

FINAL REPORT TO
NATIONAL COUNCIL FOR SOVIET AND EAST EUROPEAN RESEARCH

TITLE: The Soviet Economy to the Year
2000:
Paper 11 of 12
"Population and Labor Force"

AUTHOR: Murray Feshbach

CONTRACTOR: The President and Fellows of Harvard College

PRINCIPAL INVESTIGATOR: Abram Bergson

COUNCIL CONTRACT NUMBER: 622-2

DATE: November 25, 1981

The work leading to this report was supported in whole or in part from funds provided by the National Council for Soviet and East European Research.



THE SOVIET ECONOMY TO THE YEAR 2000

LIST OF PAPERS

Paper Number	Author	Title
1	Martin Weitzman	"Soviet Industrial Production"
2	Gertrude E. Schroeder	"Consumption"
3	D. Gale Johnson	"Agricultural Organization and Management in Soviet Society: Change and Constancy"
4	Edward Hewett	"The Foreign Sector in the Soviet Economy: Developments Since 1960, and Possibilities to the Year 2000"
5	Robert Campbell	"Energy in the USSR to 2000"
6	Joseph Berliner	"Planning and Management"
7	Abram Bergson	"Soviet Technological Progress: Trends and Prospects"
8	Seweryn Bialer	"Politics and Priorities in the Soviet Union: Prospects for the 1980s"
9	Douglas Diamond, Lee W. Bettis, Robert Ramsson	"Agricultural Production"
10	Leslie Dienes	"Regional Economic Development"
11	Murray Feshbach	"Population and Labor Force"
12	Daniel L Bond and Herbert Levine	"The Soviet Economy to the Year 2000: An Overview"



SUMMARY

This paper is concerned with the demographic shifts in the population of the USSR and its impact on manpower during the next two decades. It stresses the radical changes in the supply of new entrants from a sharp drop at the macro-level for the USSR as a whole to a sharp shift in sub-macro level for the republics and regions to the south. The movement to the south for new net increments to the labor force supply is given in the period under consideration because they are essentially all born at the present time.

The paper provides regional as well as national estimates and projections of population dynamics, fertility and mortality measures, age distributions, percent males, and the population of able-bodied ages, as well as an analysis of the trends. A graphic display of the impact of these changes in demographic trends clearly shows the constrictions in supply at the national level, a net decrease in the Russian Republic, and an ever-widening increase in the 5 republics of Central Asia and Kazakhstan.

Estimates and projections of the labor force show a sharp drop in absolute and relative terms, underscoring the need for large increases in labor productivity if past rates of economic growth are to be maintained. Their lack of success in this regard is the basis for even more stress on this matter in the speeches of the Soviet leadership.

Alternative sources of improving labor efficiency and labor saving are

examined, including the Shchekino model and labor mechanization. Transfers of labor from agriculture to urban occupations are desired in the south but not in the north where the Non-Black Earth Zone project is short of labor. Both efforts are relatively unsuccessful. These and other factors may lead the Soviet authorities to place restraints on the labor market at some point in the near future.

On any basis, short-term or long-term, the prospects for the development of Soviet population and manpower resources until the end of the century are quite dismal. From the reduction in the country's birth rate to the incredible increase in the death rates beyond all reasonable past projections; from the decrease in the supply of new entrants to the labor force, compounded by its unequal regional distribution, to the relative aging of the population, not much glimmer of hope lies before the Soviet Government in these trends. It is true that a new sense of urgency has highlighted the period since the XXVth Party Congress of February-March 1976, but the question remains whether this recent concern is too little and too late, and whether the negative population trends are beyond State control. Moreover, since the initial entry age into the labor force has been defined as age 16, almost the entire labor force for the rest of the century has already been born (except for those expected during the next four years, when significant shifts in demographic trends cannot be anticipated in the very short-run period that four years represent).

At the 1976 Party Congress, Brezhnev called for an "effective demographic policy," without defining what that might be. Undoubtedly he had in mind the current and future trends in population growth--nationally and regionally; in fertility patterns; and in mortality, because these factors must be disturbing to the central authorities. The population as a whole can be expected to grow from the current (1980) level of approximately 265 million to somewhat more than 300 million at the turn of the century. The latter figure is constantly being revised downward as fertility continues its general decline, and as mortality--in all its aspects--climbs. By the last decade of the century the rate of growth of the population will drop to 0.6 percent per

year, about one-third the 1951-55 rate. The projected total for the year 2000 of 308 million (let alone a lower figure), which is based on U.S. computations, represents a sharp reduction from the Soviet expectations of 340 to 350 million persons, which TsSU estimated not too long ago.

POPULATION GROWTH, OVERALL AND REGIONAL

Despite its overall growth, the Russian population's share in the total population is expected to decline from 52.0 percent of the national total in 1980 to only 48.0 percent by the year 2000 (see Table 1). This reflects an expected absolute increase of only 10 million Russians. These projections also assume a zero net migration between all republics. Actually, there has been a recent tendency towards net migration, albeit small, into the R.S.F.S.R. for the first time in a quarter of a century.¹ This new pattern is undoubtedly due to the movement of labor from the southern republics, apparently largely ethnic Russians, to such priority projects as BAM, Sayansk, Ust-Ilimsk, the Non-Black Earth Zone, and so forth--all of which are located in the R.S.F.S.R. Given the forthcoming steeper decline in the growth of the Russian Republic's population of able-bodied ages, which will ensue from past fertility trends, the demand for labor to move from other areas into the R.S.F.S.R. will undoubtedly continue for the rest of the century. (If past fertility trends persist in the republics of Central Asia and Kazakhstan, their population will increase by about 50 percent in the last two decades of the century, from 42 to 64 million, or at a level of increase roughly twice that of the Russian republic.)

These distributional changes are the logical consequence of differentials in republic rates of growth. Despite the slowdown of growth in all republics between 1970 and 1979, compared to 1959 and 1970 (Table 2), the annual average rate of growth in the Central Asian republics exceeds that of the R.S.F.S.R.

Table 1. ESTIMATED AND PROJECTED TOTAL POPULATION, PERCENT DISTRIBUTION, AND AVERAGE ANNUAL RATES OF GROWTH, U.S.S.R. AND BY REPUBLICS: 1970 to 2000

(In thousands, except percent. Figures may not add to totals due to rounding.)

U.S.S.R. and republics	1970	Percent of total	1980	Percent of total	Average annual rate of growth (1970-1980)	1990	Percent of total	Average annual rate of growth (1980-1990)	2000	Percent of total	Average annual rate of growth (1990-2000)
U.S.S.R.	261,650	100.0	265,659	100.0	0.77	289,205	100.0	0.88	308,050	100.0	0.61
R.S.F.S.R.	130,036	53.8	137,946	52.0	0.59	155,830	50.1	0.69	167,836	48.0	0.71
Ukrainian	52,311	19.5	50,058	18.9	0.61	52,110	18.0	0.60	53,269	17.1	0.21
Belorussian	8,999	3.7	7,667	3.6	0.72	10,663	3.6	0.79	11,010	3.6	0.31
Moldavia	3,568	1.5	4,033	1.5	1.23	4,470	1.5	1.03	4,777	1.5	0.67
Estonian	3,356	0.6	3,559	0.5	0.71	3,483	0.5	0.20	3,507	0.5	0.67
Lithuanian	2,803	1.0	2,512	0.9	0.61	2,537	0.9	0.10	2,569	0.8	0.05
Latvian	3,177	1.3	3,197	1.3	0.03	3,610	1.3	0.63	3,805	1.2	0.50
Armenia	2,608	1.0	3,065	1.1	2.03	3,632	1.3	1.78	4,101	1.3	1.72
Azerbaijani	5,118	2.1	6,168	2.3	1.88	7,432	2.6	2.46	9,014	2.9	1.70
Georgian	4,685	1.9	5,112	2.0	0.88	5,765	2.0	1.17	6,202	2.0	0.77
Emakistani	13,004	5.4	15,367	5.8	1.68	18,157	6.3	1.68	20,507	6.7	1.22
Kirgizian	2,932	1.2	3,693	1.6	2.33	4,634	1.6	2.72	5,616	1.8	1.91
Tadzhikistan	2,809	1.2	3,921	1.5	3.02	5,209	1.8	2.35	6,590	2.1	2.30
Turkmenistan	2,358	0.9	2,827	1.1	2.92	3,766	1.3	2.73	4,722	1.5	2.29
Uzbekistan	11,296	4.9	15,759	5.9	2.96	20,919	7.2	2.87	26,572	8.6	2.67

Source: Geoffrey S. Hulteen, *Population Projections by Age and Sex: For the Republics and Major Economic Regions of the U.S.S.R.: 1970 to 2000*. International Population Reports, Series P-91, No. 25. Washington, D.C.: Bureau of the Census, September 1979, pp. 8-11, 25-27.

Table 2. NUMBER OF POPULATION AND AVERAGE ANNUAL RATE OF GROWTH, U.S.S.R. AND BY REPUBLIC:
1959, 1970, AND 1979

U.S.S.R. and republics	Number of population (in thousands)		Average annual rate of growth (1970/1959)	Number of population (in thousands)		Average annual rate of growth (1979/1970)	Increase (1979/1970) (1970/1959)
	1959	1970		1970	1979		
U.S.S.R.....	208,827	241,720	1.34	241,720	262,442	0.92	.687
R.S.F.S.R.....	117,534	130,079	0.93	130,079	137,552	0.62	.667
Ukraine.....	41,869	47,126	1.08	47,126	49,757	0.61	.565
Belorussia.....	8,056	9,002	1.01	9,002	9,559	0.67	.663
Moldavia.....	2,884	3,569	1.96	3,569	3,948	1.13	.577
Estonia.....	1,197	1,356	1.14	1,356	1,466	0.87	.763
Latvia.....	2,093	2,364	1.11	2,364	2,521	0.72	.649
Lithuania.....	2,711	3,128	1.31	3,128	3,399	0.93	.710
Armenia.....	1,763	2,492	3.20	2,492	3,031	2.20	.688
Azerbaijan.....	3,698	5,117	3.00	5,117	6,028	1.84	.613
Georgia.....	4,044	4,686	1.35	4,686	5,016	0.76	.563
Kazakhstan.....	9,295	13,009	3.10	13,009	14,685	1.36	.439
Kirgizia.....	2,006	2,934	3.24	2,934	3,529	2.07	.619
Tadzhikistan.....	1,981	2,900	3.53	2,900	3,811	3.05	.864
Turkmenistan.....	1,516	2,159	3.27	2,159	2,759	2.76	.844
Uzbekistan.....	8,119	11,799	3.46	11,799	15,391	3.00	.867

Source: Based on official census results for each date.

and the Ukraine by more than three times. (Compare Kirgiziya's 2.07, the lowest Central Asian rate, with 0.62 and 0.61 for the R.S.F.S.R. and the Ukraine, respectively.) In the future, such regional differentials are likely to expand markedly, although not by as much as we believed several years ago.

Age-specific fertility rates measure the number of children born per 1,000 women in a given age group. Women's reproductive behavior is more accurately measured by this than by crude birth rates, which use the total (male plus female) population of all ages as the denominator. (Nonetheless, we will return to crude birth rates below.) As can be seen by the reported figures given in Table 3 for the U.S.S.R. and three selected republics (the R.S.F.S.R., Uzbekistan and Estonia), fertility has declined universally since 1975/76 in all age groups within the 20-49 bracket (except amongst Estonian females ages 45-49), and has fallen especially in the prime child-bearing ages of 20-29. Fertility has declined because of urbanization, higher female labor force participation rates, education, housing inadequacies, and other reasons. Reflecting a recent trend towards earlier age at marriage, there has been a perceptible increase in the age-specific fertility rates of 15- to 19-year old women, except in Uzbekistan. (Again, we need to recall that these are republic-wide and not nationality-specific figures; nonetheless, the fertility rates for women in Uzbekistan--while remaining high--undoubtedly have declined somewhat in recent years.) In general, though, total fertility rates remain very far apart, with the Uzbek figures between 2.7 and 2.9 times greater than the totals for the R.S.F.S.R. Given the future decline in the share of 20- to 29-year old women in the Russian Republic and a concurrent increase in their share in Uzbekistan,² we can expect that the divergences in

Table 3. AGE-SPECIFIC AND TOTAL FERTILITY RATES, U.S.S.R., R.S.F.S.R., UZBEKISTAN AND ESTONIA:
1965/66, 1971/72 AND 1975/76 TO 1977/78
(Per 1,000 women in each group)

Age group	U.S.S.R.					R.S.F.S.R.				
	1965/66	1971/72	1975/76	1976/77	1977/78	1965/66	1971/72	1975/76	1976/77	1977/78
15-49.....	70.3	67.2	68.5	68.7	68.3	59.0	55.2	57.1	57.7	58.1
Age group	U.S.S.R.					R.S.F.S.R.				
	1965/66	1971/72	1975/76	1976/77	1977/78	1965/66	1971/72	1975/76	1976/77	1977/78
15-49.....	70.3	67.2	68.5	68.7	68.3	59.0	55.2	57.1	57.7	58.1
15-19.....	35.5	32.4	35.0	35.7	36.7	24.7	20.9	24.5	25.6	27.0
20-24.....	159.5	173.9	176.7	175.4	172.3	150.3	159.1	153.3	158.5	156.2
25-29.....	136.0	137.1	131.5	130.9	128.7	120.1	115.3	108.0	107.3	105.3
30-34.....	97.0	84.3	78.0	73.3	76.9	77.7	65.6	56.2	60.0	59.3
35-39.....	50.5	49.4	40.2	36.7	34.0	38.1	33.0	25.5	22.7	21.5
40-44.....	19.1	14.5	14.5	14.2	13.2	12.5	7.9	7.3	7.1	6.7
45-49.....	4.4	2.0	1.3	1.7	1.6	1.4	0.7	0.5	0.5	0.4
Total fertility rate ¹	2,461	2,468	2,389	2,367	2,320	2,124	2,052	1,970	1,966	1,938

	Uzbekistan					Estonia				
	1965/66	1971/72	1975/76	1976/77	1977/78	1965/66	1971/72	1975/76	1976/77	1977/78
15-49.....	153.3	163.0	157.1	154.0	150.6	55.3	59.3	58.5	59.2	59.2
15-19.....	30.2	45.4	39.1	37.8	37.2	22.7	31.5	34.5	35.9	37.2
20-24.....	252.3	275.0	297.0	290.6	292.4	131.5	155.9	165.4	166.4	164.8
25-29.....	270.2	284.5	301.3	293.6	286.3	119.4	130.7	122.2	122.6	121.4
30-34.....	318.1	247.7	225.3	224.1	216.9	69.4	70.3	60.9	62.6	60.3
35-39.....	181.3	198.5	170.5	157.5	141.3	30.7	31.9	26.1	25.4	24.5
40-44.....	99.2	93.7	32.0	78.0	71.9	9.3	6.5	6.2	5.9	5.7
45-49.....	41.0	23.3	16.3	14.9	13.4	0.7	0.5	0.3	0.2	0.3
Total fertility rate ¹	3,564	5,841	5,660	5,482	5,247	1,920	2,188	2,073	2,095	2,074

¹Determined as the sum of the individual age-specific rates multiplied by 5.

Source:

1965/66, 1971/72 and 1975/76: B. Ts. Uralian (Ed.), Narodonaseleniye stran mira, spravochnik, second revised and enlarged edition, Moscow, Statistika, 1978, pp. 73-76.
1976/77: Vestnik statistiki, no. 11, November 1978, p. 32.
1977/78: Vestnik statistiki, no. 11, November 1979, p. 66.

total fertility rates between the two republics will increase--barring, of course, an extremely sharp drop in fertility in Uzbekistan.

Before data on fertility in the prime childbearing ages became available for 1976/77 and 1977/78, projections of crude birth rates were made (based on varying fertility assumptions). According to the medium series used for Table 4, the crude birth rate for the country as a whole was projected as a diminished 16.1 live births per 1,000 population by the year 2000. However, we already know that the March 1977 projection of 19.2 for 1980 was too high, since the rates reported for 1978 and 1979 remained in the range of 18.2-18.3 births per 1,000 population.³ In reducing our projection of the overall crude birth rate for the year 2000 to perhaps 15.5 or so, for the country as a whole, we can still anticipate a slight increase in the rates shown for the R.S.F.S.R. and a slight reduction in the rates shown for the Central Asian republics.

Crude birth rates, of course, are only one-half of the equation for natural increase, the net growth measure. In addition, we need to examine the mortality trends. As indicated in the introductory statement, the Soviet mortality situation has deteriorated beyond any reasonable expectations. The three major components underlying the increases are the aging of the population, infant mortality, and death rates for males aged 20-44. Thus, by 1979 the crude death rate was officially reported to have jumped to 10.1 per 1,000,⁴ an increase of 0.4 over 1978's figure, and 0.3 greater than the level projected in (March) 1977 for 1980 (see Table 4). This 1979 rise is only partially explainable by age standardization, which accounts for the relative increase in the older population. As can be seen from the estimated and projections of age distribution, given in Table 5, we can anticipate a marked increase in the share of the Soviet pension-age population (60 years of age and older for males, 55 years of age and older for females): between 1950

Table 4. ESTIMATED AND PROJECTED VITAL RATES, U.S.S.R. AND BY REPUBLIC: 1950 TO 2000

(Rates per 1,000 population)

U.S.S.R. and republics	Crude birth rate						Crude death rate						Natural increase					
	1950	1960	1970	1980	1990	2000	1950	1960	1970	1980	1990	2000	1950	1960	1970	1980	1990	2000
U.S.S.R.	26.7	26.9	27.6	28.2	27.3	26.1	9.7	7.1	8.2	9.8	10.2	10.6	12.0	12.0	9.2	9.4	7.1	5.5
U.S.P.S.R.	20.9	23.2	24.6	26.6	26.1	23.8	10.1	7.4	8.7	10.5	11.6	12.3	16.8	15.0	5.9	6.1	2.7	1.5
Belarus	27.8	20.5	22.2	22.6	24.0	21.0	8.5	6.8	8.0	10.6	11.5	12.1	14.7	13.9	6.3	6.9	2.6	1.5
Byelorussia	25.5	24.6	26.2	27.3	23.4	21.7	8.0	6.6	7.8	8.9	9.2	9.9	12.5	12.8	8.6	8.4	6.1	3.8
Belgium	30.9	29.3	29.4	21.1	17.9	16.0	11.2	6.4	7.4	9.4	10.8	10.5	22.2	22.9	12.0	11.7	7.9	5.4
France	18.4	18.6	15.8	14.6	11.7	13.7	15.4	10.3	11.1	11.9	12.2	12.2	6.0	6.1	4.7	2.6	1.4	0.9
Germany	17.0	16.7	16.5	13.9	13.3	11.3	12.4	10.0	11.2	12.5	12.8	13.4	6.6	6.7	3.3	1.4	0.3	-0.1
USSR (incl.)	23.8	22.5	22.8	16.1	18.3	15.0	12.0	7.8	8.0	9.8	9.7	10.3	11.6	10.7	8.7	6.3	5.8	3.7
Armenia	42.1	40.1	22.1	20.6	19.9	16.3	8.5	6.8	5.1	5.6	5.5	6.2	23.6	23.3	17.0	16.8	15.3	10.2
Azerbaijan	31.2	42.6	27.7	27.6	26.6	19.8	9.6	6.7	6.7	6.9	6.6	6.5	21.0	25.9	22.5	20.6	20.0	13.3
Georgia	23.5	24.7	19.2	19.2	17.3	15.3	7.6	6.5	7.3	8.2	8.6	8.9	25.9	18.2	11.9	11.0	8.9	6.3
Kazakhstan	37.6	37.2	23.6	24.8	21.5	17.0	11.2	6.6	6.0	7.2	7.1	7.6	23.9	20.6	17.4	17.6	16.2	10.0
Lithuania	32.4	36.9	30.5	31.5	28.1	23.2	8.5	6.1	7.4	7.8	7.1	6.9	23.9	20.8	23.1	23.6	21.0	16.3
Latvia	30.6	21.5	24.8	26.9	25.1	26.4	8.2	5.1	6.4	7.7	8.9	6.4	22.2	28.4	28.4	29.2	26.2	20.2
Tajikistan	30.2	42.4	33.2	33.0	32.1	26.2	10.2	8.5	6.6	7.6	7.0	8.5	28.0	25.9	28.6	27.3	25.1	19.6
Uzbekistan	30.8	39.8	24.6	25.6	22.2	26.6	8.2	6.0	5.5	6.9	5.9	5.4	22.1	23.8	28.1	28.2	26.3	21.1

Source: Baldega, *Population*, 1979, pp. 13-14, 25-27.

and 2000, the relative size of the pension-age population will have almost doubled. The share of this population group is expected to be higher in the R.S.F.S.R. than in the U.S.S.R. as a whole (21.8 and 19.1 percent, respectively, by 2000), and much lower in Central Asia and Kazakhstan (9.9 percent). Indeed, the latter share actually will represent a decline from the 1970 pension-age percentage figure, which was 10.3 for Central Asia and Kazakhstan. This drop will be due to high regional birth rates, and will contribute to the projected decrease in crude death rates in the four core Central Asian republics.

But it is not only the aging of the population which has sparked the increase in the mortality rates. As I have described elsewhere (in particular with Christopher Davis),⁵ the mortality rate among infants 0-1 year of age has systematically and dramatically increased in this past decade to a point where, on a comparable basis, it might now be over three times that of the United States (i.e., 39-40 compared to 12.9 deaths per 1,000 live births in 1979). If this trend--which has an obvious impact on overall mortality rates--continues into the future, the projections of the crude death rates in Table 4 may be too low, both for the U.S.S.R. and all individual republics, inasmuch as the infant mortality rise is not a localized phenomenon but has been recorded throughout the country.

Higher death rates no longer characterize the very young population alone. The increase in male age-specific death rates within the ages of 20-44, during the decade 1963/64-1973/74 also was remarkable and probably underlies the decline in the intercensal rates of growth of the male population's proportionate size. Between January 1959 and January 1970, the percent male increased by 1.1 percentage points from 45.0 to 46.1 percent (see Table 6), or 0.1 per year. However, between 1970 and 1979 the

Table 6. PERCENT MALE AMONG TOTAL, URBAN AND RURAL POPULATION, U.S.S.R. AND BY REPUBLIC;
JANUARY 1959, 1970 AND 1979

U.S.S.R. and republics	Total			Urban			Rural		
	1959	1970	1979	1959	1970	1979	1959	1970	1979
U.S.S.R.....	45.0	46.1	46.7	45.2	46.3	46.7	44.9	45.8	46.6
R.S.F.S.R.....	44.6	45.6	¹ 46.0	44.9	45.9	(NA)	44.3	45.2	(NA)
Ukraine.....	44.4	45.2	45.8	45.2	46.3	46.5	43.6	44.0	44.6
Belorussia.....	44.5	46.0	46.5	44.6	47.0	47.1	44.4	45.2	45.8
Moldavia.....	46.2	46.6	¹ 47.1	45.7	46.8	(NA)	46.4	46.5	(NA)
Estonia.....	43.9	45.7	46.2	43.8	45.6	45.9	44.0	45.9	46.9
Lithuania.....	43.9	45.7	46.1	43.3	45.7	(NA)	44.6	45.7	(NA)
Lithuania.....	45.9	46.9	47.2	45.2	47.2	(NA)	46.3	46.7	(NA)
Armenia.....	47.8	48.8	48.7	47.9	48.9	48.5	47.7	48.7	49.1
Azerbaijan.....	47.5	48.5	48.8	47.3	48.9	49.5	47.7	48.1	47.9
Georgia.....	46.1	47.0	47.1	45.5	46.7	46.7	46.6	47.2	47.5
Kazakhstan.....	47.5	48.1	48.3	47.3	48.2	47.7	47.7	48.1	49.0
Kirgizia.....	47.2	47.8	48	46.9	47.0	48	47.3	48.3	49
Tadzhikistan.....	48.7	49.2	¹ 49.4	47.7	49.0	(NA)	49.2	49.3	(NA)
Turkmenistan.....	48.2	49.2	49	48.1	49.6	50	48.4	48.9	49
Uzbekistan.....	48.0	47.7	49.1	47.1	48.3	49.0	48.5	49.8	49.2

NA Not available.

¹1978.

NOTE: Data are shown as reported.

Source: Official Soviet census volumes, newspaper reports on preliminary census totals by republic for the January 1979 census, and current statistical yearbooks for the R.S.F.S.R., Moldavia, and Tadzhikistan for the 1978 current estimate in each republic for the total percent male.

Table 2. 2000-2001 U.S. State and District Population and Geographic Data, 1950-2000

U.S. State and District Population	Percent of U.S. State										Percent of non-geographic area	
	1950	1960	1970	1980	1990	2000	1950	1960	1970	1980	1990	2000
U.S. State and District Population	120,567	212,172	261,630	305,669	289,201	308,038	100.0	100.0	100.0	100.0	100.0	100.0
District of Columbia	57,306	66,644	74,609	89,306	77,975	70,136	32.1	31.4	30.9	29.1	28.6	30.9
Alaska	107,658	115,668	130,459	155,806	160,796	179,608	56.3	56.3	56.0	56.4	55.6	55.5
Hawaii	10,505	26,238	66,562	141,939	204,425	567,938	10.4	12.4	15.0	15.4	17.2	19.1
Non-geographic area	107,658	115,668	130,459	155,806	160,796	179,608	56.3	56.3	56.0	56.4	55.6	55.5
U.S. State and District Population	120,567	212,172	261,630	305,669	289,201	308,038	100.0	100.0	100.0	100.0	100.0	100.0
Alaska	10,505	26,238	66,562	141,939	204,425	567,938	10.4	12.4	15.0	15.4	17.2	19.1
Hawaii	10,505	26,238	66,562	141,939	204,425	567,938	10.4	12.4	15.0	15.4	17.2	19.1
Non-geographic area	107,658	115,668	130,459	155,806	160,796	179,608	56.3	56.3	56.0	56.4	55.6	55.5
U.S. State and District Population	120,567	212,172	261,630	305,669	289,201	308,038	100.0	100.0	100.0	100.0	100.0	100.0
Alaska	10,505	26,238	66,562	141,939	204,425	567,938	10.4	12.4	15.0	15.4	17.2	19.1
Hawaii	10,505	26,238	66,562	141,939	204,425	567,938	10.4	12.4	15.0	15.4	17.2	19.1
Non-geographic area	107,658	115,668	130,459	155,806	160,796	179,608	56.3	56.3	56.0	56.4	55.6	55.5

Table 5. AGE DISTRIBUTION OF THE POPULATION OF THE U.S.S.R., 1950 TO 2000: (continued)

U.S.S.R. and selected republics	Percent of U.S.S.R.										Percent of total population		
	1950	1960	1970	1980	1990	2000	1950	1970	1990	2000	1950	2000	
European USSR	7,780	9,776	12,291	14,362	16,289	17,317	4.3	4.6	5.1	5.4	5.9	6.3	100.0
0-15	(GA)	(GA)	6,924	6,731	5,657	4,759	(GA)	(GA)	5.6	6.8	7.6	7.4	29.8
16-59/56	(GA)	(GA)	5,972	8,678	9,277	10,274	(GA)	(GA)	6.2	5.7	6.3	6.3	24.2
60/55 and over	(GA)	(GA)	1,666	1,553	2,160	2,279	(GA)	(GA)	5.0	3.8	4.3	6.2	45.5
Arctic A.	1,362	1,329	2,601	3,065	2,652	6,101	0.8	0.9	1.0	1.1	1.2	1.3	100.0
0-15	(GA)	(GA)	1,076	798	1,155	1,176	(GA)	(GA)	0.8	2.4	1.5	1.5	22.2
16-59/56	(GA)	(GA)	1,206	1,726	2,093	2,376	(GA)	(GA)	0.9	3.1	1.5	1.5	22.9
60/55 and over	(GA)	(GA)	381	241	656	549	(GA)	(GA)	0.3	0.2	0.4	1.0	16.6
North Caucasus	2,255	3,816	5,115	6,120	7,612	9,016	1.6	1.8	2.1	2.3	2.6	3.9	100.0
0-15	(GA)	(GA)	2,265	2,519	2,739	3,052	(GA)	(GA)	3.2	3.3	3.5	3.8	66.2
16-59/56	(GA)	(GA)	2,265	3,209	4,165	6,005	(GA)	(GA)	1.7	2.1	2.6	2.9	51.7
60/55 and over	(GA)	(GA)	507	520	720	959	(GA)	(GA)	1.6	1.3	1.5	1.3	18.1
Central Asia	3,206	6,129	6,689	5,109	5,765	6,202	2.0	1.9	1.9	2.0	2.0	2.0	100.0
0-15	(GA)	(GA)	1,578	1,617	1,558	1,561	(GA)	(GA)	2.0	2.0	2.0	2.0	25.5
16-59/56	(GA)	(GA)	2,627	2,807	3,108	3,679	(GA)	(GA)	1.9	1.9	2.0	2.0	27.5
60/55 and over	(GA)	(GA)	680	755	1,099	1,257	(GA)	(GA)	1.9	1.8	2.0	2.1	46.7

GA, Not available.

Sources: 1970: *Demographic Statistics*, no. 4, April 1966, pp. B5-B6.
 1950: *Demographic Statistics*, no. 2, February 1973, pp. 25-26.
 1970-2000: *Population and Prospects* prepared by the Russian Demographic Agency Division, Bureau of the Census, U.S. Department of Commerce in March 1974, million males.

share of males increased by only 0.6 percentage points or 0.067 per year, i.e., at a rate one-third lower than that of the previous intercensal period.

In making regional comparisons, it is clear that the Slavic republics manifest a lower share of males; this is partly--or even largely--due to wartime losses. Yet, the recent reduction in the rate of the male population's increase suggests a further debilitating phenomenon, and may well be due to the increasing death rates at the prime working ages of 20-44. The following data, comparing the male and female death rates (per 1,000 population in the given age groups), show a pronounced rise in mortality among all male age groups during 1963/64-1973/74, which must have pre-determined the minimal 1970-79 changes in the "percent male" statistic. (See Table 7.) In general, the death rate for men aged 20-44 increased during this period to a level which is from 2.3 to 3.1 times that for women. The rates for males increased particularly among those aged 40-44. The increase in alcohol consumption may account for much of the increase in death rates for males in ages 20-44 during this period. Coronary death rates also have increased lately partly due to increases in ischemic heart disease, and ischemic heart disease is related to alcohol consumption. Scattered reports indicate that at least half of the deaths due to accidents and traumas are alcohol-related. It is also hard to escape the conclusion that the increase in alcohol consumption is tied to the general attitude of Soviet workers towards conditions of Soviet society.

As a consequence of all the foregoing mortality trends, life expectancy at age 0 has dropped markedly for males, and may level off for females. Thus, between 1966/67 and 1971/72--the last year for which such data have been published--male life expectancy dropped from 66 to 64 years at birth. In view of subsequently-revealed trends, life expectancy must have dropped to

63 without a question, and perhaps to only 62 years. Given that this is an average, the prospects do not bode well for Soviet males, whose life expectancy may now be 10 or more years less than female life expectancy.

Table 7. AGE-SPECIFIC DEATH RATES, BY SEX, U.S.S.R.: 1963/64 AND 1973/74
(Per 1,000 population)

Age	Males		Females		Male/female ratios (in percent)	
	1963/64	1973/74	1963/64	1973/74	1963/64	1973/74
20-24.....	2.2	2.5	1.0	0.8	220	312
25-29.....	2.8	3.1	1.2	0.9	233	344
30-34.....	3.7	4.4	1.5	1.4	247	314
35-39.....	4.5	5.4	1.9	1.8	237	300
40-44.....	5.4	7.4	2.5	2.6	216	285

Source:

1963/64: *Nar. khoz. v 1964*, pp. 36-37.

1973/74: *Vestnik statistiki*, no. 12, December 1975, p. 84.

Combining all of these fertility and mortality phenomena, a set of projected natural increase rates were derived; essentially, they were based on the republic-specific fertility and mortality assumptions, which in turn underlie the projected crude birth and death rates. (See Table 4.) In examining the data, we see that by the year 2000 there will be a 14-fold gap between the net rates of natural increase in Uzbekistan and the R.S.F.S.R. Even after rough adjustment for some decrease in fertility and an increase in mortality in Uzbekistan, on the one hand, and increases in both fertility and mortality in the R.S.F.S.R., on the other, the natural increase disparity still may well exceed 10 times. In absolute terms, using the original projected increase in the rates to 21.1 and 1.5 per 1,000 population by the century's end, and the population of the year 2000, Uzbekistan will grow by 560,000 persons per year and the R.S.F.S.R. by 220,000, or only four-tenths

of the Uzbekistan increase. (The base population difference, nonetheless, will remain enormous.)

MANPOWER ISSUES

Because of all of the above factors, the demographic aspects of manpower will undergo radical quantitative, qualitative and geographical shifts throughout the remainder of the century. The transition from a situation of excess labor supplies, comprising the nonworking members of households, collective farmers, and under- and over-age population groups, to one of relative labor scarcity in number and place, impels the leadership to take full cognizance of the manpower issue. Although part of the solution to the problem may lie in eliminating poorly utilized labor, increasing mechanization and exerting controls over the labor market, most of the effort appears to be devoted toward increasing labor productivity. This direction is nowhere more clearly seen than in Brezhnev's statement at the XXVth Party Congress, held in early 1976 at the beginning of the 10th Five-Year Plan period:⁶

Comrades! In order to successfully resolve the multiple economic and social tasks facing the country there is no other way other than the fast growth of labor productivity, and a sharp increase in the effectiveness of all social production. [Emphasis as in text.] The stress upon effectiveness, and about this, it is necessary to speak again and again, is the most important component of our economic strategy.

In the 1980's the resolution of this task will become especially imperative. This is linked first of all to the exacerbation of the problem of labor resources. We will need to depend entirely on raising labor productivity and not on mobilizing additional labor force. A sharp reduction in the share of manual labor, as well as complex mechanization and automation of production will be indispensable conditions for economic growth.

Later in the year a major institutional reorganization was implemented, when both the State Committee on Labor and Wage Problems and the 15 republic

state committees on labor-resources utilization were abolished. In their stead, the government created a new consolidated union-republic State Committee on Labor and Social Questions (Goskomtrud), which now possesses enhanced influence in the social security area (primarily related to the employment of pensioners), and commands increased control over the movement of labor between jobs. During the discussion of the 1977 Constitution, Brezhnev elaborated on the constitutional provision related to the "right to work," and noted that this right is "supplemented by the right to choose a profession, the type of occupation and work in accordance with the desires, abilities, professional training and education of the citizen, but also--and this is no less important--also with consideration of society's needs."⁷ This last underscored qualification provided the Soviet authorities with the license to change the rules of the game from a relatively free factor market to one of control, given the imperatives of the demographic and manpower trends.

Soon thereafter, in April 1978, the largest and most important conference on labor resources to be convened in the post-war period was held in Moscow. More than 1,000 persons attended the conference, which was jointly sponsored by Gosplan, Goskomtrud, TsSU, the USSR Academy of Sciences, the All-Union Central Council of Trade Unions, and the Ministry of Higher and Specialized Secondary Education of the U.S.S.R.⁸ Many of their discussions and recommendations have been elaborated or implemented in the period following the conference. Thus, the July 1979 decree on improvement of the economic mechanism foreshadowed a series of implementing directives on manpower ceilings for enterprises and on reductions in manual labor, and in December 1979, on tightening of the labor market through improved labor discipline and restrictions on movement.

Underlying these manpower concerns and deliberations are the actual data on the number and regional distribution of the net additions to the population of able-bodied ages which will arise during the remainder of the century. Because of past differentials in birth rates, and to some degree in migration patterns, there will be highly volatile decreases and increases in the national labor supply. For example, between January 1980 and January 1990, projections indicate that the net increase in the labor force will reach only 5,990,000 persons, whereas during the preceding ten years the estimated increase in the labor force was 24,217,000, or four times greater. (Table 8.)

Regional comparisons evince a future pattern of differentials wherein the labor force increments in the R.S.F.S.R. and the Ukraine will become negative during the entire 15-year period from 1980 to 1995; the Belorussian labor force increments will be down to less than 5 percent between 1985 and 1995, in comparison with the increment between 1970 and 1975; and only in Central Asia will there be an increment in each period greater than that in the base period of 1970-75. The impact of the changes on a year-to-year basis in the U.S.S.R., the R.S.F.S.R. and the Central Asian region are graphically presented in Figures 1 to 3. The gap between new 16-year old entrants to the labor force, on the one hand; and departures of newly pension-aged males and females--coupled with deaths of persons within the "able-bodied" spectrum--on the other hand, reduces the final increment to less than 300,000 in the mid-1980's. By contrast, the differential between entrants and departures peaked at over 2,700,000 in the 1970's, and should rebound to 1,900,000 by the year 2000. (See Appendix Table I.)

The regional R.S.F.S.R. and Central Asian trends may likewise be observed by reference to Figures 2 and 3, which are based on Appendix Tables II and III.

Table 8. ESTIMATES AND PROJECTIONS OF THE POPULATION OF ABLE-BODIED AGES (AGES 16 TO 59 YEARS, FEMALES 16 TO 34 YEARS), U.S.S.R. AND SELECTED REPUBLICS AND REGIONS: 1970 TO 2000

(In thousands; As of January 1)

U.S.S.R., republic and region	1970	1975	1980	1985	1990	1995	2000
U.S.S.R.,.....	150,509	163,018	156,806	158,655	160,796	163,728	170,968
Net increment.....	(x)	12,679	11,788	3,669	2,351	2,932	7,260
Index, January 1, 1970-January 1, 1975=100.0.....	(x)	109.8	95.8	102.6	107.8	108.8	113.6
U.S.F.S.R.,.....	73,032	78,815	83,791	83,561	82,462	81,817	83,669
Net increment.....	(x)	5,803	6,956	-248	-1,681	-665	1,632
Index,.....	(x)	106.6	114.8	114.5	112.8	112.0	114.6
Ukraine,.....	26,216	27,896	29,289	29,210	29,237	28,973	29,159
Net increment,.....	(x)	1,682	1,933	-39	-11	-262	184
Index,.....	(x)	106.0	111.7	111.4	111.5	109.7	111.2
Belarusia,.....	4,766	5,276	5,727	5,861	5,886	5,908	6,132
Net increment,.....	(x)	530	451	136	25	22	224
Index,.....	(x)	109.0	120.1	123.0	123.5	123.5	128.7
Malaysia,.....	1,907	2,100	2,323	2,410	2,693	2,593	2,760
Net increment,.....	(x)	228	393	87	81	100	167
Index,.....	(x)	115.4	121.8	126.3	141.2	135.9	144.7
Other republics,.....	3,772	6,561	6,781	6,005	6,805	6,766	6,777
Net increment,.....	(x)	271	218	25	-1	-39	11
Index,.....	(x)	173.9	180.0	161.5	181.5	182.0	183.3
Central Asia,.....	8,587	10,792	12,681	16,699	18,918	18,488	22,766
Net increment,.....	(x)	1,905	2,791	2,106	2,181	2,569	3,278
Index,.....	(x)	124.6	147.8	194.4	220.0	215.3	265.3
Farabhaton,.....	6,691	7,576	8,664	9,436	10,106	10,786	11,671
Net increment,.....	(x)	1,025	1,168	772	670	676	891
Index,.....	(x)	113.1	129.6	141.5	151.0	161.2	174.5
Transcaucasia,.....	5,919	6,917	8,079	8,879	9,790	9,980	10,775
Net increment,.....	(x)	998	1,162	900	519	302	879
Index,.....	(x)	118.6	133.1	148.3	163.7	168.6	182.0

x Not applicable.

Source: Based on Baldwin, *Projections, 1979*, pp. 91-92, 101, 102, 112, 116, 122-123, and 128.

Figure 1. ENTRANTS TO AND DEPARTURES FROM POPULATION OF ABLE-BODIED AGES, U.S.S.R.: 1970 TO 2000

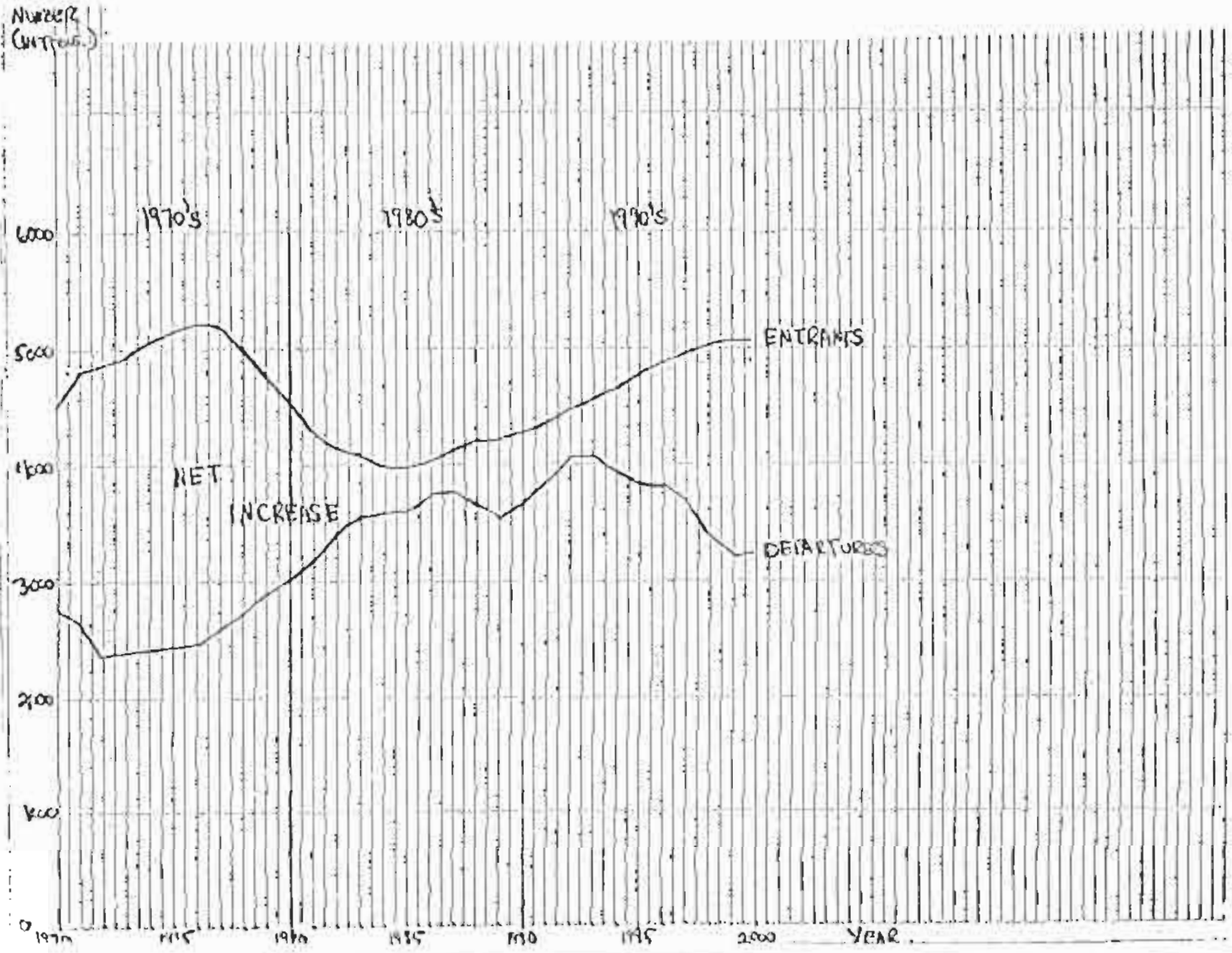


Figure 2. ENTRANTS TO AND DEPARTURES FROM POPULATION OF ABLE-BODIED AGES, R.S.F.S.R.: 1970 TO 2000

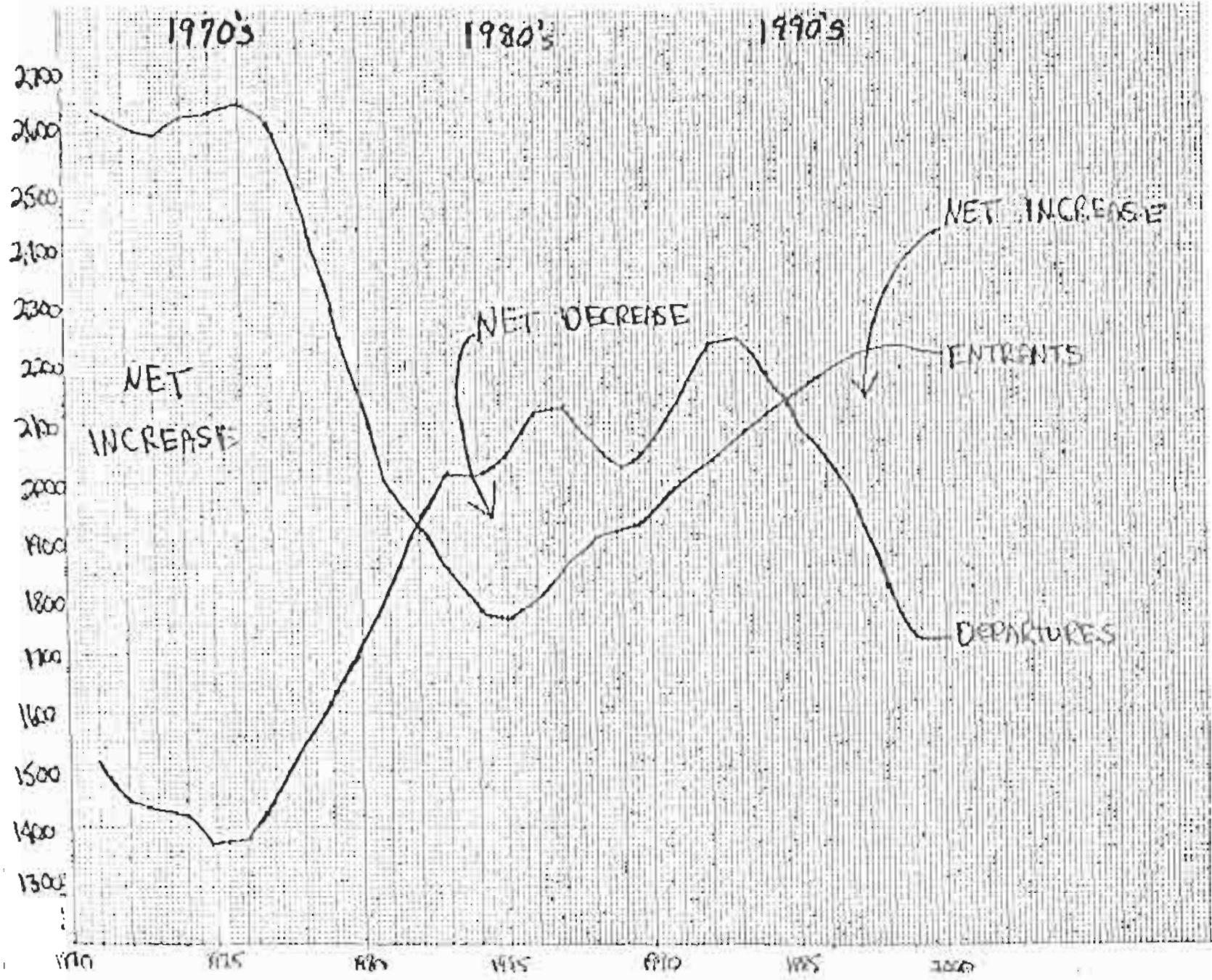
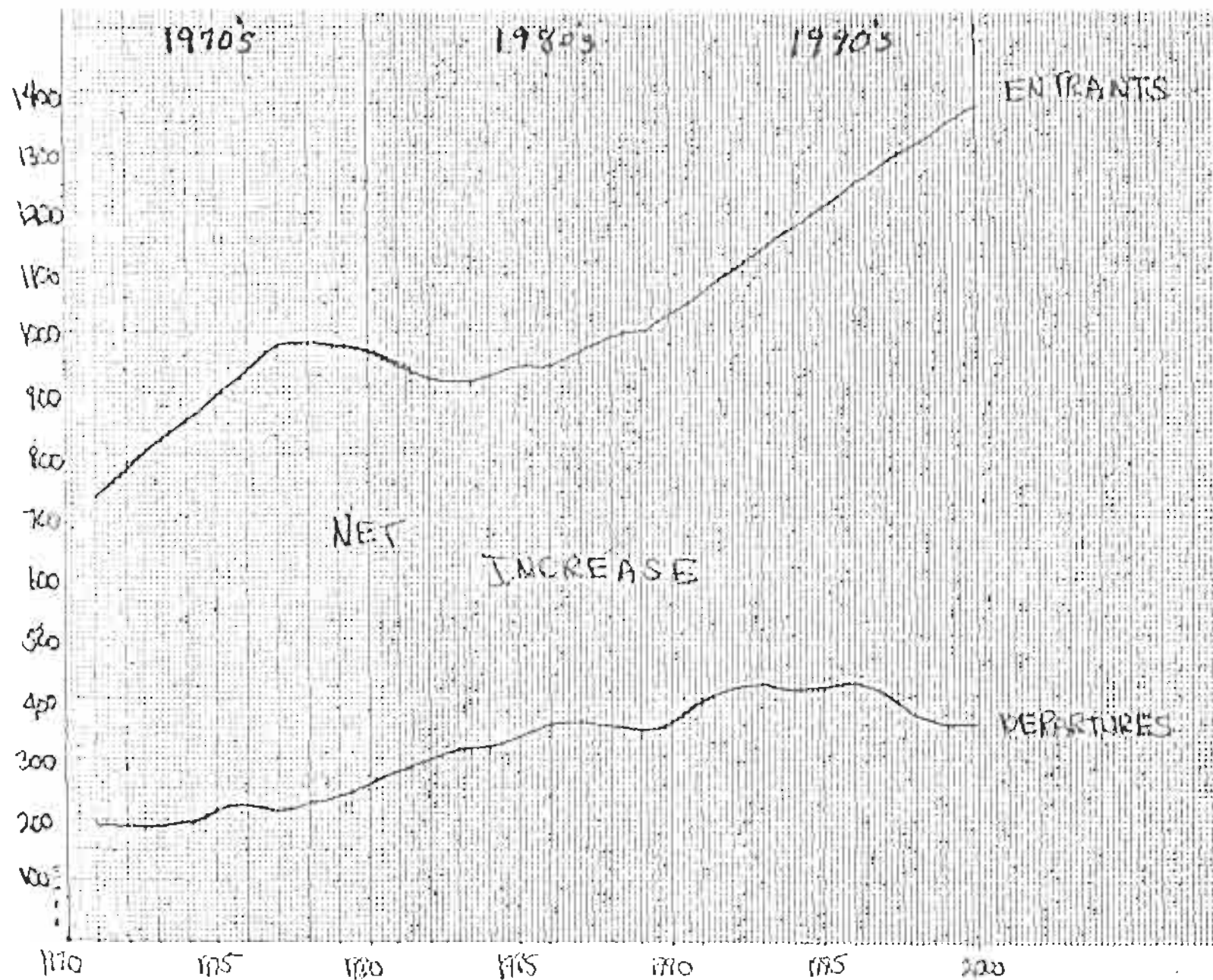


Figure 3. ENTRANTS TO AND DEPARTURES FROM POPULATION OF ABLE-BODIED AGES,
CENTRAL ASIA AND KAZAKHSTAN: 1970 TO 2000



The R.S.F.S.R. picture shows the depth of the drop in new entrants, from 2,653,000 at its peak in 1976 to 1,770,000 in 1985--a figure which falls below the departure line. The Central Asia and Kazakhstan graph is one of continual net increases: Annual increments hovered around 500,000-600,000 in the 1970's and will climb to more than 900,000 by the year 2000.

Estimates of labor force participation indicate that about 88 percent of the population of able-bodied ages was actively in the labor force in 1970 and 1979 (excluding private subsidiary agriculture), based on the censuses of those years. Using a constant labor force participation rate (LFPR) of 88 percent for the years 1990 and 2000, we may obtain further projections which suggest a major reduction in the increments to the labor force and in its rate of growth. (See Table 9.) The underlying assumptions for retaining a constant LFPR include the knowledge of an already extremely high LFPR for males, and an almost too high rate among women in the non-Muslim republics and efforts to increase population growth may lead working women to withdraw from the labor force to have children. In the Muslim republics, though, an increase in female LFPR can be anticipated, since increasing educational attainment, social pressure, slight declines in fertility and the continuing urbanization process (save for in Tadzhikistan) encourage and facilitate female employment (see Table 10).

If the estimates and projections in Table 9 are reasonably accurate, the rate of growth of the labor force in the 1980's will be only about one-quarter of the previous decade's growth. Inasmuch as Table 9 holds the overall LFPR virtually constant from 1970 to 2000, it is clear that the declining growth reflects a numerical downswing in the population of able-bodied ages.

Table 9. ESTIMATES AND PROJECTIONS OF THE LABOR FORCE: 1959 TO 2000¹

Year	Population of able-bodied ages (in thousands)	Labor force (in thousands)	Labor force participation rate	Annual average rate of growth (percent per year)	Relative increase in labor force (in percent)	Absolute increase in labor force (in thousands)
	(1)	(2)	(3)	(4)	(5)	(6)
1959 (January 15).....	119,590	99,130	82.9	(X)	(X)	(X)
1970 (January 15).....	130,589	115,204	88.2	1.38	16.3	16,173
1979 (January 15).....	153,078	134,860	88.1	1.77	17.1	19,676
1990 (January 1).....	160,798	141,500	88.0	0.44	4.9	6,640
2000 (January 1).....	170,955	150,400	88.0	0.61	6.3	8,900

X Not applicable

¹Excluding private subsidiary agriculture.

Source:

Column 1: Unpublished estimates and projections of the population prepared by the Foreign Demographic Analysis Division, Bureau of the Census, U.S. Department of Commerce in March 1977. Medium series.

Column 2: 1959, 1970

1959, 1970, and 1979: Official census results.

1990 and 2000: Column 3 multiplied by column 1.

Column 3:

1959, 1970, and 1979: Column 2 divided by column 1.

1990 and 2000: Assumed to be the same as 1979, rounded.

Columns 4, 5, and 6: Based on column 2.

Table 10. SHARE OF URBAN POPULATION, U.S.S.R. AND BY REPUBLIC:
1913 TO 1979
(In percent)

U.S.S.R. and republic	1913	1926	1939	1959	1970	1979
U.S.S.R.....	18	18	32	48	56	62
R.S.F.S.R.....	17	18	33	52	62	70
Ukraine.....	19	19	34	46	55	61
Belorussia.....	14	17	21	31	43	55
Moldavia.....	13	13	13	22	32	39
Estonia.....	19	(NA)	34	55	65	70
Latvia.....	38	(NA)	35	55	62	68
Lithuania.....	13	(NA)	23	38	50	61
Armenia.....	10	19	29	50	59	66
Azerbaijan.....	24	28	36	48	50	53
Georgia.....	26	22	30	42	48	52
Kazakhstan.....	10	9	28	44	51	54
Kirgiziya.....	12	12	19	34	37	39
Tadzhikistan.....	9	10	17	33	37	35
Turkmenistan.....	11	14	33	46	48	48
Uzbekistan.....	24	22	23	33	36	41

NA Not available.

Source: Based on official statistical yearbooks and census results.

While Voronin, the Deputy Chief of Gosplan's Labor Department, could state in 1976 that "almost 100 percent" of the new increments to the labor force in the 10th Five-Year Plan period would come from young persons entering the able-bodied ages,⁹ continuous attempts have been made to expand the labor force by emphasizing employment among the pension-age population. Furthermore, authorities have sought to broaden the labor participation of women, to rationalize the workplace by introducing labor saving devices, and to conserve potential labor resources through a wide variety of techniques. However, I do not believe they will be successful in obtaining

much more labor through these efforts. First, since 1966, through changes in pension laws which enable pensioners to retain part or all of their pensions as well as salaries, the Soviets to date have been rather successful in convincing many older individuals, who have reached pension eligibility, to continue in their jobs; secondly, many of those in full retirement have already been enticed into resuming employment. At this writing, five million or more "pensioners"--i.e., some 25 percent of the old-age pension population--are on a payroll. However, on a full-time basis this is equal to only about one million workers; and the head of the Labor Resources Sector of Gosplan's Scientific-Research Economics Institute, V. G. Kostakov, does not foresee a major increase in the scale of pensioner employment. More importantly, Kostakov is not particularly impressed with the overall quality of work which these laborers offer.¹⁰

In the 1960's, major gains were also scored in the sphere of female employment: approximately 10 million women found or were assigned to jobs during 1961-65, and another 3.7 million joined the labor force during 1966-70. Once these achievements had been secured, though, only another one million more were expected during 1971-75 to undertake employment in the next plan period.¹¹ On a nationwide basis, few additional increments to the female labor force appear forthcoming, although small and medium-sized cities of the R.S.F.S.R. may tap some remaining female labor reserves. The latter scenario may arise as the government diverts capital resources into small-town development, thereby creating job opportunities for women--especially in heavy industry localities which previously offered limited employment openings for women.

As mentioned above, the State hopes for a greater propensity toward female labor force participation in Central Asia, as educational levels rise

and start to delay, if not reduce, fertility. Given the limited increases in the urbanized population of Central Asia, and the generally lower levels of urbanization which obtain there, the educational factor may be unable to make a significantly large impact on labor participation in the near future. By the year 2000, however, more labor force gains among the younger women of Muslim origin can be reasonably expected.

OTHER SOURCES

Other sources of manpower supply can be viewed as relatively marginal, at least for the short term. The Shchekino experiment, despite its decade-long duration and despite enthusiasm on the part of some central authorities, still remains very limited in application. Only major changes in the strength of applicable legislation will ensure more rational labor utilization, and will encourage the release of redundant manpower. Industrial managers, of course, are often reluctant to forego maintaining labor surpluses at their enterprises, since surplus workers function as a cushion against unexpected demands on output levels, against labor turnover, against the call to release workers for the harvest, and against a system which still rewards bigger rather than smaller enterprises in regard to the wage category of plants.

Efforts to increase the mechanization of work, which reduces the demand for labor in a given production unit and concomitantly releases workers for employment in labor-deficit industries or regions, may be frustrated by the shortage of new capital investment. If the growth of State capital investments in 1979, compared to 1978, was only 1 percent (a historically unprecedented low rate of growth),¹² how much funding was available for labor-saving developments, after top-priority investments had been allocated to the food and energy sectors? I would anticipate, therefore, that the large-scale

transfer of manpower from lesser productive jobs to more effective posts will be frustrated, especially in the European U.S.S.R.

The growth in employment during the 10th Five-Year Plan has begun to respond to the labor-force constraints described above. According to the latest report on employment, at the time of writing,¹³ the annual average number of workers and employees was 110,580,000, of which one-third--or 36,450,000--were classified as employed in industry. The rate of growth of all workers and employees continues to be much higher than the 1976-80 plan anticipated. In the first four years of the plan period, 1976-79 inclusive, growth was 2.0, 2.1, 2.1, and 1.8 percent per year, respectively--more than twice as high as the planned figure of 0.9 percent per year.¹⁴ Some increments came from the collective farms, some from among the pensioners, and some from households.

Industrial employment has increased in all years of the five-year plan period, but the rate of growth has dropped off sharply, especially in 1979 as compared to 1978.¹⁵ I believe we are seeing the beginning of the decline, albeit delayed, which Voronin predicted in the following direct comment:¹⁶

In the current five-year plan, the balance of labor resources until now is more or less satisfactory. However, this related only to the first two years when the growth in the able-bodied population remains at about the level of the Ninth Five-Year Plan. But in the third year it will decrease by about one-fifth, and in the fifth year, by almost two times.

Regardless of any reduction in the rate of growth of industrial employment overall, employment in machine-building and metalworking continues to grow, as does its share in the industrial workforce. The machine-building and metalworking contingents represented 40.1 percent of all industrial-production personnel in 1978--up from only 31.9 percent in 1960, almost two decades earlier.¹⁷

Despite the U.S.S.R.'s dire need to improve food supplies for urban industry and services, Soviet labor experts continue to decry the high share of agricultural employment in the Soviet economy. At the 1978 All-Union Labor Conference, scholars and officials condemned the agricultural employment situation on two scores. First, they lamented that the relative size of the Soviet agricultural labor force was "higher than in any developed country"; secondly, they criticized the quality of agricultural cadres by observing that "the labor force problem in agriculture is acute, especially [because of the shortage of] machine operators."¹⁸ Thus, in 1977 the share of agricultural employment in annual average or man-year terms in the national labor structure was 27.3 percent, or 21.2 percent if we exclude private agricultural activities.¹⁹

However, the problem is not only numbers, but labor-force composition and location as well. Shortages of machinery operators--due primarily to the out-migration of young trained personnel from rural areas to the cities--are especially debilitating, for example, in the R.S.F.S.R.'s Non-Black Earth Zone agricultural project. On the topic of composition, we can refer only to the 1970 census situation as compared to the 1959, since age data from the 1979 census are lacking at this point in time. For earlier periods, the age-composition data on the rural population of the R.S.F.S.R. showed that in 1970 rural areas held only 51 percent of the 20- to 24-year olds which they had claimed in 1959; 45 percent of the 25- to 29-year olds; and 79 percent of the 30- to 34-year olds. In contrast to rural Russia's losses, rural Turkmenistan (the most positive case) in 1970 had 92 percent of the 20- to 24-year olds it had held in 1959; 80 percent of the 25- to 29-year olds and 110 percent of the 30- to 34-year olds.²⁰

Brezhnev bemoaned the Soviets' agricultural manpower problems at the spring 1978 Komsomol congress, where he particularly focused on this out-migration of youths from the village. During the conference he stated that raising the efficiency of agriculture "will be difficult to accomplish without the active participation of young people.... They personify the future and in many ways determine the present of the countryside...." But, he continued, "needless to say, people cannot be ordered to stay in the countryside...."²¹ Despite his last statement, I expect that the demographic and manpower constraints will lead the Soviet authorities to place limits on freedom of movement. Some of the regional-deficit problems could be resolved if the surplus of native rural young people from the Central Asian region were in fact enticed into moving to the northern agricultural projects. However, the prospects for that to occur in large numbers and in the near future are limited indeed.²² As we have seen earlier, there has been relatively little change in the urban (obversely, therefore, the rural) shares of the population in the Muslim regions. Out-migration of the local nationality populations to their own cities--let alone to northern climes--is extremely unlikely in the near future unless "administrative measures" are adopted. While I consider that such measures, including forced migration specifically, are unlikely to be enacted and/or implemented, there is no doubt in my mind that the central authorities are contemplating and even initiating greater control over the labor market.

An early signal that this control is being, and will be, expanded is the current emphasis on assigning graduates to various Central Asian educational institutions to places of work in areas of the country other than Central Asia. Apparently, the labor officials hope that such job-entry assignments will thereby become permanent places of residence. Such external assignments are

designed to establish a better equilibrium between regional supplies and requirements but--equally important to these authorities--also to foster a blending of the various peoples into a Soviet narod (people) and consequently to hasten the disappearance of traditional differences. Speculation about the probable success of the latter policy is beyond the scope of this paper; I would merely indicate the improbability of its success in the near future. Thus, the structural and compositional aspects of population and manpower trends do not bode well for the regime in the next two decades.

Appendix Table 1. CHANGES IN NUMBER, ESTIMATES 10 AND DEPARTURES FROM POPULATION BY ABLE-BODIED AGES, U.S.S.R., 1970 TO 2000

(In thousands, as of July 1)

Year	Population of able-bodied ages ¹	Excesses (16-year olds)	Departures, Total	of which,		Annual net increments	Index (1980=100.0)
				Deaths	Pension-age population ²		
1970.....	131,685	4,508	2,772	582	2,187	1,228	113.5
1971.....	136,045	4,293	2,665	667	1,978	2,150	161.2
1972.....	136,693	4,857	2,377	688	1,889	2,678	162.6
1973.....	139,021	4,917	2,387	519	1,868	2,578	166.1
1974.....	141,863	5,267	2,505	527	1,878	2,642	173.5
1975.....	144,387	5,139	2,629	562	1,858	2,319	178.5
1976.....	147,122	5,218	2,678	612	1,866	2,250	179.9
1977.....	149,266	5,189	2,525	528	1,967	2,624	177.3
1978.....	152,036	5,011	2,721	641	2,078	2,790	150.3
1979.....	153,947	4,296	2,890	658	2,232	1,886	125.1
1980.....	155,665	4,553	3,042	671	2,374	1,521	100.0
1981.....	156,568	4,287	3,184	685	2,499	1,103	72.4
1982.....	157,807	4,159	3,670	696	2,724	739	48.5
1983.....	157,822	4,026	3,561	786	2,857	515	33.8
1984.....	158,268	3,996	3,528	717	2,858	624	27.9
1985.....	158,821	3,889	3,618	716	2,909	373	24.5
1986.....	158,906	4,025	3,750	720	3,020	283	18.2
1987.....	159,276	4,435	3,767	728	3,067	368	24.2
1988.....	159,853	4,218	3,638	717	2,927	579	38.0
1989.....	160,689	4,222	3,285	712	2,873	437	41.8
1990.....	161,106	4,288	3,472	708	2,983	616	40.4
1991.....	161,561	4,391	3,856	706	3,150	570	35.1
1992.....	162,025	4,670	4,036	701	3,335	434	28.5
1993.....	162,588	4,520	4,057	692	3,369	513	33.2
1994.....	163,310	4,671	4,069	697	3,252	772	47.6
1995.....	164,218	4,773	3,865	697	3,168	908	59.6
1996.....	165,250	4,879	3,838	698	3,160	1,037	67.8
1997.....	166,523	4,955	3,682	695	2,987	1,273	83.6
1998.....	168,165	5,025	3,387	699	2,693	1,652	107.8
1999.....	170,021	5,071	3,215	683	2,530	1,856	121.9
2000.....	171,888	5,071	3,224	681	2,543	1,867	122.8

¹Males, 16 to 59 years of age, inclusive. Females, 16 to 59 years of age, inclusive.

²Males, 60 years of age and over. Females, 55 years of age and over.

Source: Unpublished estimates and projections prepared by the Foreign Demographic Analysis Division, Bureau of the Census, in March 1997. Data for 1997-2000 are estimates.

Appendix Table 11. CHANGES IN NUMBER, ESTIMATED TO ADD DEPARTURES FROM POPULATION OF AGES 20-64 AGES, U.S.: 1970 TO 2000.

(In thousands, as of July 1)

Year	Population of able-bodied ages	Entrants (16-year olds)	Departures, Total	Of which,		Annual net increments	Index (1980=100.0)
				Deaths	Retirement (population)		
1970.....	73,565	2,300	(08)	(08)	1,231	(08)	(15)
1971.....	74,696	2,340	1,511	17	1,134	1,129	222.7
1972.....	75,859	2,312	1,557	167	1,080	1,165	281.4
1973.....	77,023	2,398	1,543	66	1,060	1,164	281.2
1974.....	78,246	2,630	1,627	200	1,071	1,204	290.6
1975.....	79,507	2,614	1,473	114	1,049	1,261	304.0
1976.....	80,768	2,653	1,380	139	1,041	1,273	307.5
1977.....	81,914	2,617	1,461	170	1,085	1,154	278.7
1978.....	82,851	2,471	1,566	101	1,157	927	223.9
1979.....	83,314	2,389	1,636	194	1,242	673	162.6
1980.....	83,928	2,435	1,721	402	1,313	414	100.0
1981.....	84,382	1,985	1,811	400	1,402	174	62.0
1982.....	84,874	1,919	1,947	416	1,528	-24	(X)
1983.....	85,311	1,856	2,016	419	1,597	-168	(X)
1984.....	85,672	1,776	2,035	420	1,593	-219	(X)
1985.....	85,390	1,770	2,054	425	1,619	-274	(X)
1986.....	85,076	1,750	2,120	427	1,634	-322	(X)
1987.....	84,732	1,658	2,173	423	1,700	-285	(X)
1988.....	84,342	1,585	2,059	421	1,638	-155	(X)
1989.....	84,526	1,515	2,026	417	1,609	-111	(X)
1990.....	84,618	1,550	2,056	412	1,644	-108	(X)
1991.....	84,278	1,601	2,141	410	1,731	-140	(X)
1992.....	83,971	1,630	2,208	406	1,832	-207	(X)
1993.....	83,800	1,472	2,257	402	1,855	-275	(X)
1994.....	83,875	1,115	2,186	401	1,785	-71	(X)
1995.....	83,802	1,153	2,090	400	1,698	57	11.8
1996.....	83,029	1,189	2,052	398	1,664	147	35.5
1997.....	82,276	1,215	1,968	396	1,572	247	59.7
1998.....	81,488	1,230	1,818	393	1,426	412	99.5
1999.....	81,192	1,232	1,728	388	1,340	504	121.7
2000.....	81,001	1,219	1,730	384	1,366	489	118.1

(X) Not available. * Not applicable.

Notes and sources: See appendix table 4.

Appendix table 111. CHANGES IN NUMBER, DEPARTURES TO AND REENTRIES FROM POPULATION OF ABLE-BODIED AGES, REGIONAL ASIA AND PACIFIC: 1970 TO 2000

(In thousands, as at July 1)

Year	Population of able-bodied ages	Entrants (16-year-olds)	Departures, Total	of which,		Annual net. Excesses	Index (1980=100.0)
				Deaths	Percentage population		
1970.....	15,214	657	(NA)	(NA)	198	(NA)	
1971.....	15,733	730	198	18	169	522	79.7
1972.....	16,219	785	193	22	171	382	88.9
1973.....	16,928	820	195	25	170	611	93.3
1974.....	17,575	860	197	26	171	859	99.1
1975.....	18,224	895	219	48	171	655	99.1
1976.....	18,899	951	224	50	175	675	103.1
1977.....	19,619	977	217	31	481	720	109.9
1978.....	20,329	979	225	32	193	707	107.9
1979.....	21,010	973	240	32	208	684	105.4
1980.....	21,665	964	259	33	216	655	100.0
1981.....	22,272	939	281	35	257	607	97.7
1982.....	22,837	922	303	36	207	565	86.3
1983.....	23,383	920	319	36	283	546	83.4
1984.....	23,940	933	319	37	283	557	85.0
1985.....	24,490	965	330	38	300	550	84.0
1986.....	25,032	964	364	38	329	552	79.7
1987.....	25,557	971	367	39	318	565	83.2
1988.....	26,131	990	353	39	314	576	87.9
1989.....	26,724	1,000	358	39	309	591	90.2
1990.....	27,330	1,017	368	39	329	606	92.5
1991.....	27,937	1,072	401	40	361	602	97.7
1992.....	28,559	1,107	422	40	382	621	95.6
1993.....	29,212	1,144	425	40	385	654	99.8
1994.....	29,903	1,176	433	41	422	696	106.1
1995.....	30,632	1,211	439	43	376	724	110.5
1996.....	31,378	1,267	440	41	389	746	113.9
1997.....	32,138	1,282	421	42	369	800	122.1
1998.....	32,869	1,316	424	41	332	871	133.0
1999.....	33,609	1,367	423	41	312	919	150.8
2000.....	34,365	1,378	416	42	322	937	163.1

(NA) Not available.

Index and sources: See appendix table 1.

NOTES

- ¹ See Murray Feshbach, "Prospects for Migration from Central Asia and Kazakhstan in the Next Decade," in U.S. Congress, Joint Economic Committee, Soviet Economy in a Time of Change, Volume 1, Washington, D.C., October 1979, p. 672.
- ² Godfrey S. Baldwin, Population Projections by Age and Sex: For the Republics and Major Economic Regions of the U.S.S.R. 1970 to 2000, International Population Reports, Series P-91, No. 26, Washington, D.C., Bureau of the Census, September 1979, pp. 92 and 117.
- ³ See TsSU SSSR, SSSR v tsifrakh v 1979 godu, Kratkii statisticheskii sbornik, Moscow, Statistika, 1980, p. 22.
- ⁴ Ibid.
- ⁵ Christopher Davis and Murray Feshbach, Rising Infant Mortality in the U.S.S.R. in the 1970's, Series P-95, No. 74, Washington, D.C., Bureau of the Census, June 1980, 46 pp.
- ⁶ L. I. Brezhnev speech of February 24, 1976, in KPSS, Materialy XXV s"yezda KPSS, Moscow, Politizdat, 1976, p. 43.
- ⁷ L. I. Brezhnev, O konstitutsii SSSR, Moscow, Politizdat, 1977, pp. 16-17.
- ⁸ For some details of the conference, see Sotsialisticheskii trud, no. 9, September 1978, pp. 7-95, especially the speech by L. A. Kostin, the First Deputy Chief of Goskomtrud.
- ⁹ E. Voronin, "Employment of the Population is Being Planned," Leningradskaya Pravda, August 17, 1976, p. 2 cited in Murray Feshbach, "The Structure and Composition of the Industrial Labor Force," in Arcadius Kahan and Blair A. Ruble, eds., Industrial Labor in the U.S.S.R., Kennan Institute Study No. 1, New York, Pergamon, 1979, p. 4.
- ¹⁰ See especially his article in Sovetskaia kul'tura, July 21, 1978, p. 6, and his book, Prognoz zaniatosti naseleniya, Moscow, Ekonomika, 1980, pp. 20-21.
- ¹¹ N. G. Lebedinskii, "Basic Questions of Improving the Planning of National Economic Proportions," Planovoe khoziaistvo, no. 10, October 1969, p. 28.
- ¹² Pravda, January 26, 1980, p. 1.
- ¹³ TsSU, SSSR v tsifrakh v 1979 godu, Moscow, 1980, p. 168.

- ¹⁴ In addition to the figure from *ibid.*, also see the unpublished paper by Stephen Rapawy, Civilian Employment in the U.S.S.R.: 1950 to 1978, Foreign Demographic Analysis Division, Bureau of the Census, February 1980, p. 2, and D. Karpukhin, "Labor and Material Well-Being," Sotsialisticheskii trud, no. 12, December 1977, p. 18.
- ¹⁵ The rates are as follows: 1976--2.2 percent; 1977--1.7 percent; 1978--1.7 percent; and 1979--1.2 percent. Sources as in footnote 14.
- ¹⁶ E. Voronin, "Plan and Labor Savings," Sotsialisticheskaia industriia, January 28, 1977, p. 2.
- ¹⁷ Based on Rapawy, Civilian, 1980, p. 12.
- ¹⁸ L. A. Kostin, ed., Trudovye resursy SSSR, Moscow, Ekonomika, 1979, p. 156.
- ¹⁹ Based on Rapawy, Civilian, 1980, p. 8.
- ²⁰ TsSU SSSR, Itogi Vsesoiuznoi perepisi naseleniia 1970 goda, volume II, Moscow, Statistika, 1972, pp. 18-19 and 68-69.
- ²¹ "Speech by Comrade L. I. Brezhnev," Pravda, April 26, 1978, p. 1.
- ²² Feshbach, "Prospects," 1979, *passim*.

