Contraceptive use as a determinant of fertility decline: Why is sub-Saharan Africa different?

Background

Existing work has examined the possibility of "African exceptionalism" to explain the fact that fertility in sub-Saharan Africa was and continues to be higher than other regions of the world (Bledsoe & Pison 1994; Bongaarts 2017; Bongaarts & Casterline 2013; Caldwell 1982). Contraceptive use is a key factor to consider, since it is a proximate determinant of fertility (Bongaarts 1978; Bongaarts 2015; Stover 1998) and is also a lever that can be used to speed up fertility decline. Contraception helps individuals and couples realise their reproductive preferences, and is related to individual-level benefits, such as reduced unintended pregnancies, maternal mortality, and improvements in schooling, as well as population-level benefits because of the potential to harness a demographic dividend. In this paper, we will provide insights into the role of contraceptive use in sub-Saharan Africa, using the latest data from the United Nations 2019 Revision of World Population Prospects, and United Nations 2019 Revision of model-based estimates and projections of family planning indicators. We first present a global perspective. We then draw on case studies within sub-Saharan Africa to examine which components play a role.

Methods

Contraceptive prevalence is the percentage of women who report themselves or their partners as currently using at least one contraceptive method of any type. For analytical purposes, contraceptive methods are classified as either modern (which tend to be more effective at averting unintended pregnancies) or traditional. Annual model-based estimates of contraceptive prevalence are available from 1970 to 2019 for married/in-union women of reproductive age (15-49 years), and from 1990 to 2019 for all women of reproductive age (15-49 years) for 185 countries (United Nations, 2019a). These estimates are comparable across place and time and are published annually by the United Nations Population Division. Estimates and projections of total fertility rates (TFR) are obtained from the 2019 revision of World Population Prospects (United Nations 2019b). Estimates of contraceptive method-mix, and the proportion of women that are married, are also obtained from United Nations Population Division datasets (United Nations 2018, United Nations 2019c).

Results

Since 1950, there have been rapid fertility declines in Eastern and South-Eastern Asia, Latin America and the Caribbean, Central and Southern Asia, Northern Africa and Western Asia (figure 1). The decline of TFR in sub-Saharan Africa is slower, occurs later, and started and will end at higher levels of fertility compared to other regions. When considering the projections, fertility will continue to decline slower and later in sub-Saharan Africa compared to other regions, which has important implications in terms of impact on population projections.

Contraceptive use (any method) is lower in sub-Saharan Africa and Oceania (excluding Australia/New Zealand) compared to the high levels seen in Europe and Northern America, Eastern and South-Eastern Asia, and Australia/New Zealand (figure 2). The gradual increases in use among all-women masks rapid uptake amongst married women in some regions since the 1970s (e.g. Asia, Latin America and the Caribbean), which will be discussed in the conference paper. Modern methods constitute most contraceptive use, but traditional methods (particularly in parts of sub-Saharan Africa) will also be examined in the paper. The increases in contraceptive use since 1990 in Central and Southern Asia, Northern Africa and Western Asia, and Latin America and the Caribbean, also match the declines in fertility over the same time-period in these regions (figure 1).

Figure 1. Estimated and projected total fertility by Sustainable Development Goal region, 1950-2100, median projection (United Nations 2019b)

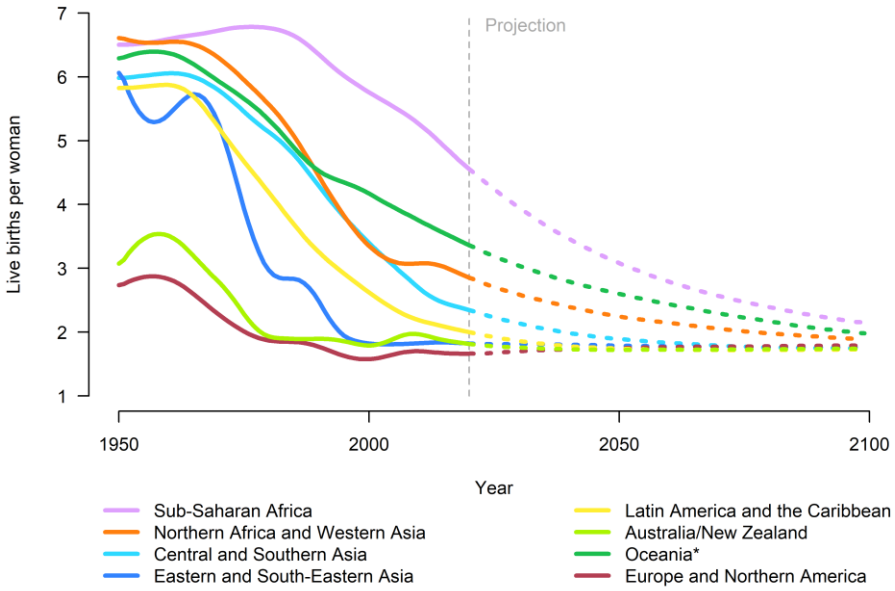
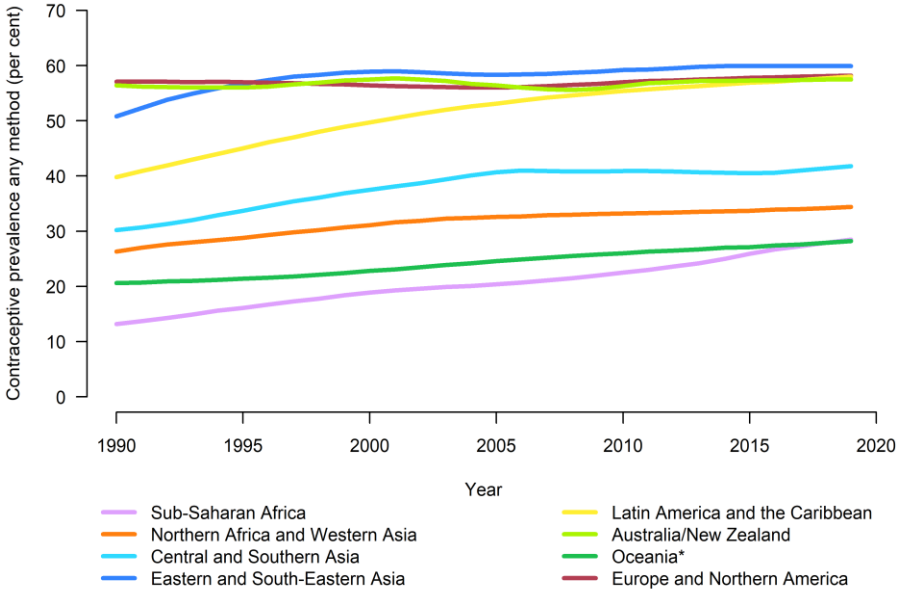
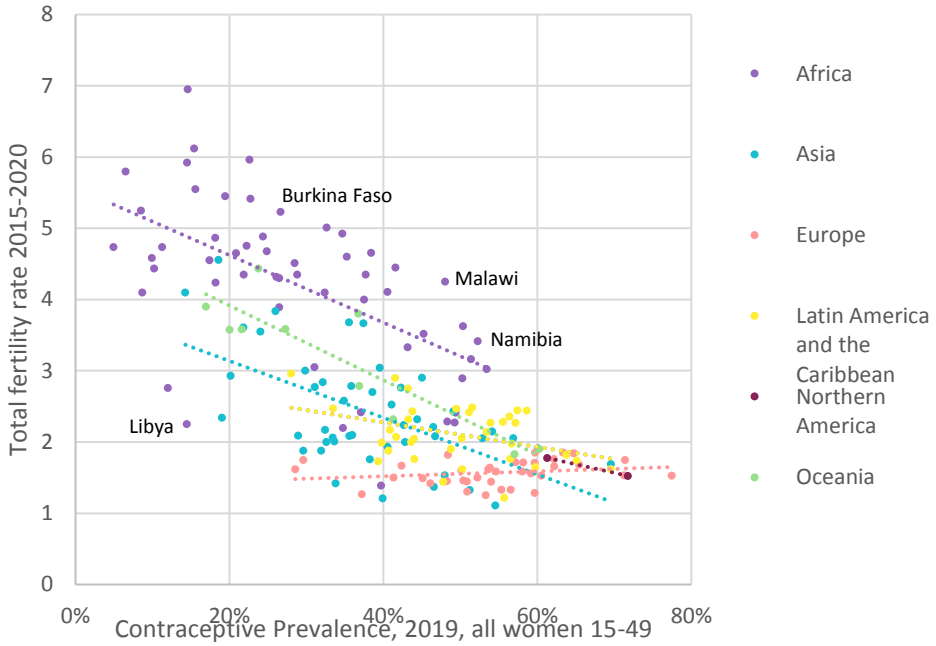


Figure 2. Trends in contraceptive prevalence (any method) among all women (aged 15-49), 1990-2020, median estimate (United Nations 2019a)



There is an inverse relationship between contraceptive prevalence (any method) and TFR. Countries with high proportions of women using contraception generally have lower fertility (figure 3). This relationship is also seen at other points in time, and this will be presented at the conference. At every level of contraceptive use, countries in Africa generally have higher fertility compared to other regions. The conference paper will present trends over time in these indicators in specific countries.

Figure 3. Contraceptive prevalence (2019) by live births per woman (2015-2020)



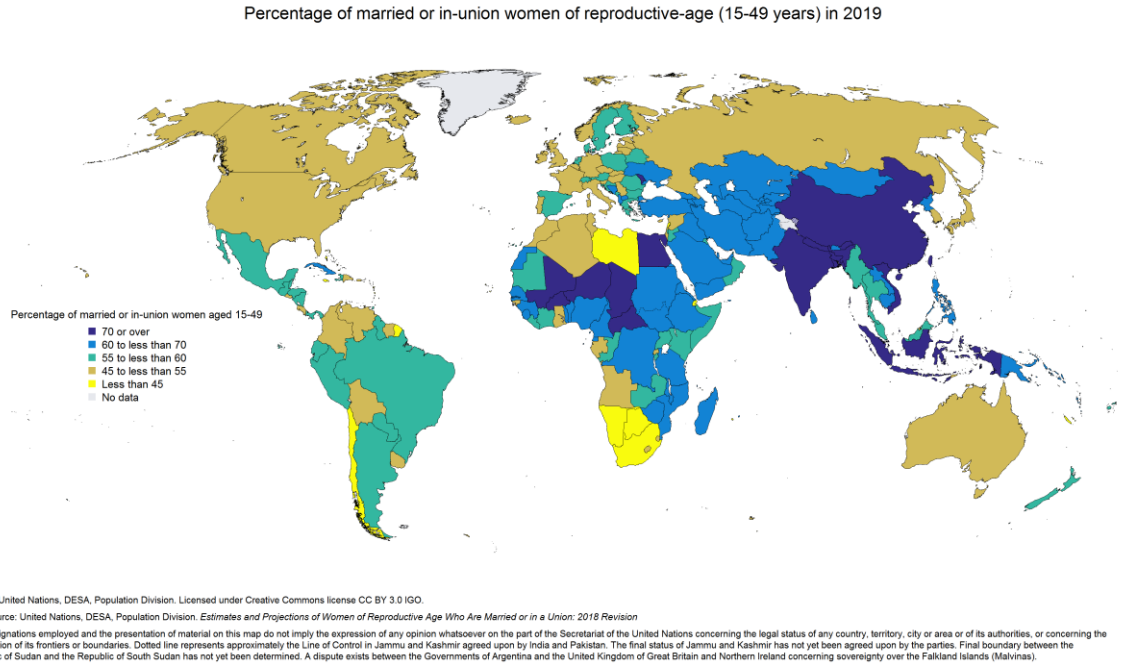
Some outliers are indicated in figure 3, and this demonstrates that the relationship between contraception and fertility is also mediated by other determinants. The types of methods use are important. In Burkina Faso, there is very low use of highly effective methods such as sterilization or IUD, although use of implants has been increasing in recent years (United Nations, 2019c). Women in Ghana may also be using abortion or emergency contraception as an approach to regulate fertility (Marston et al. 2017). In Malawi, inconsistent use of injectables, and use by women that are at low risk of pregnancy (e.g. in the immediate post-partum period when probability of pregnancy is low), is thought to contribute to the puzzle of high contraceptive prevalence coupled with high fertility in this country (Dasgupta et al. 2015).

The impact of marriage on fertility is important because of different levels of sexual activity and exposure to risk of pregnancy among married and unmarried women. In Northern African countries such as Libya, the proportion of women that are married is relatively low (figure 4), and unmarried women are not exposed to the risk of pregnancy because of very low levels of sexual activity among unmarried. However, in Southern African countries such as Namibia, which also has low proportions of women that are married or in a union, sexual activity among unmarried is higher, and some are using contraception. Further details on the role of sexual activity will be presented in the conference paper.

Some women use contraception to space rather than limit childbearing. In the 2010 Burkina Faso Demographic and Health Survey, 10.9% of women were using contraception to space their children, whereas only 5.3% were using to limit (stop) childbearing. For comparison, the 1992-1993 India Demographic and Health Survey indicates 3.4% were using to space, whereas 37.3% of women were using contraception to limit childbearing, at a time when there were still around 3.8 live births per woman. Many family planning programmes in sub-Saharan Africa have been promoted as birth spacing programmes in the interest of maternal and child health (Chimbwete et al. 2005), which may also hint at why fertility remains high in these countries.

Measurement related issues, such as over-reporting of contraceptive use may also play a role in cases where there is high contraceptive prevalence and yet high fertility.

Figure 4. Percentage of women of reproductive age (15-49 years) that are married or in-union, 2019



Data source: United Nations, DESA, Population Division. *Estimates and Projections of Women of Reproductive Age Who Are Married or in a Union: 2018 Revision*

Discussion

Understanding the relationship between contraceptive use and fertility are crucial because of the implications for averting unintended pregnancies, which have been shown to be substantial in the developing world (Guttmacher Institute 2017). It is also important for the creation of scenarios of future fertility declines, which the United Nations Population Division will be investigating. While contraceptive use is a key component, further declines in fertility is not just about family planning, but will also be influenced by changes in the proportions married, particularly postponing marriage for adolescents and young women, and other factors.

References

Bledsoe, C. & G. Pison (1994). *Nuptiality in Sub-Saharan Africa: Contemporary Anthropological and Demographic Perspectives* (Oxford: Clarendon Press).

Bongaarts, J. (1978). A framework for analyzing the proximate determinants of fertility. *Population and Development Review*, vol. 4, No. 1, pp. 105-132.

Bongaarts, J. (2015). Modeling the fertility impact of the proximate determinants: Time for a tune-up. *Demographic Research*, Vol. 33, n°19.

Bongaarts, J. (2017). The effect of contraception on fertility: Is sub-Saharan Africa different? *Demographic Research*, 37(6):129-146.

Bongaarts, J. & Casterline, J. (2013). Fertility Transition: Is sub-Saharan Africa Different? *Population and Development Review* https://doi.org/10.1111/j.1728-4457.2013.00557.x

Caldwell, J.C. (1982). *The Theory of Fertility Decline* (New York: Academic Press).

Chimbwete et al (2005). The Evolution of Population Policies in Kenya and Malawi. *Population Research and Policy Review* 24(1): 85-106.

Dasgupta, A et al (2015). Contraceptive Dynamics in Rural Northern Malawi: A prospective longitudinal study. *International Perspectives in Sexual and Reproductive Health* 41(3):145-154.

Guttmacher Institute (2017). Adding It Up: Investing in Contraception and Maternal and Newborn Health, 2017

Marston, C et al. (2017). Improving the Measurement of Fertility Regulation Practices: Findings from Qualitative Research in Ghana. *International Perspectives on Sexual and Reproductive Health*, 35(3).

Stover, J. (1998). Revising the Proximate Determinants of Fertility Framework: What Have We Learned in the past 20 Years? *Studies in Family Planning*, Vol. 29.

United Nations, Department of Economic and Social Affairs, Population Division (2018). *Estimates and Projections of the Number of Women Aged 15-49 Who Are Married or in a Union: 2018 Revision*. New York: United Nations.

United Nations, Department of Economic and Social Affairs, Population Division (2019a). *Model-based Estimates and Projections of Family Planning Indicators 2019.* New York: United Nations.

United Nations, Department of Economic and Social Affairs, Population Division (2019b). *World Population Prospects 2019.* New York: United Nations.

United Nations, Department of Economic and Social Affairs, Population Division (2019c). *World Contraceptive Use 2019*. New York: United Nations. Available from http://www.un.org/en/development/desa/population/publications/dataset/contraception/wcu2019.shtml