Analysis of Population Change of the 0-14 Year Age Group in Türkiye (2000-2022)

Türkiye'de 0-14 Yaş Grubu Nüfusun Değişimi Analizi (2000-2022)

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ÖZET

Anahtar Kelimeler:

Türkiye,

Nüfus,

Bölgeler,

Yaş Grupları,

Mekânsal Analiz,

Geniş ve dar aralıklı yaş grupları, demografik analizlerde planlama çalışmalarına yönelik ayrıntılı değerlendirmeler yapabilme imkanı oluşturur. Özellikle nüfus piramitleri cinsiyete göre yaş grupları verileri kullanılarak hazırlanır. Piramitlerin en alt üç satırında 0-4, 5-9 ve 10-14 yaş grup verileri kullanılarak nüfus artış ve doğurganlık hızıyla ilgili değerlendirmeler yapılabilir. Yaş grupları ayrıca toplumda bağımlı ve faal nüfus miktarlarını ortaya koyarak geleceğe dair nüfus tahminlerini kolaylaştırmaktadır. Geniş yaş aralıklarına göre 0-14 yaş grubu genç bağımlı, 15-64 yaş grubu faal ve 65 yaş üstü ise yaşlı bağımlı nüfus olarak ayırt edilmiştir. Bu yaş gruplarının belirli tarih aralıklarında oransal olarak değişim göstermesi, yükselme ve azalma eğiliminde olan yaş gruplarının hangilerinin olduğunun sebepleriyle birlikte ortaya konması, ülkelerin genel refah seviyeleri hakkında da fikir vermektedir. İstihdam, eğitim, sağlık ve pek çok sosyo ekonomik yatırımlar mevcut nüfusun demografik eğilimlerine göre planlanır. Nüfus politikaları oluşturulurken de yaş gruplarının oransal dağılımına ve nüfus projeksiyonlarına dikkat edilerek çalışmalar yapılır. Bu çalışmada; Türkiye'de 2000 yılından itibaren İBBS 1'e göre 0-14 yaş grubu nüfusunun değişimi incelenmektedir. Bu yaş grubunun; nüfus miktarı, nüfus yoğunluğu, yaş ve cinsiyet yapısı üzerinde durulmuştur. Çalışmada DİE 2000 Genel Nüfus Sayımı ve 2022 yıllı TÜİK Bölgesel istatistik verilerinden yararlanılmıştır. 2000 yılında henüz İstatistiksel Bölge Birim sınıflaması oluşturulmadığı için Tablo ve Grafiklerde bütünlük olabilmesi amacıyla 2000 yılına ait il bazlı veriler değerlendirilerek, İBBS Düzey 1 ölçeğinde yeni veriler oluşturulmuştur.

ABSTRACT

Keywords:

Türkiye,

Population,

Regions,

Age Groups,

Geospatial Analysis,

Age groups with wide and narrow ranges provide the opportunity to make detailed evaluations for planning studies in demographic analyses. Particularly, population pyramids are prepared using age group data by sex. In the bottom three rows of the pyramids, 0-4, 5-9, and 10-14 age group data can be used to evaluate population growth and fertility rates. In addition, age groups provide an indication of the amount of dependent and active population in a society, thus facilitating future population forecasts. Broad age ranges categorize the 0-14 age group as the young dependant population, the 15-64 age group as the active population, and the 65+ age group as the elderly dependent population. The proportional change of these age groups in certain date intervals and the reasons for which age groups are in an upward or downward trend also give an idea about the general welfare levels of countries. The current population's demographic trends guide the planning of employment, education, health, and many other socio-economic investments. Population policies are based on the proportional distribution of age groups and population projections. In this study, the change in the population of the 0-14 age group in Türkiye has been analyzed according to the Classification of Territorial Units for Statistics Level-1 (İBBS Düzey-1) since 2000. The population amount, population density, age, and gender structure of this age group are emphasized. In the research, State Institute of Statistics (DIE) 2000 General Population Census and TURKSTAT (TÜİK) Regional statistics data for 2022 were utilized. In 2000, since the Classification of Territorial Units for Statistics had not yet been established, province-based data from 2000 were evaluated and new data were created at the "İBBS Düzey-1" (CUTS Level-1) scale in order to ensure integrity in tables and graphs.

1. INTRODUCTION

Population, which is constantly on the move because of the events that have evolved from the past to the present, has been one of the issues that countries emphasize. Because population affects a country in various ways in terms of economic, political, military, social, cultural, and environmental aspects. Turkey's demographic structure, population policies, migrations and population change according to age groups have been the subject of study of many researchers interested in population geography (Başel, 2011:515, Koç vd., 2008:2, Özgür, 2013:32, Canpolat, 2008; Demir, 2016:41, Doğan, 2010:669, Yakar, 2014:559, Köse ve Sertkaya Doğan, 2022:247). It is necessary to reveal the differences of variables related to population according to time and location and the basic characteristics of the population issue and the relationship between geography and science in terms of the method of the research and a better understanding of the subject (Şahin, 2018:4).

Population is a dynamic phenomenon. Many events such as births, deaths, migrations, industrialization, and modernization process, increase in the level of welfare, wars, epidemics, etc. have caused differences in population in terms of quality and quantity. Change of age structure, increasing mean age of population and increase of the share of elderly population have the potential to effect social and economic development (Yüksel, 2015:28). In the planned development process, the basic principle is to improve the qualifications of the population in terms of education, health, and manpower, to increase the quality of life and to eliminate the differences between regions and settlements in these areas in order to achieve a population structure in line with the goal of balanced and sustainable development (Doğan, 2011:303). Positive and negative effects of population on development have led policymakers to try to prevent potential problems or take advantage of opportunities through various population policies (Akova, 2023:102).

After the proclamation of the Republic in Türkiye, the first census was conducted in 1927, followed by the second census in 1935. Afterwards, population censuses were conducted regularly every 5 years from 1935 to 1990. Afterwards, censuses were conducted at regular intervals. Until 2000, the 'de facto' method was used to compile population data, in which the population was determined by a nationwide census on a specific day. As of 2007, the 'de jure' method of 'continuous population registration system' based on people's permanent residence was adopted. However, this situation took a different dimension with the Council of Ministers Decree No. 4720 dated September 22, 2002. With this decision, this classification, referred to as The Nomenclature of Territorial Units for Statistics (NUTS), is called the Classification of Territorial Units for Statistics (CUTS, in Turkish İBBS) in Türkiye.

In this classification, each member country is divided into level 1, level 2 and level 3 regions in order to collect, develop and harmonize regional statistics in European Union member countries; to provide a basis for socio-economic analyses to be made for the EU and member countries and to determine the general framework of the regional policies of the Union. As a result of this study, 12 (Level 1), 26 (Level 2) and 81 (provinces) Statistical Territorial Units (NUTS) were defined as NUTS (İBBS) in Türkiye (Map 1).

Map 1. Map of Regions in Türkiye according to NUTS 1
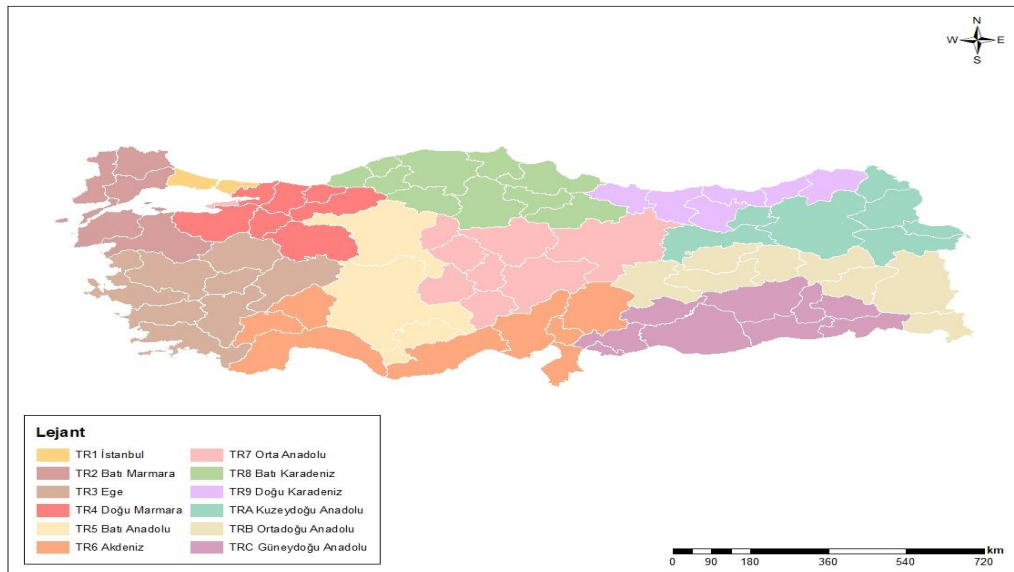
2. 0-14 AGE GROUP POPULATION, PROPORTION OF TOTAL POPULATION AND YOUNG POPULATION DEPENDENCY RATIO

Population is generally divided into three groups. These are the child population between the ages of 0-14, the active population between the ages of 15-64 and the elderly population aged 65 and over. The density of the population in a certain area is as important as the amount of population. Population distribution is defined as the actual pattern created by the settlement of individuals or groups on a place. In order to measure the degree of population concentration in an area and to compare one part of the world with another, it is necessary to use a measure of population density. The term density refers to the ratio between the population living in an area and the area of that land.

In the year 2000, the population of Türkiye was 67,803,927, of which 34,346,735 were male and 33,457,192 were female. Within this population, a total of 20,220,095 people, 10,453,093 of whom are male and 9,748,646 of whom are female, constitute the 0-14 age group. According to NUTS1, the region with the highest population is Istanbul (TR1) with 10,018,735 people. The region with the least population is Northeast Anatolia (TRA) with 2.507.738 people. According to NUTS1, the region with the highest population in the 0-14 age group is Southeastern Anatolia (TRC) with 2,822,539 persons. The West Marmara (TR2) region has the least with 634,947 people (Table 1).

Table 1. Total Population and Male-Female Population (2000)

Region Code	NUTS 1 Region Name	Total	Male	Female	0-14 Age Total	0-14 Age Male	0-14 Age Female
TR1	Istanbul	10.018.735	5.088.535	4.930.200	2.637.988	1.363.263	1.274.725
TR2	Western Marmara	2.895.980	1.497.531	1.398.449	634.947	327.200	307.747
TR3	Aegean	8.938.781	4.509.107	4.429.674	2.247.148	1.153.770	1.093.378
TR4	Eastern Marmara	5.741.241	2.916.022	2.825.219	1.469.376	755.169	714.207
TR5	Western Anatolia	6.443.236	3.253.082	3.190.154	1.780.750	917.192	863.558
TR6	Mediterranean	8.706.005	4.398.784	4.307.221	2.657.749	1.370.122	1.287.627
TR7	Central Anatolia	4.189.268	2.098.055	2.091.213	1.310.037	673.258	618.423
TR8	Western Black Sea	4.895.744	2.410.683	2.485.061	1.390.585	711.819	678.766
TR9	Eastern Black Sea	3.131.546	1.564.425	1.567.121	889.624	456.475	433.149
TRA	Northeast Anatolia	2.507.738	1.300.118	1.207.620	917.961	480.190	437.771
TRB	Central Eastern Anatolia	3.727.034	1.928.908	1.798.126	1.461.391	768.130	693.261
TRC	Southeast Anatolia	6.608.619	3.381.485	3.227.134	2.822.539	1.476.505	1.346.034

Source: Prepared by using D.İ.E. 2000 General Population Census Statistics.

In the year 2000, according to NUTS1 regions, Istanbul (TR1) had the highest population density in the 0-14 age group. It is followed by Eastern Marmara (TR4), Mediterranean (TR6), Eastern Black Sea (TR9) and Southeastern Anatolia (TRC). The lowest density is in Northeast Anatolia (TRA).

**Table 2.** Total Population and Male-Female Population (2022)

Region Code	NUTS 1 Region Name	Total	Male	Female	0-14 Age Total	0-14 Age Male	0-14 Age Female
TR1	Istanbul	15.907.951	7.955.820	7.952.131	3.263.822	1.676.238	1.587.584
TR2	Western Marmara	3.743.485	1.884.229	1.859.256	643.831	331.141	312.690
TR3	Aegean	10.886.803	5.428.607	5.458.196	1.992.242	1.023.011	969.231
TR4	Eastern Marmara	8.511.450	4.266.572	4.244.878	1.744.809	896.873	847.936
TR5	Western Anatolia	8.339.470	4.127.965	4.211.505	1.715.458	880.284	835.174
TR6	Mediterranean	11.020.550	5.531.278	5.489.272	2.529.067	1.298.984	1.230.083
TR7	Central Anatolia	4.124.939	2.061.928	2.063.011	869.158	446.087	423.071
TR8	Western Black Sea	4.665.938	2.317.248	2.348.690	815.794	419.136	396.658
TR9	Eastern Black Sea	2.690.038	1.341.851	1.348.187	473.443	242.814	230.629
TRA	Northeast Anatolia	2.154.748	1.095.378	1.059.370	554.529	284.301	270.228
TRB	Central Eastern Anatolia	3.928.271	1.990.109	1.938.162	1.060.357	542.479	517.878
TRC	Southeast Anatolia	9.305.910	4.703.127	4.602.783	3.072.601	1.571.374	1.501.227

Source: Prepared by Utilizing TÜİK (TurkStat) Data

In the year 2022, according to NUTS1 regions, Istanbul (TR1) has the highest population density in the 0-14 age group, as it was in 2000. This is mainly due to the surface area of the region. It is followed by Eastern Marmara (TR4) and Southeastern Anatolia (TRC). In the Mediterranean (TR6) and Eastern Black Sea (TR9) regions, the density of the 0-14 age group population decreased from 2000 to 2022. The lowest density is observed in Northeast Anatolia (TRA) and Central Anatolia (TR7) regions. It is observed that Turkey having a young population with its high fertility and mortality is gradually turning into an aging country with low fertility and mortality rate(Gökburun, 2020:1).

In 2022, Türkiye's population is 85,279,553, of which 42,704,112 are male and 42,575,441 are female. Within this population, a total of 18,735,111 people, 9,612,722 males and 9,122,389 females, constitute the 0-14 age group. According to these data, the 0-14 age group constitutes 22% of Türkiye's population. According to the geospatial analysis, the region with the highest number of people in the 0-14 age group is Istanbul with 3,263,822 people and the region with the lowest number is the Eastern Black Sea region with 473,443 people (Table 2).

Figure 1. Change in the 0-14 Age Group with respect to Total Population (2000)
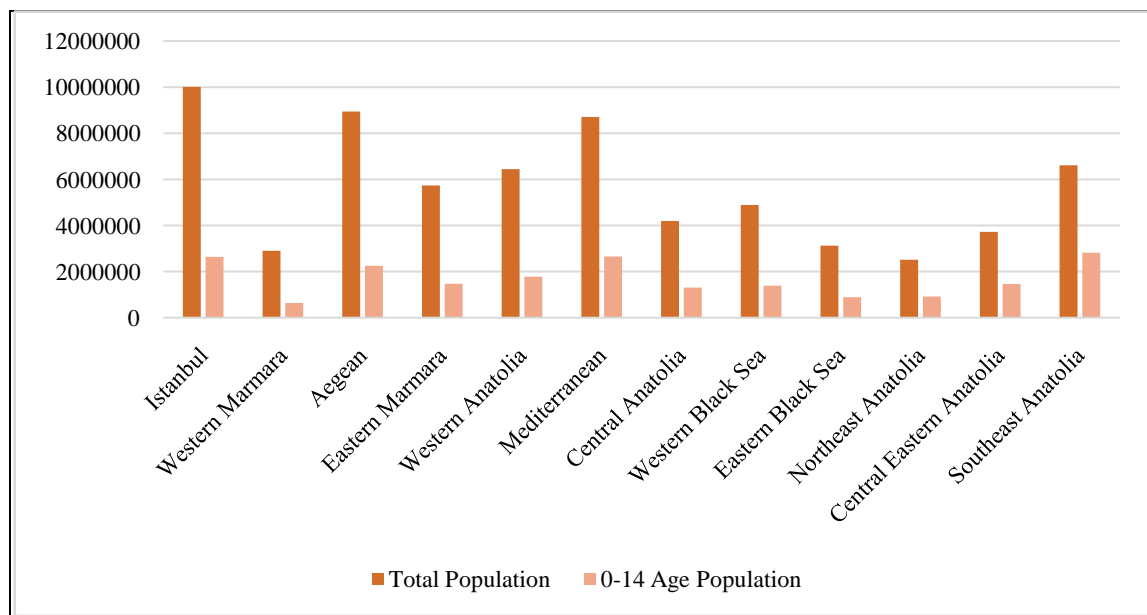
Source: Prepared by Utilizing TÜİK (Turk Stat) Data

When Graph 1 is analyzed; in 2000, the proportion of young dependent population in Istanbul (TR1) region constituted 26.33% of the total population. The proportion of young dependent population in the West Marmara (TR2) region was 21.93% of the total population. The proportion of young dependent population in the Aegean region (TR3) constitutes 25.14% of the total population. The proportion of young dependent population in the Eastern Marmara (TR4) region is 25.59% of the total population. The proportion of young dependent population in Western Anatolia (TR5) region is 27.64% of the total population. The proportion of young dependent population in the Mediterranean (TR6) region is 30.53% of the total population. The proportion of young dependent population in Central Anatolia (TR7) region is 31.27% of the total population. The proportion of young dependent population in the Western Black Sea region (TR8) constitutes 28.40% of the total population. The proportion of young dependent population in the Eastern Black Sea region (TR9) constitutes 28.41% of the total population. The proportion of young dependent population in Northeast Anatolia (TRA) region is 36.61% of the total population. The proportion of young dependent population in the Central Eastern Anatolia (TRB) region is 39.21% of the total population. The proportion of young dependent population in the Southeastern Anatolia (TRC) region is 42.71% of the total population.

Figure 2. Change in the 0-14 Age Group by Total Population (2022)
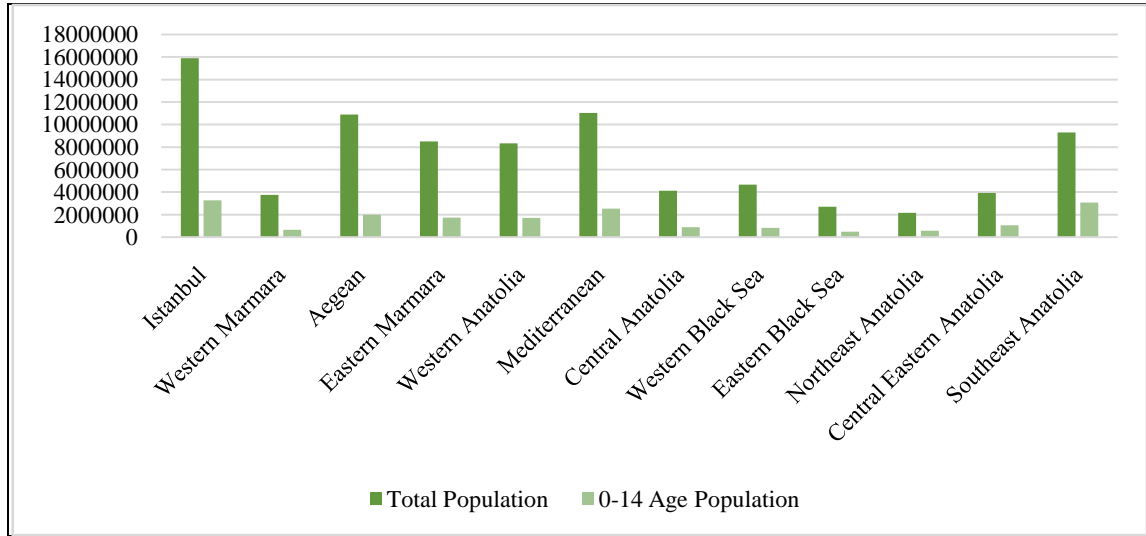
Source: Prepared by utilizing TÜİK (Turk Stat) data

When Graph 2 is considered; in 2022, the proportion of young dependent population in Istanbul (TR1) region has a share of 22% in the total population. The proportion of young dependent population in the West Marmara (TR2) region accounts for 18% of the total population. Aegean (TR3) region has a share of 19%, Eastern Marmara (TR4) 21%, Western Anatolia (TR5) 22%, Mediterranean (TR6) 25%, Central Anatolia (TR7) 23%, Western Black Sea (TR8) 19%, Eastern Black Sea (TR9) 19%, Northeastern Anatolia (TRA) 28%, Central Anatolia (TRB) 29% and Southeastern Anatolia (TRC) 35% of the total population. Analyzing the distribution of crude birth rates in Türkiye by provinces, we observe a general decrease in birth rates from the southeast to the northwest (Akova, 2023:110).

Figure 3. Change in the 0-14 Age Group (2000- 2022)
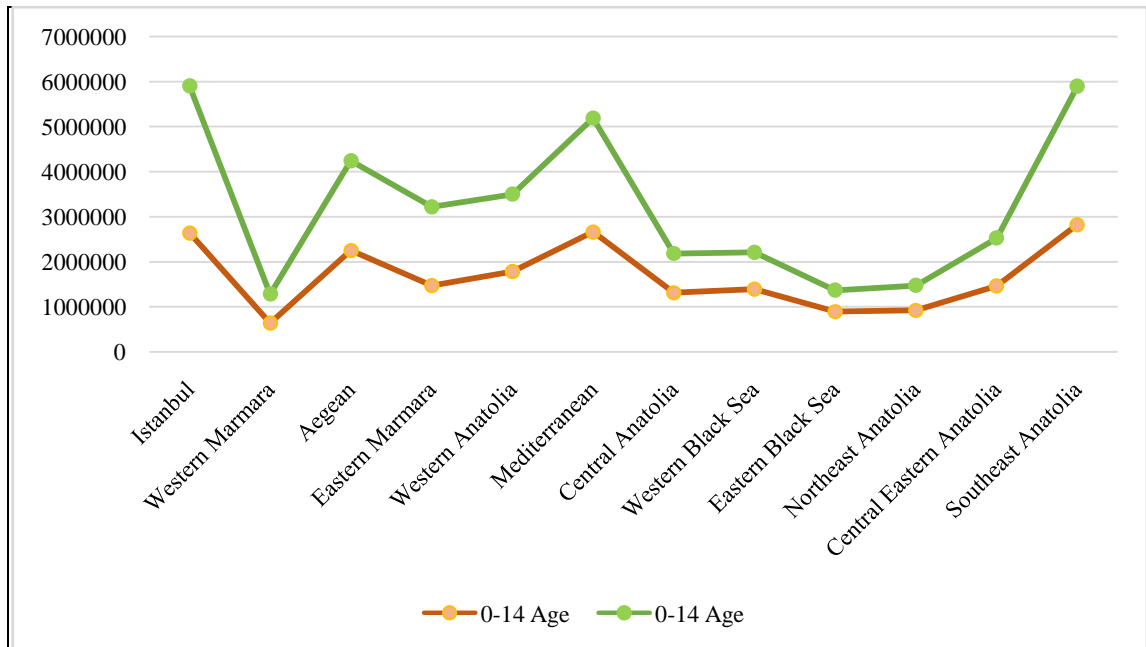
Source: Prepared By Utilizing Data from DİE (State Institute of Statistics-SIS) and TÜİK (Turk Stat) Data.

Table 3. Ratio of 0-14 Age Group Population in Total Population, Total and Young Dependent Population Ratio (2022).

Region Code	NUTS 1 Region Name	0 -14 Age Population in Total Population (%)	Total Age Dependency Ratio (%)	Youth Dependency Ratio 0-14 Age (%)
TR1	Istanbul	26,3	40,44	31,06
TR2	Western Marmara	21,3	43,67	25,5
TR3	Aegean	23,2	44,27	27,95
TR4	Eastern Marmara	25,7	44,04	30,95
TR5	Western Anatolia	26,4	44,18	31,83
TR6	Mediterranean	29,3	49,12	36,69
TR7	Central Anatolia	27,4	49,36	33,96
TR8	Western Black Sea	23,1	47,38	27,81
TR9	Eastern Black Sea	22,7	46,5	27,12
TRA	Northeast Anatolia	33,4	55,23	42,98
TRB	Central Eastern Anatolia	34,8	54,88	44,84
TRC	Southeast Anatolia	40,9	65,63	57,57

Source: Prepared by utilizing TÜİK (Turk Stat) data

3. AGE AND GENDER STRUCTURE OF 0-14 AGE GROUP POPULATION

In addition to the amount of population in a certain place, its status according to various age groups and especially the amount of population between the ages of 15-65, which is called the workable or active population, is important in terms of labor capacity, the need for food and various services, family types, death and birth rates and migration. At the same time, the distribution of the active population according to economic activities is also important in terms of showing us the dominant economic activity of that place (Akova Balcı, 2011:71). Age structure provides a lot of important information about the labor force potential of the population, the demands and desires of the society, the current and future situations of birth, death and migration (Şahin et al., 2019:294).

Analyzing the population by grouping them according to age and gender structure is of great importance for determining the socio-economic characteristics of the study area and for projection studies and investment planning.

Figure 4. Gender Characteristics of 0-14 Age Population (2000)
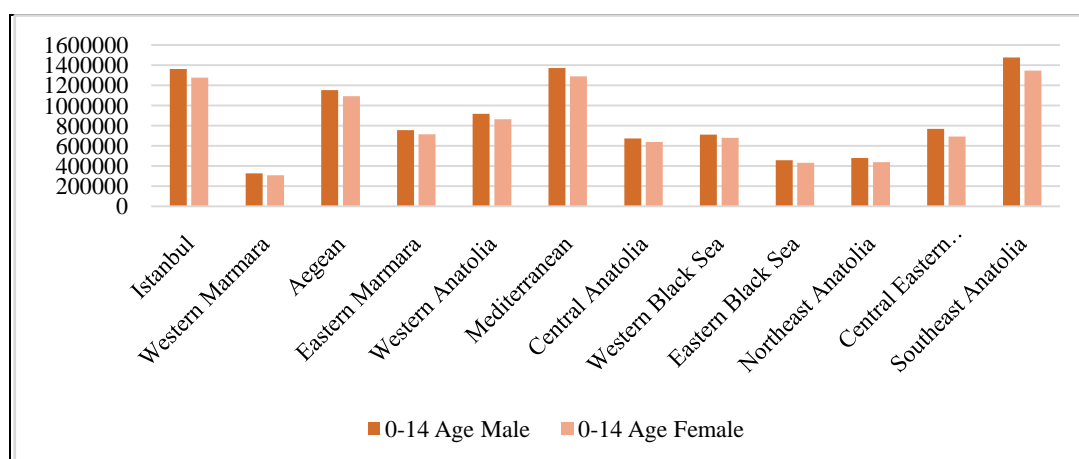
Source: Prepared by utilizing data from DİE (State Institute of Statistics-SIS)

In the 2000 census, when the general characteristics of age and sex structure are analyzed, the regions with the highest proportion of the total population in the 0-14 age group are Southeastern Anatolia (TRC), Mediterranean (TR6), and Istanbul (TR1), respectively. The regions with the least population in the 0-14 age group are Western Marmara (TR2), Eastern Black Sea (TR9) and Northeastern Anatolia (TRA) (Fig.4).

When the 2000 distribution of the 0-14 age group in Türkiye is analyzed by gender, it is observed that the proportion of male population among the total young population is higher in all regions. The regions with the highest proportion of young male population are Southeastern Anatolia (TRC), Mediterranean (TR6), and Istanbul (TR1). These regions are likewise among the regions with the highest proportion of young female population. The regions with the lowest proportion of young male population are West Marmara (TR2), Eastern Black Sea (TR9) and Northeast Anatolia (TRA), respectively. These regions are also among the regions with the lowest proportion of young female population.

Figure 5: Gender Characteristics of 0-14 Age Population (2022).

Source: Prepared by utilizing TÜİK (Turk Stat) data

In the 2022 census, when the general characteristics of the age and gender structure are analyzed, the regions with the highest total population in the 0-14 age group are Istanbul (TR1), Southeastern Anatolia (TRC) and Mediterranean (TR6), respectively. The regions with the least population in the 0-14 age group are Eastern Black Sea (TR9), Northeastern Anatolia (TRA) and Western Marmara (TR2) (Fig.5).

A comparison of 2000 and 2022 shows that the highest proportion in the 0-14 age group was in Southeastern Anatolia (TRC) in 2000, while it was in Istanbul (TR1) in 2018. When the years 2000 and 2018 are compared, the lowest rate in the 0-14 age group was in the Western Marmara (TR2) region in 2000, while it was in the Eastern Black Sea region in 2018 (TR9).

When the distribution of the 0-14 age group by gender in Türkiye in 2022 is analyzed, it is observed that the proportion of male population among the total young population is higher in all regions. The regions with the highest proportion of young male population are Istanbul (TR1), Southeastern Anatolia (TRC) and Mediterranean (TR6). These regions are likewise among the regions with the highest proportion of young female population. The regions with the lowest proportion of young male population are Eastern Black Sea (TR9), Northeastern Anatolia (TRA) and Western Marmara (TR2), respectively. In addition, these regions are also among the regions with the lowest proportion of young female population.

Figure 6. Distribution of 0-14 Age Group Population by Sub-Age Groups (2000)
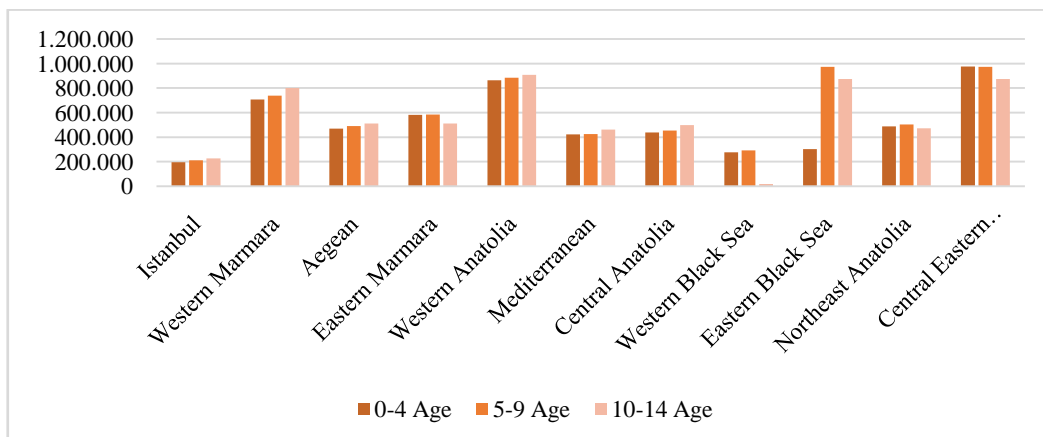
Source: Prepared by utilizing data from DİE (State Institute of Statistics-SIS)

In 2000, Istanbul (TR1) region had 863,801 people in the 0-4 age group, 886,289 in the 5-9 age group and 887,898 in the 10-14 age group. In the West Marmara (TR2) region, 195,070 people in the 0-4 age group, 211,825 in the 5-9 age group and 228,052 in the 10-14 age group; in the Aegean (TR3) region, 707,649 people in the 0-4 age group, 739,328 in the 5-9 age group and 800,171 in the 10-14 age group; in the East Marmara (TR4) region, 468,901 people in the 0-4 age group, 489,566 in the 5-9 age group and 510,909 in the 10-14 age group; Western Anatolia (TR5) region has 582,994 people in the 0-4 age group, 585,559 in the 5-9 age group and 510,909 in the 10-14 age group; Mediterranean (TR6) region has 863,855 people in the 0-4 age group, 884,941 in the 5-9 age group and 908,953 in the 10-14 age group. Central Anatolia (TR7) region has 422,072 people in the 0-4 age group, 426,305 in the 5-9 age group and 461,660 in the 10-14 age group. Western Black Sea (TR8) region has 437,412 people in the 0-4 age group, 454,112 in the 5-9 age group and 499,061 in the 10-14 age group. Eastern Black Sea (TR9) region has 277,458 people in the 0-4 age group, 292,853 in the 5-9 age group and 19,313 in the 10-14 age group; Northeastern Anatolia (TRA) region has 303,417 people in the 0-4 age group, 973,524 in the 5-9 age group and 874,538 in the 10-14 age group; Central Eastern Anatolia (TRB) region has 487,716 people in the 0-4 age group, 502,419 in the 5-9 age group and 471,256 in the 10-14 age group. In the Southeastern Anatolia (TRC) region, there are 974,477 people in the 0-4 age group, 973,524 in the 5-9 age group and 874,538 in the 10-14 age group (Fig.6).

Figure 7: Distribution of 0-14 Age Group Population by Age Groups (2022).
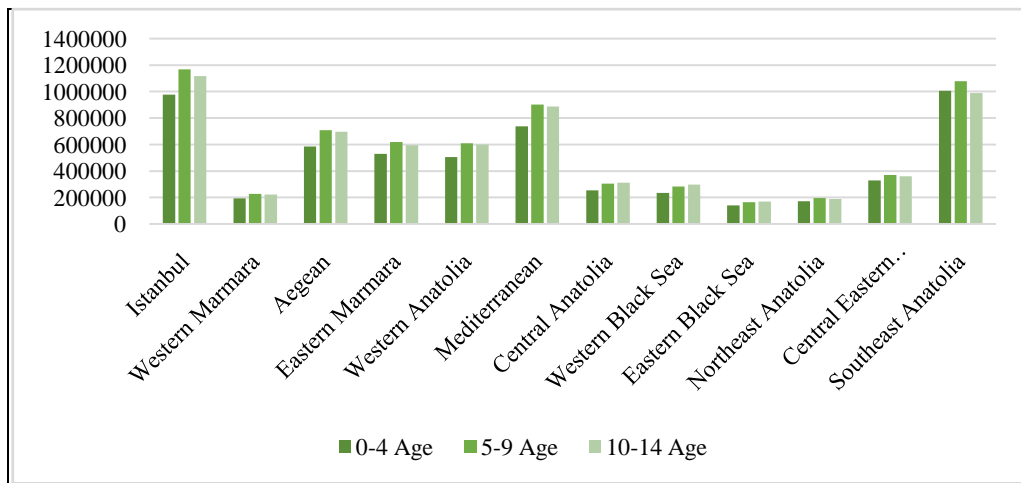
Source: Prepared by utilizing TÜİK (Turk Stat) data.

In 2022, Istanbul (TR1) region has 977,711 people in the 0-4 age group, 1,169,044 in the 5-9 age group and 1,117,067 in the 10-14 age group. West Marmara (TR2) region has 194,182 people in the 0-4 age group, 227,934 in the 5-9 age group and 221,715 in the 10-14 age group. Aegean (TR3) region has 585,714 people in the 0-4 age group, 709,033 in the 5-9 age group and 697,495 in the 10-14 age group. East Marmara (TR4) region has 529,675 people in the 0-4 age group, 619,136 in the 5-9 age group and 595,998 in the 10-14 age group. Western Anatolia (TR5) region has 505,693 people in the 0-4 age group, 609,387 in the 5-9 age group and 600,378 in the 10-14 age group. Mediterranean (TR6) region has 738,392 people in the 0-4 age group, 902,516 in the 5-9 age group and 888,159 in the 10-14 age group. Central Anatolia (TR7) region has 253,569 people in the 0-4 age group, 304,867 in the 5-9 age group and 310,722 in the 10-14 age group. Western Black Sea (TR8) region has 233,966 people in the 0-4 age group, 283,916 in the 5-9 age group and 297,912 in the 10-14 age group. Eastern Black Sea Region (TR9) has 139,658 people in the 0-4 age group, 164,528 in the 5-9 age group and 169,257 in the 10-14 age group. Northeast Anatolia (TRA) region has 170,987 people in the 0-4 age group, 195,082 in the 5-9 age group and 188,460 in the 10-14 age group. Central Eastern Anatolia (TRB) region has 329,233 people in the 0-4 age group, 370,286 in the 5-9 age group and 360,838 in the 10-14 age group. Southeastern Anatolia (TRC) region has 1,004,840 people in the 0-4 age group, 1,079,348 in the 5-9 age group and 988,413 in the 10-14 age group.

4. DISCUSSION AND CONCLUSION

One of the most important findings of this study, which analyzes the spatial demographic analysis of the young dependent population aged 0-14 between 2000 and 2022, is that the total dependent population decreased by 7.3% in 22 years, from 20.220.095 in 2000 to 18.735.111 in 2022. When we evaluate this data not on a large scale such as the 0-14 age range, but on a shorter scale such as 0-4, 5-9 and 10-14, it is seen that there is a

decrease in all three age groups. While the total population in the 0-4 age group was 6,584,822 in 2000, it decreased to 5,663,620 in 2022, while the 5-9 age group was 6,756,617 in 2000, it decreased to 6,635,077 in 2022 and the 10-14 age group was 6,878,656 in 2000, it decreased to 6,436,414 in 2022. The fact that this situation has occurred despite the implementation of a pronatalist policy that tends to increase the population growth rate since 2014 leads to a negative shaping of future population forecasts.

The other finding of our study is the differences in demographic trends between the classes of statistical regional units. The educational level, employment status, age at first marriage and age at having children for the first time are effective in the emergence of these differences. Moreover, in areas of migration such as the Eastern Black Sea (TR9) and Northeastern Anatolia (TRA) regions, the necessity of the young dependent population aged 0-14 to move with their parents naturally leads to a decrease in their quantitative presence in these regions.

It is especially important in terms of nutrition and self-renewal of the 0-4 age group population. According to 2022 data, the number of multiples per woman in Türkiye is announced as 1.62. The fact that this value is below the population self-renewal coefficient of 2.06 shows that demographic trends are similar to the profile of developed countries. These values in NUTS Level 1 scale; 1.71 in Mediterranean TR6- 1.42 in Western Anatolia TR5- 1.35 in Western Black Sea TR8- 1.41 in Western Marmara TR2- 1.39 in Eastern Black Sea TR9- 1.48 in Eastern Marmara TR4- 1.41 in Aegean TR3- 2.75 in Southeastern Anatolia TRC- 1.92 in Northeastern Anatolia TRA- 1.56 in Central Anatolia TR7- 2.01 in Central Eastern Anatolia TRB and 1.29 in Istanbul.

This situation, which we can also associate with the annual population growth rate, can be revealed more clearly with a comparative analysis of Türkiye and regional data. In the 2022 data, while Türkiye's annual population growth rate is 7.05 ‰, it is 12.03 ‰ in Mediterranean TR6, 6.77 ‰ in Western Anatolia TR5, 0.15 ‰ in Western Black Sea TR8, 11.75 ‰ in Western Marmara TR2, 1.11 ‰ in Eastern Black Sea TR9 and 15 ‰ in Eastern Marmara TR4, 47 - 9.43% in Aegean TR3 - 10.31% in Southeastern Anatolia TRC - 13.07% in Northeastern Anatolia TRA - 3.95% in Central Anatolia TR7 - 3.05% in Middle Eastern Anatolia TRB and 4.22% in Istanbul. Therefore, the population growth rate in 6 of the 12 sub-regions in Level 1 classification is lower than that of Türkiye. Therefore, in 6 of the 12 sub-regions in the NUTS 1 classification, the population growth rate is lower than Türkiye's value. It is projected that this situation will develop in other regions as well, and that fertility and consequently population growth rate trends will continue to decline in future population forecasts.

REFERENCES

AKOVA, İsmet (2023), "*Population Characteristics and Structure of Türkiye*", **Geografski Pregled – Geographical Review**, S.48, ss.101-123.

AKOVA BALCI, Süheyla (2011), "*Ayvalık Şehrinin Nüfus Özellikler i*", **Sosyoloji Dergisi**, S.3(22), ss.59-87.

BAŞEL, Halis (2011), "*Türkiye'de Nüfus Hareketlerinin ve İç Göçün Nedenleri*", **Journal of Social Policy Conferences**, S.53, ss.515-542.

CANPOLAT, Şebnem (2008), **Population Ageing in Türkiye: Current and Prospective Co-Residence Pattern of Elderly Population**, Hacettepe University Institute of Population Studies, Technical Demography Program, Ankara.

DEMİR, Oral (2016), "*Nüfus Politikaları ve Çin, Fransa ve Türkiye Örneklerinin Değerlendirilmesi*", **Social Sciences (NWSASOS)**, S.11(1) - 3C0137, ss.41-61.

DİE – DEVLET İSTATİSTİK ENSTİTÜSÜ (2000), **Genel Nüfus Sayım İstatistikleri**, DİE Yayını, Ankara.

DOĞAN, Mesut (2011), "*Türkiye'de Uygulanan Nüfus Politikalarına Genel Bakış*", **Marmara Coğrafya Dergisi**, S.23, ss.293-307.

DOĞAN, Said (2010), "*Nüfus Hareketleri ve Sosyal Değişme*", **Journal of Social Policy Conferences**, S.49, ss.659-675.

GÖKBURUN, İbrahim (2020), "*Türkiye'nin Demografik Dönüşüm Sürecinde Nüfus Politikalarının Rolü*", **Gelecek Vizyonlar Dergisi**, S.4(Coğrafya Özel Sayısı), ss.1-15.

GÖKBURUN, İbrahim ve SERTKAYA DOĞAN, Özlem (2019), "*İBBS Uygulamasında Nüfus Verilerinin Coğrafi Açıdan Yorumlanmasını Kolaylaştıracak Bir Yol Haritası*", **Doğu Coğrafya Dergisi**, S.24(41), ss.39-60.

KOÇ, İsmet, ERYURT, Mehmet Ali, ADALI, Tuğba ve SEÇKİNER, Pelin (2008), "*Doğurganlık, Aile Planlaması, Anne - Çocuk Sağlığı ve Beş Yaş Altı Ölümlerdeki Değişimler: 1968-2008*", **Türkiye'nin Demografik Dönüşümü**, Hacettepe Nüfus Etütleri Enstitüsü Yayınları, Ankara, ss.1-200.

KÖSE, Mustafa ve SERTKAYA DOĞAN, Özlem (2022), "*Nüfus Politikaları Bağlamında Türkiye Nüfusunun Demografik Dönüşümü, Yapısal Değişimi ve Geleceği*", **Dumlupınar Üniversitesi Sosyal Bilimler Dergisi**, S.74, ss.247-267.

ÖZGÜR, Ertuğrul Murat (2013), "*Türkiye Nüfusundaki Doğurganlık Düşüşü ve Yaşlanma Eğilimi*", **Dernekler Dergisi**, S.23(2), ss.30-35.

ŞAHİN, Salih (2018), **Geçmiş, Günümüz ve Gelecekte Nüfus Gerçeği**, Pegem Akademi Yayınları, Ankara, 4.Baskı.

ŞAHİN, Salih, ERTOĞRAL, Okan ve YARICI, Muhammet Ali (2019), "*Türkiye'de Yaş Gruplarına Göre Nüfusun İller Açısından Değişiminin (2007-2017) Coğrafi Bilgi Sistemleri ile Analizi*", **Uluslararası Bilimsel Araştırmalar Dergisi**, S.4(2), ss.292-304.

TANOĞLU, Ali (1969), **Nüfus ve Yerleşme**, İstanbul Üniversitesi Yayını, İstanbul.

YAKAR, Mustafa (2014), "*Türkiye'de İlçelere Göre Medyan Yaş Dağiliminin Mekânsal ve İstatistiksel Analizi*", **Turkish Studies - International Periodical for the Languages, Literature and History of Turkish or Turkic**, S.9(11), ss.559-591.

YÜKSEL, Yusuf (2015), "*In Search for a Pronatalist Population Policy for Turkey*", **Gaziantep University Journal of Social Sciences**, S.14(1), ss.19-38.

http://epp.eurostat.ec.europa.eu (Erişim Tarihi: 03.08.2023).

www.tuik.gov.tr (Erişim Tarihi: 03.08.2023).