

2. Fertility Decline and Recent Changes in Russia: On the Threshold of the Second Demographic Transition

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Introduction

This paper surveys fertility trends in Russia since the beginning of the 1900s, focusing on the 1980s and 1990s, with comparisons to selected countries. The rapid fertility decline in Russia over the past decade has been the subject of much scientific, policy, and political interest. This paper examines fluctuations in post-war fertility, completed fertility of post-war generations, and the timing of fertility. Distinguishing features of the fertility decline in Russia appeared over the recent transitional period and in the post-war trends, as well. An extremely large contribution by younger mothers to the total number of births and short intervals between successive births have been characteristic of Russian fertility patterns in the last two decades.

The paper introduces period and cohort analyses of Russian fertility trends in 1979-1993. Though the tempo of cohort fertility reflects shifts in the timing of births, the results of cohort analysis show that the female post-war cohorts have stabilized towards the two-child family. The findings of the present research help to identify the historical point that Russia's fertility transition has reached. The fertility trends analyzed in the present paper also help to identify the position of the Russian population relative to the second demographic transition of other European countries.

Russia's Natural Increase Becomes Negative: Crises, Public Opinion, and Historical Analogies

It was in late 1991 that, for the first time in the postwar history of the Russian population, the number of deaths exceeded that of births. In 1992 the negative natural change amounted to 219,800, or 1.5 per 1,000. An even greater decrease was recorded in 1993, with a 750,300 natural decrease in population, or 5.1 per 1,000. This natural decrease was larger than the positive change due to net immigration and resulted in a total population decrease by 30,900 in 1992 and by 307,600 in 1993.

Russia has entered the stage of negative population change. The era of postwar population growth, determined predominantly by natural increase, has come to an end. The first postwar decade saw a high natural increase, whereas during the second one its rapid decline was observed. The subsequent two decades brought a period of stability. But by the late 1980s, this gave way to a steep fall in births and, thus, in natural increase.

The mass media has increasingly overflowed with alarming articles on population issues. Based on non-professional interpretation of available vital statistics, they are calling "to save Russia from depopulation." Such assertions ring of nationalism in today's political context. The whole spectrum of conservative forces ("red," "brown," "green," etc.) would not miss an opportunity to manipulate population data to contribute to the atmosphere of anti-democratic, anti-reform, and anti-West sentiments.

As a result, the general public has been completely misled about population issues. Rank-and-file citizens are inclined to draw a direct link between the current economic slump and a demographic crisis. Indeed, the rate of increase in the cost of living exceeds that of income, and under such economic conditions it is not surprising that some view giving birth to a child an irrational or irresponsible act.

The present-day developments in Russia have much in common with those observed in France and Germany many years ago, namely in the 1930s. The Great Depression was accompanied by a demographic depression, and public opinion was largely molded by an impressive comparison of numbers of "coffins" ("crosses") to numbers of baby cradles.[2] The approaches then pursued in population data interpretation played a role in supporting the patriotic sentiments of those years, which developed an increasingly nationalistic and national-socialist tone. Ordinary people are always inclined to associate setbacks in population dynamics with those in the economy, and with some reason. In all places and at all times, famine, war, and revolution have tended to bring about a postponement of marriages, a fall in

births, and a rise in deaths.

In the twentieth century, Russia has suffered a series of social cataclysms. The demographic crises which have followed have had disastrous implications. They occurred in 1915-1921, 1928-1934, and 1941-1947. According to our lowest estimate, these three crises lasting 6 years each and 7 years apart have accounted for a loss of 38 million people, including losses due to the deficit in births, excess of deaths, and emigration. Thus, Russia was destined to accumulate an enormous experience living in crisis and to reproduce the resulting population decline effect in generations born a half century later.

Yet the history of a population, as much as a historical process itself, tends to be formed not only by a history of catastrophes (event history), but also by a history of evolution (history of long-run and short-run trends). One or another demographic situation appears to evolve from long-term population dynamics, as well as to be shaped by more immediate changes in the social environment. It is not surprising, then, that a dual approach to interpreting demographic change exists. An instructive example can be easily offered by Russia, where both the general public and scholars display an ambiguous approach to assessing the general impact of current trends in births and population dynamics.

What rank-and-file people are much more likely to miss when interpreting the historical developments is an evolutionary component of social dynamics, for they tend to consider them in terms of critical events of their own lives or those of their family. The way they would see things concerning their present and past everyday life is mostly affected by the current settings they live in, or by the foggy idealistic notions they happen to share of the past times. Such a manner of seeing things can be described as an aberration of two types, one resulting from short-sightedness and the other from far-sightedness, or believing that "yesterday was better because today is worse." Meanwhile, a researcher, versus an ordinary citizen, has at his disposal systematically processed information and is expected to resist such temptations.

The experience of investigating Russia's population history makes it clear that, however deep social crises have tended to be, they could never deprive the population dynamics of its major evolution-related component. Consistent with universal laws of social and demographic modernization, crucial patterns of mortality and fertility change have forced their way through the chaos of irregular fluctuations of rates and unequal demographic contributions of different generations. Moreover, none of the crises observed in Russia has succeeded in exerting a decisive influence on the course of the demographic transition, which would have meant a turnaround in an overall transitional trend. Whatever the case, the crises could not but affect the pace of the demographic modernization by making it either slower or faster, and eventually make Russia's particular pattern of demographic change far more pronounced.

Whether the current demographic crisis is an exception, only the future can tell. Its first stages, which Russia is in, cannot show much and cannot be of great help, if any, in forecasting future trends. In such rapidly changing settings, projections are not easy to do. Nevertheless, there is a need, and some evidence is available in this regard, to identify the historical point within the transition that Russian fertility had reached when the recent socioeconomic and political turmoil broke out. This is all the more important, for Russia is experiencing not only a phase of crisis; it can be also seen as a positive stage of in-depth reconsideration of the history of the country, of coming to know the core patterns of its culture, and seeking answers to vital questions of human existence.

Brief History of Russia's Fertility Transition Through the Lens of the European Experience

The major findings of research into Russia's specific pattern of demographic change in comparison to those of other European countries have been already reported elsewhere.^[3] We will review here the most important findings relating to fertility.

The pre-transitional (until the end of the nineteenth century) level of Russian fertility was very high. It was higher than that found in the rest of eastern Europe, even though they had a similar nuptiality pattern, which differed from that of western European countries with their late marriage.^[4] The Russian nuptiality model was characterized by marriage at an early age and by the overall prevalence of marriage. The mean age at first marriage was around 20 for women, and

the proportion of marriages at 20 and younger ages accounted for more than 50 percent of the total. By age 30, more than 90 percent of women had married at least once, with only 5 percent never married. In addition, though Orthodox Russia didn't have divorce, high mortality made remarriages quite common among widowed persons, accounting for 8-11 percent of the total number of marriages among women and for 14-17 percent among men.[5]

Lack of widespread fertility control in combination with the overall high nuptiality level were responsible for the average Russian woman giving birth to 7 or more children during her reproductive life. Total fertility rates in Russian European regions (except the Northern Caucasus) varied between 5.9 and 8.7.[6]

The fertility decline in Russia started at the very beginning of the twentieth century and involved cohorts born after 1870. Geographically, the transition began in the central and northwestern European regions and later spread to the East and the South of the country. By that time, all European countries except Bulgaria, Romania, Portugal, and Albania had already started their fertility decline. In countries like France, the decline had already been under way for a century.

Figure 2.1 illustrates Russia's TFR trend against the background of the European countries[7] and clearly shows that, in the initial stage of the transition, Russia tended to exceed the limits of the statistical range of the European transition. It is also apparent that Russia's convergence towards the rest of Europe was very rapid and took no more than 50 years (by the beginning of the 1950s).

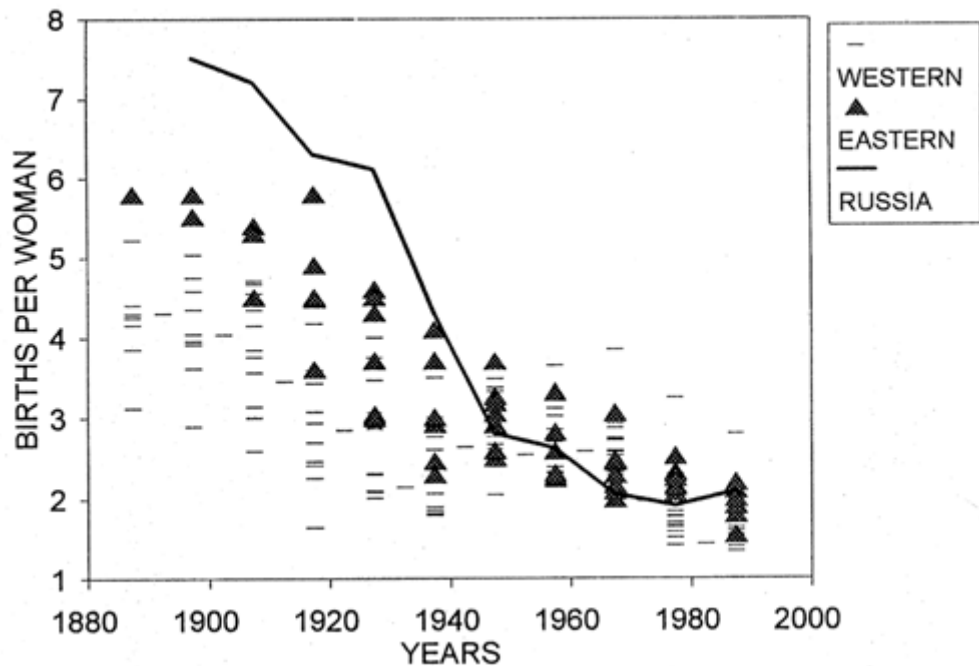


Figure 2.1--Trends in Total Fertility Rate in Russia and Other Countries of Western and Eastern Europe, 1880-1990

The European fertility transition can be considered in terms of a uniform, comparable time scale based on the period of time from the onset of irreversible changes in fertility in each country (Figure 2.2). This enables us to abstract from the differences in the fertility level across countries caused by differences in the initial date of an individual transition. Russia's trend is clearly an exception.

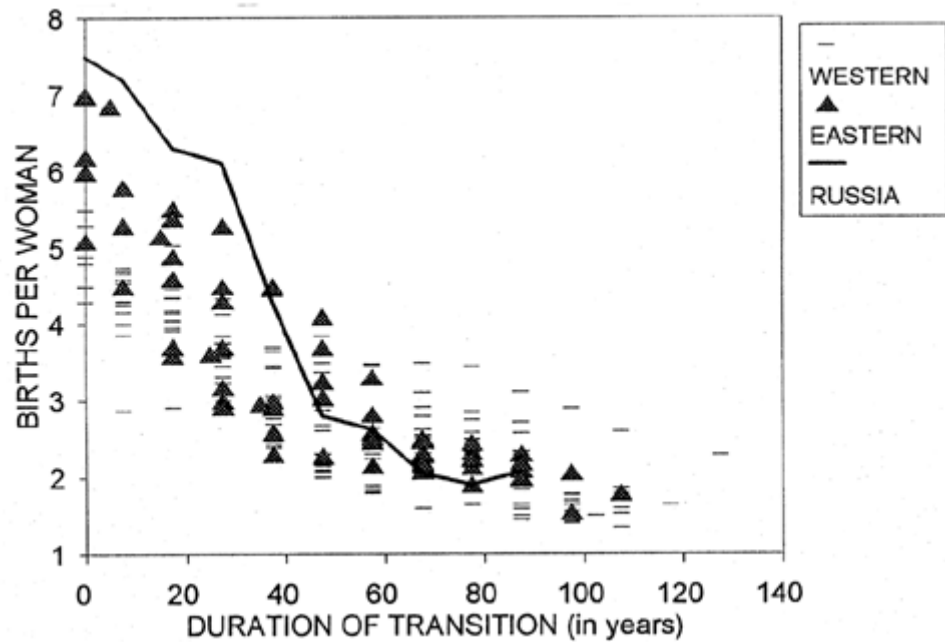


Figure 2.2--Trends in Total Fertility Rate in Terms of Comparable Time Schedule in Russia and Other Countries of Western and Eastern Europe During the Demographic Transition

The sweeping fall in fertility in Russia can be attributed to a sharp break from the socio-cultural system of traditional agrarian society. In Western Europe, as well as in some other parts of the developed world, a similar modernization was far more moderate and much less rapid.

The faster an illiterate Russian peasant grew into an urban educated resident, the more rapidly did his demographic profile change. It was as early as the nineteenth century, and even earlier according to A. Vishnevsky,[8] that the need and inevitability of modernization of the Russian society, then lagging behind the civilized European countries, was evident. Is it surprising, then, that long accumulated latent energy for change burst out so intensively? The attempts "to construct communism" in Russia can be regarded as one of the extreme and most aggressive forms of state-driven modernization of a traditional society. In this vein, the social cataclysms of Russian history can be seen as inherent to the chosen path to modernization. As regards population history, catastrophes repeatedly broke the regular pattern of population change. In the area of fertility they did so by bringing about shifts in the timing of family formation.

Prior to the First World War the fertility decline evolved very slowly. That war, and the subsequent Civil war, with their famine and ravages, brought the first acceleration in the change process. A second increase in the tempo of change taking place in the 1920-1930s resulted in an internationally unprecedented drop in fertility (see Figure 2.1). Its causes are well known. The major ones are rooted in the period of intensive industrialization with accompanying massive exodus to cities, a crisis in the country's agriculture, and famine. Then the Second World War came and yet another famine broke out in 1946-47. Though in the 1950s there was a short respite, there was no return to the prewar fertility level.

It can be suggested that the mechanism of fertility decline operating at the family level was that the family repeatedly delayed child-bearing and had less than the intended number of children because of persistent stress conditions. To unfavorable factors affecting fertility can be added the poor social conditions suffered by many generations. The probability of becoming an orphan or being reared in a one-parent family (by a widow, for example) was virtually constantly high for cohorts born between 1885 and the early 1920s.[9]

The inevitable result of this "stress"-originating fertility control was the rapid spread of induced abortion. A whole abortion-related culture and abortion-providing industry, both legal and illegal, emerged in Russia. Alternating revisions of the legislation concerning induced abortion (1920--legalization, 1936--prohibition, 1955--legalization) testified to conflicting pressures regarding this issue. Although the government fought against abortion for many years,

abortion had been widely accepted among the population. (For more on abortion, see paper by Popov in this volume.)

We still lack reliable time series on transitional completed cohort fertility in Russia. [10] The data we have are estimates and relate to the population of the USSR as a whole. They must be treated with caution as they have been reconstructed on the basis of data obtained through special surveys of women conducted during 1960-1985 and, therefore, represent the fertility intent of survivors at the moment of the survey. [11] The completed fertility of cohorts born in 1940-1944 and later was estimated as the actual number of children born plus the expected number of additional children reported in the surveys. We estimated completed fertility of the birth cohorts of 1912-1960 on the basis of pertinent data from the 1979 and 1989 censuses and of the national vital statistics for recent years (Figure 2.3).

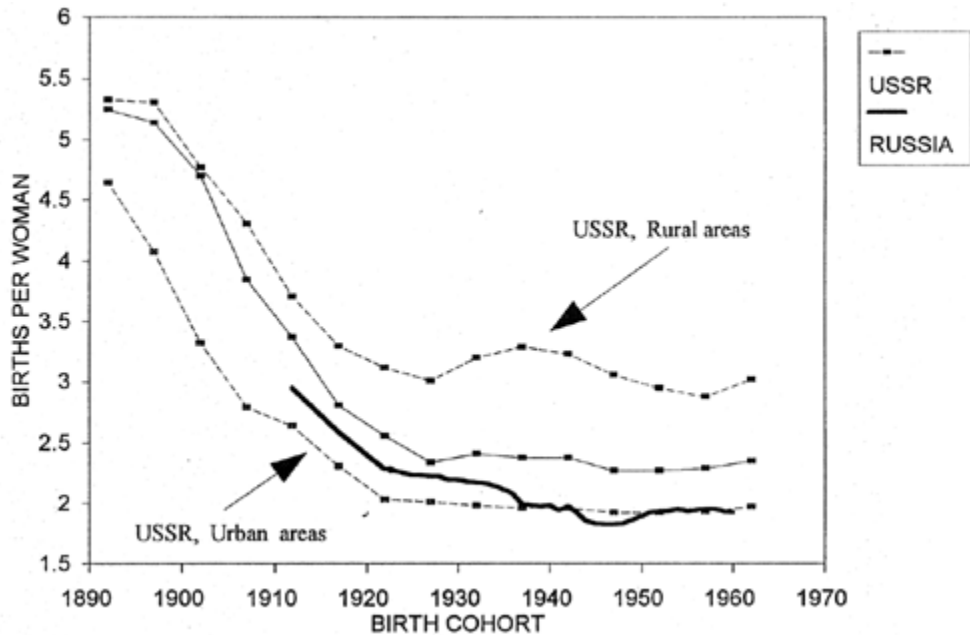


Figure 2.3--Completed Fertility of Birth Cohorts, 1890-1960, in the USSR and Russia

SOURCES: Data for the USSR, Andreev E.M., Darskii, L.E., Kharkova, T.L., 1993, p. 81. Data for Russia, (1) Andeev, A., Monnier, A., 1994, pp. 870-871; (2) Estimates based on the 1979 and 1989 Census Data and Vital Statistics for 1989-1993.

Post-War Fertility in Russia vs. the Developed World: Is Russia European?

Ups and Downs in Post-War Fertility

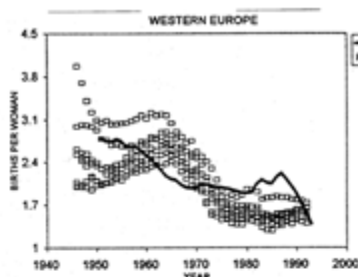
There is considerable difficulty in identifying Russia as a low-fertility country of the Western European type. The fact that Russia shares many fertility patterns with the rest of Europe cannot be of much help in this regard. What does matter are the distinguishing features of the Russian fertility decline. They made their appearance over the transition period and in a postwar trend as well, though recent visible changes in fertility are not significant compared to past developments.

In its general features, the postwar period of Russian fertility history fortunately escaped the dramatic developments of previous decades. However, the postwar compensating increase in births was not so substantial as to create a "baby-boom," as was the case in most Western countries during the 1950s and 1960s.

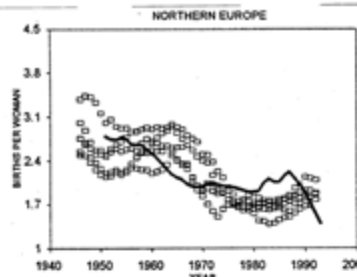
Throughout the 1960s fertility declined rapidly, partly due to another, and possibly last, wave of massive relocation to urban areas. Then it began to slow down and eventually a stable situation was reached. In the 1980s Russia saw a notable surge in the total fertility rate (TFR). That was rather a result of governmental interventions through implementation of a series of social policy measures borrowed from the experience of the other Eastern European

countries, which had embarked on pronatalist policies ten years earlier (to be discussed below). But by the late 1980s in Russia, similar to the rest of Eastern Europe, a sharp drop in fertility rates replaced their rise. From 1988 up to now a practically linear fall in TFR has been occurring.

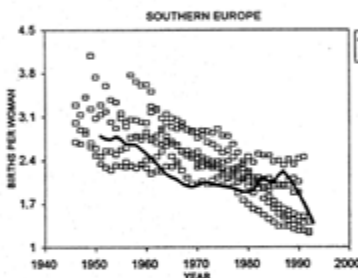
Russia's postwar TFR trend is shown in Figures 2.4.1-2.4.6 against the background of the other industrialized countries, geographically classified in accordance with criteria adopted by the Council of Europe. The general conclusion that may be drawn from this comparison is that the closer the countries are geographically, the more they appear to have common change patterns. In this vein, non-European countries of Anglo-Saxon culture such as the United States, Canada, Australia, and New Zealand have fertility trends most dissimilar to Russia (Figure 2.4.5). Next are the countries of western and northern Europe. Comparing further, more similarity is found in Russia's and southern European nations' TFR trends. As the analysis is extended to the countries of eastern Europe, the similarities increase. Finally, all the European republics of the former USSR display a striking simultaneity in TFR change. Viewing these trends together can make the distinguishing pattern specific to Russia visible (Figure 2.4.6). It can be readily documented that in the postwar period in the republics of the former USSR, fertility has been characterized by a gradual trend toward a uniform low level, with Russia tending to occupy the middle level. Moldova is the only exception, where a fertility decline started later and where, naturally, higher TFR levels occur.



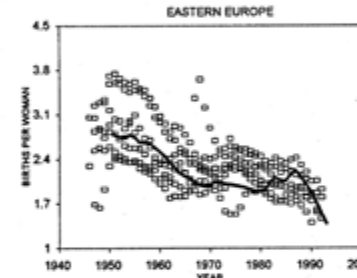
Austria, Belgium, France, FRG, Luxemburg, The Netherlands, Switzerland



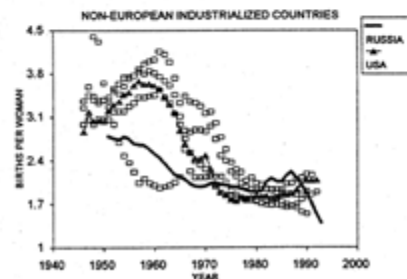
Denmark, England & Wales, Finland, Norway, Sweden



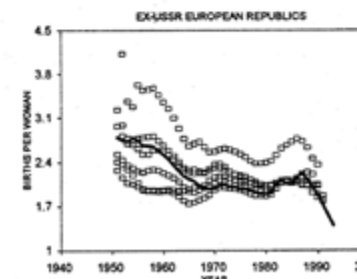
Cyprus, Greece, Italy, Malta, Portugal, Spain, Yugoslavia



Bulgaria, Czech Republic, GDR, Hungary Poland, Romania, Slovakia



Australia, Canada, Japan, New Zealand, U.S.A.



Estonia, Belarus, Latvia, Lithuania, Moldova, Ukraine

Figure 2.4--Postwar Trends in Total Period Fertility Rate in Russia Against the Background of Different Groups of Countries, 1945-1993

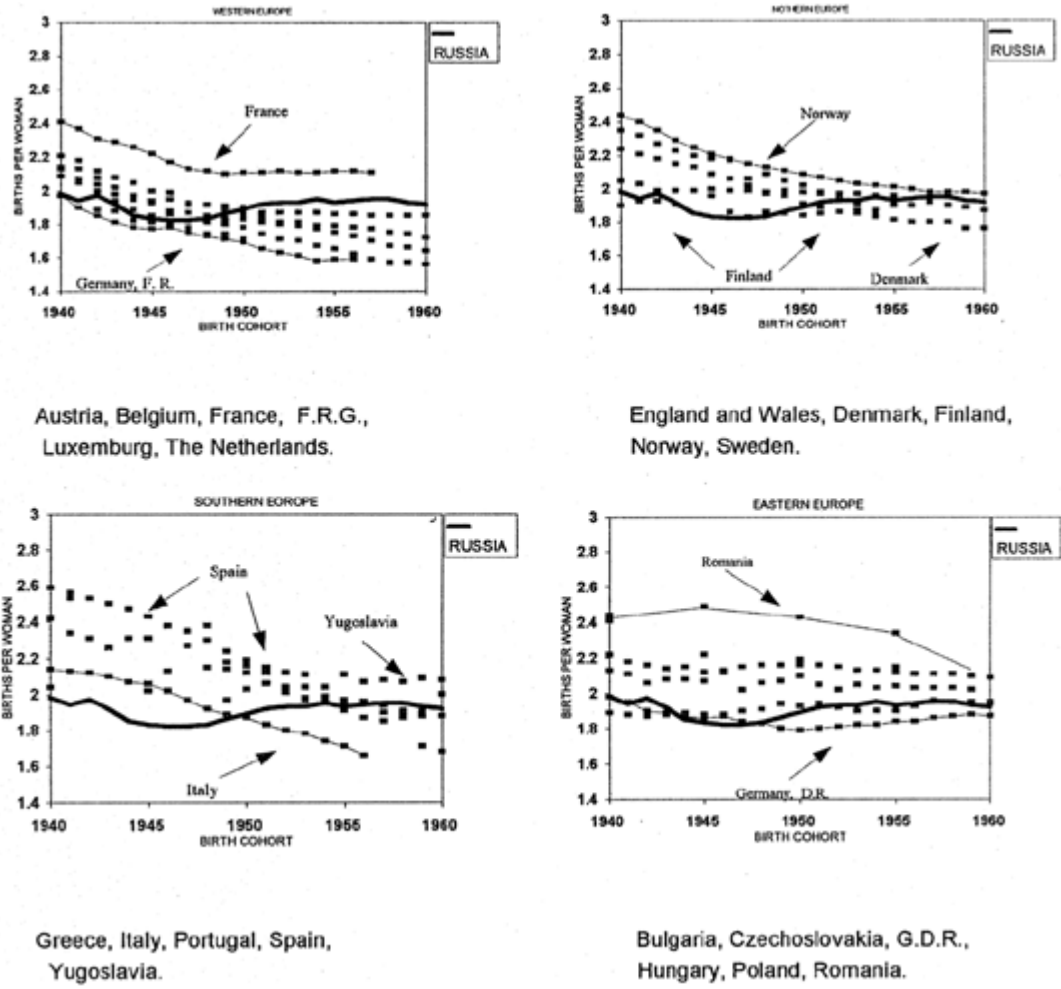


Figure 2.5--Trends in Completed Fertility in Russia Against the Background of the Different Groups of European Countries, Birth Cohorts of 1940-1960

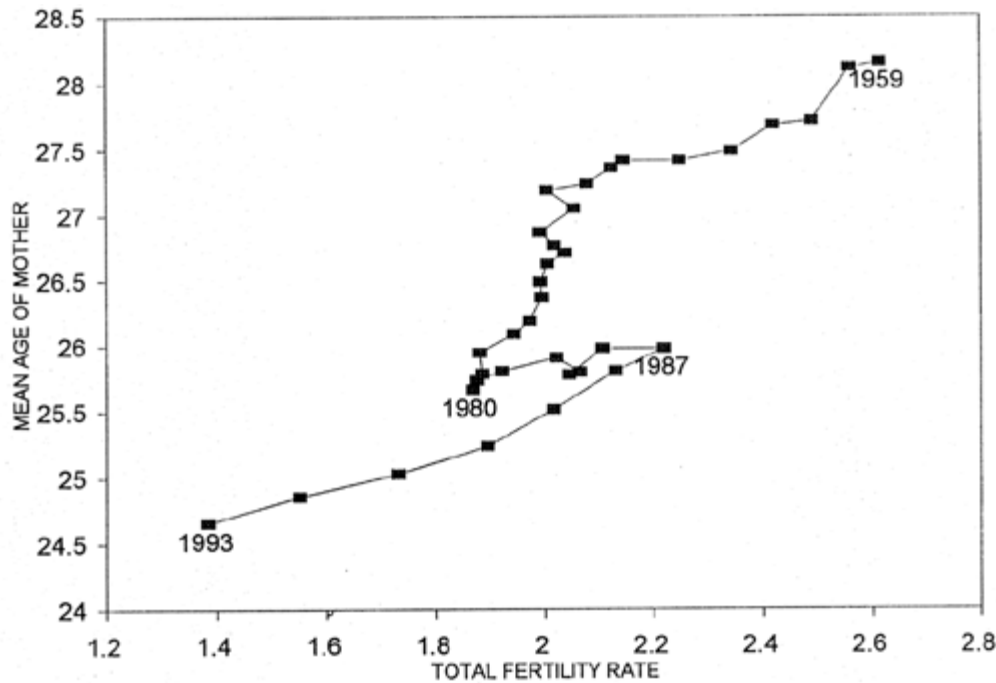


Figure 2.6--Trends in Mean Age of Mother and Total Fertility Rate in Russia, 1959-1993

Another observation that can be derived from the comparison concerns the rank of Russia's fertility level among the European countries at different periods. In the 1960s, the Eastern European countries including Russia substantially diverged from the countries located beyond the "Iron Curtain." Whereas in Eastern Europe TFRs continued to fall, in the West a slight, short-lived rise was observed. Both trends were reversed in the 1970s. While in the 1960s Russia competed with Hungary and Japan for a record among countries with the lowest fertility, in the 1970s Russia's fertility level was higher than in western and northern countries, which were by then experiencing a downward trend. However, Russia's TFR was lower than those in most Eastern European countries with their upward trend caused by governmental interventions in the population area. A soaring rise in the TFR in the 1980s further raised the rank of Russia, so that it found itself, by European standards, in a pool of countries with the highest levels of TFR. The subsequent (since 1988) fall in TFR in Russia has brought Russia closer to both groupings of countries.

Thus, the picture of short-run changes in fertility dynamics in the postwar European countries looks rather complicated. The convergence of different groups of European countries was possible only in cross-overs of "group" fluctuating trends representing phases specific to these different groupings of countries. The rank of Russia among the European countries during the 1960s and the 1970s was determined by opposite trends within the other countries rather than by changes in Russian fertility. In the 1980s, the former USSR government's pronatalist policy strongly affected the fertility patterns there. It led to the emergence of a new fluctuating fertility trend in Europe associated with the ex-Soviet republics.

Completed Fertility in Post-War Generations

The Russian fertility trend compared to those of other countries is presented in cohort terms in Figs. 2.5.1-2.5.4. Since cohort fertility is far less sensitive to casual fluctuations, the distinguishing pattern specific to Russia is much more pronounced in comparison with the rest of the countries. As was the case with TFR, it is hard to find any radical differences between Russia and its nearest neighbors within the former USSR. Meanwhile, the differences between Russia and countries of western, northern, and southern Europe become noticeable to the naked eye. In contrast to a downward trend in completed fertility of postwar generations in many European countries, Russian fertility for the same cohorts is rather steady and even tends to increase. By the number of births produced, cohorts born in the late 1950s have approached the magic value of 2 (more precisely 1.9-1.95), which represents the dominant two-child-family model of nowadays. This is neither a very high nor a very low level for Europe. It is rather an average for the whole of Europe: higher than in most countries of western and northern Europe (excepting France and Norway), but lower than

in Eastern Europe (with the exception of the ex-GDR).

The Timing of Fertility: Evidence from Russia

The specifics of Russia's fertility trend are not restricted to patterns of change in summary indices of fertility. Far more crucial differences can be found in age patterns of childbearing. Age-specific patterns of fertility have been shown in comparative studies to vary from one country to another, and the level of fertility is not necessarily associated with the concentration of births within a given age range.^[12]

At present, the eastern European countries including Russia generally display the early-peak type of age pattern in which the maximum fertility occurs in age group 20-24. The countries of western, northern, and even southern Europe (except Yugoslavia) have their fertility peak in the 25-29 age group.

The notable divergence of countries as regards the above-mentioned patterns has increased since the mid-1960s. That period revealed a strong "aging" tendency in Western fertility due to fertility reductions at younger ages, including the 20-24 age group. In the mid-1970s this was supported by an increase in fertility rates for age groups 30-34 and 35-39. Nothing similar was observed in the eastern European countries.

Evidence available from Russia shows that in the 1960s-1980s fertility at younger ages increasingly prevailed. The mean age of childbearing mothers became younger and younger, falling from 28.1 in 1960 to 25.7 in 1980 (Figure 2.6). By 1991, fertility at ages 15-19 exceeded that in the 40-44, 35-39, and 30-34 age groups and approached the rate at ages 25-29 (Figure 2.7).

This strong tendency towards fertility at younger ages is associated with the similar process found in nuptiality patterns. By 1980, compared to 1960, the mean age of women at marriage in Russia fell by 3.5 years, from 26.2 to 22.7. This differentiates Russia considerably from the Western countries, where the 1970s were a turning point in the evolution of marriage age patterns as the age at first marriage began to increase rapidly.^[13]

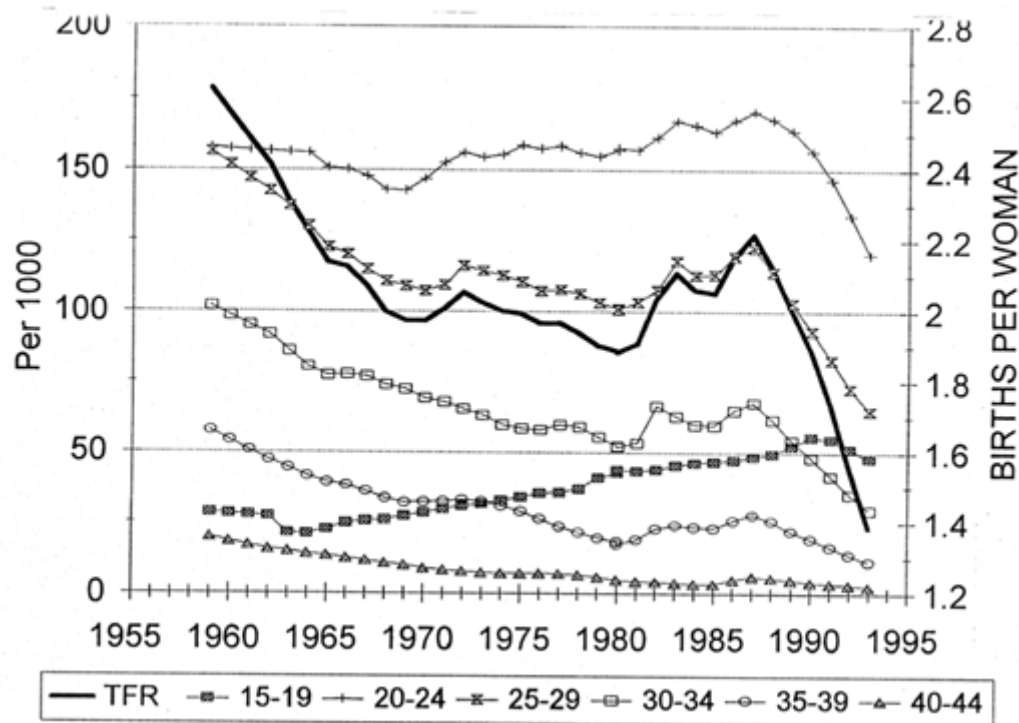
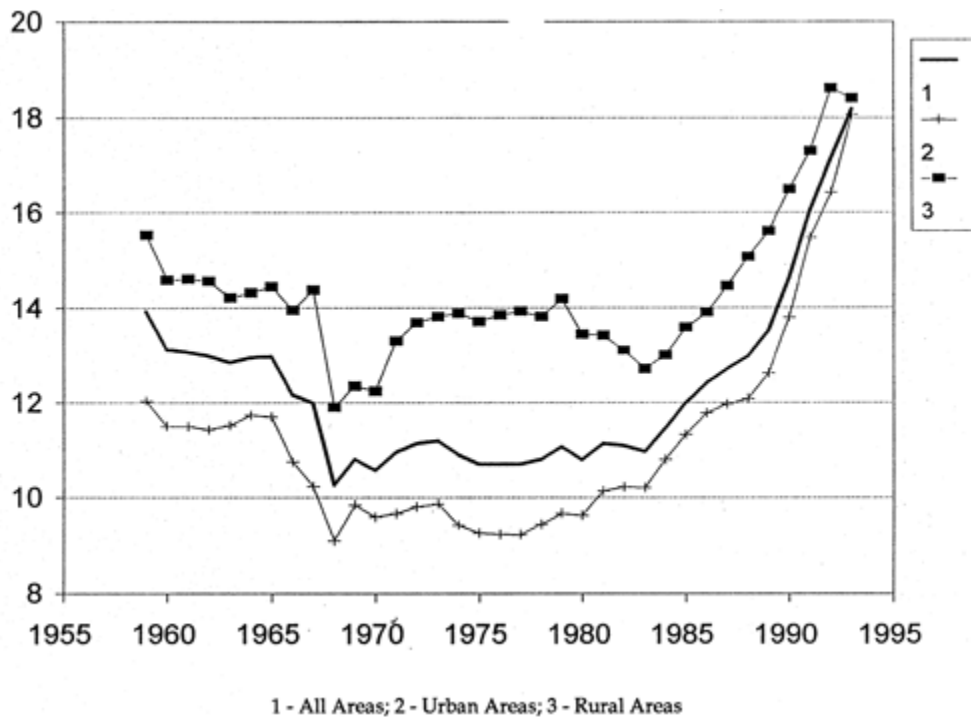


Figure 2.7--Trends in Age-Specific Fertility Rates and Total Fertility Rate in Russia, 1958-1993

The increasing occurrence of marriage at ever younger ages in Russia was accompanied by a drop in the proportion of

non-marital births--from 13.9 percent in 1959 to 10.8 percent in 1980 (Figure 2.8). By contrast, most Western countries experienced an intensive growth in non-marital fertility in that period. This raises the question of the role that forced marriages may play in fertility dynamics in general, and in Russia in particular. Forced marriages are assumed to largely concern younger ages and be induced by unplanned premarital conception. It is believed that social norms have long been designed to prevent early sexual relations; and non-marital and especially premarital child-bearing have always been stigmatized. Apparently, during the 1970s a crucial change in social norms in this area occurred, and soon showed demographic effects.



1 - All Areas; 2 - Urban Areas; 3 - Rural Areas

Figure 2.8--Percentage of Non-Marital Births Among Live Births, 1959-1993

J. Bourgeois-Pichat was one of the first to draw serious attention to this issue.^[14] He made it sufficiently clear that the changes associated with a new phase in Western fertility decline, considered to start in the mid-1970s, most notably the upward trend in mean age at marriage, shift in fertility concentration towards women at older ages, and increase in non-marital births, may be due to a considerable decline in forced marriages in relation to total marriages, along with a decline in unplanned conceptions in general. This indicates a new step towards regulation of life cycle events within a family and by individuals, benefiting from newly available values and economic opportunities. The wide availability of modern, effective contraceptive methods were tools that permitted greater choice in marital and sexual behavior patterns and in timing of childbearing.

In contrast, by the end of the 1980s, a "second demographic transition" (a term introduced by Van de Kaa to summarize the above described trends^[15]) was still in its infancy in Eastern Europe, if it was present at all. Russia was no exception. Estimates of the probability of premarital conception resulting in legitimate birth were obtained by processing information from birth certificates and provide some evidence on the pattern of forced marriages in Russia. Premarital conception was assumed to have occurred if the interval between marriage and date of child's birth was less than 8 months. According to many authors conducting studies in different regions, the proportion of premarital conceptions accounted for 30-40 percent of total marital births of the first order, and 50-60 percent and over at adolescent (under 20) ages. One of the major implications of the wide prevalence of forced marriages is a high divorce rate. In this respect, Russia finds itself among the leading countries, with only the United States and the Baltic states ahead.

Yet another feature of Russian fertility patterns that calls for closer attention is the interval between successive births, or the timing of births. As studies have revealed, a slow decline in the TFR during the 1970s was accompanied not only by a shift to younger ages in nuptiality and fertility and a decrease in the probability of higher-order births, but also by a reduction in the intervals between births. In low-fertility settings, shifts in timing of first, second, and third births may considerably affect the overall level of TFR. The interval reductions mean that children of the same order are born by women of different cohorts: some of them according to a normally expected "schedule," while others are born somewhat earlier, or ahead of "schedule." The outcome is an abnormally high number of the births and a high TFR.

The early age patterns of marriage characteristic of Russia and the shortening of birth intervals contributed to the emergence of births of second and higher orders occurring at ever younger ages. Another factor responsible for shifts in birth timing during the 1970s is Russia's family planning model. Abortion was prevalent, as was little awareness by the population about effective contraceptive devices and a lack of availability of contraceptives. There was virtually no domestic contraception industry, and imports from other countries were negligible. According to the estimate made by A. Avdeev and I. Troitskaya, for the 1970s the life-time abortion rate was 4.0-4.5 per woman in Russia.^[16] ^[17] However, such a fertility control strategy is really birth limitation rather than family planning as, in fact, attempts are made only to regulate the number of children born and not the spacing of their conceptions. Whether deliberately or not, Russian women apparently achieve the desired number of children in young ages as fast as possible by reducing the birth intervals, with the unplanned pregnancies resulting in induced abortions.

In sum, the combination of low fertility, an extremely large contribution by younger mothers to the total number of births, and short intervals between successive births were characteristic of Russian fertility patterns in the late 1970s. In such a fertility setting, period rates and, in particular, the TFR can never be stable. Even a little change in external conditions might lead to an unpredictable response from young families, causing fluctuations in the total fertility level. The bulk of evidence in this respect is provided by the developments of the 1980s.

Explaining Russia's Fertility Decline in the 1980s and Early 1990s

An assessment of fertility trends manifested in the mid-1980s provides clues to understanding fertility trends in Russia during the last few years. In the early 1980s, the government attempted to affect demographic trends by a series of social policy measures. The activity in this field consisted of enacting in 1981 the staged implementation of a family-with-children support program. The measures were introduced in all Russian regions by 1983, with repeated modifications over the next few years. Of the measures, which primarily affected fertility dynamics, two are especially noteworthy: (1) the introduction of partially paid maternity leave (from one year initially, its period was then extended to 1.5 years and finally to 3 years); (2) the introduction of a juridical definition of a large family as a family with three children, made eligible for all kinds of benefits in public services and housing. The population responded to the implemented measures almost immediately: fertility rose in almost all reproductive ages across all regions of Russia.

The sharp fluctuations in period fertility rates that we have been witnessing in Russia during the last decade cannot but intrigue the scholar, especially given the fact that the absolute majority of Russian families has finally and irreversibly decided to opt for a small nuclear family with two children. Figure 2.9 illustrates how cohorts, one after another, were shifting to the universal two-child family model: all cohorts of Russian women born after the war were reluctant to either remain childless or have more than three children. Numerous sociological surveys conducted in Russia confirm the stability in reproductive intentions of modern families. Under these conditions, fluctuations in period fertility indices may, in fact, reflect the results of adjustments that parents are tending to introduce in their timing of births, rather than a radical revision of their plans concerning the number of children they would like to have. Hence, the growth and subsequent fall of TFR during the 1980-1990s appears to be, in a sense, a peculiar artifact that results from the underlying distribution of women by the number of children already born and intervals between births. To address this issue, we have to introduce into our analysis of distribution of births by order, as well as distribution of women by parity as calculated from the 1979 and the 1989 censuses (in which the relevant question was included for the first time).

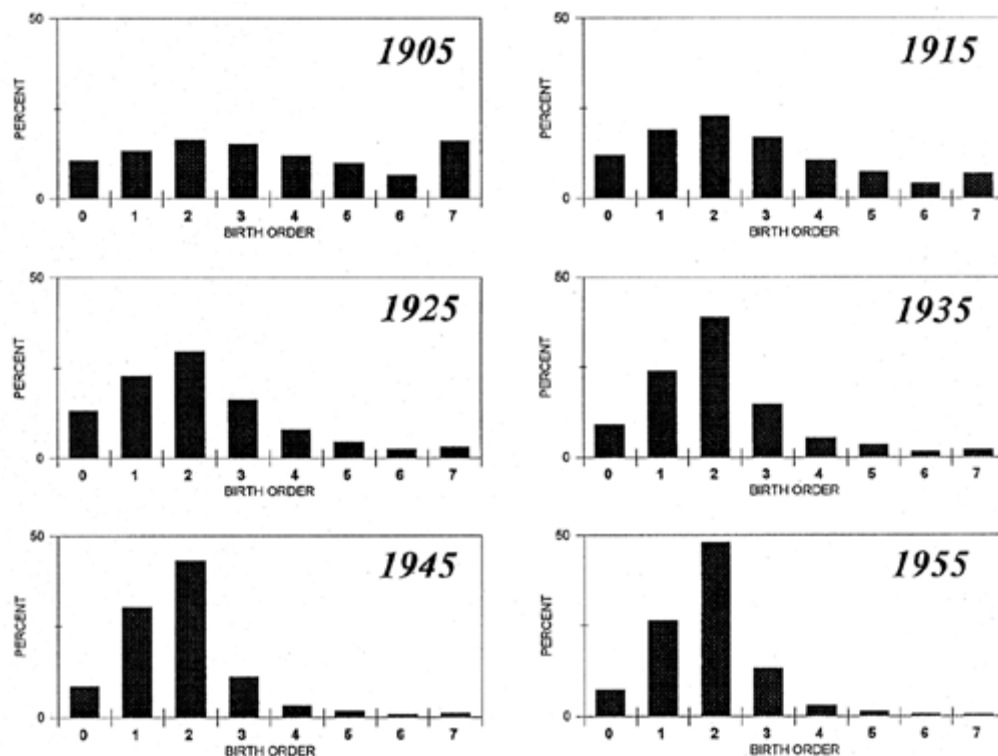


Figure 2.9--Distribution of Women by Number of Children Born by Age 50 in Different Birth Cohorts in Russia (estimates for birth cohorts of 1945 and 1955)

Trends in Russian Fertility in 1979-1993: A Period Analysis

Figures 2.10.1 and 2.10.2 show changes in the TFR and total fertility rates for each birth order. First births have gradually increased since 1982, reaching their maximum in 1988, while third births started to increase somewhat earlier--in 1981, with a peak in 1987. The shape of the TFR curve is clearly influenced by the irregular trend in the second-birth total fertility rate. Note also, that there was a slight increase in the frequency of births of the fourth, fifth, and sixth orders during 1986-1987. The picture becomes all the more clear as we estimate period parity-progression ratios, appearing to confirm the impression given by our previous analysis that the probabilities of second and third births (a_1 and a_2) grew in the mid-1980s, reaching their highest level in 1987 (Figure 2.11).

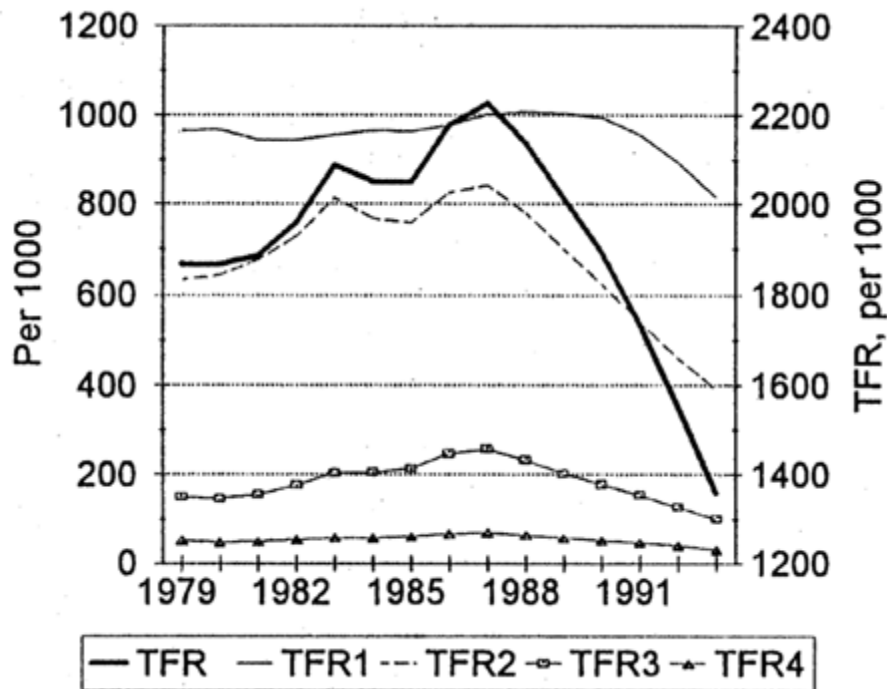


Figure 2. 10.1--Trends in Total Fertility Rate and Order-Specific Total Fertility Rate in Russia, 1979-1993, 1st-4th Birth Orders

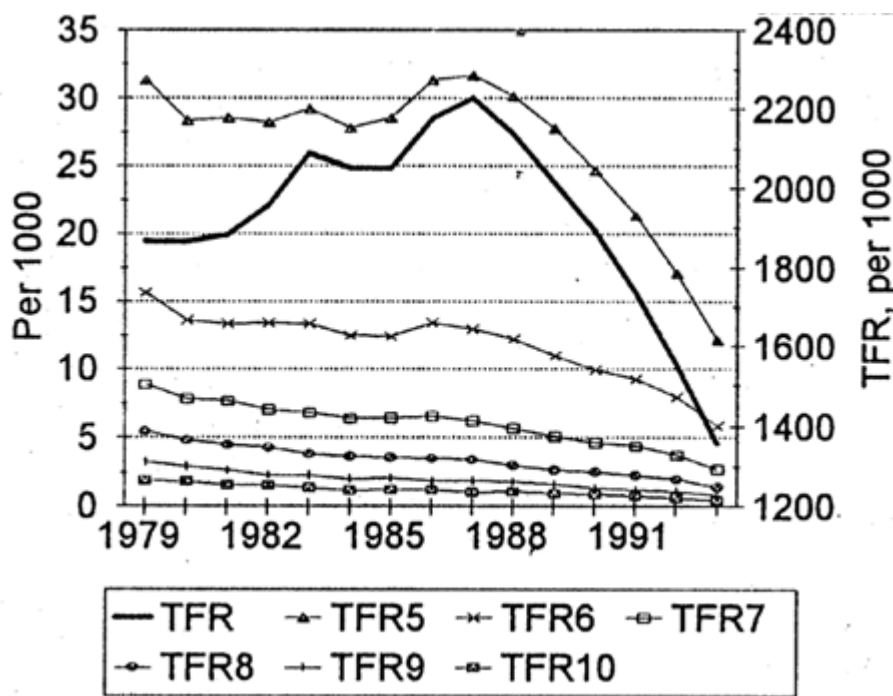


Figure 2.10.2--Trends in Total Fertility Rate and Order-Specific Total Fertility Rate in Russia, 1979-1993, 5th-10th Birth Orders

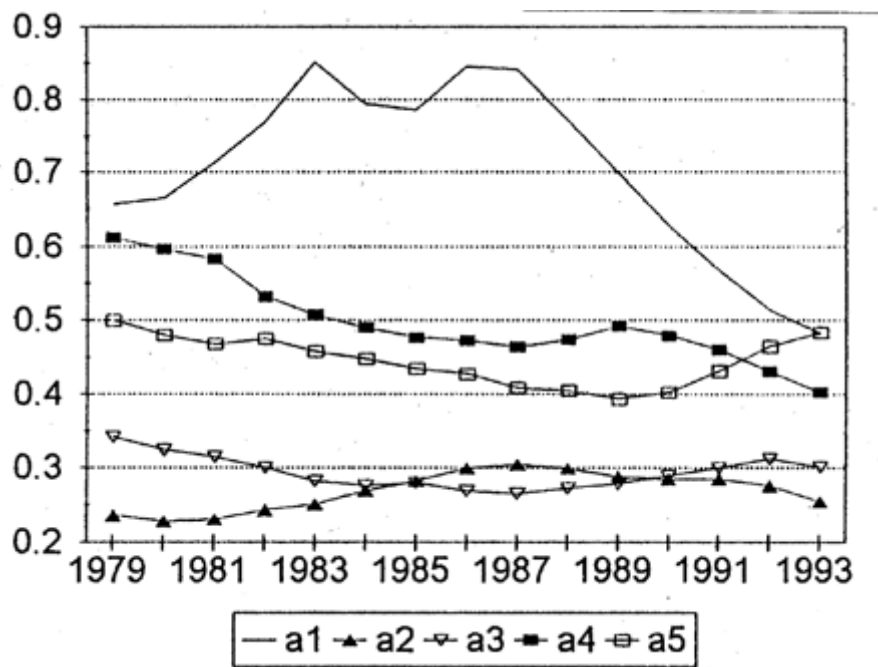


Figure 2.11--Trends in Period Parity Progression Ratios in Russia, 1979-1993, 2nd-6th Birth Orders

All these facts--first-birth total fertility rate exceeding unity and a second-birth probability at an all-time high of 0.85--lead us to raise the question of the likelihood of considerable shifts in the timing of births in different cohorts during the period under study. Likewise, we can observe the dynamics of mean age at childbearing for each birth order, as well as the dynamics of the standard deviation of mothers' age from the mean age at childbearing for each birth order (Figures 2.12 and 2.13). The mean age of women at childbearing for first, second, and third orders rose slightly in 1986-1987, while mothers' age distribution has changed (i.e., standard deviation increased) considerably since 1981 for first and second births, and since 1983-1984 for third and fourth births. All of these confirm the hypothesis that children of the first four orders were simultaneously born to younger and older women, that is, to women belonging to different cohorts and having correspondingly different reproductive and marriage histories.

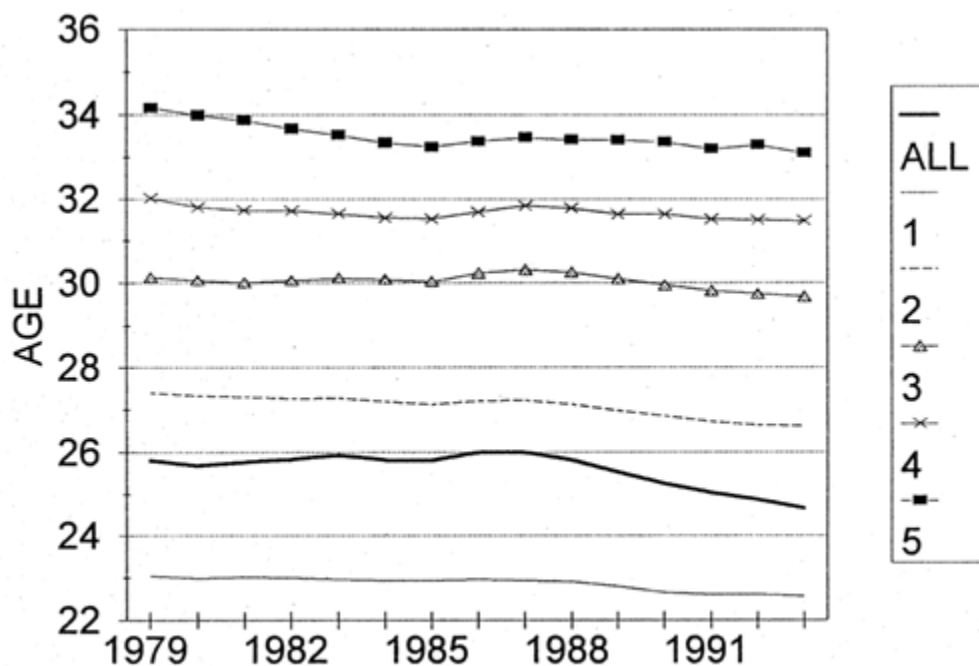


Figure 2.12--Trends in Mean Age of Mother at Childbearing For All and 1st-5th Birth Orders in Russia, 1979-1993

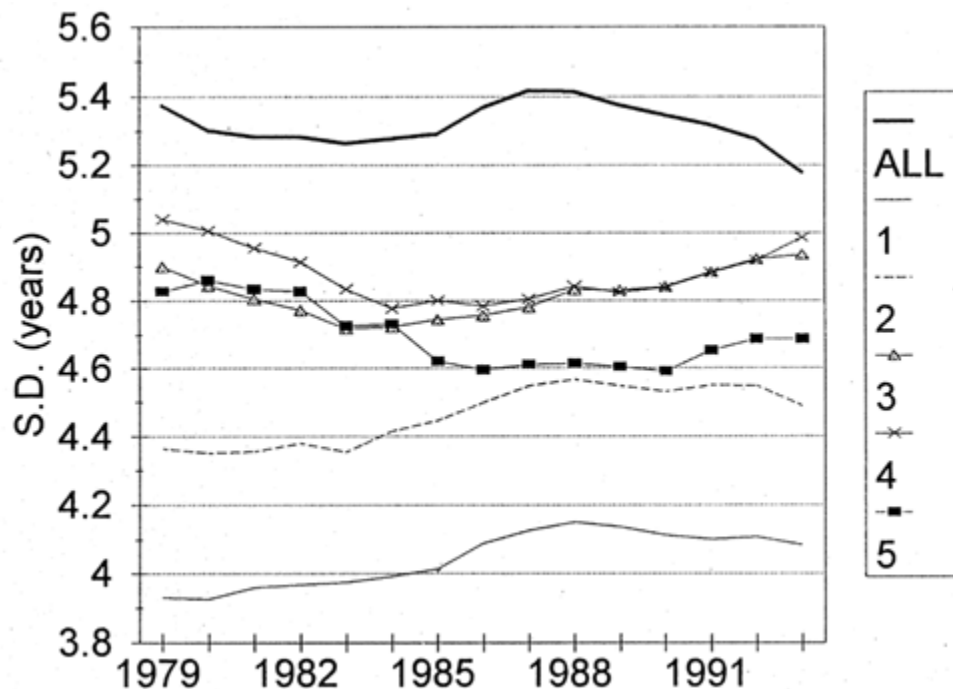


Figure 2.13--Trends in Standard Deviation of Mean Age of Mother at Childbearing For All and 1st-5th Birth Orders in Russia, 1979-1993

Shifts in birth timing (intervals between births) during a short period of time tend to cause irregular changes in the distribution of women by parity. Due to distributional distortion effects, conventional period measures--the total fertility rate and total age-specific fertility rates--cannot adequately reflect the true final number of children born. One can somewhat improve the situation by including in the denominator of age-specific fertility rates only the women at risk of moving to a specified birth order instead of the total female population at that age. We may, therefore, construct period parity-specific fertility tables using the probability a female with at least n children will have $n+1$ children during a calendar year.

The major methodological problem arising here is that, to calculate parity-specific fertility rates, one has to estimate the distribution of women by the number of children already born for each calendar year under study. We attempted to tackle this problem by applying the survival ratio method to the distribution of mothers by age and by the number of children ever born derived from the 1979 and the 1989 censuses. We also used annual distributions of births by mother's age and order of birth, as well as the Goskomstat estimates of the magnitude of changes in each cohort's size due to intercensal mortality. To reduce the magnitude of error, we based our analysis on the average of two annual distributions of mothers obtained by the "forward" method--from 1979 to 1989, and the "reverse" method--from 1989 to 1979. The accuracy of our estimation seems satisfactory.^[18]

Total age-specific fertility rates for each birth order, calculated for 1979-1993 in the usual way, and the parity-specific fertility rates, estimated on the basis of the distribution of women by the number of children already born from the 1979 and 1989 censuses, are shown in Figure 2.14. This confirms our assumption made earlier that total first-birth fertility rates, as well as second-birth rates obtained in the conventional way, appear to have been inflated for the mid-1980s and, conversely, deflated for the beginning of the 1990s. The difference in intensity of second births recorded between 1983 and 1987 looks less substantial. Generally speaking, however, our calculations intended to help interpret the period indices have introduced nothing new in our substantive conclusions. The intensity of fertility of the first three orders has, indeed, grown significantly during the 1980s, while its drop in the early 1990s was not less significant.

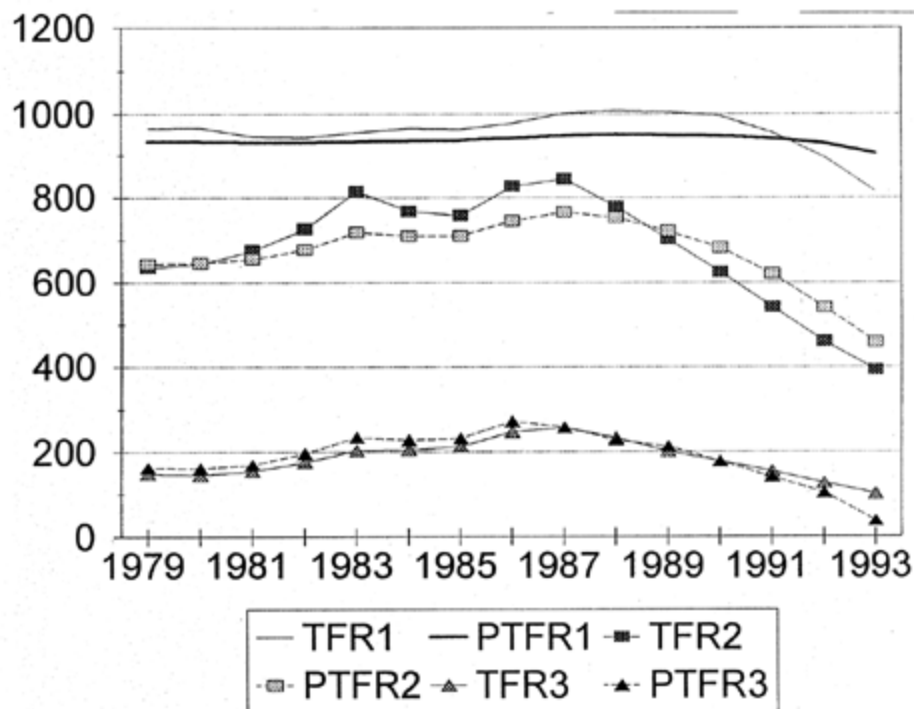


Figure 2.14--Trends in Conventional Total Fertility Rate and Parity-Specific Total Fertility Rate for 1st-3rd Birth Orders in Russia, 1979-1993

To progress further in our analysis, we should calculate parity-interval-specific fertility rates^[19] and/or undertake a cohort analysis. At the moment, we choose the latter.

Trends in Russian Fertility in 1979-1993: A Cohort Analysis

The age distributions of women by parity obtained by the above mentioned method enable us to reconstitute fertility patterns in cohorts of women born between 1937 and 1977 and giving birth to children during 1979-1993.

The cumulative average number of children born in female cohorts by different ages is presented in Figure 2.15. Two stages of evolving cohort fertility can be easily distinguished. The declining fertility trend continued with cohorts of women born in the 1920s, 1930s, and in the first half of the 1940s. Whereas women born in 1909-1913 gave birth to 3 children during their reproductive life, those born in the early 1920s had about 2.3 children, and the 1945 cohort had 1.8 children. For women born around 1945, the peak of reproductive activity occurred in the second half of the 1960s.

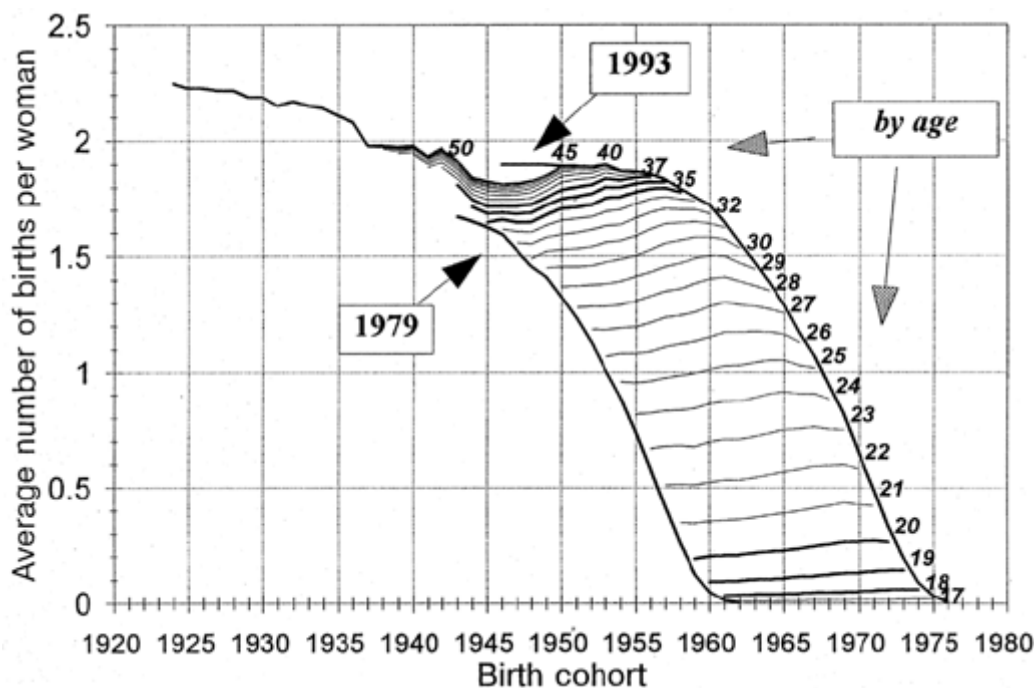


Figure 2.15--Cumulative Fertility at Each Age For Different Birth Cohorts in Russia, 1979-1993

Starting with cohorts born at the end of the 1940s, all following cohorts had, on average, more children than their immediate predecessors. Figure 2.15 clearly shows a gradual upward trend in the average number of children born to cohorts of all specified ages. It is only in 1992 and 1993 that the growth of cohort fertility has ceased. After 23-32 years, women have begun to delay births. In spite of this, by 1994 none of the cohorts, even the most recent ones, has returned to the level of much lower fertility observed fifteen years ago.

The cumulative frequency for birth orders 1-5 in cohorts of women born between 1937 and 1975 observed during the period 1979-1993 are shown in Figures 2.16-2.20. The cumulative frequency of births of the n+1 order relates to mothers with at least n children.

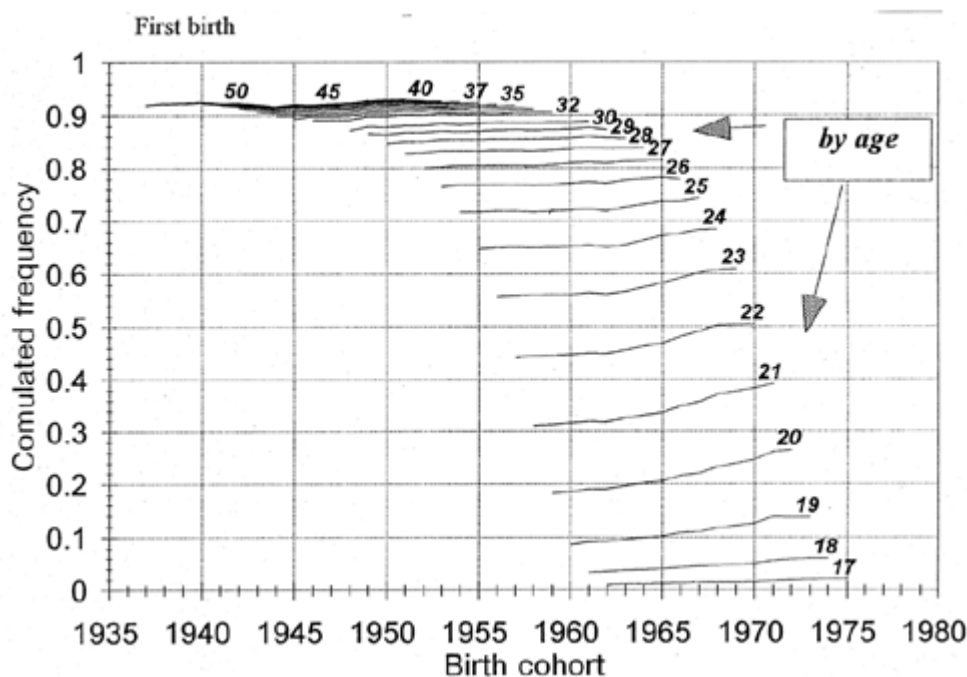


Figure 2.16--Cumulated Frequency of First Births at Each Age for Different Birth Cohorts in Russia, 1979-1993

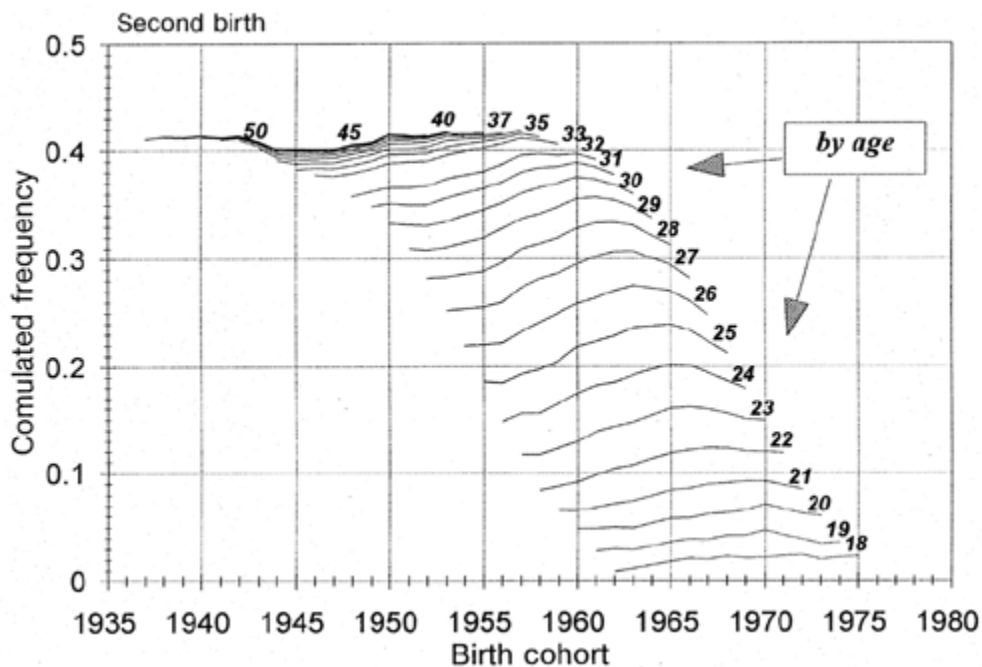


Figure 2.17--Cumulated Frequency of Second Births at Each Age for Different Birth Cohorts in Russia, 1979-1993

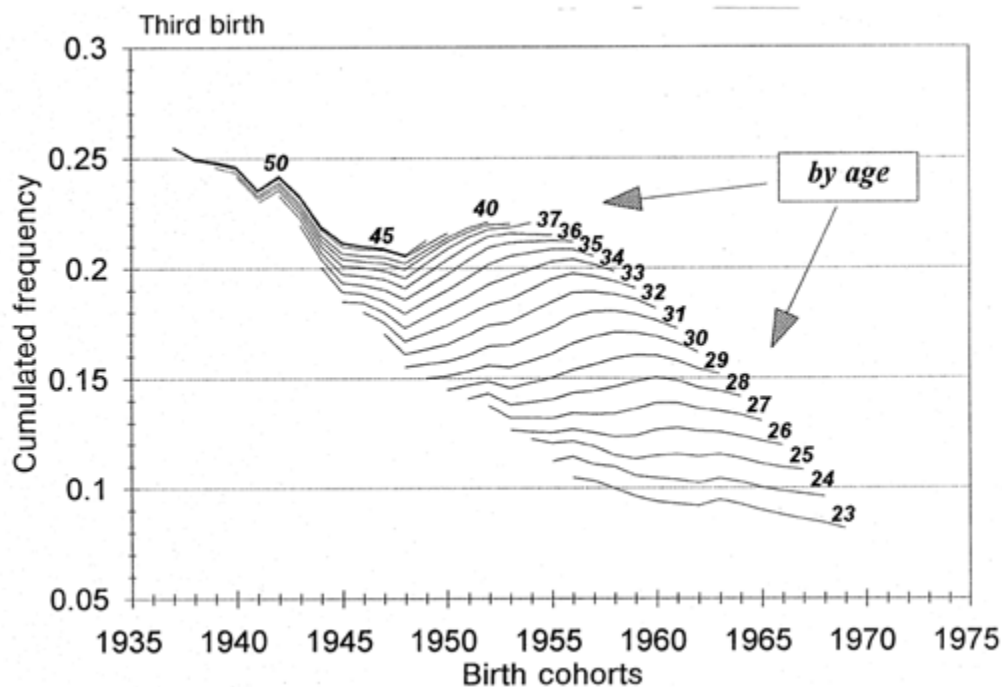


Figure 2.18--Cumulated Frequency of Third Births at Each Age for Different Birth Cohorts in Russia, 1979-1993

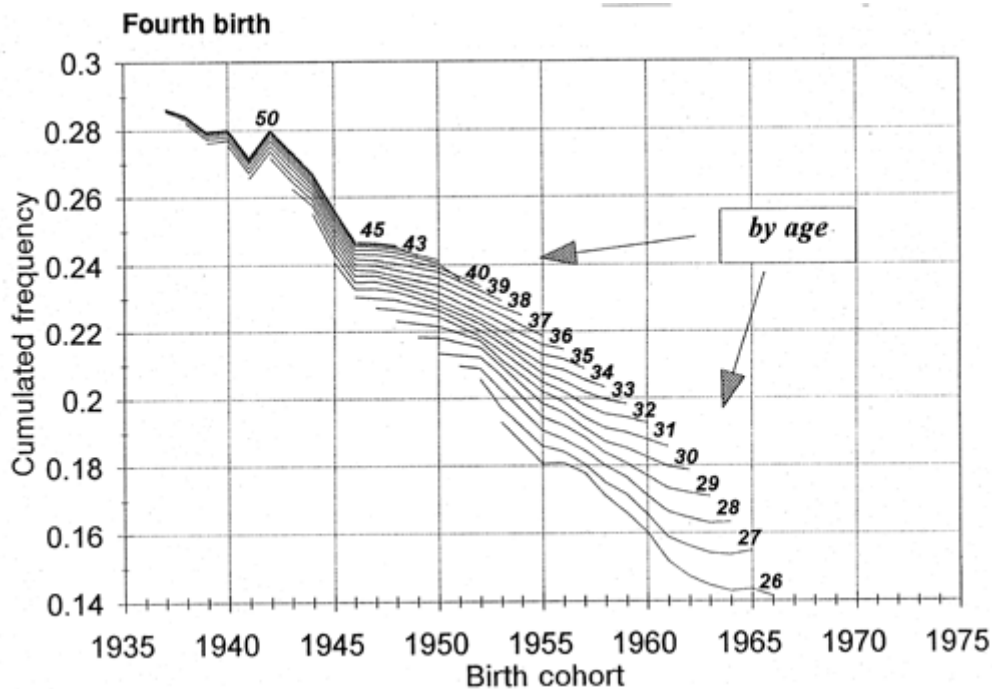


Figure 2.19--Cumulated Frequency of Fourth Births at Each Age for Different Birth Cohorts in Russia, 1979-1993

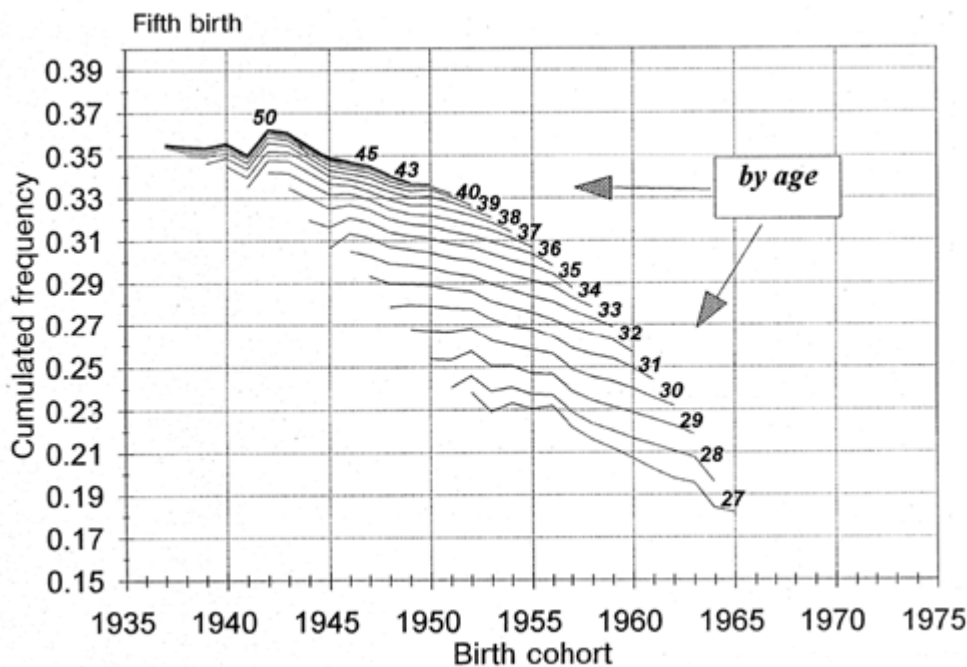


Figure 2.20--Cumulated Frequency of Fifth Births at Each Age for Different Birth Cohorts in Russia, 1979-1993

A few important points become evident when examining Figure 2.16, illustrating the first birth pattern. The first concerns the stability of the level of permanent childlessness in all cohorts having completed or nearing the completion of their procreation period: 7-8 percent of all women remain permanently childless. The second point is associated with a clearly discernible tendency toward younger first-order fertility. Apparently, the tendency toward younger motherhood has emerged in Russia since at least the mid-1950s. Both period and cohort fertility measures appear to confirm this. It should be noted that in the mid-1980s, due to incentive effects of pronatalist measures, a considerable acceleration of family formation occurred. While by 1979, 18 percent in the 1959 female cohort had their first child by

age 20, the corresponding proportion in the 1972 cohort was already 26 percent. The same pattern of younger motherhood is also recorded for other ages, from 15 to 25 years.

Figure 2.17, illustrating the second birth pattern, is of interest also. First, it clearly shows the increasing probability of second births in all the cohorts born after 1945, up to 1962. It is even so for the most recent cohorts, born during the first half of the 1970s: they gave birth to their second child by a specified age more frequently than those born 10 years earlier. Secondly, the magnitude of the increase in the proportion of women who had their second child at a younger age is really phenomenal. By age 25, 18 percent of women of first parity in the 1955 cohort had a second birth while in the 1965 cohort the corresponding figure was 24 percent. The probability of a third birth increased during the 1980s as well, particularly in the second half of the 1980s for mothers 30 years and over. For younger mothers, the growth of third birth fertility was not that appreciable, and, for women at ages below 24, the probability of a third birth was tending to decrease (Figure 2.18).

Figures 2.19 and 2.20 show a steady downward trend in fertility of fourth and fifth birth orders. The population policy of the 1980s did not bring about an increase in the probability of having a large family--it only served to accelerate the timing of the first through third child. Instead, cohorts, one after another, gave birth to children of higher orders less and less frequently, confirming the observation that a two-child family had become the universal and most desired family model for the Russian population.

The Impact of Pronatalist Policies of the 1980s on Current Fertility Rates

It is now clear that the intense governmental intervention in the area of population during the 1980s favored a trend, which had emerged somewhat earlier, to a stabilization of the final number of children in families at the two-child level. During the 1983-1989 period, the TFR exceeded 2.0 children. It is the change pattern of the second-birth probability that has been shaping the dynamics of the total fertility rate during the last two decades. Due to the implementation of the pronatalist measures, the second-birth probability for women at both younger and older ages increased considerably. Though women over 25 also had an increased probability of a third birth, their contribution to the final size of TFR was not substantial enough to determine the overall trend. The contribution of fourth- and higher-order fertility is statistically insignificant, being in line with its more stable, historical declining trend.

The results of our cohort analysis seem to leave no doubt that the post-war cohorts of Russian women have displayed a stabilizing and even upturning trend in fertility in conformity with the two-child-family size, reaching a high of 1.8-1.9 children per woman.

The incentive effect of the pronatalist measures introduced during the 1980s in Russia was twofold. First, the average number of births in cohorts having completed their reproductive activity grew. This means that a fraction of second and third births would probably not have occurred unless the pronatalist measures had been taken. On the other hand, women had their first three births at younger and younger ages, and reduced the intervals between births more frequently than before, thus continuing a tendency which had emerged earlier. A considerable portion of families achieved their reproductive goals earlier, giving birth to the desired number of children during a short period of five to six years, and did so at a younger age as compared with the preceding cohorts.

During 1992-1994, there has been a slowdown in the tempo of cohort fertility due to the postponement of births of the second and third order (while first birth is not delayed). The fact that five years earlier many of the cohorts had produced their first and second births ahead of the "normal" schedule appears to have made a considerable contribution to the fall of TFR during the early 1990s. Despite a recent significant drop in age-specific fertility in the absence of the mentioned policy measures, none of the cohorts, even the most recent, has returned to the relatively "slower" tempo of family formation characteristic of the end of 1970s (Table 2.1). A slight decrease in cohort fertility during the early 1990s can be observed for women who by 1994 reached the ages of 23-34.

Table 2.1
Cumulative Average Number of Children Per Women By Age in 1980, 1987, 1990, and 1993 (cohort estimations)

Age	1980	1987	1990	1993
18	0.035	0.048	0.056	0.063
20	0.194	0.238	0.267	0.267
25	0.958	1.026	1.051	1.020
30	1.451	1.527	1.580	1.533
35	1.715	1.758	1.798	1.822
40	1.946	1.792	1.840	1.883
45	1.978	1.934	1.846	1.819

No doubt, today's hard times for Russian society play a role in the postponement of births observed recently. At the same time, one should take into account the possibility that today the population may be coming back to the former more natural and moderate tempo of procreation. The shift to longer intervals between births seems to be an inevitable "negative" compensation for the pronatalist population policy pursued during the 1980s.

For now, statistical evaluation of the contributions of each of the mentioned factors to the postponement of births is not possible. It is clear that both the end of pronatalist policies and the economic downturn of the 1990s have affected current fertility dynamics. During the last three years (1992-1994), their overall contribution to the drop in fertility, in terms of completed mean number of children per woman, can be estimated to not exceed 0.05 children for women around age 30 and 0.03 children for women around age 25. No sign of the impact of recent developments on the younger cohorts has been detected. One should keep in mind that births postponed today due to changes in family plans might be made up a few years later, representing still another short-term shift in birth timing in a number of cohorts, similar to that observed in the 1980s. In this case, the completed number of births would behave as if no postponement had occurred.

The cohort analysis presented above clearly demonstrates that there is not sufficient evidence to associate a so-called "crisis" in Russian fertility with the current political and socioeconomic situation, as is frequently done in the media with non-professional speculations about population issues.

The Second Demographic Transition and Prospects for Russian Fertility

The Second Demographic Transition: Basic Features

As shown in the first section of this paper, a complex process of change in fertility behavior patterns has been occurring in the West since the late 1960s. To achieve the relatively small number of children desired, people were modifying their behavioral patterns in ways that have been termed "the second demographic transition." *The second demographic transition* in fertility and nuptiality is characterized by the following features:

- absolute and relative increase in numbers of consensual unions, long-lasting premarital unions, "trial marriages," and separations accompanying a rapid decline in the proportion of forced marriages resulting from prenuptial conception;
- a rapid increase in the proportions of illegitimate births with an accompanying increase in mean age at childbearing outside marriage;
- an increase in mean age at legal marriage, mean age at first birth, and mean age at maternity; and
- a change in the position and shape of the distribution of birth by age--a shift of modal age at birth from the 20-24 age group to the 25-29 age group, the declining contribution of the youngest ages 15-19 and a growing contribution of the older ages (over 30 years) to the total fertility rate, resulting in a less concentrated distribution of births by women's ages.

The mentioned signs of the second demographic transition are mainly associated with fundamental changes in the individual life cycle in general, and with changes in individual goals with regard to the timing of marriage and family formation, in particular. Modern sexual norms imply a free choice of partner and type of conjugal life, mutual responsibility for the potential outcome of intimate relations, effective birth spacing, and a functional attitude to contracting or dissolving of marriage. In short, the increased opportunities for an individual to mold his life on his own are tending to be realized through a different model of nuptial and reproductive behavior.

As a result, a new pattern of fertility timing has begun to emerge. This new fertility model has, no doubt, become possible owing to the development of effective contraceptive means and techniques, offering unprecedented opportunities for couples to pursue their own strategy with respect to the desired number of births and their spacing.

The first indication of a changing fertility model in Russia was that the upward trend in fertility for the 15-19 age group has reversed since 1991. The increase in adolescent fertility observed until that moment may be attributed to earlier initiation of premarital sexual relations associated with "the sexual revolution."

The Second Demographic Transition as a Process of Change in Age-Specific Fertility Patterns

Let us follow the process underlying the changes in age-specific patterns of fertility in advanced countries, taking as a starting point the onset of its decline in age group 15-19. The countries selected for a comparative analysis^[20] differ in the initial date of steady fertility decline at ages 15-19 from 1966 in Sweden to 1979 in Greece. In the United States the decline has been occurring since 1971-1972. It can be noted that the decline in adolescent fertility is quite independent of overall levels of fertility. TFR varied from 1.72 in Germany to 3.19 in New Zealand. As mentioned above, the desired final number of children and desired timing of births appear to be relatively independent and, to a certain extent, adaptable characteristics of fertility.

At the beginning of the mentioned changes, not all the countries under study had a fertility rate at ages 20-24 higher than at ages 25-29. For instance, for Australia, Italy, and Sweden, the ratio of the former to the latter was 0.94-0.95, and was even lower in the Netherlands--0.77. However, by the onset of the change process, this index tended to rise in all the countries without exception, even in those where the corresponding ratio was below unity. The highest values of the ratio were recorded for Hungary (1.59), Austria (1.37), the United States (1.25), and for Greece (1.21). It reached 1.01 in England, 1.08 in Luxembourg, 1.10 in Finland, and 1.14 in France and Germany.

The decline in adolescent fertility is followed after a certain interval by reductions in the ratio of fertility rate at ages 20-24 to that at ages 25-29. On average, the length of the time lag ranged across the countries from one to five years. However, certain countries, for instance, the United States, had no delay at all. The countries with higher ratio values needed, naturally, more time to level off the rates of fertility at these age groups. Thus, in Hungary the leveling off process has not yet been completed, while it lasted 18 years in Austria, 10 in the United States, 9 in Greece, 6-7 in Germany and France, and 2 years in England and Luxembourg.

The next stage in the process of transformation of the age pattern of fertility is characterized by increasing absolute and relative contributions to overall fertility by the 30-34 age group, and then the 35-39 age group. Recently, in the most advanced populations, a slight rise in fertility rates has been recorded even for ages 40-44. The change in age fertility pattern, therefore, represents, from a statistical standpoint, a process of successive redistribution of births from younger age groups to older ones. During such a redistribution, a drop in the size of TFR tends to occur due to both the incomplete realization of postponed births (the postponement of birth across a few cohorts underlies the changes in age-specific fertility) and to diminishing numbers of unplanned and unwanted births, particularly at young ages.

In other studies (of the evolution of regional demographic differences in Russia, of cross-country comparisons of demographic transition patterns,^[21] and of modeling the mortality transition^[22]) we have attempted to model the entire process of age-curve modification. The basic variables used in these studies are the tempo of change in fertility for each age group and in the ratio of fertility intensities for different age groups, using the initiation of the decline in adolescent fertility as a starting point. Since the given process is to be presented in an imaginary comparable time scale, the impact of the overall fertility levels can be eliminated to a certain extent. To evaluate the range of variation in indicators of change in age-fertility patterns, we have constructed indices for a set of the countries under study using

the same time scale.

The Concept of the Second Demographic Transition as an Assumption in Fertility Projections for Russia

As was already mentioned with regard to major features of population evolution, Russia has tended to follow in the footsteps of the most advanced populations. Throughout the twentieth century Russia was either lagging behind or rapidly catching up with the vanguard group of countries. Because of this, an illusion of a unique pattern of Russian demographic change arose. Indeed, Russia had in the past, and still has, a number of important, distinct features of population dynamics, including in fertility. However, in practice most of them are nothing more than extreme (peripheral) points and variants of a generalized statistical space of variations (or value area acceptable within certain limits) of other countries. This approach to identifying the location of the Russian population in a European or even in a global demographic space enables us not only to interpret the current changes in population trends, but also to make assumptions about future prospects of fertility change in Russia.

By the early 1990s, no signs were observable of the onset of a second demographic transition in Russia. Even the capital city regions had barely begun to join in the process, which had emerged in the advanced countries over the past two decades. However, Russia could be considered to be exhibiting a 'pre-transitional' pattern of age fertility of an extreme variant that stands out very clearly against not only the western European countries but even certain countries of eastern Europe. Peculiarly Russian features of this 'pre-transitional' pattern are a more pronounced dissymmetry and a higher age concentration of births resulting from earlier nuptiality and a greater concentration of births at young ages.

Until recently, Russian women had their children at younger and younger ages, with a greater concentration of births in the youngest age groups. In 1990, the fertility rate in the 15-19 age group in Russia was 55.6 per 1,000, the highest ever reached during the post-war period in any of the western European countries (excepting Austria, where it was 63 per 1,000 in 1966-1968). (A similar level was observed in 1971 in Australia, until 1974 in New Zealand, until 1976 in the United States, while Canada did not show the described pattern at all.)

In Russia, over several decades, with the exception of only a short period in the mid-1980s, the contribution of ages 25-49 to total fertility was falling. The contribution by mothers aged 15-24 accounted for 56 percent of TFR in 1990, the all-time high for western European countries and non-European developed countries in the post-war period. Only in such eastern European countries as Bulgaria, the former GDR, and Hungary did the process of fertility shifting to younger ages go somewhat further than it did in Russia.

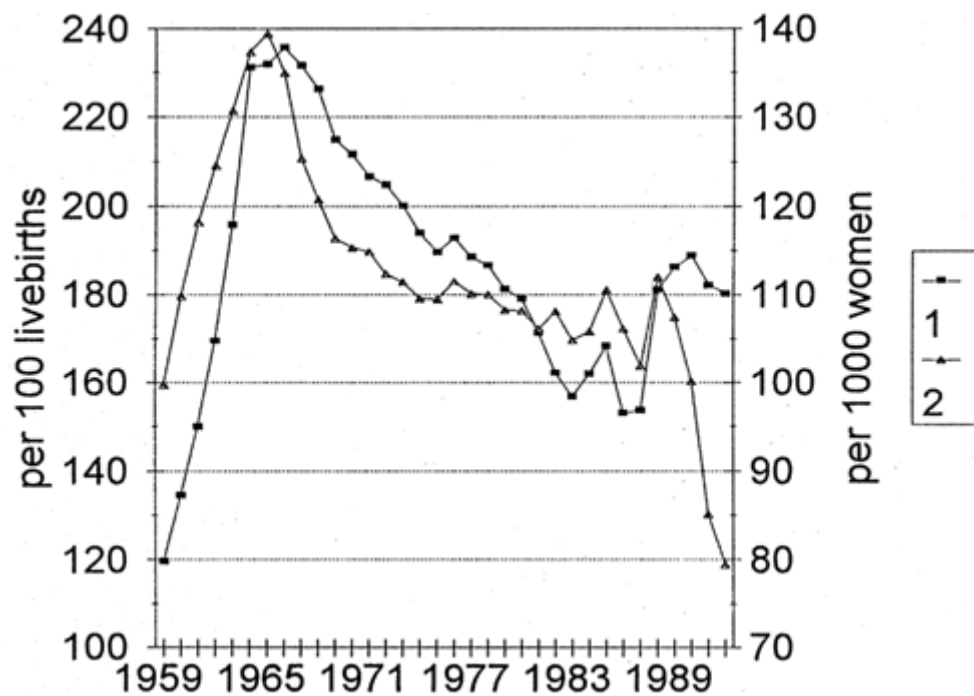
Nonetheless, the fertility trends of recent years provide us with some evidence suggesting that *Russia seems to be starting to embark on a second demographic transition*.

1. Since the mid-1980s in Russia, there has been occurring a rapid increase in the proportion of births outside marriage, which may be considered an indirect indication of a progressive increase in consensual unions other than traditional legal marriage (Figure 2.8).
2. Since the mid-1980s the prevalence of abortion (per 1,000 women aged 15-49) has been decreasing substantially (Figure 2.21). Though the registration of induced abortions has visibly deteriorated of late, the recent reductions in abortion numbers may, in fact, mean the beginning of change in family planning patterns. Evidence both on abortion and contraceptive use suggests that an increasing number of Russian women are currently moving from abortion to efficient methods of contraception. A steep fall in TFR observed in Russia since 1988 has not, at least, been accompanied by an upturn in the life-time abortion rate, which we might expect to have occurred (Figure 2.22). Besides, induced abortions in Russia have been continuously declining since the mid-1970s, and the dynamics of the abortion rate were not strongly affected by period-specific fluctuations in fertility during the 1980s.^[23]
3. Since 1991, the 15-19 age group has been exhibiting decreasing fertility. This is an important sign of the onset of the transition to a new fertility age pattern. In our view, a reduction of fertility in this age group can hardly be of

a period-specific character, as that should occur in the other age groups.

As already mentioned, the preceding growth of adolescent fertility resulted largely from changes in the sexual behavior of youth--from poor knowledge about contraceptive methods and a predominantly non-economic attitude to marriage and family at the time. From the beginning of the 1960s, adolescent fertility exhibited a strikingly steady upward trend. It did not respond to any external interventions or have breaks in its monotonic trend, as was the case in the other age groups during certain periods. So, we may assume that behind the appearance of fertility decline in that age group must be factors beyond changes in the political and economic climate.

4. The postponement of second and third births occurring in Russia since the early 1990s appears to signify not only the return to the pattern of the end of the 1970s, or a reaction to difficult economic conditions, but also a change in the family life cycle by leading social groups adopting "Western" norms in reproductive and nuptial behavior.



1 - Number Per 100 Live Births; 2 - Number Per 1,000 Women Ages 15-49

Figure 2.21--Trends in Abortion Indicators in Russia, 1959-1992

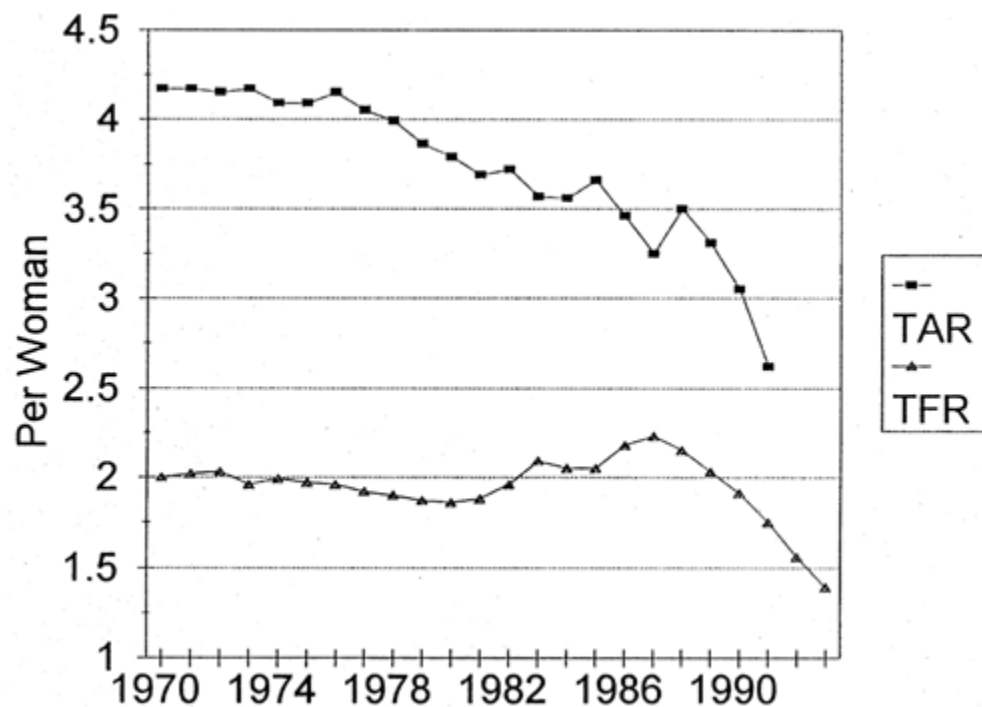


Figure 2.22--Trends in Total Fertility Rate (TFR) and Total Abortion Rate (TAR) in Russia, 1970-1993

In the period before the collapse of the Berlin Wall, signs of the second demographic transition could be readily found in a number of Eastern European countries (e.g., Hungary, former GDR, and Yugoslavia), though their initial pattern of birth timing was not very different from that of Russia. In addition, it is important to note that the transition to a new model of fertility in Russia may be stimulated (or is already stimulated?) by the existing economic reality. In any case, in the near future we can expect increasing responsibility in contracting a marriage, in recognition of its growing economic significance. This will inevitably result in an increase in the mean age at first marriage and, correspondingly, in the mean age at first birth. Consequently, the new fertility model may appear even sooner than it might be expected in conditions of gradual, evolutionary changes.

Figure 2.23 presents a medium-scenario fertility projections up to 2015 based on the described hypothesis of modifications in age-specific fertility patterns. The figure shows that the fertility rate at ages 20-24 is higher than at ages 25-29 and the tempo of change of their ratio appears to be very slow. The redistribution of births between these age groups in the latter's favor is believed to have taken place over a rather long time. The contribution of age groups 30-34 and 35-39 to fertility tends to increase, but the rate of increase grows at different speeds through the course of transition. The decline of the age-specific fertility rate for the youngest age group (15-19) is slower than that in the advanced countries.

Actual & Projected ASFR, Russia
Medium Variant, 1992 - 2015

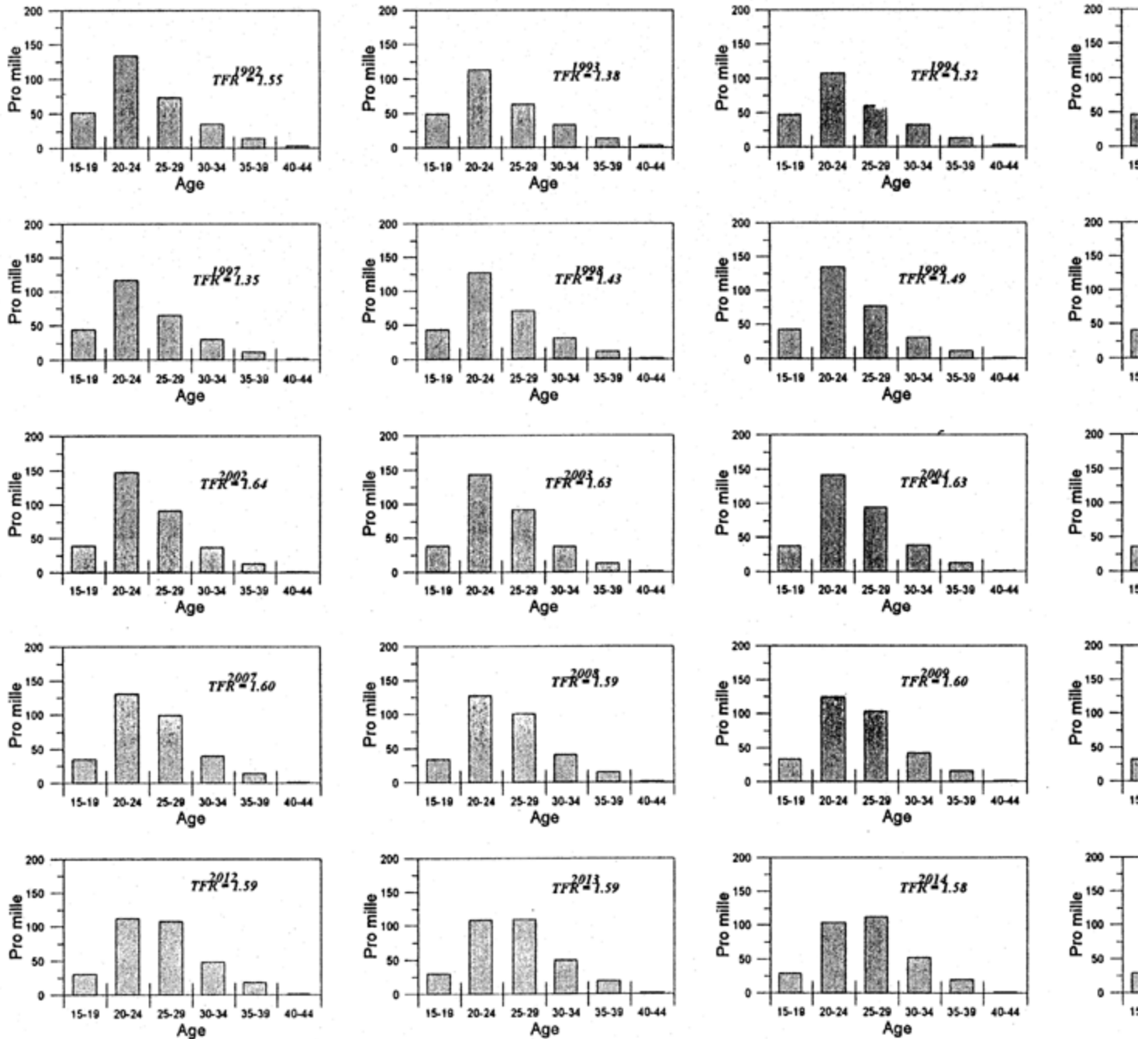


Figure 2.23--Actual and Projected Age-Specific Fertility Rates in Russia, 1992-2015

The second demographic transition involves a complex adaptation process modifying the whole system of reproductive behavior that may bring about, particularly in its first stages, not only change in the age pattern of fertility, but also reductions in its overall level. It appears likely that this very process is responsible for the similarity in the transition patterns found currently in Russia and the central and southern European countries, as well as for their common features distinguishing them from the countries of northern and western Europe, where the transition started earlier and was to a lesser extent conditioned by obstacles of an ideological or religious character.

Conclusions

The negative population change and rapid fertility decline that Russia experienced at the beginning of 1990s brought contradictory responses in public opinion and in professional publications. The real stage that Russia's fertility transition has reached at present can be found only by conducting a demographic analysis of the process over a relatively long historical period.

The analysis of fertility since the beginning of the 20th century through recent decades in comparison with other advanced countries shows that Russia has followed a unique path in fertility trends during the entire period under study. Russia's peculiarities were caused by differences in its initial date of transition and in its process of social modernization. Russia's social and political transformations have had great consequences for its population history. Its demographic processes were influenced by social catastrophes which repeatedly broke the long-term patterns of population change.

Ultimately, however, social crises could not overcome the major evolutionary component of Russia's population dynamics. Fundamental patterns of fertility change have forced their way through the chaos of irregular fluctuations in birth rates and unequal demographic contributions of different generations.

The postwar period vividly demonstrated opposite trends in the total fertility rate (TFR) and completed fertility within most other countries in comparison with Russia. Fluctuations in these trends in Russia were determined by peculiarities in the timing of fertility: a shift to younger ages in nuptiality and fertility, a reduction of intervals between births, and a family planning model based on abortion.

The government's population policies during the 1980s accelerated a transition to the two-child family model in Russia. On the other hand, it brought a further reduction in the intervals between births. This tendency was broken in the 1990s and, during the last decade, by sharp fluctuations in period fertility rates. The widespread public opinion is that the economic slump has caused a slowdown of fertility. It is easy to associate the changes in economics with the current postponement of births. However, the results of cohort analysis have revealed the superficiality of this explanation. The postponement of higher-order births in the 1990s reflects the shift to longer intervals between births and can be considered as a compensatory effect for the pronatalist policy of 1980s. None of the cohorts has returned to the slower tempo of family formation of the 1970s. Hence, the growth and subsequent fall of the TFR during the 1980-1990s appears to be a peculiar artifact that resulted from the distribution of women by the number of children already born or intervals between births. Thus, there is not sufficient evidence to associate the decrease in Russian fertility with the current political and economic crisis. Future social and demographic developments and continuing research should serve to clarify the correlation between fertility and social changes in Russia.

A complex process of change in fertility patterns over the past three decades has occurred in most Western countries. Those shifts are mainly associated with changes in the individual life cycle, and, in particular, in the timing of marriage and family formation. All these trends are interpreted as "the Second Demographic Transition." Until recently, Russia has demonstrated opposite trends in comparison with the West. Russia has tended to follow in the footsteps of the most advanced populations, but at present the Second Demographic Transition in Russia is still in its infancy. Most of the specific features of Russia's fertility dynamics appear to be extreme points of a generalized statistical range for the more advanced nations. If the Second Demographic Transition progresses further in Russia as in other developed countries, it will be apparent in tendencies toward nuptiality and fertility at older ages and changes in the scheduling of these demographic processes.

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Discussants' Comments

Discussants: Catherine Jackson, RAND; and Jack Molyneaux, RAND

The discussants of Dr. Zakharov's paper suggested that the analysis of fertility trends should take into account both government policy and structural socio-economic changes. Pro-natalist measures (e.g., in the Soviet Union in the first half of the 1980s) as well as anti-natalist policies (in most developing nations) can yield enduring results only if enacted in a receptive socio-economic environment. Thus in Russia, current and future fertility policies should be based on the country's socio-economic circumstances. Demographic policy decisions need to be incorporated into the whole system of social and economic development policies. The complexity of this matter calls for a new methodology of analysis. Sophisticated analytical tools must be employed to assess the net impact of government's policies on reproductive behavior in general, and specifically, on proximate determinants of fertility such as marriage, contraception, and abortion.

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[7]In Figures 2.1 and Figure 2.2. Western European countries are represented by Austria, Belgium, England and Wales, Finland, Federal Republic of Germany, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland; Eastern European countries include Albania, Bulgaria, Czechia (Czechoslovakia), Hungary, Poland, Romania, Serbia (Yugoslavia).

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[12]*Patterns of Fertility in Low-fertility Settings*, U.N. ST/ESA/SER.A/131, 1992, pp. 23-41.

[13]For example, see Julie DaVanzo and M. Oman Rahman, *American Families: Trends and Policy Issues*, Santa Monica, Calif.: RAND, P-7859, 1993, Figure 1.

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[18]Comparing the estimated number of women giving birth to 0 to 10 children obtained by the forward method for 1989 with the corresponding data from the 1989 census, we find that the error for fifty birth-cohorts of women varies between 0.1 percent and 3 percent. The "reverse" method estimates for 1979 differ from the 1979 census data in a similar fashion.

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[20]These include 16 countries: Australia, Austria, Finland, France, Germany (Western Germany), Greece, Hungary, Italy, Luxemburg, the Netherlands, New Zealand, Norway, Portugal, Sweden, England and Wales, and the United States. In all of them the change in the age pattern of fertility is unequivocally evident.

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[23]For detailed information on trends in abortion in the former USSR and Russia, see A. Avdeev, A. Blum, I. Troitskaja, "L'avortement et la Contaception en Russie et Dans l'ex-URSS: Histoire et Présent," *Dossiers et Recherches*, INED, No. 41, Octobre 1993; A. Avdeev, A. Blum, I. Troitskaja, "Histoire de la Statistique de L'Avortement en Russie et en URSS Jusqu'en 1991," *Population*, No. 4-5, 1993, pp. 903-934; A. Popov, "Family Planning and Induced Abortion in the Post Soviet Russia of the Early 1990s: Unmet Needs in Information Supply," 1994, in this volume.

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