

Population Projections for Mongolia: 1989-2019

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This note provides updates of the population projections prepared by the State Statistical Office of Mongolia in 1989. The exercise is justified for two reasons. First, as has been the case with other former socialist countries, Mongolia has recently been experiencing substantial economic, social and political transformations that will certainly have a major impact on its future population dynamics. Second, during the last four years, there have been substantial deviations in fertility and mortality trends from those that were foreseen some time ago. In part, these changes have occurred as a result of the transformations that are going on in the country, but mainly because of major changes in population policies. Past and recent population trends in Mongolia, as well as shifts in population policies, are described and examined in the lead article of this *Journal* starting on page 3.

The current national leaders have come to recognize the importance of factors that affect, and are affected by, socio-economic development. One such factor that is recognized as crucial is population. The emphasis that the present administration places on population is unparalleled in the country's history.

This interest emerges during a period of great perplexity for the country with regard to its economic and social future. Currently, Mongolia is suffering from the worst economic crisis of its recent history. It is very difficult to predict when the economy will begin to emerge from the collapse which it is currently experiencing, and whether or not it will be able to generate enough employment and higher salary levels, and when the transition towards a market economy will be completed. The lack of knowledge with respect to what will occur vis-a-vis the country's population dynamics in the next two or three decades is an uncertainty that must be added to the rest.

Aware of this growing need for information, the State Statistical Office (SSO), with the support of UNDESSED and UNFPA, prepared the new projections contained in this note. In most countries, population projections have become essential items of information for both the Government and the private sector. Any development plan should consider in advance, for example, what is going to be the size of the labour force, what will be the housing needs and the demand for schools and for health services. The information on these needs comes from data on the future population size, its age distribution, its rate of growth etc.

In Mongolia, because of the economic and social transformations currently under way, and because of the recent changes in the country's population dynamics, population projections are particularly important. It is expected that the results of these projections could become a useful contribution for the design and formulation of public policies oriented towards accelerating social and economic development in the country.

Methodology

A standard cohort component method was used in preparing these projections. Using this approach, each five-year cohort was advanced through time in five-year increments (Shryock and Siegel, 1976). In other words, this method yields the projected population by sex and five-year age groups for the end of each quinquennium of the projection period, in this case, for each quinquennium between 1989 and 2019. The base population used in these projections is the adjusted 1989 census population. As mentioned in another section of this issue of the *Journal*, the method used for the adjustment was consistent correction. A brief description of this technique is presented in the section entitled "Sources of data" in the article beginning on page 3. The computer program DEMPROJ was utilized to perform the projections (United Nations, 1991).

Because of the evident uncertainties regarding future population changes, it is desirable to present more than one projection. These different projections represent combinations of assumptions concerning one or more of the components of population change. The most common practice is to prepare three projections which are called high, medium and low variants according to the assumptions made concerning the impact on population growth of the assumed changes in the components.

The projection of mortality

The level of mortality (expectation of life at birth) was projected by assuming that, during the projection period, it will continue to decline at the same pace as in the past two decades. The four values of expectation of life at birth corresponding to

the four quinquennia were incorporated within a linear equation and, using this equation, expectations of life at birth were extrapolated up to the period 2014-2019. The procedure was applied separately to males and females. Table 1 and figure 1 show the respective data.

Table 1: Mongolia: projection of expectation of life at birth

(years)

	Quinquennium	Male	Female
Estimated	1969-1974	56.3	59.4
	1974-1979	58.3	62.1
	1979-1984	58.0	61.6
	1984-1989	58.5	62.4
Projected	1989-1994	59.4	63.5
	1994-1999	60.0	64.4
	1999-2004	60.6	65.2
	2004-2009	61.2	66.1
	2009-2014	61.9	66.9
	2014-2019	62.5	67.8

Figure 1: Projection of expectation of life at birth

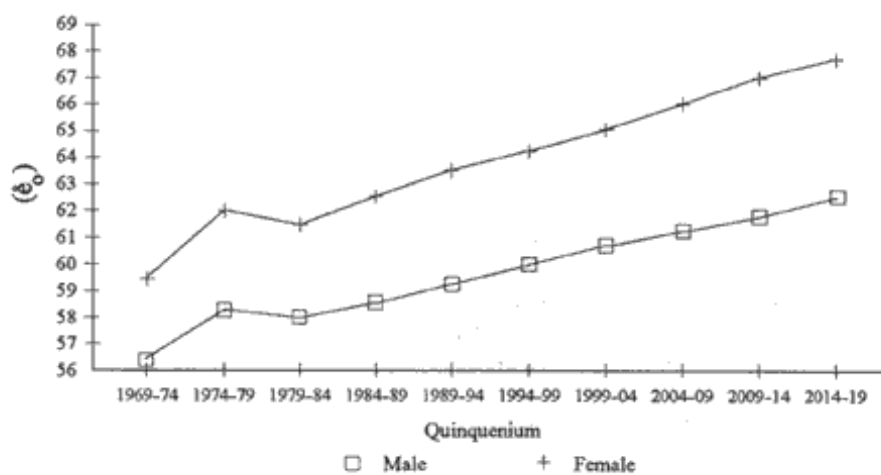
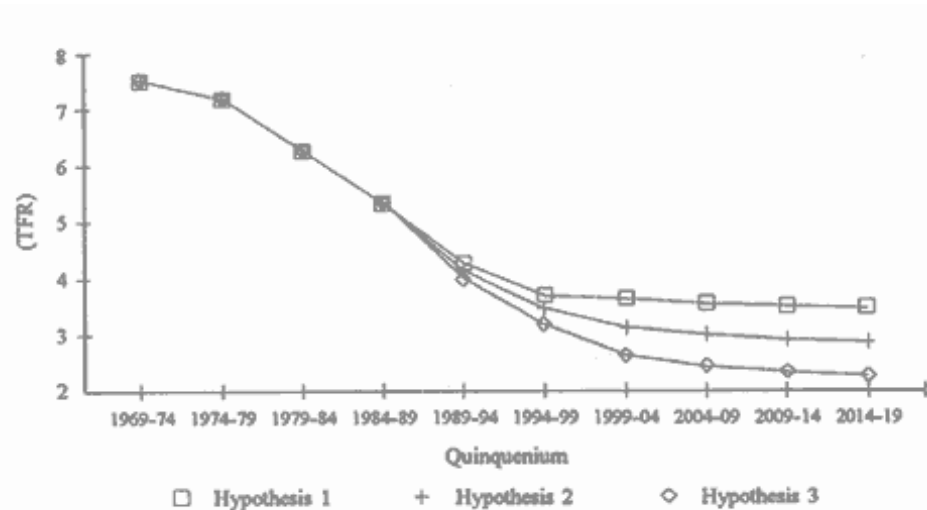


Table 2: Mongolia: projections of total fertility rate

Quinquennium	Estimated	Projected		
		Hypothesis 1	Hypothesis 2	Hypothesis 3
1969-1974	7.5342			
1974-1979	7.2441			
1979-1984	6.3408			
1984-1989	5.3964			
1989-1994		4.2883	4.2250	4.1618
1994-1999		3.7515	3.4680	3.1845
1999-2004		3.5721	3.1019	2.6317
2004-2009		3.5200	2.9483	2.3767
2009-2014		3.5055	2.8878	2.2702
2014-2019		3.5015	2.8645	2.2275

Figure 2: Projections of total fertility rates



It is important to note that the differences in male and female expectations of life at birth are assumed to increase through time. This trend has been observed in most countries: as mortality declines, the differences between male and female mortality increase. In addition, the observed expectation of life during the four past quinquennia already shows this trend.

The age structure of mortality is assumed to remain constant during the complete projection period. During the past two decades, it has not experienced any major changes and there is nothing to suggest that it may change in the future. Therefore, the mortality structure observed in the period 1984-1989 was assumed for the complete projection period. The sub-routine MATCH, from the United Nations (1988) computer program for mortality analysis, MORTPAK, was used to compute the life tables which correspond to the projected expectations of life at birth.

The projection of fertility

The procedure used here to project fertility is based on the demographic transition theory which assumes that this variable, when at an historical high and relatively stable level, will decline to a much lower level which is also comparatively stable. This decline can be described through a logistic curve where fertility is expressed in terms of total fertility rates (TFR) or gross reproduction rates (GRR). This curve usually plots as an inverted S-shape when used to represent these rates (see CELADE, 1984; United Nations, 1956).

Using the logistic function as a tool to project fertility, three hypotheses were proposed: in Hypothesis 1, fertility was assumed to follow a logistic pattern in the future that will stabilize at a level corresponding to a TFR of 3.5 children per woman. This figure was chosen mainly because a recent survey, previously cited, reveals that the desired family size among young Mongolian women is approximately 3.5 children (SSO, 1989).

In another hypothesis (Hypothesis 3), fertility was also assumed to follow a logistic trend but, in this case, the decline will be almost linear up to the period 1990-2004. After that, it will continue to decline but at a slower pace and up to the replacement level. This level corresponds to the fertility necessary for a population to replace itself (approximately 2.23 children per woman in the case of Mongolia during that period). The replacement level would be reached during the last quinquennium of the projection period. In a number of countries that have already completed their fertility transition, their fertility has stabilized at a level corresponding to replacement. Hypotheses 1 and 3 can be considered as representing the lower and upper limits of fertility decline. It is very unlikely that, at the end of the projection period, fertility will reach values below the replacement level or higher than 3.5 children per woman. However, these two values should be considered more as extreme limits than the most plausible levels for the future. A fertility level of 3.5 children per woman seems too high for the end of the projection period, especially considering the rapid decline in fertility experienced by the Mongolian population during the 1980s. On the other hand, stabilization at the replacement level would seem to reflect a fertility level too low, especially considering that in some rural areas fertility is still quite high and that the traditional preference for large families still prevails in some areas and segments of Mongolian society.

For this reason, a third hypothesis was proposed (Hypothesis 2). It represents an intermediate situation between Hypothesis 1 and 3. The TFRs projected by means of this hypothesis are considered as the most plausible future trend of fertility. The fertility trends proposed by these three hypotheses are presented in [table 2](#) and [figure 2](#).

As mentioned in a previous section, the age structure of fertility has experienced major changes during the past decade. In other words, the decline in fertility level is being accompanied by a change in the pattern of age-specific fertility rates. Therefore, it was considered necessary to project not only the level of fertility but also its age composition.

The age structure of fertility was assumed to follow in the future the trend observed in the past two decades, that is, as fertility continues to decline, the age structure will become more concentrated in the younger age groups. In other words, the mean age of fertility will become lower and the variability of the distribution smaller.

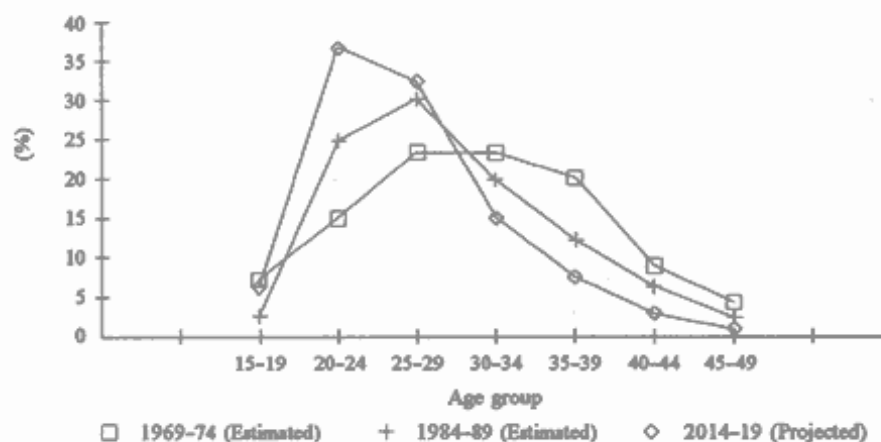
A method based on the linearized Gompertz function was used to project the age structure of fertility. The technique involves essentially representing accumulated age-specific fertility rates by the Gompertz function previously linearized by a logarithmic function in such a way that a linear equation is obtained (see, for example, CELADE, 1984; Martin, 1967; Romaniuk and Tammy, 1969; Wunsh, 1966).

Table 3: Mongolia: projections of the age structure of fertility

(per cent)

Age group	1989-1994	1994-1999	1999-2004	2004-2009	2009-2014	2014-2019
15-19	3.4	3.7	4.0	4.4	5.0	5.7
20-24	26.6	28.8	31.0	33.2	35.2	37.1
25-29	31.6	32.2	32.6	32.8	32.5	32.0
30-34	19.7	18.8	18.0	17.0	16.0	15.1
35-39	11.4	10.3	9.3	8.4	7.6	6.9
40-44	5.7	4.9	4.1	3.5	3.1	2.7
45-49	1.6	1.2	1.0	0.8	0.6	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0

Figure 3: Age structure of fertility



In these projections, it was assumed that the age structure of fertility would be the same for the three fertility-level hypotheses already formulated. Table 3 shows the respective information and figure 3 shows the distributions for the periods 1969-1974, 1984-1989 and 2014-2019.

The article beginning on page 3 of this issue of the *Journal* suggests that official population policies regarding fertility had a significant impact on fertility trends in the recent past. Therefore, it is important to make some reference here to the current situation and possible future developments.

Although a formal population policy has not been formulated, some sectors in the Government are alarmed by the recent sharp decline in birth rates mainly because they consider that the size of the population is too small and the rate of growth is too slow. It is important to mention that Mongolia is experiencing a revival of its traditions and culture, and the idea of a sustained population increase is considered as a positive contribution to maintain the national identity and to strengthen the country as a nation. However, this idea is not part of any development plan or economic growth strategy. Actually, there is not much understanding of the future economic and social consequences of more rapid population growth.

On the other hand, the Government is also quite concerned about the high levels of infant and maternal mortality, and also with the fact that couples really want to regulate their fertility. Thus, it is quite difficult for the Government to revive the past policy of limiting the use of contraception, or to change the abortion law. It is even possible that an official family planning programme will be implemented in the near future as part of a broader maternal and child health care programme. Therefore, it is relatively safe to predict that fertility will continue to decline in Mongolia.

Net international migration

As mentioned previously, international migration in the past has been negligible in Mongolia. Nevertheless, it seems that this situation may change in the future. The new administration has not yet issued a formal migration policy, but some changes can be observed. To begin with, the severe restrictions placed on travel abroad for Mongolian citizens have been relaxed and, because of the effects on employment of the economic crisis, there is not as much concern as previously with respect to eventual labour shortages as a result of emigration. This change of attitude is reflected in the migration of a large number of Mongolian citizens of Kazakh descent to the Republic of Kazakhstan. It is estimated that during 1990, some 12,000 Kazakhs left Mongolia. Unfortunately, exact figures are not available.

A decision with regard to immigration has not been taken either, but, considering the geo-political situation of the country and the economic problems that it faces, it is not likely that it will adopt a policy of facilitating or stimulating immigration. However, if a policy favourable to immigration is adopted, a significant migration from China could be expected, in particular from Inner Mongolia.

There is little doubt that international migration will have an impact on Mongolia's population -- probably not in the next few years, but certainly during the next quinquennium. However, the situation is too uncertain for one to consider the migration component in these projections. Since it is not possible to risk a future estimate, it is assumed that international migration will continue to be negligible in the next 30 years in spite of the fact that this possibly will not be the case.

Population projections

Based on the projections of mortality and fertility, three population projections were performed:

Projection 1: In this projection, it is assumed that mortality will follow the proposed linear trend. Fertility is assumed to follow the trend proposed in Hypothesis 1. This projection can be considered as the high variant or the projection that will result in the largest population.

Projection 2: Mortality is assumed to follow the same declining linear trend of fertility proposed in Hypothesis 2. This projection represents the medium variant. This variant can be considered as the "recommended projection", that is, the projection that describes the most likely population size and structure for the future.

Projection 3: The assumptions regarding mortality are the same as in the other two projections. Fertility is assumed to follow the trend proposed in Hypothesis 3. This projection can be considered as the low variant, that is, the projection that will produce the smallest population size.

It is important to mention that the component that will determine the future population size and structure in Mongolia is fertility. Mortality has a secondary role and even if its decline is more rapid than is assumed here, it will not affect substantially the future population.

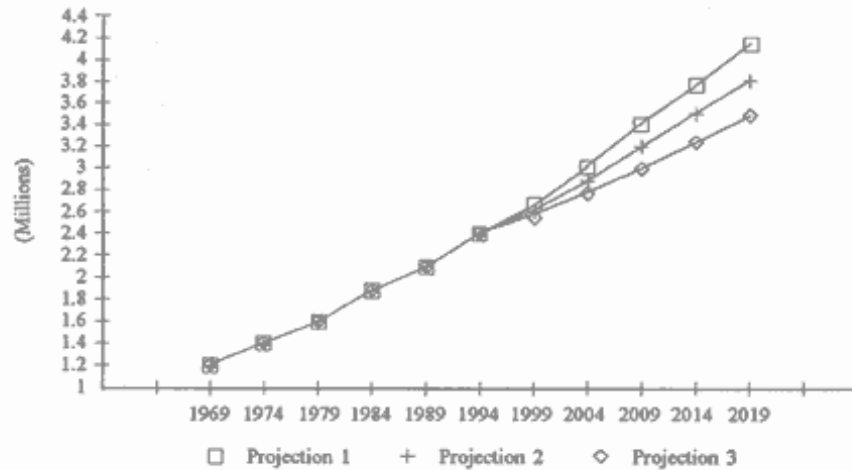
Table 4 shows the total populations obtained with the three projections (see also figure 4).

Table 4: Mongolia: projections of the total population

Year	Projection 1	Projection 2	Projection 3
1969	1,196,307	1,196,307	1,196,307
1974	1,405,820	1,405,820	1,405,820
1979	1,602,346	1,602,346	1,602,346
1984	1,873,228	1,873,228	1,873,228
1989	2,119,965	2,119,965	2,119,965
1994	2,388,345	2,383,047	2,377,803
1999	2,661,186	2,628,777	2,595,787
2004	2,982,962	2,898,747	2,813,538
2009	3,347,028	3,190,883	3,034,249

2014	3,750,216	3,505,158	3,261,177
2019	4,180,091	3,827,981	3,482,194

Figure 4: Projections of the total population



According to Projection 2 (the most probable), the population of Mongolia will be almost 3.8 million in the year 2019. Projections 1 and 3 give total populations of 4.2 and 3.5 million, respectively. Since only the level of fertility differentiates the results of these projections, its impact on the size of the population is quite clear. The difference between a TFR of 2.2 and 3.5 for the last quinquennium of the projection period resulted in a difference of around 700,000 people. The difference between Projections 1 and 2 is not that large: about 400,000 people. It is also important to mention that the three projections give relatively similar population sizes for the rest of the present century. For 1999, for example, the difference between Projections 1 and 3 is approximately 70,000 persons. Considering the fertility assumptions adopted for these projections, it is not very likely that the size of the population at the turn of the century will be much smaller than 2.6 million or larger than 3 million. What is more uncertain is the scenario for the second decade of next century.

Table 5: Mongolia: population projections - indicators of age and sex structure

Projection 1	1989	1994	1999	2004	2009	2014	2019
Total	2,119,965	2,388,344	2,661,186	2,982,962	334,7028	375,0215	4,180,091
Males	1,057,661	1,194,025	1,333,524	1,494,346	167,5900	187,6897	2,090,128
Females	1,062,304	1,194,319	1,327,662	1,488,616	167,1128	187,3318	2,089,963
0-4	343,856	347,867	362,556	399,834	449,126	497,946	535,179
5-14	559,004	628,160	673,265	692,900	745,090	831,312	929,063
15-64	1,125,246	1,329,353	1,550,669	1,809,063	2,060,130	2,323,529	2,603,751
65+	91,859	82,965	74,696	81,166	92,682	97,429	112,098
% male	49.9	50.0	50.1	50.1	50.1	50.0	50.0
% female	50.1	50.0	49.9	49.9	49.9	50.0	50.0
% 0-4	16.2	14.6	13.6	13.4	13.4	13.3	12.8
% 5-14	26.4	26.3	25.3	23.2	22.3	22.2	22.2
% 15-64	53.1	55.7	58.3	60.6	61.6	62.0	62.3
% 65+	4.3	3.5	2.8	2.7	2.8	2.6	2.7
Females 15-49	487,278	579,792	686,019	802,893	900,092	981,536	1,072,542
% females 15-49	23.0	24.3	25.8	26.9	26.9	26.2	25.7
Sex ratio	99.6	100.0	100.4	100.4	100.3	100.0	100.0

Dependency ratio	0.802	0.734	0.668	0.604	0.580	0.572	0.562
Median age	18.4	19.1	20.0	21.1	22.1	22.9	23.4
Projection 2	1989	1994	1999	2004	2009	2014	2019
Total	2,119,965	2,383,074	2,628,777	2,898,747	3,190,883	3,505,158	3,827,981
Males	1,057,661	1,191,350	1,317,087	1,451,662	1,596,823	1,752,858	1,912,021
Females	1,062,304	1,191,724	1,311,690	1,447,085	1,594,060	1,752,300	1,915,960
0-4	343,856	342,596	335,292	347,407	376,028	407,426	426,144
5-14	559,004	628,160	668,120	661,111	667,153	708,365	768,536
15-64	1,125,246	1,329,353	1,550,669	1,809,063	2,055,019	2,291,938	2,521,202
65+	91,859	82,965	74,696	81,166	92,682	97,429	112,098
% male	49.9	50.0	50.1	50.1	50.0	50.0	49.9
% female	50.1	50.0	49.9	49.9	50.0	50.0	50.1
% 0-4	16.2	14.4	12.8	12.0	11.8	11.6	11.1
% 5-14	26.4	26.4	25.4	22.8	20.9	20.2	20.1
% 15-64	53.1	55.8	59.0	62.4	64.4	65.4	65.9
65+	4.3	3.5	2.8	2.8	2.9	2.8	2.9
Females 15-49	487,278	579,792	686,019	802,893	897,567	965,912	1,031,685
% females 15-49	23.0	24.3	26.1	27.7	28.1	27.6	27.0
Sex ratio	99.6	100.0	100.4	100.3	100.0	100.0	99.8
Dependency ratio	0.802	.730	0.647	0.557	0.508	0.487	0.474
Median age	18.4	19.2	20.7	21.9	23.3	24.7	25.9
Projection 3	1989	1994	1999	2004	2009	2014	2019
Total	2,119,965	2,377,803	2,595,787	2,813,538	3,034,249	3,261,177	3,482,193
Males	1,057,661	1,188,675	1,300,355	1,408,474	1,517,498	1,629,365	1,737,117
Females	1,062,304	1,189,128	1,295,432	1,405,064	1,516,751	1,631,812	1,745,076
0-4	343,856	337,325	307,448	294,555	303,424	318,479	322,379
5-14	559,004	628,160	662,975	628,754	588,235	585,487	610,039
15-64	1,125,246	1,329,353	1,550,669	1,809,063	2,049,908	2,259,782	2,437,677
65+	91,859	82,965	74,696	81,166	92,682	97,429	112,098
% male	49.9	50.0	50.1	50.1	50.0	50.0	49.9
% female	50.1	50.0	49.9	49.9	50.0	50.0	50.1
% 0-4	16.2	14.2	11.8	10.5	10.0	9.8	9.3
%5-14	26.4	26.4	25.5	22.3	19.4	18.0	17.5
%15-64	53.1	55.9	59.7	64.3	67.6	69.3	70.0
%65+	4.3	3.5	2.9	2.9	3.1	3.0	3.2
Females 15-49	487,278	579,792	686,019	802,893	895,041	950,009	990,345
% females 15-49	23.0	24.4	26.4	28.5	29.5	29.1	28.4
Sex ratio	99.6	100.0	100.4	100.2	100.0	99.9	99.5
Dependency ratio	0.802	0.726	0.626	0.510	0.435	0.400	0.383
Median age	18.4	19.2	20.7	22.6	24.5	26.5	28.5

Table 6: Mongolia: population projections - rate of growth

(per cent)

	Projection 1	Projection 2	Projection 3
1984-1989			

Total	2.51	2.51	2.51
0-4	2.41	2.41	2.41
5-14	2.11	2.11	2.11
15-64	2.88	2.88	2.88
65+	0.38	0.38	0.38
Females 15-49	3.33	3.33	3.33
1989-1994			
Total	2.41	2.37	2.32
0-4	0.23	-0.07	-0.38
5-14	2.36	2.36	2.36
15-64	3.39	3.39	3.39
65+	-2.02	-2.02	-2.02
Females 15-49	3.54	3.54	3.54
1994-1999			
Total	2.19	1.98	1.77
0-4	0.83	-0.43	-1.84
5-14	1.40	1.24	1.08
15-64	3.13	3.13	3.13
65+	-2.08	-2.08	-2.08
Females 15-49	3.42	3.42	3.42
1999-2004			
Total	2.31	1.97	1.62
0-4	1.98	0.71	-0.85
5-14	0.58	-0.21	-1.05
15-64	3.13	3.13	3.13
65+	1.68	1.68	1.68
Females 15-49	3.20	3.20	3.20
2004-2009			
Total	2.33	1.94	1.52
0-4	2.35	1.60	0.60
5-14	1.46	0.18	-1.32
15-64	2.63	2.58	2.53
65+	2.69	2.69	2.69
Females 15-49	2.31	2.25	2.20
2009-2014			
Total	2.30	1.90	1.45
0-4	2.09	1.62	0.97
5-14	2.21	1.21	-0.09
15-64	2.44	2.21	1.97
65+	1.00	1.00	1.00
Females 15-49	1.75	1.48	1.20
2014-2019			
Total	2.25	1.78	1.32
0-4	1.45	0.90	0.24
5-14	2.25	1.64	0.82
15-64	2.30	1.93	1.53
65+	2.84	2.84	2.84

Table 5 shows a number of indicators of the projected age and sex structure. The most significant feature of this table is that the age structure of the population will experience substantial changes in the future no matter what the assumptions are with regard to the population components. The main changes will be an increase in the proportion of the population between 15 and 64 years of age, which corresponds to the working age population, and a decline in the proportion of the young population. These changes obviously result in a substantial decrease of the dependency ratio and an increase in the median age of the population. However, it is important to understand that these facts do not mean that the young population will decline in size. Actually, according to the three hypotheses, the young population will continue growing; it is only its pace of increase that will be slower than previously. Table 6 shows the respective rates of growth. Only during some quinquennia will the young population experience negative rates.

It is interesting to note that the rates of growth corresponding to the young population exhibit a somewhat erratic or inconsistent trend: in one quinquennium the value is negative, or very low, and in the next, it is positive, or much larger. This is mainly the result of the progressive impact of fluctuating fertility and mortality rates on the age structure. They act in cumulative waves, from the younger age groups to the older ones, producing destabilization.

Figure 5a

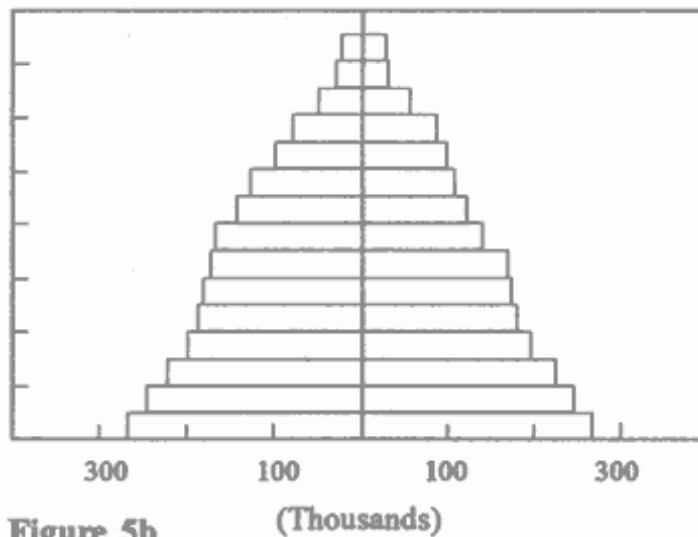


Figure 5b

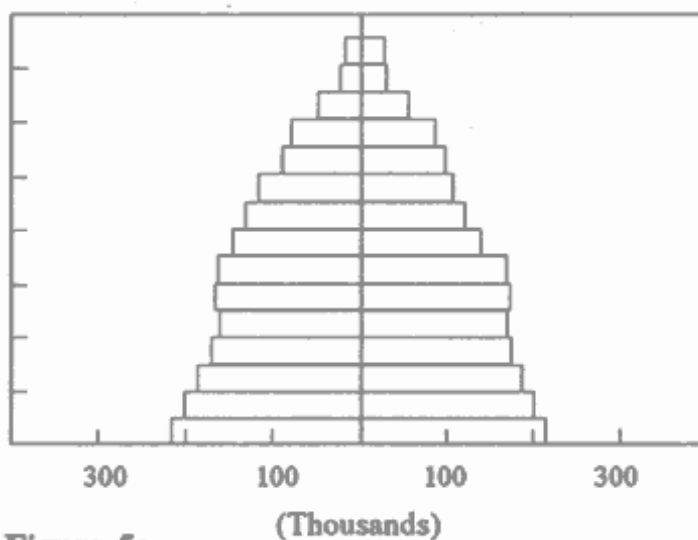
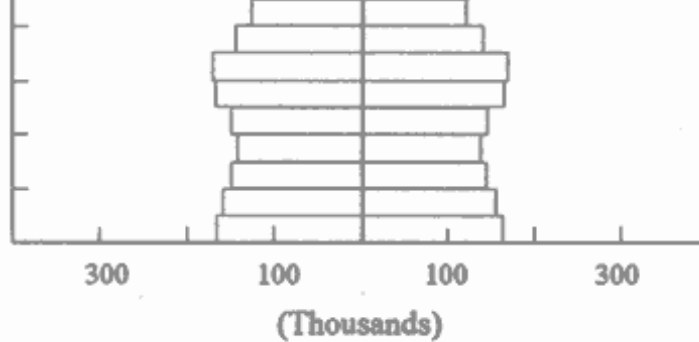


Figure 5c





Figures 5a to 5c show the pyramids of the expected population for the year 2019 according to each projection. Notice that they are presented in absolute figures and not in percentages. They all have different shapes and sizes, reflecting mainly the different fertility assumptions. Obviously, the one that corresponds to Projection 1 is the largest (figure 5a), followed by that of Projection 2 (figure 5b). The smallest is that corresponding to Projection 3, where the decline in fertility was assumed to be more rapid and substantial (figure 5c). The shape of the three projected pyramids is different. The first one, corresponding to Projection 1, reflects the typical age structure of a population with a high, or slowly declining, fertility: a mountain-shape with a relatively gentle descending slope. This slope, however, is not very regular. The middle-age groups show a constriction, which is the result of the rapid fertility decline of the 1980s. The slope of the base, corresponding to the youngest age groups is, however, quite regular.

The pyramid corresponding to Projection 2 has an intermediate form between a mountain-shape and a bell-shape. The constriction in the middle-age groups is clearer than in Projection 1 and the slope of the base is also regular. In both cases, this trend is caused by the fact that the impetus of natural population growth provided by the age structure has not been neutralized by the magnitude and speed of fertility decline. The pyramid corresponding to Projection 3 has a clear bell-shape form. The base shows the typical constriction that results from a very rapid and substantial fertility decline when it begins to cancel the aforementioned impetus of population growth resulting from a young age structure. It is important to notice, however, that the upper portion of the three projected pyramids is equal. This reflects the fact that the same mortality assumptions were applied to the common base population.

Table 7: Mongolia: population projections - indicators of fertility

	1984-1989	1989-1994	1994-1999	1999-2004	2004-2009	2009-2014	2014-2019
Projection 1							
Births	74,918	75,349	78,191	85,888	96,076	106,083	113,565
Crude birth rate	37.8	33.4	31.0	30.4	30.4	29.9	28.6
Child-woman ratio	0.73	0.71	0.60	0.53	0.50	0.50	0.51
Total fertility rate	5.4	4.3	3.8	3.6	3.5	3.5	3.5
Gross reproduction rate	2.6	2.1	1.8	1.8	1.7	1.7	1.7
Net reproduction rate	2.3	1.9	1.7	1.6	1.6	1.6	1.6
Projection 2							
Births	74,918	74,208	72,311	74,626	80,439	86,798	90,428
Crude birth rate	37.8	33.0	28.9	27.0	26.4	25.9	24.7
Child-woman ratio	0.73	0.71	0.59	0.49	0.43	0.42	0.42
Total fertility rate	5.4	4.2	3.5	3.1	3.0	2.9	2.9
Gross reproduction rate	2.6	2.1	1.7	1.5	1.5	1.4	1.4
Net reproduction rate	2.3	1.8	1.5	1.4	1.3	1.3	1.3
Projection 3							
Births	74,918	73,066	66,306	63,273	64,908	67,849	68,409
Crude birth rate	37.8	32.5	26.7	23.4	22.2	21.6	20.3
Child-woman ratio	0.73	0.71	0.58	0.45	0.37	0.34	0.34
Total fertility rate	5.4	4.2	3.2	2.6	2.4	2.3	2.2
Gross reproduction rate	2.6	2.0	1.6	1.3	1.2	1.1	1.1

Table 7 shows the future evolution of mortality according to the three projections; table 7, the evolution of fertility. These tables are self-explanatory. However, it is important to make a brief reference to the evolution of the absolute number of births. The figures presented in table 7 correspond to the average number of births per year. Only in Projection 3 do these figures show a decline, but in Projections 1 and 2 they continue to increase during the complete period. Therefore, in spite of the fact that fertility will decline to as few as 2.9 children per woman (Projection 2), the number of births will continue to increase. Even in Projection 3, after an initial decline, there is a new increase. It is very important for policy and planning purposes to differentiate a decline in fertility from a decline in the number of births. Unless fertility decline is quite rapid and substantial, it cannot compensate for the large cohorts of women born when fertility was high and that each year enter the reproductive ages.

Summary

The most important consequences and policy implications of the future population trends proposed in these projections are examined in the article beginning on page 3 of this issue of the *Journal*. Thus, as a final section of this note, only a summary of the main results of the projections is presented.

It is very likely that the population of Mongolia at the end of the century will not be less than 2.6 million or more than 2.7 million. More uncertain, however, is the situation for the first two decades of the next century. Depending on the future pace of fertility decline, the total population size may vary between 4.2 million and 3.5 million by the year 2019.

In spite of the rapid and significant fertility decline that the country has experienced during the last decade, the number of births will continue to grow, although at a more moderate pace than in the past.

As a result of the trend mentioned above, the population will continue to grow at a comparatively rapid pace during the current decade. During the next two decades, the growth will become gradually more moderate.

The age structure will experience substantial changes in the future. There will be a decline in the proportion of young to old people and an increase in the proportion of the population in the working age groups. Nevertheless, all age groups will continue to experience absolute increases.

The population profile of the Mongolian population in future decades will not be much different from that exhibited by most of the countries that have recently experienced fertility reductions. It seems unlikely that fertility and mortality may deviate substantially from the trends proposed in these projections. International migration may produce some deviations in this expected profile. However, it does not appear that its volume will be significant enough to result in major changes in population growth or composition.

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