

World Fertility Report: 2012



United Nations

Department of Economic and Social Affairs
Population Division

World Fertility Report: 2012



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DESA

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PREFACE

The Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat is responsible for providing the international community with up-to-date and scientifically objective information on population and development. The Population Division provides guidance on population and development issues to the United Nations General Assembly, the Economic and Social Council and the Commission on Population and Development, and undertakes regular studies on population levels and trends, including trends of fertility, marriage and union formation, and family planning, changes in population policies and the interrelationships between population and development.

As part of its work on fertility, the Population Division monitors levels and trends in age and parity patterns of fertility and its proximate determinants, such as marriage and contraceptive use, collects and analyses information on the relationship between fertility and development, and provides substantive support to intergovernmental discussions at the United Nations on the topics of fertility, family planning and development.

This report is the fourth in a series of World Fertility Reports and it provides the factual basis for the analysis of reproductive behaviour worldwide. It discusses levels and trends of fertility, the timing of childbearing, marriage, contraceptive use and national policies with respect to fertility and childbearing for 198 countries or areas. The data presented are obtained from civil registration statistics, population censuses and nationally representative sample surveys. Information on national policies is obtained mainly from the responses of Governments to periodic United Nations inquiries and official sources of information on government policies and programmes. This report comes with online data and metadata for a comprehensive set of indicators on fertility, marriage and union formation, contraceptive use and national policies related to childbearing for 198 countries or areas.

The Population Division is grateful to the Statistics Division of the United Nations Department of Economic and Social Affairs for its continuing cooperation.

This report and its online data and metadata are available on the Population Division's website at www.unpopulation.org. For further information about this report, please contact the office of the Director, Population Division, Department of Economic and Social Affairs, United Nations, New York, 10017, by telephone (+1 212) 963-3179 or email population@un.org.

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EXPLANATORY NOTES

The following symbols have been used in the tables throughout this report:

- Two dots (..) indicate that data are not available or are not reported separately.
- A hyphen (-) indicates that the item is not applicable.
- A minus sign (-) before a figure indicates a decrease.
- A full stop (.) is used to indicate decimals.
- Use of a hyphen (-) between years, for example, 1995-2000, signifies the full period involved.

Numbers and percentages in tables do not necessarily add to totals because of rounding.

References to countries, territories and areas:

The designations employed and the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

The term “country” as used in this publication also refers, as appropriate, to territories or areas.

Names and compositions of geographical areas follow those of “Standard country or area codes for statistical use” (ST/ESA/STAT/SER.M/49/Rev.3), available at <http://unstats.un.org/unsd/methods/m49/m49.htm>.

The following abbreviations have been used:

- CARICOM Caribbean Community Secretariat
- CCPS Caribbean Contraceptive Prevalence Survey
- CPS Contraceptive Prevalence Survey
- DHS Demographic and Health Survey
- ESS European Social Survey
- Eurostat Statistical Office of the European Communities
- FFS Fertility and Family Survey
- GCHS Gulf Child Health Survey
- GFHS Gulf Family Health Survey
- GGG Generations and Gender Survey
- HFD Human Fertility Database
- LSMS Living Standards Measurement Study
- MICS Multiple Indicator Cluster Survey
- MIS/DHS Malaria Indicator Survey (MIS)
- PAPCHILD Pan-Arab Project for Child Development Survey
- PAPFAM Pan-Arab Project for Family Health Survey
- RHS Reproductive Health Survey
- SAR Special Administrative Region
- SPC Secretariat of the Pacific Community
- TFYR The former Yugoslav Republic
- UN-ECA United Nations Economic Commission for Africa
- UN-ECLAC United Nations Economic Commission for Latin America and the Caribbean
- UN-ESCWA United Nations Economic and Social Commission for Western Asia
- UNPD United Nations Population Division
- UNSD United Nations Statistics Division
- WFS World Fertility Survey

EXECUTIVE SUMMARY

Since the 1970s the world has experienced profound changes in fertility, union formation and the use of contraceptives. Fertility has declined throughout the world, early marriage and childbearing have become less common, and the percentage of women and men using contraception, especially modern methods, has risen. However, the level and pace of change in fertility and its proximate determinants of marriage and contraceptive use have varied markedly among countries, such that major differences in fertility levels persist across countries and regions of the world. The trajectories of change in childbearing, union formation and family planning taken in different countries have crucial implications for sustainable development and the health and well-being of individuals.

The World Fertility Report 2012, prepared by the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, presents a compilation of key indicators of fertility, marriage and union formation, contraceptive use and relevant population policies for 198 countries over the past 40 years, covering a period of extraordinary changes in fertility, marriage patterns and contraceptive use. Data are presented for three time periods: the first time period is as close to 1970 as possible, the second time period is as close to 1995 as possible (shortly after the International Conference on Population and Development in 1994), and the last time period reflects the latest available data from 2000 onwards. The conclusions presented here build on those presented in the World Fertility Report 2009 (United Nations, 2011a) by considering a broader time period and presenting the data according to different categorizations.

The key findings of this report are the following:

1. Fertility has declined worldwide to unprecedented levels since the 1970s. Total fertility fell in all but six of the 186 countries or areas for which data are available for all three periods considered in the analysis. In the most recent period covered, 80 countries or areas had a total fertility below 2.1 children per woman, the level required to ensure the replacement of generations in low mortality populations.

2. Fertility declines were substantial in all regions, but fertility levels are still spread over a broad range. The median level of total fertility in Asia declined particularly sharply from a total fertility of 5.8 children per woman in 1970-1979 to 2.4 children in the latest period. Total fertility declined by one child or more per decade in 34 countries with data for all three periods, none of which are European or in North America. However, fertility remains above four children per woman in 44 countries, all of which are in Africa, Asia and Oceania. All of the ten countries with a total fertility of six or more children in the recent period are in Africa, which has experienced the slowest decline in total fertility. Total fertility increased in seven countries between the 1970s and the current period, although increases were small, and included countries in Africa, Asia and Europe.

3. A number of countries have remarkably low total fertility, in particular in East Asia and in Eastern, Central and Southern Europe (all countries with total fertility below 1.4 children per woman are from these regions). Altogether there are 20 countries with fertility below 1.4 children per woman and 38 countries with fertility below 1.6 children per woman. Among European and North American countries, fertility levels were already relatively low in the 1970s but continued to fall over time. By 2000-2011, no European or North American countries had total fertility above 2.2 children per woman and only four (France, Iceland, Ireland and the United States of America) had levels above 2.0 children per woman. Total fertility was below 1.4 children per woman in about half of the developed countries. In many countries, including some of those that had experienced an earlier decline, total fertility increased slightly between the 1990s and the latest period.

4. An increasing number of Governments have become dissatisfied with the fertility levels of their populations. In 1976, 53 per cent of Governments worldwide viewed their fertility levels as being satisfactory, and by 2011 only 33 per cent held this view. Changes in Governments' views have moved in opposite directions over this period. Among countries with current low fertility, an increasing proportion of Governments viewed their fertility levels as being too low: 10 per cent of Governments did so in 1976 compared to 63 per cent in 2011. Among the countries with current high fertility, an increasing proportion of Governments viewed their fertility levels as being too high: in 1976, just 41 per cent of Governments did so compared to 89 per cent of Governments in 2011. Similarly, an increasing percentage of Governments since the 1970s have policies that provide support for family planning programmes: from 74 per cent of Governments supporting family planning programmes in 1976 to 93 per cent of Governments in 2011.

5. Age at marriage has been rising around the world. The estimated mean age at marriage for women (measured using the singulate mean age at marriage) increased over time in 97 of the 99 countries with the requisite data. Among low fertility countries, the mean age at marriage for women increased sharply, with the median of the distribution rising from 22.5 years in 1970-1979 to 27.9 years in 2000-2011. Among intermediate fertility countries, the median mean age at marriage for women increased only from 21.0 in the 1970s to 23.1 in 2000-2011, although in the latest period it ranged widely from 18.6 years to 33.1 years. The mean age at marriage for women remained substantially lower in the high fertility countries, where the median mean age at marriage for women was 22.2 years in 2000-2011, having only increased from 20.3 years in 1970-1979. For men, changes in the mean age at marriage over time were similar to those for women except that men almost universally marry at older ages than women do. Similarly, the mean age at first marriage for women, which often indicates the beginning of exposure to childbearing in countries where there is little extramarital childbearing, has also been increasing. The increase in the median mean age at first marriage was greatest for the low fertility countries, rising from 22.8 years in the 1970s to 28.2 years in 2000-2011, and smallest in high fertility countries, from 18.1 years to 19.9 years.

6. In countries where women marry at young ages, the differences in the mean age at marriage between women and men are generally large. In 2000-2011, among low fertility countries the difference between the mean ages at marriage for women and men was for the most part small, with the median difference at 3.3 years. Among intermediate fertility countries, the median difference between the mean ages at marriage for women and men was 3.1 years. The gap was much larger among the high fertility countries, where women tend to marry at much earlier ages on average, with a median difference between men and women of 3.7 years.

7. Childbearing is becoming less connected with marriage. In 64 countries with data on extra-marital births for all three periods, the median percentage of births that occurred outside of formal (legal) marriage rose substantially, from 7.2 per cent in the 1970s to 35.9 per cent in the first decade of the twenty-first century.

8. Contraceptive use has risen since the 1970s in nine out of ten countries with data available on trends over time, and modern method use accounts for most of the increase. The use of contraception among women aged 15 to 49 who are married or in a union increased in 88 per cent of the 74 countries or areas with available data. Among countries with current high fertility and intermediate fertility, contraceptive use increased sharply: the median proportion of users rose from 10.2 per cent in 1970-1979 to 29.6 per cent in 2000-2011 for high-fertility countries, and from 36.9 per cent to 61.4 per cent in intermediate-fertility countries. The increasing use of modern methods accounted for most of the rise in contraceptive prevalence in these countries. Increases were more modest among low-fertility countries, where levels of contraceptive use were already high in the 1970s.

9. Despite increases in contraceptive use over time, levels of unmet need for family planning in 2000-2011 were moderate to high in intermediate- and high-fertility countries. Among the 24 intermediate-fertility countries with data for 2000-2011, just over half had levels of unmet need for family planning between 12 per cent and 29 per cent. Unmet need for family planning was substantially higher among the 36 high-fertility countries, where half had levels of unmet need between 25.3 per cent and 47.7 per cent. The 13 low-fertility countries with data on unmet need for 2000-2011 had a wide range, from an unmet need of 1.7 per cent to 28.6 per cent.

INTRODUCTION

During the last several decades, the world has experienced profound changes in fertility. Between 1970-1979 and 2000-2011, the median level of total fertility of countries and areas in the world fell by more than half, from 5.2 to 2.4 children per woman. Central to these changes were shifts in the timing of childbearing, in the incidence and prevalence of marriage and union formation, and in the use of contraception. The profound changes in fertility were associated with important changes in social and economic development and have crucial implications for the sustainability of development efforts.

The Population Division of the Department of Economic and Social Affairs has the mandate of increasing understanding and awareness among United Nations Member States and civil society of issues in the field of population and development. Accordingly, it has produced a number of reports on these topics, including the World Fertility Report 2007 and World Fertility Report 2009 (United Nations, 2010 and 2011a). World Fertility Report 2012 complements and supplements previous publications by providing a set of consistent and updated data for three time periods since 1970 on various aspects of reproduction, marriage and union formation, contraceptive use and policies relating to childbearing for most countries of the world. The data presented in this report have been compiled from civil registration systems, population censuses and nationally representative sample surveys. Information on national policies is obtained mainly from the responses of Governments to periodic United Nations inquiries. The basic criterion for inclusion of data is their validity. No attempt has been made to adjust the estimates used for coverage, undercount, underreporting of events, misreporting of age, sampling error or other types of data problems.¹

A set of profiles for each of the 198 countries or areas with at least 100,000 inhabitants in 2011 is included in the online data of World Fertility Report 2012. The country profiles present data in relation to 16 indicators of fertility, marriage and union formation, contraceptive use and national policies related to childbearing. In each country profile, the data relative to each of the 16 indicators are presented for three time periods: the first being as close to 1970 as possible, the second being as close to 1995 as possible and the last being the latest available data. Because the availability of data varies considerably among countries, the reference dates for the data for the earlier period vary from 1965 to 1989, the middle period from 1990 to 1999 and the latest period from 2000 to 2011. For purposes of the analysis, the 198 countries or areas of the world with at least 100,000 inhabitants in 2011 have been divided according to their current total fertility level and regional groupings. The fertility level groups were determined from World Population Prospects 2010 (United Nations, 2011b): For the purposes of this report, high-fertility countries were those with total fertility of 3.2 or more in 2005-2010, intermediate-fertility countries were those with total fertility from 2.1 to 3.1 and low-fertility countries were those with total fertility less than 2.1.² Countries were also categorised by region and major areas: Africa; Asia; Europe; Northern America, Latin America and the Caribbean; and Oceania.

In the analysis of selected indicators, the 198 countries or areas covered by this report are not always included in their totality because, for each indicator, certain countries lack the required data. A second reason for excluding countries from the analysis is that, in order to assess trends, data for all

¹ Most of the data included in the present report are also available in *World Contraceptive Use 2012* (United Nations, 2012), *World Fertility Data 2012* (United Nations, 2013a), *World Marriage Data 2012* (United Nations, 2013b), and *World Population Policies 2011* (United Nations, 2013c). These datasets are accessible on the website of the Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, at <http://www.unpopulation.org>. The year of the most recent data point varies by indicator and the relevant data source.

² In previous editions of the World Fertility Report, countries were categorized by developed and developing. This classification was based on the fertility levels of major regions around the 1960s. However, this distinction is less relevant today because many countries which are considered developing according to their income and human development are currently low-fertility, for example, China. Additionally, many countries which were poor in the 1960s are currently high income countries such as Singapore and the Republic of Korea. The fertility level categories were chosen to reflect an approximately below-replacement level fertility, a fertility level where people replace themselves with one additional child on average, and a high fertility level.

three periods are necessary. The countries with data on total fertility for three points in time numbered 186 and covered 98 per cent of the world's population in each period. Consequently, the conclusions about total fertility derived from the subset of countries with data for the three periods are reasonably robust. Although an effort was made to consider the same set of countries for every indicator, the availability of data on indicators other than total fertility is usually more limited. Thus, in discussing levels and trends of other indicators, fewer than 186 countries may be considered. Information on the number of countries with data on each indicator is presented in Table B.1 in the online data and metadata. The data available for each period are typically spread over the period. Thus, fertility data for Mexico refer to the years 1970, 1995 and 2008, while fertility data for Ecuador refer to 1970, 1997 and 2003. Therefore, the summary measures used for a period, such as the median value for an indicator, do not refer to any particular date within that period. In analysing change over time, however, the period of observation is controlled for by calculating the average annual pace of change for each country separately.

In analysing how the levels and trends of an indicator vary among countries, the shape of the distribution of a set of countries or areas according to the indicator of interest has been summarized using a five-number summary. The five-number summary includes the median, the upper and lower quartiles and the upper and lower extremes of the distribution. The upper and lower extremes are the maximum and minimum values observed for a particular indicator; the lower quartile, the median and the upper quartile are the values of the indicator that divide the distribution into four parts, each with the same number of observations. Consequently, the central half of the observed values of an indicator fall between the upper and lower quartiles (i.e. the interquartile range) and the median marks the centre of the distribution. Five-number summaries are displayed graphically by using boxplots, where the interquartile range is depicted as a box whose upper and lower limits are the upper and lower quartiles, and the lines that extend above and below the box have as extremes the maximum and minimum values of the distribution. These diagrammatic depictions of the distributions of indicators by country or area are useful in assessing overall trends. The values of the median, lower and upper quartiles, and the minimum and maximum corresponding to the distributions displayed graphically and described in the report are presented in tables I.1 to III.3 in the annex of the report.

The following sections discuss in some detail major trends in different indicators and their interrelationships. The online data and metadata that accompany this report contain, in addition to the individual country profiles described earlier, tables where data for each selected indicator, including information on source type, source of data and notes, are listed for all countries or areas that are included in the present report. The definitions of the different indicators considered in this report are also in the online data and metadata.

I. FERTILITY

The data presented in this report describe the changes in fertility and its determinants in national populations over the past four decades. The decline in fertility experienced by many different populations is commonly described as the fertility transition. This transition usually begins with a pre-transitional stage in which fertility is high (generally above five children per woman) and relatively stable. The next stage is where fertility begins to decline slowly, followed by a period of sustained fertility decline, which can eventually lead to very low levels of total fertility often below 2.1 children per woman, which is considered to be replacement fertility, and sometimes significantly lower. While most developed countries have completed their fertility transitions and have sustained levels of low fertility, the speed of these transitions was slow in comparison with the fertility transition witnessed in many Asian, Latin American and Caribbean countries, where countries have moved through the fertility transition within a generation.

Comparisons between the fertility levels observed during 1970-1979, 1990-1999 and 2000-2011 illustrate the various stages of the transition experienced by different countries and are analysed by focusing on the distribution of fertility levels using boxplots and country-specific changes shown in scatterplots. The values of the median, lower and upper quartiles, and the minimum and maximum corresponding to the distributions in the boxplots are presented in tables I.1 to I.8 in the annex of the report.

A. FERTILITY LEVELS AND TRENDS

Two different measures of the levels and trends in fertility are discussed in this chapter: one a period measure, total fertility, and the other a cohort measure, children ever born. Total fertility is a key demographic indicator of fertility. It is a summary measure of fertility and can be interpreted as the average number of births a hypothetical woman would have at the end of her reproductive life if she were subject to the currently prevailing age-specific fertility rates throughout her reproductive years (15-49). Age-specific fertility rates are defined as the number of live births to women in a particular age group divided by the number of woman-years in that age group during the specified period. While age-specific fertility rates are a valuable measure of the age pattern of childbearing, they are not discussed in this report but country-reported estimates can be found in World Fertility Data 2012 (United Nations, 2013a).

Children ever born measures the mean number of children ever born (CEB) to women who are at the end of their reproductive period. In this report, the age group used is age 40-44.³ Children ever born is an indicator of cumulative fertility; it reflects the fertility experiences of older women who are nearing the end of their reproductive period and thus represents completed fertility. If fertility had remained stable over time, the two fertility measures considered here, total fertility and children ever born, would be similar.

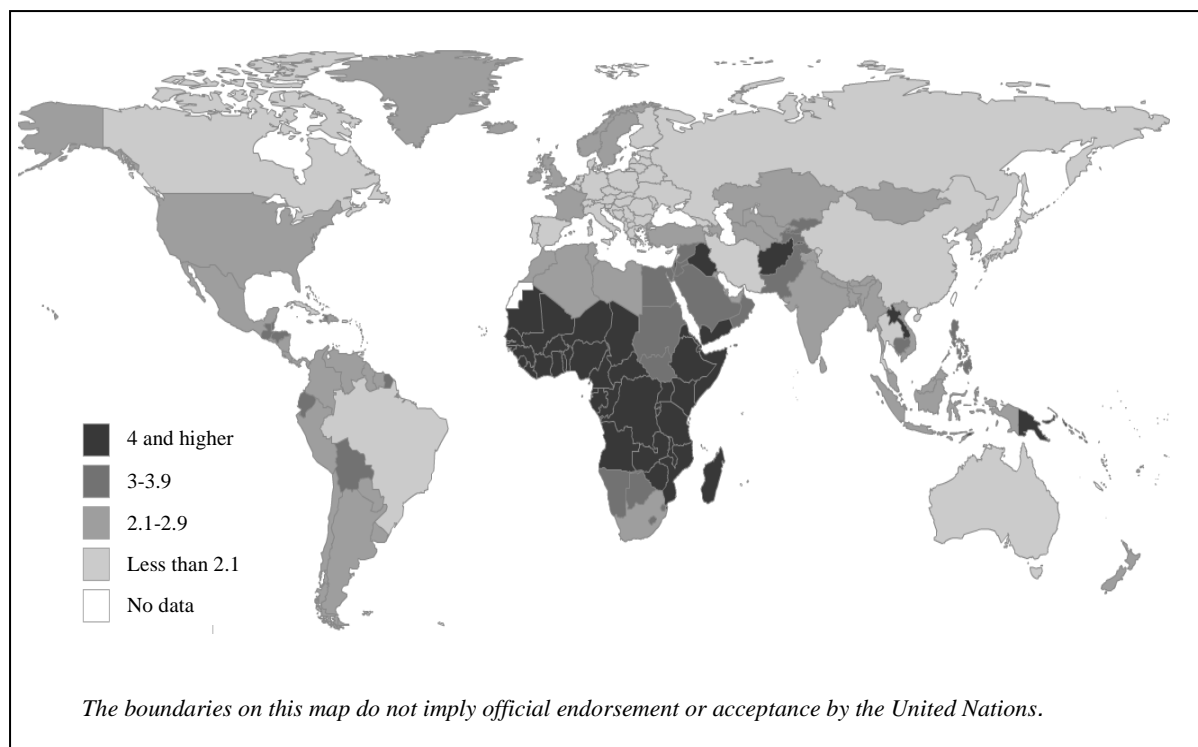
1. Total fertility

The following map (figure I.1) represents the total fertility data available for the most recent period, 2000-2011. As can be seen, high fertility remains concentrated in sub-Saharan Africa, with the majority of countries having total fertility significantly above four children per woman, such as Guinea-Bissau with 7.4 children per woman and Niger with 7.0 children per woman, although Southern Africa has notably lower fertility with South Africa having total fertility of 2.5 children per woman. Pockets of high fertility remain in some Asian countries such as Afghanistan (5.1 children per woman), Timor Leste (5.7 children per woman) and Yemen (5.2 children per woman). In contrast, Eastern Asia has a number of countries and areas with particularly low fertility such as Hong Kong (1.3 children per woman), Macao SAR of China (1.1 children per woman), Republic of Korea (1.3

³ For a limited number of data points, a different age group may be used due to data availability. Where this is the case, it is noted in the online data table.

children per woman), and Singapore (1.3 children per woman); Cyprus, in Western Asia, is also notable due to its particularly low fertility (1.1 children per woman). Southern and Eastern Europe are similarly characterized by very low-fertility countries such as Albania (1.3 children per woman), Bosnia and Herzegovina (1.3 children per woman), Hungary (1.3 children per woman), Latvia (1.2 children per woman), and Romania (1.3 children per woman). Many Caribbean countries have below-replacement fertility (such as Trinidad and Tobago with 1.5 children per woman and Saint Lucia with 1.6 children per woman) as does Brazil (1.8 children per woman).

Figure I.1. Total fertility, 2000-2011



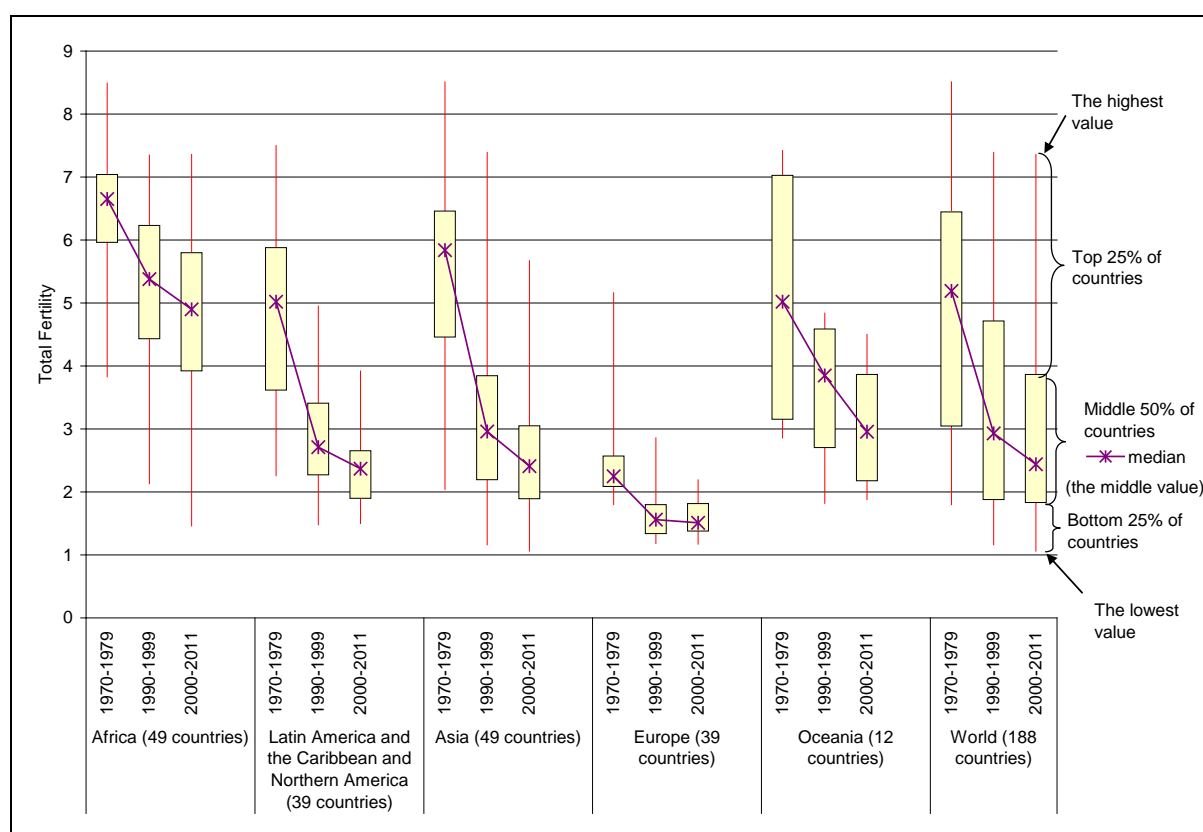
The country groupings by low, intermediate and high fertility are used later in the report to analyse fertility related behaviour. For the purposes of this report, low-fertility countries are those with current total fertility less than 2.1 children per woman (or below-replacement level), intermediate-fertility countries are those with total fertility between 2.1 and 3.1 children per woman, and high-fertility countries are those with total fertility of 3.2 children or more per woman.⁴

The boxplots shown in figure I.2 provide a summary view of the 188 countries with data on total fertility for the three time periods 1970-1979,⁵ 1990-1999 and 2000-2011 according to major area. In the most recent time period, total fertility levels were at a median of 2.4 children per woman. In other words, half the countries in the world had total fertility below this level and half of countries were above this level. The inter-quartile range (the spread of the middle 50 per cent of countries) was from 1.8 to 3.8 children per woman. In other words, the middle half of countries includes total fertility levels within this range.

⁴ These country groupings are based on the level of fertility in *World Population Prospects: The 2010 Revision* (United Nations, 2011b).

⁵ For the period 1970-1979, 16 countries have data for 1960-1969 and 54 countries have data for 1980-1989.

Figure I.2. Distribution of total fertility, the world and major areas



Fifty per cent of the European countries with data for all three time periods had total fertility levels concentrated in the narrow range of 1.4 to 1.8 children per woman in the latest time period, the narrowest range for any regional grouping. The median total fertility among European countries was the lowest at 1.5 children per woman while the highest level of total fertility for the current period was just above replacement level at 2.2 children per woman in Iceland and 2.1 children per woman in France and Ireland. In all other European countries, the total fertility was below 2.0 children per woman, with the lowest total fertility observed in Latvia and Spain at 1.2 children per woman.

Among the 49 Asian countries with data for all three time periods, the inter-quartile range was greater than in Europe, ranging from 1.9 to 3.1 children per woman, with a median total fertility of 2.4 children per woman. There are wide differences among the extremes of Asian countries' fertility levels, reflecting the different stages of fertility transition. Total fertility ranged from 5.7 children per woman in Timor-Leste to just 1.1 children per woman in Cyprus and Macao SAR of China. With the same median total fertility as Asia, the 39 countries of Latin America and the Caribbean and Northern America had a narrower inter-quartile range, between 1.9 and 2.7 children per woman. Trinidad and Tobago had the lowest total fertility with 1.5 children per woman, followed by Aruba, Puerto Rico and Saint Lucia with 1.6 children per woman. French Guiana and Haiti had the highest total fertility with 3.9 children per woman. The median total fertility for the 12 countries of Oceania was 2.8 children per woman with a wide inter-quartile range between 2.2 and 4.0 children per woman. Australia and New Zealand had the lowest total fertility of 1.9 and 2.1 children per woman, respectively, and Papua New Guinea and the Solomon Islands had the highest total fertility of 4.5 and 4.4 children per woman.

Total fertility remains substantially higher in Africa than in other major areas. Among the 49 African countries with data in the three periods, median total fertility in the recent period was 4.9 children per woman with an inter-quartile range from 3.9 to 5.8 children per woman. Total fertility ranges from as low as 1.5 children per woman in Mauritius and 2.1 children per woman in Tunisia.

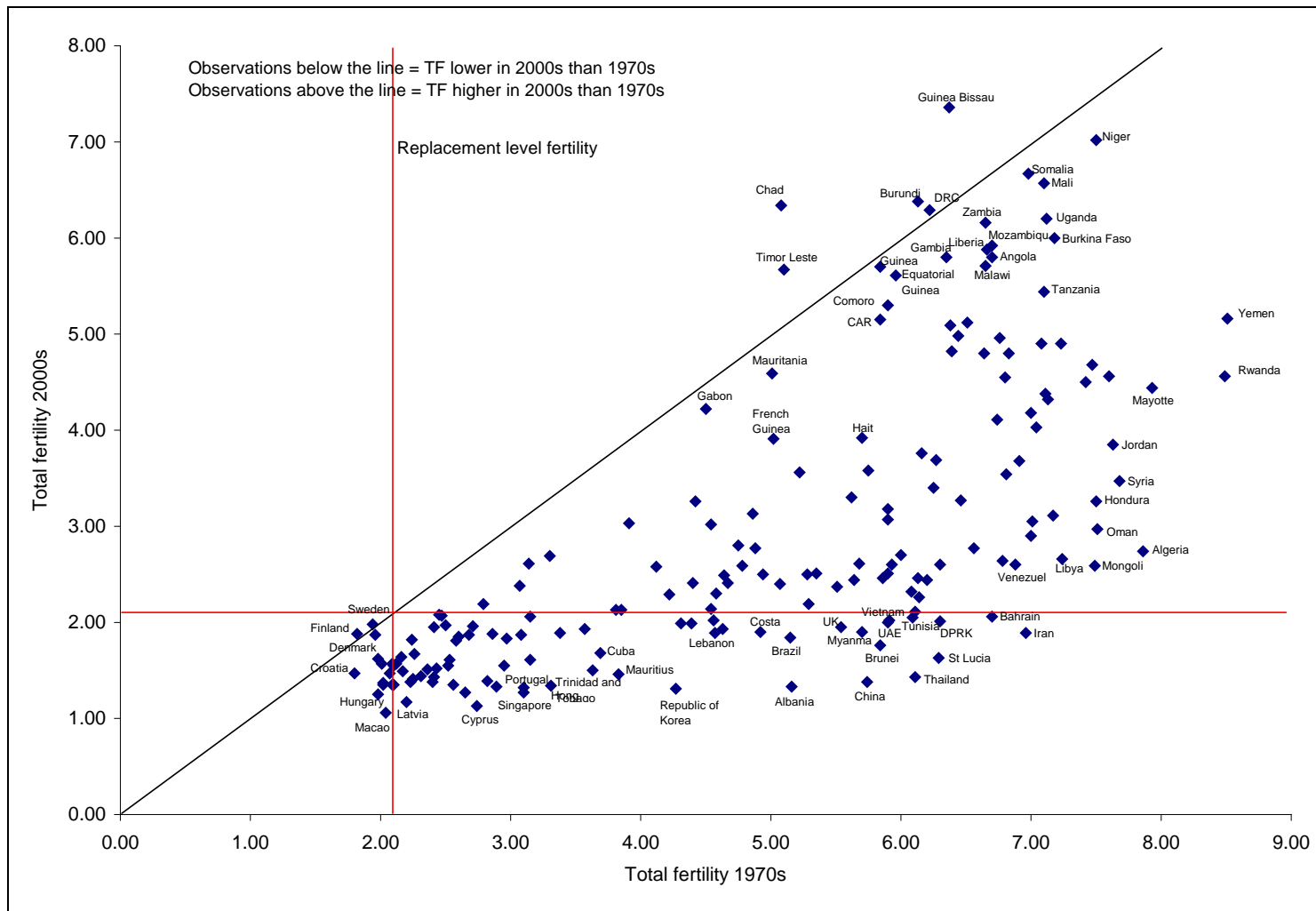
The highest total fertility in the world is seen in Guinea-Bissau (7.4 children per woman) and Niger (7.1 children per woman).

The world has witnessed significant fertility declines over the past three decades. Figure I.3 compares total fertility in the 1970-1979 period to total fertility in the 2000-2011 period. Total fertility fell in all but 7 of the 188 countries or areas for which data are available for all three periods. The distributions of total fertility shifted downward resulting in a decline of the median total fertility from 5.2 children per woman in 1970-1979 to 2.4 children per woman in 2000-2011. The decline in total fertility was fastest in Asia (from a median of 5.8 to 2.4 children per woman), Latin America and the Caribbean and Northern America (from a median of 5.0 to 2.4 children per woman) and Oceania (from a median of 5.3 to 2.8 children per woman). The decline in the median total fertility was slowest in Africa (from 6.7 to 4.9 children per woman) and Europe (from 2.3 to 1.5 children per woman).

A number of high-fertility countries in the earlier period maintained very high levels of fertility (5.1 children per woman or more) through the 2000s and almost all were in Africa, including Burundi, Chad, Democratic Republic of Congo and Guinea-Bissau. Other countries with very high fertility in the earlier period experienced remarkable declines in fertility. Iran showed the greatest decline, from 7.0 children per woman in 1985 to 1.9 children per woman in 2006, which translates into a decline of 2.4 children per decade. The two other countries with the greatest rate of decline were Oman and the United Arab Emirates with declines of 2.0 and 1.8 children per decade respectively. The time period from 1970-1979 to 1990-1999 was characterized by significant fertility reductions. Among the 188 countries with data over the three periods, the global median decrease in total fertility was half a child per decade (tabulations not shown). Between 1990-1999 and 2000-2011, the median rate of change in total fertility slowed to 0.3 children per decade. The countries with the greatest rate of decrease in fertility between 1990-1999 and 2000-2011 were Bhutan and Oman with a decrease of 2.6 children per decade and Saudi Arabia with a decrease of 2.4 children per decade.

In contrast, the countries with the greatest rate of increase in fertility over the three time periods were Chad with an increase of about half a child per decade and Guinea Bissau with an increase of 0.3 children per decade. Altogether, seven countries showed an increase in total fertility over this time period. In between the 1970-1979 period and the 1990-1999 period, Iran stands out as having had an exceptionally high rate of fertility decline of 3.6 children per decade, followed by United Arab Emirates with 2.6 children per decade and Rwanda with 2.5 children per decade. However, in all major areas the rate of decline in fertility slowed between the 1990-1999 period and the 2000-2011 period. Indeed, 24 out of the 39 European countries with data for the three time periods experienced an increase in total fertility from 1990-1999 to 2000-2011. In the European countries where fertility continued declining, the decline was relatively slow, with the exception of Albania which experienced a very high rate of fertility decline of more than one child per decade between 1990-1999 and 2000-2011.

Figure I.3. Total fertility in 1970-1979 and 2000-2011

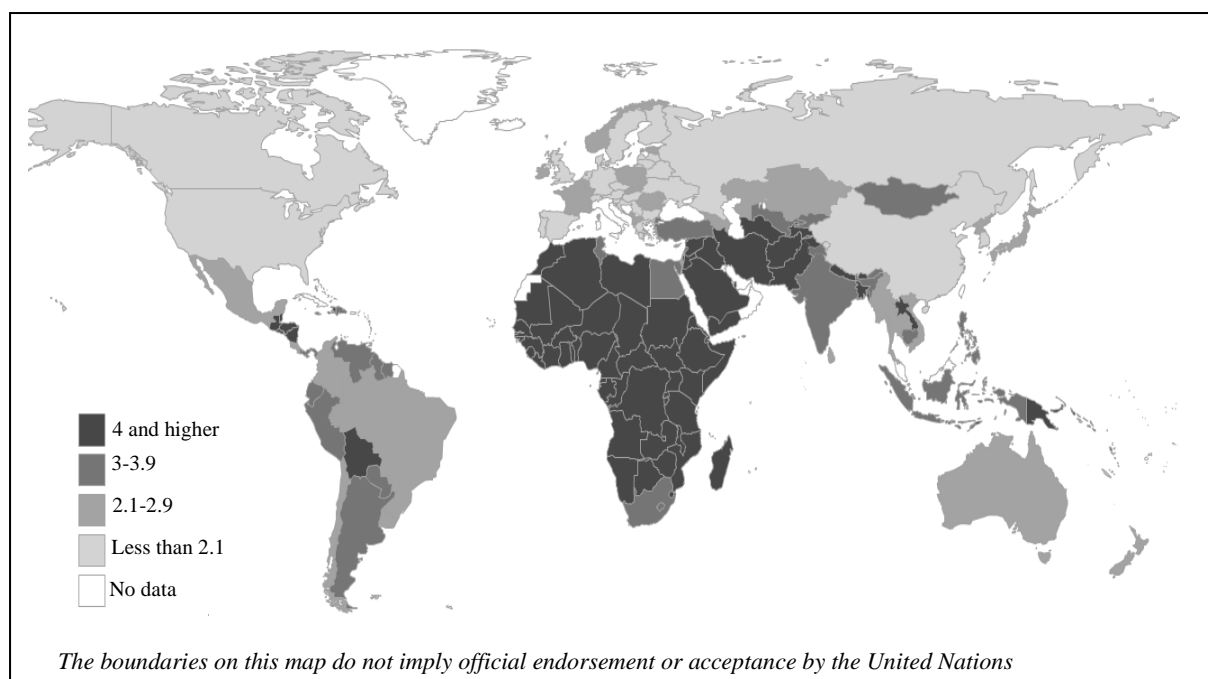


2. Children ever born

Levels and trends in the average number of children ever born among women aged 40 to 44 provide information on how the completed fertility of women has changed over time.

The map below (figure I.4) represents the available data on children ever born for the most recent period, 2000-2011. As with total fertility, a high number of children ever born remains concentrated in sub-Saharan Africa but also in countries in Asia, especially in Western Asia, and in Northern Africa. This is because children ever born is a cohort measure which reflects the completed fertility of women who are at the end of their reproductive period and is a result of higher fertility rates during a woman's reproductive lifetime. Total fertility is a period measure which reflects the fertility rates currently experienced by all women of reproductive age. Therefore, where fertility rates have changed across the reproductive life span of a woman, the children ever born will differ from total fertility; most commonly the recent declines in fertility witnessed in many countries lead to children ever born being greater than total fertility.

Figure I.4. Children ever born to women aged 40-44, 2000-2011



The boxplots shown in figure I.5 provide a summary view of the 135 countries with data on mean number of children ever born among women aged 40 to 44 for the three time periods 1970-1979, 1990-1999 and 2000-2011, according to major area. In the most recent time period, children ever born levels were at a median of 3.7 children ever born per woman. The inter-quartile range was from 2.3 to 5.1 children ever born, in other words, the middle half of countries have children ever born within this range.

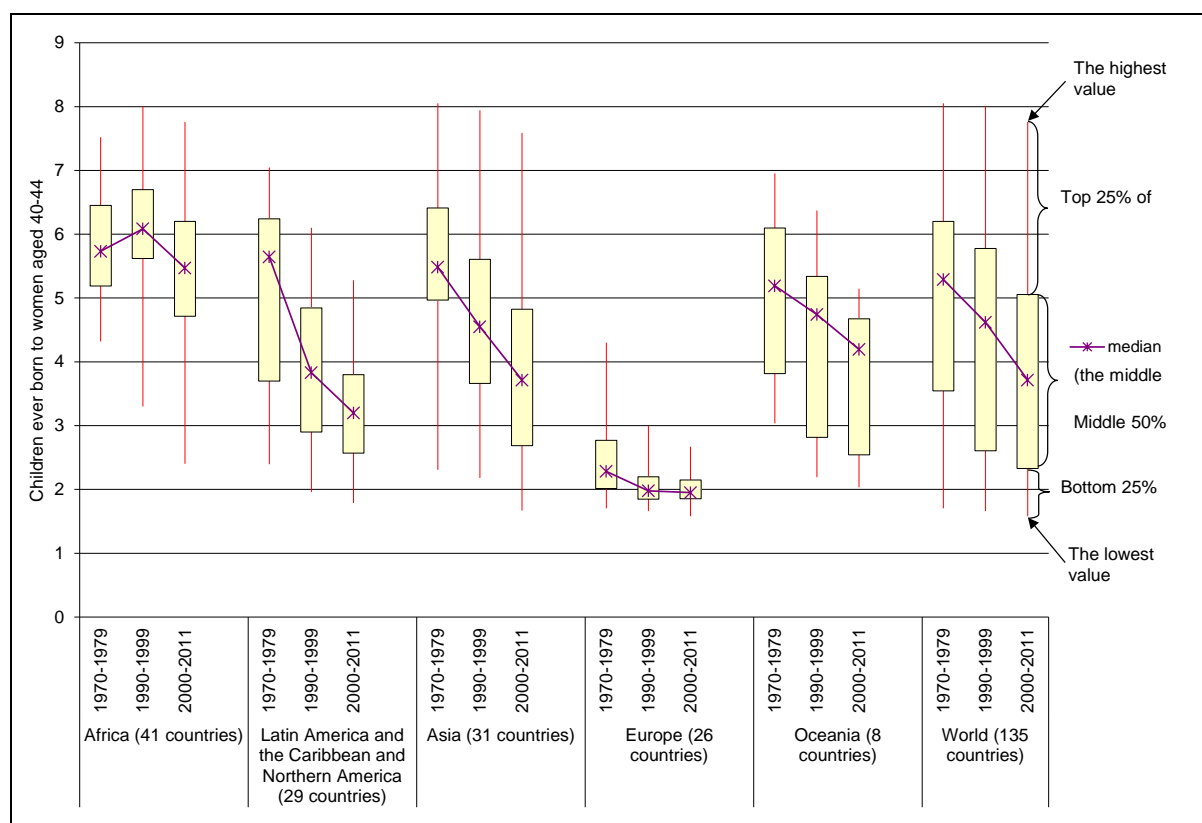
Fifty per cent of the European countries with data for all three time periods had children ever born concentrated in the narrow range of 1.9 to 2.1 children per woman in the latest time period, the narrowest range for any major area worldwide. The median of mean children ever born among European countries was the lowest at 2.0 children. Among these countries, the highest mean number of children ever born was in Albania (2.7 children ever born) and Norway (2.4 children ever born), significantly higher than total fertility in those two countries. The lowest level of children ever born was observed in Belarus (1.7 children ever born) and Ukraine (1.6 children ever born) and these levels of completed fertility were also much higher than reported total fertility.

Among the 31 Asian countries with data on children ever born for these three time periods, the inter-quartile range was the largest, ranging from 2.7 to 4.8 mean number of children ever born and a median of 3.7 children ever born. As with total fertility, there is a large difference between the highest and lowest values of mean number of children ever born among the countries in Asia. Some countries like Afghanistan and Yemen have high levels of completed fertility of 7.0 and 7.6 children ever born, respectively. Other countries, like China, the Republic of Korea and Singapore have very low levels of children ever born of 1.9, 1.9 and 1.7 children ever born per woman, respectively, reflecting the long-standing and sustained fertility decline in these countries. Completed fertility, even in the countries with very low fertility, is still higher than total fertility levels as a result, in part, of the distortion in the period total fertility measure by the postponement of childbearing to older ages.

The distribution of 29 countries in Latin America and the Caribbean and Northern America with data for the three time periods had a median of 3.2 children ever born and a relatively narrow inter-quartile range, between 2.6 and 3.8 children ever born. Canada had the lowest value of 1.8 children ever born per woman, followed by the USA with 1.9 children ever born. The countries with the highest mean number of children ever born in Latin America and the Caribbean and Northern America were Guatemala (4.9 children ever born) and Haiti (5.3 children ever born).

In the eight countries of Oceania with data for the three time periods, the median was 4.2 children ever born and, as with total fertility, Australia had the lowest mean number of children ever born (2.0 children ever born) and Micronesia had the highest level (5.1 children ever born).

Figure I.5. Distribution of mean number of children ever born, the world and major areas



Among the 41 African countries with data, the distribution of the mean number of children ever born remained substantially higher than in the other major areas, with a median level of 5.5 children ever born in the recent time period and an inter-quartile range from 4.7 to 6.2 children ever born. As with total fertility, there is a wide range among countries in Africa albeit not as pronounced. Mauritius and South Africa had the lowest mean number of children ever born with 2.4 and 3.1 children ever born, respectively. In contrast, Chad and Niger had the highest levels with 7.2 and 7.8 children ever born, respectively.

Women's completed childbearing has been declining globally. However, the decreases in the mean number of children ever born have been less dramatic than trends measured by total fertility. There are a number of reasons why this is the case. First, the mean number of children ever born is measuring the completed fertility of women aged 40 to 44. Since this is a cumulative measure, it reflects the fertility experiences of younger women during an earlier period when the prevailing fertility levels were higher. Second, period fertility measures such as total fertility are sometimes distorted by a postponement effect. In other words, women have the same desired family size but wish to postpone their births to a later age. While this behaviour can cause fluctuations in total fertility and age-specific fertility rates, the effect on the measure of children ever born is far smaller since, aside from women who are not able to realise their desired family size, the postponed births simply occur later in a woman's reproductive lifetime.

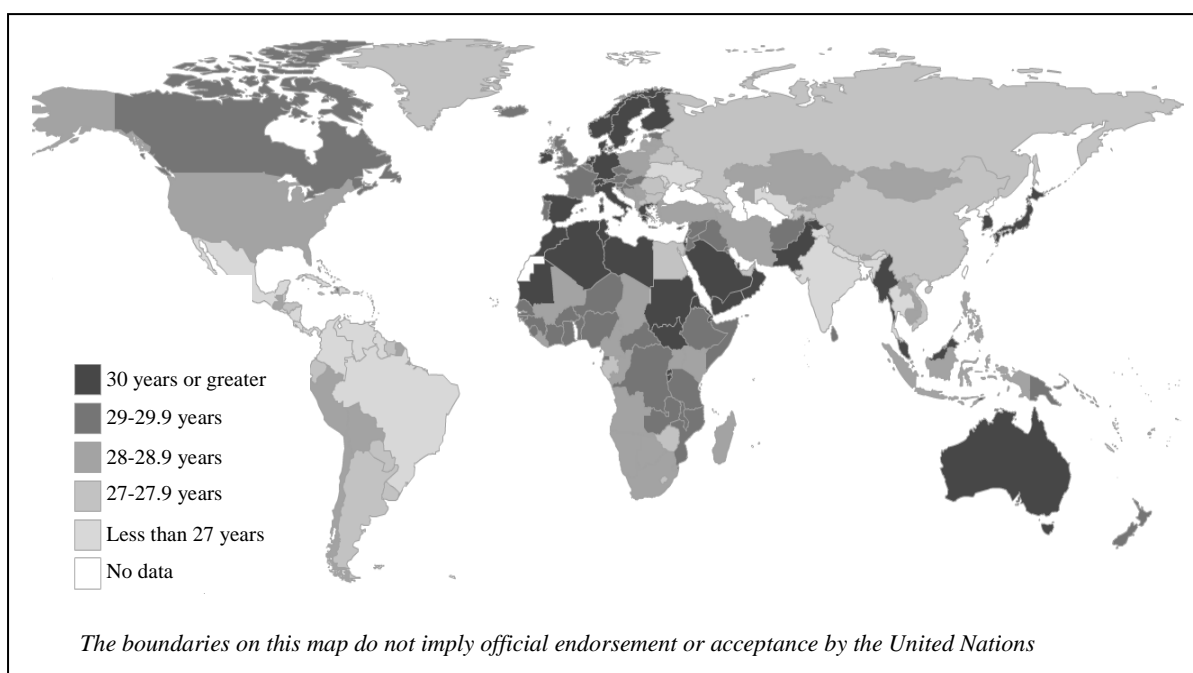
B. TIMING IN FERTILITY

1. *Mean age at childbearing*

The decline in fertility experienced by most countries over the past several decades has been accompanied by shifts in the timing of childbearing. During the early stages of the fertility transition, there is a decline in higher order births and the mean age at childbearing tends to fall (assuming there is not an offsetting increase in the age at first birth, which tends to happen more slowly). In countries where total fertility is low, changes in the mean age at childbearing are mainly influenced by the changes in the age at first birth. The differences in trends among countries over the past four decades are a product of these factors. This chapter will examine both mean age at childbearing and age at first birth by major area and by level of total fertility. These indicators measure different concepts of fertility timing and are often derived from different sources and may represent different time points, thus the indicators are not directly comparable.

As can be seen in the map below (figure I.6), there is a high mean age at childbearing in some parts of Europe, Northern Africa, Western Asia and some other Asian countries, and Australia. The three countries with the highest mean age at childbearing are in Africa: Algeria (31.8 years), Djibouti (32.7 years) and Libya (32.9 years). Other countries with a notably high mean age at childbearing are Ireland (31.2 years), Italy (31.3 years), Saudi Arabia (31.6 years), Spain (31.2 years), and Tonga (31.4 years). The countries with the highest mean age at childbearing are either countries with low total fertility, with women only having children at older ages and a small number of countries with higher fertility but which have experienced fertility decline through the postponement of births. At the other end of the scale, low mean ages at childbearing are seen in many countries in Asia, Eastern Europe and Latin America and the Caribbean due to overall declining fertility but a cultural tendency towards younger childbearing. Turkmenistan has the lowest mean age at childbearing at 24.6 years, followed by Bangladesh with 24.7 years. Other countries and areas with a mean age at childbearing below 26 years include Armenia (25.9 years), Azerbaijan (25.9 years), Dominican Republic (25.7 years) and Puerto Rico (25.9 years).

Figure I.6. Mean age at childbearing, 2000-2011



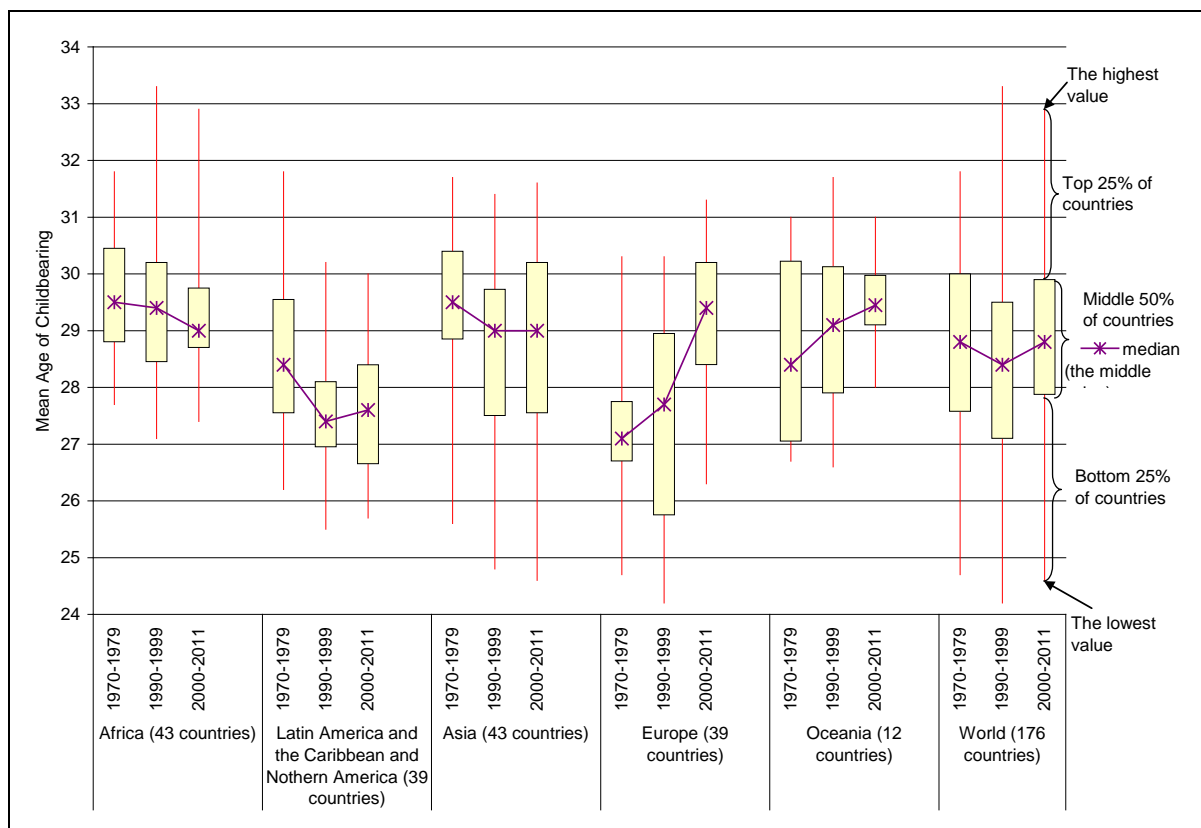
Data allowing the calculation of mean age at childbearing for the three time points 1970-1979, 1990-1999 and 2000-2011 were available for 176 countries (figure I.7).⁶ Among the 39 European countries with data for three time periods, the median of the distribution of mean age at childbearing was the lowest (27.1 years) in the period 1970-1979 compared to all other regions. Asia had the highest median mean age at childbearing at 29.5 years in the period 1970-1979, followed by Africa (29.4 years), Latin America and the Caribbean and Northern America (28.4 years) and Oceania (27.9 years). By the most recent period (2000-2011), the median of the distribution of mean age at childbearing had increased in Europe to 29.4 years and in Oceania to 29.3 years. At the same time, in Africa, Latin America and the Caribbean and Northern America, and Asia, the median of the distribution had decreased, reaching 29.0 years in Africa and Asia and 27.6 years in Latin America and the Caribbean and Northern America.

The distribution of mean age at childbearing shows a remarkable stability from 1970-1979 to 2000-2011 at the global level. The stability of the distribution of all countries according to the mean age at childbearing masks the changes that have taken place within individual countries. Among the 176 countries considered, 62 recorded a substantial decline and 65 recorded a substantial increase in the mean age at childbearing of at least 0.5 years per decade between 1970-1979 and 2000-2011. Moreover, in many countries the mean age at childbearing first decreased and later increased.

The explanation for these trends is partly due to how the mean age at childbearing is calculated. In countries with high fertility, most childbearing is usually concentrated in the most fecund age groups, usually women in their twenties. However, there are also relatively high fertility rates among younger and older women. In many countries, as fertility declines, it is often due to a relatively more rapid decline in fertility among older women. This means that as fertility declines, the mean age at childbearing also declines. As fertility declines further, the reduction in fertility shifts more to younger women who are now postponing births. It is often later accompanied by an increase in fertility among older women due to the earlier postponement of births among younger women. Therefore, in countries transitioning to below-replacement fertility, an increase in the mean age at childbearing is often seen. Thus countries with the highest and the lowest fertility levels are often countries with the highest mean age at childbearing.

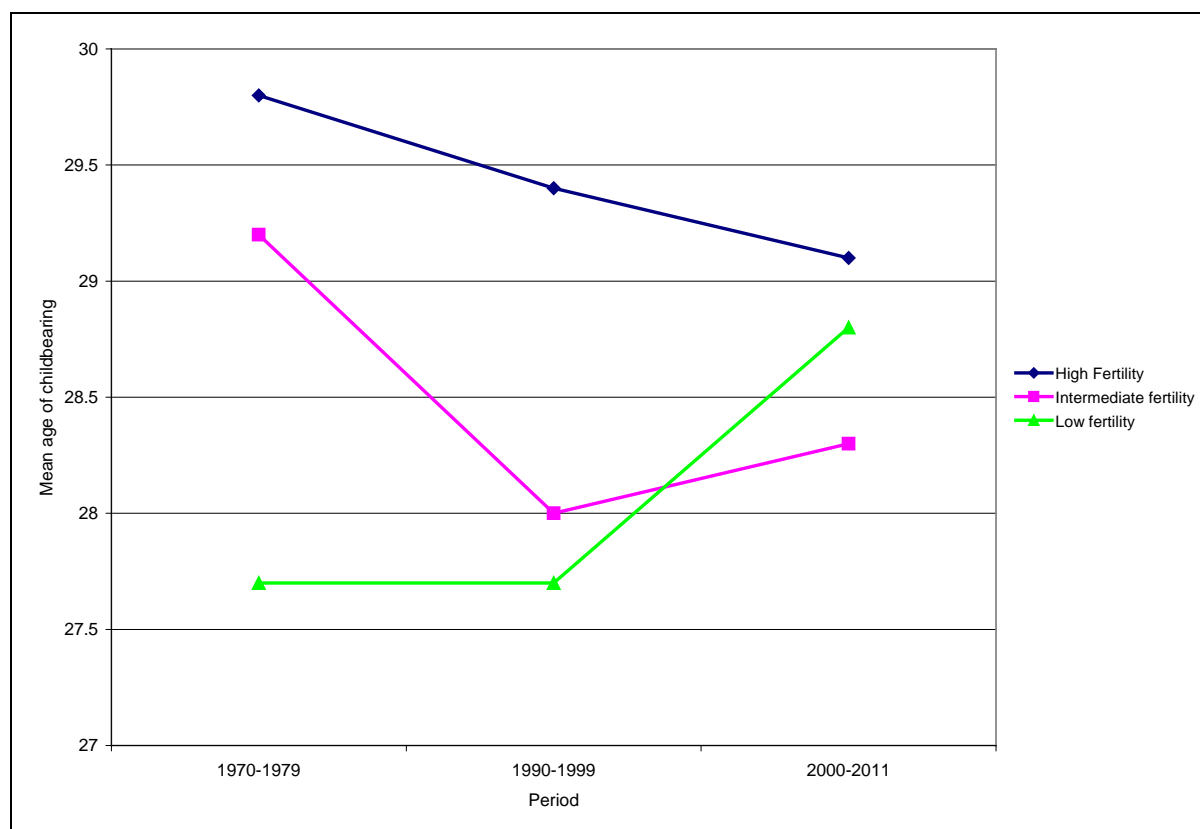
⁶ For the period 1970-1979, 19 countries have data for 1960-1969 and 33 countries have data for 1980-1989.

Figure I.7. Distribution of mean age at childbearing, the world and major areas



The pattern described above may be seen in figure I.8 with countries grouped by their current total fertility level (as described in the previous chapter). High-fertility countries have shown a steady decline in the mean age at childbearing whereas low-fertility countries have increased sharply between 1990-1999 and 2000-2011. Intermediate-fertility countries first decline and then increase, with the mean age at childbearing ending slightly lower than the low-fertility countries. It can also be seen that the differences between countries have decreased, due to the declining fertility among older women even in current high-fertility countries and the postponement of childbearing in the low-fertility countries.

Figure I.8. Median of the distribution of mean age at childbearing by total fertility level



2. Mean age at first birth

Mean age at first birth is an important measure of fertility. It defines the age of entry into parenthood with social, economic and health implications. It also affects the overall level of fertility since the reproductive period is shortened when the mean age at first birth is older, and, in many countries, childbearing is commencing at ages when fecundity is declining.

Looking at figure I.9, it can be seen that in 2000-2011, among the 128 countries with data for the period, the highest mean ages at first birth are seen in Europe, Eastern Asia and Australia.⁷ Two of the three countries with a mean age at first birth of 30 years or more are in Europe with the highest ages seen in the Germany (30.0 years) and Switzerland (30.0 years), and with Australia having the highest mean age at first birth of 30.5 years. Eastern Asian countries are not far behind with Japan and Republic of Korea having a mean age at first birth of 29.9 years. At the other end of the scale, low mean ages at first birth are common in sub-Saharan Africa, South Asia and Latin America. Out of the 27 countries with mean ages at first birth below 20 years, only 3 countries were not from sub-Saharan Africa: Bangladesh (18.1 years), India (19.9 years), and Oman (18.6 years). The countries with the lowest mean age at first birth are Angola, Bangladesh and Niger (all with 18.0 years).

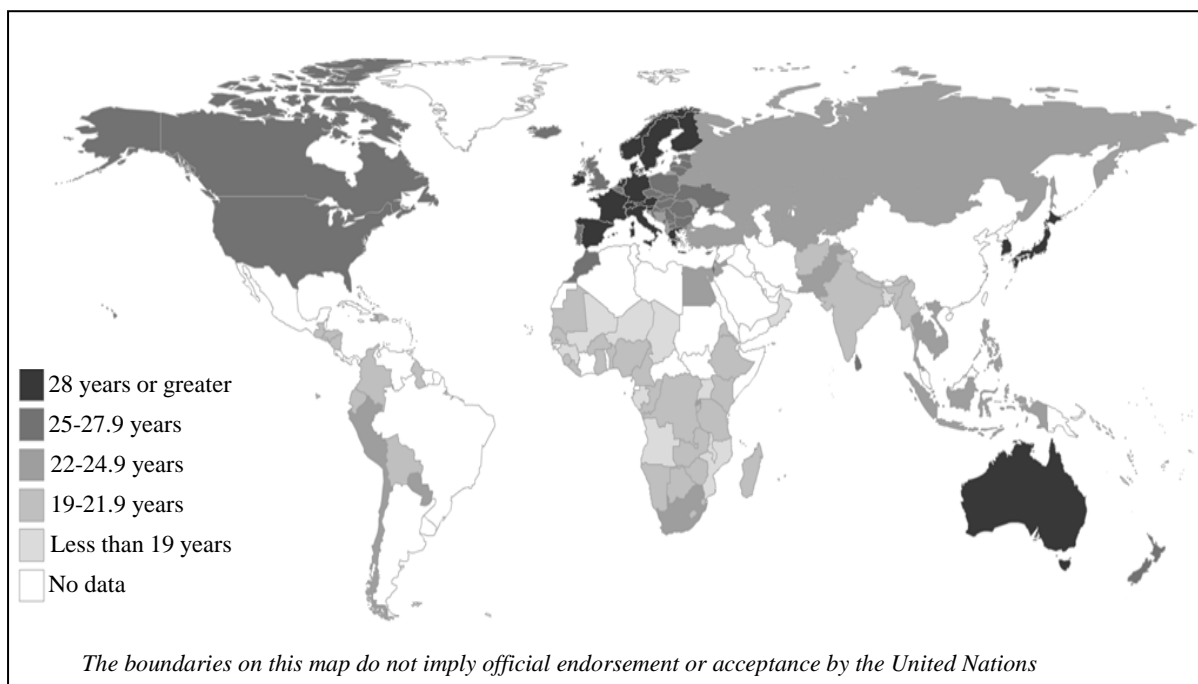
The decline in fertility has generally been accompanied by an increase in the mean age at first birth, especially during the later stages of the fertility transition. Among the 66 countries with data for all three time periods: 1970-1979,⁸ 1990-1999 and 2000-2011, Africa had the lowest mean age at first birth in all three periods with a median of 20.7 years in 2000-2011. The inter-quartile range spans from 19.5 years to 21.7 years meaning that most countries are concentrated within a relatively narrow

⁷ For the period 2000-2011, 57 countries, out of the 128 with available data, reported the median age at first birth, i.e. the age by which fifty percent of women had given birth. The majority of these countries used data from household surveys to report the median age at first birth for women aged 25-29.

⁸ For the period 1970-1979, 27 countries have data for 1980-1989.

range. The two countries in Oceania with data had the highest median mean age at first birth at 29.1 years. In Europe, the inter-quartile range was wider than Africa, from 25.9 years to 28.9 years. Asia displayed the widest variation in the mean age at first birth across all the countries with data and had a median value of 23.6 years. However, this value hides a wide variation, from Bangladesh with a mean age at first birth of 18.1 years to Japan and the Republic of Korea with 29.9 years, and an inter-quartile range from 22.7 years to 26.1 years. The median of the distribution of nine countries in Latin America and the Caribbean and Northern America was 22.0 years; Honduras had the lowest mean age at first birth at 20.2 years and Canada had the highest at 27.6 years.

Figure I.9. Mean age at first birth, 2000-2011



There has been a sustained increase in mean age at first birth in all major areas from the 1970s to today (figure I.10). Additionally, in most major areas there has been an increase in variation, shown by the inter-quartile range, over the same period. The median mean age at first birth in Africa increased slowly from 1970-1979 to 1990-1999 by half a year from 19.0 years to 19.5 years. The rate of increase intensified between 1990-1999 and 2000-2011, with mean age at first birth increasing to 20.7 years. There is wide variation in the different experiences of countries in change in mean age at first birth: Cameroon (0.3 years per decade), Kenya (0.2 years per decade), Mali (-0.2 years per decade) and Zimbabwe (0.4 years per decade) all had increased by less than half a child per decade between 1970-1979 and 2000-2011. Morocco had the most rapid increase at 2.3 years per decade over this time period.

Europe increased slowly from a median mean age at first birth of 23.7 years in 1970-1979 to 25.0 years in 1990-1999, with a greater increase to 27.4 years in 2000-2011. Among the 33 European countries with data, the Republic of Moldova increased the least, by only 0.2 years per decade, whereas Slovenia increased the most at 1.6 years per decade. Asia increased steadily across all three periods, from 22.0 years in 1970-1979 to 22.8 years in 1990-1999 and 23.6 years in 2000-2011. The Philippines showed the least change, with the mean age at first birth remaining stable over the three periods whereas both Hong Kong SAR of China and the Republic of Korea had an increase of about one year per decade. Latin America and the Caribbean and Northern America had only a modest increase in the median among the nine countries with data, from 21.3 years in 1970-1979 to 22.0 years in 2000-2011. Among these countries, Peru showed a decline in mean age at first birth (-0.1 years per decade) and the Dominican Republic showed no change. In Oceania, only Australia and New Zealand had data for all three time periods and showed a substantial rise in the mean age at first

birth from less than 24 years in 1970-1979 to more than 27 years in 1990-1999 and 2000-2011 in both countries.

Figure I.10. Distribution of mean age at first birth by major areas

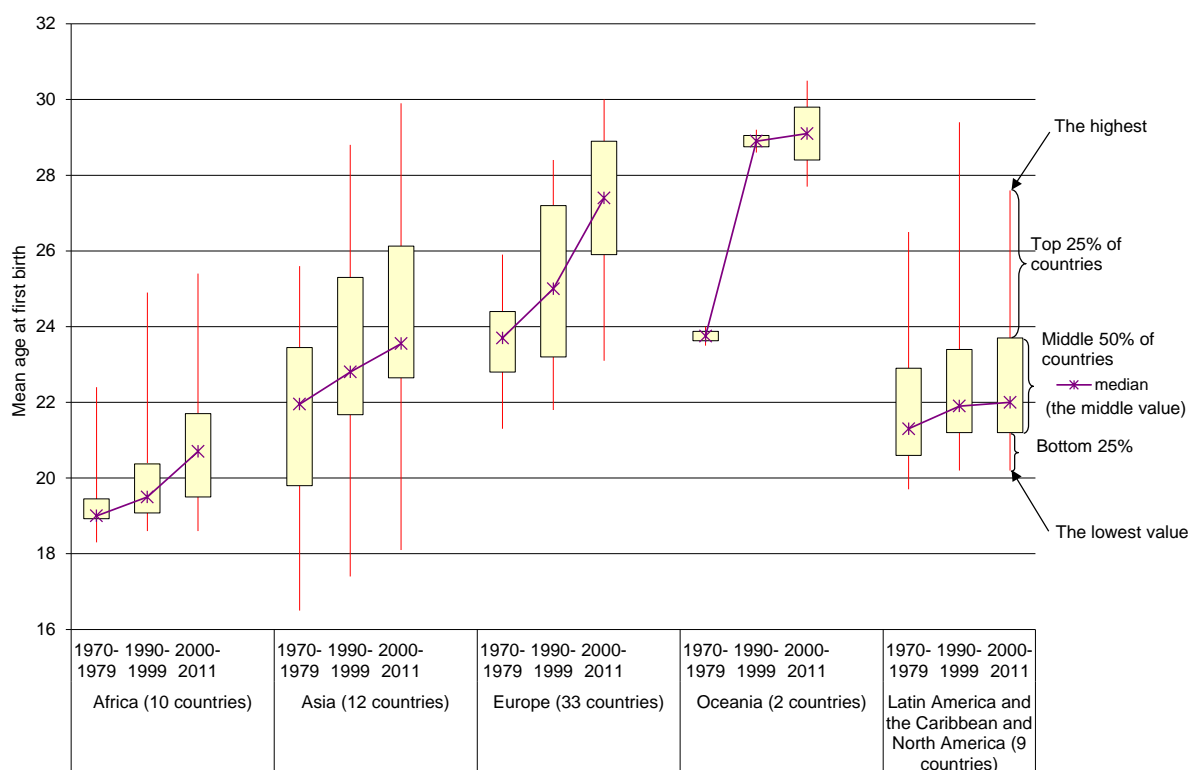


Figure I.11 shows the distributions of the mean age at first birth over time for groups of countries by total fertility level in 2005-2010. In countries with low fertility, the mean age at first birth increased since the 1970s, especially between 1990-1999 and 2000-2011. Out of the 41 low-fertility countries with data, 32 of them had an increase of half a year or more per decade in the mean age at first birth and no low-fertility country experienced a decline in the mean age at first birth during this time period. Among intermediate-fertility and high-fertility countries the increase in the median of the mean age at first birth has been more modest. Intermediate-fertility countries experienced an increase in the median from 21.3 years in 1970-1979 to 22.5 years in 2000-2011. Among high-fertility countries the increase between these periods was from 19.4 years to 21.1 years. Morocco, an intermediate-fertility country, had the sharpest increase among all countries with data with an increase of 2.3 years per decade. One intermediate-fertility county (Peru) and one high-fertility country (Mali) had a decrease in mean age at first birth from 1970-1979 to 2000-2011.

Figure I.12 displays the relationship between mean age at childbearing and mean age at first birth, grouped by current level of total fertility in 2000-2011. For low-fertility countries, there is a strong, positive correlation between the mean age at childbearing and the mean age at first birth: As mean age at first birth increases, so does the mean age at childbearing. This relationship is due in part to the fact that first births represent a higher proportion of all births in low-fertility countries compared to intermediate and high-fertility countries. This pattern also shows that a high mean age at childbearing in low-fertility countries is mainly driven by postponement of births rather than high levels of fertility among older women, as discussed earlier. A similar relationship is observed among countries with intermediate fertility although the relationship is not as pronounced. Among high-fertility countries, there is an observable weaker relationship between mean age at childbearing and mean age at first birth. This is because a high mean age at childbearing in high-fertility countries is not usually a sign of postponement of births but rather a reflection of elevated fertility among women

of advanced maternal age, typical of the early stages of the fertility transition and when desired family sizes are still large.

Figure I.11. Distribution of mean age at first birth, the world and fertility levels

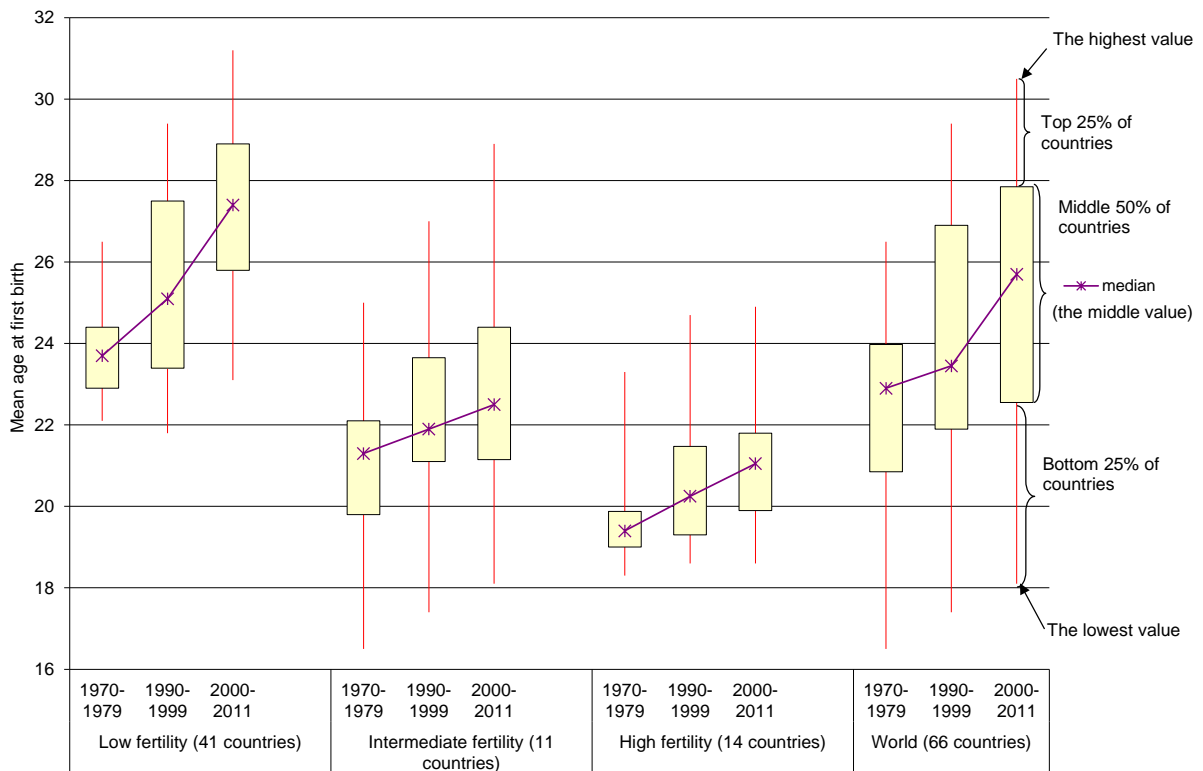
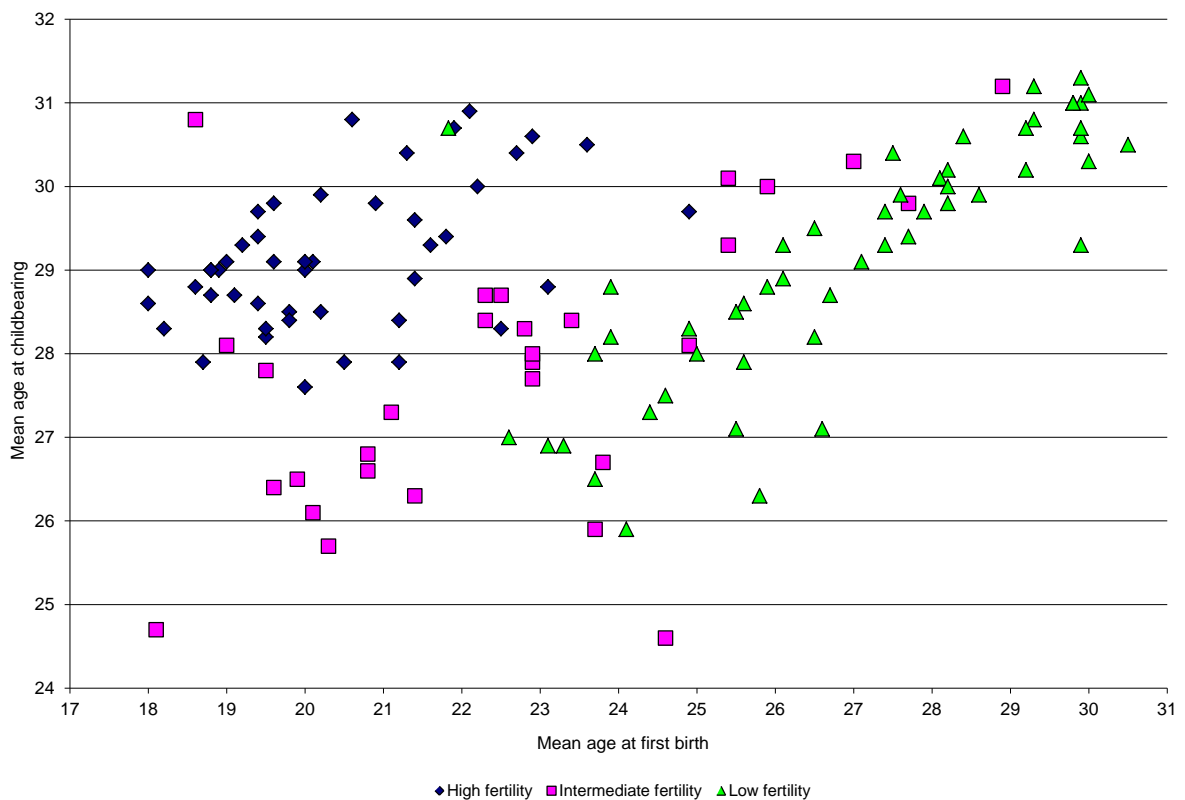


Figure I.12. Mean age at childbearing and mean age at first birth by total fertility level in 2000-2011



C. PARITY DISTRIBUTION

This section looks at the parity distribution among women aged 40-44 (i.e., women who are near the end of their reproductive lives). Even in countries with similar levels of children ever born, parity distributions can differ greatly. For example, a country may have an average of two children born per woman. This could be achieved if most women have two children each. Alternatively, it could also be achieved if more women remain childless and more women have larger families. This chapter will examine parity distributions across the world by looking at the distribution of childlessness and women with three or more children.

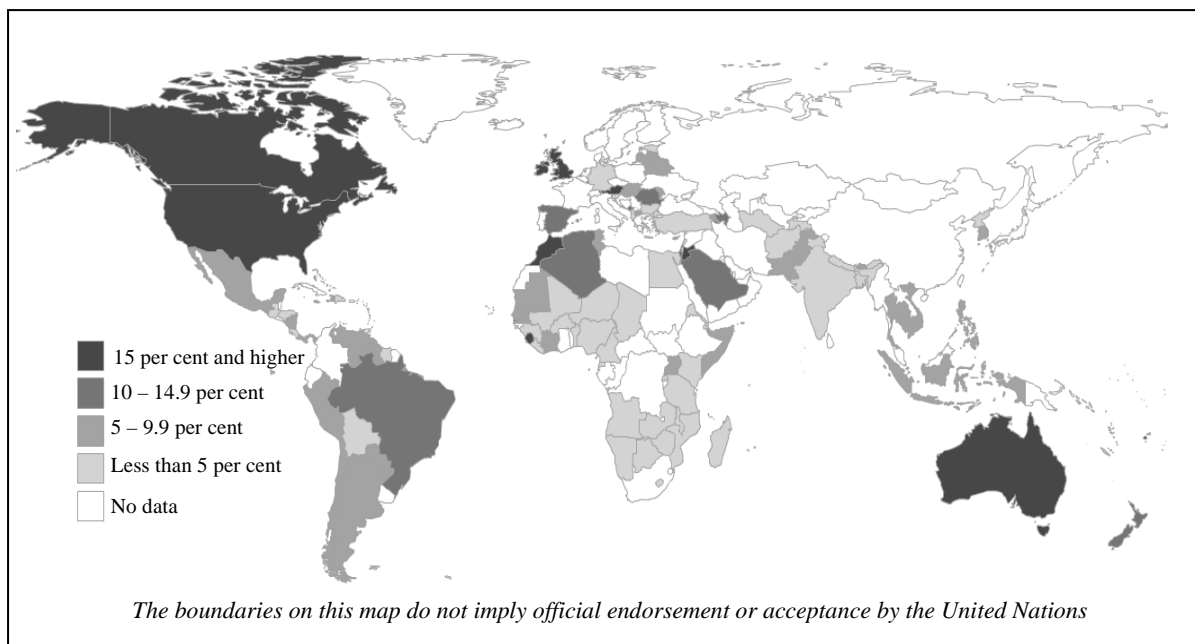
For the purposes of this report, childlessness is measured as the percentage of women aged 40-44 who have never had a live birth. Generally, the level of primary infertility seen in a society where contraceptive use is low, fertility desires are high, marriage or consensual union close to universal, and women marry towards the beginning of their reproductive life, is around three per cent (Bongaarts and Potter, 1983). Levels of overall childlessness above this range can be due to postponement of childbearing to ages where fecundity is lower or to conscious decisions not to have children. In countries where nearly all children are born within marriage, childlessness also depends on the proportion of women who had never married and on the age at marriage. In parts of Africa, reductions in childlessness have been mostly brought about by the successful treatment of sexually transmitted infections, which were a major cause of infertility in the 1970s and earlier decades. In contrast, childlessness is assumed to be rising in other parts of the world, mainly due to postponement of childbearing to ages with lower fecundity and a deliberate intention not to have children.

Among low-fertility countries, levels of childlessness ranged from 3.8 per cent in the Maldives to 23.1 per cent in Singapore and, among intermediate-fertility countries, from 2.2 per cent in Bangladesh to 19.8 per cent in Bahrain. Among the high-fertility countries, fewer women remain childless though the range was still wide, from 0.3 per cent in Sao Tome and Principe to 15.9 per cent in Jordan. Some countries currently have extremely low levels of reported childlessness. Out of the 131 countries which reported data for the 2000-2011 period (see figure I.13), the lowest levels of childless women aged 40-44 were in Sao Tome and Principe, followed by 1.1 per cent of women aged 40-44 in Liberia and 1.9 per cent of women aged 40-44 in Congo. Altogether, 18 countries out of the countries with data for 2000-2011 reported childlessness levels among women aged 40-44 of below 3 per cent (15 of these countries were high-fertility countries). As explained above, it is unlikely that countries achieve levels of childlessness significantly lower than three per cent. The reported data are likely to be affected by either over-reporting of births by childless women (for example, due to women who have fostered a child reporting the child as their own biological child) or non-response bias where childless women are systematically less likely to respond to the survey (for example, childless women may be more likely to be employed and therefore out of the house when the survey is conducted).

Only 53 countries have the required data on childlessness from censuses or surveys for the three time periods 1970-1979, 1990-1999 and 2000-2011⁹. The distribution of all countries and all fertility groups shifted downward overall between 1970-1979 and 2000-2011 (figure I.14) with a similar absolute decline for all fertility groups: the median of the distribution declined among high-fertility countries from 5.0 per cent in 1970-1979 to 4.3 per cent in 2000-2011, among intermediate-fertility countries from 7.1 per cent to 6.2 per cent and among low-fertility countries from 7.8 per cent to 7.2 per cent. However, there is a large amount of variation around these median values. In particular, low-fertility countries showed an increase in the range of the middle 50 per cent of countries, from 4.6 percentage points in 1970-1979 to 15.0 percentage points in 2000-2011. Singapore stands out with an increase of 4.2 per cent per decade from a relatively low 6.4 per cent in 1970. Eleven of the 19 intermediate-fertility countries with data for the three periods involved had declines in childlessness.

⁹ For the period 1970-1979, 2 countries have data for 1965-1969 and 11 countries have data for 1980-1989.

Figure I.13. Percentage childless among women aged 40-44, 2000-2011



The country with the greatest decline was the Dominican Republic which declined by 3.1 per cent per decade from 15.7 per cent in 1970 to 4.3 per cent in 2007. The intermediate-fertility countries with the greatest increase in childlessness among women aged 40-44 were Bahrain which increased by 3.4 per cent per decade (an increase from 9.5 per cent in 1971 to 19.8 per cent in 2001) and Saudi Arabia which increased by 4.6 per cent per decade (an increase from 4.2 per cent in 1987 to 13.4 per cent in 2007). Among the 16 high-fertility countries considered, childlessness increased in six countries and declined in the rest. Jordan had the largest increase in childlessness with 3.3 per cent per decade, from 5.0 per cent in 1976 to 15.9 per cent in 2009.

Figure I.15 shows the percentage of women aged 40-44 with three or more children ever born in 2000-2011. It is clear from the map that the highest level of higher parity women among countries with data is concentrated in Africa and West Asia whereas lower levels are seen in Europe. Out of the 118 countries which reported data for the latest period, eight countries had 90 per cent or more women aged 40-44 with three or more children ever born, all of which were high-fertility countries. The two countries with the highest reported level were Afghanistan and Niger, both of which reported 94.5 per cent of women aged 40-44 with three or more children ever born in 2010 and 2006 respectively. At the other extreme, eight countries reported the percentage of women with three or more children as below 20 per cent. All of these countries were low-fertility countries and all but two (Aruba and Republic of Korea) were European. The countries with the lowest level of women aged 40-44 with three or more children were the Republic of Korea (13.6 per cent in 2005) and Ukraine (10.3 per cent in 2007).

Among the 17 low-fertility countries with data over the three time periods on the percentage of women aged 40-44 with three or more children ever born, the median sharply declined between the 1990s and the 2000 onwards, preceded by a more moderate decline between the 1970s and 1990s, as shown in figure I.16. Fourteen countries experienced declines in the percentage of women with three or more children ever born. Aruba, Singapore and Thailand had the greatest reduction in their level of children with three or more children by 14 per cent or more per decade. Latvia and Luxembourg were the only low-fertility countries, among those with data, to experience an increase in the percentage of women aged 40-44 with three or more children.

Figure I.14. Distribution of the percentage childless among women aged 40-44, the world and fertility levels

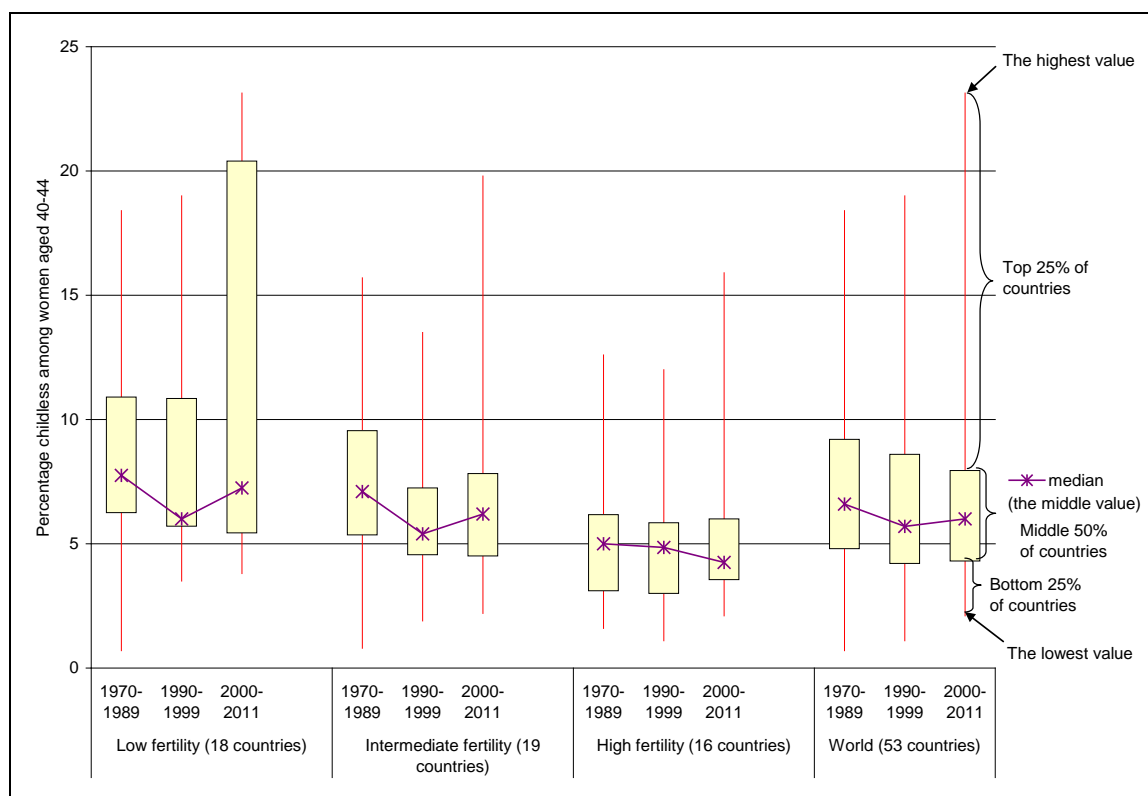
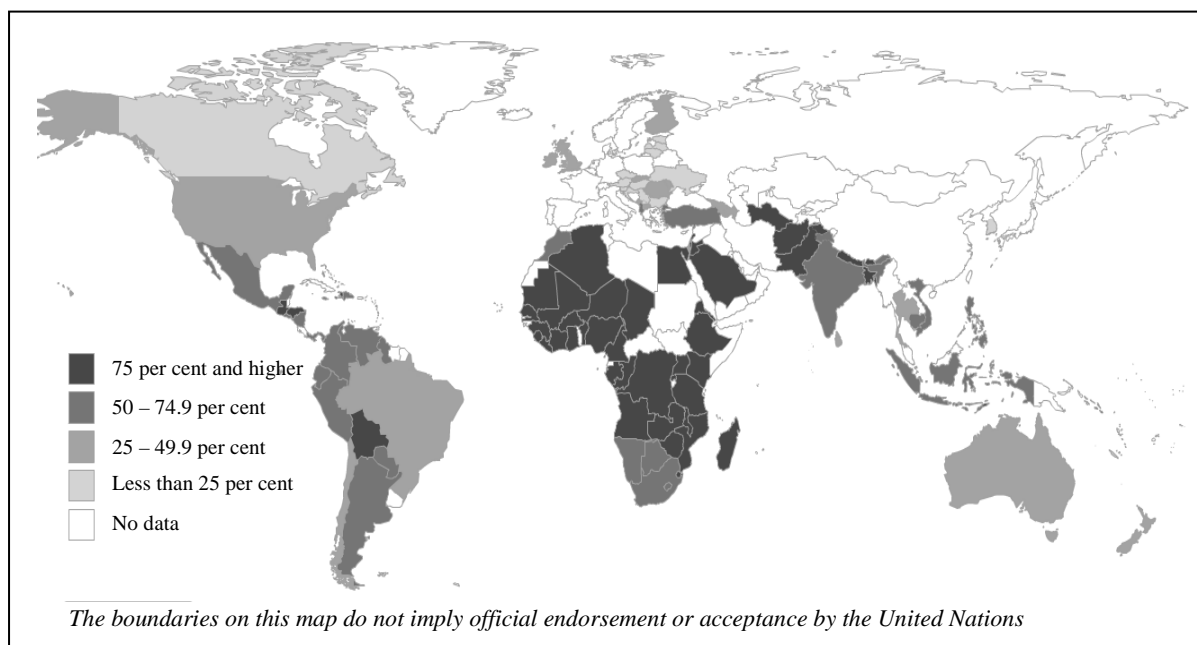


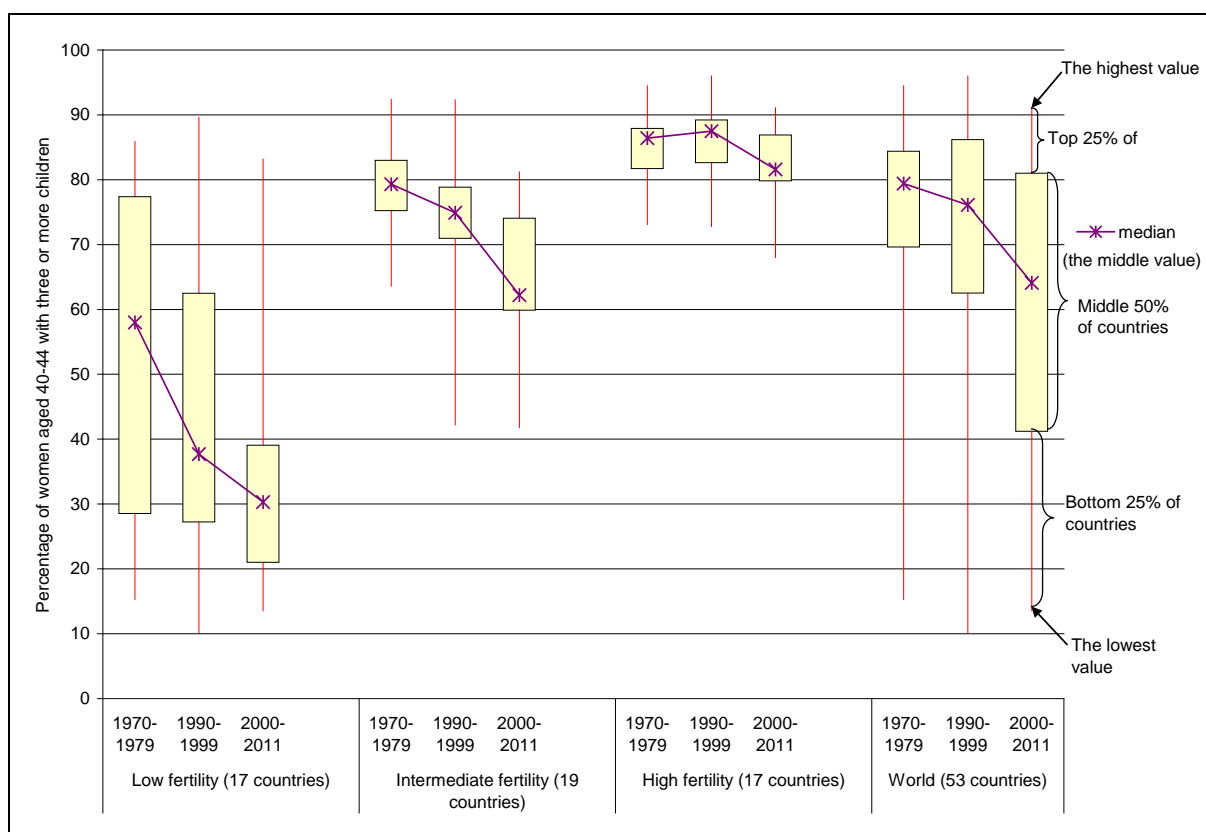
Figure I.15. Percentage of women aged 40-44 with three or more children, 2000-2011



Among the 19 countries with intermediate fertility, the median of the distribution showed a modest decline between the earliest period and the mid period followed by a sharper decline between the mid period and the most recent period. Nearly all the intermediate-fertility countries (18 of 19 countries) showed a decrease in the percentage of women aged 40-44 with three or more children from 1970-1979 to 2000-2011. The country with the greatest decline between the 1970-1979 period to the 2000-2011 period was South Africa, followed by Panama and Sri Lanka with a decline of 10 per cent or more per decade (11.3 per cent per decade, 10.0 per cent per decade and 10.3 per cent per decade respectively).

In contrast, among the 17 high-fertility countries the distribution of the percentage of women with three or more children did not decline until after the 1990s. Five countries showed an increase in the percentage of women with three or more children from the 1970-1979 period to the 2000-2011 period. Nigeria had the greatest increase of high-fertility countries with data with an increase of 4.0 per cent per decade. The high-fertility country which showed the greatest decline in the percentage of women aged 40-44 with three or more children was Jordan which declined by 4.3 per cent per decade.

Figure I.16. Distribution of the percentage women aged 40-44 with three or more children, the world and fertility levels



D. POPULATION POLICIES

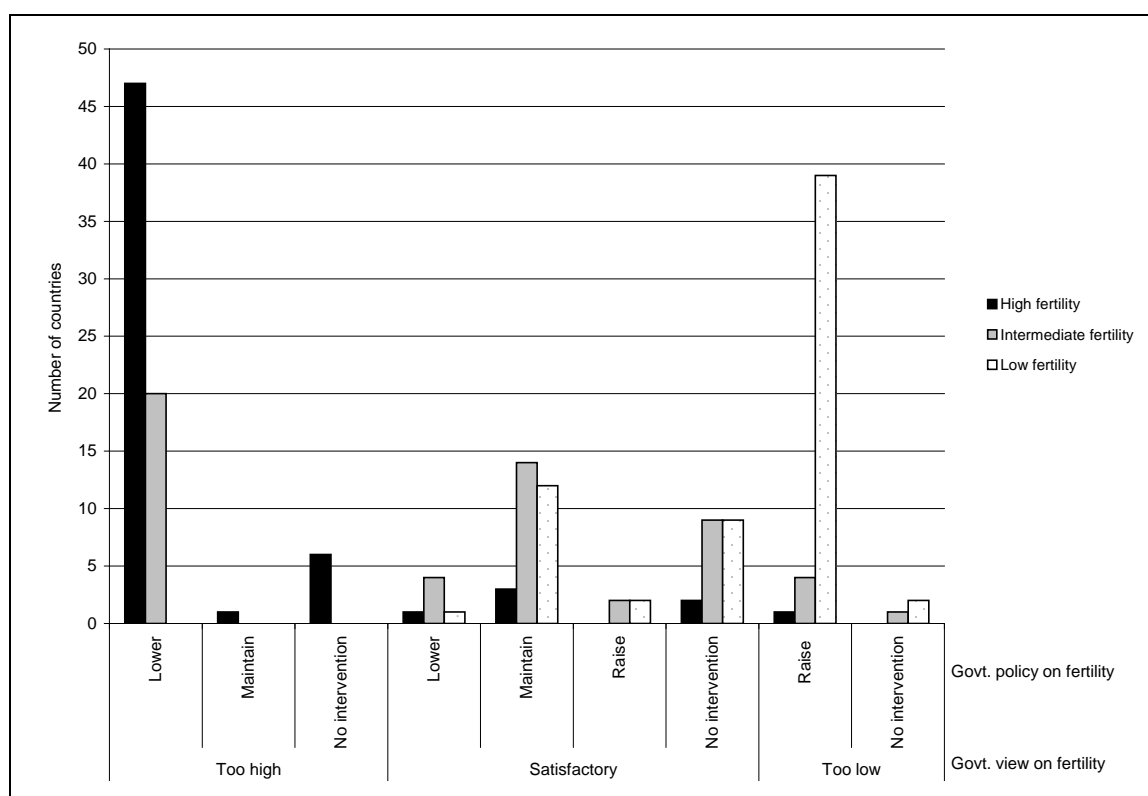
Over the past four decades there have been profound changes in the perceptions, attitudes and policies of Governments regarding fertility. In 1976, a majority of Governments expressed the view that the fertility levels of their countries were satisfactory. Since then, the proportion of Governments that consider their fertility levels satisfactory has declined steadily, reaching 33 per cent in 2011. In 1976, just over one third of Governments thought fertility levels were too high. This proportion rose over the next two decades and then fell to 41 per cent in 2011. Concomitantly, the proportion of Governments that considered their fertility levels to be too low rose from 11 per cent in 1976 to 26 per cent in 2011.

The views and actions of Governments regarding fertility reflect the diverse fertility levels worldwide. While fertility levels have declined globally, the Governments of high-fertility countries still tend to be concerned about their fertility levels as figure I.17 shows. In 2011, 89 per cent of Governments of countries with high fertility viewed their fertility as being too high (or 54 of 61 countries) and just 10 per cent viewed their fertility as satisfactory. Among the 54 countries with high fertility and a concern about the level being too high, 87 per cent had policies in place to lower fertility, 11 per cent had no intervention and only one country (Angola) had a policy to maintain the level of fertility. Gabon was the only high-fertility country where the Government viewed their fertility as being too low and where there was equally a policy to raise fertility.

Among the 54 countries with an intermediate level of fertility, 54 per cent of Governments were satisfied with the fertility level, (29 of 54 countries). Nine per cent of Governments viewed fertility levels as being too low and 37 per cent viewed their fertility as being too high. Nearly all intermediate-fertility countries that viewed their fertility as too high or too low had corresponding policy interventions to change the level of fertility.

Among the 65 low-fertility countries, Governments were less unified in their concerns about their fertility levels compared with high-fertility countries. The majority, 63 per cent (41 countries) of Governments, viewed their fertility as being too low and nearly all had policies to raise fertility, while 37 per cent (24 countries) viewed their fertility level as satisfactory. No low-fertility countries considered their fertility as too high.

Figure I.17. Distribution of countries according to government views and policies on the level of fertility in 2011 by fertility level



II. MARRIAGE AND UNION FORMATION

The timing of first marriage is a key determinant of the age at first birth and exposure to childbearing. As a result, when nearly all births occur within marriage, it is indicative of the effective length of the reproductive period and therefore influences total fertility. The timing of first marriage is also a wider public health and social issue since early marriage, especially child marriage, is generally associated with poorer outcomes for girls. Marriage patterns also affect fertility because the proportion of women never married is highly correlated with the level of childlessness when there are few births outside of marriage. In countries where the number of births occurring outside marriage has been significant or has been increasing, the union formation patterns (including formal marriages, consensual unions and other types of unions) are a more appropriate indication of the effective length of the reproductive period rather than marriage patterns alone.

In this report, the singulate mean age at marriage (SMAM) is used to assess the timing of marriage and the percentage of ever married women at ages 45-49 to assess the prevalence of marriage. The percentage of births occurring outside of (formal) marriage is indicative of the extent to which marriage is closely associated with childbearing. Levels and trends in marriage and union formation may be affected by the way marriage is defined and measured in different data sources and, in particular, by whether the data refer only to formal (legal) marriages or include consensual unions as well. In analyses of fertility and its determinants, consensual unions are usually considered as a form of marriage. To the extent possible, that practice is followed in this report.¹⁰ Sample surveys and censuses conducted in countries where consensual unions are common generally record consensual unions as a separate category under the item referring to marital status. Thus, the censuses and surveys of most countries in Africa, the Caribbean and Latin America record information on consensual unions.¹¹ This is not the case, however, in many developed countries, despite the fact that the practice of cohabiting before marriage or, to a lesser extent, instead of marriage has become more common. Censuses and other sources of data do not provide an appropriate category to report those unions under the overall reporting of marital status.¹² In such cases, data that refer only to legal marriage significantly understate the actual proportions of men and women who are in a union and may lead to erroneous conclusions when compared with data from countries that include consensual unions. The majority of data sources on extra-marital childbearing report births outside of formal (legal) marriage. The values of the median, lower and upper quartiles, and the minimum and maximum corresponding to the distributions displayed graphically are presented in tables II.1 to II.9 in the annex of the report.

A. THE SINGULATE MEAN AGE AT MARRIAGE

Information on the prevalence of marriage is usually derived from censuses or surveys because many countries lack data on the number of marriages registered every year and civil registration only provides information on formal marriages. In order to assess the average age at marriage in a population, a measure called the singulate mean age at marriage or SMAM is calculated from the proportions of single persons in different age groups. The SMAM represents the average length of

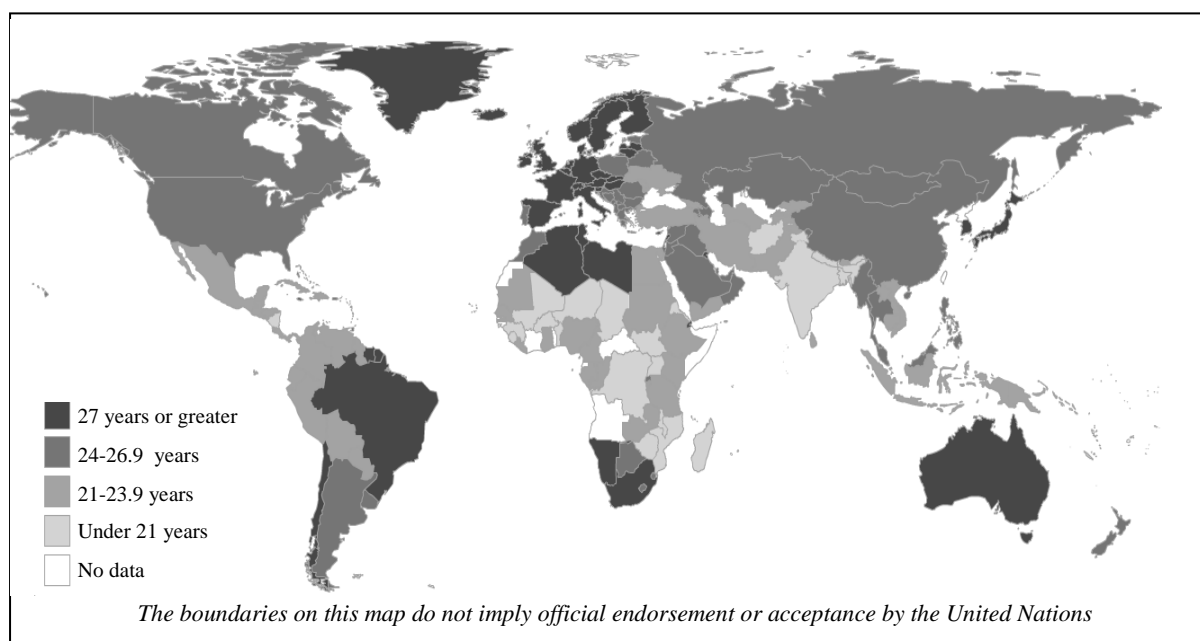
¹⁰ In this report, 220 countries and areas have data on marital status for at least one period. In 102 countries or areas, data sources used to calculate the proportion of ever married women include also women in consensual unions for at least one period. These cases are indicated in the country profiles. The data on marital status by individual categories are published in World Marriage Data 2012 (United Nations, 2013b). There is considerable variation among the definitions of consensual unions and visiting partnerships. Information on the definitions used in surveys or censuses can be obtained from the original source of the data surveys and censuses.

¹¹ In addition to informal co-residential unions, in some Caribbean countries as well as in some Latin American countries, a significant proportion of men and women enter "visiting" unions, which enjoy social recognition but do not involve co-residence. In this report two data sources include visiting unions: the 2001 census in Antigua and Barbuda and the 2000 census in Belize.

¹² In some countries, such as the 2007 census in Finland, only registered unions are reported. In other countries, all co-residential consensual unions are reported. Information on the definitions used in censuses and other national estimates can be obtained from the original source of the data.

single life among persons aged 15 to 49. The SMAM can be measured for men and women separately. Figure II.1 shows the global distribution of SMAM in 2000-2011.

Figure II.1. Singulate mean age of marriage for women, 2000-2011



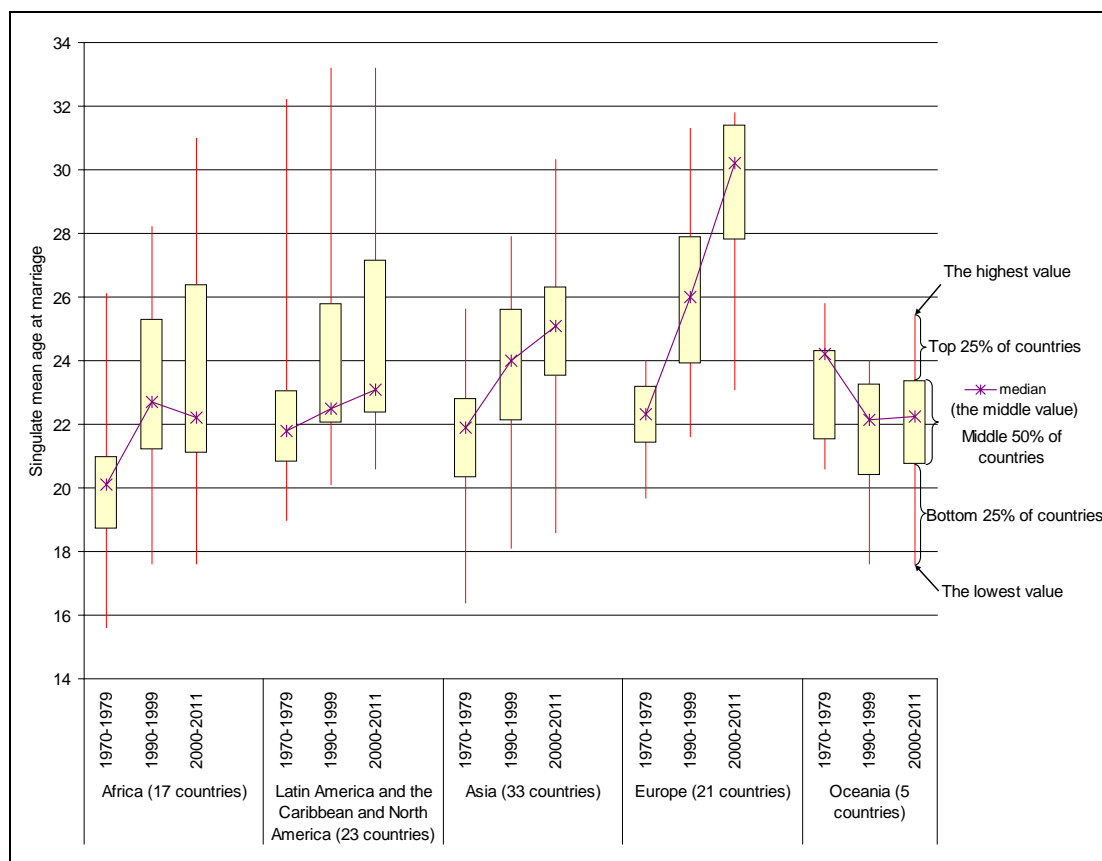
Data allowing the calculation of the female SMAM for three points in time within the periods 1970-1979, 1990-1999 and 2000-2011 were available for 99 countries or areas.¹³ As can be seen in figure II.2, there are wide variations by region. The major area with the highest SMAM by far is Europe with a median SMAM of 30.2 years in 2000-2011. Exceptions were Ukraine with a particularly low SMAM of 23.1 years, followed by Poland with 25.3 years. More than half of European countries had a SMAM which was greater than 30 years. The SMAM in Europe in 2000-2011 represents a very sharp increase from the 1970-1979 period when it was 22.3 years. The area with the lowest SMAM is Africa with a median SMAM of 22.2 years. Although the SMAM in Africa has increased from the 1970-1979 period when the median SMAM was 20.1, there was a slight decrease from 22.7 in the 1990-1999 period. The sub-Saharan African countries represented had particularly low SMAMs, all below 25.0 years with the exception of South Africa. Oceania is the only major area where SMAM has declined from 1970-1979 to 2000-2011 from 24.2 years in the 1970-1979 period to 22.3 years in the 2000-2011 period. Asia and Latin American and the Caribbean and Northern America all experienced an increase in SMAM. The SMAM in Latin American and the Caribbean and Northern America increased from 21.8 years in 1970-1979 to 23.1 years in 2000-2011 while the increase in Asia over the same time period was greater, from 21.9 years to 25.1 years. The SMAM in Latin America and the Caribbean is often high due to consensual unions, which are very common in some countries, not being included and therefore married women not representing the total population of women in union.

In 1970-1979, the highest female SMAMs were in the Caribbean islands of Jamaica (32.2 years) and Netherland Antilles (26.5 years). The lowest female SMAM was reported in Sao Tome and Principe (15.6 years), closely followed by Niger (16.2 years), Bangladesh (16.4 years) and Ethiopia (17.1 years). Between 1970-1979 and 2000-2011, the distributions of the female SMAM shifted upward and variability around the median increased. The median female SMAM rose from 21.8 to

¹³ In this report, 139 countries have data on ever married women by age group for all three periods considered. To ensure comparability over time, 40 countries were excluded from the analysis because they had one or two data sources that included consensual unions and the percentages of women in consensual unions were not negligible (i.e., over five per cent in any of the age groups). For the reference period 1970-1979, 15 countries have data for 1965-1969 and 42 countries have data for 1980-1989.

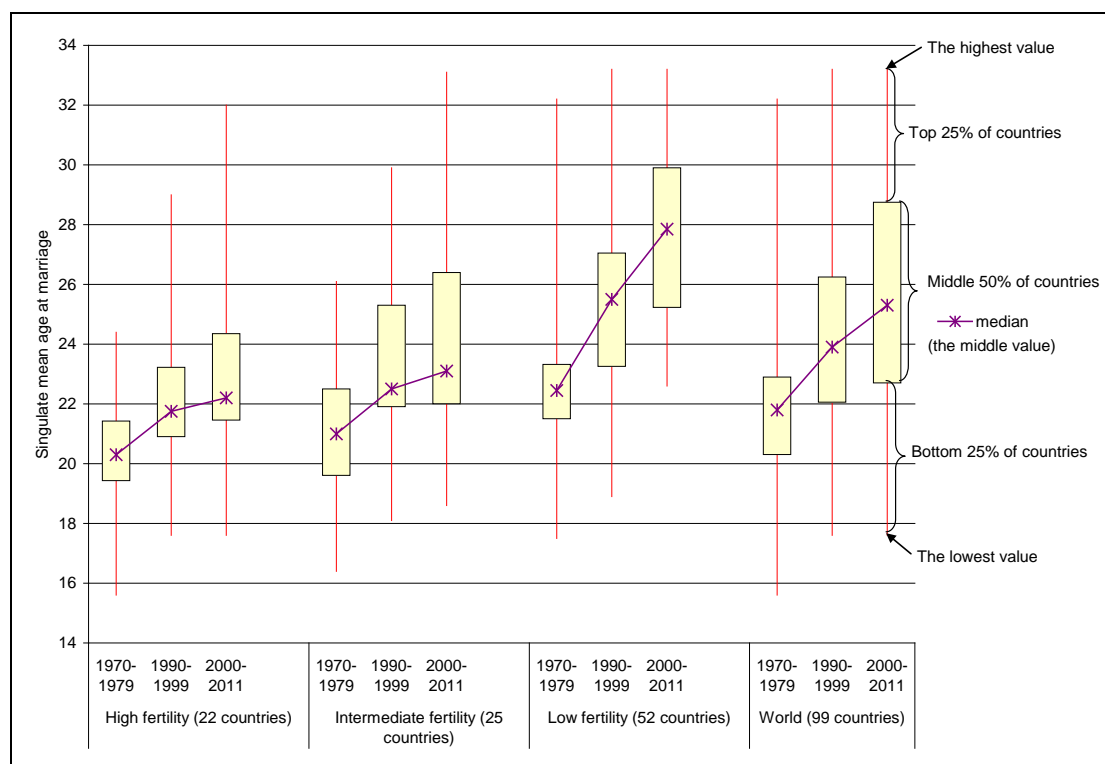
25.3 years and the length of the interquartile range increased from 2.6 years to 6.1 years. By 2000-2011, the female SMAM had surpassed 30.0 years in 20 countries with data. The countries with the highest SMAM were Jamaica (33.2 years), French Polynesia (33.1 years) and French Guiana (32.0 years). Eight countries had female SMAMs still below 20 years, with the lowest SMAM in Niger (17.6 years), Mali (17.8 years) and Bangladesh (18.6 years). The female SMAM rose in 97 of the 99 countries considered and fell in only two (Vietnam and Haiti) The fastest increase in the female SMAM of 2.5 years or more per decade was recorded in Algeria (from 18.4 years in 1966 to 29.5 years in 2002), Norway (from 21.9 years in 1970 to 31.8 years in 2010), and the United Kingdom (from 21.3 years in 1971 to 31.8 years in 2009).

Figure II.2. Distribution of the singulate mean age at marriage for women, the world and major areas



Since the age at marriage is an important key determinant of fertility (where most births are still within marriage), it is helpful to look at the SMAM according to fertility level (figure II.3). As expected, the low-fertility countries have the highest SMAM with a median SMAM of 27.9 years with a sharp increase since the 1970-1970 period when the SMAM was 22.5 years. Although intermediate and high-fertility countries also experienced an increase in the SMAM over the same period, it was not as great, increasing from 21.0 years to 23.1 years for intermediate-fertility countries, and from 20.3 years to 22.2 years in high-fertility countries.

Figure II.3. Distribution of singulate mean age at marriage for women, the world and fertility levels



Changes in the distribution of the male SMAMs parallel those in the distribution of the female SMAMs. Grooms are almost universally older than brides and in all countries with data on both the male and female SMAMs, the male SMAMs are higher on average. Of the 97 countries with data available for comparison in the period 2000-2011, the difference between the male and female SMAMs ranged from 0.9 years in Bermuda to 10.3 years in Afghanistan (figure II.4). The greatest difference between the SMAMs of men and women is seen in Africa with a median value of 4.7 years among the countries with data. This is followed by Asia with a significantly lower median value of 3.2 years and then Latin America and the Caribbean with 3.1 years. The lowest median difference in SMAMs is witnessed in Europe with 2.4 years and Oceania with 2.2 years. There is a clear pattern with fertility level groups. The high fertility levels groups have the greatest difference between SMAMs for men and women with a difference of 3.7 years. The intermediate-fertility countries have a difference of 3.3 years and low fertility 2.6 years.

In addition, in the countries where women tend to marry at young ages, the differences between the singulate mean age at marriage between men and women are generally large (figure II.5). Five countries with the lowest female SMAMs in 2000-2011, Afghanistan (15.0 years), Bangladesh (18.6 years), Chad (18.3 years), Niger (17.6 years) and Mali (17.8 years) had age differences between male and female SMAMs larger than 6.0 years.

Figure II.4. Distribution of the difference between singulate mean age at marriage for men and women, the world, major areas and fertility levels, 2000-2011

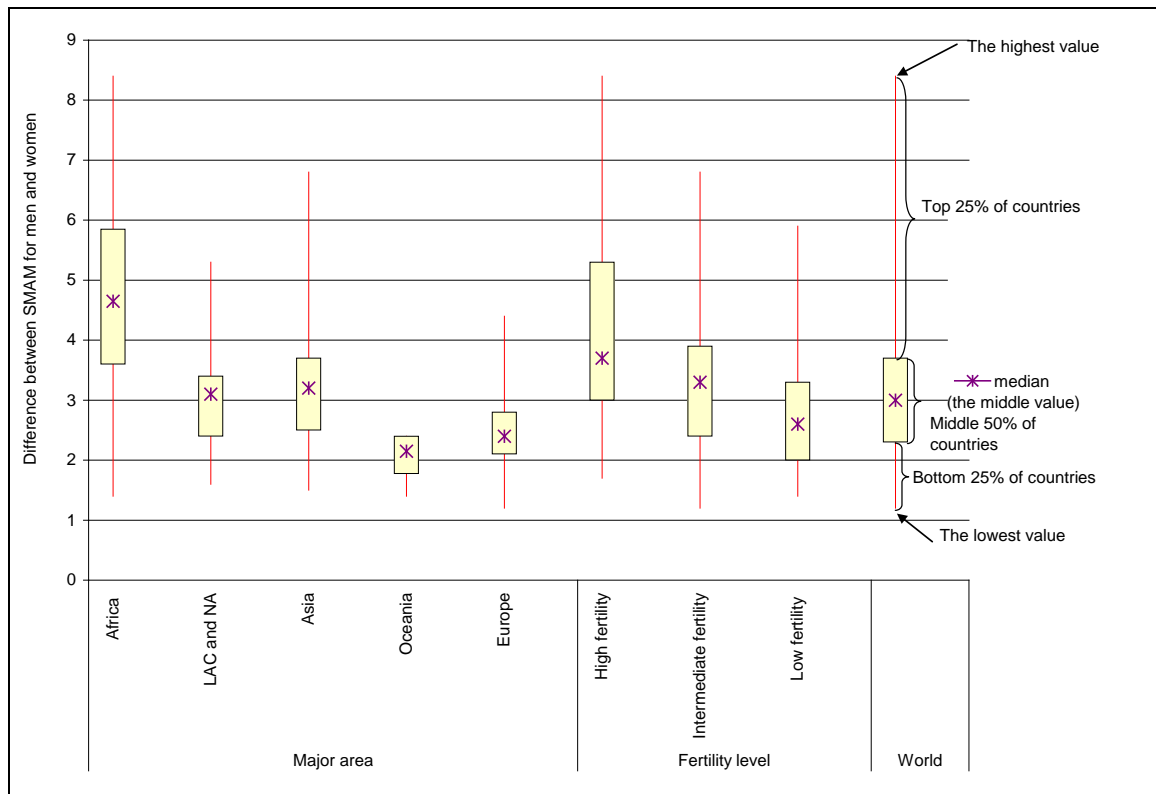
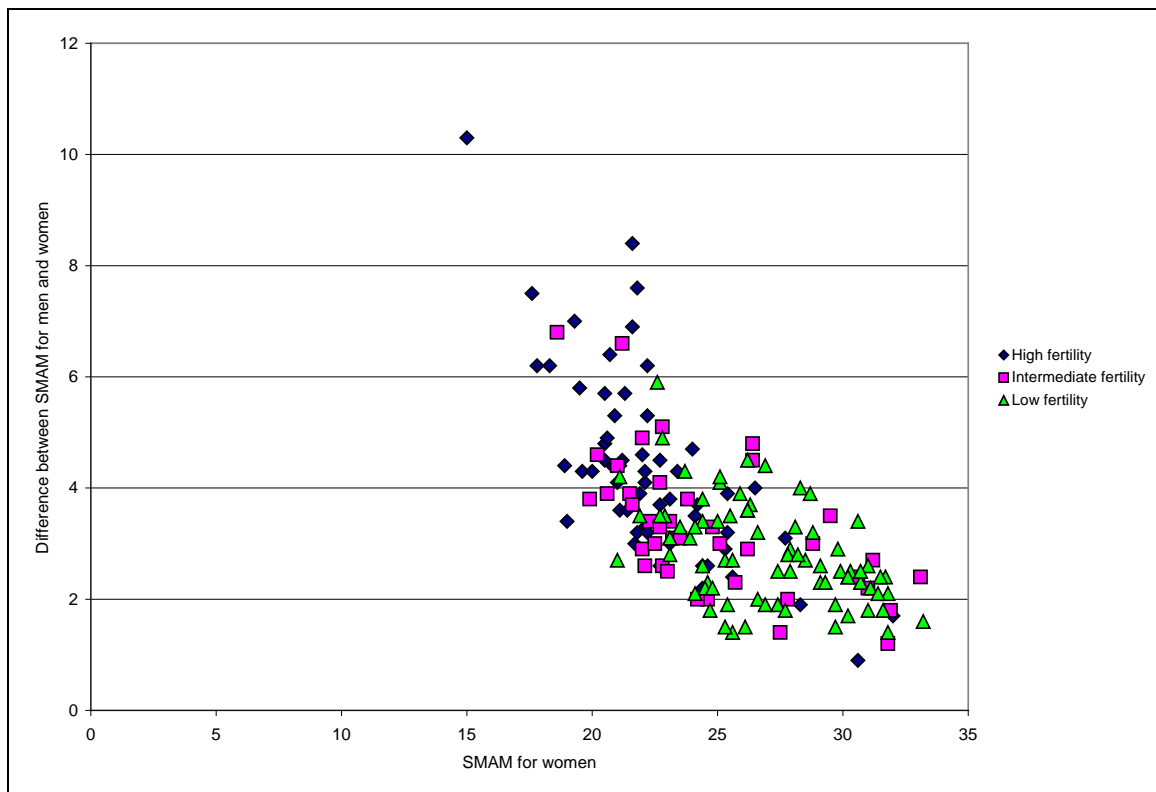


Figure II.5. Relationship between the singulate mean age at marriage for women and the difference between singulate mean age at marriage of men and women, 2000-2011



B. PERCENTAGE OF EVER MARRIED WOMEN AMONG THOSE AGED 45-49

The percentage of women aged 45-49 who have ever been married is less directly related to the timing of childbearing than SMAM. Nevertheless, it is indicative of the overall prevalence of marriage in a population and the likelihood that women may remain childless, especially where the majority of childbearing takes place within marriage. The composition of the female population by marital status among those aged 45-49 is related to fertility levels in the preceding three decades, assuming low levels of extra-marital childbearing. Thus, examining the percentage of women aged 45-49 who had ever been married in 1990-1999 is informative for fertility developments from the 1960s onwards and, similarly, in 2000-2011 for the 1970s onwards. Among the 106 countries or areas having the required data for 1970-1979, 1990-1999 and 2000-2011,¹⁴ there has been remarkable stability in regard to the prevalence of marriage among women reaching the end of the reproductive period. As figure II.6 shows, in half of the countries or areas with data, the proportion of ever married women among those aged 45-49 was 92.4 per cent or higher in all three periods.

The high-fertility countries showed the greatest stability, with only a very small rise in the median percentage of ever married women from 97.8 per cent to 98.3 per cent among the 30 countries with data in all three periods. The largest changes in the proportion ever married from the 1970-1979 period to the 2000-2011 period was seen in the low-fertility countries, where the median of the 49 countries with the required data dropped from 93.9 per cent to 88.8 per cent. There was a similar magnitude of decline among the 27 intermediate-fertility countries with the median declining from 96.2 per cent in 1970-1979 to 91.2 per cent in 2000-2011.

Figure II.7 shows the distribution of the percentage ever married among women aged 45-49 by major area and over the three time periods. In 1970-1979, both Africa and Asia had the highest median proportion of women aged 45-49 years ever married with 97.9 per cent and 97.7 per cent respectively among the countries with the required data. While in half of the countries in Africa the proportion of ever married women among those aged 45-49 was 97 per cent or higher in all three periods, the median among Asian countries declined to 94.5 per cent in 2000-2011. Latin America and the Caribbean and Northern America continue to have the lowest median proportion ever married (87.7 per cent in 2000-2011), which is partly due to the prevalence of consensual unions in the region. Some of the data sources available do not include consensual unions (and visiting unions, where common) and thus underestimate the number of women ever living in union. Both Oceania and Europe experienced a decline in the median proportion ever married. In Oceania the decline was greater, from 94.4 per cent to 89.3 per cent. In Europe the decline was from 91.8 per cent to 87.8 per cent.

¹⁴All countries with comparable data sources in all three periods are included in the analysis of ever married women aged 45-49. Some of the data sources include women living in consensual unions among ever married women aged 45-49. Among older women, those living in consensual unions likely include large proportions of widowed, divorced or separated women, who would otherwise be included in the proportion of ever married women. If the data sources for all three periods included consensual unions they were included. However, if only one or two of the data sources for a particular country included data on consensual unions and the level of consensual unions for the 45-59 age group was greater than 5 per cent, then the country was excluded. Twenty-five countries were excluded from analysis for this reason. For the period 1970-1979, six countries have data for 1965-1969 and 12 countries have data for 1980-1989.

Figure II.6. Distribution of the percentage ever married among women aged 45-49, the world and fertility levels

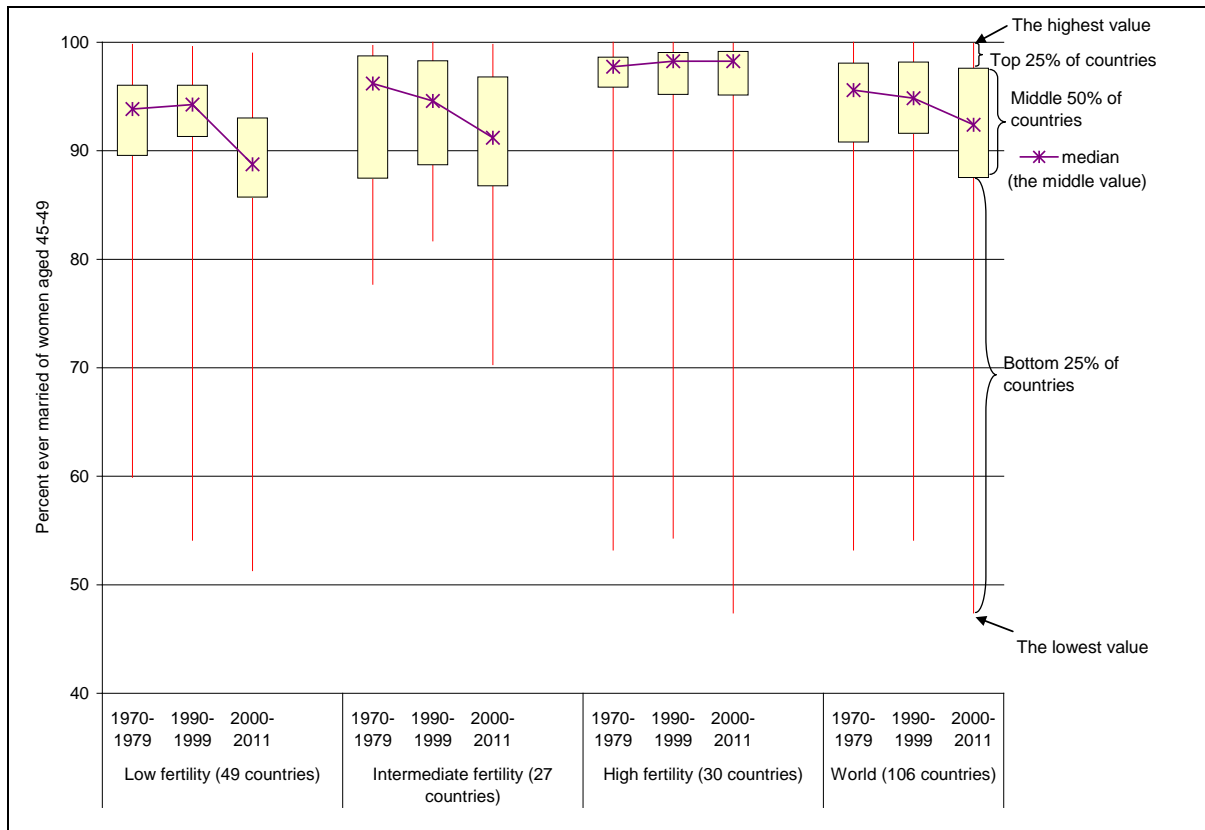
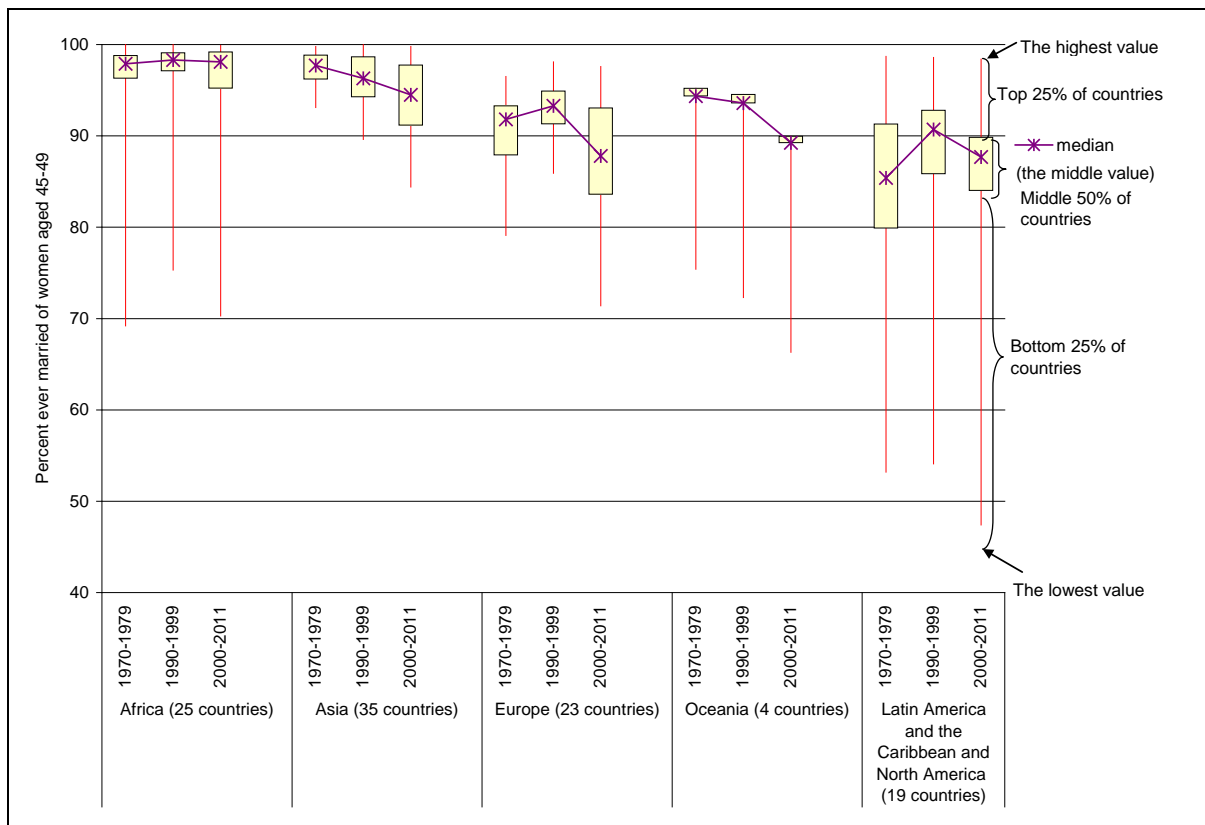


Figure II.7. Distribution of the percentage ever married among women aged 45-49, major areas



In 1970-1979, the lowest proportions of ever married women among the countries considered were found in the Caribbean – French Guiana with 58.6 per cent and Jamaica with 59.9 per cent. However, neither of these countries included consensual unions in their data despite the relatively high prevalence of consensual unions in this region. Furthermore, in both these countries, the proportion ever married has decreased relatively sharply. In French Guiana, the proportion ever married was 47.4 per cent in 2000-2011 and 51.3 per cent in Jamaica. It may be likely that there has been an increase in the prevalence of consensual unions as a replacement for marital unions rather than necessarily being indicative of a decrease in the overall proportion of women in unions. In Europe, Malta and Ireland had the lowest proportion ever married in 1970-1979 with 79.1 per cent and 81.8 per cent, respectively. In these two countries, the high proportion of never married women aged 45-49 is indicative of a high proportion of women remaining childless in the respective cohorts since, in these countries, the majority of children were born to women in formal (legal) marriages. In Asia, no country had a proportion ever married below 93 per cent in 1970-1979, with Lebanon having the lowest level at 93.1 per cent. At the other end of the scale, two African countries (Ethiopia and Ghana) reported 100 per cent women ever married in 1970-1979, closely followed by Bangladesh at 99.9 per cent.

By 2000-2011, the median proportion of ever married women had declined across all geographic groups. Reunion (an intermediate-fertility country in Africa) had the sharpest decline in the proportion of ever married women of 6.1 percentage points per decade, followed by Sweden (a low-fertility country in Europe) with a decline of 5.2 percentage points per decade. In Latin America and Caribbean, French Guiana (a high-fertility country) had the sharpest decline with 4.7 percentage points per decade, followed closely by Jamaica (a low-fertility country) with 4.5 percentage points.

Among European countries, France (79.3 per cent), Norway (78.9 per cent) and Sweden (71.4 per cent) have proportions ever married of below 80 per cent. Among African countries, while still having a high median proportion ever married, three countries have proportions ever married of below 80 per cent: Botswana (73.3 per cent), Réunion (70.3 per cent) and South Africa (79.0 per cent). Other than the Dominican Republic, all the countries with near universal marriage patterns (i.e., proportion ever married of 97.0 per cent or more) are in Africa or Asia. Many countries in these regions report 99 per cent or more women aged 45-49 who are ever married such as Bangladesh (99.8 per cent), Benin (99.2 per cent), Burkina Faso (99.9 per cent), China (99.6 per cent), Ghana (99.5 per cent), India (99.1 per cent), Maldives (99.1 per cent), Mali (100.0 per cent), Niger (99.9 per cent), Pakistan (99.0 per cent), Papua New Guinea (99.6 per cent) and Zambia (99.2 per cent)

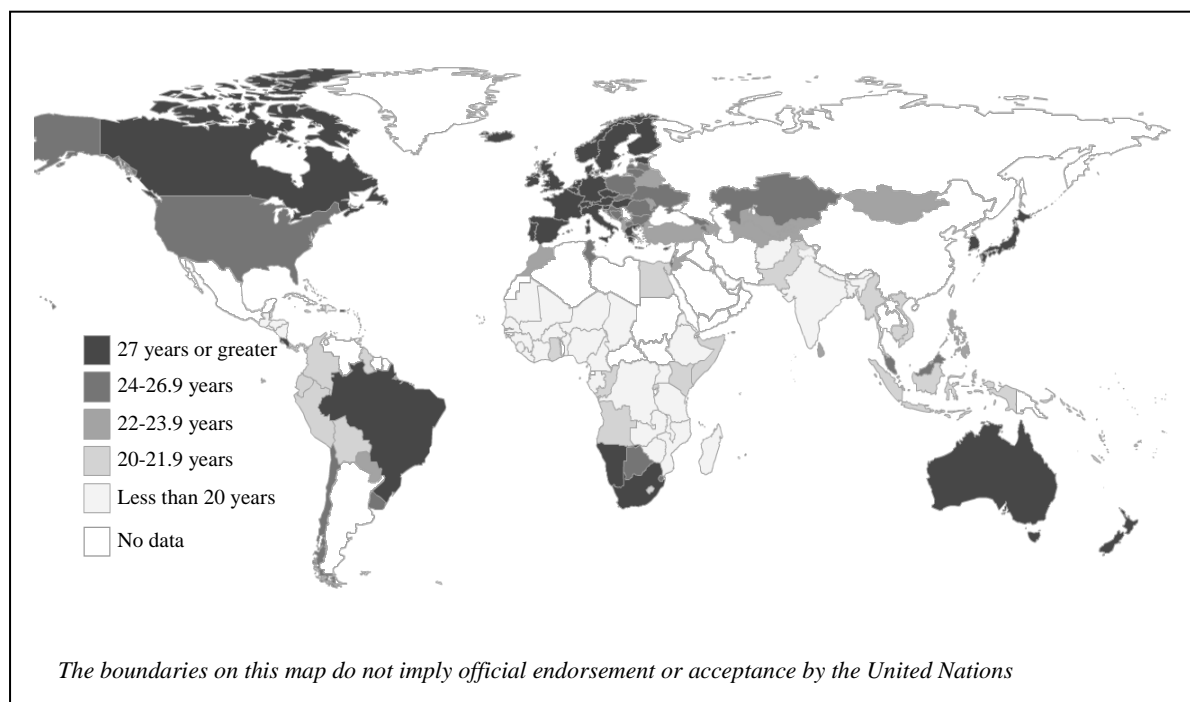
C. MEAN AGE AT FIRST MARRIAGE

The singulate mean age at marriage is influenced by remarriages, which tend to occur at older ages. In contrast, the mean age at first marriage relates only to people marrying for the first time. Mean age at first marriage is particularly helpful as a determinant of fertility where there is little extra-marital childbearing since it represents the beginning of the childbearing period. As with SMAM, there has been an increase in the age at first marriage over time but, unlike the SMAM, the increase in age at first marriage has been consistently seen across all groups.

Among the 132 countries with data in 2000-2011 (figure II.8), the country with the lowest age at first marriage is Niger with an age at first marriage of 15.7 years, followed by Bangladesh and Chad, both with an age at first marriage of 16.0 years. Bangladesh is also unusual due to the sharp decline in fertility seen in that country which was achieved despite not experiencing a concomitant increase in age at first marriage. Given that extra-marital births are very rare and the proportion of women ever married remains high, it is clear that other factors, most likely increasing contraceptive use, account for the decline in fertility in Bangladesh. The only other countries with a mean age at first marriage below 17 years are Guinea (16.5 years) and Mali (16.7 years). At the other end of the scale, Sweden has the highest age at first marriage at 32.9 years. Other countries with an age at first marriage older than 32 years are Denmark (32.1 years) and Iceland (32.1 years). All 11 countries with

an age at first marriage of 30 years or above are both European and low-fertility countries (apart from Iceland which has an intermediate fertility level).

Figure II.8. Female mean age at first marriage, 2000-2011



Distributions of mean age at first marriage by major area over time are shown in figure II.9. Among the 14 countries in Africa with the required data, the median value was the lowest of all regions and over all three time periods. The median increased from 17.8 years in 1970-1979 to 19.9 years in 2000-2011. This increase of less than two years was also the smallest increase among the major areas. Europe had the highest median value over all time periods, increasing from 22.9 years in 1970-1979 to 28.8 years in 2000-2011 among the 36 countries with the required data. The mean age at first marriage increased over time in 14 out of 15 countries in Asia and in all of the 12 countries in Latin America and the Caribbean and Northern America. Oceania was only represented by two countries (Australia and New Zealand) which had similar rates of change, with the mean age at first marriage increasing by 2.0 years per decade in Australia and 1.9 years per decade in New Zealand from 1970-1979 to 2000-2011.

The mean age at first marriage tended to be highest among the low-fertility countries and lowest among the high-fertility countries (figure II.10). Half of the 48 low-fertility countries with data had a mean age at first marriage of 28.2 years or older in 2000-2011. Among the 14 intermediate-fertility countries, the median was 21.7 years and just 19.9 years among the 17 high-fertility countries. The intermediate-fertility countries exhibited the most variation. In 2000-2011, the interquartile range was from 20.2 years to 23.8 years and the mean age at first marriage ranged from 16.0 years in Bangladesh to 32.1 years in Iceland. Among low-fertility countries, there was less variation in the mean age at first marriage with an interquartile range in 2000-2011 from 26.3 years to 29.3 years and a range from 23.0 years in the Republic of Moldova to 32.9 years in Sweden. In high-fertility countries, the interquartile range for the mean age at first marriage in 2000-2011 was from 19.0 years to 20.6 years with a range from 16.7 years in Mali to 23.3 years in Jordan.

Figure II.9. Distribution of mean age at first marriage for women, major areas

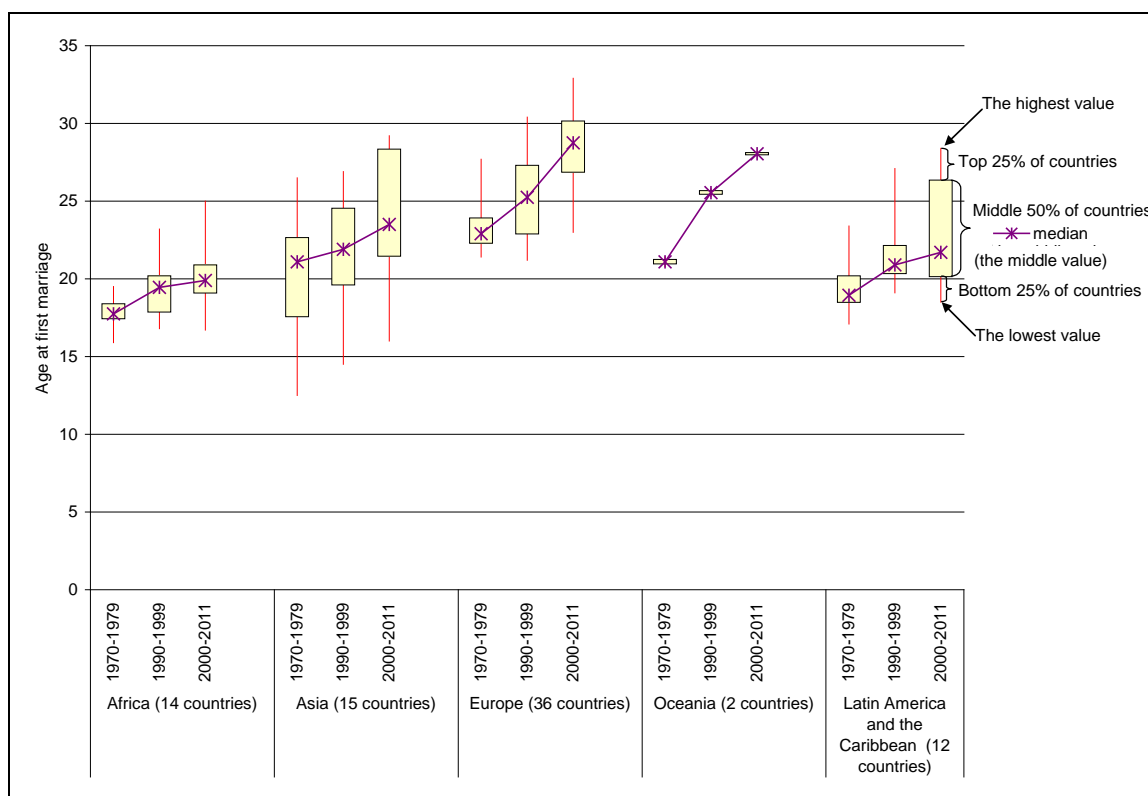
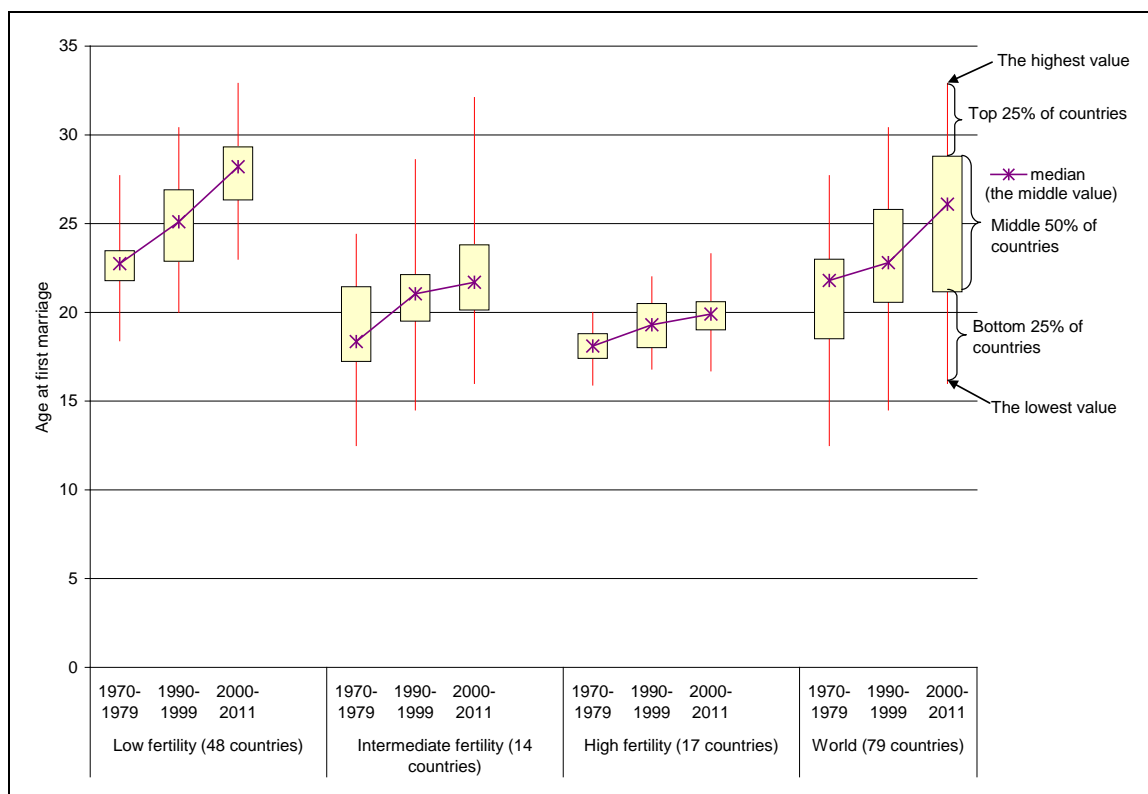


Figure II.10. Distribution of mean age at first marriage for women, the world and fertility levels



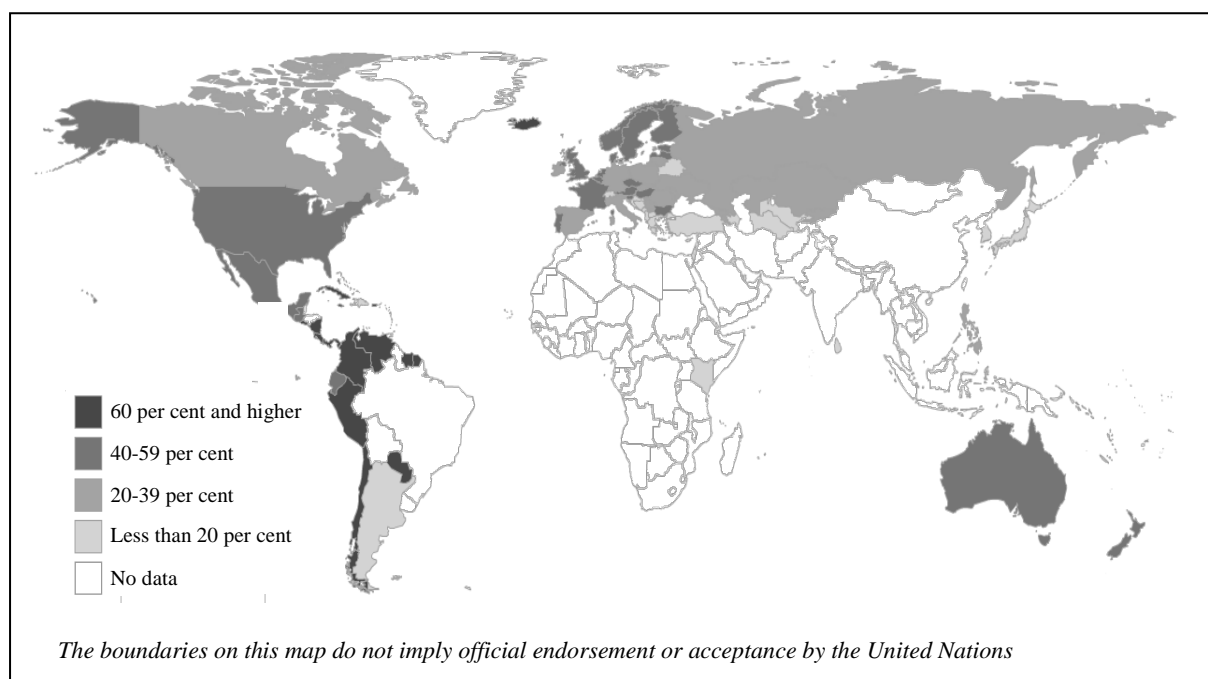
Among all the countries with data, only two countries experienced a decline in mean age at first marriage between 1970-1979 and 2000-2011: the low-fertility countries of the Republic of Moldova and Georgia (a decline of 0.9 years per decade and 0.2 years per decade, respectively). The country which had the greatest rate of increase in mean age at first marriage was Costa Rica, a low-fertility country, with an increase of 2.7 years per decade. Among the intermediate-fertility countries, the country with the greatest rate of increase in mean age at first marriage was Morocco with 2.6 years per decade, and the country with the slowest rate of increase was Kyrgyzstan with 0.4 years per decade. Among the high-fertility countries, Jordan had the most rapid rate of increase (1.6 years per decade) and Benin had the slowest rate of increase (0.25 years per decade).

D. EXTRA-MARITAL BIRTHS

The extent to which marriage is a determinant of fertility depends in part on the prevalence of extra-marital fertility and the level of social acceptance of extra-marital births. In countries where consensual unions have been traditionally accepted, extra-marital fertility is common. In other countries where childbearing used to occur mostly within marriage, the social stigma attached to extra-marital births has been weakening and marriage and childbearing have become less closely linked. In such cases, it is possible for the prevalence of marriage to decline and yet for fertility to change little as cohabitation and extra-marital births increase. It is of interest, therefore, to consider the prevalence of extra-marital births to assess the likely strength of the relationship between the prevalence of marriage and fertility levels.

For the period 2000 to 2011, 91 countries reported data on extra-marital births (figure II.11). The highest proportions of extra-marital births, surpassing 70 per cent, were in countries in Latin American and the Caribbean: Colombia (80.3 per cent), French Guiana (87.4 per cent), Jamaica (85.2 per cent), Panama (83.2 per cent), Saint Vincent and the Grenadines (84.3 per cent) and Venezuela (82.6 per cent). Countries where extra-marital childbearing was extremely low were mainly in Asia: Bahrain, Kuwait and Qatar reported no extra marital births, while Albania (0.5 per cent) and Sri Lanka (1.3 per cent) had levels below two per cent. Data availability on extra-marital births, while improving, is relatively poor, particularly in Africa and Asia.

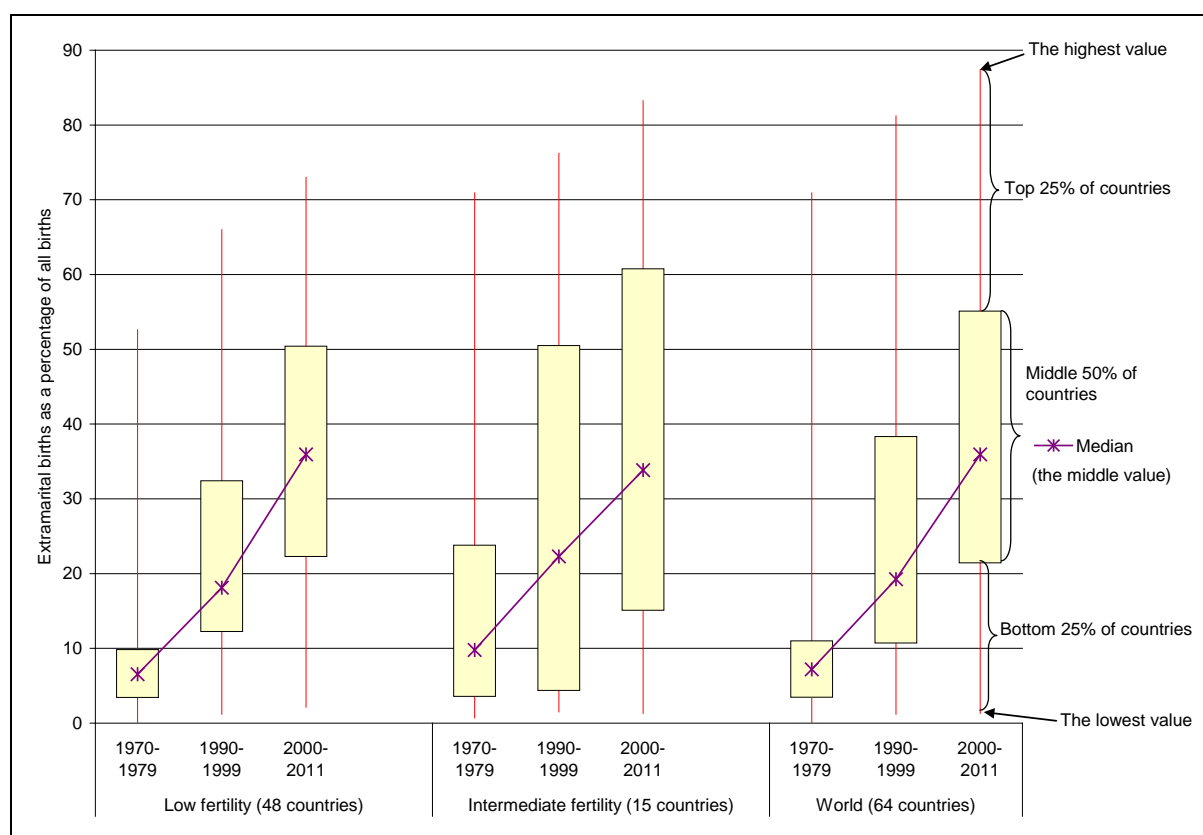
Figure II.11. Percent of births occurring outside of marriage, 2000-2011



Only 64 countries have data on extra-marital births for all three time periods considered (1970-1979,¹⁵ 1990-1999 and 2000-2011). These include countries with intermediate fertility and low fertility but only one country with high fertility (French Guiana – not shown in figure). The proportion of extra-marital births among all births has increased markedly among the 64 countries with data for all three time periods (figure II.12). In 1970-1979, the median percentage of extra-marital births was 7.1 per cent and half of the countries had estimates which fell between 3.4 per cent and 10.9 per cent. In five countries or areas where consensual unions had been common, the percentage of extra-marital births was already 50 per cent or higher in the 1970s and 1980s: Bahamas (52.6 per cent), El Salvador (67.8 per cent), French Guiana (63.1 per cent), Panama (70.9 per cent) and Martinique (50.9 per cent). All countries with extra-marital births reported in this period of over 50 per cent were located in Latin America and the Caribbean. Extra-marital births were below one per cent of all births in Cyprus (0.2 per cent), Georgia (0.2 per cent), Hong Kong SAR of China (0.1 per cent), Israel (0.7 per cent) and Japan (0.9 per cent). In all countries or areas, the percentage of extra-marital births increased over time between the three periods reported and the distribution shifted upward and widened.

The median percentage of extra-marital births rose from 7.2 per cent in 1970-1979 to 19.3 per cent in 1990-1999 and 35.9 per cent in 2000-2011. The length of the inter-quartile range increased from 7.5 percentage points in 1970-1979 to 27.1 percentage points in 1990-1999 and 33.7 percentage points in 2000-2011. The proportion of births occurring outside marriage rose between the first two periods by more than one percentage point per year in 12 countries, rising fastest in Norway (from 6.9 per cent in 1970 to 47.6 per cent in 1995). Between the last two periods, the proportion of births outside marriage rose by more than one percentage point per year in 22 countries with the largest increase in Australia (from 26.6 per cent in 1995 to 56.3 per cent in 2010).

Figure II.12. Distribution of extra-marital births as a percentage of all births, the world and fertility levels¹⁶



¹⁵ The 1970-1979 period includes one country from 1965-1969 and eight countries from 1980-1989.

¹⁶ The data for French Guiana, the only high-fertility country with data for all three time periods, are not shown.

Extra-marital births as a proportion of all births rose over time in both low-fertility and intermediate-fertility countries. Only one high-fertility country (French Guiana – not shown) had data for all three time periods, showing an increase in the percentage of extra-marital births from 63.1 per cent to 87.4 per cent. All intermediate-fertility countries with available data, with the exception of Sri Lanka, experienced an increase in the proportion of extra-marital births from 1970-1979 to 2000-2011. The median percentage of extra-marital births in intermediate-fertility countries rose dramatically from 9.8 per cent in 1970-1979 to 33.8 per cent in 2000-2011.

In most of the low-fertility countries considered, the proportion of extra-marital births was also low in the earlier period and all low-fertility countries experienced an increase in the proportion of extra-marital births. In half of low-fertility countries, less than 6.5 per cent of all births were extra-marital in 1970-1979 compared with less than 35.9 per cent of all births occurring outside of marriage in half of the countries in 2000-2011. The distribution of extra-marital childbearing remains quite wide in low-fertility countries, ranging from countries in Latin America and the Caribbean with very high extra-marital fertility rates such as Martinique with 73.0 per cent of births extra-marital to Asian countries with particularly low extra-marital fertility. In many of these countries, the link between marriage and fertility remains strong, such as Japan with 2.1 per cent of births outside of marriage.

III. FAMILY PLANNING

The increasing use of contraception, particularly modern contraceptive methods, is one of the major factors associated with declines in fertility. Changes in marriage patterns and fertility preferences play important roles in declining fertility, but the availability of safe, effective, affordable and acceptable methods of contraception has been a critical enabling factor in allowing people to achieve their desired fertility level.

In this chapter, data on family planning among women aged 15 to 49 who are married or in a union will be examined from three perspectives: use of any contraceptive method compared to use of modern contraceptive methods; differences in use of contraceptives and unmet need for family planning among countries with different fertility levels; and changes in contraceptive use and unmet need for family planning over time. For each country, data referring to three time periods—1970-1979,¹⁷ 1990-1999 and 2000-2011—are used in the descriptive analysis that follows. Analysis of contraceptive use trends within and across countries is challenging in large part because the number of data points for a country is often quite sparse and many countries, especially low income countries, did not have national-level data on contraceptive prevalence until the late 1980s. The challenge of data availability is even greater for unmet need for family planning. While the present analysis of trends in contraceptive use is limited to countries with data in each of the three broad time periods and two time periods for unmet need, comparable analysis of levels and trends in contraceptive use and unmet need using modelled estimates of contraceptive prevalence and unmet need is informative of trends as well (Alkema et al., 2013). The values of the median, lower and upper quartiles, and the minimum and maximum corresponding to the distributions displayed graphically are presented in tables III.1 to III.3 in the annex of the report.

A. CONTRACEPTIVE USE

Surveys of contraceptive use generally collect information on the use of individual contraceptive methods among women of reproductive age who are married or living in a consensual union. An analysis of the level of use of broad categories of methods provides useful insights about the dramatic changes in the use of contraception that have taken place over the past four decades. Comparing the use of all types of contraceptive methods, including both traditional methods and modern methods, with the use of modern methods alone provides an indication of the availability and acceptability of modern methods.

Modern methods include male and female sterilization, hormonal pills, injectables and implants, intrauterine devices, condoms and vaginal barrier methods. Traditional methods include all other types of methods used to prevent pregnancy, the most common of which are withdrawal and the calendar or rhythm method of periodic abstinence. Contraceptive prevalence is measured as the percentage of women using any method of contraception among all women of reproductive age who are married or in a union. The prevalence of modern method use is the proportion of women using modern methods among all those of reproductive age who are married or in a union. Therefore, the level of modern method use is always lower than or equal to the overall level of contraceptive use.

Current contraceptive prevalence, for the period 2000-2011, varies widely from 88.4 per cent in Norway to just 2.8 per cent in Chad (figure III.1). As expected, contraceptive prevalence is closely related to fertility. The median contraceptive prevalence rate among high-fertility countries is 26.7 per cent, for intermediate-fertility countries 61.3 per cent, and for low-fertility countries 73.0 per cent. However, the relationship is not perfect and there is a wide amount of variation in contraceptive use even within fertility groups. For example, the Maldives has below-replacement fertility with a contraceptive prevalence rate of only 34.7 per cent, and Honduras has remained a high-fertility

¹⁷ For the period 1970-1979, 39 countries have data for contraceptive prevalence for 1980-1989 and 12 countries have data for unmet need for 1980-1989.

country with a contraceptive prevalence rate of 65.2 per cent. As can be seen in figure III.1., the highest levels of contraceptive prevalence are seen in Europe, Eastern Asia, Northern America and Latin America with China (84.6 per cent), Norway (88.4 per cent) and Portugal (86.8 per cent) having the highest contraceptive prevalence among countries with data in 2000-2011. The lowest levels are in sub-Saharan Africa (with the exception of Southern Africa) with a number of countries having notably low contraceptive prevalence below 10 per cent of married or in-union women. Angola and South Sudan stand out as having particularly low contraceptive prevalence with 6.2 per cent and 3.5 per cent, respectively.

Figure III.1. Contraceptive prevalence (percent of married women using a contraceptive method), 2000-2011

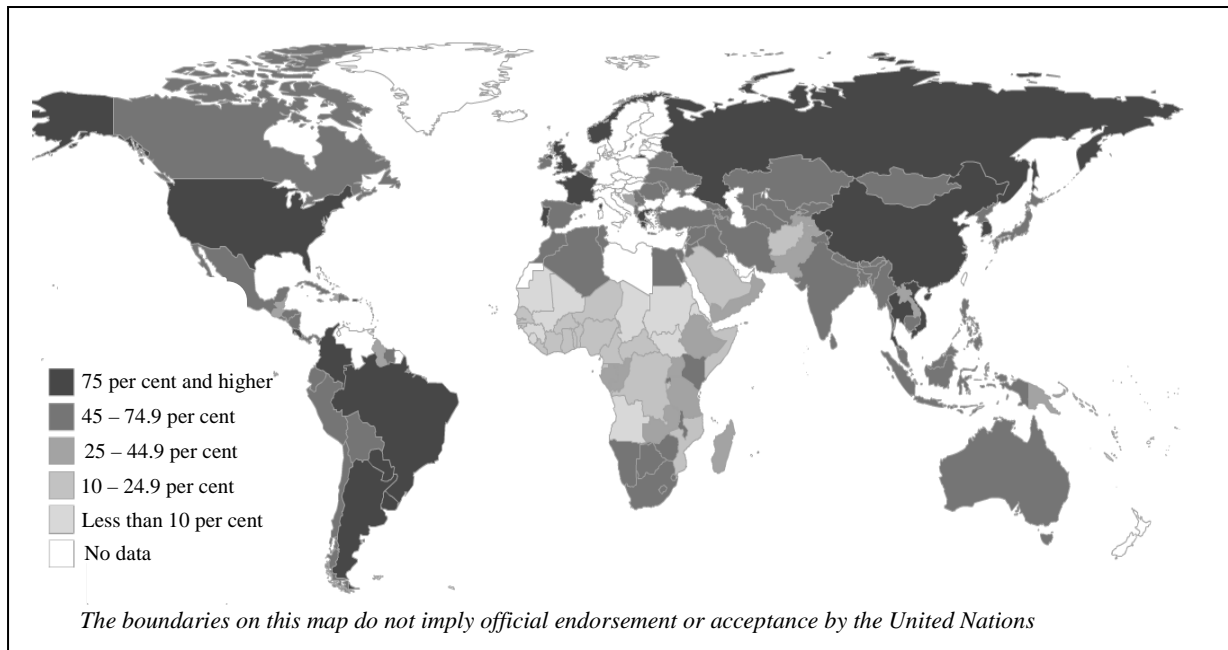
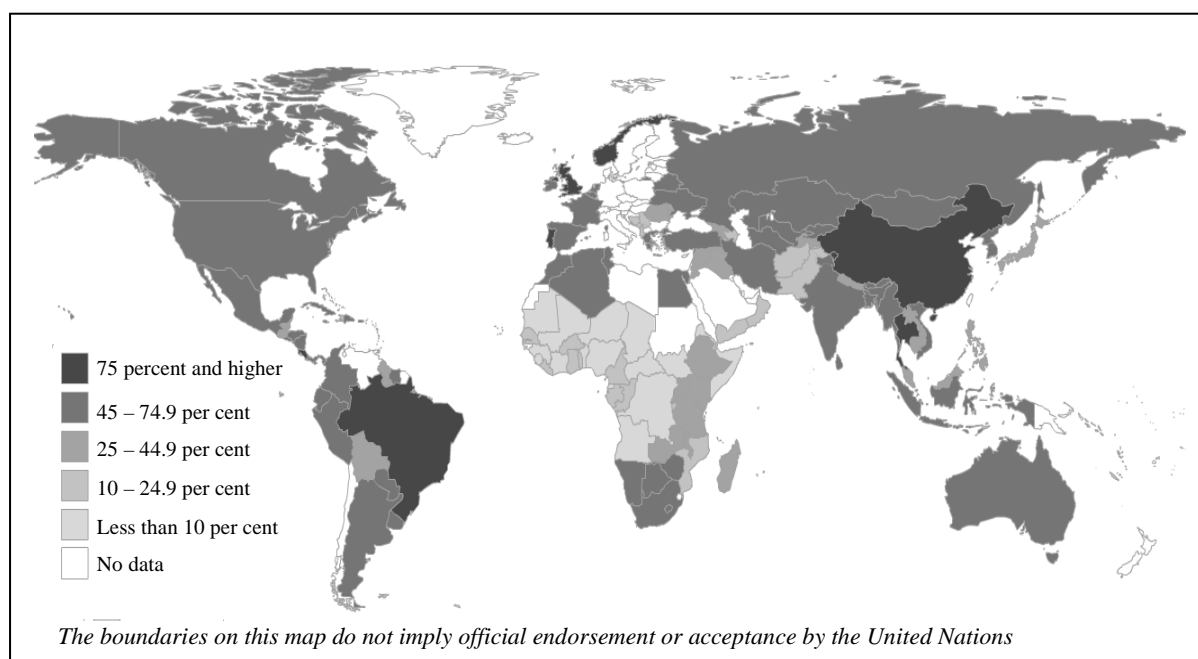


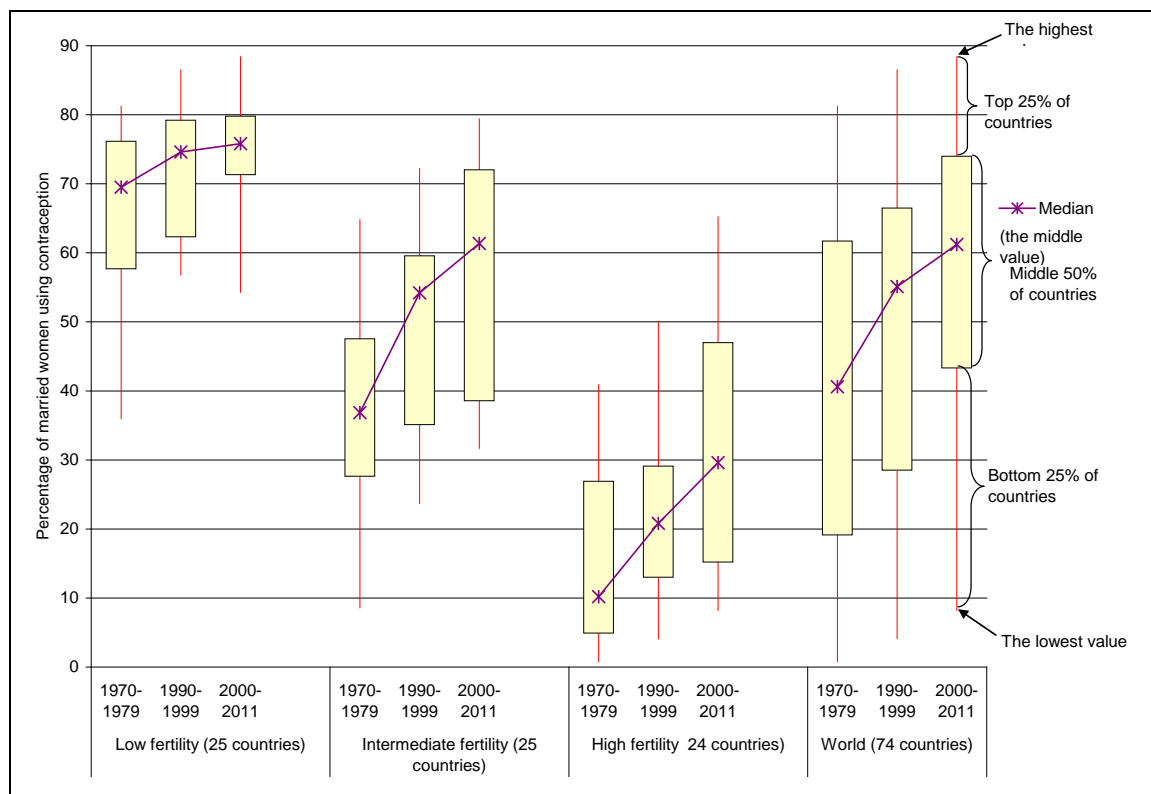
Figure III.2 shows the use of modern contraceptives by countries in 2000-2011. The proportion of contraception prevalence that is due to use of modern methods does not seem to be related to the overall levels of contraceptive use or to the level of fertility in the country. For example, in the Democratic Republic of Congo and Bosnia and Herzegovina, a relatively low proportion of all contraceptive users are using modern contraceptives (31.4 per cent in both countries). However, the Democratic Republic of Congo is a high-fertility country with only 17 per cent of married women using contraception whereas Bosnia and Herzegovina is a low-fertility country with more than twice as many women using contraception (35.7 per cent). Similarly, at the other end of the scale, it is possible to compare Ethiopia and Brazil. Both countries have high proportions of all contraceptive users using modern contraceptives (about 96 per cent) but Brazil is a low-fertility country with a contraceptive prevalence rate of 80.3 per cent and Ethiopia is a high-fertility country with a contraceptive prevalence rate of 28.6 per cent. This finding suggests that the method-mix is not dependent on the overall levels of contraception and that relatively low fertility levels are explained by additional factors other than modern contraceptive prevalence. Other possible mechanisms which can lower fertility in addition to modern contraceptives include traditional methods of contraception such as withdrawal, lactational amenorrhea method, and the rhythm method; coital frequency; abortion; and the use of abstinence.

Figure III.2. Modern contraceptive prevalence (percent of married women using a modern contraceptive method), 2000-2011



The distribution of countries according to their level of contraceptive use (any method) is shown in figure III.3 for the three time periods. Figure III.4 shows the distribution of countries according to their level of modern method use. Both at the world level and among the intermediate and high-fertility countries, the level of contraceptive use and the use of modern methods has increased dramatically since the 1970s. In at least nine out of ten countries with the requisite data, contraceptive prevalence of any method and of any modern method increased from the 1970s to the most recent period. At the world level, the 74 countries with data on contraceptive use for the three periods considered showed great variation in contraceptive prevalence during 1970-1979, decreasing slightly by 1990-1999 (figure III.3). Whereas at least 80.0 per cent of women married or in a union were using contraceptives in four countries or areas (Belgium, France, Hong Kong SAR of China and the United Kingdom), in Mauritania overall contraceptive prevalence was just 0.8 per cent in the 1970s. Contraceptive prevalence was below 10.0 per cent in 13 countries during 1970-1979 and a quarter of the countries with data had an overall contraceptive prevalence below 19.1 per cent. Median contraceptive prevalence, among countries with the required data, was 40.6 per cent, but there was a wide variation around it, with the inter-quartile range spanning 42.6 percentage points (from 19.1 per cent to 61.7 per cent).

By 1990-1999, overall contraceptive prevalence had risen markedly in most of the countries considered, with the median level of contraceptive use worldwide rising to 55.1 per cent. Norway had reached an overall contraceptive prevalence of 86.5 per cent and Mauritania remained the country with the lowest contraceptive prevalence, at 4.1 per cent.

Figure III.3. Distribution of contraceptive prevalence (any method), the world and fertility levels

Contraceptive prevalence continued to rise until the most recent period, 2000-2011. The median level of contraceptive use was 61.2 per cent and contraceptive prevalence remained below 10.0 per cent in just three countries (Mali, Mauritania and Sudan). Although there was still wide variation in contraceptive use among countries, the inter-quartile range decreased slightly from 38.0 percentage points in 1990-1999 (ranging from 28.5 per cent to 66.5 per cent) to 30.7 percentage points in 2000-2011 (ranging from 43.3 per cent to 74.0 per cent).

Use of modern methods was a major reason for the rapid expansion of contraceptive use over the past four decades (figure III.4). In all but four countries (Australia, Japan, Mauritius and the Netherlands) modern contraceptive use increased from the earliest to the most recent time period, with a slowing of the rate of increase in modern contraceptive use between the 1990-1999 period and the 2000-2011 period. During 1970-1979, the median level of modern contraceptive use among the 72 countries with the required data was 31.1 per cent and the inter-quartile range spanned nearly 40.0 percentage points, from 10.8 per cent to 49.7 per cent, implying that there was less variation around the median in the level of modern method use than in the overall level of contraceptive use. The median of the distribution rose substantially over time to 52.0 per cent in 2000-2011, but the magnitude of variation around the median decreased by a small amount, with an inter-quartile range of 32.0 percentage points in 2000-2011. In nearly three-quarters of countries, the share of modern method use in overall contraceptive prevalence increased over time as well. In China, Norway and the United Kingdom, nearly all women using contraception relied on a modern method in 2000-2011, with modern method use reaching over 80 per cent of all married or in-union women in these countries.

Trends in contraceptive use among low-fertility countries were very different from the overall pattern. On average, levels of contraceptive use were already high in 1970-1979 for the low-fertility countries (among those with the required data), as Table III.1 shows. However, the median hides a wide distribution of levels of contraceptive use and there was great variability around the median in the 1970-1979 period, especially for modern contraceptive use, with an inter-quartile range of 32.5 percentage points: from 36.8 to 69.3 per cent for modern contraceptive prevalence. Romania had the

lowest level of modern method use (5.3 per cent), owing in part to strong pro-natalist policies and restrictions on access to family planning during this time period.

The low-fertility countries showed little change in contraceptive prevalence between the 1990s and 2000 onwards (median values of 74.6 per cent and 75.8 per cent respectively among countries with data) and there was only a 1.7 percentage point increase in the median modern contraceptive use over this time period. However, there was a wide range among the countries with data for all three time periods. In Ecuador, there was an increase of 16.7 percentage points per decade from 1970-1979 to 2000-2011, and in Iran contraceptive prevalence increased by 14.9 percentage points over the same period. The same dramatic change was evident for modern method use as well. Iran experienced one of the largest increases in modern contraceptive use: 13.2 percentage points per decade.

In contrast, seven low-fertility countries had declines in contraceptive use between 1970-1979 and 2000-2011 (Australia, Belgium, France, Greece, Hong Kong SAR China, Japan and Netherlands), though all, apart from Japan, started at relatively high levels of contraceptive prevalence of at least 75 per cent. Four low-fertility countries also experienced a decline in the use of modern contraceptives between 1970-1979 and 2000-2011, with Japan having the greatest decline at 6.1 percentage points per decade. The reliance on modern methods as a proportion of all contraceptive users also increased from 90 per cent of all contraceptive users using a modern method in 1970-1979 to 93 per cent in 1990-1999 and a small rise to 94 per cent in 2000-2011.

Figure III.4. Distribution of contraceptive prevalence (any modern method), the world and fertility levels

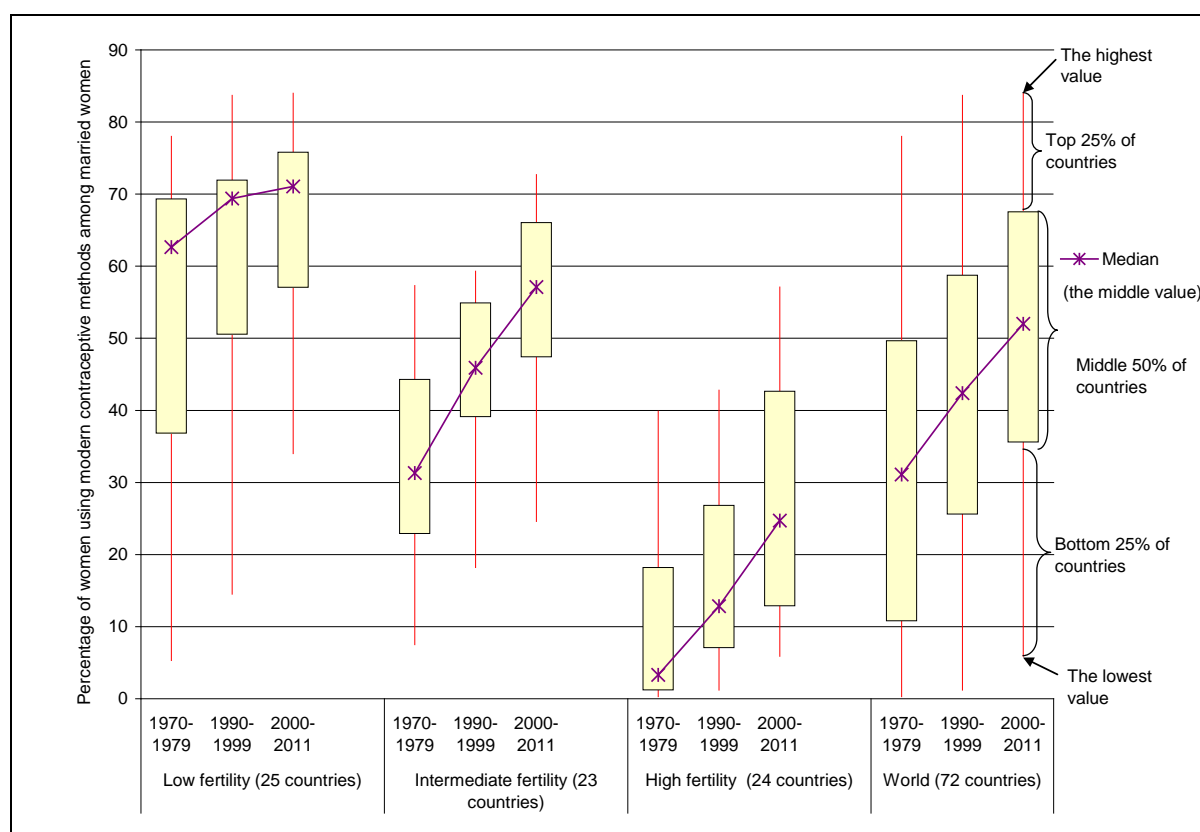


Table III.1. Median levels of overall contraceptive use and modern method use by level of fertility

	1970-1979			
	<i>Any method</i>	<i>Modern methods</i>	<i>Difference</i>	<i>Ratio</i>
World	40.6	31.1	9.5	0.77
High fertility	10.2	3.3	6.9	0.32
Intermediate fertility	36.9	31.3	5.6	0.85
Low fertility	69.5	62.7	6.8	0.90
	1990-1999			
	<i>Any method</i>	<i>Modern methods</i>	<i>Difference</i>	<i>Ratio</i>
World	55.1	42.4	12.7	0.77
High fertility	20.8	12.9	7.9	0.62
Intermediate fertility	54.2	45.9	8.3	0.85
Low fertility	74.6	69.4	5.2	0.93
	2000-2011			
	<i>Any method</i>	<i>Modern methods</i>	<i>Difference</i>	<i>Ratio</i>
World	61.2	52.0	9.2	0.85
High fertility	29.6	24.7	4.9	0.83
Intermediate fertility	61.4	57.1	4.3	0.93
Low fertility	75.8	71.1	4.7	0.94

Among intermediate-fertility countries, contraceptive use had risen dramatically in many countries from 1970-1979 to 2000-2011. Cabo Verde had the greatest increase in contraceptive use with an increase of 23.4 percentage points per decade, followed by Nicaragua (17.5 percentage points per decade) and Oman (21.0 percentage points per decade). These three countries and Paraguay also had the greatest increase in modern contraceptive use, increasing by 23.8 percentage points per decade in Cabo Verde, 17.7 percentage points per decade in Nicaragua, 15.6 percentage points per decade in Oman and 19.6 percentage points per decade in Paraguay.

Among the 24 high-fertility countries the median of contraceptive prevalence increased by the greatest relative amount, from 10.2 per cent in 1970-1979 to 29.6 per cent in 2000-2011, a near trebling. For modern contraceptive prevalence, the median in 1970-1979 was 3.3 per cent, increasing seven-fold to 24.7 per cent in 2000-2011. The distribution around the median in high-fertility countries also increased over this time period, with some countries greatly increasing their contraceptive prevalence, especially modern methods and with other countries making little progress or, indeed, none at all. The inter-quartile range increased from 22.0 percentage points to 31.8 per cent for contraceptive prevalence and from 17.0 percentage points in 1970-1979 to 29.8 percentage points in 2000-2011 for modern contraceptive prevalence. Bolivia, Malawi and Rwanda have shown the greatest change in contraceptive prevalence with increases of 15.9 percentage points, 15.1 percentage points and 14.5 percentage points per decade, respectively. However, many high-fertility countries are starting from low contraceptive prevalence levels in the 1970s and, as a result, the absolute increases are large (e.g., Rwanda had a contraceptive prevalence of 8.3 per cent in 1983 and modern contraceptive use was only 0.9 per cent).

The high-fertility countries also included a number of countries that either made very slow progress in increasing contraceptive prevalence or have even experienced decreases in contraceptive prevalence. For example, in the Democratic Republic of Congo, contraceptive prevalence declined from 25.8 per cent in 1982-1984 to 17.7 per cent in 2010 although modern contraceptive use increased slightly from 4.4 per cent in 1982-1984 to 5.5 per cent in 2010. While there are always issues with the comparability of survey data sources, it is clear that there has been very slow progress in contraceptive prevalence in the Democratic Republic of Congo. In Togo, overall contraceptive prevalence declined from 33.9 per cent in 1988 to 15.2 per cent in 2010. However, over the same period, modern contraceptive use increased from 3.1 per cent to 13.2 per cent. The decline in contraceptive use in Togo probably reflects a decline in traditional methods of family planning which is not sufficiently offset by the increase in use of modern contraceptives.

B. UNMET NEED FOR FAMILY PLANNING

Unmet need for family planning is used as a measure of the degree to which demand for family planning is not being satisfied and reflects the proportion of women who want to delay or avoid pregnancy, but are not using any form of contraception. The measure indicates the gap between the actual level of contraceptive use and the potential level of contraceptive use, although the reasons may vary widely as to why women do not use family planning despite their desire to prevent pregnancy. Unmet need does not necessarily mean that family planning services are not available. Reasons that women report for not using contraception even though they want to postpone or stop childbearing include health concerns, opposition to the use of contraception (personal, religious reasons or husband's objections), the belief that they are unlikely to become pregnant, and issues related to cost or access (Westoff, 2012). Definitions of unmet need can be expanded to include women who have an unmet need for more effective methods (thus including women who use traditional methods) and to include sexually-active, unmarried women. Unmet need is measured as the ratio of the number of women of reproductive age married or in a union who are fecund, not using contraception and who report that they do not want any more children or wish to delay the next child divided by the number of women of reproductive age who are married or in a union, expressed as a percentage.

The availability of estimates of unmet need for family planning is even more restricted than that for contraceptive use. Countries lacking the data necessary to estimate the unmet need for family planning are located mainly in low-fertility countries (13 low-fertility countries had data for the most recent period, of which six were in developed regions, mainly in Eastern Europe). Low-fertility countries are more likely to have lower levels of unmet need which means that the values reported for the distributions of all countries with the required data are probably an overestimate. Overall, 73 countries had data for the most recent period (2000-2011) and 52 countries had data for both 1990-1999 and 2000-2011.

Figure III.5 presents the percent of married or in-union women who have an unmet need for family planning by country in 2000-2011. The country with the highest level of unmet need is Samoa, which is a high-fertility country, with an unmet need of 47.4 per cent of married or in-union women. An additional six high-fertility countries (Ghana, Haiti, Liberia, Sao Tome and Principe, Timor Leste and Togo) also report levels of unmet need of above 30 per cent. Although fertility is inversely correlated with unmet need, Niger has an unmet need of only 16.1 per cent. The reason for the low level of unmet need in Niger is due to women having high levels of desired fertility leading to lower demand for family planning. Among intermediate-fertility countries, Guyana has the highest unmet need of 28.5 per cent and Paraguay the lowest with 4.7 per cent. For low-fertility countries, the Maldives had a slightly higher rate than Guyana with 28.6 per cent and the lowest rate was in France with 1.7 per cent.

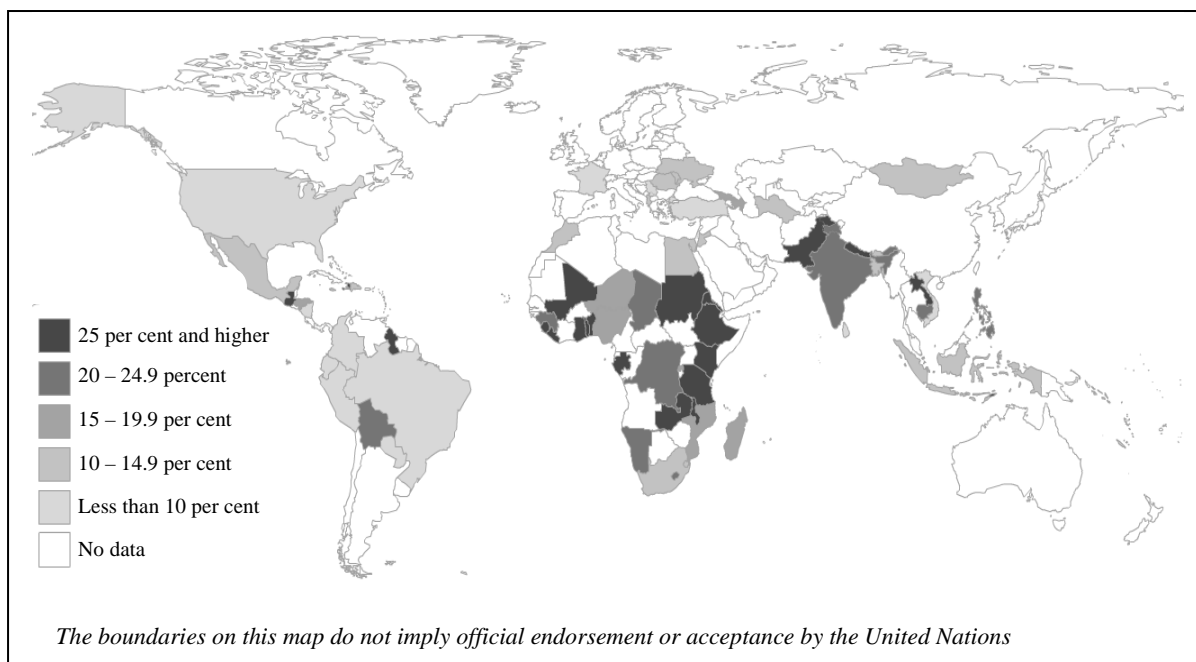
Figure III.5. Percent of women married or in a union who have an unmet need for family planning, 2000-2011

Figure III.6 shows the change in unmet need from 1990-1999 to 2000-2011 according to the current level of total fertility.¹⁸ Unmet need has declined in all fertility groups between these two periods. In countries with current low total fertility, unmet need has declined from a median value of 10.8 per cent in 1990-1999 to 6.2 per cent in 2000-2011. The median level of unmet need in countries with intermediate fertility declined from a median unmet need of 16.1 per cent in 1990-1999 to 11.7 per cent in 2000-2011. The slowest decline in unmet need was among high-fertility countries where the median unmet need was 26.3 per cent in 1990-1999 and 25.3 in 2000-2011. The distribution around the median was approximately the same in both time periods for low-fertility countries with an inter-quartile range of about 7.1 percentage points. The distribution around the median widened over time; in intermediate-fertility countries, the inter-quartile range increased from 3.7 percentage points in 1990-1999 to 5.8 percentage points in 2000-2011, and in high-fertility countries, the increase was from 6.8 percentage points to 8.3 percentage points over the same time period.

The country with the greatest decrease in unmet need was Georgia, a low-fertility country which experienced a decline of 15.0 percentage points per decade in the percentage of women with an unmet need for family planning. Among intermediate-fertility countries, Nicaragua and Paraguay had the greatest decline in unmet need, declining by 11.6 and 12.1 percentage points per decade, respectively. Pakistan and Rwanda had the greatest decline in unmet need among high-fertility countries with declines of 12.3 percentage points per decade and 10.2 percentage points per decade, respectively. In contrast, 10 countries reported increases in unmet need between 1990-1999 and 2000-2011. Unmet need in Timor Leste increased the most by 11.4 percentage points per decade followed by the Republic of Moldova (5.9 percentage points per decade).

¹⁸ The data for Georgia for 1990-1999 are for 2000.

Figure III.6. Distribution of unmet need for family planning, the world and fertility levels

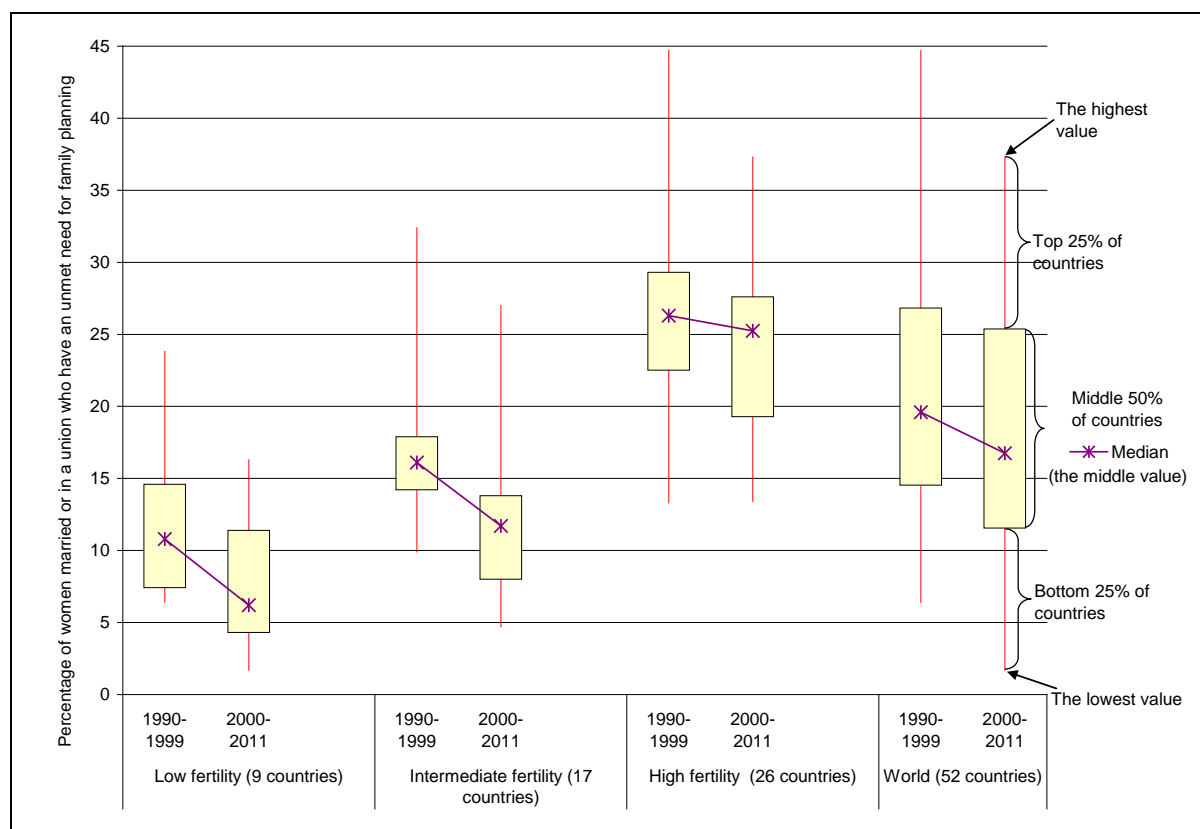
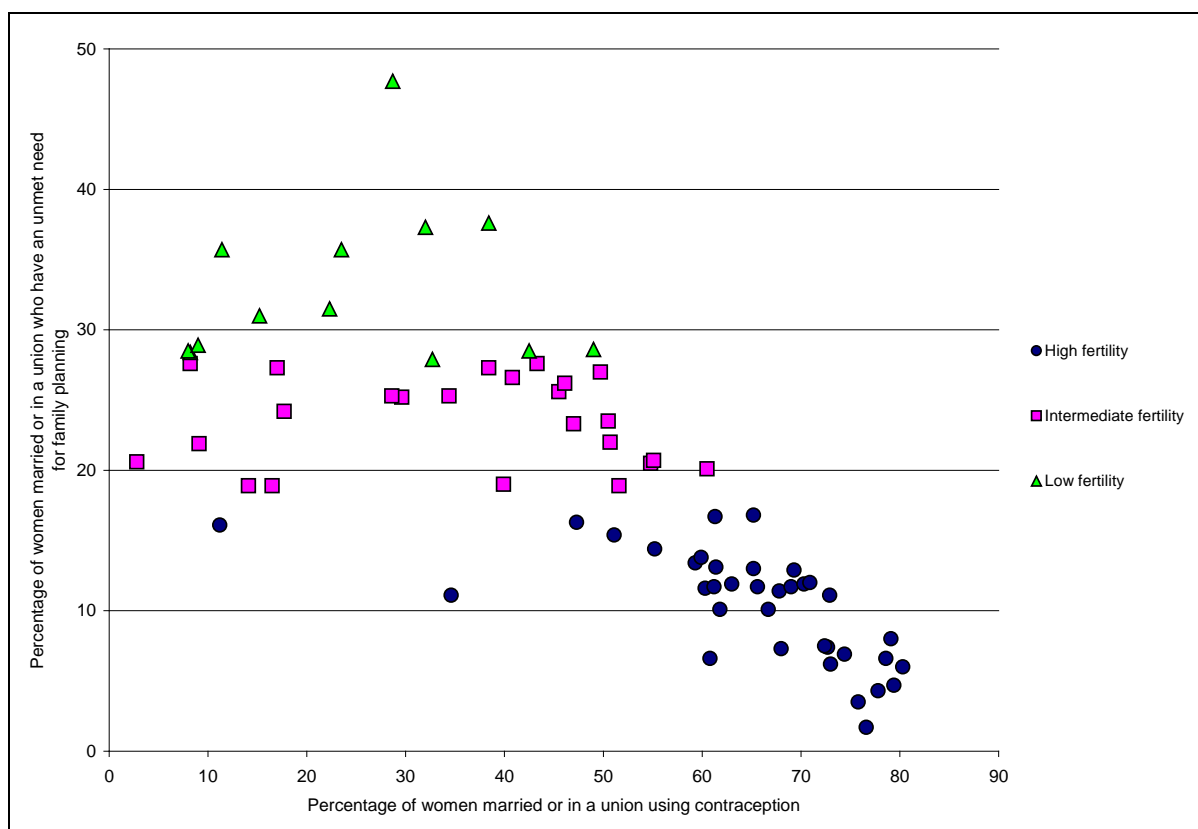


Figure III.7 shows that unmet need for family planning tends to be highest in countries where contraceptive prevalence is low and lowest in countries where contraceptive prevalence is already high (above 60 per cent). Thirteen of the 73 countries with data in 2000-2011 had levels of unmet need for family planning below 10 per cent and all thirteen countries had a contraceptive prevalence of 60 per cent or higher. Among the seven countries that had levels of unmet need of 30 per cent or higher, contraceptive prevalence ranged from 11.4 per cent (Liberia) to 38.4 per cent (Sao Tome and Principe) and all were high-fertility countries. The inverse relationship between contraceptive prevalence and unmet need is particularly strong when contraceptive prevalence is about 40 per cent or higher. Below 40 per cent the relationship is less clear. This is probably because unmet need is a function of both the contraceptive prevalence rate and also the demand for family planning. Where demand for family planning is increasing faster than the contraceptive prevalence rate, the unmet need will increase despite the increase in the use of contraceptives. This effect is often seen in the early stages of fertility decline.

In sum, dramatic improvements in contraceptive use have occurred in many countries at all levels of fertility with a rapid rise in modern method use often driving a large part of the overall increase in contraceptive use. Among a significant proportion of high-fertility countries, the uptake of contraceptive use over the past four decades has been more gradual and levels of contraceptive use and modern method use continue to remain far below those of other countries. High levels of unmet need for family planning suggest that increases in contraceptive prevalence could be accelerated in many high-fertility countries by addressing the barriers women and men face in using contraception, particularly modern method use.

Figure III.7. Distribution of contraceptive use and unmet need for family planning, 2000-2011



Governmental support for family planning programmes mirrors trends in demand for contraception. An increasing percentage of Governments since the 1970s have policies that provide direct support for family planning programmes. In 1976, 74 per cent of Governments worldwide supported family planning programmes and the distribution of contraceptives either directly (63 per cent) through government facilities or indirectly (11 per cent) by supporting the activities of non-governmental agencies (United Nations, 2013c). By 2011, 93 per cent of Governments supported family planning programmes and the distribution of contraceptives (87 per cent of countries supporting family planning programmes do so through direct means and 13 per cent through indirect means). All Governments of current high-fertility countries supported family planning programmes in some way by 2011, and the vast majority (97 per cent) provided this support directly. However, unmet need for family planning in many high-fertility countries remains high, indicating that demand for family planning is exceeding the ability of Governments to meet that demand.

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ANNEX TABLES

TABLE I.1. DISTRIBUTION OF TOTAL FERTILITY, THE WORLD AND MAJOR AREAS (VALUES CORRESPONDING TO FIGURE I.2)

Distribution values	World					Africa					Asia					Europe					Latin America and the Caribbean and Northern America					Oceania				
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011			
Minimum.....	1.8	1.2	1.1	3.8	2.1	1.5	2.0	1.2	1.1	1.8	1.2	1.2	1.2	1.2	2.3	1.5	1.5	1.5	2.9	2.9	1.5	1.5	1.5	2.9	2.9	1.8	1.9			
Lower quartile.....	3.0	1.9	1.8	6.0	4.4	3.9	4.5	2.2	1.9	2.1	1.3	1.4	1.4	3.6	2.3	2.3	2.3	1.9	3.1	3.1	1.9	1.9	3.1	3.1	2.7	2.2				
Median.....	5.2	2.9	2.4	6.7	5.5	4.9	5.8	3.0	2.4	2.3	1.6	1.5	1.5	5.0	2.7	2.7	2.4	2.4	5.3	5.3	2.4	2.4	5.3	5.3	3.7	2.8				
Upper quartile.....	6.5	4.7	3.8	7.1	6.3	5.8	6.5	3.8	3.1	2.6	1.8	1.8	1.8	5.9	3.4	3.4	2.7	2.7	7.1	7.1	2.7	2.7	7.1	7.1	4.5	4.0				
Maximum.....	8.5	7.4	7.4	8.5	7.4	7.4	8.5	7.4	5.7	5.2	2.9	2.2	2.2	7.5	5.0	5.0	3.9	3.9	7.4	7.4	3.9	3.9	7.4	7.4	4.8	4.5				
Number of countries or areas.....	188				49			49			39				39												12			

TABLE I.2. DISTRIBUTION OF MEAN NUMBER OF CHILDREN EVER BORN, THE WORLD AND MAJOR AREAS (VALUES CORRESPONDING TO FIGURE I.5)

Distribution values	World					Africa					Asia					Europe					Latin America and the Caribbean and Northern America					Oceania				
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011			
Minimum.....	1.7	1.7	1.6	4.3	3.3	2.4	2.3	2.2	1.7	1.7	1.7	1.6	1.6	2.4	2.0	2.0	1.8	1.8	3.0	3.0	1.8	1.8	3.0	3.0	2.2	2.2				
Lower quartile.....	3.5	2.6	2.3	5.2	5.6	4.7	5.0	3.7	2.7	2.0	1.8	1.9	1.9	3.7	2.9	2.9	2.6	2.6	3.8	3.8	2.6	2.6	3.8	3.8	2.8	2.5				
Median.....	5.3	4.6	3.7	5.7	6.1	5.5	5.5	4.6	3.7	2.3	2.0	2.0	2.0	5.6	3.8	3.8	3.2	3.2	5.2	5.2	3.2	3.2	5.2	5.2	4.2	4.2				
Upper quartile.....	6.2	5.8	5.1	6.5	6.7	6.2	6.4	5.6	4.8	2.8	2.2	2.1	2.1	6.2	4.8	4.8	3.8	3.8	6.1	6.1	3.8	3.8	6.1	6.1	5.3	4.7				
Maximum.....	8.1	8.0	7.8	7.5	8.0	7.8	8.1	7.9	7.6	4.3	3.0	2.7	2.7	7.0	6.1	6.1	5.3	5.3	7.0	7.0	5.3	5.3	7.0	7.0	6.4	5.1				
Number of countries or areas.....	135				41			31			26				29												8			

TABLE I.3. DISTRIBUTION OF MEAN AGE AT CHILD BEARING, THE WORLD AND MAJOR AREAS (VALUES CORRESPONDING TO FIGURE I.7)

Distribution values	World					Africa					Asia					Europe					Latin America and the Caribbean and Northern America					Oceania				
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011			
Minimum.....	24.7	24.2	24.6	27.7	27.1	27.4	25.6	24.8	24.6	24.7	24.2	26.3	26.2	25.5	25.7	26.7	26.6	26.6	28.0	28.0	25.7	25.7	26.7	26.7	26.6	26.6				
Lower quartile.....	27.5	27.1	27.8	28.8	28.4	28.7	28.9	27.5	27.6	26.7	25.8	28.4	28.4	27.0	26.7	27.0	27.0	27.0	28.9	28.9	26.7	26.7	27.0	27.0	27.7	27.7				
Median.....	28.8	28.4	28.8	29.5	29.4	29.0	29.5	29.0	29.0	27.1	27.7	29.4	28.4	27.4	27.6	27.9	29.0	29.0	29.3	29.3	27.6	27.6	27.9	27.9	29.0	29.0				
Upper quartile.....	30.0	29.5	29.9	30.5	30.2	29.7	30.4	29.7	30.2	27.8	29.0	30.2	29.6	28.1	28.4	30.3	30.2	30.2	30.2	30.2	28.4	28.4	30.3	30.3	30.2	30.2				
Maximum.....	31.8	33.3	32.9	31.8	33.3	32.9	31.7	31.4	31.6	30.3	30.3	31.3	31.8	30.2	30.0	31.0	31.0	31.0	31.0	31.0	30.0	30.0	31.0	31.0	31.7	31.7				
Number of countries or areas.....	176				43			43			39			39													12			

TABLE I.4. DISTRIBUTION OF MEAN AGE AT CHILD-BEARING, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE I.8)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	24.7	24.2	24.6	26.0	26.9	26.6	26.2	25.8	24.6	24.7	24.2	25.9
Lower quartile	27.5	27.1	27.8	28.8	28.6	28.5	28.1	27.0	26.7	26.9	26.6	27.7
Median	28.8	28.4	28.8	29.8	29.4	29.1	29.2	28.0	28.3	27.7	27.8	28.9
Upper quartile	30.0	29.5	29.9	30.6	30.2	29.8	30.1	28.7	29.3	29.0	29.2	30.0
Maximum	31.8	33.3	32.9	31.8	31.7	31.6	31.5	33.3	32.9	31.7	31.0	31.3
Number of countries or areas	176			55			44			77		

TABLE I.5. DISTRIBUTION OF MEAN AGE AT FIRST BIRTH, THE WORLD AND MAJOR AREAS (VALUES CORRESPONDING TO FIGURE I.10)

Distribution values	World			Africa			Asia			Europe			Latin America and the Caribbean and Northern America			Oceania		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	16.5	17.4	18.1	18.3	18.6	18.6	16.5	17.4	18.1	21.3	21.8	23.1	19.7	20.2	20.2	23.5	28.6	27.7
Lower quartile	20.9	21.9	22.6	18.9	19.1	19.5	19.8	21.7	22.7	22.8	23.2	25.9	20.6	21.2	21.2	23.6	28.8	28.4
Median	22.9	23.5	25.7	19.0	19.5	20.7	22.0	22.8	23.6	23.7	25.0	27.4	21.3	21.9	22.0	23.8	28.9	29.1
Upper quartile	24.0	26.9	27.9	19.5	20.4	21.7	23.5	25.3	26.1	24.4	27.2	28.9	22.9	23.4	23.7	23.9	29.1	29.8
Maximum	26.5	29.4	30.5	22.4	24.9	25.4	25.6	28.8	29.9	25.9	28.4	30.5	26.5	29.4	27.6	24.0	29.2	30.5
Number of countries or areas	66			10			12			33			9			2		

TABLE I.6. DISTRIBUTION OF MEAN AGE AT FIRST BIRTH, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE I.11)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	16.5	17.4	18.1	18.3	18.6	18.6	16.5	17.4	18.1	22.1	21.8	23.1
Lower quartile	20.9	21.9	22.6	19.0	19.3	19.9	19.8	21.1	21.2	22.9	23.4	25.8
Median	22.9	23.5	25.7	19.4	20.3	21.1	21.3	21.9	22.5	23.7	25.1	27.4
Upper quartile	24.0	26.9	27.9	19.9	21.5	21.8	22.1	23.7	24.4	24.4	27.5	28.9
Maximum	26.5	29.4	30.5	23.3	24.7	24.9	25.0	27.0	28.9	26.5	29.4	30.5
Number of countries or areas	66			14			11			41		

TABLE I.7. DISTRIBUTION OF CHILDLESS WOMEN AGED 40-44, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE I.14)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	0.7	1.1	2.1	1.6	1.1	2.1	0.8	1.9	2.2	0.7	3.5	3.8
Lower quartile	4.8	4.2	4.3	3.1	3.0	3.6	5.4	4.6	4.5	6.3	5.7	5.4
Median	6.6	5.7	6.0	5.0	4.9	4.3	7.1	5.4	6.2	7.8	6.0	7.2
Upper quartile	9.2	8.6	7.9	6.2	5.9	6.0	9.6	7.3	7.8	10.9	10.9	20.4
Maximum	18.4	19.0	23.1	12.6	12.0	15.9	15.7	13.5	19.8	18.4	19.0	23.1
Number of countries or areas	53			16			19			18		

TABLE I.8. DISTRIBUTION OF WOMEN AGED 40-44 WITH THREE OR MORE CHILDREN, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE I.16)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	15.3	10.2	13.6	73.1	72.8	68.0	63.6	42.2	41.8	15.3	10.2	13.6
Lower quartile	69.6	62.5	41.2	81.7	82.6	79.8	75.2	71.0	59.9	28.5	27.2	21.0
Median	79.4	76.1	64.1	86.4	87.5	81.6	79.3	74.9	62.2	58.0	37.7	30.3
Upper quartile	84.4	86.2	81.0	87.9	89.2	86.9	83.0	78.9	74.1	77.4	62.5	39.1
Maximum	94.5	96.0	91.1	94.5	96.0	91.1	92.4	92.3	81.2	85.9	89.6	83.2
Number of countries or areas	53			17			19			17		

TABLE II.1. DISTRIBUTION OF SINGULATE MEAN AGE AT MARRIAGE FOR WOMEN, THE WORLD AND MAJOR AREAS (VALUES CORRESPONDING TO FIGURE II.2)

Distribution values	World			Africa			Asia			Europe			Latin America and the Caribbean and Northern America			Oceania		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	15.6	17.6	17.6	17.6	16.4	18.1	16.4	18.1	18.6	19.7	21.6	23.1	19.0	20.1	20.6	20.6	20.6	17.6
Lower quartile	20.3	22.1	22.7	21.2	21.1	20.3	21.1	20.3	23.5	21.4	23.9	27.8	20.8	22.1	22.4	21.5	20.4	20.8
Median	21.8	23.9	25.3	22.7	22.2	21.9	22.2	21.9	25.1	22.3	26.0	30.2	21.8	22.5	23.1	24.2	22.2	22.3
Upper quartile	22.9	26.3	28.8	25.3	26.4	22.8	26.4	22.8	26.3	23.2	27.9	31.4	23.1	25.8	27.2	24.3	23.3	23.4
Maximum	32.2	33.2	33.2	28.2	31.0	25.6	31.0	25.6	30.3	24.0	31.3	31.8	32.2	33.2	33.2	25.8	24.0	25.4
Number of countries or areas	99			17			33			21			23			5		

TABLE II.2. DISTRIBUTION OF SINGULATE MEAN AGE AT MARRIAGE FOR WOMEN, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE II.3)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	15.6	17.6	17.6	15.6	17.6	17.6	16.4	16.4	18.1	18.6	17.5	22.6
Lower quartile.....	20.3	22.1	22.7	19.4	20.9	21.5	19.6	21.9	21.9	22.0	21.5	25.2
Median	21.8	23.9	25.3	20.3	21.8	22.2	21.0	22.5	22.5	23.1	22.5	27.9
Upper quartile.....	22.9	26.3	28.8	21.4	23.2	24.4	22.5	25.3	25.3	26.4	23.3	29.9
Maximum.....	32.2	33.2	33.2	24.4	29.0	32.0	26.1	29.9	29.9	33.1	32.2	33.2
Number of countries or areas	99			22				25				52

TABLE II.3. DISTRIBUTION OF THE DIFFERENCE BETWEEN SINGULATE MEAN AGE AT MARRIAGE FOR MEN AND WOMEN, THE WORLD AND FERTILITY LEVELS, 2000-2011 (VALUES CORRESPONDING TO FIGURE II.4)

Distribution values	World		High fertility		Intermediate fertility		Low fertility	
	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	
Minimum.....	1.2	1.7	1.2	1.2	1.4			
Lower quartile.....	2.3	3.0	2.4	2.4	2.0			
Median.....	3.0	3.7	3.3	3.3	2.6			
Upper quartile.....	3.7	5.3	3.9	3.9	3.3			
Maximum.....	8.4	8.4	6.8	6.8	5.9			
Number of countries or areas.....	97	21	25	25	51			

TABLE II.4. DISTRIBUTION OF THE DIFFERENCE BETWEEN SINGULATE MEAN AGE AT MARRIAGE FOR MEN AND WOMEN, THE WORLD AND MAJOR AREAS, 2000-2011 (VALUES CORRESPONDING TO FIGURE II.4)

Distribution values	World		Africa		Asia		Europe		Latin America and the Caribbean and Northern America		Oceania	
	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	2000-2011	
Minimum.....	1.2	1.4	1.4	1.5	1.2	1.2	1.6	1.4				
Lower quartile.....	2.3	3.6	3.6	2.5	2.1	2.4	2.4	1.8				
Median.....	3.0	4.7	4.7	3.2	2.4	3.1	3.1	2.2				
Upper quartile.....	3.7	5.9	5.9	3.7	2.8	3.4	3.4	2.4				
Maximum.....	8.4	8.4	8.4	6.8	4.4	5.3	5.3	2.4				
Number of countries or areas.....	97	18	18	33	21	21	21	4				

TABLE II.5. DISTRIBUTION OF PERCENTAGE OF EVER MARRIED WOMEN AGED 45-49, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE II.6)

Distribution values	World				High fertility				Intermediate fertility				Low fertility			
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	
Minimum.....	53.2	54.1	47.4	53.2	54.3	47.4	77.7	81.7	70.3	59.9	54.1	51.3	59.9	54.1	51.3	
Lower quartile.....	90.8	91.6	87.5	95.9	95.2	95.1	87.5	88.7	86.8	89.6	91.3	85.7	89.6	91.3	85.7	
Median.....	95.6	94.9	92.4	97.8	98.3	98.3	96.2	94.6	91.2	93.9	94.3	88.8	93.9	94.3	88.8	
Upper quartile.....	98.1	98.2	97.6	98.6	99.1	99.2	98.8	98.3	96.8	96.1	96.1	93.0	96.1	96.1	93.0	
Maximum.....	100.0	100.0	100.0	100.0	100.0	100.0	99.7	100.0	99.8	99.8	99.6	99.0	99.8	99.6	99.0	
Number of countries or areas.....	106												30	27	49	

TABLE II.6. DISTRIBUTION OF PERCENTAGE OF EVER MARRIED WOMEN AGED 45-49, THE WORLD AND MAJOR AREAS (VALUES CORRESPONDING TO FIGURE II.7)

Distribution values	World			Africa			Asia			Europe			Latin America and the Caribbean and Northern America			Oceania		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum.....	53.2	54.1	47.4	69.2	75.3	70.3	93.1	89.6	84.4	79.1	85.9	71.4	53.2	54.1	47.4	75.4	72.3	66.3
Lower quartile.....	90.8	91.6	87.5	96.3	97.1	95.2	96.2	94.3	91.2	87.9	91.3	83.6	79.9	85.9	84.0	89.0	87.8	83.1
Median.....	95.6	94.9	92.4	97.9	98.3	98.1	97.7	96.3	94.5	91.8	93.3	87.8	85.4	90.7	87.7	94.4	93.6	89.3
Upper quartile.....	98.1	98.2	97.6	98.8	99.1	99.2	98.9	98.7	97.8	93.3	94.9	93.1	91.3	92.8	89.9	94.4	93.6	89.3
Maximum.....	100.0	100.0	100.0	100.0	100.0	100.0	99.9	100.0	99.8	96.5	98.1	97.6	98.7	98.6	98.4	95.2	94.6	90.0
Number of countries or areas.....	106						25	35	23	19	4							

TABLE II.7. DISTRIBUTION OF MEAN AGE AT FIRST MARRIAGE FOR WOMEN, THE WORLD AND MAJOR AREAS (VALUES CORRESPONDING TO FIGURE II.9)

Distribution values	World			Africa			Asia			Europe			Latin America and the Caribbean and Northern America			Oceania		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum.....	12.5	14.5	16.0	15.9	16.8	16.7	12.5	14.5	16.0	21.4	21.2	23.0	17.1	19.1	18.5	20.8	25.3	27.9
Lower quartile.....	18.5	20.6	21.2	17.4	17.9	19.1	17.6	19.6	21.5	22.3	22.9	26.9	18.5	20.3	20.1	21.0	25.4	28.0
Median.....	21.8	22.8	26.1	17.8	19.5	19.9	21.1	21.9	23.5	22.9	25.3	28.8	19.0	20.9	21.7	21.1	25.6	28.1
Upper quartile.....	23.0	25.8	28.8	18.4	20.2	20.9	22.7	24.6	28.4	23.9	27.3	30.2	20.2	22.2	26.4	21.3	25.7	28.1
Maximum.....	27.7	30.4	32.9	19.5	23.2	25.0	26.5	26.9	29.2	27.7	30.4	32.9	23.4	27.1	28.4	21.4	25.8	28.2
Number of countries or areas.....	79						14	15	36	12	2							

TABLE II.8. DISTRIBUTION OF MEAN AGE AT FIRST MARRIAGE FOR WOMEN, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE II.10)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum.....	12.5	14.5	16.0	15.9	16.8	16.7	12.5	14.5	16.0	18.4	20.0	23.0
Lower quartile.....	18.5	20.6	21.2	17.4	18.0	19.0	17.2	19.5	20.2	21.8	22.9	26.3
Median.....	21.8	22.8	26.1	18.1	19.3	19.9	18.4	21.1	21.7	22.8	25.1	28.2
Upper quartile.....	23.0	25.8	28.8	18.8	20.5	20.6	21.5	22.1	23.8	23.5	26.9	29.3
Maximum.....	27.7	30.4	32.9	20.0	22.0	23.3	24.4	28.6	32.1	27.7	30.4	32.9
Number of countries or areas	79			17			14			48		

TABLE II.9. DISTRIBUTION OF PERCENTAGE OF EXTRA-MARITAL BIRTHS, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE II.12)

Distribution values	World			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum.....	0.1	1.2	1.3	0.7	1.5	1.3	0.1	1.2	2.1
Lower quartile.....	3.5	10.7	21.4	3.6	4.4	15.1	3.4	7.8	22.3
Median.....	7.2	19.3	35.9	9.8	22.3	33.8	6.5	12.2	35.9
Upper quartile.....	11.0	38.3	55.1	23.8	50.5	60.8	9.8	32.4	50.4
Maximum.....	70.9	81.2	87.4	70.9	76.2	83.2	52.6	66.0	73.0
Number of countries or areas	64			15			48		

TABLE III.1. DISTRIBUTION OF CONTRACEPTIVE PREVALENCE (ANY METHOD), THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE III.3)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum.....	0.8	4.1	8.2	0.8	4.1	8.2	8.6	23.7	31.7	36.0	57.3	54.3
Lower quartile.....	19.1	28.5	43.3	4.9	13.0	15.2	27.6	35.1	38.6	59.4	64.6	72.3
Median.....	40.6	55.1	61.2	10.2	20.8	29.6	36.9	54.2	61.4	69.5	74.6	75.8
Upper quartile.....	61.7	66.5	74.0	26.9	29.1	47.0	47.6	59.6	72.0	76.2	80.0	80.0
Maximum.....	81.2	86.5	88.4	40.9	50.0	65.2	64.8	72.2	79.4	81.2	86.5	88.4
Number of countries or areas	74			24			25			25		

TABLE III.2. DISTRIBUTION OF CONTRACEPTIVE PREVALENCE (ANY MODERN METHOD), THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE III.4)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011	1970-1979	1990-1999	2000-2011
Minimum	0.3	1.2	5.9	0.3	1.2	5.9	7.5	18.2	24.6	5.3	14.5	34.0
Lower quartile	10.8	25.6	35.6	1.2	7.1	12.9	22.9	39.1	47.4	36.8	50.1	57.1
Median	31.1	42.4	52.0	3.3	12.9	24.7	31.3	45.9	57.1	62.7	69.4	71.1
Upper quartile	49.7	58.8	67.6	18.2	26.8	42.7	44.3	54.9	66.1	69.3	72.0	75.8
Maximum	78.0	83.7	84.0	39.9	42.8	57.1	57.3	59.3	72.7	78.0	83.7	84.0
Number of countries or areas	72			24			23			25		

TABLE III.3. DISTRIBUTION OF UNMET NEED FOR FAMILY PLANNING, THE WORLD AND FERTILITY LEVELS (VALUES CORRESPONDING TO FIGURE III.6)

Distribution values	World			High fertility			Intermediate fertility			Low fertility		
	1990-1999	2000-2011	2000-2011	1990-1999	2000-2011	2000-2011	1990-1999	2000-2011	2000-2011	1990-1999	2000-2011	2000-2011
Minimum	6.4	1.7	13.3	13.4	13.4	13.4	9.9	4.7	6.4	6.4	1.7	1.7
Lower quartile	14.5	11.6	22.5	19.3	19.3	19.3	14.2	8.0	7.4	7.4	4.3	4.3
Median	19.6	16.8	26.3	25.3	25.3	25.3	16.1	11.7	10.8	10.8	6.2	6.2
Upper quartile	26.8	25.4	29.3	27.6	27.6	27.6	17.9	13.8	14.6	14.6	11.4	11.4
Maximum	44.7	37.3	44.7	37.3	37.3	37.3	32.4	27.0	23.8	23.8	16.3	16.3
Number of countries or areas	52			26			17			9		