interests and opportunities. In the absence of accurate data necessary for determining the balance of migration flows, the migration balance is calculated. This has been done in this paper. This is a comparative or vitalistic method of migration research based on the total movement of the population and the natural change between the two censuses. The migration hall (S) is obtained from the form:

$$S = P_2 - (P_1 + j),$$

Where P₂ is the number of inhabitants of a particular area at the end of the observed period, P₁ is the number of inhabitants at the beginning of the period, and j is the natural change (difference in the number of live and dead) in the observed period. Therefore, data from the population census and demographic (vital) statistics are used. The difference between the actual number of inhabitants (P₂) and the (expected) population is calculated that the population between the two censuses grew (or decreased) only based on the natural change (P₁ + j). The result is the difference between the number of immigrants and emigrants. The positive balance shows how many people moved in more than they moved away, and the negative one shows how many of them have moved away than those who moved in. One of the difficulties in demographic analysis is the comparability / incomparability of the total population. Since 1971, after the official recognition of the existence of numerous working and temporary emigrants abroad, with the population registered in the country (in the place of residence), into total population were included all who could be enlisted abroad, or for who it was possible to have relatives who could confirm that they live abroad. The census methodology 2013 differs from the previous census methodology. In this list, the concept of "usual place of residence" (with a time limit of absence of up to twelve months) (according to recommendations of EEC / EUROSTAT and UNSTAT) was accepted. In the end, some of the determinants of the *de iure* concept have remained, for example, the contingent of citizens abroad who maintain tighter relationships with their homeland (ie, they return to their place of permanent residence on a seasonal and monthly basis). The census thus includes a part of the citizens of BiH who work or stay abroad for more than twelve months. This means that the recommendations were not consistently implemented, and the scope of that contingent was the subject to subjective assessments (the criteria were not clearly defined). Differences in the methodology have "administrative" influence particularly on the comparability of the census data in 1991 and 2013.

RESULTS AND DISCUSSION

Migration losses in the period 1948-1991: The centuries-old emigration characteristic of Bosnia and Herzegovina is particularly pronounced in the decades after the Second World War. It was, together with Montenegro and Macedonia, the territory of Yugoslavia which, in all post-war population censuses, was characterized by a negative migration balance, More emigrants than immigrants. At the same time, a constant trend of strengthening the emigration component from Bosnia

and Herzegovina is evident. The emigration from BiH from the first postwar census in 1948 to the 1991 census and the disintegration of Yugoslavia is marked by three major currents: a) permanent emigration (1948-1991), b) emigration after the opening of borders (going to work, 1961-1991) and c) emigration to other republics of the SFRY (1948-1991). The more massive wave of migration of workers began in 1968. Non-agricultural economic sectors could not absorb all the workforce that came from the countryside, so unemployment grew more and more. In addition, the five-year development plan of the country (1966-1970) envisaged slowing down the employment rate. Undoubtedly, an additional increase in unemployment would cause a serious social crisis. Therefore, the saving output was found in the "opening of borders" and allowing the employment of residents abroad. The demand for all profiles of workers, the possibility of multiple wages, more favorable opportunities for professional work in the profession, etc. has contributed to the massive emigration which is, quite understandable and attractive factor. Thus, the Western European market has attracted not only the deagrarized and unemployed population, but also a large number of employed people, which was 35.5% among the workers abroad in 1971. "Promised Land" becomes FR Germany, which accounted for about 70% of the total contingent of migrant workers from BiH in 1971.

It has already been said that since 1971, the population censuses included citizens working abroad, and since 1981 members of the family who are staying with them, also. Census lists are not the best source for monitoring the external migration, they give the current state (current cross-section), every ten years. In particular, the census is unreliable regarding the number of citizens abroad, since it is estimated that only a small part of the evicted continent is included in overseas countries. In the post-World War II period, BiH was distinguished by the strong emigration, the most prominent among the regions of the former Yugoslavia. The reasons for this should be sought in economic and demographic factors. Unequal effect of these factors in BiH and in the Yugoslav territory, as a whole, have created the conditions for maintaining a permanent negative migration balance throughout the mentioned period. Economic-demographic circumstances in BiH have encouraged the population to move out.

Table 1. Net migration balance in BiH 1948-1990

Period	Net migration saldo total	Per year
1948-1952.	- 29.779	- 5.956
1953-1960.	- 161.610	- 20.201
1961-1970.	- 216.072	- 21.607
1971-1980.	- 133.780	- 13.378
1981-1990.	- 171.207	- 17.121

Source: Author's calculation by vital-statistic method

In the period from 1948-1981, 548,417 people from Bosnia and Herzegovina moved out, and 158,291 people moved in. The percentage of the net migration balance of the total population varies by individual periods. The smallest was in the interval from 1948-1952, when the average number of inhabitants was 1.1%, and the highest 6.1% in the period from 1961-1970. However, the percentage of net migration balance in relation to natural increase is much higher and exceeds the 25% in the ninth decade. Therefore, emigrations from BiH were very significant.

The economic impact on the large migration balance came from the fact that BiH was less developed than the immigrant areas of the former Yugoslavia, and of which it developed even more slowly. On the other hand, demographic processes in Bosnia and Herzegovina were more dynamic than in the former Yugoslavia as a whole, so it was constantly making pressure for moving to areas where this demographic dynamism is weaker. Initially, migration of workers took place according to the model of temporary, circulating workers, i.e. according to the model of *gastarbeiter* ("guest worker", the term originated in the Federal Republic of Germany). It was thought that at the time of the convoy, migrants would provide the necessary labor force (and without of some more important social and syndicate rights), and with the advent of the crisis, they would return home. It was widely believed that this model corresponds not only to hosts, but also to migrants and countries of origin. But over time, it has strengthened the conversion of temporary migrant workers into permanent migrants, and the overseas worker becomes an emigrant.

It has already been pointed out that post-war migrations from the former Yugoslav republics are considered in the context of external migration. This was done for the period from 1948-1991. According to the relevant sources, it can be established that about 350,000 people moved out of Bosnia and Herzegovina to other republics of the SFRY (now independent states) (Breznik, 1975). Bosnia and Herzegovina is second in terms of external migration (behind Croatia). The most reproductive part of population has left the BiH. A special problem was the mass phenomenon of the emigration of highly qualified workers, skilled labor and young highly educated people.

Migration losses in the period 1991 – 2016

At the beginning of the nineties, BiH enters into one of the special stages of its socio-political and demographic development. The war on its territory and the postwar and transitional difficulties, with the inevitable influence on social events and processes have shook especially the demographic trends. War events in BiH in the early 1990s have caused very intensive evictions. Migration losses as a result of the war (1992-1995) amounted to 527,000 people. Based on the data on the number of immigrants in the interim period from 1991 to 2013, the vital statistics data, and the application of the vitality method for determining migration, we can estimate that from 1991 to 2016, about 1,152,437 people migrated, which is 26.3 % of the average number of inhabitants. That emigration tide was mainly directly caused by war (refugees), but also by economic opportunities. The highest average annual negative migration balance rate was recorded in Bosnia and Herzegovina in the period from 1992-95 (-51.8 per 1000 inhabitants), with a total loss of one million people. Half of that loss was recovered between 1995 and 2000, close to 500,000, and the rest is outside BiH 527,000 (Pašalić, 2012). Considering the total change (decrease) in the number of inhabitants in BiH between 1991 and 2016, it is possible to quantify their impact on the resulting decrease in the total number of inhabitants in that time horizon, as it follows: $D = (NM) + (IE)$ $D = (874,785-844,523) + (-1,152,437) = (+16,460) + (-1,152,437) = - 1,135,977$, then the total number of inhabitants for 2016 will be performed. From the form:

$D = P2 - P1$ where there is an inter-population change in the population:

$P1 = 4.377.033 (1991) - 1.135.977$ (total demographic losses 1991/2016) = 3.241.056.

So in the interim period from 1991 to 2016, the negative migration balance was the main factor in total depopulation in BiH, while the natural decrease was in the same direction, but with a significantly lower weight. It should be emphasized, first of all, that the war is on the worsened migration balance, which was already negative before, that is on the migration that is followed by the war, and after the war, especially in the conditions of economic recession (the case in BiH), it affects the direction and intensity of changes in the total number of inhabitants and its structures (age, gender, economic, social, educational, national and others).

uneven economic development, and the economically backward areas are at the same time areas of weaker natural demographic dynamics and, at the same time, emigrationaly more intensive. Today, however, one can say that such demographic features of certain regions have become a factor (cause) of their economic lag, because without their demographic revitalization there is no basis for further socio-economic development. In the past post-war period, the immigration of Bosnia and Herzegovina is directed primarily towards Sarajevo and its surroundings (Canton Sarajevo) both from the midland of BiH and from the so-called Arabic countries. The refugee exodus from Bosnia and Herzegovina to Serbia and Croatia was considerably higher. Between 1991 and 1997, according to official data, about 240,000 people from

Table 2. Demographic losses in BiH (1991-2016)

	Birth	Death	Birth rate	Migration balance	Total depopulation
Bosnia and Herzegovina	874 785	858.325	+16.460	-1152.437	-1135977
Republic of Srpska	293 613	338.955	- 45.342	-355.529	-400 871
Federation of BiH	552 972	496 570	+56 402	-779 873	-723 471
District Brcko	28 200	22 800	+ 5 400	-17 035	- 11 635

Source: Pašalić, S. (2012). Expert report, ICTY, Hague

Table 3. Census results in BiH 2013

BiH	Serbs	%	Bosniaks	%	Croats	%	Others	%
3.531.159	1.086.733		1.769.592		544.780		130.036	
100%	30,78		50,11		15,43		3,68	
Demographic losses 91/13	-279.371		-133.364		-216.072		-217.085	
-845.874 -19,32%	-20,45%		-7,00%		-28,40		62,53	

Source: Agency for Statistics of BiH, final results, 30.6.2016.

Table 4. Position of BiH (and RS) according to criteria HDI in the world

Range HDI in world	Country	Value HDI	Index of life expectancy	Index of education	Index of income
21.	Slovenia	0,892	0,898	0,905	0,729
47.	Croatia	0,805	0,845	0,703	0,537
52.	Montenegro	0,791	0,803	0,817	0,600
64.	Serbia	0,769	0,788	0,709	0,603
70.	Albania	0,749	0,797	0,640	0,526
77.	Macedonia	0,740	0,784	0,612	0,524
81.	Bosnia and Herzeg.	0,735	0,784	0,668	0,518

Source: HDR, 2013. page.152.

In the 2013 population census, a new concept was applied, i.e. the concept of the (de facto) total population, but something changed in relation to its original meaning. In accordance with the recommendations of the European Economic Commission of the United Nations and the European Community Statistical Office of 1998, the definition of the overall population in the 2013 census is based on the principle of "usual residence", which, however, is not completely identical to the standard definition of that term. Namely, it is important that the total population of BiH does not include its citizens who have been abroad for more than a year, and at the same time are foreign citizens staying in BiH for more than a year. Therefore, it follows that the 2013 census data on the total number of inhabitants and the number of inhabitants in certain structures are not precisely comparable with the same data from the previous censuses. But if we consider the published census results from the Agency for Statistics of BiH, where those who live abroad for more than a year are included into permanent (total) population, and if they are excluded from the permanent (total) number, we will get more objective and the real (existing) state of the total population in BiH and its lower territorial units. The 2013 census showed that the current trend of uneven spatial distribution of the population is further aggravated. Such distribution is, as a rule, a consequence of

Bosnia and Herzegovina moved out from Bosnia and Herzegovina. But a part of them moved away to Western European and overseas countries, and part of them retained and took Croatian citizenship (Markotić 1999: 751-754). The number of people who migrated to Serbia ranged to 260,000, which was confirmed by the 2002 census, when more than 400,000 people who had moved since the 1990s from the former Yugoslav republics were listed in Serbia. Therefore, without 196,000 non-residents, people who are counted into the total population of BiH in 2013, although they are not residents, gives the total number BiH inhabitants of 3,335,159. From 2013 to the end of 2016, BiH has lost 94,103 inhabitants (migrations and natural increase), which in the end today gives a real population of 3,241,056.

Demographic-economic consequences of emigration

The results of the analysis confirm the statement from the introduction that BiH is one of the countries that had a significant loss of population in migration flows. Migration losses in recent decades are particularly worrying, as they occur in circumstances of reduced fertility, negative natural growth, depopulation and aging of the population.

The 2013 census has pointed out the major demographic disorders in BiH. The most significant of all are: depopulation, desertion of villages, aging, refugees, migration abroad, etc. These changes are limiting the overall socio-economic development. It is now clear that human resources are not unlimited and that any consideration of the future must take into account the minimum population needed to maintain the existing infrastructure. In the countries of the world, a synthetic indicator is used, also called the (*human development index*), which is consisted of three indicators: income per capita, education (share of literate in the total population and average number of years of schooling aged 25 and over it per capita), and the life expectancy on the birth date (*Human Development Report*).

In the World Bank's report on migration and remittances from abroad states that in 2005 there were 1.47 million emigrants from Bosnia and Herzegovina around the world, and in 2016, 1.67 million. It is estimated that the amount of remittances sent by migrants to BiH was from 2.5 to 3.7 billion USD a year, which represents a significant share of the country's economy. Official statistics show that the inflow of foreign remittances from abroad to Bosnia and Herzegovina over the past decade increased by 130 percent, and Bosnia and Herzegovina in 2009 was 7th in the world according to the amount of remittances per capita. Remittances as an alternative source of income can partly be explained by the high rate of work inactivity in the country. The emigration movements after the war were largely influenced by political reasons and that mainly involved refugees and asylum seekers. Later, there was a large wave of migrant returns in Bosnia and Herzegovina. However, in recent times, motives for emigration from the country are mostly of an economic nature. Highly skilled workers are prone to seek better paid jobs abroad, which creates the problem of "brain drain". It is estimated that around 20 percent of people aged 25 and over, who have a third degree of education, and who originate from Bosnia and Herzegovina, currently live in one of the OECD countries. A well-established migrant network makes easier the high mobility of people, regardless of whether it is a formal or illegal mobility, which, in particular, is more and more worrying for receiving countries.

The impact of migration on the country of origin is complex. On the one hand, migration diminishes the base of domestic human resources, while on the other hand, remittances sent by migrants to their families in the country contribute significantly to the economy of the country. Regardless of the impact, a healthy balance is crucial for the country's economy. Although going abroad can be a significant economic sedative for migrants, but also for society as a whole, especially in times of severe crisis, it does not, however, provide a sound basis for sustainable social and economic development. In order to establish the foundations for such development, it is necessary to encourage the return of migrants to the homeland, but at the same time to keep open the option of going abroad for those who want it. Local labor markets must be made attractive and it is necessary to create as many opportunities for the employment of those highly qualified workers.

Changes in population and depopulation

As emigration, along with other unchanged conditions, reduces the population, the questions arise: how much emigration has affected the loss of population? How much would BiH have inhabitants if there was no emigration? Apart from emigration,

Bosnia was losing its population due to wars and diseases. Two world wars and a civil and ethnic war (1992-1995) have left heavy consequences. Since migrations related to the wars were specially processed, it remains to be determined that there were pure demographic losses (reduced birth rate) and war losses (directly or indirectly related to warfare). Demographic determinants, by their nature, are long-term both for their causes and for their consequences for demographic and socio-economic development. These determinants are long-term conditioned by the movement of essential components of the population development, especially the component of the natural movement of the population. In the type of closed population, those are fertility / natality and mortality, and in the type of an *open* population, immigration and emigration follow them.

Table 5. Depopulation in BiH and Srpska (1991-2016)

	Population 1991.	Population 2016.	Depopulation
Republic of Srpska	1 558 387	1 157 516	-400.871
Federation of BiH	2 731 019	2 007 548	-723 471
Breko District	87627	75 992	-11 635
BiH	4 377 033	3 241 056	-1 135 977

Source: Author's calculation based on vital-statistic data; ²The census results were published by the Agency for Statistics of BiH without consent of Institute of Statistics of the Republic of Srpska

The 2013 census showed that the current trend of uneven spatial distribution of the population is further aggravated. Such an arrangement is, as a rule, a consequence of uneven economic development, and the economically backward areas are at the same time areas of weaker natural demographic dynamics and, at the same time, emigrationaly more intensive. Today, however, it can be said that such demographic features of certain regions have become a factor (cause) of their economic lag, because without their demographic revitalization there is no basis for further socio-economic development.

Demographic aging

By emigration of younger people, the so-called aging of the generations in the age structure (numerically weak), and, as has already been pointed out, a long-term (delayed) effect arises due to the outflow of the (bio) reproductive potential. Such impaired generation of parents has an effect in emigration area to reduce the number of births, which, with the influence of other factors, results in aging of the population, which leads to an increase in the share of people in older age (65 years or more). Therefore, the changes in the age structure of the population of BiH contain two comparable global demographic processes: the reduction of the share of young people while increasing the share of the old population.

Table 6. Age structure of population in BiH (1991 and 2013)

Age	1991		2013	
	Population	%	Population	%
0 – 14	1.027.391	23,5	543.719	15,4
15 – 64	2.962.815	67,7	2.485.444	70,4
65 +	284.365	6,5	501.996	14,2
Unknown	102.462	2,3	-	-
Total	4.377.033	100	3.531.159	100

Source: Statistic Year book 1993-1998. Institute for Statistics, Sarajevo, 1998.

Census in BiH 2013., Agency for Statistics of BiH, Sarajevo, 2016. Beside the increase in the share of older people in the

total population (14.2% of the elderly were recorded), there was also a significant decrease in the share of population aged 0-14 (from 23.5% to 15.4%), which is also a relevant indicator of demographic aging. The process of aging has broke down, getting more and more unfavorable features from census to census. Comparing census data between 1991 and 2013 shows that the population of BiH is characterized by very rapid aging and the high degree of aging. The change index from 1991 to 2013 shows a decrease in the number of young people (up to 34 years old), with a particularly strong decrease in the youngest groups, and on the other hand an increase in the number of old age groups, especially the oldest age groups (partial aging).

Table 7. Functionally structural indicators of BiH population¹

Territory	Age category	k_m	k_s	i_s	l_o
Bosnia and Hercegovina	old	15,39	14,21	0,92	46,14
Republic of Srpska	old	14,14	16,59	1,17	41,07
Federation of BiH	old	16,08	12,88	0,80	49,91
Brcko District	old	15,86	14,53	0,93	33,09

Source: Author's calculation based on census data in BiH 2013.

The high increase in the share of the aging population, especially the oldest part of that contingent, shows that BiH has approached the situation in the developed European countries, where (at least in most of them) the proportion of people in the older age group of an old contingent is growing considerably faster (Nejašmić, 2008). Other analytical indicators of the composition according to age are confirmed by the presented values. The average life expectancy (age) of the BiH population is in constant increase. In 1991, that was 34 years, in 2013, 39.5 years, age index (number of those of 65 years old and older compared to 100 young people 0-14) in 1991 it was 54.4, in 2013 it was 92, 3. In order to understand the aging process there is a depicting comparison of the children's database (0-4: 4,93%) and people over 75 years old (5,89%) in 2013, and those age groups are very unfavorable, as the age group of over 75 predominates. So there is a growing inversion of an old pyramid in action. Judging by the presented analytical indicators, the population of BiH is marked by a whole old age, with some lower territorial units falling into the category of a very old age.

Table 8. Value of demographic index

Territory	$ipn/p(n\ i)$	$p(0-14)$	$p.f\ 20-29$	I_v	$Io(ss.oIII)$
Bosnia and Herzegovina	0,81	15,4	13,0	0,98	440,1
Republic of Srpska	0,78	14,2	12,0	0,63	458,3
Federation of BiH	0,81	16,1	13,6	1,27	428,7
District Brcko	0,95	15,9	12,4	1,03	470,4

Labor force: The determinants of the work contingent in the long term period are identical to those of the overall age structure (birth rate, mortality, migration and external factors). The determinants of the work contingent in the short and medium term are the size of the entry (inflow) of the

¹ The data are calculated without excluding 196,000 non-residents from the total population, which in certain percentages changes the established coefficients and indices, especially in the Republic of Srpska, where a large number of non-residents from the category of an elderly population are registered. By contrast, in the Federation of BiH, the younger contingent of the population is registered, which in certain percentages gives a better picture of the stated coefficients and indexes.

population into the work contingent, and the size of the outgoing (outflow) from the working age. Therefore, the basic factors determining the reproduction of the working population of the population are: a) entry or influx of the population during working hours; b) the outbreak or outflow of the population from the working age. When the ingress is greater egress of working age, then there is a prolonged reproduction of a work contingent, if we have simple reproduction, or when the egress is higher than the ingress then that makes a downward reproduction of the work contingent.

Table 9. Ingress and egress into the work contingent in Srpska

Year	Ingress	Egress	Index
2017.	11 647	18 842	61,81
2018.	11 497	20 106	57,18
2019.	11 439	19 897	57,49
2020.	11 156	20 118	55,45
2021.	11 101	19 518	56,87
Total:	56 840	98 481	57,72

Source: Author's calculation based on primary data

The coefficient of entry that shows the number of people aged 10-14 years old per 100 people in labor age in a given year (t) is the indicator of the approximate size of inflows of the new generations during the working period in the next five years in relation to the current size of the work contingent:

$$u'' = P(10-14) / P(15-64) \times 100$$

$$u'' = 56\ 840 / 799\ 016 \times 100 = 7.11$$

The correlation between ingress and egress to and from the work contingent is the coefficient of substitution (z), which is at the same time the measure of the demographic pressure of the young population on employment. Repeated reproduction of the work contingent is in the Republic of Srpska. In the next five-years period, 100 people who leave the labor contingent will replace an average of 58 people, or 42% less. If the impact of the age structure of the population on consumption is observed, it should be emphasized that the scope and structure of total, and especially personal and public spending are closely related to the movement of the number and changes of many population structures. Starting from the significance of the age structure and changes in it and public spending, two relevant moments are underlined:

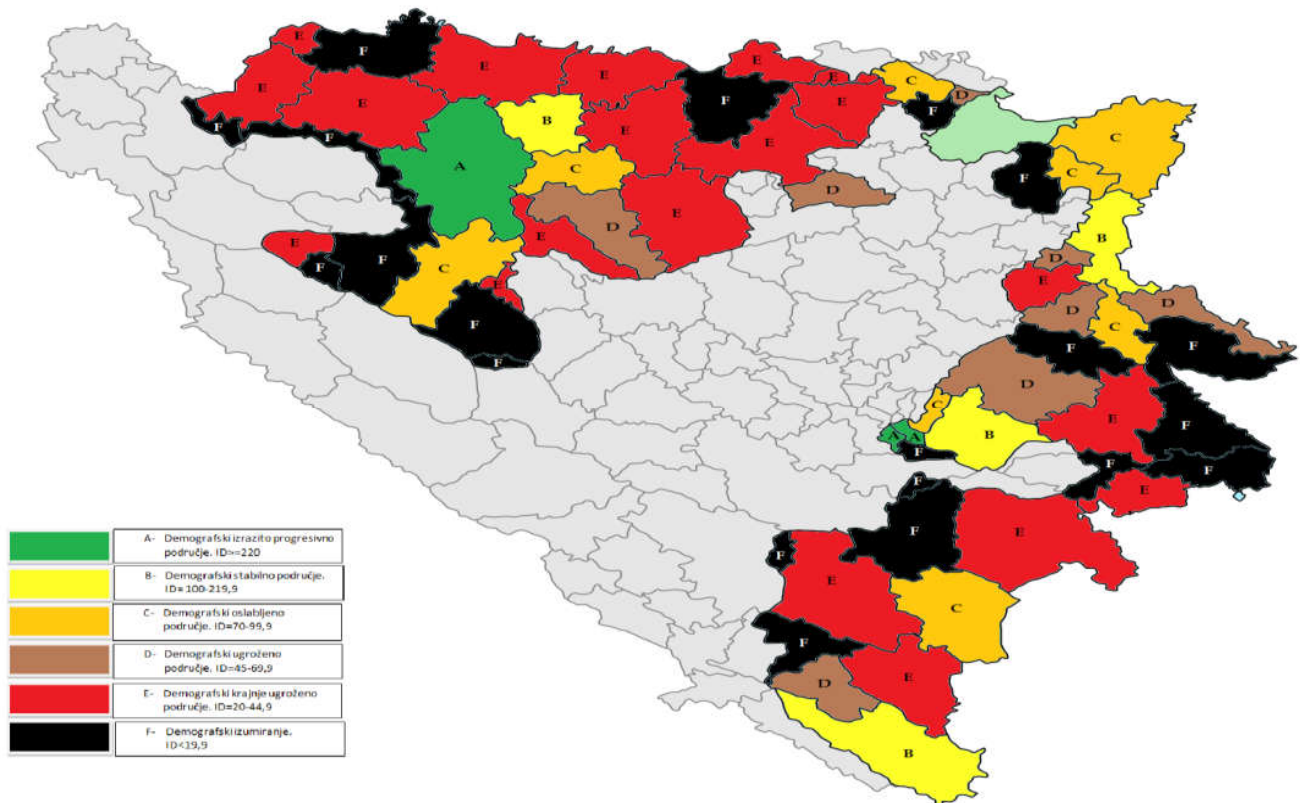
- The existing proportions between certain age groups, especially between the contingent of young people, the working and the old population;
- The dynamics of certain age contingents in a certain period of time.

The proportions between individual age groups and their dynamics have an effect, along with other factors, on the volume movement of aggregate consumption and savings, as well as on the structure of changes in consumption. Demographic labor force reserves in a relative amount show the rate or percentage of economic unexploitation of the work contingent, which we come up with by putting into the ratio of inactive people in working age, i.e., demographic reserves of the labor force with the number of residents in working age.

$$a''n = Pn(15-64) / P(15-64) \times 100$$

The volume of demographic labor force reserves is particularly important for low-income countries, where, due to the low working age population growth, any increase in demand for labor in non-agricultural activities requires the economic activation of previously unexploited labor resources.

emigration effects also came to its fullest. By migration of the most vital age structures, the reduction of fertility cohorts resulted in the reduction of birth and an increase in the mortality rate. There were several factors that affected biological (natural) depopulation, and in the first place there



Source: Author's calculation, TC, Bijeljina, 2016.

Map 1. Index of demographic resources of municipalities / towns of the Republic of Srpska

Conclusion

In the period from 1948 to 2016, a strong emigration took place from the territory of the present-day state of Bosnia and Herzegovina, and around 1.67 million inhabitants moved out. Emigration has not diminished over time, it is still ongoing, which is of particular importance from the point of view of demographic consequences, as it occurs in conditions of reduced birth, depopulation and aging of the population. Emigration at the beginning of the 20th century occurred in very high fertility circumstances, partly alleviating the outflow of human capital. Nevertheless, immigration played an important role in this, replacing the structure of the total evicted contingent. In fact, immigration has delayed the Bosnian-Herzegovinian "demographic breakdown" for half a century. The loss that was caused by the historical external migration has absorbed 47.3% of the average population, or 52% of total natural change (increase). Only few countries have had such population loss in external migration. Emigration or negative migration balance is the main factor (stronger than war losses and epidemics) of demographic losses, as well as slow growth in the number of BiH population in the 21st century. In the hypothetical "closed population" (ie without external migration), BiH would have at least 4.5 million inhabitants in 2013, or 30% more than the listed number. External migration with the spatial selectivity of its input and output flows also affected the differentiated regional demographic development of BiH. Long-term (delayed)

was a continuous and strong emigration. This is one of the main factors for which BiH has had an accelerated process of demographic transition. The emigration of young age groups (at the same time potential parents) along with depopulation, also has a crucial role in the aging of the population, a dominant demographic process in BiH. Thus, it can be concluded that the *circulus viciosus* of emigration (negative migration balance) a more pronounced inversion of an old pyramid and an extremely unfavorable changes in the determinants of natural movement, continues. This will have an effect on the further deterioration of the age structure (aging) and on decrease in the total number of inhabitants of BiH, by the legitimacy of demographic inertia and negative momentum.

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