

3 CHAPTER

FERTILITY

This chapter reports findings concerning fertility levels, differentials and time trends for the twelve surveyed countries in Eastern Europe, the Caucasus, and Central Asia. Information is also presented on marital status and other indicators of exposure to the risk of pregnancy (i.e., age at first sexual relation and age at first cohabitation). The first attempt to analyze the survey data from these regions in a comparative framework included seven countries (Goldberg, et. al., 1999). The current effort expands on that work both by including more countries and by providing more in-depth analysis of fertility trends and the role of marriage in contributing to those trends. All the survey-based statistics presented in this chapter are derived from nationally representative surveys with the exception of the statistics for the Russian areas. In the case of Russia, the statistics pertain to three urban areas in Central Russia.¹

Much of the following analysis is in terms of age-specific and total fertility rates (TFR).² The TFR is interpreted as the number of births a woman would have during her childbearing years if she passed through those years experiencing the observed age-specific rates. To provide up-to-date information for countries in which a survey was conducted before the latter part of the decade, recent information on fertility from government sources is cited where available.

¹The survey in Russia was conducted in three urban sites in Central Russia (Ivanovo Oblast, Yekaterinburg City, and Perm City) and cannot be considered representative of Russia or the urban areas of Russia.

²Age-specific fertility rates are calculated as the number of births reported by women in a five-year age interval during a specified time period divided by the number of women-years lived in the age interval during that time period. The rates indicate the average annual fertility of women in the age interval and are expressed per 1,000 women. The TFR is the sum of the age-specific rates; expressed on a per woman basis.

3.1 Fertility Levels

Table 3.1 shows TFRs for a three-year period preceding each survey (column 3). Most of the surveys were conducted between 1999 and 2001 and for those surveys the estimated TFRs pertain to the late 1990s. The surveys in Moldova, the Kyrgyz Republic, and Uzbekistan were conducted in 1996 and 1997 so that the survey rates are for the mid-1990s. The survey in the Czech Republic was conducted somewhat earlier, in 1993, and the estimated TFR pertains to the early 1990s.

The survey fertility rates show a clear geographic pattern. The TFRs were lowest and well below replacement for Romania, Russia, and Ukraine (1.3, 1.3, 1.4 births per woman).³ Somewhat higher fertility was found for

Moldova and the Czech Republic (1.8 and 1.9), although government sources indicate that, by the end of the decade, fertility in these countries had declined to 1.1 and 1.4 births per woman, respectively (Table 3.1, column 5). Fertility was close to replacement in the Caucasus and in Kazakhstan (between 1.7 and 2.1). Substantially higher levels of fertility were found in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (between 2.9 and 3.4).

Table 3.1 also shows fertility rates from government sources (column 4) for the same time period as the survey estimates. The two sets of rates agree closely with two exceptions. For Armenia and Georgia, the survey estimates (1.7 births per woman) exceed the government TFRs (1.3 births per woman) by four-tenths of

Table 3.1 Total Fertility Rates (TFRs) from the Surveys and from Government Sources Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report				
Region and Country	Total Fertility Rates (Per Woman)			TFRs, 1998–99
	Time Period	Survey Estimates	Government Sources*	Government Sources*
Eastern Europe				
<i>Czech Rep., 1993</i>	1990–1992	1.9	1.8	1.1
<i>Moldova, 1997</i>	1994–1996	1.8	1.7	1.4
<i>Romania, 1999</i>	1997–1999	1.3	1.3	1.3
<i>Russia, 1999†</i>	1996–1998	1.3	‡	‡
<i>Ukraine, 1999</i>	1997–1999	1.4	1.3	1.2
Caucasus				
<i>Armenia, 2000</i>	1998–2000	1.7	1.3	1.3
<i>Azerbaijan, 2001</i>	1998–2000	2.1	2.0	2.0
<i>Georgia, 1999</i>	1997–1999	1.7	1.3	1.3
Central Asia				
<i>Kazakhstan, 1999</i>	1997–1999	2.1	1.9	1.8
<i>Kyrgyz Rep., 1997</i>	1995–1997	3.4	3.1	2.7
<i>Turkmenistan, 2000</i>	1998–2000	2.9	2.9	2.9
<i>Uzbekistan, 1996</i>	1994–1996	3.3	3.4	2.8

* World Health Organization; European Public Health Information Network for Eastern Europe (www.euphin.dk).

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Local data not available.

³In populations of relatively low mortality, the replacement level of the TFR can be taken as 2.1.

a child. We do not attempt to reconcile these differences here, although it should be noted that there is compelling evidence that the government TFRs are underestimates, especially for the late 1990s.⁴

Also shown in Table 3.1 are fertility rates from government sources for a single time period, calendar years 1998–99 (column 5). These estimates are generally lower than the survey estimates, especially for the surveys conducted early in the 1990s (Czech Republic, Moldova, Kyrgyz Republic, and Uzbekistan) and for Armenia and Georgia, probably due to the inaccuracies in the government estimates as described above. The lower rates for 1998–99 reflect the continuing decline of fertility that has been underway since the breakup of the Soviet Union in 1991. After substituting the survey estimates for Armenia and Georgia in the series of government rates, a very strong geographic pattern emerges. TFRs are lowest in Eastern Europe (between 1.1 and 1.4 births per woman), intermediate in the Caucasus and Kazakhstan (between 1.7 and 2.0) and notably higher in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (between 2.7 and 2.9).

3.2 Fertility Differentials

Residence

Fertility levels are shown for urban and rural areas in Table 3.2.1. In all of these countries, urban fertility was lower than rural fertility. Urban fertility was lowest in Romania (1.0 births per woman) and somewhat higher in Moldova, Russia, and Ukraine (1.3 or 1.4 births

per woman). The survey estimate of urban fertility for the Czech Republic was 1.8 births per woman (1990–92), however government statistics indicate that this had fallen to 1.3 by 1997 (United Nations, 1999). In the Caucasus and Kazakhstan, urban fertility was also below replacement (between 1.5 and 1.9). Only in the Kyrgyz Republic, Turkmenistan, and Uzbekistan was urban fertility above replacement (between 2.3 and 2.7).

In rural areas, fertility rates were again lowest in Eastern Europe (between 1.8 and 2.3 births per woman). The survey estimate of rural fertility for the Czech Republic was 2.0 (1990–92), while government statistics indicate a TFR of 1.5 for 1997. Rural fertility tended to be higher in the Caucasus and in Kazakhstan (between 2.0 and 2.7) and was much higher in the Kyrgyz Republic, Turkmenistan, and Uzbekistan (between 3.3 and 3.9).

The differential between urban and rural fertility differed considerably by country, being least in the Czech Republic (0.2 births per woman, whether measured by survey estimates or more recent government statistics). Differentials of about half a child were found in Ukraine and the Caucasus. Larger differentials—of about one child—were found in Moldova and Romania and in Central Asia.

Education

Many studies have shown that fertility tends to be lower among women with higher levels of education. This is generally true for the

⁴Both Armenia and Georgia experienced substantial net out migration during the decade of the 1990s (MOSSRA, 2000 and Yeganyan, R., et.al., 2001). However, denominators for the government fertility rates were derived by projection of the female population recorded in the 1989 Population Censuses, without adjustment for migration. Thus, even if birth registration had been complete in these countries, overestimation of the resident female population has resulted in underestimation of age-specific fertility rates and TFRs. The degree of underestimation of the government rates is most pronounced in the late 1990s when the cumulative impact of migration throughout the decade was greatest. In the case of Armenia, further discussion of this issue can be found in M. Khachikyan, et. al. (2001).

Table 3.2.1
Total Fertility Rates (Per Woman) by Residence and Education, 0–2 Years Preceding the Survey
Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Time Period	TOTAL	Residence		Education Level			
			Urban	Rural	Secondary Incomplete	Secondary Complete	Technicum	Post-Secondary
<i>Eastern Europe</i>								
<i>Czech Rep., 1993</i>	1990–1992	1.9	1.8	2.0	2.1	1.8	†	1.5
<i>Moldova, 1997</i>	1994–1996	1.8	1.4	2.3	2.1	2.0	1.7	1.4
<i>Romania, 1999</i>	1997–1999	1.3	1.0	1.8	1.6	1.2	†	0.9
<i>Russia, 1999*</i>	1996–1998	1.3	*	*	1.2	1.3	1.4	1.2
<i>Ukraine, 1999</i>	1997–1999	1.4	1.3	1.8	1.6	1.5	1.6	1.1
<i>Caucasus</i>								
<i>Armenia, 2000</i>	1998–2000	1.7	1.5	2.1	1.9	1.9	1.6	1.4
<i>Azerbaijan, 2001</i>	1998–2000	2.1	1.9	2.3	2.3	2.1	1.9	1.8
<i>Georgia, 1999</i>	1997–1999	1.7	1.5	2.0	1.8	1.6	1.8	1.7
<i>Central Asia</i>								
<i>Kazakhstan, 1999</i>	1997–1999	2.1	1.5	2.7	2.3	2.4	2.1	1.5
<i>Kyrgyz Rep., 1997</i>	1995–1997	3.4	2.3	3.9	3.0	3.9	3.3	2.4
<i>Turkmenistan, 2000</i>	1998–2000	2.9	2.5	3.3	2.4	3.2	2.6	2.6
<i>Uzbekistan, 1996</i>	1994–1996	3.3	2.7	3.7	3.2	3.5	3.1	2.8

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

† Technicum, specific to former Soviet Union countries, does not exist in the Czech Republic or Romania.

populations examined here (Table 3.2.1). However, there are deviations from this pattern. Overall, the Eastern European countries show relatively minor variation in the TFRs for women in the three lower education categories (secondary incomplete, secondary complete and technicum) and distinctly lower levels for women with a postsecondary education. In the Caucasus, there is a regular pattern of declining fertility across all education categories—the differential between women with a secondary incomplete and postsecondary education is about half a child.

The differentials by education in the Central Asian republics show an unexpected feature; the TFRs increase between women with a secondary incomplete and secondary complete education. Nevertheless, the generally observed relation between fertility and

education is evident at the higher levels of education. Between women with a secondary complete and a postsecondary education, the TFR differential varies from about half a birth per woman in Turkmenistan to 1.5 births per woman in the Kyrgyz Republic.

Ethnicity

In Moldova, Romania, and Central Asia, there are ethnic minorities whose fertility levels differ substantially from that of the major ethnic group. Table 3.2.2 shows fertility rates by ethnicity.

In Moldova, significant proportions of survey respondents reported Russian or Ukrainian ethnicity (15% and 10%). The TFR of both groups (1.3 and 1.6 births per woman) was lower than that of Moldovan women (2.0 births per woman). In Romania, significant

Table 3.2.2
Total Fertility Rates (Per Woman) by Ethnicity, 0–2 Years Preceding the Survey
Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Region and Country	Time Period	Percent of Respondents*	TFR
<i>Eastern Europe</i>			
<i>Moldova, 1997</i>	1994–1996		
<i>Women of Moldovan Ethnicity</i>		68	2.0
<i>Women of Russian Ethnicity</i>		15	1.3
<i>Women of Ukrainian Ethnicity</i>		10	1.6
<i>Romania, 1999</i>	1997–1999		
<i>Women of Romanian Ethnicity</i>		87	1.2
<i>Women of Hungarian Ethnicity</i>		6	1.3
<i>Women of Roma Ethnicity</i>		5	2.6
<i>Central Asia</i>			
<i>Kazakhstan, 1999</i>	1997–1999		
<i>Women of Kazakh Ethnicity</i>		54	2.5
<i>Women of European Ethnicity</i>		39	1.4
<i>Kyrgyz Rep., 1997</i>	1995–1997		
<i>Women of Kyrgyz Ethnicity</i>		62	3.6
<i>Women of European Ethnicity</i>		13	1.5
<i>Turkmenistan, 2000</i>	1998–2000		
<i>Women of Turkmen Ethnicity</i>		78	3.0
<i>Women of European Ethnicity</i>		5	1.5
<i>Uzbekistan, 1996</i>	1994–1996		
<i>Women of Uzbek Ethnicity</i>		83	3.5
<i>Women of European Ethnicity</i>		6	1.1

* The difference between the sum of these percentages and 100% is attributable to other ethnic groups that comprise a small percentage of women and are not shown.

proportions of women were Hungarian and Roma (6% and 5%).⁵ The fertility of Romanian and Hungarian women was virtually identical (1.2 and 1.3 births per woman) while the TFR for women of Roma ethnicity was twice as high (2.6 births per woman).

Kazakhs, Kyrgyz, Turkmen, and Uzbeks comprise the majority of the population in Central Asia but there are large minorities of women of European origin (primarily Russian but also Ukrainian, Tatar, German, etc.). Although there has been steady immigration

of the European populations from Central Asia since 1991, the proportion of respondents of European ethnicity was substantial in Kazakhstan and the Kyrgyz Republic (39% and 13%), although less so in Turkmenistan and Uzbekistan (5% and 6%) ethnicity was similar in the four Central Asian republics (between 1.1 and 1.5 births per woman) and sharply lower than that of the major ethnic group in each republic (between 2.5 and 3.6 births per woman). The differences in fertility range from 1.1 births per woman (Kazakhstan) to 2.4 births per woman (Uzbekistan).

⁵The 1992 Population Census reported that the Roma (Gypsies) were 1.8% of the total population. However, that figure is considered an underestimate (Council of Europe, 1998).

3.3 Age Pattern of Fertility

Age-specific fertility rates based on survey data are shown in Table 3.3 and Figure 3.3. The surveyed countries exhibit a common age pattern of fertility which is characterized by an early age at onset of childbearing and the completion of childbearing at a relatively early age. Childbearing begins in the late teenage years and peak fertility occurs in the age interval 20–24 (in every country except Turkmenistan). The decline in the fertility rates after age 20–24 is steep in most countries and very little childbearing occurs among women older than 30–34 years, especially in Eastern Europe and the Caucasus. On average, in the surveyed countries, 53% of fertility occurs before age 25 and only 15% to women age 30 and above. This age pattern contrasts to that of Western

Europe, where childbearing is concentrated at older ages. On average, in the 15 countries of the European Union, 23% of fertility occurs below age 25 and 42% to women age 30 and above (United Nations, 1999).

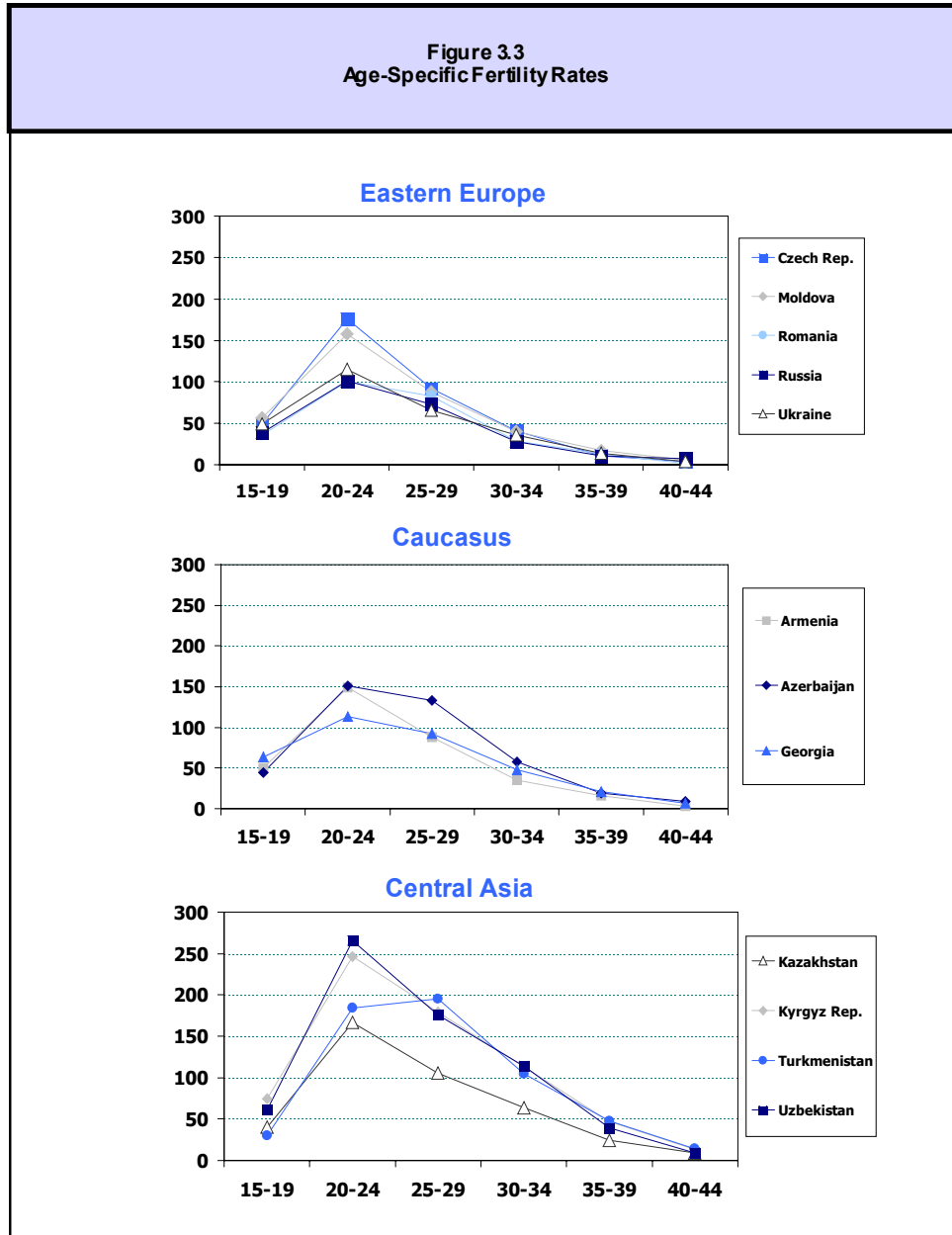
The age pattern of fertility in the former Soviet countries indicates that most women complete childbearing by age 30 and thereafter face a long period during which they must practice some means of fertility control in order to avoid unwanted births. During the Soviet period much reliance was placed on induced abortion either as the primary means of fertility control or as a backup to less effective contraception. More effective methods are increasingly available in these countries which should reduce the reliance on abortion.

Region and Country	Time Period	Age-Specific Fertility Rates (Per 1000)						TFR 15–44	GFR* 15–44
		15–19	20–24	25–29	30–34	35–39	40–44		
Eastern Europe									
<i>Czech Rep., 1993</i>	1990–1992	49	176	92	41	11	4	1.9	62
<i>Moldova, 1997</i>	1994–1996	57	158	88	40	17	6	1.8	64
<i>Romania, 1999</i>	1997–1999	36	100	83	29	13	2	1.3	49
<i>Russia, 1999[†]</i>	1996–1998	39	101	73	28	11	7	1.3	44
<i>Ukraine, 1999</i>	1997–1999	49	115	66	36	14	4	1.4	49
Caucasus									
<i>Armenia, 2000</i>	1998–2000	50	149	88	35	16	3	1.7	56
<i>Azerbaijan, 2001</i>	1998–2000	44	151	133	58	19	9	2.1	71
<i>Georgia, 1999</i>	1997–1999	64	113	92	48	21	7	1.7	61
Central Asia									
<i>Kazakhstan, 1999</i>	1997–1999	40	167	106	64	24	9	2.1	67
<i>Kyrgyz Rep., 1997</i>	1995–1997	75	246	179	113	47	13	3.4	118
<i>Turkmenistan, 2000</i>	1998–2000	30	184	195	105	48	14	2.9	103
<i>Uzbekistan, 1996</i>	1994–1996	61	266	176	114	39	9	3.3	123

* GFR: General Fertility Rate (births divided by the number of women age 15–44), expressed per 1,000 women.

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Figure 3.3
Age-Specific Fertility Rates



3.4 Time Trends

Time trends were calculated from the pregnancy history data collected in the surveys. The period of analysis is constrained by the fact that the age range for which data are available is truncated at younger and younger ages for progressively earlier time periods. In order to include an extensive age range of women in the analysis (i.e., women 15–39), the analysis is limited to a nine year period.⁶ Table 3.4.1 shows TFRs for women 15–39 in the time periods 6–8 and 0–2 years preceding each survey and the average annual rate of change.⁷

With the sole exception of the Czech Republic, where the survey was conducted several years earlier than in the other countries, the TFRs indicate declines in fertility of between 2.4% and 7.1% per annum. This pace of fertility decline substantially exceeds the average rate of decline recently estimated for 21 developing countries during the decade of the 1990s: 1.2% per annum (Rutstein, 2002).

Table 3.4.1 also shows TFRs based on government statistics for calendar years 1988–89 and 1998–99. These data depict trends during a common ten-year period for

Region and Country	Survey TFRs (Per Woman)			Government Sources*		
	Years before Survey		Rate of Change	Calendar Years		Rate of Change
	6–8	0–2		1988–89	1998–99	
Eastern Europe						
<i>Czech Rep., 1993</i>	1.7	2	+1.9	1.9	1.1	-5.5
<i>Moldova, 1997</i>	2.6	2	-6.1	2.6	1.4	-6.2
<i>Romania, 1999</i>	1.5	1	-2.4	2.3	1.3	-5.7
<i>Russia, 1999[†]</i>	1.6	1	-3.5	‡	‡	‡
<i>Ukraine, 1999</i>	1.7	1	-3.2	2.0	1.2	-5.1
Caucasus						
<i>Armenia, 2000</i>	2.6	2	-7.1	2.6	1.3	-6.9
<i>Azerbaijan, 2001</i>	2.8	2	-5.6	2.8	2.0	-3.4
<i>Georgia, 1999</i>	2.2	2	-4.3	2.1	1.3	-4.8
Central Asia						
<i>Kazakhstan, 1999</i>	2.8	2	-5.6	2.7	1.6	-5.2
<i>Kyrgyz Rep., 1997</i>	3.8	3	-2.4	3.9	2.7	-3.7
<i>Turkmenistan, 2000</i>	3.9	3	-5.5	4.3	2.9	-3.9
<i>Uzbekistan, 1996</i>	4.2	3	-4.0	4.0	2.8	-3.6

* World Health Organization; European Public Health Information Network for Eastern Europe (www.euphin.dk).

† Data for Russia pertain to three primarily urban areas as described in Chapter 2.

‡ Local data not available.

⁶The RHS surveys interviewed women in the age range 15–44. Thus, for the period 6–8 years preceding those surveys there is no information on reproductive events for women age 40 and above. Inclusion of time periods earlier than 6–8 years prior to the survey would require that the age range of women be further restricted.

⁷The following formula was used to calculate annual percent decline: $r = [\ln(\text{TFR}_1 / \text{TFR}_0) / t] \times 100$, where r is the annual rate of change, TFR_0 is the initial rate, TFR_1 is the final rate and t is the number of years between the two rates.

each country. The annual rates of fertility decline vary between 3.6% and 6.9%, again far exceeding the average rate of decline for the 21 countries of the developing world.⁸ Based on rates for the common reference period the Czech Republic shows the same rapid fertility decline (5.5% per annum) as do the other surveyed countries.

Table 3.4.2 shows age-specific fertility rates based on survey data for 0–2 and 6–8 years preceding each survey. With the exception of the Czech Republic, fertility declined at almost every age in each survey. Particularly striking is the magnitude of the declines among women age 20–24. In Romania, Ukraine, Armenia, and Georgia the greater part of the fertility decline

Table 3.4.2									
Age-Specific Fertility Rates, 0–2 and 6–8 Years Preceding the Survey									
Per 1000 Women Aged 15–39									
Eastern Europe and Eurasia: A Comparative Report									
Age Group	Years			Years			Years		
	before Survey	Absolute	Change	before Survey	Absolute	Change	before Survey	Absolute	Change
	6–8	0–2		6–8	0–2		6–8	0–2	
Czech Rep., 1993									
15–19	30	49	19	Moldova, 1997			Romania, 1999		
20–24	165	176	11	55	57	2	49	36	-13
25–29	86	92	6	207	158	-49	129	100	-29
30–34	42	41	-1	135	88	-47	83	83	0
35–39	15	11	-4	70	40	-30	33	29	-4
TFR (15–39)	1.7	1.8	0.1	49	17	-32	12	13	1
Russia, 1999*									
15–19	47	42	-5	Ukraine, 1999			Armenia, 2000		
20–24	127	107	-20	62	49	-13	92	50	-42
25–29	78	73	-5	139	115	-24	245	149	-96
30–34	40	25	-15	76	66	-10	105	88	-17
35–39	21	11	-10	38	36	-2	49	35	-14
TFR (15–39)	1.6	1.3	-0.3	19	14	-5	24	16	-8
Azerbaijan, 2001									
15–19	61	44	-17	Georgia, 1999			Kazakhstan, 1999		
20–24	207	151	-56	81	64	-17	64	40	-24
25–29	168	133	-35	169	112	-57	217	167	-50
30–34	80	58	-22	109	92	-17	163	106	-56
35–39	49	19	-30	57	47	-10	82	64	-18
TFR (15–39)	2.8	2.0	-0.8	33	21	-12	43	24	-19
Kyrgyz Rep., 1997									
15–19	51	75	24	Turkmenistan, 2000			Uzbekistan, 1996		
20–24	273	246	-27	30	30	0	55	61	7
25–29	224	179	-45	226	184	-41	289	266	-23
30–34	153	113	-40	272	195	-77	257	176	-81
35–39	63	47	-16	178	105	-73	161	114	-47
TFR (15–39)	3.8	3.3	-0.5	79	48	-31	82	39	-42

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

⁸It is not expected that the estimated rates of fertility decline based on survey data and on government statistics should be the same on a country-by-country basis: the time periods covered by the two estimates differ, there is sampling variability associated with the survey estimates and, as indicated earlier, government statistics can be in error. Nevertheless, for most countries there is reasonably good agreement between data sources. The estimates differ the most for the Czech Republic (+1.9 versus -5.5), Moldova (-3.5 versus -5.7) and Azerbaijan (-5.6 and -3.4). In each of these cases, the major part of the difference disappears when rates of decline are calculated for the same time period.

(65% or more) occurred among women under age 25. In Russia, Azerbaijan and Kazakhstan the figures are 45%, 46% and 44%, respectively. Thus, in seven of the twelve countries examined, a substantial component of the fertility decline was contributed by women below age 25. Only in the three high fertility republics of Central Asia (the Kyrgyz Republic, Turkmenistan, and Uzbekistan) did fertility decline primarily at the older ages. In those countries and in Moldova fertility among women age 15–19 was either unchanged or increased.

The different age structures of fertility decline depict populations at different stages of fertility transition. In the Kyrgyz Republic, Turkmenistan, and Uzbekistan, the TFR (15–39) for 6–8 years before the survey was close to 4 births per woman and by 0–2 years before the survey was approximately 3 births per woman. As achieved fertility overtook reproductive preferences in these populations, fertility declined primarily among older women. Alternatively, the countries in which the recent fertility decline was primarily among younger women, all had a TFR below 3 births per woman at the outset of the period and a rate at or well below replacement by the end of the period. These populations had previously experienced fertility decline in the older reproductive ages and further decline occurred among younger women, most probably as the result of postponement of marriage and delay of childbearing within marriage.

3.5 Marital Status

Table 3.5 shows the distributions of women 15–44 by marital status. The distributions are similar across countries. The great majority of women (between 54% and 68%) are currently married and a significant proportion have never been married (between 21% and

35%). As expected, smaller proportions report cohabitation in a consensual union or being formerly married. Among women in the older age cohorts, marriage has been almost universal in the countries surveyed. Among women age 35–39 and 40–44, the proportions never married are typically between 2% and 4% except in the Caucasus (Armenia, Azerbaijan, and Georgia) where they are between 5% and 10%.

Nevertheless, there are important variations in the marital status distributions by country and region. The proportion of respondents that report cohabitation in a consensual union is much greater in Russia (10%) and Romania (6%) than in the republics of the Caucasus (under 1%) or Central Asia (under 3%). In addition, three countries stand out with a high proportion of formerly married women: Russia (16%), Ukraine (11%), and Kazakhstan (11%).

Russia has by far the highest proportion of women below age 30 living in a consensual union—17% among women age 20–24. Above age 30, Russia has the highest proportion of formerly married women—26% of women age 40–44. However, as indicated earlier, when considering the Russian areas it must be borne in mind that the data pertain to only three primarily urban areas in Central Russia.

3.6 First Sexual Relations and First Union by Age 20

Table 3.6 shows the proportions of respondents who reported having sexual relations, a union (either married or consensual) and a live birth by age 20. The proportion of women reporting sexual intercourse before age 20 is higher among the younger age cohorts in the countries of Eastern Europe and Central Asia. The trend toward increasingly younger exposure to sexual

Table 3.5
Percent Distribution of Women by Marital Status According to Age
Women Aged 15–44
Eastern Europe and Eurasia: A Comparative Report

Age Group	Marital Status																								
	Czech Rep., 1993			Moldova, 1997			Romania, 1999			Russia, 1999*			Ukraine, 1999			Armenia, 2000									
	Married	Consensual Union	Formerly Married	Never Married	Married	Consensual Union	Formerly Married	Never Married	Married	Consensual Union	Formerly Married	Never Married	Married	Consensual Union	Formerly Married	Never Married	Married	Consensual Union	Formerly Married	Never Married					
15–19	6.4	2.6	0.2	90.8	9.3	1.9	0.8	88.0	4.6	4.6	0.8	90.0	5.8	8.4	1.1	84.7	8.6	2.2	0.6	88.6	8.5	0.0	0.1	91.4	
20–24	58.3	5.2	3.4	33.1	63.0	3.2	6.2	27.6	37.2	8.9	4.2	49.7	40.3	17.4	7.9	34.4	55.7	5.5	5.4	33.4	50.5	0.2	1.8	47.5	
25–29	83.3	2.5	6.7	7.5	84.9	2.4	7.1	5.6	71.9	7.4	7.7	13.0	60.7	12.3	16.0	11.1	75.5	5.3	11.7	7.5	80.9	0.4	5.2	13.5	
30–34	81.6	3.4	10.4	4.7	87.3	2.0	8.3	2.4	80.7	5.7	8.0	5.6	66.8	8.5	21.0	3.7	80.9	4.1	11.8	3.2	85.9	0.7	8.1	5.3	
35–39	82.9	2.5	12.2	2.4	84.2	2.2	11.7	1.9	83.3	5.5	8.8	2.4	67.8	7.5	20.2	4.7	77.5	3.3	16.6	2.6	84.2	0.6	9.4	5.8	
40–44	82.3	2.5	12.9	2.2	81.3	1.8	14.8	2.1	82.0	4.0	12.9	1.1	63.9	5.5	25.5	5.1	76.6	2.9	18.7	1.8	81.2	0.5	11.4	6.9	
Total	63.7	3.1	7.5	25.7	66.4	2.3	7.9	23.4	58.5	6.1	6.9	28.5	53.5	9.8	16.1	20.6	62.5	3.9	10.8	22.8	61.7	0.4	5.7	32.2	
	Azerbaijan, 2001				Georgia, 1999				Kazakhstan, 1999																
15–19	9.5	0.4	0.3	89.8	14.8	0.7	0.3	84.2	7.5	0.5	1.0	91.0	15–19	11.5	0.7	1.5	86.3	5.3	0.0	0.6	94.1	12.7	0.1	0.2	87.0
20–24	43.2	0.8	3.2	52.8	48.2	0.5	3.8	47.5	51.2	1.7	7.0	40.1	20–24	67.8	3.1	9.4	19.7	43.3	1.0	3.0	52.7	73.4	0.9	2.9	22.8
25–29	71.8	0.7	3.7	23.8	69.7	1.1	6.1	23.1	71.8	1.4	12.9	13.9	25–29	82.0	4.4	9.0	4.6	77.3	3.5	4.0	15.2	89.4	0.7	4.7	5.2
30–34	80.1	1.1	7.5	11.3	78.5	0.7	7.1	13.7	76.5	1.6	4.9	17.0	30–34	84.7	3.7	9.0	2.6	85.6	2.5	7.7	4.2	89.2	2.4	6.5	1.9
35–39	83.8	0.6	7.6	8.1	81.6	0.7	8.8	8.9	80.5	1.9	14.2	3.4	35–39	85.3	3	10.8	0.9	85.4	2.6	9.5	2.5	91.0	1.6	6.2	1.2
40–44	80.7	0.6	11.8	6.9	79.3	1.0	11.7	8.0	78.8	1.8	15.4	4.0	40–44	80.9	2.5	15.1	1.5	87.5	3.1	8.6	0.8	89.7	0.9	9.0	0.4
Total	57.8	0.7	5.2	36.3	60.0	0.8	6.0	33.3	60.1	1.5	10.7	27.7	Total	65.5	2.8	8.5	23.2	57.9	1.8	5.0	35.3	68.1	1.0	4.2	26.7
	Kyrgyz Rep., 1997				Turkmenistan, 2000				Uzbekistan, 1996																

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

relations is evident even between the cohorts 25–29 and 20–24. Particularly in Eastern Europe, premarital sex is widening the gap between the women having sex by age 20 and having a first union by age 20. The situation is different in the Caucasus, where the proportion of women reporting sexual relations before age 20 has decreased somewhat between the cohorts age 25–29 and 20–29 and there is little or no gap between sexual exposure and entry into a union.

Data on the proportion of women married by age 20 yields some insight into recent fertility trends. In most of the surveys, the proportion married by age 20 increases between women 40–44 and women 25–29, indicating a declining age at marriage across age cohorts. However, in several countries this trend is reversed between women 25–29 and women 20–24. In two countries with particularly rapid fertility declines during the 1990s (Romania and Armenia) significant declines have

Table 3.6 Percentage of Women Who Had Sexual Relations, a Union and a Live Birth before Age 20 Women Aged 15–44 Eastern Europe and Eurasia: A Comparative Report													
Age Group	Eastern Europe				Caucasus				Central Asia				
	Czech Rep. 1993	Moldova 1997	Romania 1999	Russia 1999*	Ukraine 1999	Armenia 2000	Azerbaijan 2001	Georgia 1999	Kazakhstan 1999	Kyrgyz Rep. 1997	Turkmenistan 2000	Uzbekistan 1996	
15–19	(53.8)	(20.7)	(25.7)	(47.2)	(32.1)	(8.6)	(10.2)	(15.8)	(17.5)	(14.3)	(5.9)	(13.0)	
20–24	91.9	64.4	57.5	78.0	84.7	37.1	34.3	39.5	50.1	59.1	25.9	55.8	
25–29	NA	54.5	52.2	71.3	70.4	53.5	36.2	43.7	48.1	46.9	25.7	49.6	
30–34	NA	42.8	51.4	58.2	57.4	50.0	28.3	36.6	39.8	39.9	21.4	41.8	
35–39	NA	41.4	54.0	42.6	53.1	44.0	23.1	34.9	34.8	38.5	22.8	51.1	
40–44	NA	37.2	49.4	40.3	50.8	39.9	26.1	32.1	33.3	45.9	38.5	55.5	
Sexual Intercourse before Age 20													
15–19	(9.5)	(12.0)	(10.0)	(15.3)	(11.4)	(8.6)	(10.2)	(15.8)	(9.0)	(13.7)	(5.9)	(13.0)	
20–24	38.2	52.9	29.9	44.1	42.8	37.2	33.7	39.2	39.9	58.4	26.2	55.7	
25–29	37.0	48.0	38.0	43.7	44.8	53.1	35.2	42.7	39.8	45.0	26.4	51.0	
30–34	39.4	39.3	39.1	39.4	41.1	48.8	27.5	34.9	31.9	40.2	22.3	42.7	
35–39	35.0	38.0	45.2	29.4	37.4	43.6	22.2	34.6	31.0	38.3	23.5	51.4	
40–44	35.6	33.7	39.4	31.2	36.3	38.9	25.5	29.9	29.3	46.7	38.8	56.2	
Live Birth before Age 20													
15–19	(5.7)	(5.5)	(5.0)	(4.6)	(5.6)	(4.4)	(4.1)	(8.4)	(4.4)	(6.3)	(2.6)	(6.2)	
20–24	23.8	28.1	15.2	19.7	25.7	25.6	22.1	30.7	22.1	36.6	14.5	25.3	
25–29	22.7	24.7	21.3	22.5	26.0	33.6	21.7	26.8	24.4	23.3	12.8	27.4	
30–34	24.2	19.1	22.9	19.5	22.8	30.5	14.7	20.5	19.7	21.3	10.0	22.9	
35–39	22.1	18.9	27.0	13.2	20.9	23.9	11.2	19.7	17.2	19.4	10.1	26.1	
40–44	19.2	16.0	24.0	11.0	19.0	22.0	12.2	17.3	18.0	24.0	18.9	28.7	

* Data for Russia pertain to three primarily urban areas as described in Chapter 2.

Note: Figures for women age 15–19 are in parentheses to indicate that not all members of the cohort have been exposed up to age 20 and that the figures are not comparable to the figures for the older age cohorts.

occurred in the of the proportion married by age 20; from 38% to 30% and from 53% to 37%, respectively. Less pronounced declines are evident for Ukraine, Azerbaijan, and Georgia.

The recent declines in proportions reporting having been in a union by age 20 suggest that postponement of first marriage has significantly contributed to the fertility declines in several of the countries surveyed. Based on the month-by-month calendar data from the Armenia survey, this assertion was confirmed by calculating the time spent in union by women 20–24 for two time periods preceding the survey (Westoff, et. al., 2002). The analysis found that the proportion of time spent in union declined over a four year period from .60 to .48. This 20% decline in time exposed to the risk of pregnancy goes far toward explaining the significant contribution of women under age 25 to the overall fertility decline in Armenia. This finding also has implications for future fertility trends that may reflect an effort to recoup temporarily delayed fertility.

In spite of indications that age at marriage among females has been increasing in recent years in some of the countries surveyed, women still marry considerably earlier than in Western Europe. The age at first marriage is typically still in the early twenties in these countries while the average age at first marriage in the mid-1990s for the countries of Western Europe was about 27 years (United Nations Economic Commission for Europe, 1997–2001).

The data of Table 3.6 for the age group 15–19 differ from that of the other age groups in that they do not represent final status of women with respect to experiencing various events before age 20. Nevertheless the data are revealing. The percent of women 15–19 who reported sexual experience varies greatly from

6% in Turkmenistan to 54% in the Czech Republic. There is also an indication of substantial differences between regions in sexual abstinence before marriage. In the Eastern European countries and, to a lesser extent, Kazakhstan, much higher proportions report sexual experience than report a first union. This is not the case in the Caucasus or in most of Central Asia. Apparently, strong cultural norms exist regarding sexual abstinence prior to marriage in Armenia, Azerbaijan, Georgia, the Kyrgyz Republic, Turkmenistan and Uzbekistan.

3.7 Summary of Findings

This chapter has reviewed survey data for 12 countries of Eastern Europe (Czech Republic, Moldova, Romania, Russia, and Ukraine), the Caucasus (Armenia, Azerbaijan, and Georgia) and Central Asia (Kazakhstan, Kyrgyz Republic, Turkmenistan, and Uzbekistan). Despite marked differences in culture, ethnicity, religion, and socioeconomic factors, the data for the various countries revealed many commonalities.

- ◆ There was good agreement between estimates of the TFR based on survey data and published government statistics for most countries. The principal exceptions were Armenia and Georgia where there is persuasive evidence that the government rates are underestimates. This tends to substantiate the reliability of both the survey findings and government statistics for most countries, at least for the time periods of the comparative analysis.
- ◆ Fertility levels have declined precipitously in all of the surveyed countries during the decade of the 1990s. At the close of the decade, estimates of the TFR were well below the replacement level in Eastern Europe (between 1.1 and 1.4 births per

woman), at about replacement in the Caucasus and in Kazakhstan (between 1.7 and 2.0 births per woman) and well above replacement in the Kyrgyz Republic, Turkmenistan and Uzbekistan (between 2.7 and 2.9 births per woman).

- ◆ Although fertility levels differed in the surveyed countries, the age-pattern of fertility was similar in each. The fertility schedules are characterized by significant childbearing among women age 15–19, peak fertility among women age 20–24 and sharp drop-offs after that age group (with the exception of Azerbaijan and Turkmenistan, where fertility fell sharply only after age 25–29. There is little childbearing after age 30 in these countries. In contrast, in Western Europe, childbearing starts later and peak fertility occurs in the 25–29 age interval.
- ◆ Significant fertility differentials were found by ethnicity in Moldova, Romania, and Central Asia. In Moldova and Central Asian republics, fertility of the major ethnic group exceeded that of minority women. In Central Asia, the TFR of Kazakh, Kyrgyz, Turkmen, or Uzbek women exceeded that of women of European ethnicity (primarily, Russian) by between 1.1 and 2.4 births per woman. Only in Romania was the TFR of the major ethnic group, Romanian women (1.2 births per woman), less than that of a minority group, Roma women (2.6 births per woman).
- ◆ Examination of the time trends in age-specific fertility indicates that declines among women age 15–19 and 20–24 were primarily responsible for the rapid fertility declines during the 1990s in the majority of these countries. Only in three of the Central Asian republics (Kyrgyz Republic, Turkmenistan, and Uzbekistan) have fertility declines been due primarily to declines in fertility at the older ages.
- ◆ Data on marital status and time in union by age group clearly indicate that in Romania and Armenia postponement of marriage has been the mechanism for the fertility decline among younger women. There are indications that delay of entry into cohabitation may also have been an important factor in the fertility declines in Ukraine, Azerbaijan, and Georgia. This is an area of research that would benefit from further detailed analysis.
- ◆ There are substantial differences between regions in sexual abstinence before marriage. In the Eastern European countries and, to a lesser extent, Kazakhstan, significant proportions of women report having sexual experience before entering their first cohabitating union. This is not the case in the Caucasus or in most of Central Asia where strong cultural norms exist regarding sexual abstinence before marriage.