RUSSIA

Fertility, Contraception, Induced Abortion, Infant and Maternal Mortality

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ABSTRACT

Russia is a low fertility country (total fertility rate equals 1.552 for 1992) with a strong pronatalist policy: maternity leave is 18 weeks under full payment, while 3 years with job security and partial payment. The age pattern of fertility is very young, mainly concentrated in the age interval 20-24, and is primarily within marital union. The singulate mean age at marriage equals 20.7 (census of 1989). Childbearing is essentially limited to 1-2 children: only 21 percent have 3 or more children (period cohort of 1989), but the proportion of childless is fewer than 5 percent. The Russian population is essentially homogeneous in terms of fertility.

There are no direct data for measuring contraceptive prevalence in Russia. However, the two major independent sources: the supply-side data of the Ministry of Health Care and selected small-sample surveys suggest that the prevalence of modern methods (not counting condom) is at least 22-25 percent, while possibly may be significantly higher. The IUD is a primary method, being promoted by the Ministry in the 1980s as the principal substitution for abortion. It is used mainly as a stopping method after the first or a second child, or to postpone the second one. The prevalence of oral contraception is only 2-4 percent, but is expected to grow rapidly in the near future. Sterilization is essentially permitted only by the most recent Order issued December 28, 1993. The surveys suggest that the overall (any method) contraceptive prevalence is within the 70-80 percent range, though it may be much lower.

Induced abortion, not contraception, is the primary method of fertility control in Russia. The reported total abortion rate is about 3.4 (1991), while the abortion ratio (proportion of known pregnancies terminated by abortion) is 0.680. Abortion on request is permitted within the first 12 weeks of pregnancy (Decree of 1955). Abortions by vacuum aspiration in the early stage of pregnancy are included into the officially reported data (at least 23 percent of the total number, 1991), as are some true spontaneous abortions and a significant portion of illegal abortions. This makes the reported level substantially higher (at least 10 percent) than the one truly compatible with other countries. Counting all illegal abortions would add no more than 15 percent to the overall reported level.

Abortions are primarily to married women. The age pattern is young (the highest abortion rate is at age 23-27). Abortions are mainly performed to stop childbearing after the first child, or to postpone the second one (1.9 on average, 1988-89), or for stopping after the second child. A relatively small number of abortions is to nulliparous women.

The infant mortality rate is moderately high (18.05 in 1992), with the post neonatal (27-364 days) component steadily decreasing (6.59 in 1990). The maternal mortality rate is extremely high (50.8 per 100,000 live births, 1992). The death rate due to induced abortion is rapidly decreasing, because of replacing surgical (curettage) abortions with menstrual regulations, and apparently because of declining share of illegal (self-induced and criminal) abortions, which absorb virtually all the incidents of death. The current maternal mortality rate due to abortion is 12.3 or about 24 percent of the maternal deaths.

The population size is stabilizing around 150 million. Its projected dynamics primarily depends on external migration exchange, with the natural increase being negative. The former is determined by the presence of 25.3 million ethnic Russians (36.3 million native Russian speakers) outside the present Russian borders (the 1989 census). The latter is partially because of extremely high mortality of the adult male population (life expectancy equals 62.0 in 1992, with 73.8 for the female population).

POPULATION

The recent official estimate of the Goscomstat {[1]} for the Russia's population size is 148,294,709 as of the beginning of 1993. (Goscomstat, 1993a). A more precise census enumeration (January, 1989) is shown in Table 1. The estimates for 1992 and 1993 are provisional. More precise numbers will soon be available for 1994, as the data from the Large-Sample demographic survey (reference date -- February 1994) will be tabulated {[2]}. With the population size of its European part accounting for 116.3 million (1992), Russia is the largest country in Europe exceeding the population of the second largest (Germany) by about 50 percent.

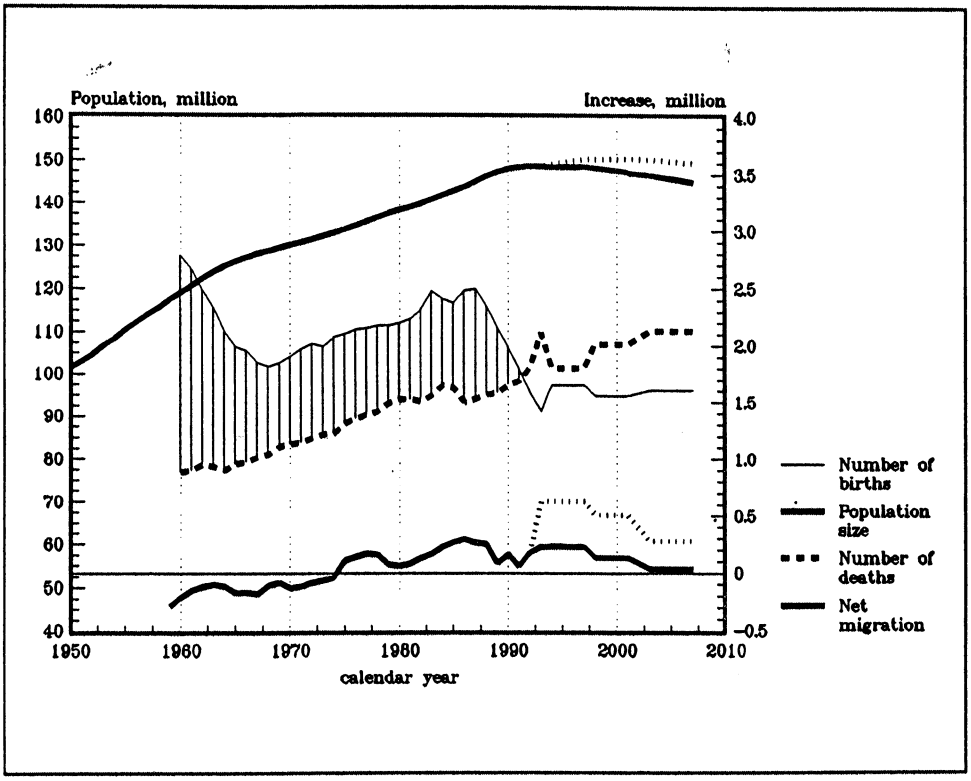


Figure 1.
Population size and its components of change.

Source: Goscomstat (1988, p. 8, 112; 1990a, p. 91; 1992b; 1993a) and Volkov *et al.*(1993). For 1993 estimated from the monthly registration for 9 months. Projection is based on the 1992 data. The high projection variant is indicated by dotted line.

While the population size grew steadily after World War II, natural increase sharply dropped during the years of the *perestroĭka* campaign and the subsequent crises (Figure 1). Starting from 1992 Russia has experienced negative natural increase with the crude birth and death rates equal respectively to 10.7 and 12.2 (1992). Judging from the monthly registered number of births and deaths (available by September 1993), the crude rates for 1993 may be within the range 9-10 and 14-15 respectively {[3]}.

The net migration flow into Russia has been positive since the mid-1970s (Figure 1). It will probably constitute the main source of the future growth or decrease of the Russian population, because of the existence of a very significant number of ethnic Russians (25.3 million by the census of 1989) and native Russian speakers (36.3 million) residing outside the present Russian borders (see side-box *Demographic Environment*, Table 2, Figure 2). According to the most recent projection completed by the Goscomstat, the natural increase will remain negative for at least 10 years, while the population size may stabilize around 150 million or decrease slightly depending on the migration exchange with the former USSR republics, reflected in the projection scenarios (Table 1, Figure 1) {[4]}.

Table 1.
Population Size by Census Enumerations, Latest Available Estimates and Projection.

in thousands, at the beginning of the calendar year

Population size		1979	1989	1992*	1993	1997	2002
Urban		94,942.296	107,959.002	109,672	108,458	n/a	n/a
Rural		42,467.625	39,062.867	39,032	39,063	n/a	n/a
Total	(high)	137,409.921	147,021,869	148,704	148,295	150,310	150,430
	(low)					148,590	147,070
Population aged 0-1		2,106,752	2,326,547	n/a	1,581	n/a	n/a
Population aged 0-4	(high)	10,522.767	12,032.460	10,624	9,759	8,522	8,211
	(low)					8,387	7,975
Women aged 15-49	(high)	36.909.294	36,158.586	35,980	36,371	38,929	39,689
	(low)					38,427	38,683

*) The population age composition is according to a provisional estimate based on the cohort-component extrapolation, while the total population size and the urban-rural composition are from a different estimate based on vital registration data.

Source: Goscomstat (1990a, p. 30; 1993a; 1993d, p. 100-101). The projection -- Goscomstat (1992b) is based on provisional estimates for the 1992 population age composition.

The urban population size increased faster than the rural population for all calendar years after 1950, chiefly due to migration to larger cities, including that caused by the government recruiting programs for qualified low-skilled workers (so called *limit*). The share of urban population reached 73.9 percent in 1991, up from 44.6 percent in 1951. It declined however in 1991 and 1992 (as the absolute number of the urban population did) because of the decreasing migration flow from rural areas, sharply declining natural increase, and emigration abroad primarily from the urban areas.

Russia is a relatively ethnically homogeneous country. The ethnic Russians constitute 81.5 percent of the entire population (or totally 119,865,946) according to the 1989 census (Goscomstat, 1991a). The other major ethnic groups are: the Slavic populations (the Ukrainian, Belorussian, Polish, Serbian, etc. -- 3.9 percent), populations of the Finnish-Uralian language group (such as Finnish, Mordva, Mari, and Udmurdt -- 2.0 percent), populations of the Turkic-Altaï language (as Tatar, Bashkir, and Kazakh -- 7.6 percent), different populations of Caucasia (such as Kabarda, Chechen, or Avar -- 1.9 percent), ethnic

Germans (0.6 percent) {[6]}, Jews and Armenians (0.4 percent each). Table 3 lists ethnic minorities with census population size exceeding 500 thousand. The non ethnic Russian population constitutes about 11.4 percent in the Russia's urban population (Goscomstat, 1992a). With few exceptions, the ethnic Russian population comprises at least 30 percent even in the areas of compact settlement of ethnic minorities (39.3 percent in Bashkiria, the largest, and 43.3 percent in Tatarstan -- the second largest population).

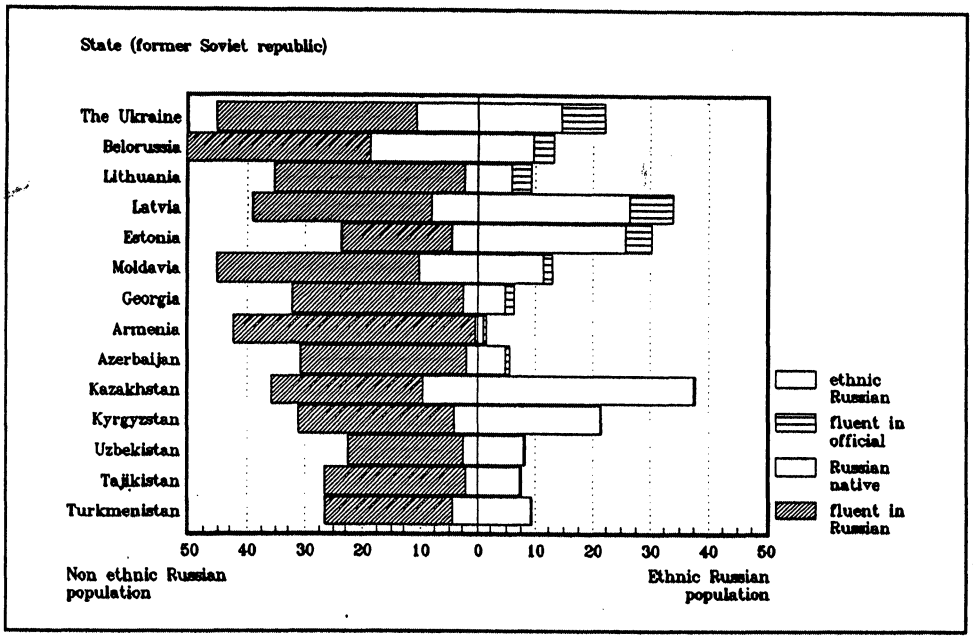


Figure 2.
Russian and non-Russian population in the former USSR: language proficiency.

Note: The entire population fluent in Russian language is represented by the whole bar from its left-most to the right-most limit. The white rectangles on both sides combined with the striped rectangle (in any) stand for the native Russian speakers. Those of them who are not ethnic Russians are on the left side of the diagram. The percentage is shown for the entire population, not to ethnic Russian and non Russian parts separately.

Source: Goscomstat (1993c).

According to the 1989 census, 7,495 thousand or 27.6 percent of the ethnic minority populations indicate the Russian language as their native tongue. This percent exceeds 50 for the East Slavic populations and the ethnic Germans, equals 29.1 for the Finnish-Uralian populations, and 13.6 for the native Turkic speakers (Goscomstat, 1990b), while is as high as 88.9 for the Jews (Table 3, Figure 3). The levels are explained, in part, by a large proportion of marital unions with the ethnic Russians, estimated as 26.5 percent on average for the major non-Russian ethnic groups (based on the 1985 Large-Sample survey, see Volkov, 1991). As many as 47.6 percent of married couples with at least one ethnic German spouse have an ethnic Russian as the other spouse. So do 29.5 percent of the East Slavic populations, 41.0 percent of the major Finnish-Uralian populations, 23.4 of major ethnic Turkic groups and 35.8 percent of the Jews. The least assimilated populations are those of the North Caucasia, some eastern Turkic and Mongolian ethnic groups.

DEMOGRAPHIC ENVIRONMENT

An important issue of the current state of the Russian population is the unique reality of a very significant number of ethnic Russians residing beyond the present state frontiers as the result of the USSR dissolution. These *Auslands-Russians* account for 25.3 million according to the 1989 census (Table 2), and constitute the majority population in vast territories, for instance, in northern Kazakhstan, the Crimea, in southern areas of the Left-Bank Ukraine, and in some areas of the Baltic states (Map). Their percent in the entire population of a newly independent republic is as high as 37.8 (Kazakhstan), 34.0 (Latvia), or 30.3 (Estonia). At the census date, the ethnic Russian urban population formed respectively 51.3 percent of the urban population of Kazakhstan, 40.8 of Latvia, 39.5 of Kyrgyzstan, 39.0 of Estonia, and 30.0 of the Ukraine (Goscomstat, 1993c).

With rare exceptions, these territories were acquired by the Russian Empire during the 17th-19th centuries either as provinces of foreign states after a successful war (like the Ukrainian lands of Poland, 1654, Finland and Estonia from Sweden, 1721, the Crimea and the Novo-Russian [Odessa] territories from the Ottoman Empire, 1783), or as areas with nomadic population with virtually no affiliation to any state (like the Steppen General Governorate within Siberia forming the modern Kazakhstan, 1730-1740, or the *Sémiréchye* constituting the main part of modern Kyrgyzstan and Kazakhstan, 1850-1860). Resettling of the European Russians on the sparsely populated eastern Imperial periphery was especially encouraged by the government of Count Stolypine (1906-1911), and later by the Stalin plan of industrial reconstruction (1932-1940) and in the 1950s with the *Tselina* campaign.

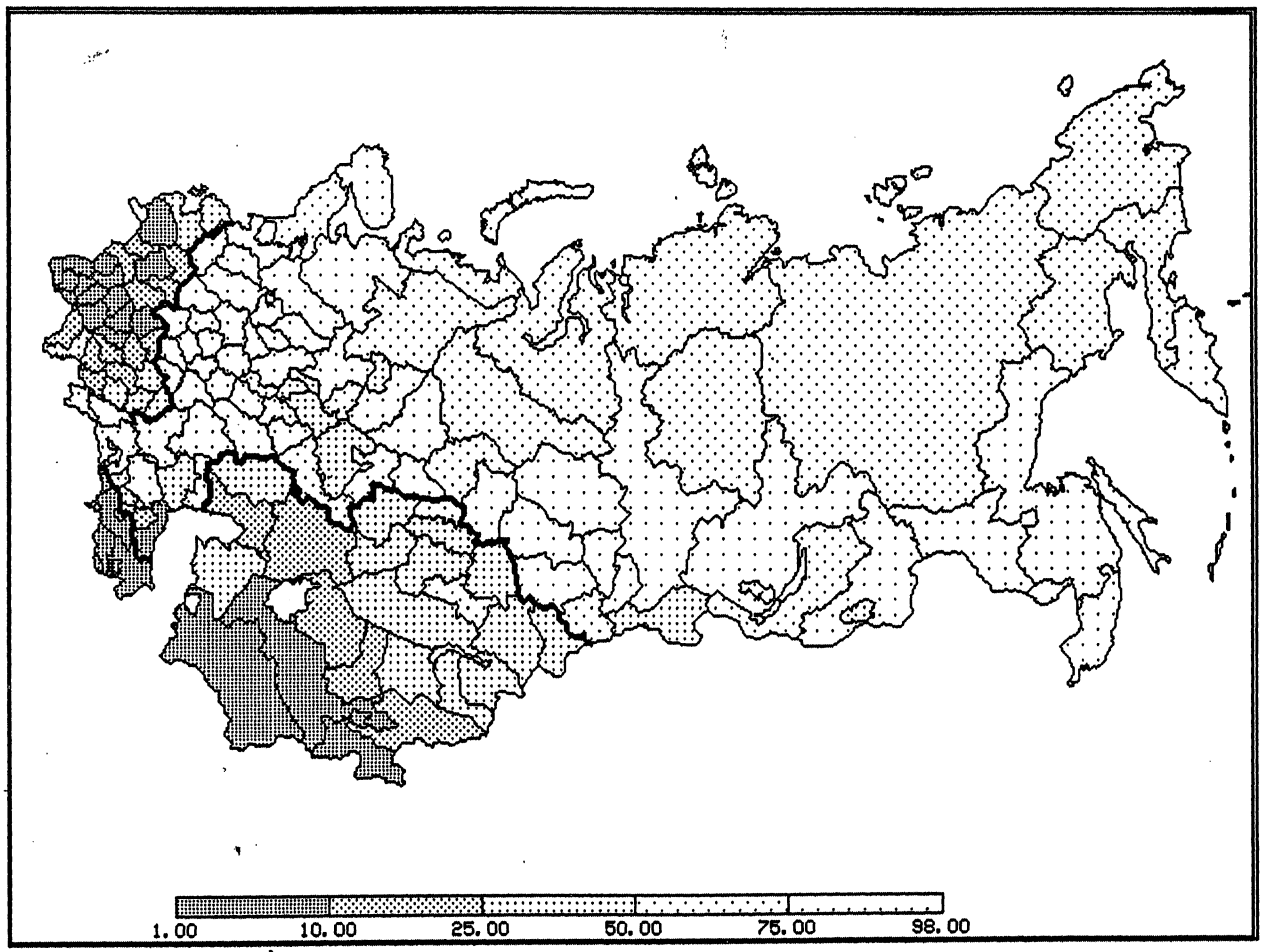
Different provinces of the Empire bore different political status, and enjoyed different degrees of autonomy which were also subject to numerous vicissitudes, especially during the Soviet time. For instance, Kazakhstan was established in 1920 under the name of Kyrgyzian autonomous republic within Russia *per se*, being then upgraded to a USSR member in 1936. By contrast, the Karella-Finland republic established in 1923 as an autonomous republic, was upgraded in 1940 to a full member of the USSR (reputedly pending a reannexation of Finland), but then was downgraded back to the autonomous republic within Russia proper (1956) {[5]}. Some of the changes in political status and the land territory were associated with forced resettlement programs -- notably replacing the Tatar population of the then Crimea autonomous republic of Russia proper (1923-1945) with Ukrainian settlers. In turn, some ethnic Russians moved into the Soviet republics relatively recently (as in the 1940s and 1950s) after a significant part of other ethnic populations had been forcefully deported outside the republic (as in Estonia).

On average by republics, 57.6 percent of the ethnic Russian population was born in the republic of its current residence (56.7 in the Ukraine, 66.6 in the Kazakhstan, 54.7 in Latvia, 59.1 in Kyrgyzstan, 42.2 in Belorussia, 42.9 in Estonia) (Goscomstat, 1993c).

Regardless to its current political status, the ethnic Russian population is unlikely to be integrated into the ethnic republic of residence any time soon. Percent of ethnic Russians speaking the official language of their new country varies from extremely low in Kazakhstan (0.9 percent) and Central Asia (4.6 percent in Uzbekistan) to moderately low in the Baltic (22.3 in Latvia) and Slavic states (34.4 in the Ukraine) -- see Figure 2. On the contrary, a substantial proportion of those who do not consider themselves ethnic Russians do indicate the Russian language as their *native* tongue. Partially they are children of mixed marriages who took the Russian language as their native tongue (as is in the majority of ethnically mixed couples -- Vòlkov, 1989), while partially members of other ethnic groups, such as Germans, Poles, Jews, Ukrainians, and Belorussians, who might have used Russian language in their families for generations. For example, 63.3 percent of the ethnic Ukrainian population of Kazakhstan indicate the Russian language as their native tongue. So do 65.3 percent of ethnic Belorussians and 45.4 of the ethnic Germans. From the 487 thousand Jewish population residing in the Ukraine 90.5 percent have the Russian language as their native tongue. As much as 19.7 of ethnic Belorussians in their own republic and 12.2 of ethnic Ukrainians in the Ukraine (4.6 million) are native Russian speakers.

At the census date totally 36.3 million of native Russian speakers resided beyond the current Russian borders (Table 2). They comprise 46.4 percent of the population of Kazakhstan, 42.1 of Latvia, 34.8 of Estonia and 32.8 of the Ukraine. The total proportion of those fluent in the Russian language is about 80 percent in the Ukraine, Belorussia, Kazakhstan and Latvia (Table 2, Figure 2).

There is no doubt that the presence of the *Auslands-Russian* population will strongly influence the demographic dynamics of present Russia in terms of in-migration and out-migration flows and possible territorial acquisitions. It will also provide additional moral support for an even stronger state pronatalist policy, which is traditional for Russia. As one might note for comparison, the number of the *Auslands-Russians* more than twice exceeds the size of the *Auslandsdeutschum* population (9.13 million by the upper estimate -- Schechtman, 1946, p. 29) formed in the lands lost by Germany and Austria after World War I, whose ethnic integration into their new states was also not to a large degree.



Percent of ethnic Russians by territories. Census 1989.

Note: The percent is shown by *oblast* [governorate] level. The scale is indicated below the map.

Source: Goscomstat (1993c). For Mangushlak and Türgay territories in Kazakhstan the Republic's average is assumed as the data were not available.

Virtually all the population of Russia (97.7 percent, or 87.8 percent for the non ethnic Russians) is fluent in the Russian language (Goscomstat, 1992a).

Age composition of Russia's population is tabulated for the census date (January 1989). The most recent estimate for the beginning of 1993 (Goscomstat, 1993a) is presented in the common format of a population pyramid (Figure 4). The age composition is very typical for a European population with fertility close to replacement level. A fall of the fertility rate during World War II caused a sharp distortion of the pyramid at ages 45-49, which in turn lowered the fertility level after a generation -- at the mid- and late-1970s, which corresponds to ages 20-24 and 25-29 in the pyramid. Age composition of the male population is greatly affected by the major losses during the War, as well as by an extreme excess of general male mortality over female mortality in Russia.

Considering its low fertility level, Russia has a normal sex-ratio at birth (around 105 during the 1980s, 105.5 for 1990). A very low morality rate for younger ages may explain the excess of male population by age 35 (as for the 1988-89 life table), regardless of the excessive male mortality. The excess of male population in younger ages is also caused by working-age migration from the former Soviet republics, partially within the government's recruiting programs which affect chiefly the ages 15-24.

Table 2.
Share of the Ethnic Russian Population in the Former Soviet Republics. Census 1989.

State (former USSR republic)	Number of ethnic Russians (percent in the total population)	Number of native Russian speakers (percent in the total population)	Percent of non native Russian speakers fluent in Russian	Percent of ethnic Russians fluent in the official state language
The Ukraine	11,355,582 (22.1)	16,898,273 (32.8)	45.3	34.3
Belorussia	1,342,099 (13.2)	3,243,179 (31.9)	50.6	26.7
Lithuania	344,455 (9.4)	429,244 (11.7)	35.3	37.5
Latvia	905,515 (34.0)	1,122,076 (42.1)	39.1	22.3
Estonia	474,834 (30.3)	544,933 (34.8)	23.7	15.0
Moldavia	562,068 (13.0)	1,003,563 (23.1)	45.3	11.8
Georgia	341,172 (6.3)	479,279 (8.9)	32.2	23.7
Armenia	51,555 (1.6)	66,700 (2.0)	42.3	33.6
Azerbaijan	392,304 (5.6)	528,762 (7.5)	30.8	14.5
Kazakhstan	6,227,549 (37.8)	7,797,278 (47.4)	35.8	0.9
Kyrgyzstan	916,558 (21.5)	1,090,667 (25.6)	31.1	1.2
Tajikistan	388,481 (7.6)	495,180 (9.7)	26.6	3.5
Uzbekistan	1,653,478 (8.3)	2,151,634 (10.9)	22.5	4.6
Turkmenistan	333,892 (9.5)	491,015 (13.9)	26.6	2.6
Total / average	25,289,543 (18.2)	36,341,783 (26.2)	36.8	19.9

Source: Goscomstat (1993c).

While in the mid-1970s the reproductive age female population was dominated by a large cohort born during the Russian baby-boom (around 1960), it currently faces a major replacement of generations (Figure 5, Table 4). A relatively small cohort born around 1970 will be determining the fertility level and its characteristics in the mid-1990s. For the next 15 years, before the second echo of the baby-boom

will emerge, Russia will meet a slight but permanent increase of the female population size at age 20-24, simultaneously with decreasing of the group aged 25-29. This may be an important covariate for any future fertility change.

The most recent cross-distribution of the female population and women currently in marital union (the census definition) by age and parity is available from the 1989 census (Table 5).

■

Table 3.
Major Ethnic Minority Populations in Russia. Census 1989.

Ethnicity	Population size (percent in the entire population)	Percent of native Russian speakers	Percent fluent in Russian	Percent married to a Russian*	Number of children born by age 45-49	Period total fertility rate (TFR) 1988-89
Tatar	5,543,371 (3.77)	14.2	86.9	25.2	2.422	2.330
Ukrainian	4,362,872 (2.97)	57.0	95.1	29.6	1.892	2.049#
Chuvachi	1,773,645 (1.21)	22.3	88.1	33.9	2.669	n/a
Bashkir	1,345,273 (0.92)	10.0	82.7	11.6	3.198	n/a
Belorussian	1,206,222 (0.82)	63.5	97.1	29.0	1.883	2.105#
Mordva	1,072,939 (0.73)	30.8	95.2	52.3	2.488	n/a
Chechen	898,999 (0.61)	1.1	75.1	n/a	5.051	n/a
German	842,295 (0.57)	53.2	91.6	47.6	n/a	2.629
Udmurdt	714,833 (0.49)	28.9	91.2	37.9	2.610	n/a
Mari	643,698 (0.44)	17.8	87.3	25.7	2.829	n/a
Kazakh	635,865 (0.43)	11.5	89.9	3.5	5.019	3.598#
Avar	544,016 (0.37)	1.6	66.9	n/a	4.484	n/a
Jew	551,047 (0.37)	88.9	97.3	35.8	1.323	1.492
Armenian	532,390 (0.36)	31.8	93.2	10.6	2.085	2.270

*) Percent of married couples where one spouse is of the ethnicity in question while the other is an ethnic Russian. An estimate based on the 1985 Large-Sample demographic survey. Average for the entire USSR.

#) Average for the entire USSR.

Source: Goscomstat (1991c, p. 411; 1992a; 1993c); Volkov (1991); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

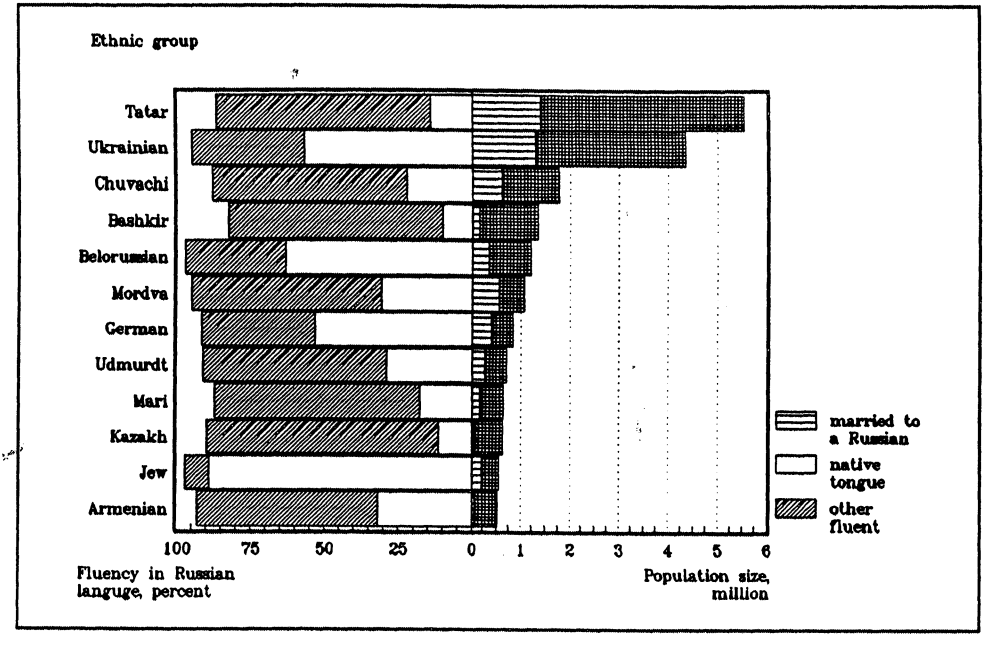


Figure 3.

The major ethnic minority populations in Russia. Census 1989.

Note: The left side shows composition in terms of language proficiency (native Russian speaker, fluent in Russian, other), while the right side -- in terms of mixed marriages (married to a Russian, and other).

Source: Goscomstat (1992a); Volkov (1991). The number of those married to an ethnic Russian shown is estimated roughly as being proportional to the number of married couples where one spouse is an ethnic Russian while the other is of the ethnicity in question, as reported in the Large-Sample demographic survey of 1985.

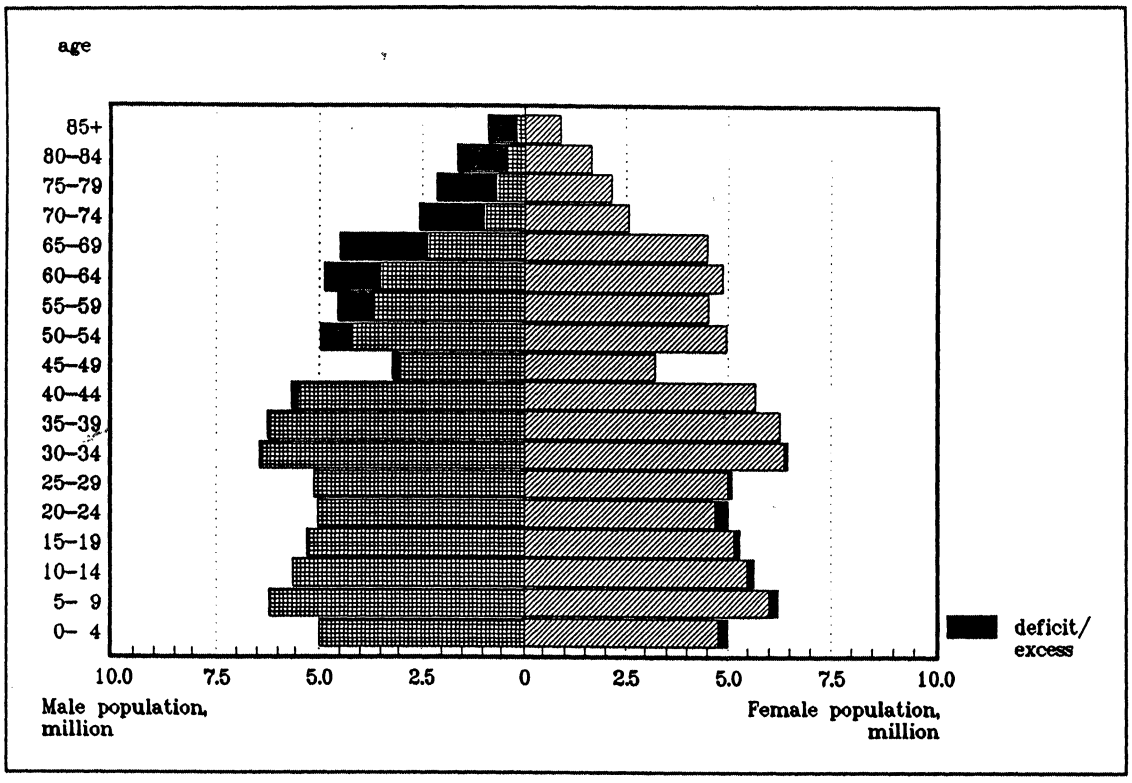


Figure 4.
Population age pyramid, January 1993.

Source: Goscomstat (1993a).

Table 4.
Female Population Age Composition. The Census Enumeration and Projection (Low variant).

in thousands, at the beginning of the calendar year

		1989	1992	1993	1997	2002
Total population size		147,021.9	148,340.0	148,294.7	148,590.0	147,070.0
Age	15-19	4,848.9	5,124.4	5,160.3	5,399.2	5,919.8
	20-24	4,798.6	4,607.5	4,690.3	5,134.2	5,374.5
	25-29	6,183.6	5,291.9	5,001.6	4,643.0	5,102.9
	30-34	6,390.0	6,458.2	6.370.5	5,325.9	4,631.0
	35-39	5,862.8	6,178.0	6,257.4	6,440.2	5,299.6
	40-44	3,886.9	5,454.4	5.673.1	6,124.3	6,354.0
	45-49	4,187.7	2,865.9	3.217.8	5,360.4	6,001.2
Women aged 15-49		36,158.6	35,980.2	36,371.1	38,427.1	38,683.0

Source: Goscomstat (1990a, p. 30; 1992b; 1993a). Age composition for 1992 (employed as a base for the projection) is a provisional estimate not completely consistent with the 1993 age composition, reported officially.

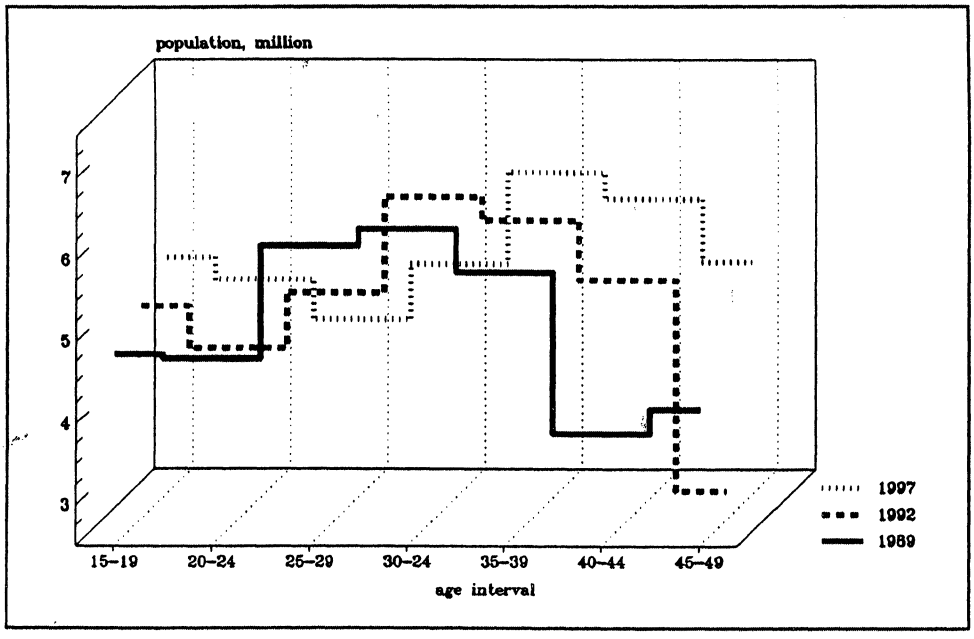


Figure 5.
Female age composition 1989-1997.
Source: Goscomstat (1990a, p. 30; 1992b).

Table 5.
Percent Distribution of the Female Population and Women in Union by Number of Children Born. Census 1989.

Age	Number of children ever born							Mean number of children born
	0	1	2	3	4	5	6+	
Entire female population								
15-19	94.22	5.31	0.43	0.04	0.00	0.00	0.00	0.063
20-24	46.58	39.70	12.19	1.28	0.18	0.03	0.04	0.690
25-29	17.75	38.30	36.07	6.20	1.18	0.34	0.16	1.366
30-34	10.25	28.38	46.29	11.09	2.43	0.96	0.60	1.728
35-39	8.01	27.17	47.05	12.31	2.89	1.45	1.12	1.848
40-44	8.08	29.95	45.27	11.08	2.69	1.55	1.37	1.821
45-49	7.88	27.37	43.53	12.99	3.70	2.31	2.22	1.959
Currently married women								
15-19	54.60	41.89	3.30	0.21	0.00	0.00	0.00	0.491
20-24	22.35	56.58	18.78	1.95	0.27	0.04	0.03	1.015
25-29	7.93	39.73	42.96	7.40	1.41	0.40	0.18	1.567
30-34	4.60	25.65	52.47	12.74	2.77	1.10	0.68	1.899
35-39	3.66	23.59	52.50	14.04	3.26	1.66	1.29	2.010
40-44	4.11	26.52	50.33	12.63	3.04	1.79	1.59	1.976
45-49	4.70	24.14	47.43	14.49	4.10	2.63	2.51	2.105

Source: Goscomstat (1993b).

FERTILITY

Russia is a low-fertility country. The most recent officially reported total fertility rate (TFR) is 1.552 based on the 1992 midyear population (Table 6). Using the monthly registered number of births (available by September 1993) the total fertility rate for 1993 may be as low as 1.290, which is lower than that currently observed in the European Union countries. This is the lowest total fertility rate recorded after World War II.

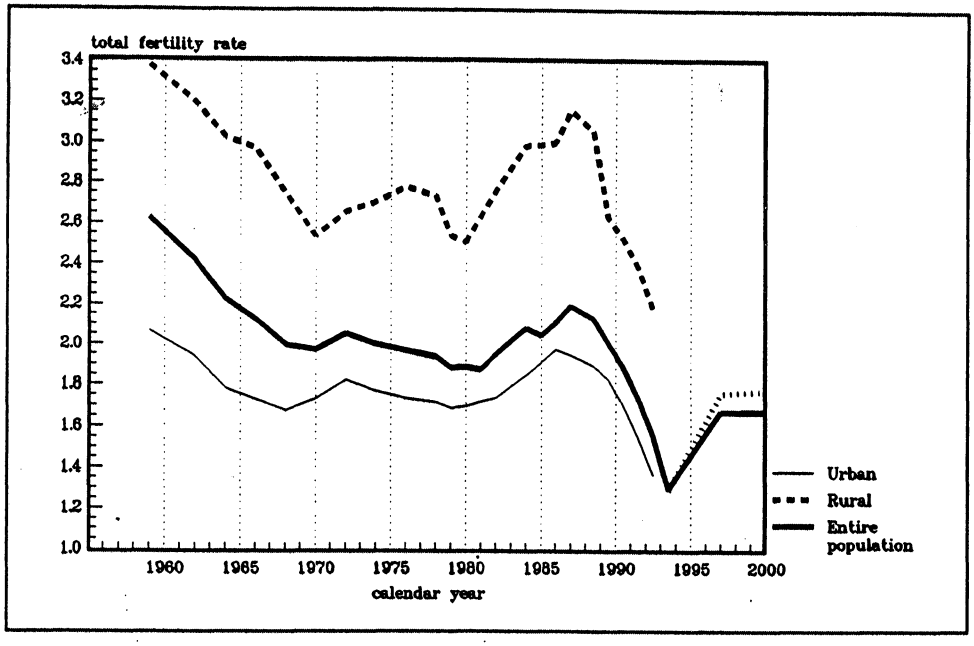


Figure 6.
Total fertility rate 1958-1992 and projection.

Source: Goscomstat (1988, p. 211; 1990a, p. 308; 1992b; 1993a). Interpolation for some years. For 1993 -- an estimate from the monthly vital registration. Projection is based on 1992 data. The high projection variant is indicated by dotted lines.

Although the fertility level was falling particularly rapidly during the current crisis (Figures 1, 6), an explanation could not possibly be reduced to an influence of the latter. The fertility transition in Russia was essentially completed by the mid-1960s after the baby-boom which occurred around 1960 simultaneously with some European countries. Throughout the period 1967-1983 the total fertility rate was within the range 1.85-2.05, or below replacement level. An increase during the 1980s (Figure 6) may most probably be attributed to a substantial activation of the state pronatalist policy undertaken synchronously with a major replacement of generations in the reproductive ages. The relatively small cohort born in the early 1950s was replaced with the large baby-boom cohort who apparently well responded to the state support for childbearing.

As many European countries do, Russia maintains a firm pronatalist policy. The maternity leave under full payment is 16 weeks (18 weeks by Law of May 22, 1990) and is usually combined with annual full-paid vacations (4-6 weeks). The Decree of the Central Party Committee No. 235 issued January 22, 1981 also introduced the critical partially paid post-maternity leave covering the first 12 months of the child's life (18 months by the Law of 1990), and the further unpaid leave with the secured job place up to age of 1.5 years (3 years by the Law of 1990). The current payment equals the official minimum wage level. The payment is doubled in the case of twin birth. The maternity and post-maternity leaves are equally applicable to full-time students.

Table 6.
Total Fertility Rate by Place of Residence. Census Years and Latest Available Estimates.

Year	1958-59	1969-70	1978-79	1988-89	1990	1991	1992
Urban	2.068	1.733	1.688	1.888	1.701	1.540	1.362
Rural	3.379	2.535	2.539	2.688	2.526	2.384	2.177
Total	2.626	1.972	1.885	2.068	1.887	1.732	1.552

Source: Goscomstat (1989, p. 328; 1993a); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

Though the family allowance was introduced in 1944, it primarily targeted births of high orders (with the threshold of 5), which are extremely uncommon for the Russian population. The Decree No. 235 introduced the lump payments starting from the first child and doubled for the second. By the Decree of August 2, 1990 the payment equals triple the official minimum wage level regardless to the birth order. There are other benefits, like early retirement (usually at age 50 with the common retirement age of 55 for women) and the right to priority housing. On the other hand, a special additional tax (7 percent of the gross income) was imposed on men aged 18-59 regardless to marital status and married women aged 18-54 who are childless, except due to health reasons (the tax was discontinued January 1, 1992).

There is some evidence that by decreasing effectively the birth interval between the first and the second child, the new pronatalist measures caused overlapping of birth cohorts in the synthetic (period) cohort around 1985, and hence created a sharp but temporal increase of the period total fertility rate (Darsky, 1993), and a consequent fertility decline with replacement of the cohorts. The maximal total fertility rate of about 2.2 was recorded for 1986-1987.

Urban-rural residence is an important determinant of the fertility level (Table 6). Unlike many of former Soviet republics, however, Russian fertility is essentially homogeneous in terms of ethnicity (Table 3). The overall period total fertility rate based on the 1989 census enumeration (2.068) is chiefly determined by the fertility of ethnic Russians (TFR = 1.955) who constitute 81.5 percent of the population. The second largest group -- Tatars (3.8 percent) has a total fertility rate of 2.330, while the third one -- Ukrainians (3.0 percent) -- 2.049 (average for the entire USSR). The only exception is of the high-fertility Muslim populations of the North Caucasia, who account totally for less than 2 percent.

The age pattern of childbearing in Russia is significantly younger (about 3 years in average) than in Western Europe (Figure 7, Table 7). The highest age-specific fertility rate is observed at age 20-24, with the rate for 25-29 well below the European minimum. The proportion of births occurring before age 20 is raised exceptionally above any low-fertility European population. Among other reasons, it is probably related to the age interval of military draft (18-20). While the recent fertility decline (1989-1992) affected primarily the age interval 20-29, its influence on younger fertility was modest. Hence the mean age of fertility decreased, contrary to what might be anticipated for a transition towards a market economy. A substantial shifting of fertility to older ages, however, may still be expected in the near future, owing to possible aging of the first marriage pattern.

Table 7.
Age-Specific Fertility Rates 1989-1992.

per 1,000 women

Age	1992, by birth order					1991	1990	1989
	1	2	3	4+	total			
15-19	47.8	3.4	0.1	0.0	51.4	54.9	55.6	52.5
20-24	95.1	33.8	4.4	0.7	134.0	146.6	156.8	163.9
25-29	24.9	34.4	9.5	3.8	72.7	83.0	93.2	103.1
30-34	7.9	14.6	7.4	5.1	35.0	41.6	48.2	54.5
35-39	2.7	3.8	3.2	3.7	13.9	16.5	19.4	22.0
40-44	0.6	0.7	0.7	1.3	3.2	3.7	4.2	5.0
45-49	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2
Total fertility	0.895	0.543	0.127	0.074	1.544	1.732	1.887	2.007
Mean age	22.6	26.6	30.0	32.9	24.9	25.0	25.3	25.6

Source: Goscomstat (1990a, p. 308; 1993a). Mean age is computed from fertility rates after spline-interpolation into single-year density.

The age-specific fertility rates for selected ethnic groups tabulated for the census date show very similar pattern, except for the Jewish population whose age pattern of childbearing is significantly older.

Russian fertility is concentrated within marital union, with extramarital fertility playing a minor role. The practice of state registration employs two definitions of a marital union: according to a self-declaration, and based on the marriage license issued by the State Civil Status Registration Office (*ZAGS*). The first one is used in censuses and state-run sample surveys, which therefore do not distinguish between a legally registered or consensual union (an interviewer is prohibited to demand a document of any form to confirm the marriage). The second one is applied when a newborn is registered. In this case, however, the father and mother are free to declare parenthood jointly, regardless to their legal marital status. In 1989, 86.5 children were born in legally registered marriages, while the additional 5.7 per cent -- to couples according to their self-declaration (Bondarskaya, 1992). The rest (7.8 per cent) is registered by a sole declaration of the mother. The latter proportion grew to 9.4 percent in 1991.

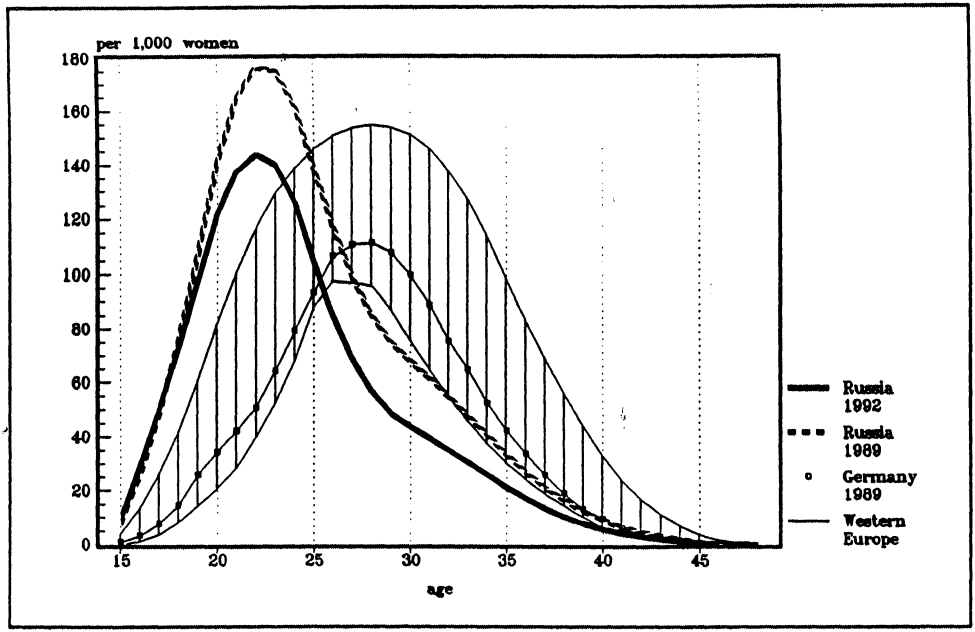


Figure 7.
Age-specific fertility rates. Russia compared with a Western European range*.

*) The Western European Range is composed of data for the European Union countries and the following countries: Austria, Finland, Iceland, Norway, Sweden, and Switzerland -- latest available year circa 1990.

Source: Goscomstat (1990a, p. 308, 322; 1993a), Communautés européennes (1992), United Nations (1992a). Single-year rates for the European Union nations, and spline-interpolation for Russia and other countries.

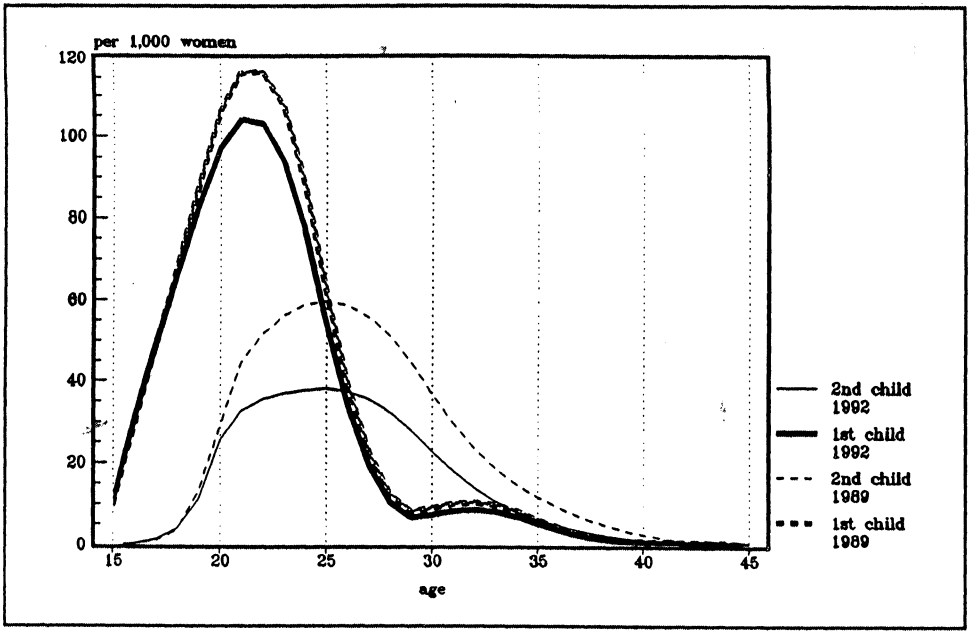


Figure 8.
Age-specific fertility rates by birth order, 1989 and 1992.

Source: Goscomstat (1990a, p. 308, 322-323; 1993a). Spline interpolation into single-year density.

Table 8.
Age-Specific Proportion Married (by the Census Definition) and Proportion of Births Outside of Legally Registered Marriage for the Female Population. Based on the Census Enumeration for 1988-1989.

Age	15-19	20-24	25-29	30-34	35-39	40-44	45-49
Ever married	0.108	0.665	0.880	0.931	0.947	0.955	0.965
Currently married	0.104	0.622	0.801	0.824	0.805	0.774	0.739
Births outside marriage	0.199	0.101	0.108	0.161	0.242	0.331	0.327

Source: Proportion married -- Goscomstat (1990a, p. 191). Proportion born outside marriage -- Bondarskaya (1992).

A significant proportion of births outside of legally-registered marriages is partially explained by the periodically disbalanced marriage market (low male/female ratio) because of the enormously distorted age composition as a result of two world wars, the civil war, and the famines (Darsky and Ilyina, 1990, Andreev, Darsky and Khar'kova, 1993). The excessively high general male mortality also plays a major role creating an early widowhood. This explains a significant component in the proportion married (Table 8) declining in older ages.

The legal age for marriage in Russia is 18 {[7]}. The singulate mean age at marriage (SMAM) {[8]} is registered as low as 20.7 according to the Census of 1989, with the median age at first marriage at about 19.5. Currently Russia demonstrates one of the youngest nuptiality patterns possible for a low-fertility European country, which is the principal cause for its extremely young age pattern of childbearing. The first childbirth usually follows immediately the marriage (Figure 17 below). The mean age of mother at first childbirth is 22.0 (1989 census). The proportion of person-years in reproductive age spent in marriage at the census year is 0.667, or weighed by current age-specific fertility rates *Cm* = 0.630 {[9]}.

Similarly to low-fertility Western European populations, Russian childbearing is concentrated in the birth orders 1 and 2. The first-order and second-order births account for 84.4 per cent of the period total fertility rate in 1989, while 87.2 per cent in 1992 (Table 7, Figure 8). Table 9 and Figure 9 (see also Table 18 below) present parity-progression ratios {[10]} for the birth cohort observed completing its childbearing by the census date (1989) and for the period cohort {[11]} constructed based on the census data.

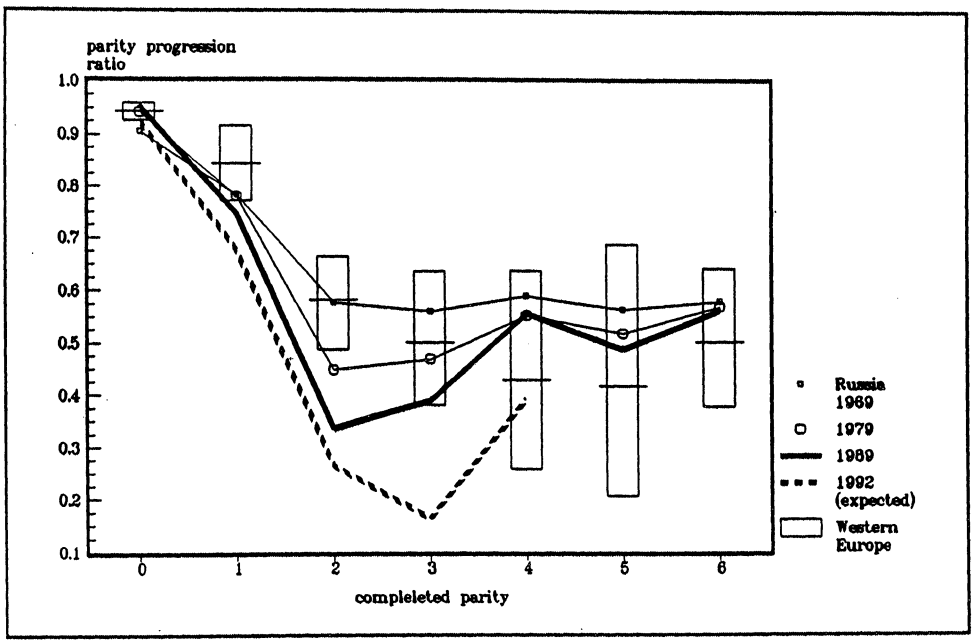


Figure 9.
Parity-progression ratios for married population. Russia compared with a World Fertility Survey range for Western Europe*.

*) The World Fertility Survey (WFS) range for Western Europe based on data for the following countries: Belgium, Denmark. Finland, France, Italy, Norway, Portugal, Spain, and United Kingdom.

Source: The WFS range -- derived from the distributions by completed parity of ever married women aged above 40, Lutz (1990). Russia 1989 -- from the distribution of currently married women aged 45-49 (Goscomstat, 1993b, Table 2). Russia 1992 based on the official survey of young families (both spouses aged younger than 30) about their expected childbearing (Goscomstat, 1993d, p. 106), interpolated for parities beyond 3. Russia 1979 -- based on Goscomstat (1982, p.76-77). Russia 1969 -- estimated from the distribution by completed parity of currently married women aged 55-59 as registered in the 1979 census. The number of children ever born by a woman was not recorded by Russian censuses prior to that of 1979.

The chief distinguishing feature of Russian fertility is the extremely low probability to give birth to the third child: it may possibly be among the lowest ever recorded (Figure 9). For the period cohort of 1988-89 it equals 0.290 (Table 9), or 0.221 for the urban population. An official 1992 survey of young families (both spouses aged below 30) about their expected childbearing (Goscomstat, 1993d, p.102-106) has found the parity-progression ratio of 0.268 for parity 2 (0.676 for parity 1), with the corresponding total fertility rate (assessed by parity) of 1.758. It is almost certain, that the actual fertility of the families surveyed will never exceed their expected level. An increasing probability to stop after the first or the second child is born, rather than increasing proportion of nulliparous women characterizes the recent pattern of fertility transition in Russia. This pattern is not likely to be changed in the near future. The projected fertility decline is expected to influence primarily the third, and increasingly the second birth order (mainly due to increasing the birth interval), leaving the probability of the first child essentially unchanged. It is also possible that the first-order fertility, postponed due to the current crisis, will be resumed at older ages, while the total number of children ever born will still fall lower because of virtual elimination of third-order births.

■

Table 9.
Parity-Progression Ratios Based on the 1989 Census Enumeration.

Parity	Birth cohort		Period cohort
	Entire population	Currently married	Entire population
0	0.9212	0.9530	0.9500
1	0.7029	0.7467	0.7732
2	0.3277	0.3336	0.2902
3	0.3877	0.3895	0.2497
4	0.5504	0.5563	0.3851
5	0.4892	0.4881	0.2940
6	0.5565	0.5613	0.3110
7	0.5857	0.5902	0.2915
Total fertility	1.9595	2.1046	1.9801

Source: Birth cohort is based on the distribution of the female cohort aged 45-49 by number of children ever born (Goscomstat 1993b, Tables 1, 2). Period cohort -- Goscomstat (1991b).

INFANT AND MATERNAL MORTALITY

Considering European standards, Russia is a country with a moderately high level of infant mortality and an extremely high maternal mortality rate. Though decreasing gradually from the 1950s (Figure 10), the infant mortality rate is within the range 17-20 per 1,000 live births for the last decade. The most recent official estimate (1992) is 18.1 (20.4 for boys and 15.0 for girls), Table 10. A projection for 1993 is 19.6 based on nine-month vital registration data.

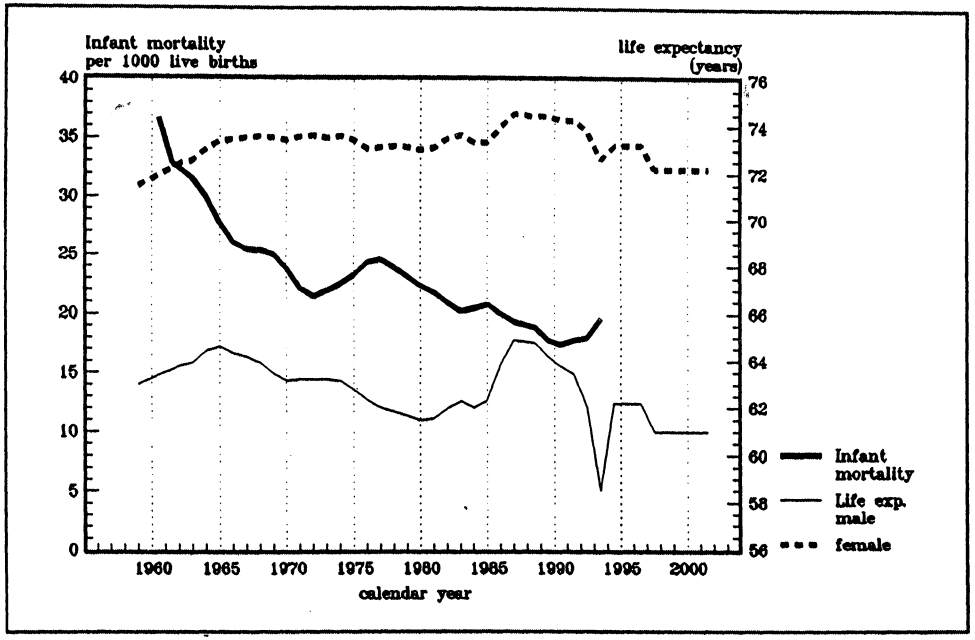


Figure 10.
Infant mortality rate and life expectancy 1959-1992 and projection.

Source: Goscomstat (1989, 1992b, 1993a); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute. Interpolation for some years. For 1993 -- an estimate from monthly vital registration. Projection is based on 1992 data.

The variation of the infant mortality rate by urban-rural residence is very small, and continues to decline. The infant mortality rate for the urban (rural) population is 17.0 (18.3) for 1990, while 17.8 (19.1) for 1992. Throughout the 1980s, the difference has been 2-3 points per thousand, which is less than half of the variation between gender-specific rates (Table 10). The latter is within the usually observed range for low-fertility populations, albeit on its upper bound. There is, however, a significant differentiation of the infant mortality rate by ethnic groups. For 1988 the average infant mortality rate (18.9) is composed of the 19.2 rate for ethnic Russians, 17.3 for Tatars, 11.4 for Ukrainians, 9.4 for Belorussians, 11.5 for ethnic Germans, and 21.9 for Kazakhs (Goscomstat, 1990c). There is no evident correlation with the simultaneously observed period fertility rate (see Table 3).

Table 10.
Infant Mortality Rate and Life Expectancy. Census Years and the Latest Available Estimates.

Year	1958-59	1969-70	1978-79	1989	1990	1991	1992
Infant Mortality Rate *per 1,000 live births*							
Boys	n/a	n/a	26.28	19.85	19.56	20.25	20.40
Girls	n/a	n/a	19.55	14.66	14.35	14.90	15.01
Total	36.6[a]	23.0[b]	22.6[c]	17.80	17.40	17.82	18.05
Life expectancy at birth							
Male	62.99	63.15	61.66	64.21	63.79	63.46	62.02
Female	71.45	73.39	73.11	74.47	74.27	74.27	73.75

[a]) for 1960. [b]) for 1970. [c]) for 1979.

Source: Goscomstat (1993a); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

Table 11.
Late Foetal Mortality Ratio and Infant Mortality Rate by Age of Child.

per 1,000 live births {[12,13]}

Year	1988	1989	1990	1991	1992
Late foetal mortality ratio	9.26	9.08	9.13	8.76	8.34
Early neonatal (0-6) days	8.62	8.53	8.84	8.90*	8.98*
Late neonatal (7-27) days	2.20	2.04	1.97	2.11*	2.31*
Post neonatal (28-364) days	8.06	7.23	6.59	6.80*	6.76*
Infant Mortality Rate	18.88	17.80	17.40	17.82	18.05

*) Estimated.

Source: Goscomstat (1989; 1990a, p. 388-389; 1991c, p. 252-255; 1993a; 1993d p. 386); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute. Estimation is based on the Rahts formula applied to the distribution of the numbers of deaths of the same year by days.

Table 11 and Figure 11 present common age-specific components of foetal and infant mortality measures {[12,13]}. The magnitude of the late foetal mortality ratio may be explained, in part, by the fact that Russia still employs a stricter definition of a live birth {[14]} than the one recommended by the World Health Organization (WHO) and used by the European Union. Consequently, the late foetal mortality, or the stillbirth ratio shown is somewhat higher than its WHO-compatible level, while the early neonatal mortality rate is somewhat lower.

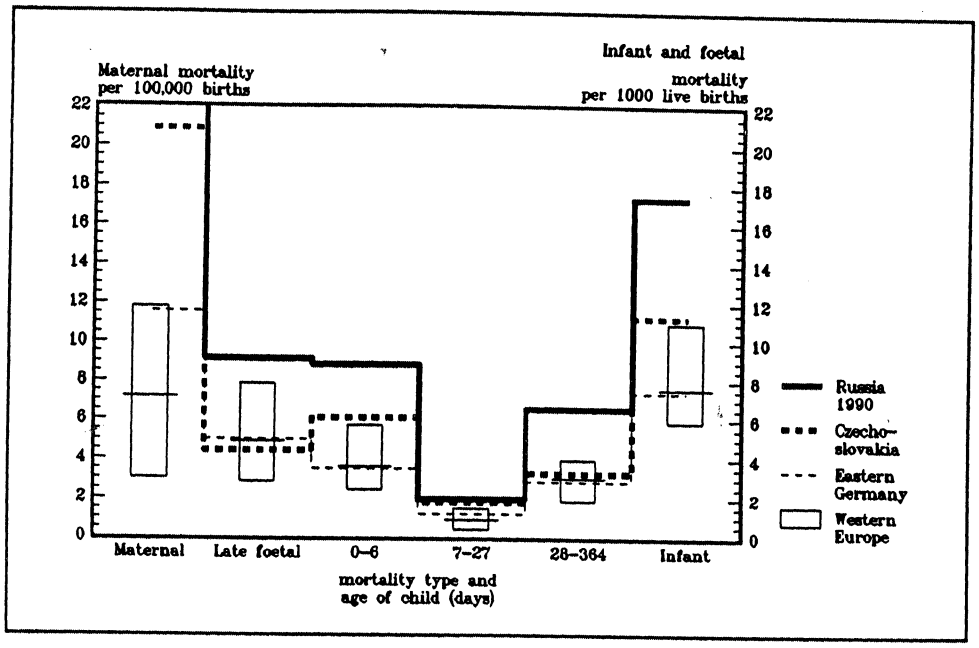


Figure 11.
Infant mortality by age of child, late foetal death ratio, and maternal mortality. Russia compared with a Western European range*.

*) The European Union countries and Austria, Finland, Iceland, Norway, Sweden, and Switzerland; or a subset if the data are not available for a specific indicator.

Source: Western Europe, Eastern Germany and Czechoslovakia -- United Nations (1993). The infant and foetal mortality measures are for 1990 or for the latest available year prior. The maternal mortality rate is averaged over 1987-1988. Rates are computed roughly based on the number of births for the same year. Russia -- all indicators are for 1990 -- Goscomstat (1991c, p. 252-255; 1993e, p.6).

In view of the overall level of infant mortality attained by Russia, the post neonatal component is probably the one decreasing the most rapidly in the recent decade. Its dynamics is naturally associated with progressive elimination of exogenous causes of infant death (Xenofontova, 1990). The infant mortality rate due to infectious and parasitic diseases, accidents, injuries and poisoning is recorded as 2.02 per 1,000 live birth for 1992, down from 3.30 in 1985 (Goscomstat, 1988, 1993a). There is little doubt that the post neonatal component will soon be within the Western European range, provided the current crises will be passed and not be followed by a significant increase in the number of births. The same is suggested by comparison with Central European countries (Figure 11). On the contrary, early neonatal mortality will be likely to remain at a relatively high level in the nearest future. The endogenous causes of infant mortality associated with the neonatal period, such as congenital abnormalities, accounted for 65.9 percent of the infant deaths in 1992, increasing from 55.2 percent in 1985 (Goscomstat, 1988, 1993a).

The complete infant mortality composition by causes of death for 1989 (1992) is reported as follows (rates are per 1,000 live-born children): 1.51 (1.17) due to infectious and parasitic diseases; 0.14 (0.14) due to gastrointestinal diseases; 0.73 (0.85) from accidents, injuries and poisoning; 2.84 (2.66) due to

respiratory diseases; 3.69 (3.86) due to congenital abnormalities; 7.77 (8.05) due to some causes of perinatal death; 1.12 (1.32) due to other causes of death -- Goscomstat (1993a, 1993e).

The level of maternal mortality is well above the Western European range (Figure 11), though it has been steadily decreasing for the last three decades (Figure 12). The common maternal mortality rate for 1992 is recorded as high as 50.8 per 100,000 live births (Table 12), comparing with 4-12 for Western Europe. The rate remained above 100 during the 1960s, above 70 during the 1970s, reached the level of 50 in 1987 and fluctuated around this level thereafter.

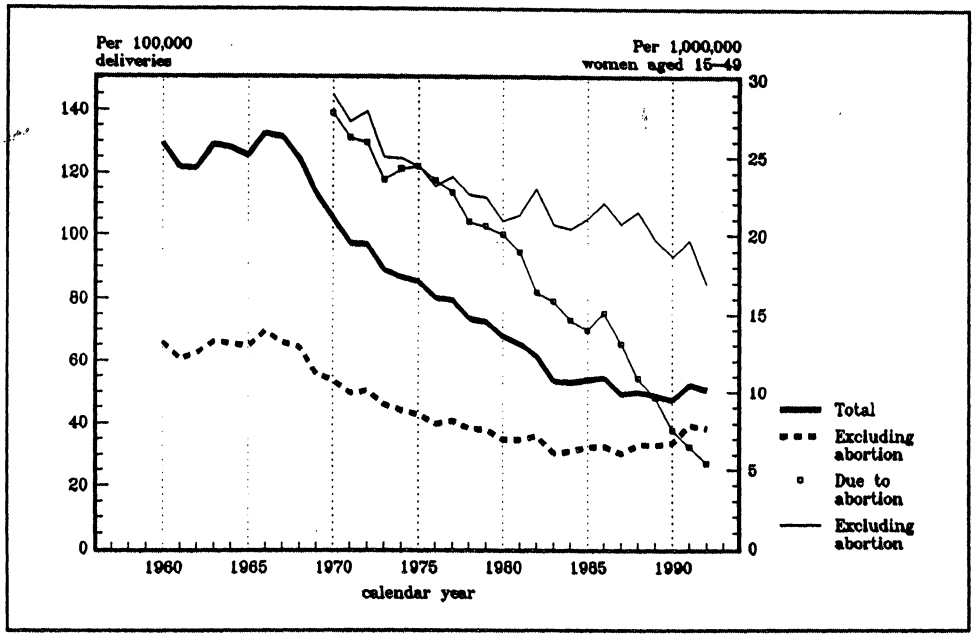
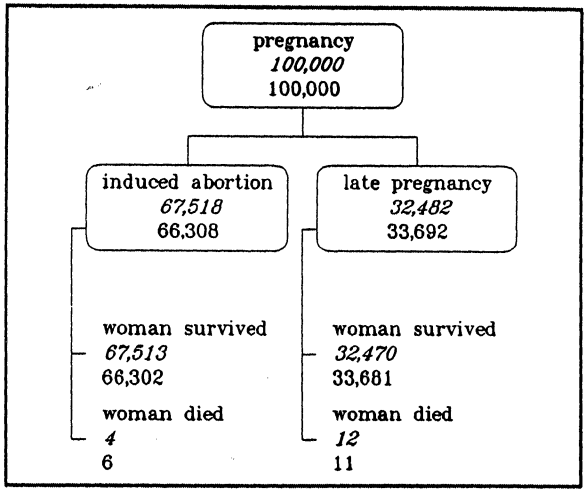


Figure 12.
Maternal mortality: per 100,000 deliveries (bold lines) and per 1 million women aged 15-49 (thin lines).

Source: Goscomstat (1990d, p. 223; 1993e, p. 6, 42); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute; Ministry of Health Care (1984, 1993); data records kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care.

Obviously, induced abortion is one of the major causes of maternal death. While this component decreased synchronously with the overall maternal mortality level in the 1960s and 1970s, it declined much faster in the 1980s (Table 12, Figure 12). The common rate per 100,000 live births, or per 100,000 deliveries {[15]} lessened from 51.6 in 1970 to 33.2 in 1980, and further to 16.0 in 1989 and 12.3 in 1992. The respective share which varied slightly around 50 percent throughout the calendar years prior to 1980 -- a high level for a country with easy access to abortions (compare David, 1992, p. 13), dropped sharply, reaching 24.2 percent in 1992. As the data reported by M. S. Bedny (1984, p. 102) suggest, the proportion of lethal outcomes of an induced abortion might have been decreasing from an extremely high level of 110 per 100,000 in 1956 (immediately after the Decree permitting abortion on request) to 80 in 1960 and 60 in 1965 (the entire USSR). It is recorded as 5.5 for 1992, down from 16.7 in 1980 (Table 12).

Presently about 90-95 percent of all deaths due to induced abortion occurred from abortions initiated outside of a medical care establishment (called non-hospital abortions), which are composed of true spontaneous, self-initiated, and proper criminal abortions. Though the proportion of non-hospital abortions declined slightly in the 1980s: from 12.3 in 1980 to 10.2 percent in 1991 (Avdeyev and Troitskaya, 1991a), the share of the proper criminal and self-initiated ones was likely to decrease significantly, as the abortion services became more easily accessible because of significant reduction in the absolute numbers of abortions (see Table 16, Figure 14 below). On the other hand, the growing proportion of abortions performed by the vacuum aspiration method (sometimes in a very early stage of the presumed pregnancy) undoubtedly reduced the overall risk of death due to induced abortion.



Pregnancy outcome and maternal mortality: 1991 (*in italics*) and 1988.

Source: Goscomstat (1990d, 1993e); Ministry of Health Care (1993) and tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

Because in the case of Russia, induced abortion comprises at least two-thirds of the incidents that may cause a maternal death, the common maternal mortality rate per 100,000 live-born children can not possibly serve as a true occurrence measure. Hence, Table 12 shows the rate per 100,000 abortions and deliveries combined, along with the common one. The former is more justified for comparison with the maternal mortality rate of a low-abortion population, but still leaves Russia well above the Western European range (compare Figure 11).

Besides of the direct impact of induced abortion, other causes of maternal death (possibly related to previous abortions) are increasingly important. The scheme on the left {[16]} shows that a current pregnancy is more likely to result in a maternal death if it is not terminated by abortion. The maternal mortality rate due to complications of pregnancy and delivery remains within the range of 30-40 per 100,000 deliveries since 1976. This level is much higher than the total maternal mortality rate (including deaths caused by abortion) observed in Western Europe.

The complete distribution by causes of maternal death for 1992 is reported as follows (rates are per 100,000 deliveries and induced abortions): 1.45 due to ectopic pregnancy; 0.43 due to hospital induced abortion; 3.38 due to abortions initiated outside of a medical care establishment; 2.23 due to hemorrhage during pregnancy or delivery; 1.80 due to toxemia during pregnancy; 0.72 due to sepsis on delivery; and 5.74 due to other complications of pregnancy. Totally 806 women died due to different causes of maternal mortality, or 22.3 per 1 million women aged 15-49 {[17]}.

Figure 13 gives an impression of the overall Russian mortality pattern. It depicts departure of the observed age-specific probabilities of dying from the Coale-Demeny West model levels, expressed in terms of model life expectancy at birth implied by the observed probabilities of dying {[18]} (see United Nations, 1988, p. 65). The figure illustrates two of the most evident particularities of the Russian

mortality pattern: an extremely high level of adult male mortality compared with the female mortality, and an irregularity of its change over time (see also Figure 10), perhaps related to the overlapping of male birth cohorts with essentially different life histories, especially due to the World Wars (see for example, Dinkel, 1985). The gender difference in terms of life expectancy is recorded as 11.8 for 1992 (Table 10) compared with 6-8 in Western European countries. According to the projection for 1993 (based on nine-month vital registration data), the male life expectancy may fall to 58.5, or 14.1 years below the female life expectancy (72.6).

Table 12.
Selected Maternal Mortality Measures.

Year	1960	1970	1980	1989	1990	1991	1992
Due to induced abortion							
Per 100,000 reported abortions	n/a	n/a	16.7	7.8	6.6	6.5	5.7-5.5*
Per 1,000,000 women aged 15-49	n/a	27.8	20.0	9.6	7.5	6.5	5.4
Due to other causes of death							
Per 100,000 deliveries {[15]}	65.9	53.7	34.7	32.9	33.7	39.4	38.4
Per 1,000,000 women aged 15-49	n/a	29.0	20.9	19.7	18.7	19.7	16.9
Due to all causes of maternal death							
Per 100,000 live births	129.2	105.6	68.0	49.0	47.4	52.4	50.8
Per 100,000 deliveries or abortions	n/a	n/a	22.3	16.1	15.5	17.4	16.0-15.7*
Per 1,000,000 women aged 15-49	n/a	56.8	40.9	29.3	26.2	26.1	22.3

*) The range is because of the difference in the number of induced abortions reported by the Goscomstat (1993e) and the Ministry of Health Care.

Source: Goscomstat (1990d, p. 223; 1993e, p. 6, 42); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute; Ministry of Health Care (1984, 1993); data kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care.

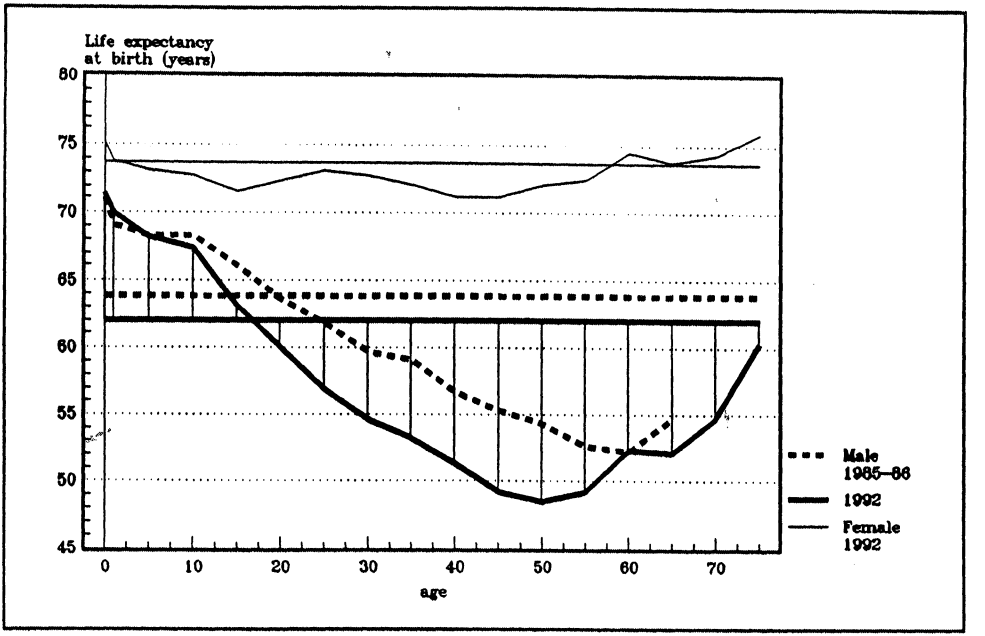


Figure 13.
Comparison in terms of life expectancy at birth: the empirical (straight line) and Coale-Demeny West model mortality schedules.

Source: Goscomstat (1988) and tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

CONTRACEPTION

There are no direct data for measuring contraceptive prevalence in Russia. However, the two major independent sources: the supply-side data of the Ministry of Health Care (Table 13, Figure 14), and selected small-sample surveys (Table 14, Figure 14) suggest that the prevalence of modern methods (not counting condom) is at least 22-25 percent, whereas it possibly is significantly higher. The IUD is a primarily method. While the surveys also suggest that the overall (any method) contraceptive prevalence is within the 70-80 percent range, there are some reservations regarding the relaxed definition of traditional contraception apparently employed in some surveys, which may substantially lower the overall prevalence estimate.

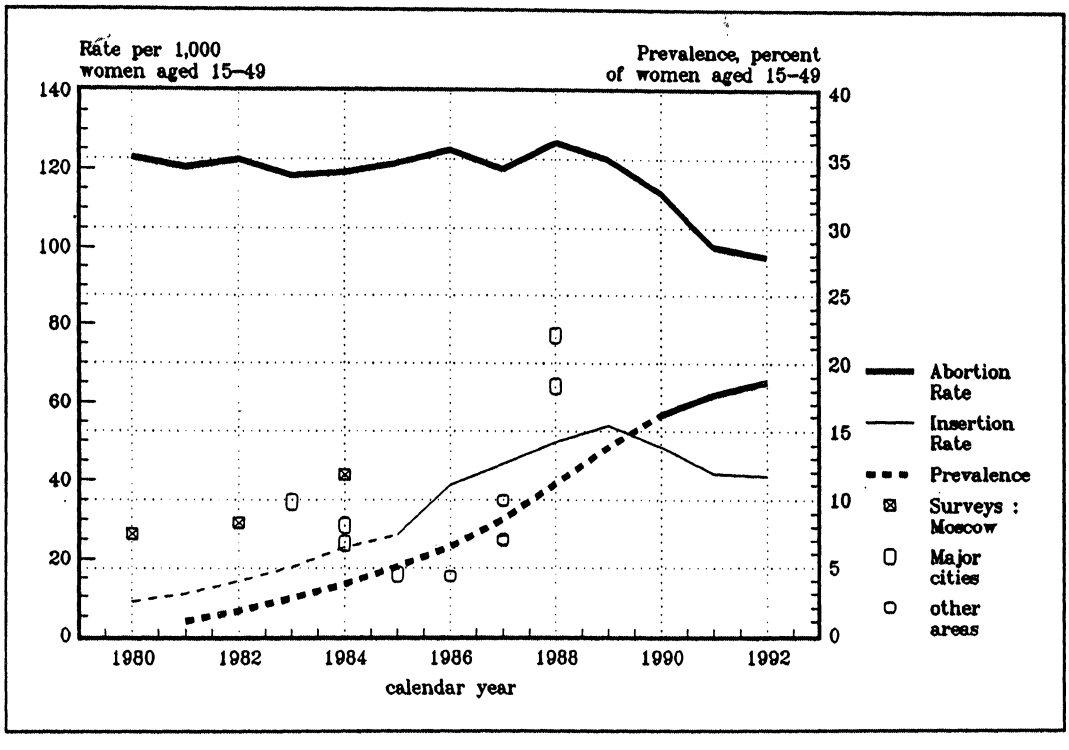


Figure 14.
IUD prevalence and insertion rate: based on the Ministry of Health Care supply-side data (lines) and selected surveys (symbols).

Source: Ministry of Health Care (1984, 1993) and the author's computation based on the data records kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care. Extrapolation is indicated by dotted lines. Surveys are listed in the Table 14. Their position on the calendar time scale is approximate. Regional samples are shown separately.

The measures presented in Table 13 are based on the unpublished data of the Ministry of Health Care {[19]}, which for its internal use records the number of inserted IUDs, the number of women monitored while they continue to use IUDs, and those monitored while using hormonal oral contraceptives prescribed by a doctor. The data are assembled from the reports of women's clinics, delivery houses and other medical and health care establishments, including those not subordinated to the Ministry of Health

Care. There is a good reason to assume, however, that the supply may still be reported incompletely, chiefly because of cases where an IUD insertion is conducted privately (most likely by doctors of a government-run clinic while working for a private enterprise), discontinuation of monitoring in a clinic while the IUD is still in place, or purchases of an oral contraceptive without a prescription or monitoring by a doctor. Hence, the true IUD and oral contraceptive prevalence, most probably, is significantly higher than the supply-side estimates shown in the Table 13.

Several contraceptive-use small-sample surveys were conducted. Table 14 summarizes findings from essentially all of those published or released after 1985, excluding those where contraceptive prevalence is not directly or indirectly available from the released materials, and those whose reported study group is definitely dissimilar to the entire population in question (like adolescents, indigenous populations, women just having received an induced abortion, or delivered a child). Yet almost all the surveys are clearly biased: the sample is made from the population of Moscow or major cities (where contraceptive prevalence is presumedly higher); age, level of sterility, as well as marital status, and parity composition are quite dissimilar to the Russian average (some studies include only married couples with 1 or 2 children); the sampling is hardly random -- it may even be limited to patients of a specific women's clinic, who are likely to visit the doctor only after an abortion or delivery, specifically for an IUD insertion, or to receive a prescription for contraception. Besides, some studies are poorly reported (and perhaps poorly implemented): the time of survey and its sample design are not disclosed; the definition of *current* usage (as opposite to ever using) is not clarified, or the terminology employed may easily lead to confusion of the method-specific prevalence with the proportion in the method-mix, etc.

The official 1990 survey is based on the sample of 93,000 women from all regions of the USSR. The survey, conducted by the Goscomstat's Administration for Social Statistics without cooperation with its Administration of the Census and Population Statistics, or other professional demographers, was concentrated on social aspects of family, maternity, and childhood, not targeting contraceptive practice *per se*. From the very brief official publication (Goscomstat, 1991d) it is unclear, what methods of contraception are counted in the reported prevalence. Nor is it otherwise disclosed by the Goscomstat {[20]}. The distribution by marital status is not reported. Also, while the survey age and parity compositions are likely to approximate the Russian average closely (Popov *et al.*, 1993, p. 234), it is not obvious, what age interval was used to compute the average indicators, which are the only ones reported for Russia proper {[21]}.

All the numerical assessments known consistently indicate the IUD as a prime modern contraceptive method.

An active campaign to promote the IUD as a major alternative to the intolerably high abortion rates was initiated by the Ministry of Health Care at the beginning of the 1980s. The Order No. 620 issued June 12, 1979 "On the state of induced abortion in the country and the measures for decreasing its occurrence" called for intrauterine contraception as "currently the most effective method to prevent a pregnancy" and mandated studying "the true need for contraceptives, separately by method" {[22]}. The official Recommendations of the Ministry to its local offices and drug administrations instituted by the Order of May 27, 1983 established the "need of the population", or essentially the target level for the IUD prevalence at 23-25 percent of the entire female population aged 15-49 {[23,24]}. The Ministry maintained its permanent attention on the campaign {[25]}. Although originally an IUD insertion to adolescents, nulliparous women, and women with "irregular sexual activities" was not recommended (i.e. essentially prohibited) by the Ministry (suggesting the offer should follow an abortion or delivery), the current practice is that the purely medical conditions are the only ones to be taken into consideration {[26]}.

Table 13.
Contraceptive Prevalence for Modern Methods. Estimates Based on the Ministry of Health Care Supply-Side Data.

Year	1989	1990	1991	1992
IUD insertion rate:				
per 1,000 women aged 15-49	54.0	48.4	41.7	41.0
per 100 reported induced abortions	44.0	42.4	41.5	42.0
Contraceptive prevalence, per cent women aged 15-49				
Intrauterine contraception	13.9*	16.2	17.7	18.7
Oral (hormonal) contraception	1.1*	1.5	1.9	2.6
Total: Intrauterine and oral contraception	14.9*	17.7	19.6	21.2

*) Estimated by backward extrapolation based on the insertion rate.

Source: Computed from the data records kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care.

Figure 14 depicts the trend of IUD prevalence throughout the 1980s, reconstructed by the authors based on the data on IUD insertions from the Ministry of Health Care {[27]}. From 1984 the latter maintained a level greater than 20 per thousand women of reproductive age (greater than 40 after the 1986), or more than 25 per 100 reported induced abortions (more than 40 per cent after 1988), reaching the maximum in 1989, and then declining simultaneously with decreasing abortion rates. This implies that IUD prevalence grew rapidly from 5 to 15 percent during the late 1980s {[28]}, currently attaining at least a 19 percent level (Table 13). All the surveys conducted in the major cities, especially those limited to marriage cohorts, consistently report higher prevalence than the backward extrapolation (Figure 14, Table 14). While this may certainly be explained by the mentioned bias of the surveys, the supply-side estimates, on another hand, may possibly be lower than the true prevalence, as noted above.

Intrauterine contraception is associated with a high degree of knowledge (Table 14) and acceptance, even among the adolescent population {[29]}, and is actively promoted by physicians. A well-implemented random-sample survey (Darsky *et al.*, 1990) with a 22 percent current prevalence, have found 43 percent of the respondents expecting to use an IUD in the future (primarily in younger ages than those of current users). This percent is even higher in other surveys (Zubkova and Mikhalskaya, 1991). Nevertheless, the Ministry of Health Care reasonably expects, as some studies (Avdeyev and Troitskaya, 1991a, p. 19) do, that the need for IUDs is nearly satiated. The current IUD prevalence is greater than that observed in many Western European populations (Figure 15), and probably exceeds the original target level. The declining abortion and births rates limit the number of incidents where an IUD might be offered immediately.

It is not obvious that intrauterine contraception can successfully compete with well promoted oral contraception for the younger nulliparous women who are seeking to postpone their first child and/or marriage.

Table 14.
Contraceptive Prevalence and Knowledge: Estimates from Selected Sample Surveys.

percent

Source / Reference	Time of survey	Sample			Per cent married	Knowledge		Prevalence		
		Type*		Size		IUD	Oral Cont.	Any method	IUD	Oral Cont.
Zotin and Mytil (1985)[a]	1983	M	M	400	100	58.7	26.4	n/a	n/a	n/a
Babin (1986)[b]	1983-85	M	U	1000	100	96.2-94.8[c]	75.0-69.4[c]	82.4-79.6[c]	11.7-6.8[c]	2.0 1.1[c]
Popov (1986)[d]	1981-82	P	M	2300	80[e]	n/a	n/a	75.4	8.3	3.0
Archildieva and Loseva (1988)[f]	1978	C	M	200	100	n/a	n/a	81.5	7.5	3.5
Grigoryev *et al.* (1988)[g]	1985-86[h]	C	U	700[i]	n/a	100	100	n/a	38.0	10.0
Ivanüta and Kapko (1988)[j]	1985-86[k]	P	R	1272	n/a	n/a	n/a	27.0	4.3	1.2
Uspenskaya (1988)[l]	1985-86[m]	P	U	1100	75	n/a	n/a	75.0[n]	4.5[n]	n/a
Katkova and Koshovskaya (1989)[o]	1988	C	M	418	80.6	n/a	n/a	51.7	n/a	7.3 4.4[p]
Allenova (1990)[q]	1978-87[r]	C	U	1225	n/a	n/a	n/a	80.0	9.8	0.7
Darsky *et al.* (1990)[s]	1988-89	P	U	1813	80.5	94.2	81.0	72.1 70.1[t]	24.4 22.0[t]	3.3 2.5[t]
Zubkova and Mikhalskaya (1991)[u]	1988-89[v]	M	U	400	100	n/a	n/a	90.0	18.3	n/a
Schneiderman (1991)[w]	1985-90[x]	P	R	n/a	n/a	n/a	n/a	64.3-57.0[c]	9.9-7.0[c]	2.1 1.4[c]

Note: All the samples refer to a specific region. They may be based on a random or non random design, disclosed or not disclosed in the source publication. Description of the study group (as reported) is given in the notes below. In some cases, the numerical indicators shown are not given in the source publication directly, but computed by the authors based on the data presented there.

*) The first character refers to the group under study: P = a sample from the entire population; M = a sample from a marriage cohort; C = a sample from the patients of a women's clinic. The second character designates the region: M = city of Moscow; U = major cities; R = other urban and rural areas.

[a]) Couples applying for marriage registration at a main Civil Registration Office of Moscow. Only couples where both applicants enter their first marriage.

[b]) Married and not separated couples with 1 or 2 children already born. The city of Moscow, Saratov (population size 905 thousand at the census of 1989), and Upha (1082 thousand). Only couples where the wife is aged 35 years or younger.

[c]) Range is determined by the three regional samples.

[d]) Apparently the same survey is referred to as "Moscow 1984" in the later publication (Popov *et al.*, 1993, p. 229), and as "Moscow 1982" in the earlier publication (Popov, 1991, p. 373). Though the study group was not disclosed in the original publication, in the later one (Popov et. al., 1993, p. 229) it is described as women attending general medical clinics.

[e]) For the survey "Moscow 1984" as reported in the latter publication (Popov *et al.* 1993, p. 229).

[f]) Married women aged below 50 observed in medical clinics of the city of Moscow.

[g]) Women attending selected women's clinics in the city of Novosibirsk (population size 1437 thousand at the census of 1989).

[h]) The time of survey is not reported. The article was accepted for publication at 6-18-87.

[i]) The precise sample size is not disclosed. "About 1,000" questionnaires have been reported to be distributed with "a return of 65-70 per cent".

[j]) Women -- rural residents aged 18-45. Region is not disclosed. Apparently only modern methods of contraception.

[k]) Assumed because of the publication date, not reported in the publication.

[l]) Women -- industrial workers in the city of Rhäzagn (population size 515 thousand at the census of 1989).

[m]) The time of survey is not reported. The article was accepted for publication at 2-2-87.

[n]) Apparently, ever used.

[o]) Women attending selected women's clinics in the city of Moscow.

[p]) "In 40 percent of cases the contraception was not used properly".

[q]) Women from "several cities of the Russian Federation". Judging from a related publication (Ovcharov *et al.*, 1987, p. 9), only women attending women's clinics in the city of Moscow, towns of Moscow metropolitan area, Saint-Petersburg, and several other major cities during 1978-1987.

[r]) Time of the survey in not disclosed. See description above.

[s]) A random sample from the population of the cities of Saint-Petersburg and Kaluga (population size 311 thousand at the census of 1989). The time of survey (end of 1988) was made as close as possible to the census conducted January 1989.

[t]) Weighted by the national age composition at the census of January, 1989.

[u]) A sample from the marriage cohort of 1983, aged 18-24 at marriage. Only couples with both spouses during their first marriage, not separated for at least 5 years. Cities of Moscow and Wladimir (population size 350 thousand at the census of 1989), local residents for at least 5 years.

[v]) Precise time of the survey is not disclosed. See description above.

[w]) A random proportional sample from the urban populations of the Twer province (population size 1183 thousand at the census of 1989), Chelyabinsk province (2985 thousand) and rural population of the Khabarovsk territory (391 thousand).

[x]) Time of survey and the sample size are not disclosed.

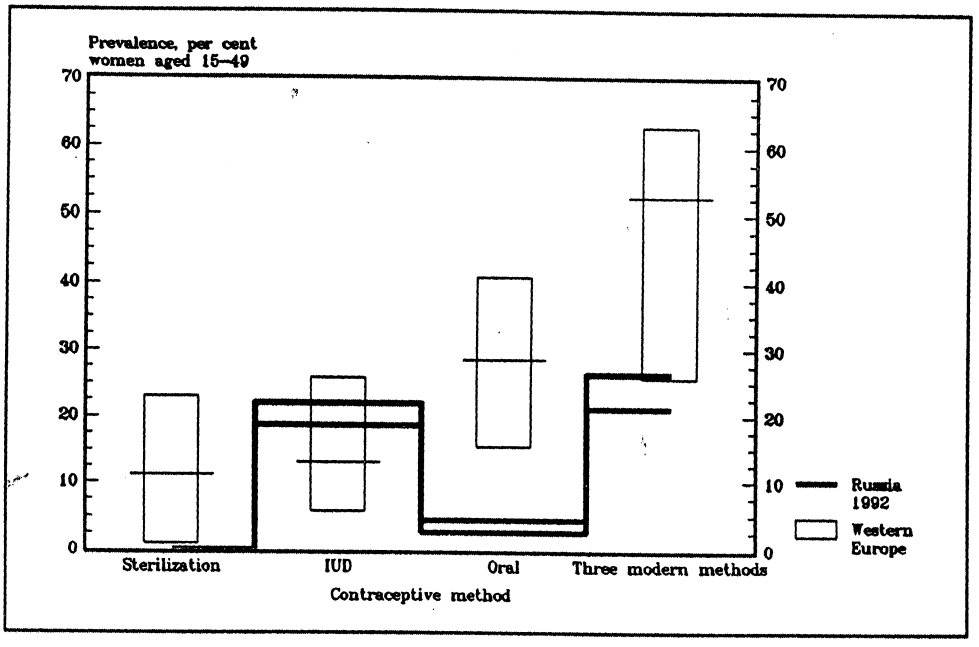


Figure 15.
Contraceptive prevalence by method. Russia compared with a Western European range*.

*) Austria, Belgium (Flemish population), Germany, France, The Netherlands, Norway, Spain, Sweden, Switzerland, United Kingdom -- the most recent year available within the 1980s. The data may relate to a narrower age range, or to currently married (sexually active) women only, hence overestimating the compatible prevalence.

Source: Western Europe -- The US Bureau of the Census (1994), drawing primarily from the United Nations (1989, 1991). Russia -- low estimate from the supply-side data kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care; high estimate -- the maximum from the surveys: Darsky *et al.* (1990), Katkova and Koshovskaya (1989).

Age-specific prevalence according to the survey of Darsky *et al.* (1990) is shown in Figure 16. It suggests that the IUD is primarily used as a stopping method after the first or a second child, or to postpone the second one.

A negative attitude of the Ministry of Health Care and practicing physicians towards oral hormonal contraception is reported in several publications (Popov *et al.*, 1993, p. 232; Remennick, 1991, p. 845-846). The Order No. 16 issued January 8, 1971, quoting as its grounds the WHO Assembly Resolution which had called for prohibiting industrial production of certain high-dose brands, essentially limited their manufacturing in the USSR and imports to medical research needs. In the official documents followed, as quoted by A. A. Popov *et al.*, the physicians were advised about side effects and health risks of oral contraception.

However, the official Recommendations mentioned above (Ministry of Health Care, 1983) set the pill share at 10 percent in the target method-mix corresponding to the "need of the population" (Table 15).

The noted Order No. 590 (July 25, 1985), and the associated Decision of the Collegium pointed out that the modern oral contraception is not prescribed by the doctors in a sufficient scale {[30]}. Our most recent interviews in the Ministry's Department for Maternal and Child Health Care, suggest that the official attitude towards intensive promotion of modern contraception to replace abortion is currently turned primarily towards oral hormonal contraception.

Oral contraception prevalence is only 2.6 percent according to the supply-side estimate (Table 13), though possibly incomplete on a greater scale than that of the IUD, while within 2-4 percent by the most recent surveys (Table 14) -- far below the Western European range (Figure 15). The natural niche for oral contraception in Russia is to replace ineffective barrier and traditional methods (prevalent in Russia while heavily backed-up by abortions), mainly for the younger population before their first child. So is the likely current pattern of its use (Figure 16). The gradual changing of the female age composition itself -- increasing the share of 20-24 age-olds (see Figure 5 above) may positively contribute to the transition. The younger generation will undoubtedly have a less negative attitude against the pill than the older ones allegedly do (Popov *et al.*, 1993; Remennick, 1991). This may facilitate the expected shift of the Russian fertility pattern towards the older ages. Notwithstanding, even with the comprehensive support of the Ministry of Health Care, any promotion of oral contraception in Russia under present conditions of increasingly easily offered menstrual regulation at a very early stage of pregnancy and inexpensive intrauterine devices, would greatly depend on market circumstances, especially on regularity of the supply.

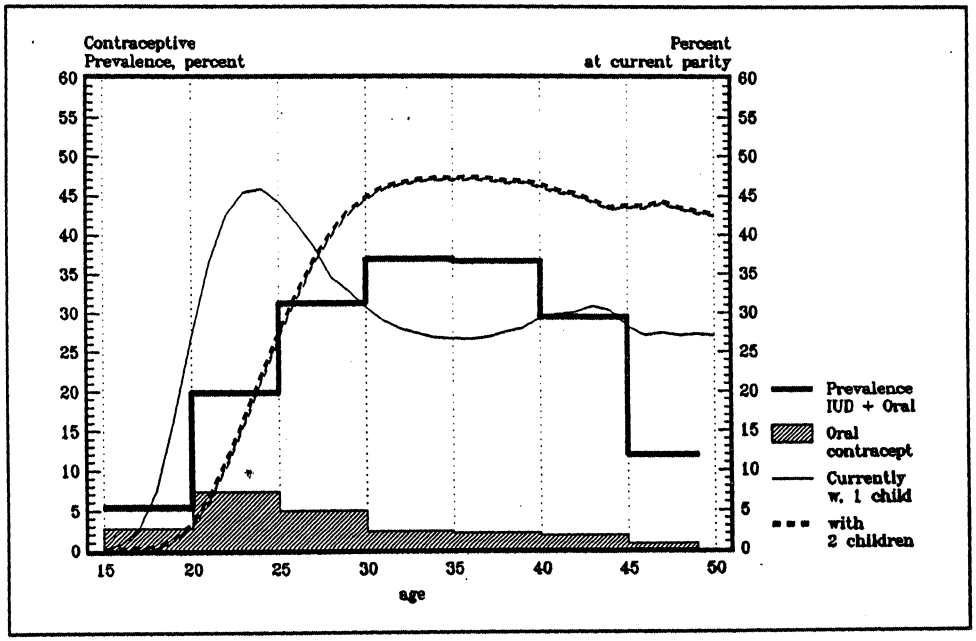


Figure 16.
Age-specific contraceptive prevalence according to the 1988-89 survey and proportion observed at current parity as at the 1989 Census.

Source: Darsky *et al.* (1990, interpolated by age from broader age intervals); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

Table 15.
Selected Estimates of the Contraceptive Method-Mix.

percent

Source / Reference	Ministry of Health Care (1983)[a]	Babin (1986)[b]	Popov (1986)[c]	Darsky *et al.*(1990)	Schneiderman (1991)[b]
IUD	30	10.9	11	33.8	13.2
Oral contraceptives	10	1.9	4	4.5	3.3
Condom	30	10.0	21	14.0	19.2
Diaphragm, foam, jelly	15	4.2	4	0	5.5
Traditional	15	62.9	61	47.7	59.7

Note: See description of the sample surveys in Table 14.

[a]) Target method-mix. It is established by the Ministry of Health Care official Recommendations (1983) to its local offices and drug administrations for determining the "need of the population" for contraceptives.

[b]) Unweighted average over the three regional samples.

[c]) Not present in the original publication. Quoted from Popov *et al.* (1993, p. 229) as one labeled "Moscow 1984".

Overall modern contraception prevalence is at least 22-25 percent, excluding condom but counting the clinic-supplied barrier methods (about 4-5 percent of the method mix, according to the surveys -- Table 15). The official 1990 survey has found 21.8 percent prevalence or 31.5 counting those who "use not regularly" (Goscomstat 1991d, p. 60). A. A. Avdeyev and I. A. Troitskaya (1991b), based on the aggregate version of the Bongaarts' proximate determinants model (Bongaarts and Kirmeyer, 1982; United Nations, 1987, p. 183-184) and the method mix, apparently derived from a series of small-sample surveys {[31]} report 38 percent (including condom) for the married women aged 15-49. Besides intrauterine, oral, and barrier contraception, there are some indications of use of Norplant and injections in several regions.

Female sterilization as a method of contraception was permitted by the Order of the Ministry of Health Care No. 484 at December 14, 1990. It was allowed on the condition that a woman either has 3 or more children born, or 2 children while she is of 30 years or older, or has reached age 40. The *Fundamental Law On Health Care of the Citizens* signed July 22, 1993 and the detailing Order of the Ministry No. 303 of December 28, 1993 relaxed the condition so that a person must either have 2 children, or have reached age 35. The Law requires a written application for sterilization to be submitted by a citizen, while it does not specify the sex of the applicant. Like an induced abortion (but unlike the other forms of contraception), a sterilization performed outside provisions of the law leads to criminal prosecution.

While considering the age-concentrated fertility pattern, sterilization might be the most appropriate stopping method, as some authors suggest (Avdeyev and Troitskaya, 1991a, p. 20), its promotion in Russia seems less certain than for the other modern methods. Sterilization may primarily target older women with significant abortion experience, who could not be recommended to use an IUD for health reasons. These women, however, still have a clear choice of easier abortion or early menstrual regulation, with the departure of their usual fertility-control pattern being far less radical. When a new generation with greater contraceptive experience and a much shorter abortion record will reach the fertility stopping age, the alternative of sterilization would be more appealing. So far, there are no

reports of any significant number being sterilized, nor are there any professional studies published recently on attitudes or knowledge of sterilization.

All the studies based on a sample from the entire population or a marriage cohort, but one (Table 14), consistently place the any-method prevalence at the level 70 percent or above (80 percent or above for married cohorts) -- the level quite similar to that observed in the low-fertility European populations (United Nations, 1989, 1991). According to the official 1992 Goscomstat survey of young 14,000 families (both spouses not older than 30), 82.5 percent do not expect childbearing any time soon, while 33.6 percent -- never (Goscomstat, 1993d, p. 106-107). With a much higher fertility rate in the late 1980s and with inclusion of older women, the former level was undoubtedly lower, probably consistent with the simultaneously recorded overall contraceptive prevalence shown in Table 14. According to the two surveys where age-specific prevalence is reported (Figure 17), its level closely resembles a reasonable growth curve of sexual activity by age {[32]}, preceding the age-specific proportion in union, and the age pattern of permanent sterility for older ages. In other words, it is likely that a very high percent, possibly close to 95 percent of the non-sterile, non-pregnant, or non-amenorrheic women who are in union or are otherwise sexually active, are likely to use a method of contraception currently. While the low effectiveness of these methods almost certainly implies an induced abortion, very low percentage of women deliberately ignore any method of contraception, relying solely on the latter {[33]}. Yet this does not mean that they would not oppose a specific method like sterilization or a hormonal pill being offered as a substitution for abortion {[34]}.

On the other hand, it is absolutely not clear from the sample studies, whether a traditional method (or even a modern method, like the oral pill) was used properly, with sufficient regularity to assume any reasonable effectiveness, or the respondent assigned to the "using" a symbolic meaning of her *intention* to avoid a pregnancy. Several surveys suggest that the latter is not unlikely {[35]}. Hence, the reported high any-method prevalence means exclusively a gap between the definite desire to avoid conception and insufficient essential contraceptive prevalence. This gap is especially visible in the younger (15-24) ages.

There is little doubt, that the change in the Russian pattern of contraceptive use: fast acceptance of the IUD as a substitution for abortion observed in the 1980s, growing prevalence of oral contraception, as well as a possible acceptance of sterilization in the future, is cohort specific. A large baby-boom cohort born around 1960 left the active reproductive age (20-29) recently. Though this cohort and older cohorts still constitute at least 50 percent of the potential market for contraception (mainly sterilization), their acceptance of a method new to them may not possibly be to any considerable degree. Instead, a relatively small cohort born around 1970, now in their prime reproductive age, would probably be a bearer of a modern contraceptive pattern. This cohort would certainly demand an effective contraception for postponing the second (and possibly the first) child. However, a significant demand for contraception to stop childbearing may not be expected earlier than after 5-7 years.

■

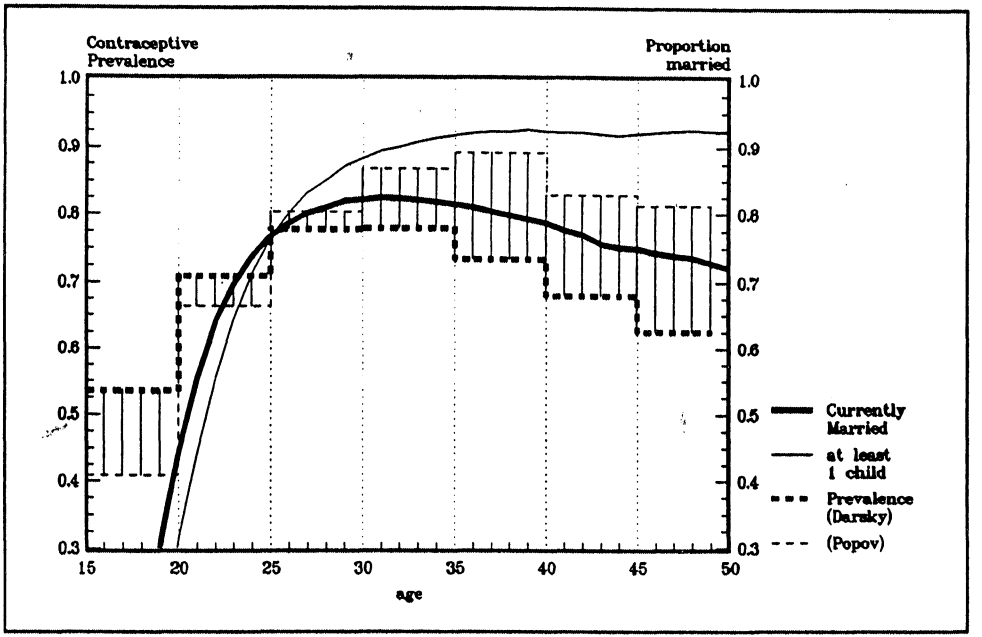


Figure 17.
Age-specific any-method contraceptive prevalence according to surveys and proportion currently married as of the 1989 Census.

Source: Darsky *et al.* (1990, interpolated by age from broader intervals); Popov (1986). Proportion married by the census definition, tabulated by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

INDUCED ABORTION

Induced abortion, not contraception, is the primary method of fertility control in Russia. The reported general abortion rate {[36]} is as high as 100.3 in 1991, decreasing from 122.6 in 1989 (Table 16), one of the highest among countries reporting abortion statistics. It corresponds to an abortion ratio of 0.680 per known pregnancy {[37,38]} and a total abortion rate (TAR) about 3.4 (based on the 1991 age-specific abortions rates) {[39]}. In absence of induced abortion, the Russian total fertility rate would be at least as high as 5.1 (1991) -- Figure 18 shows a respective age-specific profile.

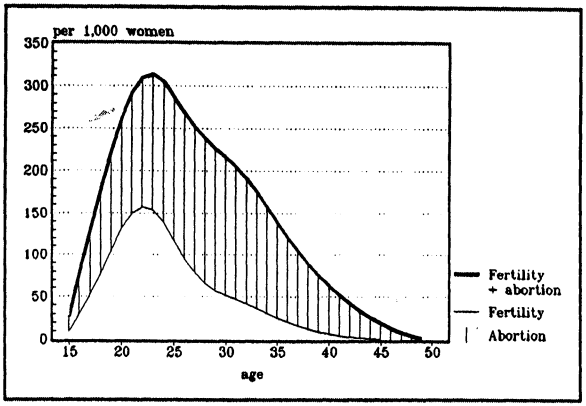


Figure 18.
Age-specific fertility and abortion rates, 1991.

Source: Goscomstat (1993a); data records kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care. Spline-interpolation to single-year age intervals.

Russia has consistently liberal legal regulations regarding induced abortion. A law granting abortion on request within 12 weeks of pregnancy was reestablished {[40]} by the Supreme Council Decree of November 23, 1955 (and the detailing Order of the Ministry of Health Care issued December 31, 1955), far before the Western European countries adopted similar regulations {[41]}. The law remains in force essentially unchanged. The most recent *Fundamental Law on Health Care of the Citizens* signed July 22, 1993 (and the respective detailing Order No. 303 of December 28, 1993), grants abortion on request within the first 12 weeks of pregnancy, on social grounds -- within 22 weeks (previously 28 weeks by the Order of the Ministry of Health Care No. 1343 of December 31, 1987), and on medical grounds -- at any duration of pregnancy. A new legal regulation detailing the social grounds after the Law of 1993 is to be issued soon. According to the one in force (The Order 1343 of 1987), permission is to be granted by a commission of 3 doctors, who consider broad socio-economic conditions.

The abortion rates were steadily high through the 1980s, but declined significantly after 1989 (Figure 14 above, Table 16). Besides an evident increase of the contraception prevalence observed simultaneously (Table 13), this decline was caused by the changing age composition. From 1989 to 1992, the number of women aged 25-29 where the age-specific abortion rate is the highest, decreased sharply, as the large baby-boom cohort born around 1960 left this age interval, while the total number of women in reproductive ages remained approximately the same (Table 4, Figure 5 above). The number of abortions for 1991 standardized by the census age composition would be about 3.8 million (general abortion rate of 105.5) versus 3.6 million reported (Table 16), thus absorbing about 20 percent of the 1989-1991 decline. This also explains, in part, that the abortion ratio remained essentially unchanged, despite decreasing rates.

Table 16.
Basic Measures for Reported Induced Abortions.

Year	1989	1990	1991	1992[a]
Number of abortions, 1,000	4,427.7	4,103.4	3,608.4	3,437.8 - 3,530.8
General abortion rate per 1,000 {[36]}	122.6	114.0	100.3	95.0 - 97.6
Abortion ratio {[37]}	0.672	0.674	0.668	0.684 - 0.690
Abortion ratio, adjusted {[38]}	0.681	0.684	0.680	0.696 - 0.701
Total abortion rate {[39]}	3.985	3.740	3.402	3.245
(alternative estimates)	4.138[b]	n/a	3.419[c]	3.346[d]
	4.021[e]			

[a]) The lower estimate is based on the Goscomstat (1993e, p. 42) data, the upper one is from the Administration for Medical Statistics of the Ministry of Health Care.

[b]) For 1988-89, based on the census enumeration and normalized age-specific abortion rates from an independent sample of women who have just received an abortion.

[c]) Based on normalized age-specific abortion rates for the ethnic Russian population of Tallinn city, Estonia.

[d]) Based on the incomplete enumeration of 1992, distributed *pro rata* to meet the upper estimate of the number of abortions.

[e]) For 1988-89, based on the census enumeration and normalized age-specific rates of applications for a legal abortion among Soviet-born Israeli women.

Source: Goscomstat (1993e, p. 42); tabulation by the Goscomstat of Russia presented by the Department of Demography of its Reseach Institute; computation from the data kindly presented to the authors by the Administration for Medical Statistics of the Russian Ministry of Health; Darsky *et al.* (1990) Anderson *et al.* (1993); data kindly presented by the Estonian Interuniversity Population Research Centre; Sabatello (1992). The main estimate of the total abortion rate (upper row) is derived from the 1991 distribution of abortions by age as presented by the Administration for Medical Statistics, interpolated into single year intervals. The same normalized age-specific rates are applied to all calendar years.

Another factor possibly contributed to the decline of the reported rates, is the spread of early menstrual regulation, performed by non-government providers. Contrary to the allegations in some articles (Popov, 1991, Sabatello, 1992), abortions by vacuum aspiration are included into Russian abortion statistics, counting those performed on ambulatory basis. The procedure was authorized by the Order of the Ministry of Health Care No. 757 of June 5, 1987 as early abortion by method of vacuum-aspiration [exhalation] under the limit of 20 days of the menses' delay (the pregnancy duration less than 7 weeks){[42,43]}. The same order allowed vacuum aspiration to be performed on outpatients of an ambulatory clinic. The limit on pregnancy duration distinguishes this procedure from a regular abortion which might be performed by vacuum aspiration within the 9-12th week. Although vacuum aspiration is usually carried out within the 6th week (Remennick, 1991, p. 842), it may well be performed earlier, even during the first 5 days of the menses' delay -- the service frequently offered by private providers {[44]}. These menstrual regulations as well as any artificial pregnancy termination, regardless of how early is the stage of pregnancy and by what means it is performed (with possible inclusion of the mifepristone pill {[45]}) is regarded as an induced abortion according the the Russian Ministry of Health Care. The data on menstrual regulations by private providers are to be collected by the governmental statistical service as legal induced abortions. However, in the present time of crisis, the recording is quite probably incomplete.

Besides including early menstrual regulation under the broader definition of induced abortion, the official Russian abortion data include a significant portion of illegal abortions and true spontaneous abortions, which are usually not shown by a national statistical service. This makes the Russian reported levels substantially higher than the ones fully compatible with other countries.

Table 17 presents an official classification. Abortions are classified into two main groups: hospital abortions, and non-hospital abortions. The former group includes both abortions legally performed in a hospital and (from 1987) those for outpatients of a women's clinic. There are mostly abortions on request or on social grounds, but also abortions on medical grounds usually performed at later pregnancy duration. The latter group contains all abortions "being initiated or spontaneously initiating themselves" outside of a medical care establishment, which were then treated in a hospital or an ambulatory clinic. Therefore, true spontaneous abortions are partially included in this group. However, those true spontaneous abortions which either were never treated in a hospital, or occurred while a woman was a patient of any general hospital or a delivery house (but not of an abortion hospital) are not included, and not shown in the official abortion statistics at all. The group of non-hospital abortions, therefore does include illegal abortions, but only those which lead to complications requiring hospitalization. An illegal abortion may be self-performed or performed with an assistance of another person. The last case is a proper criminal one, subject to prosecution by law as a felony {[46,47]}. Non-hospital abortions were always included in the total shown in official statistical publications. Their share remained almost constant over the last decade, albeit slightly decreasing (Avdeyev and Troitskaya, 1991a).

Table 17.
Classification of Induced Abortions*.

per cent of the total number of abortions

Category	1991, by age intervals				1992#
	below 20	20-34	35 +	Total	
By vacuum aspiration, on request	26.8	22.7	25.0	23.5	26.4
Surgical, on request or social grounds	57.4	66.2	63.0	64.7	61.9
Surgical, on medical grounds	3.8	1.3	1.5	1.6	1.5
Total hospital abortions	88.0	90.1	89.5	89.8	89.8
Spontaneous abortions	7.4	6.5	6.4	6.5	6.4
Illegal, including self-induced	0.6	0.4	0.4	0.4	0.3
Unknown non-hospital	4.1	3.0	3.7	3.3	3.5
Total non-hospital abortions	12.0	9.9	10.5	10.2	10.2

*) See explanation in the text. #) The 1992 distribution is based on incomplete enumeration.

Source: Derived from the data records kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care.

It is almost certain, that abortions classified as "unknown" in Table 17 are illegal, not true spontaneous ones. A survey by an anonymous questionnaire of older women who received an abortion (Rotkina, 1988) has found that 92 percent of "unknown" abortions they ever had, were actually illegal, while only 38 percent of all illegal abortions were self-induced. The same survey reports that 52 percent of illegal abortions lead to hospitalization due to complications. This proportion may be lower, however. A well known expert (Bedny, 1984, p. 102-103) suggests it is about 30 percent. By assuming the proportion to be even lower, say 25 percent, with the data of Table 17 one estimates the proportion of illegal abortions as 20 percent of the total or less. A similar level may be derived from another consideration. The Order of the Ministry of Health Care No. 590 of July 25, 1985 "On the non-satisfactory work for abortion prevention in the Russian Federation and the necessity to increase its effectiveness" states that "17-20 percent of women in their reproductive ages undergo illegal abortions". In a series of surveys conducted in urban and rural areas, 13.1 percent of women report having experienced previously at least one illegal abortion (Schneiderman, 1991, p. 133; weighted average from the 3 regional samples adjusted for proportion of not responded). In both cases the implied percent of those illegal in annually performed abortions may not exceed 14 {[48]}.

Therefore, an addition of illegal abortions would append no more than 15 percent to the total reported level (as about one-quarter of the illegal abortions is already shown in the statistics). The total level would still include true spontaneous abortions, which accounted for at least 5 percent (Table 17). Yet, to make Russian official data fully compatible with those usually supplied by a national statistical service, which do not include neither illegal nor spontaneous abortions, one should subtract the amount of non-hospital abortions, or about 10 percent (Avdeyev and Troitskaya, 1991a) {[49]}.

One of the main rationales for an illegal abortion is the long waiting list for the surgical procedure. The noted Order No. 590 indicates that 61 percent of illegal abortions are of a duration of pregnancy more than 12 weeks. There are undoubtedly other serious rationales {[50]}.

The Russian population presently receives abortions at a relatively long duration of pregnancy. Only about 23.5 percent of all reported abortions (1991, data are from the Ministry of Health Care, counting both hospital and non-hospital abortions), all performed by vacuum aspiration, are with a pregnancy duration less than 7 weeks, usually at the 6th week (Remennick, 1991, p. 842). About 68.6 percent are within 7-12 weeks, usually at the 9th week. As a series of sample surveys found, about 14 percent are with the extreme pregnancy duration of 11-12 weeks (Ovcharov *et al.*, 1987). The rest are within 13-21 weeks (6.1 percent) -- abortions on social or medical grounds and illegal, and with greater duration (1.8 percent) -- abortions due to medical requirements and illegal. It must be noted, however, that the reported composition may probably be biased towards longer durations, as the early abortions are more likely to be reported incompletely.

As in many European countries, an induced abortion usually requires hospitalization for at least 1 night. No more than 26 percent (1991) of abortions initiated in medical care establishments (all of them performed by vacuum aspiration) were without hospitalization. Others take on average 2-2.5 days, which usually yields a sick leave for 3 days, but sometimes longer (Ovcharov *et al.*, 1987),

Consistent with its age patterns of fertility, the Russian age pattern of induced abortion is younger than that of Western Europe (Figure 18, 19). As in Europe, abortion in Russia serves as a stopping method after childbearing is completed. In Russia it usually is as early as at age 23-27, at parity 1 or 2. The abortion ratio (1991) equals 0.84 for age 35 and above (direct data of the Ministry of Health Care), while higher than 0.67 for age 25-34 (interpolated). The survey of 1988-89 (Darsky *et al.*, 1990) has found

0.82 and 0.67 respectively. A survey of women younger than 35 who already have 2 children born shows the abortion ratio of 0.83 (Babin, 1986). Induced abortion is also highly prevalent in its traditional usage by very young nulliparous women. The abortion ratio for ages 15-19 is 0.57 (1991). A survey (Moscow, the sample biased towards younger ages) reports an abortion ratio for the first pregnancy at age 15-19 as high as 0.69 (Perminova and Sotnikova, 1993). It may be about 0.8 at age below 17 (Ovcharov *et al.*, 1987). In addition, abortion plays the primary role as a birth-spacing method between the first and the second child, essentially during the age interval 20-24.

Distribution by marital status at induced abortion is not tabulated by the state statistical service. Sample surveys suggest that except for the age interval of 15-19, proportion married among those receiving an abortion approximates or exceeds that of the general population. In an independent sample of women who just have received an abortion, the 1988-89 survey (Darsky *et al.*, 1990) has found 79.5 percent being in officially registered marriage, while an additional 8.0 percent in a consensual union (marriage in the census definition). In the random sample from the same population, the levels are respectively 76.5 and 4.0 (see Table 14). Certainly, in any population where induced abortion is elevated to a principal method of fertility control, it is mainly applied to married women {[51]}

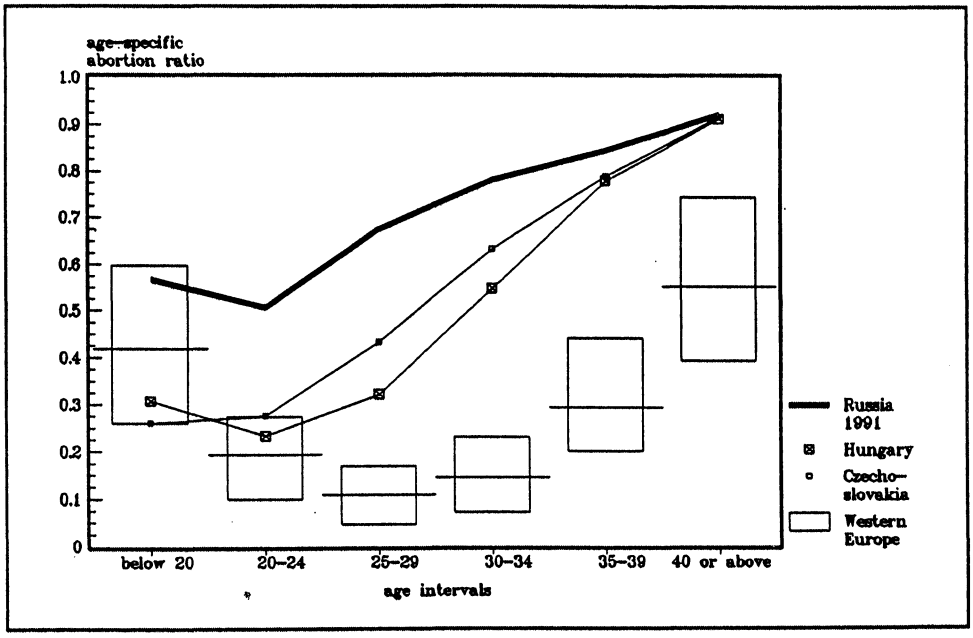


Figure 19.
Age-specific abortion ratios. Russia compared with a Western European range*.

*) Denmark, England and Wales, Finland, The Netherlands, Norway, Scotland, and Sweden.

Source: Russia -- Goscomstat (1993a); data records kindly released to the authors by the Administration for Medical Statistics of the Russian Ministry of Health Care. Abortion rates interpolated from broader age intervals. Western Europe -- Henshaw and Morrow (1990). Latest available year, 1986 or 1987. The ratios are not adjusted (same year), except for the Netherlands.

The total abortion rate derived from the age-specific rates interpolated over age (as no complete tabulation available) is present in Table 16. Alternative estimates based on individual life histories as reported in a sample survey usually fall within the range 2-3 (Remennick, 1991, p. 843), which is certainly below the reasonable true value {[52]}. The study of I. A. Manuilova *et al.* (1990, p.38) supplies a total abortion rate of 4.272 for 1985, not disclosing the technique of estimation.

As Russian childbearing is concentrated in the birth orders 1 and 2, so is induced abortion. Table 18 (which refers to the census date) suggests a pattern of abortion distribution during a lifetime. A first child almost certainly would be born (95 percent of the cases), being relatively rarely preceded by an induced abortion (about one-third of the cases). After her first child, a woman faces on average 1.9 abortions while postponing the second one (which would follow in about 77 percent of cases), or trying to stop childbearing. With the second childbirth, childbearing would most probably be completed (71 percent of the cases), however at the cost of 1.9 additional abortions. Totally after her first child a woman would obtain about 3.5 induced abortions on average. One of the few women who bears the third child (21 percent) has a lower likelihood of abortion: for about 0.38 children she is expected to have beyond parity 3 would be supplemented by only 0.63 abortions on average.

This pattern is clearly different from the one of a Western European population with higher contraceptive prevalence, where an abortion is more probable before the first child and after the second (stopping), but less likely between the first and the second one.

■

Table 18.
Parity-Specific Fertility and Abortion Measures {[53]} According to the 1989 Census and the 1988-1989 Sample Survey.

Parity (y)	0	1	2	3	4+
Parity-progression ratio[a] (p_y)	0.950	0.773	0.290	0.250	0.549
Average number of children beyond current parity (e_y)	1.980	1.084	0.402	0.387	0.549
Parity-specific abortion rate[b] (a_y)	0.495	1.898	1.885	0.633	0.376
Average number of abortions beyond current parity (e^a_y)	3.838	3.519	2.096	0.727	0.376
Parity-specific abortion ratio[c]	0.343	0.711	0.867	0.717	0.406

Note: The table entries are conditional measures given that the parity is attained. The table refers to a period cohort corresponding the 1989 census data. See formulae in the note 53, and notes 10 and 11.

[a]) Parity progression ratio is the proportion of women who give birth to a successive child, i.e. the average number of children of the successive birth order, given the current one is attained.

[b]) The average number of abortions a woman receives while she is at current parity, i.e. between the current and the successive birth, given a child of the current birth order is already born.

[c]) The number of abortions at current parity per known pregnancy defined as the number of abortions and live births at current parity, under the condition it is attained. It approximates the probability for a pregnancy to be terminated by abortion, given the number of children corresponding to the current parity is already born.

Source: Derived from the full age-parity fertility table computed by the Goscomstat for its Research Institute, Department of Demography, based on the 1989 census. Abortion distribution by parity is from the sample survey (Darsky *et al.*, 1990).

NOTES

{1} The State Committee on Statistics, or the Goscomstat (formerly, the Central Statistical Office) is the Government's department responsible for censuses and vital statistics, as well as for any current statistical information from any branch of industry, agriculture, service, a Governmental activity, or an activity of public or private organizations. It compiles and processes data collected by other governmental departments or regional governments. A Chairman of the Committee is a member of the Cabinet with the rank of minister of the Government.

{2} The Large-Sample demographic survey of 1994 is a sequel in a regular series of demographic surveys conducted by the Goscomstat at intermediate points between subsequent censuses. The last Large-Sample survey referred to January 1985. The surveys are based on a 5 percent sample from the noninstitutional population (more than about 7 million) and employ an extended version of the census questionnaire.

{3} Hereafter, if not mentioned explicitly, the source of data is tabulation by the Goscomstat of Russia presented by the Department of Demography of its Research Institute.

{4} The projection is based on provisional estimates of the population age composition for January 1992. It is apparent from available 1993 data, that the projection significantly overestimates a possible future natural increase and the overall population growth in Russia. The projection variants referred to as "high" and "low" in this paper are labeled "pessimistic" and "ultra-pessimistic" in the projection. These variants are considered to be the more probable than the other variants. A description of projection scenarios is given in the forthcoming publication (Volkov *et al.*, 1993).

{5} A less known example is the Uräkhong province of Chinese Outer Mongolia acquired by Russia after the 1911 Chinese revolution (a protectorate, 1914). It was granted complete independence and named Tannu-Tuva (1921), despite the significant ethnic Russian population which resided there. The country was then incorporated back into Russia (1944) with the autonomous province status, later (1961) upgraded to the status of an autonomous republic.

{6} A major settlement of ethnic Germans in Russia -- the German autonomous republic upon Volga -- was eliminated by the Decree of August 28, 1941. Its population had been forcefully transferred to Kazakhstan and Siberia. According to the Statement of the Russian Government (1993, p.3), it continues its efforts towards "step-by-step reestablishment of a German autonomy in Russia".

{7} A marriage still may be registered by a special decision of the State Civil Status Registration Office if the bride is within age interval 16-17. The decision is usually issued in a case of pre-marital pregnancy.

{8} Singulate mean age at marriage (SMAM) is mean age at first marriage if referring to census (as opposed to period) data. See for example (United Nations, 1983, Annex 1). For an empirical study of SMAM relation to the decline of fertility in Russia see (Coale, 1992).

{9} Similarly to computing proximate determinants for total fertility rate,

$$Cm = \sum_{x=15}^{49} f(x) \Big/ \sum_{x=15}^{49} \frac{f(x)}{m(x)}$$ while the first measure is just $$\frac{1}{35} \sum_{x=15}^{49} m(x)$$, where $f(x)$ is the age-specific fertility rate, and $m(x)$ is proportion currently married in the census definition. See for example (United Nations, 1987, p. 183).

{10} Parity-progression ratio is the proportion of women who gave birth to a successive child out of those who already have a preceding one.

{[11]} Period cohort is an artificial cohort whose distribution by children ever born corresponds to parity-specific probabilities to give birth to a successive child at some time in the future which are observed in the current population. These probabilities are called period parity-progression ratios. See (Chiang 1984, p. 254-273) for techniques of estimation. See note 53 for formulae of period total fertility rate as assessed by parity.

{[12]} Foetal mortality occurring after the twenty-eighth week of gestation is called late foetal mortality. The age interval of the first 4 weeks of life is referred to as the neonatal period. It is subdivided into the early (the first week, or 0-6 days) and the late neonatal period (7-27 days). The mortality of live-born children during these intervals is called early and late neonatal mortality, respectively. Late foetal and early neonatal mortality combined are also called perinatal mortality. The terms post neonatal period and post neonatal mortality are used referring to the age interval following the neonatal period but before reaching the age of one year (28-364 days).

{[13]} The measures of infant mortality specific to age of the child are computed with the separation of birth cohorts of the year in question and of the preceding year. As precisely the same technique (called the Böckh technique) is employed for computing the common infant mortality rate, the latter equals the sum of early neonatal, late neonatal, and post neonatal mortality rates (see for example Pressat, 1983). The late foetal mortality ratio, however, is computed to the number of live-born in the same calendar year, though strictly speaking it must include in its base the number of live births in the next calendar year.

{[14]} A live-born child, according to the Russian official definition, must be at least 1,000 grammes in birth weight while having body length of 35 centimeters or more. He must also start breathing by himself -- see for example Goscomstat (1990a, p. 634). Though in 1992, Russia adopted the WHO-recommended definition, no data tabulated accordingly have been made available to date.

{[15]} A delivery may result in a live or a still birth. A delivery of twins counts for two births but only for a single delivery. The rate per delivery is a more precise measure for maternal mortality than the rate per live birth.

{[16]} The scheme refers to pregnancies initiated during the calendar years 1988 and 1991, which resulted in induced abortions, reported spontaneous or medical abortions, late foetal deaths, or live births occurring during the same calendar years or a year later. For 1992 the scheme employs the upper estimate of the number of abortions.

{[17]} Though the occurrence rate is noticeably high, so are the rates for the other causes of female mortality during the reproductive ages. For example, during the same year, 3,544 women aged 15-49 died due to suicides, or 98.0 per 1 million. The respective rate for the male population is about 6.5 times higher.

{[18]} For each age, Figure 13 shows what life expectancy at birth would occur if all age-specific probabilities of dying were in accordance with the probability observed at this age. The standard procedure of the United Nations mortality measurement package (1988) is employed.

{[19]} Similarly to many other governmental institutions of the former USSR, its Ministry of Health Care [for the Russian Министерство Здравоохранения] was supplemented with the parallel Ministry for Russia proper. With the dissolution of the USSR, the former Ministry absorbed the latter one and adopted its name "Russian" as the new official name.

{[20]} None of the methods is named explicitly. While proper traditional contraception is "probably" not considered (Popov *et al.*, 1993, p. 233), neither apparently is the condom. The latter conclusion is likely to follow from the explanation offered for the low prevalence in certain low-fertility regions, which is "in many ways related to the fact that the greater contraceptive usage by men is the most common practice there" (Goscomstat, 1991d, p. 61).

{[21]} A. A. Popov (Popov *et al.*, 1993, p. 223) with a reference to his personal communication with the then Deputy Director of the Goscomstat Administration for Social Statistics, states that only married women of reproductive age

were surveyed. Although marital status is not disclosed in the official publication (Goscomstat, 1991d), the responses from older women (age groups 51-55, 56-60, older than 60) are present in the summary table (Goscomstat, 1991d, p. 61), and apparently are employed for computing the average prevalence and knowledge.

{22} The texts of the Orders and supplementary documents are from the working archives of the Russian Ministry of Health Care which were generously made available to the authors by the Deputy Director of the Department for Maternal and Child Health Care, Dr. L. V. Gavrilova. The documents were never published or otherwise released to the public.

{23} Consistently with the low-fertility pattern of the Russian population, the Recommendations (Ministry of Health Care, 1983) assume that 100 percent of non-sterile, non-pregnant, or non-amenorrheic women regardless to their current marital status need to be protected to prevent a pregnancy. The prescribed by the Recommendations adjustment for permanent sterility (10-15 percent), for annual proportion delivering children (in Russia, 5-7 percent), and amenorrheic (50 percent of the latter), yields an overall prevalence of 75-83 percent. With the established method mix shown in Table 15, the IUD prevalence is 23-25 percent.

{24} Though not disclosed explicitly, this target level (along with the similarly defined levels for oral contraceptives and condoms) was apparently the one employed in the statistical releases of the Ministry of Health Care as the étalon to compare with the actual supply. In some publications, however, the resulting gap was interpreted as a measure for unsatisfied demand or for availability and shortage of contraceptives (Popov, 1991, p. 375; David, 1992, p. 15; Remennick, 1991, p. 844). The "shortage" of IUDs then might be especially exaggerated, as the Recommendations set the annual need of 1 IUD per *user*, not per acceptor, while adding 0.3 to this quantity "for replacement". This might explain, in part, that for some years the number of inserted IUDs was considerably less than the supply, as stated in the Order No. 590 (July, 25, 1985). See also note 30.

{25} The Order No. 590 of July 25, 1985 "On the non-satisfactory work for abortion prevention in the Russian Federation and the necessity to increase its effectiveness" and the follow-up Decisions of the Collegium No. 16 at July 3, 1987 and No. 11 at July 5, 1989.

{26} A recent clinic study performed by the employees subordinated to the Ministry of Health Care (Prilepskaya and Mejevetdinova, 1991) characterizes the IUD as an "effective and acceptable" contraception for young nulliparous women.

{27} Let I_t be the number of women with an IUD in place at the end of the calendar year t (as it is recorded by the Ministry of Health Care); N_t the number of IUDs inserted during the calendar year; and A_t the number of induced abortions reported for the same year. Then

$$I_t = I_{t-1} + N_t - r_t I_{t-1}$$
$$N_t = n_t A_t$$

where r_t denotes the replacement rate, while n_t is the insertion rate per abortion. For the backward extrapolation r_t is assumed to be constant found to meet the boundary conditions $I_{1979} = 0$.

{28} Judging from the data obtained by Avdeyev and Troitskaya (1991a), the supply, the insertion rate and the implied prevalence during the 1980s were possibly higher in the certain Soviet republics than in Russia proper. The USSR average prevalence at 1986 may have reached 10-11 percent in 1986 (Decision of the Collegium No. 16, July 3, 1987) versus 6-7 percent according to our estimates for Russia proper.

{29} For instance, some surveys (Grebesheva *et al.*, 1990; Gulevskaya, 1991) of girls aged 15-18 have found the knowledge of the IUD (about 30 percent) to be greater than that of the calendar method.

{30} The Decision of the Ministry of Health Care Collegium No. 16 of July 3, 1987 also states that the demand for oral contraceptives claimed by the regional offices "is lower than the need of the population, however, the respective supply is not used completely".

{31} The regional small-sample surveys conducted by the Ministry of Health Care's Scientific Research Center on Maternal and Child Health Care during the 1983-1987. The numerical findings of the surveys were not released in a systematic way, and therefore are not present in Table 14. See (Manuilova *et al.*, 1990).

{32} According to some surveys, the proportion of sexually active women aged 18-19 is 50-60 percent (58.3 percent -- Perminova and Sotnikova, 1993) while the proportion currently married reaches about 30 percent (Census 1989). The study of L. E. Darsky *et al.* (1990) has found about 60 percent prevalence for this age interval.

{33} For example, the survey of 1978 of Moscow women aged below 35 at parity 2, has found only 8.2 percent willing to obtain an abortion "rather than to take routine care of contraception" (quoted from Remennick, 1991, p. 844). Only 10 percent of older women surveyed after they received an induced abortion (Rotkina, 1988, p. 18) consider it to be an easier and safer procedure than usage of contraception (perhaps modern methods only). While A. A. Popov claims that "25 percent of Moscow women of all ages prefer induced abortion to any other method of family planning" (1991, p. 374), the conclusion is done on the sole grounds that 75 percent prevalence has been found by his study (see Table 14).

{34} In a survey of industrial workers of a major city conducted in the mid-1980s (Uspenskaya, 1988, p. 15), only 9 percent of women prefer abortion as a sole method of fertility control, rejecting any contraception. However, more than 30 percent consider the IUD or the hormonal pill to be more harmful than abortion, and do not wish to use them.

{35} A clinical study 1988 (Katkova and Koshovskaya, 1989), has found the methods were used "improperly" in 40 percents of cases (see also the respective note in the Table 14). The same survey has found that only 40.7 percent of women noted the date of their last menstruation before the pregnancy they wanted to be terminated by abortion. A. A. Popov (1986, p. 201) reports that 38.6 percent of women who use a method do it "irregularly". In another study (Zubkova and Mikhalskaya, 1991), only 54 percent of the sample used contraception "regularly". The official survey of 1990 (Goscomstat, 1991d) distinguishes those who use the method "sometimes" from those who use "always". The former add about 44 percent to the regular users.

{36} General abortion rate is the number of abortions per 1,000 women aged 15-49. It is similar to the common general fertility rate.

{37} Abortion ratio is the number of abortions per known pregnancy, defined as the number of abortions plus live births. It also equals $GAR/(GAR+GFR)$, where *GAR* is the general abortion rate, while *GFR* the respective general fertility rate. In Russian publications the ratio is usually is related to deliveries, not to live births (see note 15), which makes the indicator more precise.

{38} Because duration of a complete pregnancy is much greater than that of a pregnancy interrupted by abortion, deliveries during a calendar year are due to pregnancies initiated significantly earlier, than those terminated by abortions in the same year. Following the usual Rahts' approach, the adjusted abortion ratio is defined as

$$\frac{A_t}{A_t + (1-b+a)B_t + (b-a)B_{t+1}}$$

where A_t and B_t are respectively the number of abortions and the number of live births during a calendar year t, while a and b are the corresponding mean ages of the foetus expressed as a fraction of a year. The adjusted ratio refers to pregnancies which are, or could be terminated by induced abortion during the year t. For Russia, $a \approx$

0.2 (or 10 weeks) while $b \approx 0.7$ (or 38 weeks). This coincides with the ratio lagged for 6 months (Henshaw and Morrow, 1990), provided the latter is computed with the linear interpolation.

{39} Similar to total fertility rate (TFR), the total abortion rate (TAR) is the sum of age-specific abortion rates. It equals the average number of abortions a woman would experience during her entire reproductive life, given the age-specific rates remain as present.

{40} The similar law was originally passed in 1920, but canceled in 1936 after excessive mortality and the fertility decline of the 1930s became apparent. The prohibition remained during World War II and the reconstruction period. The Decree of 1955 was entitled "On revoking the prohibition of induced abortions".

{41} From the 16 Western European countries listed in the *World Review* of Henshaw and Morrow (1990), including 11 European Union members (less Luxembourg) presently only 8 permit abortions on request: Denmark, France, Greece, Italy, Austria, Norway (within pregnancy duration of 10-12 weeks), The Netherlands and Sweden (with even longer duration). The respective laws were passed during the 1970s and 1980s (David, 1992, p. 5), with the Denmark's Law No. 350 of June 13, 1973 (United Nations, 1992b, p. 106) being the first one to resemble the Russian Law of 1955. In the other 8 countries: Belgium, Germany, United Kingdom, Ireland, Portugal, Spain, Finland, and Switzerland, abortions on request are not permitted.

{42} An abortion by vacuum-aspiration is nicknamed "mini-abortion" in Russian. This term is appears frequently in professional medical publications. It is used as a synonym for menstrual regulation in some articles (Remennick, 1991, p. 842; Popov, 1991, p. 370). The term "menstrual regulation" was not endorsed by the Department for Maternal and Child Health Care of the Ministry of Health Care as an equivocal one, used in an anti-abortion environment.

{43} Contrary to the claim that "menstrual regulations began to be widely performed at the beginning of the 1980s, even though they did not appear in the official statistics until 1988" (Popov, 1991, p. 370), they were not and could not be performed *en masse* prior to the authorization of the Ministry (though certainly had been undertaken on experimental basis). If the claim were true, adding this large amount of abortions would produce a sharp increase in the officially reported total from 1987 to 1988. This did not happen.

{44} The private provision of induced abortions (excluding those on social and medical grounds) was institutionalized by the Order of the Ministry of Health Care No. 93 of March 20, 1992. This practice was essentially present during 1989-1991, despite some controversial legal regulations and instructions of the Ministry.

{45} The mifepristone ("RU-486") pill was used on experimental basis in the Russian Center for Obstetrics and Gynecology. It was not approved for mass distribution because of unclear health implications, and due to high cost.

{46} Clause 116 of the Russian Criminal Code (revision of 1993) punishes an abortion provider by a fine and/or imprisoning for up 2 years, and by revoking the doctor's license (if any). Repeated incidents or an abortion which has caused a severe health damage, imply a mandatory prison term up to 8 years.

{47} These criminal abortions are exactly the ones called "private" by E. F. Sabatello (1992, p. 268), "popular despite their cost, their possible danger, and the severe punishment prescribed by the criminal law [...]".

{48} With the total abortion rate close to 4.0, a sample of women of reproductive age should have at least 1.5 abortions on average, but possibly more. The surveys based on individual life-histories usually find 1.2 - 1.9 abortions reported by age 30, or on average over age within the reproductive life span (Popov, 1986; Schneiderman, 1991, p. 131; Slepokurova, 1990). An assumed 1.5 abortions on average in a sample where 20 percent report to experience an illegal abortion, yields an estimation for the consistent proportion of illegal 0.138 per abortion performed. A greater number of abortions on average would imply a lower proportion per abortion.

{[49]} "Nevertheless we can not compare the basic abortion indicators [...] for the USSR and for any other country without an additional adjustment. [...] In reality to adjust the abortion level in the USSR it is necessary to diminish it 10-11 percent in the 1980s, 12-14 percent in the 1970s, and 15 percent in the late 1960s." (Avdeyev and Troitskaya, 1991a, p. 8-9).

{[50]} In the surveys conducted by an official research institute of the Ministry of Health Care in several regions of the country (Ovcharov *et al.*, 1987), the complaints of abortion hospital patients and patients of women's clinics are on unethical, non-decent behavior of the medical personnel, and harassment, especially regarding women seeking abortions (73 percent of the all recorded complaints). The authors of the study (Ibid., p. 16), quoting the clauses of the Russian Criminal Code, recommended to enforce prosecution against those involved in corruption and negligence while on duty.

{[51]} C. Blayo (1991) compares the proportion of married among women receiving abortions in Yugoslavia, 1986 (91 percent, total abortion rate 2.00) to that observed in France and England-Wales (41 and 26 percent respectively).

{[52]} A. A. Popov (1986, p. 189-192) presents the value 2.10 abortions on average per woman at the end of her reproductive life if assessed by age (with 23.1 percent reporting no abortion at all), or 2.31 if assessed by parity attained. With a standard indirect technique (United Nations, 1988, p. 69), the same data yields 2.70 for the period cohort. The weighted average by regional samples in the surveys of N. I. Schneiderman (1991, p. 131) implies 2.36 (extrapolating for high parities with the Dworak-Kirmeyer formula, 1991), with 23.3 percent reporting no abortion. This type of underestimation is a known phenomenon -- see an example based on Estonian data (Anderson *et al.*, 1993).

{[53]} The table presents elements of a parity-progression table (Chiang, 1984, p. 259-271; Dworak and Kirmeyer, 1991). Quite similar to a usual life table, it expresses parity-specific fertility and abortion measures as conditional averages. Thus total fertility rate (*TFR*), derived from parity- rather than age-specific measures, equals

$$TFR = \sum_{y=0}^{\omega} p_y \left(\prod_{z=0}^{y-1} p_z \right) =: \sum_{y=0}^{\omega} p_y l_y = \sum_{y=1}^{\omega} l_y$$

where p_y is parity progression ratio at parity y, and ω is the highest parity. Here the first multiplier stands for the average number of children born while at current parity (given it is attained), whereas the second one equals the proportion of those attained, denoted l_y. Similarly for the total abortion rate (*TAR*),

$$TAR = \sum_{y=0}^{\omega} a_y \left(\prod_{z=0}^{y-1} p_z \right) = \sum_{y=0}^{\omega} a_y l_y$$

where a_y is the parity-specific abortion rate. Further,

$e_y = \frac{1}{l_y} \sum_{z=y}^{\omega} p_z l_z = \frac{1}{l_y} \sum_{z=y+1}^{\omega} l_z$ and $e_y^a = \frac{1}{l_y} \sum_{z=y}^{\omega} a_z l_z$. Evidently, $TFR = e_0$ and $TAR = e_0^a$. The parity-specific abortion ratio equals $\frac{a_x}{a_x + p_x}$.

■

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