Demographic Transition and Ageing in the ECO Countries

By

Amir H. Mehryar , Ph.D., Nader Motie Haghshenas, M.A.

Abstract

The Economic Cooperation Organization (ECO) is one of the relatively new regional cooperation organizations that has brought together six Asian members of the ex-Soviet Union (Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan) with four major countries of the region (Afghanistan, Iran, Pakistan and Turkey). With a total population of 352 million, the ECO accounted for over 5.6% of the world population in 2000. All countries of the region experienced a rise in fertility and relative share of children of population and a reduction in various indices of ageing between 1950-1975. All but two (Afghanistan and Pakistan) manifested clear signs of fertility decline and ageing between 1980-2000. The process of ageing is expected to become more precipitous and pronounced during the first quarter of the 21st century so that by 2025 more than one in ten of the population will be aged 60+ years in eight of the member states of the region. Pakistan and Afghanistan will however continue to grow at a relatively high rate and will thus account for over 60% of the population of the region in 2050. By that time, between 14 and 24 percent of the population of eight of the 10 countries will be aged 65+ years. Although the share of this age group will still be less than 5% in Afghanistan and 8.3% in Pakistan, the latter two countries will account for more than one third of the elderly population of the region.

1. Introduction

The Economic Cooperation Organization (ECO) is one of the relatively new regional cooperation organizations that has brought together ten of the Central and Western Asian countries. Originally ECO consisted of only 4 countries: Afghanistan, Iran, Pakistan and Turkey. It was created after the replacement of the imperial regime of Iran with the Islamic Republic of Iran had resulted in the disintegration of the historically Pro-Western Central Treaty Organization (CENTO) which had included the United Kingdom. With the sudden collapse of the Soviet Union in 1991, Muslim countries of Central Asia and Caucasus that had been part of the Soviet Union since 1920s demonstrated strong signs of a desire to return to their original Islamic identity and cultural heritage by aligning with major Muslim countries of the region. The ECO provided a ready framework for such an alignment.

Table 1: Demographic Indicators of ECO Countries at the Threshold of the 21st Century

Country	Population (in Millions)	Annual Growth Rate (%)	Population Density (per square KM)	Sex Ratio 2005*	Population Under Age 15 (% of Total)	Population Age 65+ (% of Total)	% Urban
Afghanistan	28.7	3.7	44	106.5	43.4	2.8	24.3**
Azerbaijan	8.2	1.1	95	95	27.9	5.5	50.1
Iran	66.4	1.5	41	102.4	31	3.7	66.6
Kazakhstan	14.9	-0.7	6	92.1	24.8	6.6	55.9
Kyrgyzstan	5.1	1	26	96.3	32.8	5	34
Pakistan	148.4	2.4	193	104.7	39.5	3	34.1
Tajikistan	6.3	1.3	45	99.5	40.4	3	24.8
Turkey	70.7	1.8	92	101.4	29.7	4.3	66.3
Turkmenistan	4.9	2.2	10	98	33.5	3.8	45.4
Uzbekistan	25.6	1.7	62	98.9	34.8	3.8	36.7

Sources: *World Bank ,World Development Report,2004,P.P:256-259,UNDP,HDR,(2005).*
*-UN Projection (Revised 2002).**- Data for 2005 .

Table 2: Socioeconomic and Health Indices for ECO Countries

Country	GDP Per Capita (US$) 2003	GDP Per Capita % Growth 2002-3	Adult Literacy rate 2002	IMR 2003	Human Development Indices			
					LE Index	GDP Index	EDU Index	HDI 2003
Afghanistan*	127**	Na	Na	149	Na	Na	Na	Na
Azerbaijan	810	10.5	--	75	0.7	0.89	0.6	0.729
Iran	2,000	4.4	77	33	0.76	0.74	0.71	0.736
Kazakhstan	1,780	8.7	99	63	0.64	0.94	0.7	0.761
Kyrgyzstan	330	3.9	--	59	0.7	0.93	0.48	0.702
Pakistan	470	3.3	Na	81	0.63	0.44	0.51	0.527
Tajikistan	190	7.8	99	92	0.64	0.91	0.4	0.652
Turkey	2,790	4.2	87	33	0.73	0.82	0.7	0.75
Turkmenistan	1,120	15.3	--	79	0.62	0.91	0.68	0.738
Uzbekistan	420	3	99	57	0.69	0.91	0.48	0.694

Sources: *World Bank, World Development Report,2004,P.P:256-259,UNDP,HDR,(2005).*
* Estimated to be low Income(765$ or Less) ** Data for 2000.

The four original members of the ECO also vary in terms of population size, level of development, per capita GDP and political organization. The most populous among them is Pakistan which has had an official family planning program since 1965. It has been ruled by a combination of military and civil governments since its independence. Since late 1970s it has experienced a wave of official and unofficial Islamicization moves and has suffered from various forms of terrorism and violence. Despite significant achievements in certain areas of science and

technology, its economy has not shown any sign of rapid growth enjoyed by its major neighbor and rival, India. Its family planning program has been even less successful.

Afghanistan, after a brief spell of communist take over in 1970s, has suffered from political instability, civil war, domination of fanatic Islamic groups and economic disaster. As a result, reproductive health services like the rest of the health system have suffered enormously and a large fraction of its population have taken refuge in neighboring countries, particularly Iran and Pakistan. Iran, the third most populous member of the group, has spent most of final quarter of the 20th century in revolution, war and international isolation. These have negatively affected its potentially rich oil dependent economy. Yet, the IRI government has taken great strides to develop and expand basic health and social services. As a result, despite its conservative appearance and fundamentalist reputation, the Iranian society has continued to modernize. It has developed one of the most successful reproductive health and family planning programs.

Turkey, the second most populous member of the ECO, has enjoyed the longest period of political stability and sustained growth and through its close links with Western Europe and the USA has emerged as the most advanced member of the organization. The six Central Asian and Caucasian nations of the region, despite their common experience of being a member of the ex-Soviet Union, differ significantly with respect to demography, income and social development.

2. Aim of Study

The primary aim of this study is to explore the process of demographic transition, age structural change and ageing among the ten members of the ECO region and to find out how differences in past history, political ideology, economic performance and official population policy have affected them. More specifically, the study is designed to answer the following questions:

1. Do Non-Western countries with common historical experience of a Soviet style economy and development planning manifest a common or similar pattern of demographic transition and age-structural change?
2. Is the prospect of rapid ageing equally apparent in all countries of the region?
3. Do countries with different historical experiences (e.g., Iran, Pakistan and Turkey), political ideology (e.g., Turkish secularism vs. Iranian theocracy) and economic growth (e.g., Afghanistan vs. Pakistan) manifest similar patterns of demographic change?
4. What are the common determinants of rapid ageing in the ECO region?

3. Method and Materials

Data used in this analysis are mostly taken from the United Nations (2006) recent report on World Ageing and the United Nations 2004 World Population Prospects (UN, 2005).

4. Findings

### 4.1. Growth in population size since 1950s

As indicated in Table 3, the ten countries of the ECO region entered the second half of the 20th century with small populations. Even the largest of them, Pakistan, had less than 37 million people. Mainly due to reductions in mortality, most of them experienced high rates of growth during the following two decades. By 1975, although the population of the region as a whole had

failed to double, it had done so in six of countries. The exceptions include both relatively advanced members of the Soviet Union (Kyrgyzstan, Azerbaijan) and less developed Afghanistan and Pakistan. The relatively lower growth rates of these countries are attributable to quite different demographic dynamics: low fertility (in the case of Kyrgyzstan, Azerbaijan) and high morality (in the case of Afghanistan and Pakistan). By the end of the century, five of the same six countries had undergone another doubling of their population. The exception was Kazakhstan where the population has grown very slowly after 1975.

Table 3. Population of ECO Countries (in 1000s) between 1950-2050 According to United Nations 2004 Estimates /Projections (UN, 2005)

Country	1950	1975	2000	2025	2050
Kyrgyzstan	1740	3299	4952	6282	6664
Turkmenistan	1211	2520	4502	6068	6780
Azerbaijan	2896	5689	8143	9713	9631
Tajikistan	1532	3442	6159	8769	10423
Kazakhstan	6703	14136	15033	14774	13086
Uzbekistan	6314	13981	24724	34042	38665
Afghanistan	8151	14319	23735	55443	97324
Turkey	21484	41211	68234	90565	101208
Iran	16913	33444	66365	89042	101944
Pakistan	36944	68294	142648	229353	304700
Total	103888	200335	364495	544051	690425

Figure1: Trends of Population for ECO Countriers, in 1950- 2050

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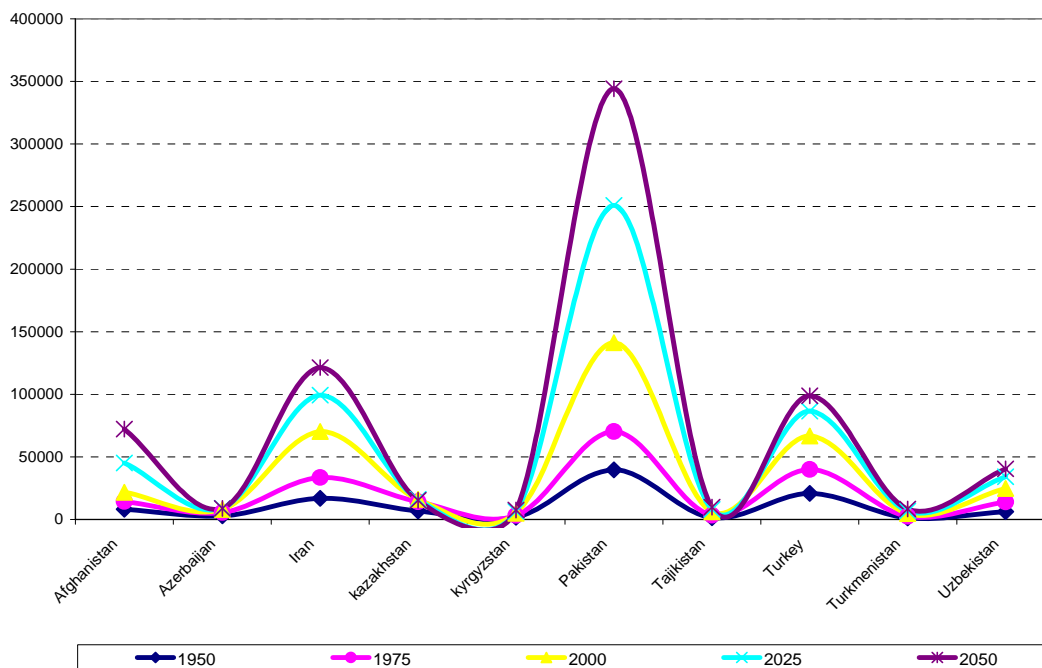
4.2. Dynamics of Population Growth, A. Fertility

In the majority of the countries, the main reason for population growth was natural increase caused by the disturbance of the traditional balance between births and deaths. As indicated in table 4, the crude birth rates of the ten countries of ECO region varied markedly, from 33.2 to 52.1, between 1950-5. The highest rates belonged to the four countries outside the USSR with only Tajikistan having a higher CBR than Pakistan and those of Turkmenistan and Uzbekistan falling above 42. Twenty years later, between 1975-1980, all of the ten countries manifested some decline in birth rates. The decline was particularly marked in the six Soviet block countries and Turkey. Afghanistan, Iran and Pakistan had maintained their very high birth rates and that of Tajikistan (37.2) was also higher than the median for the whole region. By the end of the century, crude birth rates had dropped markedly (below 26) in 7 of the ten countries. It had risen above 51 in Afghanistan and remained above 32 in Pakistan (33.9) and Tajikistan (32.3) only.

Table 4. Crude Birth Rates (per 1000 of Population of ECO Countries between 1950-2050 According to United Nations, 2004 estimates/projections (UN, 2005, M.)

Country	1950-1955	1975-1980	1995-2000	2000-2005	2020-2025	2045-2050
Afghanistan	52.1	50.1	51.5	49.3	42.2	26.3
Azerbaijan	40.6	25.1	18.9	15.8	14.1	11.6
Iran	47	43.7	19.5	18.6	14.5	11.7
Kazakhstan	33.2	24.9	16.9	16.1	13.6	11.5
Kyrgyzstan	35.6	29.9	24.2	22.6	15.7	12
Pakistan	44.5	43.5	33.9	31.1	22.8	15.5
Tajikistan	44.7	37.2	32.3	29.5	22	14.2
Turkey	50.8	34.1	23.4	21.4	15.6	12.1
Turkmenistan	43.2	35.6	24.5	22.9	16.5	12.8
Uzbekistan	42.4	34.8	25.2	23.7	16.3	12.2

Figure 2: Crude Birth Rate (Per 1000 of Population) for ECO Countries, According to UN Projection ,1950-2050


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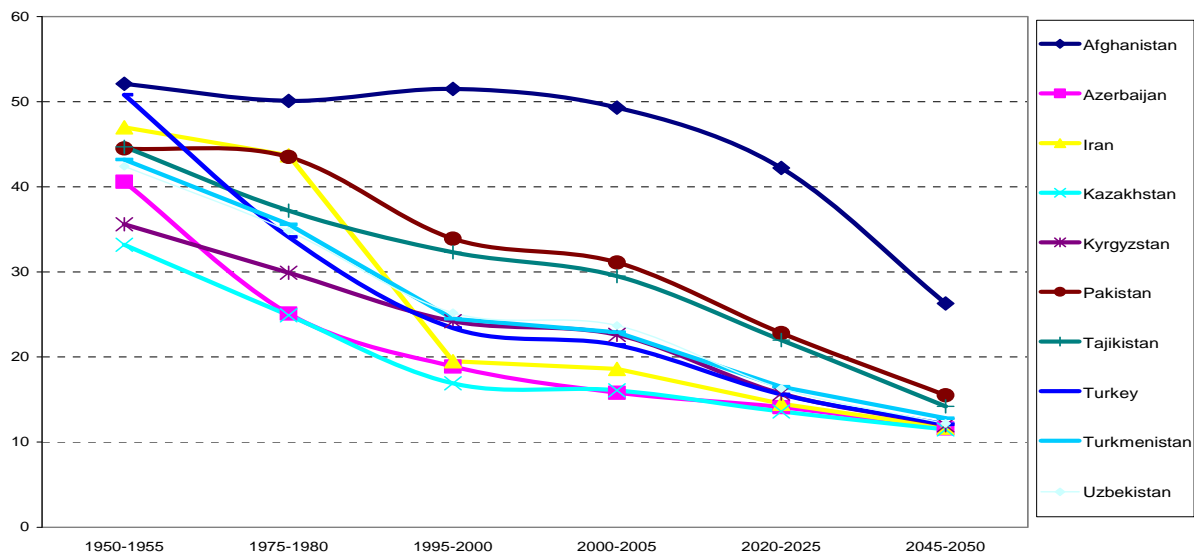
4.3. Dynamics of Population Growth, B. Mortality

At the start of the observation period, the crude death rates of the four countries outside the ex-Soviet Union were remarkably higher than those of the six members of the ex-Soviet Union (Table 5). Afghanistan had the highest CDR (33) followed by Turkey (23.7) Pakistan (23.1) Iran (22.8), Kyrgyzstan (16.4) and Turkmenistan (16.2). All of the 10 countries experienced a considerable fall in mortality rates during the next quarter century so that by 1975-1980 only one country (Afghanistan, 22.9) had a CDR exceeding 20 and another country (Pakistan, 14.2) a CDR exceeding 14. By the end of the century, only in Afghanistan the CDR was above 20 while that of Kazakhstan had risen from 8.8 to 10.6. Given Kazakhstan's relatively strong economic and health indicators, the rise in mortality rate was more probably an indication of the rapid approach of ageing than a deterioration of health situation.

Table 5. Crude Death Rates (per 1000 of Population) of ECO Countries between 1950-2050 According to United Nations, 2004 estimates/projections (UN, 2005, M.)

Country	1950-1955	1975-1980	1995-2000	2000-2005	2020-2025	2045-2050
Afghanistan	33	22.9	20.3	19.6	13.5	8
Azerbaijan	12	6.8	6.9	7	8.5	12.5
Iran	22.8	11.7	5.5	5.3	5.1	8.4
Kazakhstan	14.4	8.8	10.6	10.8	11	13.9
Kyrgyzstan	16.4	9.6	7.8	7.5	7.2	10.1
Pakistan	23.1	14.2	9.2	8.3	6.1	6.6
Tajikistan	12.2	8.9	8.1	7.6	6.6	7.9
Turkey	23.5	10.2	6.6	6.6	6.7	9.7
Turkmenistan	16.2	9.6	8	8.3	7.5	10.2
Uzbekistan	14.7	8.5	6.7	6.8	6.5	9.4

Figure 3: Crude Death Rate (Per 1000 of Population) for ECO Countries, According to UN Projection,1950-2050

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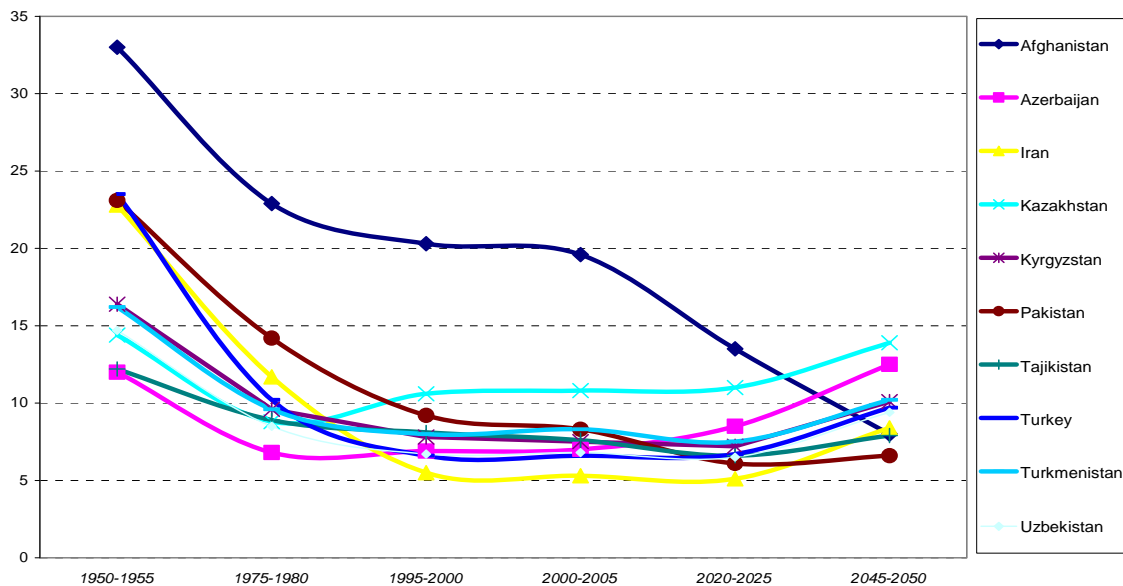
4.4. Dynamics of Population Growth, C. Migration

There is no evidence to indicate that the marked changes of population size in the ECO region has been meaningfully affected by international migration. During its heyday the Soviet Union had developed laws very much restricting the free movement of population both within and across the borders of the different republics. There was also little movement of population across the borders of other four countries. Although since 1970s internal turmoil has forced large numbers of Afghans to leave their homeland in search of work or safety, there is no indication that this has in any way reduced the growth rate of the population of Afghanistan. Similarly, the increased out-migration of Pakistani citizens to work in the Persian Gulf area does not seem to have left any impact on the growth rate of its population.

4.5. Rates of Population Growth

Despite their relatively low fertility rates, the highest growth rates during the period 1950-1955 belongs to four countries (Kazakhstan, Tajikistan, Uzbekistan, and Azerbaijan) that were then part of the Soviet Union (Table 6). They were followed by Turkey, Iran, Turkmenistan and Pakistan. Afghanistan (1.92) and Kyrgyzstan (1.79) had the lowest growth rates which is probably due to their being at two different stages of demographic transition: pre-transition (in the case of Afghanistan) and post-transition (in the case of Kyrgyzstan).

Table 6. Growth Rates (per 100) of Population of ECO Countries between 1950-2050 According to United Nations, 2004 estimates/projections (UN, 2005, M.)

Country	1950-1955	1975-1980	1995-2000	2000-2005	2020-2025	2045-2050
Afghanistan	1.92	1.21	2.77	4.59	2.87	1.88
Azerbaijan	2.77	1.59	0.88	0.65	0.45	-0.02
Iran	2.42	3.3	1.26	0.93	0.92	0.31
Kazakhstan	3.52	1.08	-1.08	-0.28	-0.15	-0.69
Kyrgyzstan	1.79	1.9	1.53	1.22	0.61	-0.03
Pakistan	2.15	2.99	2.47	2.04	1.6	0.84
Tajikistan	3.4	2.77	1.31	1.1	1.3	0.43
Turkey	2.72	2.34	1.72	1.4	0.86	0.2
Turkmenistan	2.25	2.54	1.42	1.42	0.87	0.22
Uzbekistan	2.78	2.64	1.52	1.46	0.92	0.23

Twenty years later, Kazakhstan had the lowest growth rate (1.08) followed by Afghanistan (1.21), Azerbaijan (1.59) and Kyrgyzstan (1.9). In contrast, Iran had the highest growth rate (3.3) followed by Pakistan (2.99), Tajikistan (2.77), Uzbekistan (2.64), Turkmenistan (2.54) and Turkey (2.34). By the end of the century, growth rates had dropped well below two percent per year in all ECO countries but Afghanistan (2.77) and Pakistan (2.47). and Iran had the second lowest growth rate (1.26) after Kazakhstan (-1.08) which was actually losing population.

Figure 4: Population Growth Rate(%) of Projected Population for ECO Countries
According to UN Projection ,1950-2050
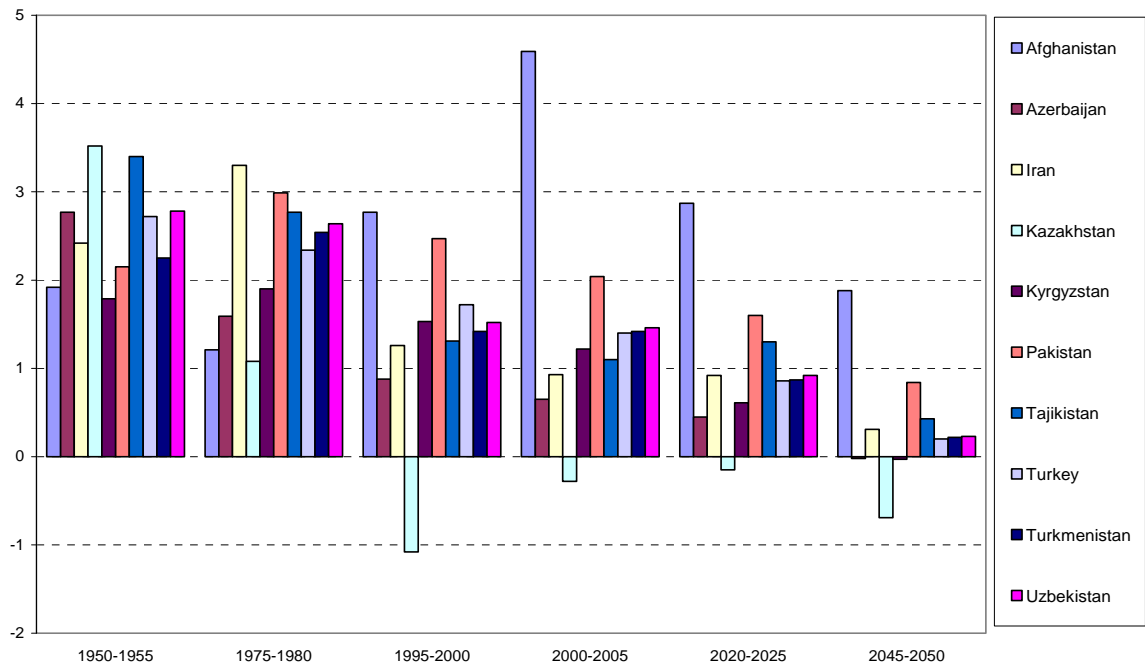
## 4.6. Changes in Total Fertility Rates

The predominant role played by fertility changes in the growth rates of ECO region is clearly demonstrated in Table 7. From this table it is obvious that all ten countries had extremely high total fertility rates (TFRs) during 1950-1955. Only two countries (Azerbaijan and Kazakhstan) would seem to have experienced a drastic decline in TFR during the following 25 years. By the end of the century, remarkable declines had taken place in all but three countries (Afghanistan, Pakistan and Tajikistan) while Iran occupied the third place from the bottom. In fact, if one takes into consideration more recent Iranian studies indicating replacement level TFR values for the year 2000 (Mehryar, 2001) and later (Abbassi, 2003), Iran will move to the second place. At the threshold of the new millennium, total fertility rate had dropped below replacement level in Azerbaijan and Kazakhstan and was just above replacement level in Iran. All but three countries (Afghanistan, Pakistan and Tajikistan) are expected to reach this level by 2025 and Pakistan by 2050. Total fertility rate of Afghanistan is projected to be well above replacement level (3.14) even in 2050.

Table 7. Total Fertility Rates (per woman) of ECO Countries between 1950-2050 According to United Nations, 2004 estimates/projections (UN, 2005, M.)

Country	1950-1955	1975-1980	1995-2000	2000-2005	2020-2025	2045-2050
Afghanistan	7.7	7.7	8	7.48	5.75	3.14
Iran	7	6.5	2.53	2.12	1.85	1.85
Turkey	6.9	4.72	2.69	2.46	2.03	1.85
Pakistan	6.6	6.6	5	4.27	2.76	2.1
Tajikistan	6	5.9	4.29	3.81	2.44	1.85
Turkmenistan	6	5.32	3.03	2.76	1.95	1.85
Uzbekistan	5.97	5.58	3.01	2.74	1.94	1.85
Azerbaijan	5.49	3.62	2.2	1.85	1.85	1.85
Kyrgyzstan	4.51	4.05	2.99	2.71	1.93	1.85
Kazakhstan	4.41	3.06	2.1	1.95	1.85	1.85

Figure 5: Total Fertility Rate (Children per woman)for ECO Countries, According to UN Projection,1950-2050
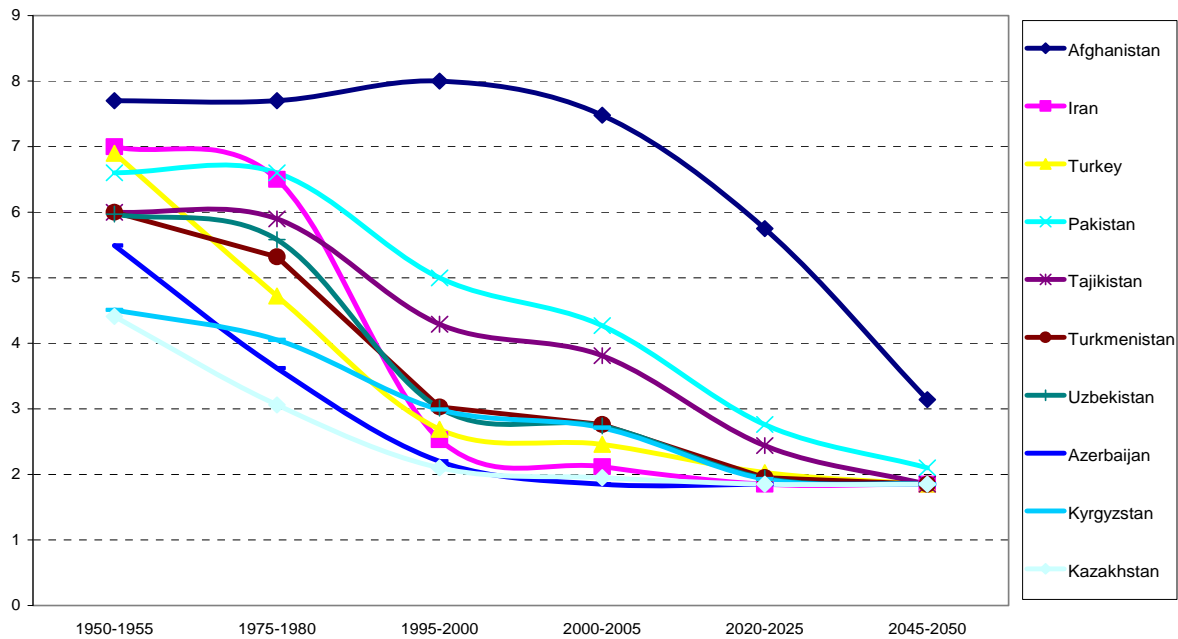
Thus, there is substantial evidence that until late 1980s, the population of the ECO region was predominantly young and rapidly growing. This is clearly reflected in the share of the group aged 0-14 years (Table 8) and the youth dependency ratios (Table 9). The high total dependency ratios characteristic of these countries (Table 10) were until recently mostly due to the preponderance of children aged 0-14.

Table 8. Share (%) of children aged 0-14 years of the population of ECO Countries between 1950-2050

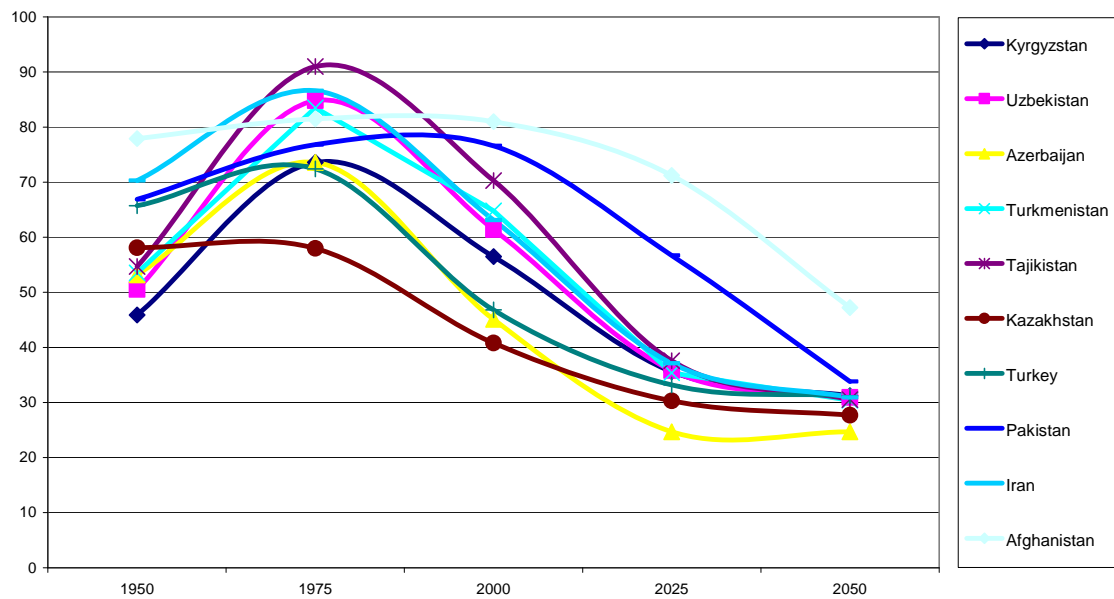| Country	1950	1975	2000	2025	2050
Kyrgyzstan	28.9	39.9	33.9	24	20
Uzbekistan	31.7	43.3	36.3	24.4	19.9
Azerbaijan	32.4	40	29	17.5	15.1
Turkmenistan	32.8	43.5	37.6	24.4	20.1
Tajikistan	33.8	45.4	39.4	25.5	20
Kazakhstan	34.4	34.6	27	20.6	17.7
Pakistan	37.9	42	41.8	34.4	23.1
Turkey	38.3	40.1	30	22.5	19.5
Iran	39.1	44.8	37.4	25.2	20.1
Afghanistan	42.6	43.7	43.5	40.3	30.5

Table 9. Youth Dependency Ratios (Ratio of children aged 0-14 to potentially active population aged 15-64 years) of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Kyrgyzstan	45.9	73.6	56.5	35.6	31.2
Uzbekistan	50.5	84.8	61.4	35.8	30.9
Azerbaijan	53.2	73.6	45.1	24.7	24.7
Turkmenistan	53.5	83.5	64.8	35.4	30.4
Tajikistan	54.7	91	70.3	37.6	30.5
Kazakhstan	58.1	58	40.8	30.3	27.7
Turkey	65.7	72.4	46.8	33.2	31.2
Pakistan	66.9	76.8	76.6	56.7	33.8
Iran	70.3	86.6	63.1	37.1	30.9
Afghanistan	77.9	81.5	81	71.2	47.2

Figure 6: Percent of Children Aged 0-14 Years(%) for ECO Countries,
According to UN Projection,1950-2050
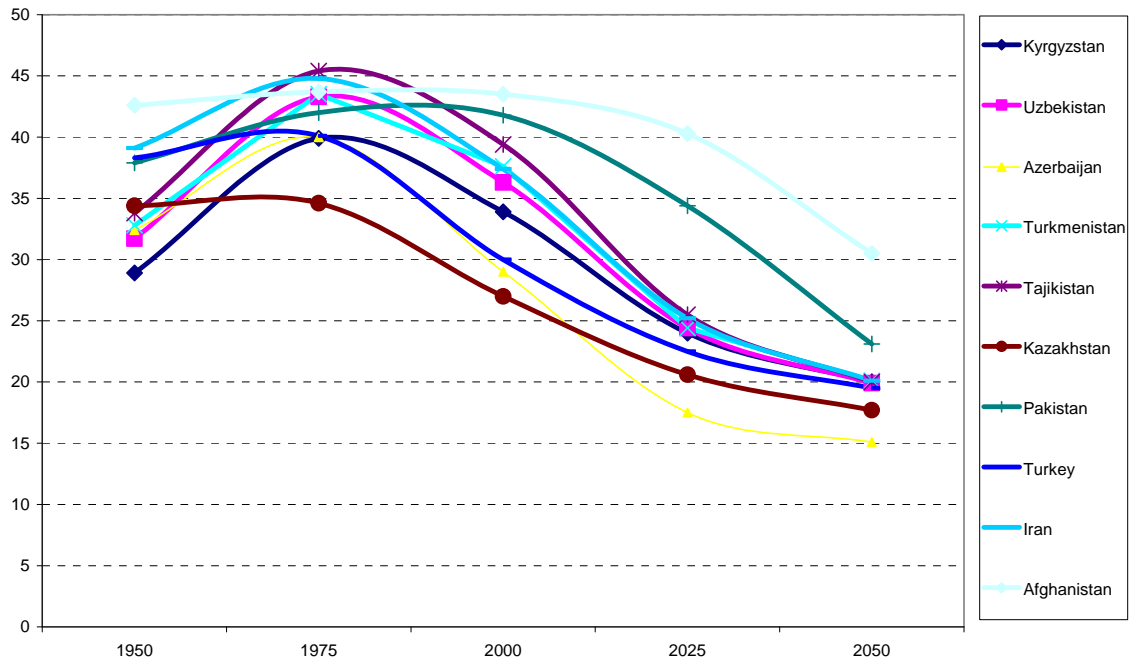
Figure 7: Youth Dependency Ratios (Ratio of children aged 0-14 to potentially
active population aged 15-64 years) of the population of
ECO Countries between 1950-2050

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Table 10. Total Dependency Ratios (Ratio of children aged 0-14 plus old people aged 65+ to potentially active population aged 15-64 years) of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Kyrgyzstan	58.9	84.5	66.6	48.2	55.8
Uzbekistan	59.4	95.6	69.3	46.7	55.2
Tajikistan	61.7	100.3	78.4	47.1	52.3
Turkmenistan	63.1	92	72.1	45.2	51.5
Azerbaijan	64.5	83.8	55.7	41.7	63.5
Kazakhstan	69.2	67.5	51.1	46.9	56.1
Turkey	71.3	80.6	55.8	47.2	59.9
Pakistan	76.3	83	83.4	64.6	45.9
Iran	79.9	93.2	68.8	47.4	53.4
Afghanistan	82.6	86.7	86.3	76.8	54.8

Table 11. Share (%) of Potentially Active Population Aged 15-59 of the Population of ECO Countries, 1950-2050

Country	1950	1975	2000	2025	2050
Iran	52.7	49.8	57.4	64.3	58.1
Afghanistan	52.8	51.6	51.8	54.5	61.8
Pakistan	53.8	52.5	52.5	58.3	64.4
Kazakhstan	55.4	56.8	61.8	62.6	56.8
Turkey	55.7	53	61.5	63.3	57.5
Azerbaijan	56.5	52.1	60.5	64.2	52.8
Turkmenistan	57.6	49.8	55.9	64.9	60
Kyrgyzstan	58.6	51.7	57.1	63.1	57.7
Tajikistan	58.7	47.9	53.8	64.1	59
Uzbekistan	59.2	48.9	56.7	63.9	57.8

Figure 8: Total Dependency Ratios (Ratio of children aged 0-14 plus old people
aged 65+ to potentially active population aged 15-64 years) of the
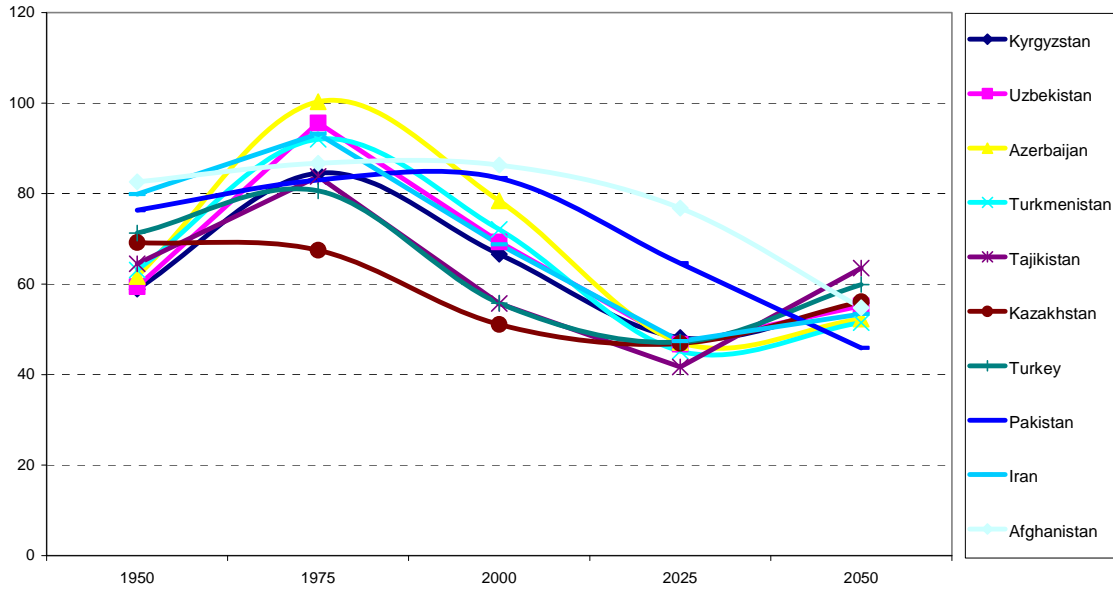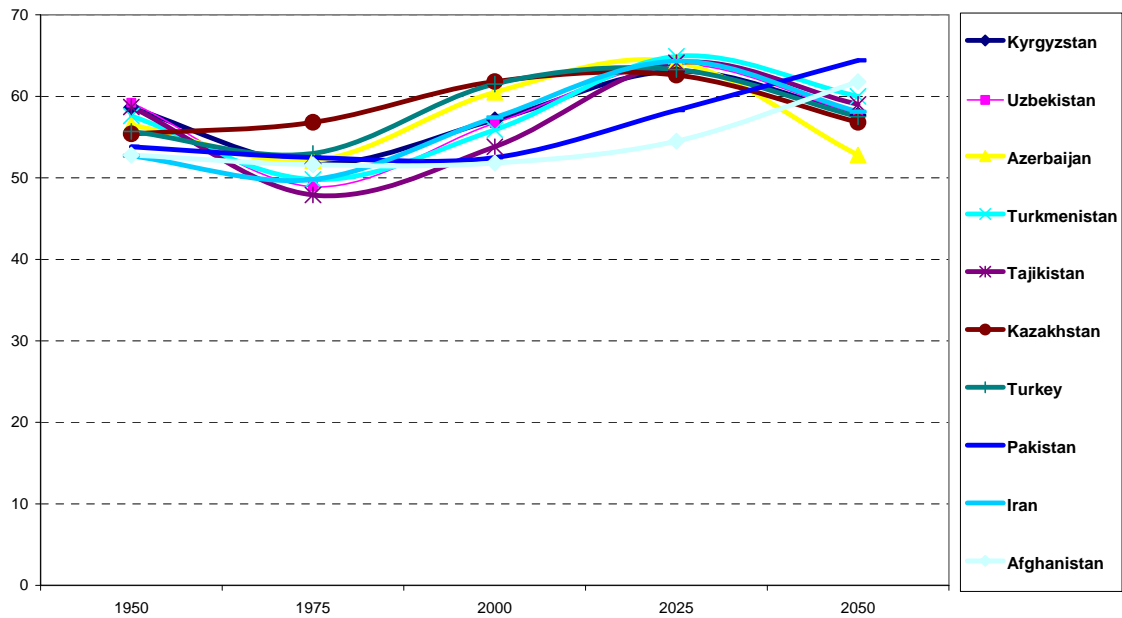population of ECO Countries between 1950-2050

Figure 9: Share (%) of Potentially Active Population Aged 15-59 of the
Population of ECO Countries, 1950-2050

5. Evidence of Ageing during the 20th Century, 1950-2000

Ageing is a relative concept and one may look for evidence of its presence in even very young populations. To do this, one has to use one or more of the standard indicators of ageing developed by demographers. The most mundane of these is the relative share of people aged above 60 or 65 years. Equally simple is the concept of median age that is the age that divides the population into two groups of the same size so that half the total population is younger than this age, and another half is older. As the population gets older its median age will become higher. Another widely used index is the ratio of people aged 65 and above to the potentially active population aged 15-64 years (Old Age Dependency Ratio). As its name implies, this index is particularly important for gauging the burden of aged on the potentially active population. More technical concepts of life expectancy at birth and survival rate provide more precise data on ageing. The United Nations has recently proposed three other indices of ageing. They are: the Ageing Index (the number of persons aged 60 years and above per 100 hundred persons aged under 15 years); Potential Support Ratio (number of persons aged 15-64 per every person aged 65 or older); and Parent Support Ratio (the number of persons aged 85 years and above per every 100 persons aged 50 to 64 years).

5.1. Share of people aged 60+ and 65+ of the Population

Considering people aged 60+ as the aged group, it can be seen that in 1950 the share of this age group of the total population varied between 4.5% (in Afghanistan) and 12.5% (in Kyrgyzstan) among the ECO countries (Table 12). It was above 9% in five of the six countries then belonging to the Soviet Union. It was also relatively high in Iran (8.3%) and Pakistan (8.2%) but much lower in Turkey (5.9%) and Afghanistan (4.5%).

By 1975 the proportion of people aged 60+ years had declined noticeably in all but two countries (Afghanistan and Turkey). So, it may be said that the first part of the second half of the 20th century had been characterized by a rise in the relative youth of ECO region. The situation did not change much in the majority of countries during the last quarter of the century. In view of the great increase in the population size, however, the absolute number of people aged 60+ had increased substantially. For example, the share of people aged 60+ of Iranian population in the year 2000 was 5.2% as compared with the figure of 8.3% in 1950. Yet, the absolute number of elderly aged 60+ in 2000 (3.447 million) was almost two and half times larger than the number in 1950 (1.4 million).

The share of population aged 65+ of the total population will rise significantly during the first quarter of the 21st century. By 2025 it will exceed 10% in 8 of the ten countries. At the middle of the century people aged 60+ will account for one fifth or more of the population in 8 of the 10 ECO countries. A quite similar picture is obtained if we consider those aged 65 years and above as the aged (Table 13). Between 2000-2025 the share of this group will rise significantly in all but two (Afghanistan and Pakistan) of the member states of the ECO region. By 2050, the share of this age group will exceed 13% in all but two countries (Afghanistan and Pakistan) and will account for over 15% of the population of Azerbaijan, Kazakhstan, Turkey, Uzbekistan, and Kyrgyzstan.

Table 12. Share (%) of elderly aged 60+ years of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	4.5	4.7	4.7	5.2	7.7
Turkey	5.9	6.9	8.4	14.2	23
Tajikistan	7.5	6.7	6.8	10.3	21
Pakistan	8.2	5.5	5.8	7.3	12.4
Iran	8.3	5.4	5.2	10.5	21.7
Uzbekistan	9.1	7.8	7.1	11.7	22.3
Turkmenistan	9.5	6.8	6.5	10.7	19.9
Kazakhstan	10.2	8.5	11.2	16.8	25.4
Azerbaijan	11.1	7.9	10.5	18.4	32.1
Kyrgyzstan	12.5	8.5	9	12.9	22.3

Table 13. Share (%) of elderly aged 65+ years of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	2.6	2.8	2.8	3.2	4.9
Turkey	3.3	4.5	5.8	9.5	17.9
Tajikistan	4.4	4.7	4.6	6.5	14.3
Iran	5.3	3.4	3.4	7	14.7
Pakistan	5.3	3.4	3.7	4.8	8.3
Uzbekistan	5.6	5.5	4.7	7.5	15.7
Turkmenistan	5.9	4.5	4.3	6.8	13.9
Kazakhstan	6.5	5.7	6.9	11.3	18.2
Azerbaijan	6.9	5.6	6.8	12	23.7
Kyrgyzstan	8.2	5.9	6	8.5	15.8

Figure 10 : Share (%) of elderly aged 60+ years of the population of
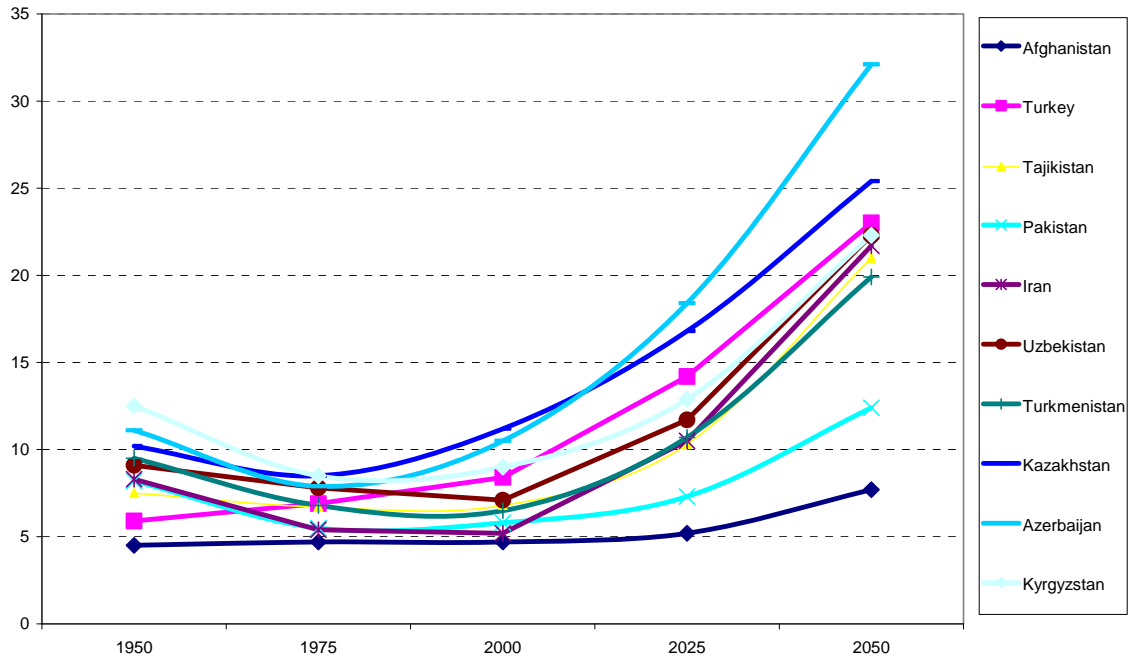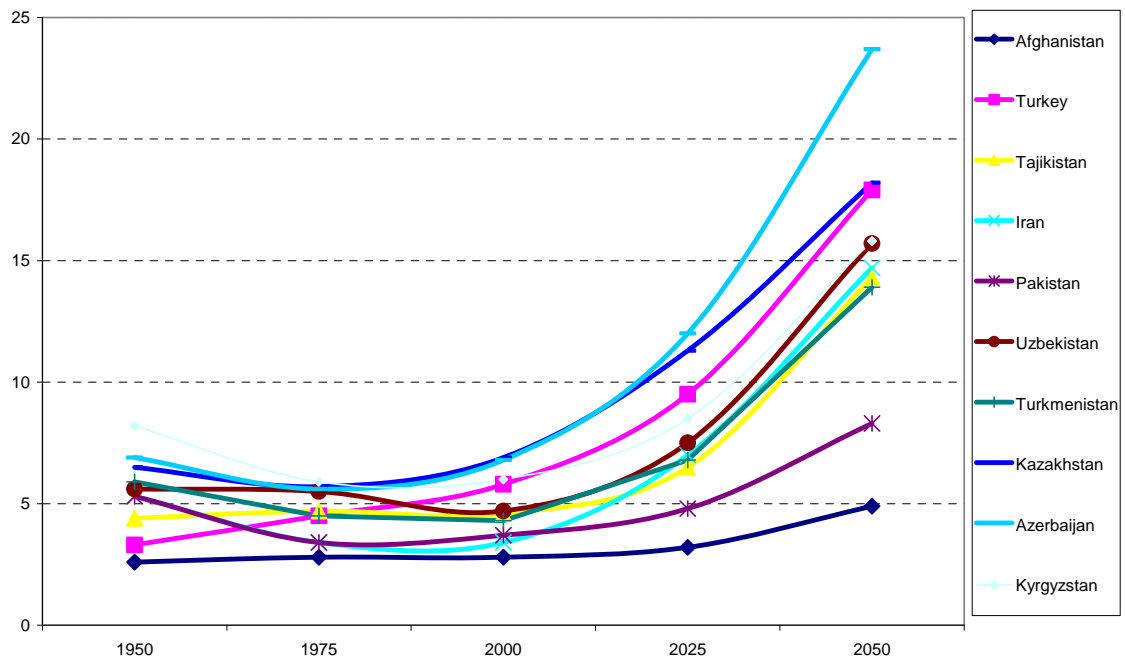ECO Countries between 1950-2050

Figure 11: Share (%) of elderly aged 65+ years of the population of
ECO Countries between 1950-2050

Thus only a small proportion of the population of ECO region could be regarded as aged, that is older than 60 or 65 years, during the second half of the 20th century. Much smaller was the share of the oldest of all that is people aged 85 + (Table 14).

Table 14. Share (%) of elderly aged 85+ years of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	0.1	0.2	0.2	0.3	0.5
Turkey	0.3	0.4	0.6	1.5	3.8
Tajikistan	0.4	0.8	0.7	1.1	3.2
Pakistan	0.5	0.4	0.4	0.7	1.4
Iran	0.5	0.3	0.4	0.8	2.6
Turkmenistan	0.6	0.7	0.6	0.9	3.1
Uzbekistan	0.6	0.9	0.7	1.2	3.6
Azerbaijan	0.8	1.2	1	2.3	7
Kazakhstan	0.8	0.9	1	1.7	4.2
Kyrgyzstan	1	1.1	0.8	1.3	3.6

Figure 12: Share (%) of elderly aged 85+ years of the population of
ECO Countries between 1950-2050
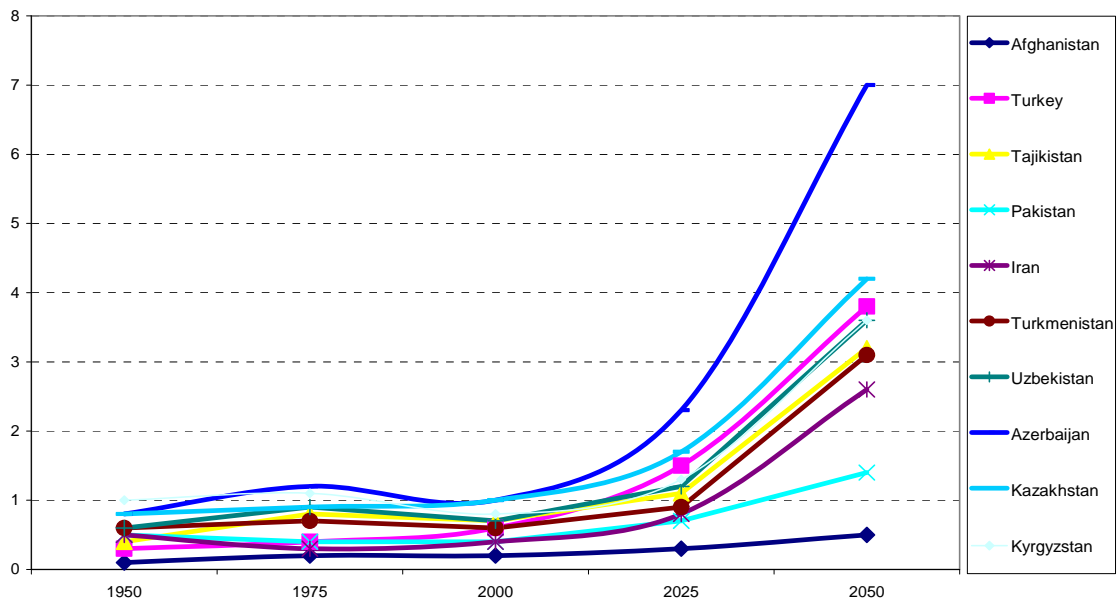
5.2. Median Age of the Population

Looking at the median age of the population too (Table 15) it would appear that the population of ECO countries was younger in 2000 than 1950 in seven of the ten countries. It had become older in Turkey, Azerbaijan, and Kazakhstan. Median age of the population will rise significantly during the first quarter of the 21st century. By 2025, it will be above 30 years in all but two countries (Afghanistan and Pakistan). It will rise above 35 years in 6 countries and above 40 years in two other countries by the middle of the century.

Table 15. Median Age (in years) of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	18.6	18.1	18.1	19.5	25.1
Turkey	20.1	19.3	24.9	33.2	38.7
Iran	21.1	17.5	19.9	31.1	37.5
Pakistan	21.2	19	18.9	22.8	31.8
Tajikistan	22.3	17.2	19.9	30.4	37.3
Azerbaijan	22.8	19.1	26.7	38.3	47.2
Kazakhstan	23.2	22.3	28	35.9	40.5
Turkmenistan	23.5	17.9	21.1	30.1	37.4
Uzbekistan	24.1	17.9	21.6	31.8	38
Kyrgyzstan	25.3	19.5	23.2	32.2	37.7

Figure 13 : Median Age (in years) of the population of ECO Countries between 1950-2050

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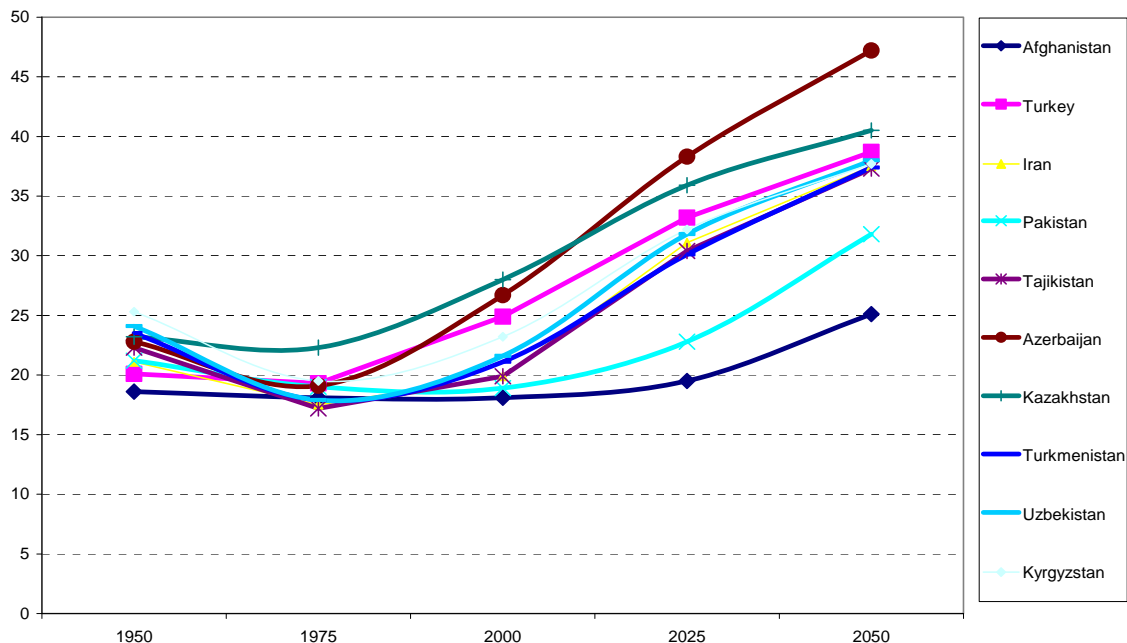
5.3. Life Expectancy at Birth

In 1950, the countries of the ECO region differed markedly (from 31.9 years in Afghanistan to 61.3 years in Azerbaijan) with respect to life expectancy at birth that is the average number of years a newborn could live if current age-specific mortality rates were to continue (Table 16). Countries from the Soviet Union had much higher (above 53 years) life expectancies than those outside the Soviet Union (between 31.9 and 44.1 years). By 1975 the range had been somewhat narrowed (from 39.7 to 68.5 years) with all but two countries (Afghanistan and Pakistan) having life expectancies above 56 years. By 2000, the range was further extended to 43.2 (Afghanistan) to 72.2 years and only one country (Afghanistan) had a life expectancy of less than 61 years. As expected, life expectancy at birth of women was generally longer than that of men (Tables 17 and 18). The difference in favor of women had become more noticeable in 2000. The superior position of women is also reflected in sex ratios of the elderly population aged 60+ to 80+ (Tables 19-21).

The first quarter of the new century will witness further rise in the life expectancy at birth of ECO region. By 2025 it will be above 72 years in eight of the ten countries. It will rise above 77 years in 8 countries. Even in 2050, however, Afghanistan's life expectancy at birth (62.4 years) will be only slightly higher than the level reached by Azerbaijan in 1950.

Table 16. Life Expectancy at Birth of the Population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	31.9	39.7	43.2	53.6	62.4
Azerbaijan	61.3	68.5	72.2	76.3	79
Iran	44.1	56.6	69.7	75.5	78.5
Kazakhstan	56.5	65.4	65	72.4	76.4
Kyrgyzstan	55.4	64.2	68.6	74.3	77.8
Pakistan	41	51	61	69.7	73.7
Tajikistan	55.7	64.5	68	73.7	77.3
Turkey	43.6	60.3	70.5	75.8	78.6
Turkmenistan	53	61.7	67.1	73.6	77.1
Uzbekistan	56.4	65.2	69.7	74.7	78.1

Table 17. Life Expectancy at Birth of Women of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	31.7	39.8	43.5	54	64
Azerbaijan	65	72.2	75.5	79.2	81.8
Iran	44.1	57	70.8	77.2	80.6
Kazakhstan	61.9	70.4	70.7	76.1	79.7
Kyrgyzstan	59.8	68.3	72.3	77.3	80.7
Pakistan	39.8	50.7	60.9	70.4	74.8
Tajikistan	58.4	66.9	70.8	76.2	79.8
Turkey	45.2	62.5	73.2	78.4	81.3
Turkmenistan	56.6	65.1	70.4	76	79.8
Uzbekistan	59.9	68.4	72.5	77.3	80.7

Table 18. Life Expectancy at Birth of Men of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	32	39.8	43	53	61
Azerbaijan	57.4	64.4	68.7	73.3	76.2
Iran	44.1	56.2	68.8	74	76.6
Kazakhstan	51.7	60.2	59.6	68.6	73
Kyrgyzstan	51.3	59.8	64.8	71.3	74.9
Pakistan	42.3	51.3	61.2	69.2	72.6
Tajikistan	53.3	61.8	65.2	71.2	74.8
Turkey	42	58	68	73.4	76
Turkmenistan	49.7	58.2	63.9	71.1	74.4
Uzbekistan	53.2	61.7	66.8	72.1	75.5

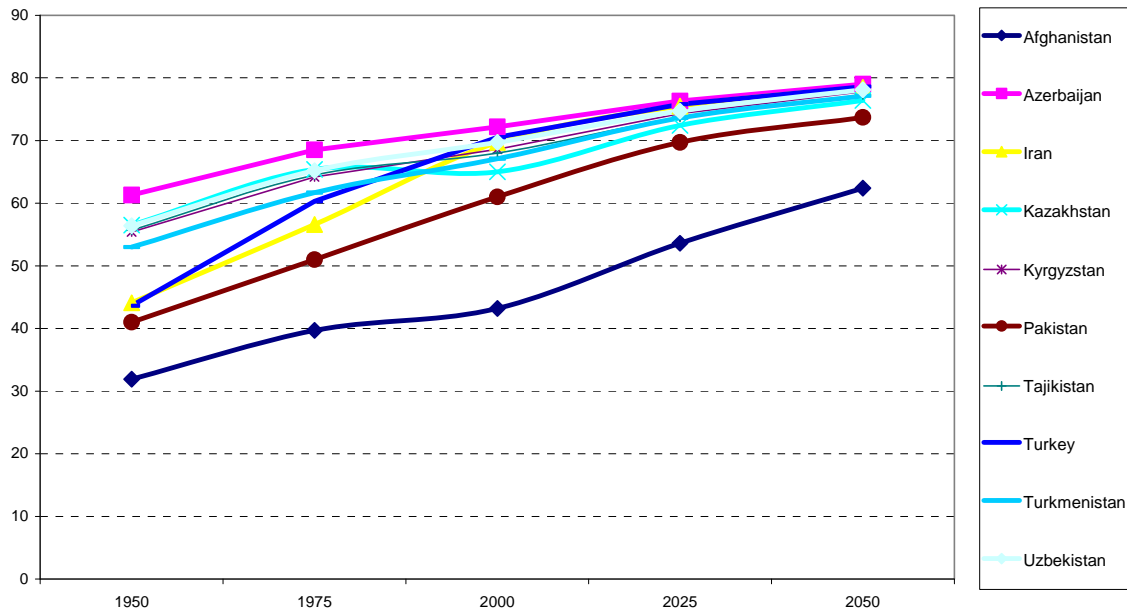## Figure 14: Life Expectancy at Birth of the Population of ECO Countries between 1950-2050

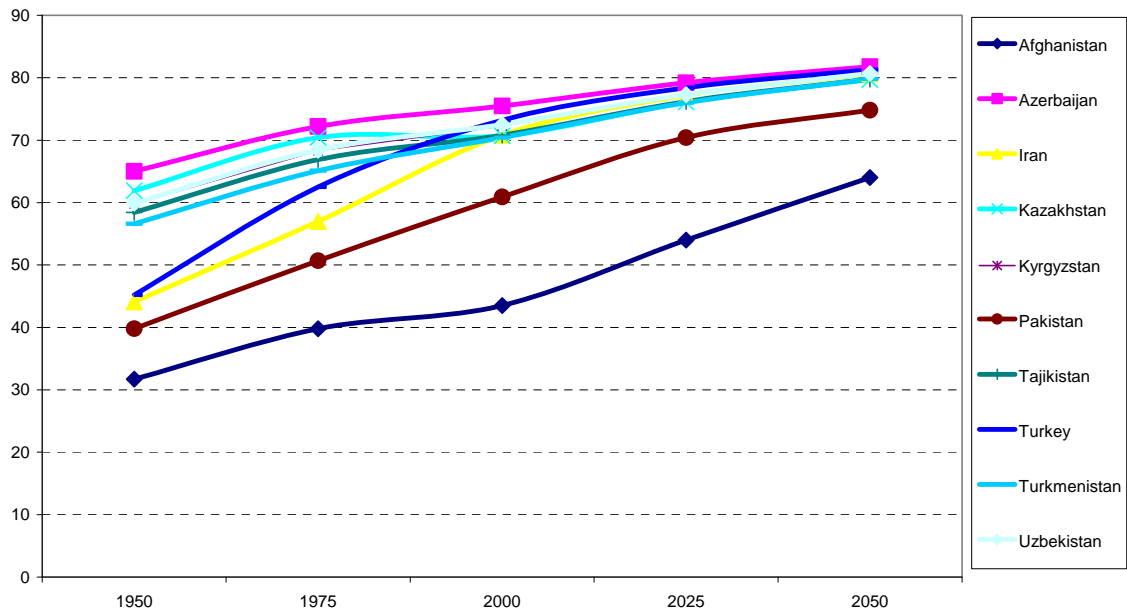## Figure 15: Life Expectancy at Birth of Women of ECO Countries between 1950-2050

Figure 16 : Life Expectancy at Birth of Men of ECO Countries
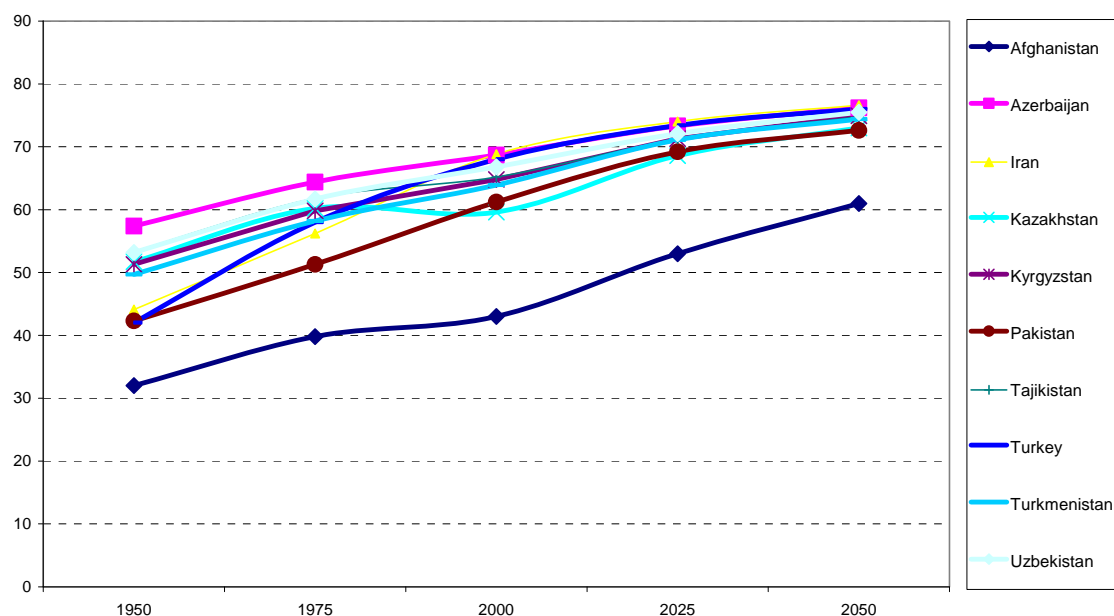between 1950-2050

Table 19. Sex Ratio of Persons aged 60+ years (Ratio of Men Aged 60+ to Women Aged 60+) in ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Turkey	60.4	95	86.5	86.5	83.2
Azerbaijan	81.7	56.9	71	72.7	81.7
Kyrgyzstan	92.9	56.4	66.6	75.2	79.7
Kazakhstan	93.4	51.9	59.8	65.6	71
Turkmenistan	96.8	65.7	71.7	76.7	82.1
Afghanistan	100.6	99.4	98.2	96.7	94.3
Tajikistan	101.4	72.8	78.1	82.4	84.9
Uzbekistan	104.5	67	74.2	81	83.2
Iran	109	95.8	93.7	93.2	89
Pakistan	134.1	119.1	100.3	99.7	89.8

Table 20. Sex Ratio of Persons aged 65+ years (Ratio of Men Aged 65+ to Women Aged 65+) in ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Turkey	65.1	89.2	85.2	82.9	79.4
Azerbaijan	78	55.1	65.5	69	76.7
Kyrgyzstan	85.5	55.7	59.7	70.8	74.6
Kazakhstan	87.4	50.1	50.6	59.8	64.8
Turkmenistan	91.4	66.4	64.5	72.6	77.2
Uzbekistan	99.3	70.6	67.1	77.2	78.4
Afghanistan	100.3	98.1	96.5	94.5	91.3
Tajikistan	100.9	73.5	71.4	79	80.2
Iran	109	94.1	90.9	90.3	84.3
Pakistan	141.1	121.2	99.4	100.4	86.9

Table 21. Sex Ratio of Persons aged 80+ years (Ratio of Men Aged 80+ to Women Aged 80+) in ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Turkey	46.5	64.2	66.3	62.7	54.4
Kyrgyzstan	66	60.1	33.8	50.6	54.6
Azerbaijan	67.3	54.3	32.4	48	54.5
Kazakhstan	68.5	50.4	27.1	35.9	41.9
Turkmenistan	73.8	64	39.4	54.9	58.1
Uzbekistan	87.7	71.2	40.4	58.9	58.3
Tajikistan	97	69.2	46	63	59.5
Iran	104.6	96	83	76.1	63.9
Afghanistan	105.4	97.3	90.8	86.2	78.1
Pakistan	139.7	130.6	112.5	94.8	81.9

Figure 17: Sex Ratio of Persons aged 60+ years (Ratio of Men Aged 60+ to
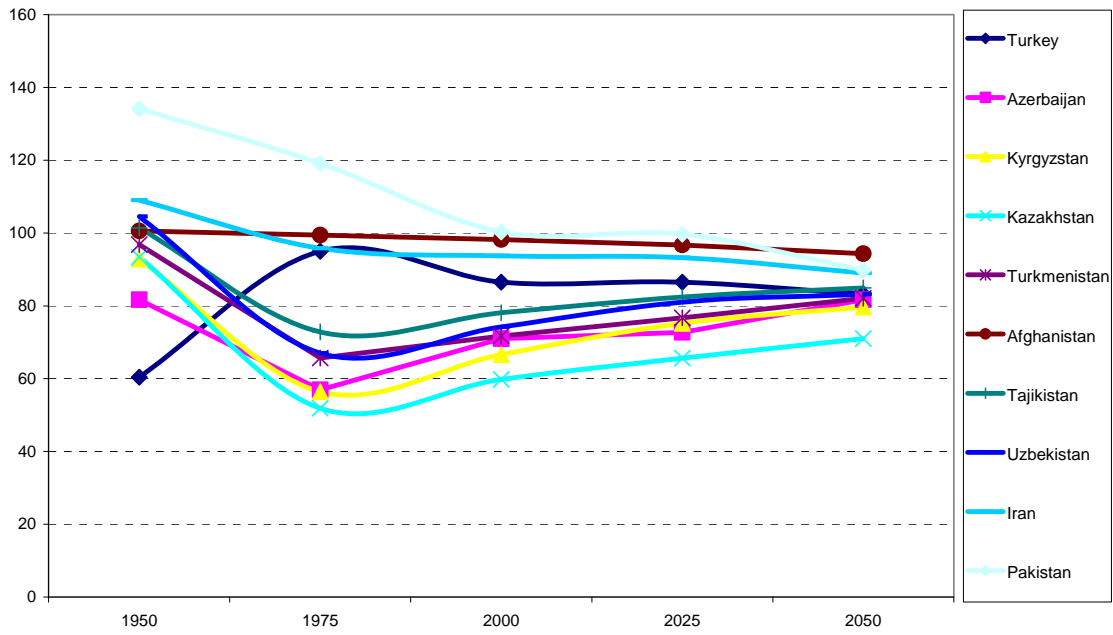Women Aged 60+) in ECO Countries between 1950-2050

Figure 18: Sex Ratio of Persons aged 65+ years (Ratio of Men Aged 65+ to
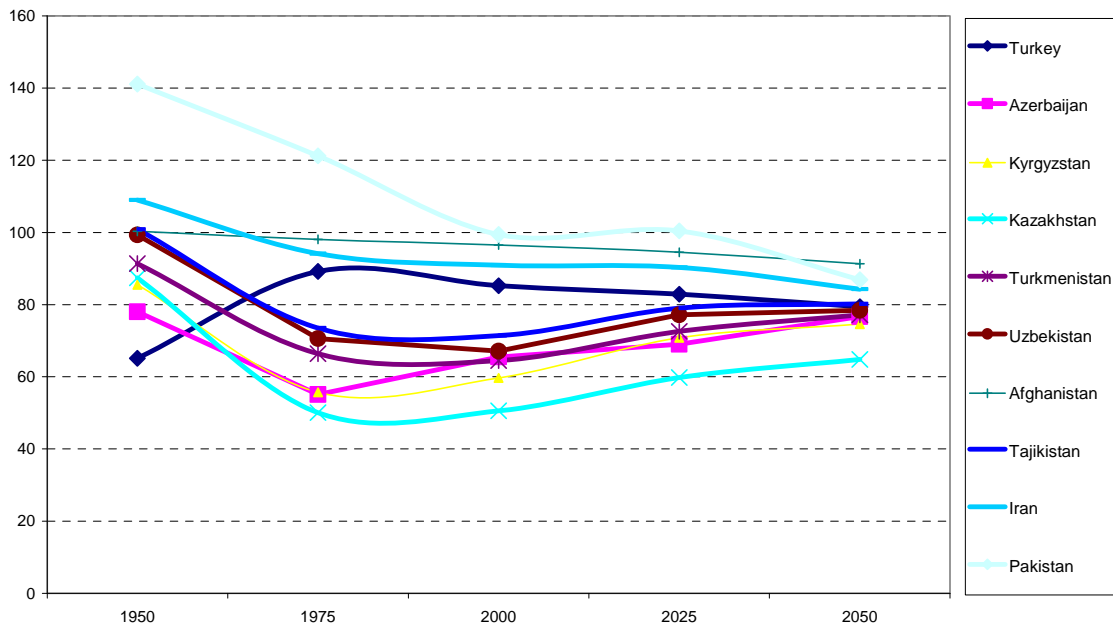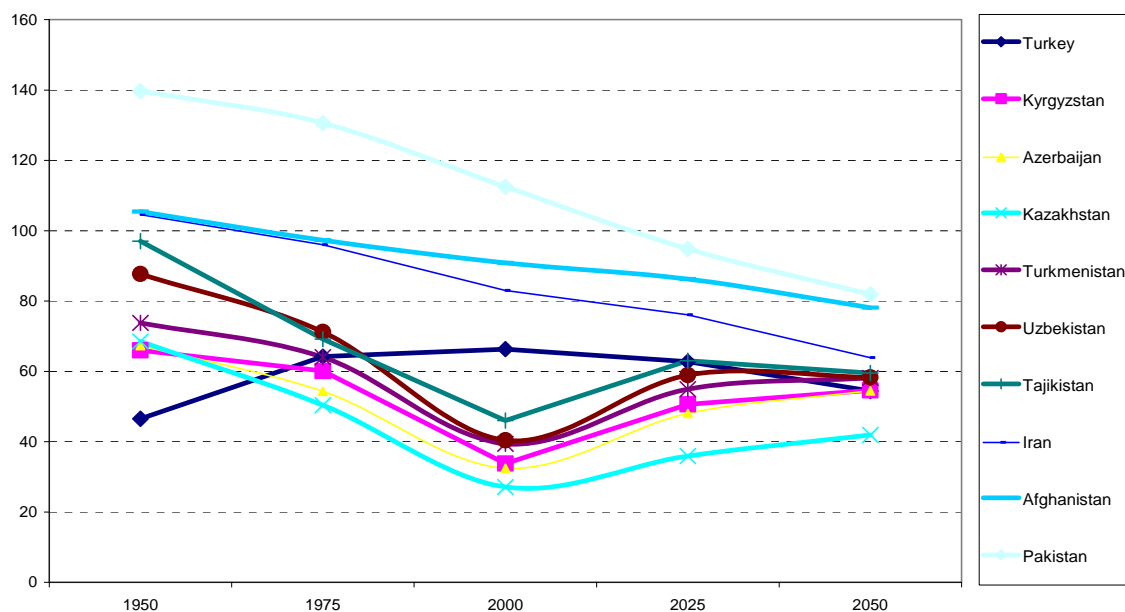Women Aged 65+) in ECO Countries between 1950-2050

Figure 19: Sex Ratio of Persons aged 80+ years (Ratio of Men Aged 80+ to
Women Aged 80+) in ECO Countries between 1950-2050

## 5.4. Old Age Dependency Ratio

In 1950, the old age dependency ratio of ECO countries (Table 22) varied between 4.7 (Afghanistan) and 13 (Kyrgyzstan). By 1975, the old age dependency ratios had dropped significantly in 6 countries but gone up in 4 others (Afghanistan, Turkey, Tajikistan and Uzbekistan) and the inter-country variations had dropped to between 5.2 (Afghanistan) to 10.9 (Kyrgyzstan). The end of the 20th century was marked by further drops in the old age dependency ratios of 5 countries while it had gone up slightly in five other countries.

**Table 22.Old Age Dependency Ratios (Ratio of people aged 65+ to population
aged 15-64 years) of the population of ECO Countries
between 1950-2050**

Country	1950	1975	2000	2025	2050
Afghanistan	4.7	5.2	5.3	5.6	7.7
Turkey	5.6	8.2	9	14	28.7
Tajikistan	7	9.4	8.2	9.6	21.8
Uzbekistan	8.9	10.8	7.9	11	24.3
Pakistan	9.4	6.2	6.7	7.9	12.1
Iran	9.6	6.6	5.7	10.3	22.5
Turkmenistan	9.6	8.6	7.3	9.8	21.1
Kazakhstan	11	9.5	10.4	16.6	28.4
Azerbaijan	11.3	10.2	10.6	17	38.8
Kyrgyzstan	13	10.9	10.1	12.6	24.6

By 2025 the old age dependency ratios of 8 countries are expected to rise above their 1950 levels while those of Pakistan (7.9) and Kyrgyzstan (12.6) will still be lower than their 1950 levels (9.4 and 13). The projected change is particularly striking in Azerbaijan (11.3 to 17.0), Kazakhstan (11.0 to 16.6) and Turkey (5.6 to 14.0). For 2050, all but two (Afghanistan, 7.7 and Pakistan, 12.1) of the ten countries are projected to have much higher old age dependency ratios than ever before. The values of old age dependency ratios will vary from 7.7 (in Afghanistan) to 38.8 (in Azerbaijan).

Figure 20 : Old Age Dependency Ratios (Ratio of people aged 65+ to population
aged 15-64 years) of the population of ECO Countries
between 1950-2050
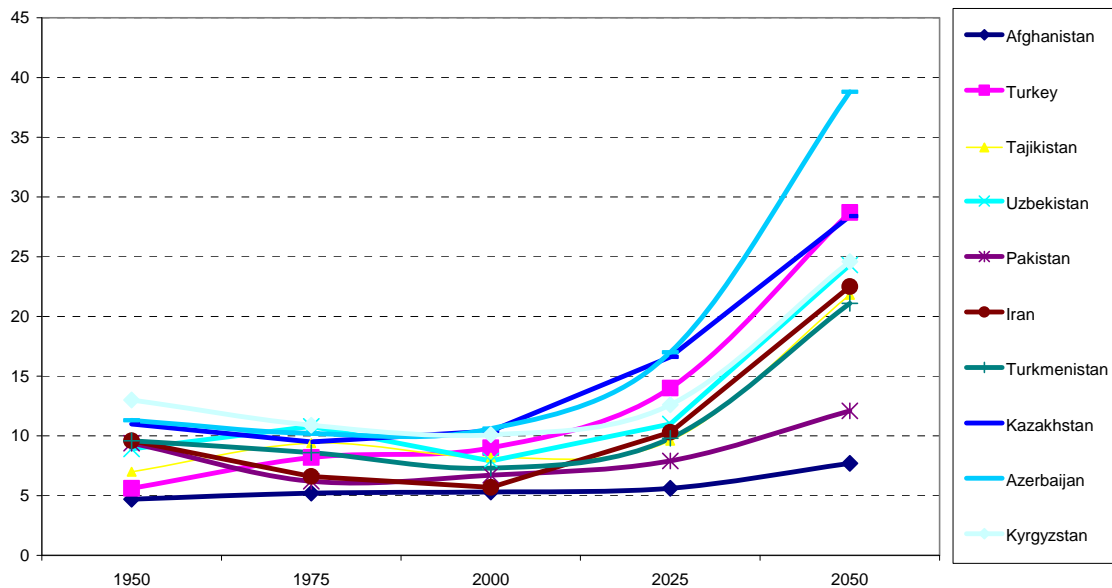

5.5. The Ageing Index

The ageing index (that is, the ratio of people aged 60 years and above to persons aged under age 15) of the 10 ECO countries in 1950 indicate interesting similarities and differences (Table 23). The ageing index of all but two (Afghanistan and Turkey) of the 10 countries were higher in 1950 than 1975. The differences are particularly impressive in ex-Soviet Union countries. By the end of the century, although the ageing index of all countries had increased in comparison with 1975 figures, in only four cases the ageing index had risen above its 1950 level.

The ageing index of all but two countries are expected to rise above 40 by 2025. Azerbaijan will lead the group with an ageing index of 105.1 followed by Kazakhstan with a figure of 81.5. By 2050 the ageing index of 7 countries will be above 100 while those of Afghanistan (25.4) and Pakistan (53.8) will remain at a much lower level.

Table 23. Ageing Index (Ratio of persons aged 60+ years to those aged under 15 years) of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	10.6	10.8	10.9	12.9	25.4
Turkey	15.5	17.1	28.1	63	117.9
Iran	21.1	12	14	41.8	107.8
Pakistan	21.7	13.1	13.8	21.1	53.8
Tajikistan	22.1	14.8	17.3	40.3	104.9
Uzbekistan	28.8	17.9	19.5	47.9	112
Turkmenistan	29	15.6	17.2	44.1	99.3
Kazakhstan	29.7	24.7	41.4	81.5	143.4
Azerbaijan	34.3	19.7	36.2	105.1	212.4
Kyrgyzstan	43.1	21.2	26.5	53.6	111.4

Figure 21 : Ageing Index (Ratio of persons aged 60+ years to those aged
under 15 years) of ECO Countries between 1950-2050
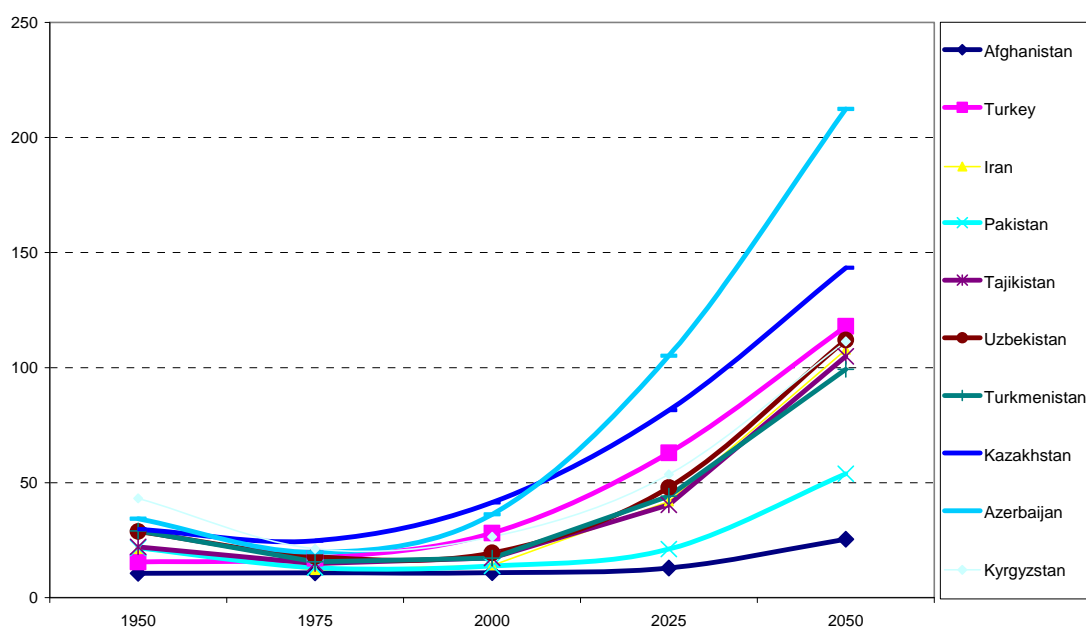
5.6. The Potential Support Ratio

In 1950 the potential support ratios (i.e., number of persons aged 15-64 divided by the number of those aged 65+ years) of ECO countries varied between 7.7 and 21.3, being below 10 in three countries (Kyrgyzstan, Azerbaijan and Kazakhstan) and above 14 in three others (Tajikistan, Turkey and Afghanistan) (Table 24). By 1975, it had risen noticeably in six countries (Kyrgyzstan, Azerbaijan, Kazakhstan, Iran, Turkmenistan, and Pakistan) but had dropped in four other countries (Uzbekistan, Tajikistan, Turkey and Afghanistan). The period 1975-2000 witnessed increases in 5 countries and decreases in five other. The projected figures for 2025 indicate a decrease in potential support ratios of all 10 countries which will be particularly impressive in Azerbaijan, Kazakhstan, Iran, and Turkey. The downward trend will continue during the second quarter of the 21st century so that by 2050 the potential support ratios of ECO countries will vary within the narrow range of 2.6 to 4.7, with only those of Pakistan (8.2) and Afghanistan (13.1) falling outside this range.

Table 24. Potential Support Ratios (Ratio of people aged 15-64 to population aged 65+ years) of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Kyrgyzstan	7.7	9.1	9.9	7.9	4.1
Azerbaijan	8.8	9.8	9.5	5.9	2.6
Kazakhstan	9.1	10.5	9.7	6	3.5
Iran	10.4	15	17.6	9.7	4.4
Turkmenistan	10.5	11.6	13.6	10.2	4.7
Pakistan	10.6	16.1	14.8	12.7	8.2
Uzbekistan	11.2	9.2	12.6	9.1	4.1
Tajikistan	14.2	10.7	12.2	10.5	4.6
Turkey	17.7	12.3	11.1	7.1	3.5
Afghanistan	21.3	19.4	18.9	17.8	13.1

Figure 22 : Potential Support Ratios (Ratio of people aged 15-64 to population aged 65+ years) of the population of ECO Countries between 1950-2050


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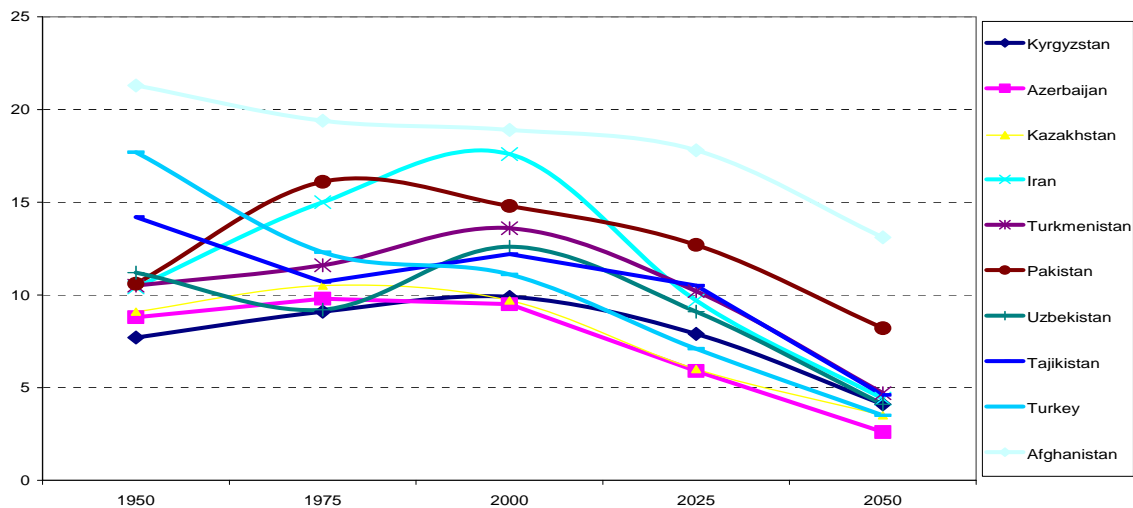
5.7. The Parent Support Ratios

In 1950, parent support ratios (that is he number of persons aged 85+ years per one hundred persons aged 50-64 years) varied within the narrow range of 0.3 and 3.1 (Table 25). By 1975 the range had changed to between 0.4 and 8.8%. At the end of the century, the ratio had changed little in six countries but had changed noticeably in Turkey (from 1.3 to 2.9), Tajikistan (from 4.8 to 5.4), Kyrgyzstan (from 5 to 4.6) and Azerbaijan (from 8.8 to 5.9). The ratio is expected to continue rising during the 21st century. By 2025, all but one (Afghanistan) of 10 ECO countries are expected to have parent support ratios above 2 (the range being 2.0 to 7.6). Expected figures for 2050 will be much higher, with only one country (Afghanistan) is having a parent support ratio below 2, two other countries lying between 4 and 5.3, five countries between 7 and 10, and two others are lying between 11 and 16.

Table 25. Parent Support Ratios (Ratio of people aged 85+ to population aged 50-64 years) of the population of ECO Countries between 1950-2050

Country	1950	1975	2000	2025	2050
Afghanistan	0.3	0.4	0.5	0.7	1.2
Turkey	0.9	1.3	2.9	3.6	9.2
Iran	1.4	1.2	1.3	2	5.3
Pakistan	1.7	1.9	1.8	2.9	4
Tajikistan	1.7	4.8	5.4	4.9	7.7
Uzbekistan	1.9	5	5.2	4.6	9
Turkmenistan	2	3.8	3.8	3.6	7.6
Kazakhstan	2.6	4	4.2	5.7	11.1
Kyrgyzstan	2.8	5	4.6	5	9.1
Azerbaijan	3.1	8.8	5.9	7.6	15.7

Figure 23 : Parent Support Ratios (Ratio of people aged 85+ to population aged 50-64 years) of the population of ECO Countries between 1950-2050

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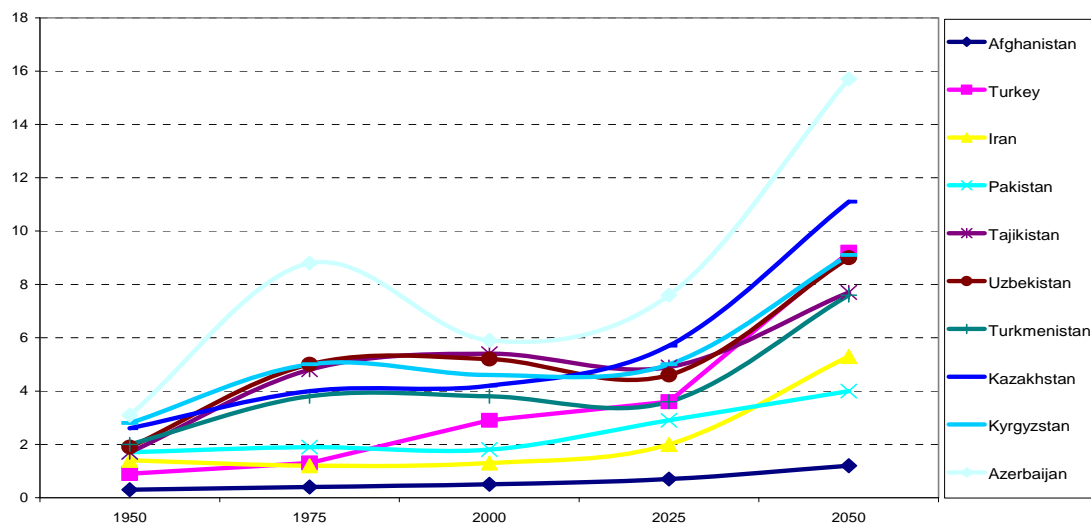
6. Future Prospects

The end of the 20th century witnessed a fertility decline in almost all parts of the world. With some significant exceptions, countries of the ECO region have experienced a similar decline. Turkey, the most Westernized member of the group, led others in this respect while the relatively more developed members of the Soviet Union manifested great variations. Iran which had shown some promising signs of fertility decline in mid-1970s changed course after the revolution and experienced one of the highest rates of population growth between 1979-1989. This was not unexpected in view of the enormous changes in public attitudes and government policy following the revolution. The growth rate revealed by the 1986 census (3.9%) was so dramatic that the UN had to revise its earlier projections for Iran and foresee higher fertility and growth rates for the next two decades. It also forced Iranian authorities to adopt an explicitly antinatalist policy and revive the family planning program (1989). As a result, Iran surprised most observers by dramatically high and rapid fertility decline between 1986-1996 which brought her back to the rank of developing countries like Turkey.

Burdened by a destructive civil war and resurgence of highly fanatic religious groups, Afghanistan has lagged behind all other members of the ECO region in terms of demographic transition. Although no reliable data are available, it is believed to be at an early stage of demographic transition when falling mortality rates are only likely to result in higher rates of population growth. Thus, the population of Afghanistan remains one of the youngest in the region with only 2.8% being 65+ years at the end of the 20th century. The figure is expected to rise to 3.2% by 2025 and be only 4.9% by 2050.

Pakistan, although not afflicted by problems facing Afghanistan and despite a long- standing official policy of family planning is not much different from Afghanistan. In comparison with Iran, where an allegedly fundamentalist regime has effectively pursued a successful fertility control policy, the conservative Islamic groups vying for power in Pakistan have effectively undermined official policies aimed at modernization, including birth control. As a result, contraceptive prevalence rate of Pakistani couples have remained at a low level, fertility rates have not fallen to any significant extent, and the age structure continues to be dominated by youth.

Despite evidence of very low fertility and growth rate and clear signs of ageing in 8 of the 10 members of the ECO, the population of the region will continue to grow over the next fifty years. Most of this increase will moreover take place in Pakistan (from 141 to 344 million) and Afghanistan (from 21.76 to 72.26 million). The relative share of the six Central Asian countries of the total population of the region will dwindle to 12.54% by 2025 and will stand at 11.06% by 2050. Afghanistan and Pakistan will account for over half of the population of the region by 2025 and almost 60% of it by 2050. Consequently, despite their lower ageing indices, these two countries will account for the majority of the aged population in the ECO region.

7. Discussion and Conclusions

The ten countries of ECO region present a broad spectrum in terms of population size, demographic transition and level of socio-economic development. At the threshold of the new century, the population of member states varied between 4.7 million (Turkmenistan) and 142.9 million (Pakistan). Their per capita GDP ranged from as low as 127 US dollars (in Afghanistan) to as high as 2900 US dollars (in Turkey), six of them having a per capita GDP below 670 US dollars. Despite their prolonged common experience of being part of the Soviet Union, the six

ex-Soviet block countries also vary noticeably with regard to per capita income, level of human development, and demographic transition. Marked variations in terms of crude birth and death rates among these six countries as well the remaining four were observable from the beginning of the observation period (1950). By 1980 crude birth rates had dropped significantly in Azerbaijan, Kazakhstan and Kyrgyzstan. By the end of twentieth century, only three countries had CBRs above 30. By this time, the population growth rate had fallen below 1 in Azerbaijan and Kazakhstan had a marked negative growth rate (-1.08). Between 2000-2005, the growth rate had fallen below one in three countries and was above 2 in only Afghanistan (4.59) and Pakistan (2.04).

A combination of falling birth and death rates and rising life expectancy at birth have contributed to rapid ageing of the countries of ECO region. By the end of the 20th century, the ageing index had risen above 10 in all ten countries. It was considerably higher in Kazakhstan (41.4), Azerbaijan (36.2), Turkey (28.1) and Kyrgyzstan (26.5) buy fell below 20 in the remaining six countries. The very low ageing index of Tajikistan (14) and Turkmenistan (17.2) is particularly worth noting. The ageing index of all ten countries are expected to rise rapidly during the first quarter of the 21st century so that by 2025 only Afghanistan will have an ageing index below 15 and Pakistan will have an ageing index of 21.1. By the year 2050, the ageing indexes of all but three of the ECO countries will be above 100. This means that people aged 60 and over will outnumber children aged below 15. The three exceptions are Afghanistan (25.4), Pakistan (53.8)

and Turkmenistan (99.3). While only 15.7 million of the population of ECO region were aged 65 and older in 2000, the number will rise to 35.69 million by 2025 and 82.65 million by 2050. Of this number over 32 million (or 38.8%) will be living in the two poorest and least developed members of the region that is Afghanistan and Pakistan. The six ex-Soviet countries will include just over 15 million of the population aged 65+. Thus, all countries of the region will be burdened by unprecedentedly large numbers of elderly. The burden will present the fledgling social security and retirement systems with huge problems. The increasing number of the oldest of the old, that is those aged 85+, will also pose the regions health care system with enormous problems. Increasing urbanization and disappearance of the traditional extended family network will no doubt will add new dimensions to the problem of ageing in this area of the world. In view of their larger population size and relative share of the elderly, Afghanistan and Pakistan are likely to shoulder even a higher burden of ageing despite the relative youth of their population.

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