

# Fertility Desires and the Prospects for Fertility Decline in Africa

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## I. Premises

1. *Low fertility in African will not emerge without the adoption of "family limitation" behaviors, i.e. deliberate efforts to limit fertility to a few births per woman.*

Longer spacing of births will have minimal impact on overall fertility levels: past experience in other regions shows that birth intervals hardly change over the course of fertility transition, in fact if anything they shorten. And, in any case, birth intervals are generally long in African reproductive regimes, due to normative post-partum practices; there is little potential to reduce fertility by lengthening intervals.<sup>1</sup>

Delaying the onset of childbearing (i.e. age at first birth) is an entirely different matter. While not examined in this report, delaying the onset of childbearing has the potential to substantially reduce fertility in Africa, via direct and indirect effects. This has certainly been the experience in other regions (most notably East and Southeast Asia, and the Arab region).

2. *Adoption of family limitation behaviors, in turn, is conditional on the emergence of explicit desires to terminate child-bearing at low parities.*

Whether such desires absolutely require the formulation of family-size targets and long planning horizons is uncertain. This clearly occurred in the Western and Asian transitions.

Several recent explorations of fertility desires and reproductive decision-making in Africa have stressed the absence of long planning horizons (Bledsoe 2002, Agadjanian 2005, Johnson-Hanks 2007). The implication – note that none of the authors explicitly makes this argument – is that family limitation typical of other regions of the world would be antithetical to African societies.

Such an argument verges on a cultural determinism that historical demographic experience – in Europe, Asia, and Latin America – has shown to be invalid.

In any case, stopping behavior can follow from short-term concerns if these concerns remain relatively constant over time. That is, it may be sufficient if women/couples who already have a few children develop a conviction that

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<sup>1</sup> However, as noted under point 3 below, family planning substituting for existing birth-spacing practices in early stages of the reproductive career may increase the likelihood that family planning is used for stopping purposes later in the career.

further childbearing would be contrary to the interests of themselves, their children, and other kin.

There is much to be learned about the nature of fertility desires in contemporary African societies, and in particular the receptivity to family limitation. Intensive research in various modes (surveys, qualitative interviews) could offer valuable insights.

3. *Investments in more and higher quality family planning services will contribute substantially to fertility decline only in the presence of demand to limit childbearing.*

There are several counter-arguments to this sweeping premise, to wit:

(a) Energetic family planning programs (including IEC components) can themselves lead to a reduction in desired fertility. Latent demand becomes more manifest, ambivalent desires crystallize into desires held with more conviction. While this is a highly plausible argument (Robinson and Cleland 1992), empirical research to date indicates that effects of programs on fertility desires are at best weak (Freedman 1996). Of course Africa could prove to be a different matter.

(b) Highly visible programs endorsed by national leadership may provide a legitimization of small family-size desires that facilitates and accelerates a decline in desired fertility. There is anecdotal evidence of such political legitimization effects on fertility desires, but to my knowledge there has been no assessment of their magnitude in rigorous empirical research.

(c) Contraceptive use at younger ages in itself makes it easier to use at older ages – contraception becomes more acceptable, and contraceptive skills are learned – and this felt capacity to control fertility, in turn, makes women/couples more receptive to small family-size desires. Hence meeting demand for contraception for birth-spacing purposes at younger ages may in itself reinforce and augment desires for family-size limitation later in the reproductive career. Note that as a strategy for nurturing active family limitation desires (and behavior), this plays out slowly via a kind of cohort succession process.

4. *The extent to which desires to limit childbearing are translated into demand for family planning is conditional on contraceptive costs. Energetic family planning programs can be decisive in this respect.*

On this matter, the Easterlin Synthesis Framework serves as an excellent theoretical guide. Abundant empirical research (see review in Casterline and Sinding 2000) demonstrates that:

- Contraceptive costs are real, and they can constitute a very significant barrier to contraceptive practice
- Contraceptive costs are multi-dimensional (geographic access, financial, social, cultural, health concerns)

- Appropriately-designed and adequately-resourced health and family planning programs can substantially reduce contraceptive costs

It is a serious error to assume that fertility declines are driven almost exclusively by the emergence of small family-size desires. High contraceptive costs can retard decline.

In short, the causal impact of reduced demand for children is conditioned by contraceptive costs, and the causal impact of reduced costs of contraception (e.g. enhanced family planning services) is conditioned by the demand for children. (This is, in essence, the Easterlin framework.) That reduced demand will translate into fertility decline in the presence of high contraceptive costs, or that reduced costs will translate into fertility decline in the presence of limited demand – both of these are untenable positions.

## II. Objectives of this Research

My goal is to assess the nature of fertility desires in African societies at present. For this purpose, I draw on survey data collected under the World Fertility Survey [WFS] and Demographic and Health Survey [DHS] programs from the late 1970s to the present. Specific questions to be addressed:

- How common is an expressed desire to limit childbearing?
- Is there evidence that the desire to limit has increased over time?
- Do the few substantial declines in fertility to date in Africa give evidence of family limitation behavior?
- Are there signs that attitudes towards reproduction are undergoing a transformation among younger women?
- What are the levels of unwanted childbearing in Africa?
- How much fertility decline might be achieved through reduction of unwanted fertility?

## III. Main Conclusions from Empirical Analysis Presented Below

- The data on fertility desires provide ample evidence, in several forms, of the presence in most African countries of conscious desires to limit family size.
- The overall prevalence of such desires, however, remains low. A small minority of women indicate a desire to stop at two births, and in most countries a majority of women who have four births want to have another child.

- But these desires are rapidly changing in all sub-regions, even in West Africa (with the exception of the Sahelian countries). On both an age- and parity-specific basis, the desire to stop is undergoing rapid increase.
- The fertility declines to date – which have been few – show little evidence of the adoption of family limitation behavior.
- There is striking evidence that younger cohorts of women in some countries are adopting anti-natalist mentalities, possibly an historic departure from the fertility attitudes of previous generations.
- There are moderately high levels of unwanted fertility in Africa at present – one birth per woman (or higher) on average in most countries.
- But reducing unwanted fertility would, with the exception of a few countries, not result in overall TFRs that fall below three births per woman, in fact in a majority of countries the overall TFR would remain above four births per woman.

In short, from the perspective of public policy goals of accelerating fertility decline in the region, a relatively high demand for children remains the fundamental feature of African fertility regimes. Taken at face value, the DHS data on fertility desires to do not suggest that most countries in Africa are, at present, fertile ground for substantial family planning investment. The important qualification to this generalization is the very intriguing evidence of a demand among young women to avoid – in all likelihood postpone – childbearing. Moreover, comparison of DHS surveys across time reveals a sharp trend in most countries towards desires to stop childbearing short of high parities.

In addition, there are marked regional patterns within Africa:

- In general, the desire to limit family size is far more prevalent in Eastern and Southern Africa than in Middle and West Africa
- In most West African countries, fertility desires remain high and very small fractions of women express attitudes consistent with family size limitation

#### IV. Data

I select only those WFS surveys that can be paired with a DHS in the period from 2000 to the present, to afford a picture of long-term trends (20+ years). Similarly, DHS prior to 2000 are only analyzed if they can be paired with a survey conducted after 1999.

50	surveys in total (WFS and DHS)
6	WFS late 1970s and early 1980s
27	DHS from 2000 to present
23	DHS from 2000 to present that can be paired with a survey (WFS or DHS) prior to 2000

The analysis relies heavily on the prospective preferences item, standard in all these surveys:

"Would you like to have (a / another) child, or would you prefer not to have any (more) children?"

Among the attitudinal items that are standard in demographic surveys, this item has been shown to have highest reliability (test-retest) and validity (several criteria). (Almost certainly it has higher reliability and validity than the question on the ideal number of children (lifetime ideal).) There are important concerns about this item, however: (i) It forces a stark choice – want vs. not want – not allowing for the *ambivalence* that may characterize many women's views towards further childbearing. (Although "uncertain" responses are recorded, the wording of the item discourages expressions of uncertainty/ambivalence.) (ii) It is not accompanied by an assessment of *intensity* of the expressed preferences.

## V. Findings

Considering in turn each of the questions posed under "Objectives":

- **How common is an expressed desire to limit childbearing?**

- < Figures 1a, 1b, 1c >

- < Figures 2a, 2b, 2c >

- < Figures 3a, 3b, 3c >

### *Commentary*

These nine figures present estimates for 27 countries that conducted DHS since 2000. They provide a foundation description of the current desires for fertility limitation in Africa.

Our interest is both the level and the shape of these line plots. Consistent with low fertility would be: (i) sharp increase in the desire to stop with age and parity, and (ii) high average prevalence of the desire to stop.

(i) Figures 1a-1c and Figures 2a-2c examine the age- and parity-patterns. The desire to stop does indeed show the patterns that are indicative of a "family limitation" mentality, i.e. distinctly higher percentages of women desiring to stop at older ages and higher parities. In general, the age- and parity-patterns are much sharper in Eastern and Southern Africa, and also Middle Africa, than in West Africa. From these data alone, we cannot say whether women adhere to a relatively fixed target number of children and have long time horizons – this is psychology beyond the DHS measurement. But on the face of it these estimates dispute the notion in some quarters that age- and/or parity-dependent birth control is an alien concept in African societies.

At the same time, it is striking how flat the age-patterns and parity-patterns are in most of the West African countries.

(ii) Figures 3a – 3c focus on prevalence, showing the percentage of women wanting no more children at ages 30–34 and at parities 2 and 4. Among women aged 30–34 (Figure 3a), it is common in Eastern and Southern Africa for one-half or more of women to want to stop, whereas only Rwanda approaches this level in the other two sub-regions and, indeed, in most countries in Middle and West Africa the prevalence does not exceed 30 percent (including Ghana). At parity 2 (Figure 3b) – a test of the prevalence of small family desires – in only a few countries do one-third or more of the women want to stop, and in West Africa the percentage is below 15% (except for Ghana at 21%). Even at parity 4 (Figure 3c), in the majority of countries less than one-half of the DHS respondents express a desire to stop (with a few striking exceptions in Eastern and Southern Africa), and in most Middle and West African countries less than one-third want to stop at parity 4.

### *Conclusions*

Throughout Africa, the expressed desire to stop childbearing is more prevalent at older ages and higher parities, a pattern revealing of a consciousness about the reproductive career that is consistent with family limitation behavior.

However, a desire to curtail childbearing well before the end of the reproductive years (e.g. at ages 30–34) or at low and moderate parities (2 and 4, respectively) remains uncommon, and indeed is truly rare in many countries in Middle and West Africa. In those two sub-regions, there is little apparent demand for a significant reduction in the number of children.

- **Is there evidence that the desire to limit has increased over time?**

< Figures 4a, 4b, 4c >

### *Commentary*

Changes in the desire to stop childbearing are calculated on a per annum basis, to control for differences among countries in the elapsed time between the earliest and most recent survey.

There are sharp sub-regional differences in the rate of change. In most of the Eastern and Southern African countries, the rate of change exceeds one percent per annum, and, of some relevance to this research, it is more rapid at the later stages of the reproductive career (i.e. more rapid at parity 4 than at parity 2). In this sub-region, the change is consistent with an emergence of family limitation.

The rate of change is distinctly slower in the other two sub-regions, with a few exceptions (Rwanda, Ghana, and also, interestingly Camerouns and Cote d'Ivoire). In several of the Sahelian countries, the percentage wanting to stop has actually declined between surveys.

## *Conclusions*

In most African countries, and especially countries in East and Southern Africa, not only is the desire to limit increasing, but it is increasing at a rapid rate – age- and parity-specific increases of 1 to 2 percentage points per annum. Hence, while the prevalence of desires to limit family size remains rather low (as summarized above – see Figures 3a – 3c), the DHS data suggest that a rather rapid emergence of such desires has been occurring. Were this trend to continue, within a decade or so the majority of women in most African countries will resemble their counterparts in other regions in preferring to limit their childbearing to a small number of children (less than four).

- **Do the few substantial declines in fertility to date in Africa give evidence of family limitation behavior?**

< Figures 5 >

< Figure 6a, 6b >

## *Commentary*

We focus this analysis on six countries that have experienced substantial fertility decline which has led to a Total Fertility Rate [TFR] of five births per woman or less: Kenya, Lesotho, Namibia, and Zimbabwe (Eastern and Southern); Cameroons (Middle); Ghana (West). At issue is whether these declines give clear evidence of increases in family limitation behavior. Evidence of this would be: (i) sharper decrease at older ages in fertility rates, accompanied by (ii) sharper increase at older ages and higher parities in the desire to stop childbearing.

(i) Considering first the pattern of decline in age-specific fertility rates, Figures 5 does not indicate that the fertility declines to date have, in general, consisted mainly of declines in fertility at older ages. This is contrary to European and Asian experience but consistent with Caldwell *et al.*'s (1992) supposition almost two decades ago that African fertility declines would be distinctive in their relatively uniformity across age. Kenya and Lesotho, which have experienced the largest declines, are possible exceptions, showing larger proportionate contributions of declines at ages beyond 25.

(ii) Unlike the decline in fertility rates, the increase in the desire to stop childbearing < Figures 6a and 6b > is heavily concentrated at older ages and higher parities. This is true of all countries except Zimbabwe. This should convert into sharper declines in fertility at older ages, but as just noted this is not yet observed. There seems to be unrealized potential for fertility decline driven by family limitation goals.

## *Conclusions*

In those few African countries where fertility has declined substantially, the decline to date does not appear to consist mainly of family limitation behavior,

i.e. terminating childbearing in the midst of the reproductive years because a desired number of children has been reached. In this respect, African declines contrast with classic patterns in other regions. And yet fertility desires in these countries have evolved over time so as to encourage such family limitation behavior. In short, the evolution of family limitation desires is not yet fully expressed in fertility rates.

- **Are there signs that attitudes towards reproduction are undergoing a transformation among younger women?**

< Figure 7a, 7b >

#### *Commentary*

Young women in some African countries – especially in Eastern and Southern Africa -- are providing stunning responses in DHS surveys when asked about the wantedness of recent births. To my knowledge, these responses have not yet drawn the attention of demographers. I believe they could be indicative of profound changes in attitudes towards childbearing among younger cohorts of African women.

The pertinent DHS item is:

"At the time you became pregnant with < name >, did you want to become pregnant then, did you want to wait until later, or did not want (more) children at all?"

For first births occurring in the five years preceding the survey, Figure 7a shows the percentage choosing "did not want" in the 27 countries with a recent DHS survey. In most countries this percentage falls below 10%, indeed often below 5%. This is the common outcome globally – the vast majority of 1<sup>st</sup> births throughout the world are declared as wanted (although some fraction of these occur sooner than desired).

But in 11 of the 27 countries, 10% or more of 1<sup>st</sup> births are declared unwanted. This is a remarkable outcome from a comparative perspective: considering all DHS surveys (not simply the last one since 2000), there are 23 instances in which 10% or greater of first births are unwanted in Africa, whereas there are no other such instances in any other regions. It is also a remarkable outcome given the assumption, as discussed in much previous demographic and ethnographic research on African fertility, that in most African societies young women are under great pressure to demonstrate their fecundity in order to secure a good marriage.

Moreover, in most (but not all) countries where the recent African survey shows 10% or more of 1<sup>st</sup> births unwanted, this is an increase from the past, as shown in Figure 7b.

What to make of this phenomenon? It is hazardous to interpret these results with any confidence. Further investigation, perhaps of a qualitative nature, would be required to understand what lies behind these responses. (Note: the

trends in Figure 7b are not explained by an increasing concentration of 1<sup>st</sup> births outside of marriage or at especially young ages.) I submit that these results are indicative of emergence of new mentalities about reproduction among younger cohorts of African women. They may well be a harbinger of a profound re-evaluation of the role of childbearing and childrearing in African women's lives.

### *Conclusions*

There are very intriguing indications in DHS data from some African countries of a nascent anti-natalism among young women that could constitute an historic break from prevailing attitudes in past generations. But it should be stressed that the meaning of the DHS results – namely, surprisingly high fractions of 1<sup>st</sup> births declared unwanted retrospectively – is not yet fully understood.

- **What are the levels of unwanted childbearing in Africa?**

< Figure 8a, 8b, 8c, 8d >

### *Commentary*

The existence of unwanted fertility provides the most direct opportunity for family planning programs, as well as other initiatives to reduce the costs of birth control, to reduce fertility. Hence it is important to ascertain the level of unwanted fertility.

We use the "aggregate prospective" method recently developed by Casterline and el-Zeini (2007). This method relies on the prospective preference item and does not appear to suffer from the downward bias of the method used by the DHS (which depends on the ideal number of children item). The Casterline and el-Zeini method yields an estimate (by order, by age, and overall) of the percentage of births unwanted. From this, a "wanted TFR" and "unwanted TFR" can be calculated – the denominators are the same as the overall TFR, but the numerators are restricted to wanted and unwanted births, respectively.

Unwanted TFRs for the most recent survey are shown in Figure 8a, and trends in Figures 8b – 8c. The unwanted TFRs are relatively high (Figure 8a) -- roughly one birth per woman or higher in most countries -- the exceptions being three West African countries (Niger, Nigeria, Senegal) where the rate is only one-half birth per woman or lower. In some Eastern and Southern countries, the unwanted TFR approaches (or exceeds) two births per woman.

Moreover, as indicated in Figures 8b – 8d, unwanted fertility is on the rise in most countries, the main exceptions being those countries in Middle and West Africa where recent rates remain very low.

### *Conclusions*

In most of Africa, current age-specific rates of unwanted childbearing imply a lifetime total number of unwanted births in the range of 1.0 – 2.5 per woman. These rates of unwanted childbearing offer an opportunity for fertility impact of improved family planning services. However, this generalization does not apply to most countries in West Africa, where the expected lifetime rate is less than one birth per woman.

- **How much fertility decline might be achieved through reduction of unwanted fertility?**

< Figure 9a, 9b, 9c, 9d >

*Commentary*

Using the estimated unwanted fertility rates discussed above, we can examine what levels of fertility would result, hypothetically, if unwanted fertility were reduced while wanted fertility remained constant. That is, this simulation exercise addresses the question: what might be accomplished in terms of fertility reduction, given recent reproductive attitudes and behaviors, if family planning investments only assist couples in avoiding unwanted births (and, further, wanted fertility does not change)? Clearly this is a simplistic model of the dynamic that is likely to ensue if effective family planning services are introduced or expanded – most importantly, it assumes no effect of family planning services on wanted fertility (see Premise 3 in Section I above). Even so, this exercise provides a good starting-point for assessing the potential fertility impact of more investment in family planning services.

Figure 9a shows the current breakdown of fertility into wanted vs. unwanted components. The overall TFR exceeds 5.0 (births per woman) in most countries (19 out of 27), and exceeds 4.0 in 23 out of 27 countries. Even the wanted TFR exceeds 4.0 in 15 of the 27 countries.

Figures 9b – 9d conduct the hypothetical exercises: in 9b the unwanted TFR is reduced by 25%, in 9c by 50%, and in 9d it is set to 0.50 births per woman. The latter is a rate that, judging by countries in other regions with a TFR less than 3.0, is difficult to improve on. Note that some unwanted fertility is present in all societies, it is never completely eliminated.

When the unwanted TFR is reduced by 25% (Figure 9b), the TFR exceeds 4.0 in 22 out of 27 countries, i.e. only one fewer than under present conditions. When the unwanted TFR is reduced by 50% (Figure 9c), the TFR exceeds 4.0 in 20 out of 27 countries. Finally, when the unwanted TFR is set to 0.50 births per woman (Figure 9d), the TFR exceeds 4.0 in 18 out of 27 countries. Under this scenario, all of the nine West African countries maintain a TFR in excess of 4.0, with the exception of Ghana, and six of these nine countries still have TFRs in excess of 5.0.

*Conclusions*

In most African countries, considerable success in reducing unwanted fertility will leave fertility at moderate to high levels (i.e. in excess of four births per woman). This is especially the case in the West African countries. In only a few atypical countries – Namibia, Lesotho, Swaziland – would success in reducing unwanted fertility result in overall TFRs below 3.0 births per woman.

## References

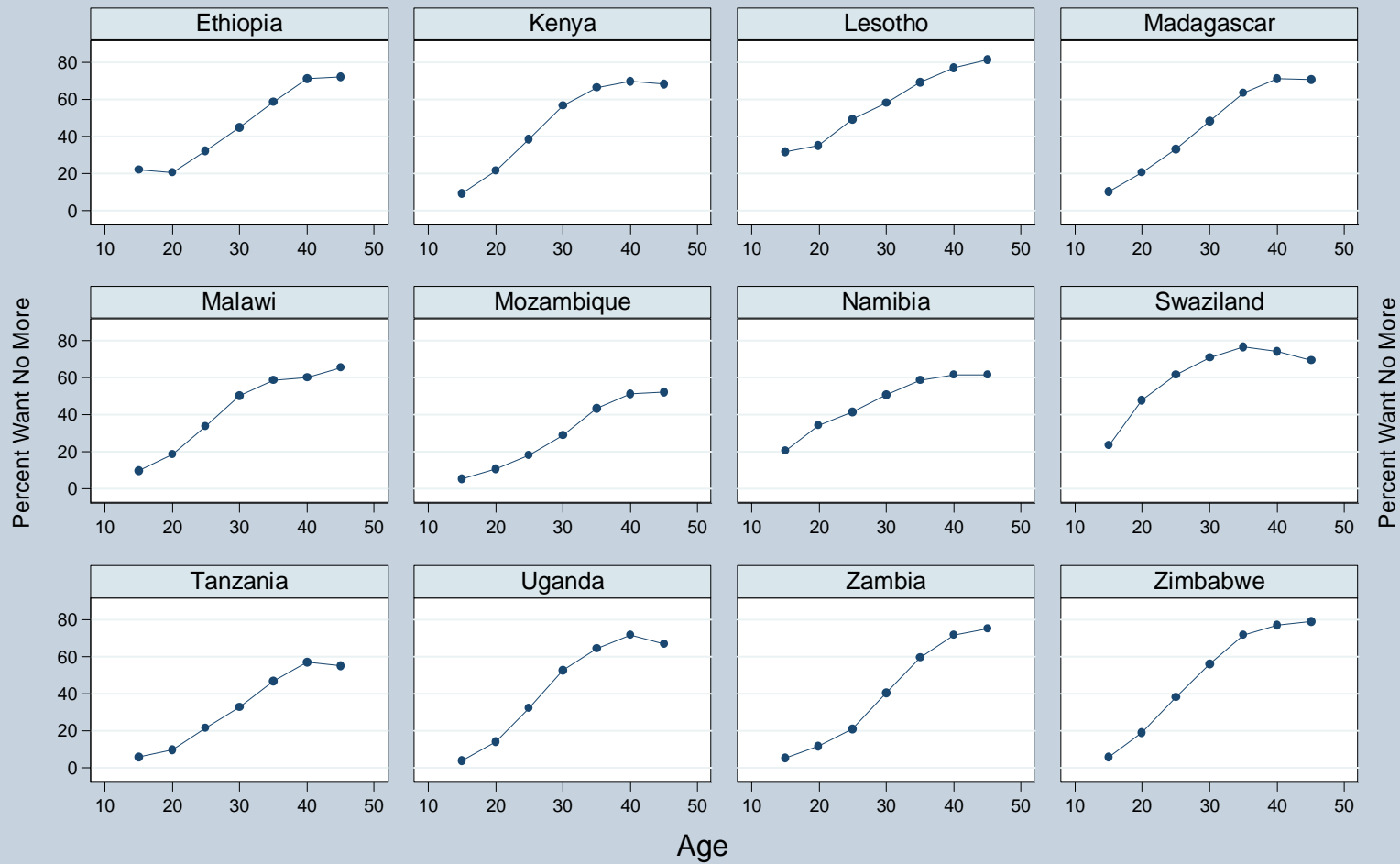
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Table 1. Countries with Substantial Fertility Decline

<u>Country</u>	<u>Survey Dates</u>		<u>Total Fertility Rates</u>		
	<u>First</u>	<u>Recent</u>	<u>First</u>	<u>Recent</u>	<u>Decline</u>
Kenya	1978	2003	8.0	4.9	3.1
Lesotho	1977	2004	5.9	3.5	2.4
Namibia	1992	2006	5.4	3.6	1.8
Zimbabwe	1988	2005	5.4	3.8	1.6
Cameroon	1978	2004	6.4	5.0	1.4
Ghana	1979	2003	6.2	4.4	1.8

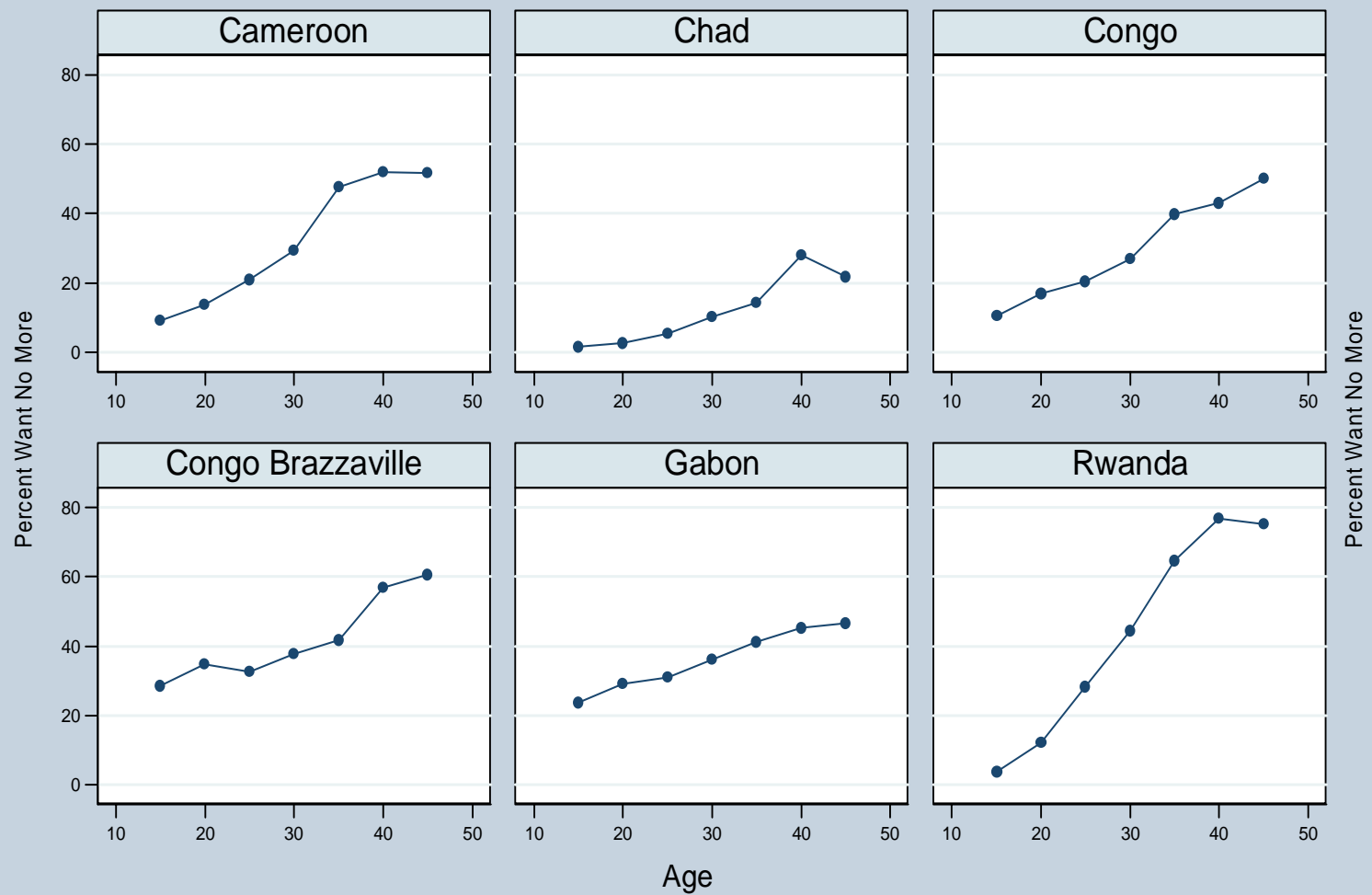
Note: Countries with recent TFR of 5.0 and lower, and decline of approximately 1.5 births per woman or greater.

Figure 1a: Desire to Stop Childbearing, by Age  
Eastern and Southern Africa



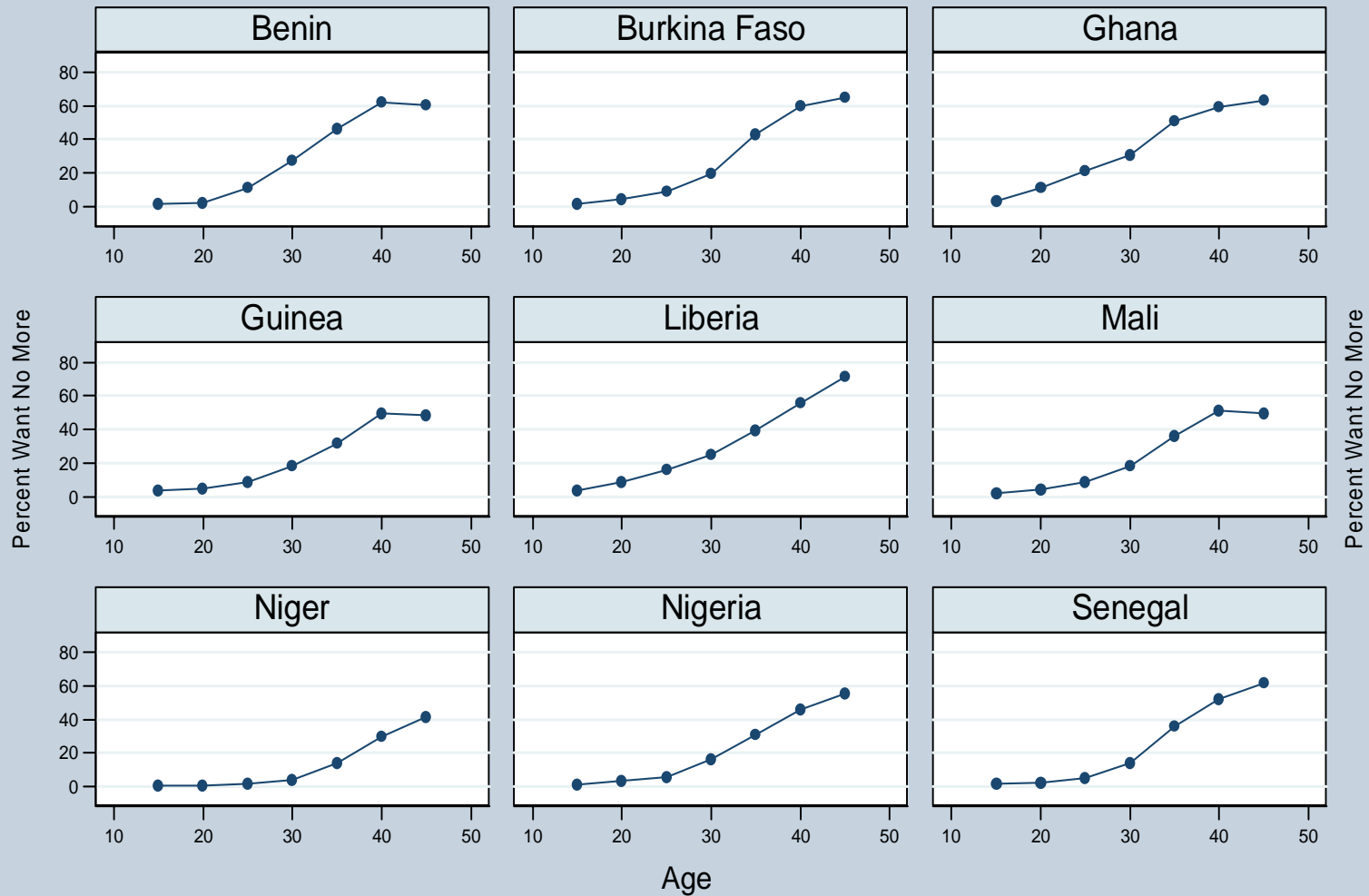
Most recent DHS survey since 2000

Figure 1b: Desire to Stop Childbearing, by Age  
Middle Africa



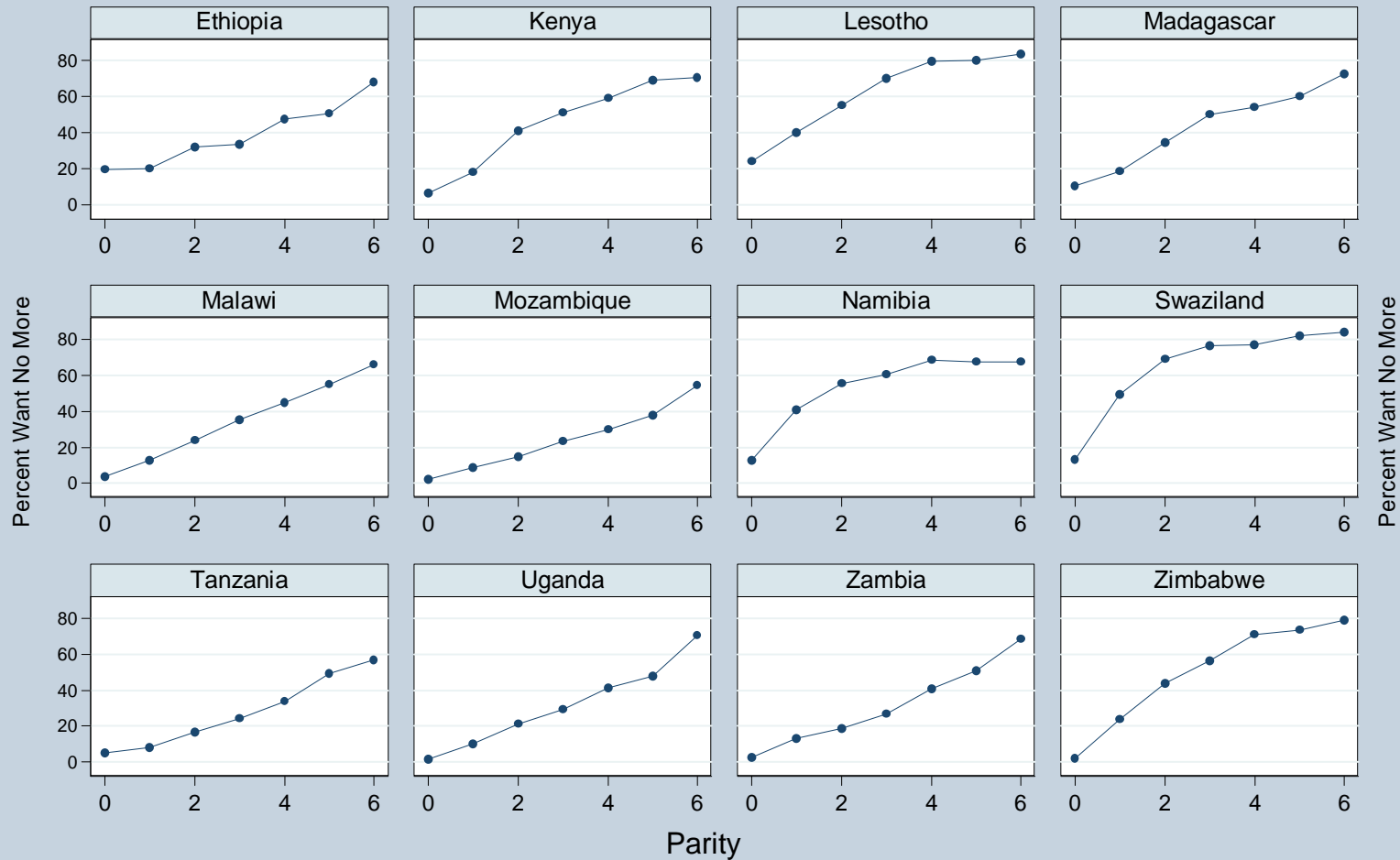
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Figure 1c: Desire to Stop Childbearing, by Age  
West Africa



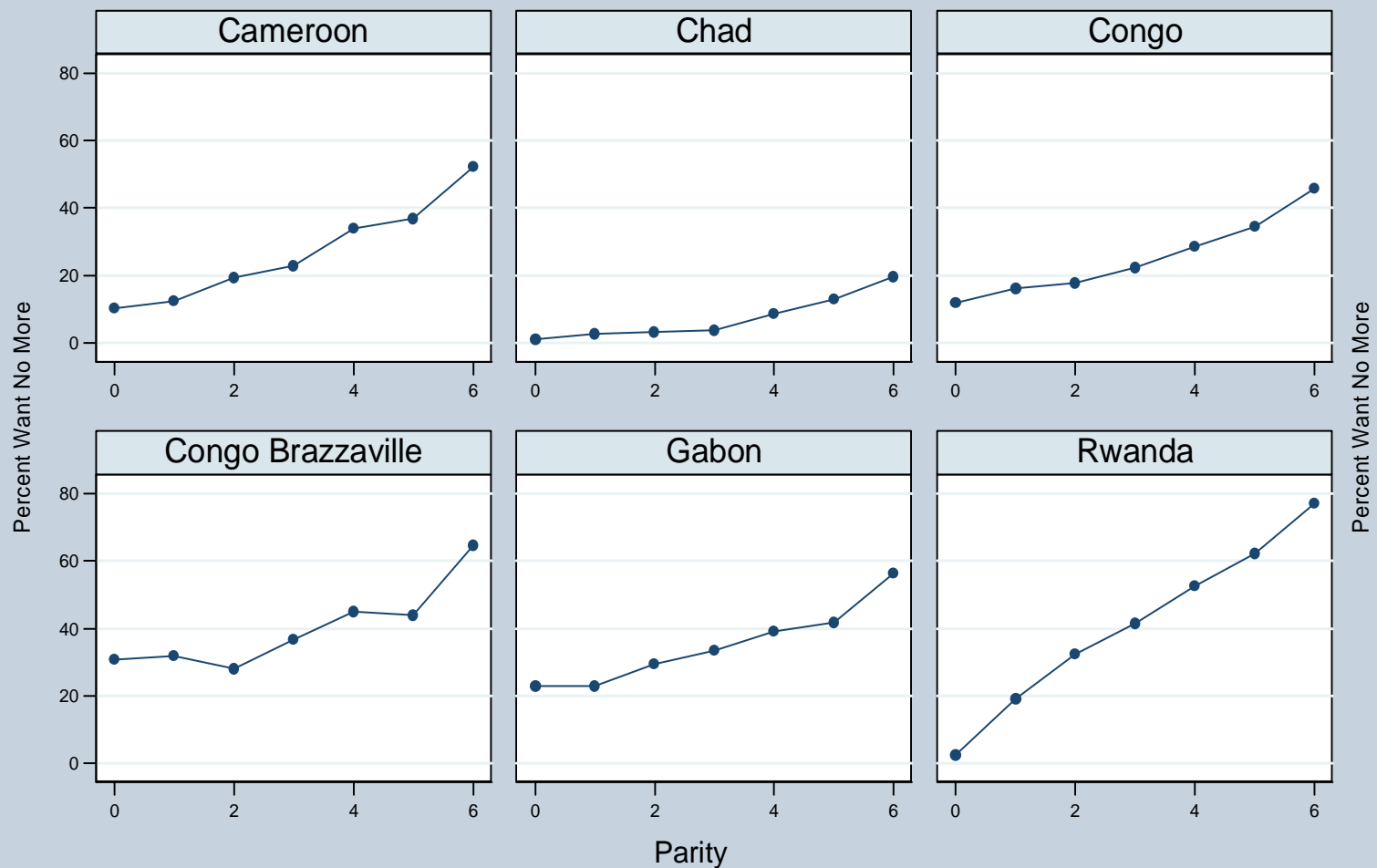
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Figure 2a: Desire to Stop Childbearing, by Parity  
Eastern and Southern Africa



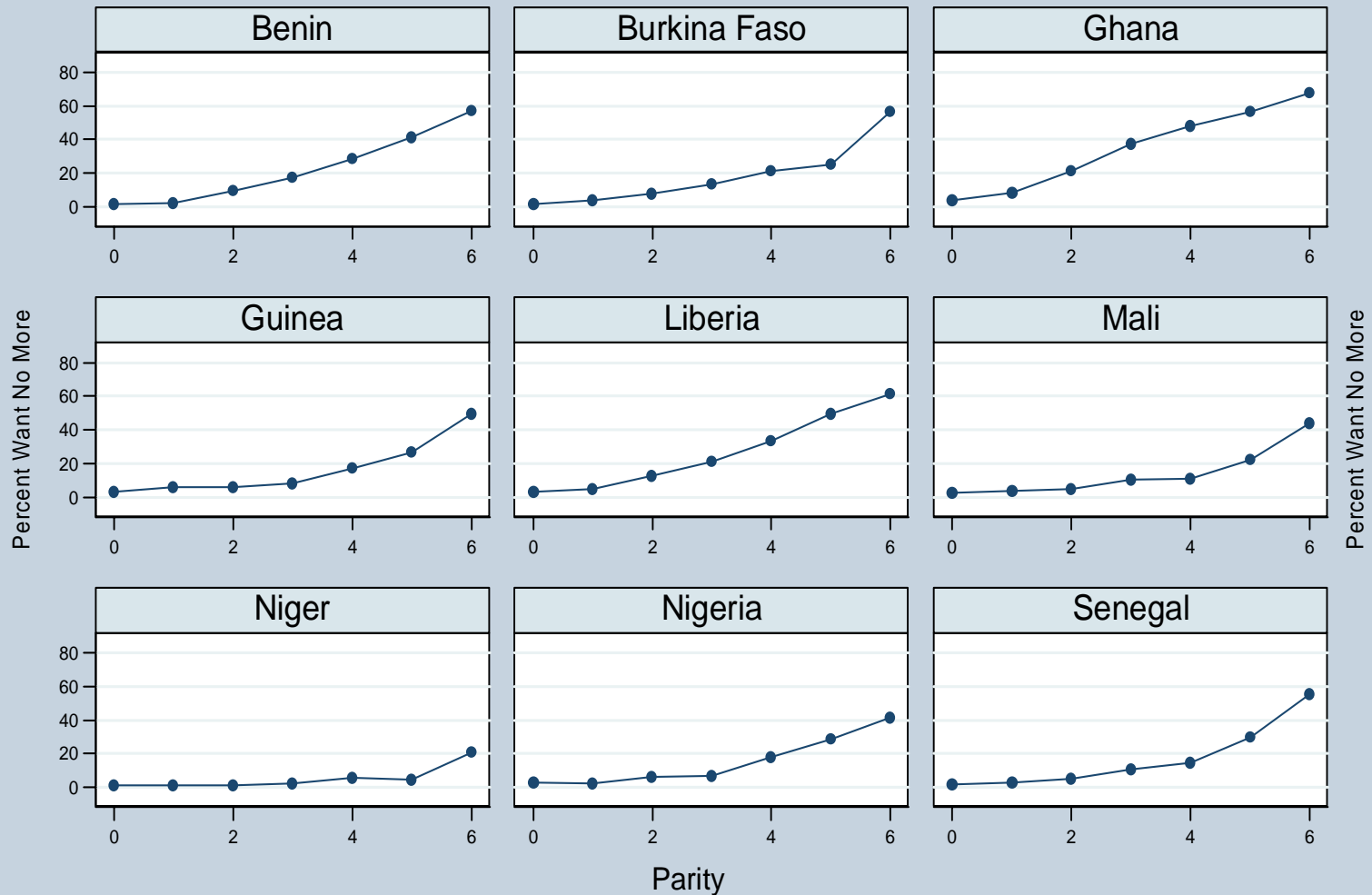
Most recent DHS survey since 2000

Figure 2b: Desire to Stop Childbearing, by Parity  
Middle Africa



Most recent DHS survey since 2000

Figure 2c: Desire to Stop Childbearing, by Parity  
West Africa



Most recent DHS survey since 2000

Figure 3a: Percent Wanting No More Children: Age 30-34  
Most Recent Survey Since 2000

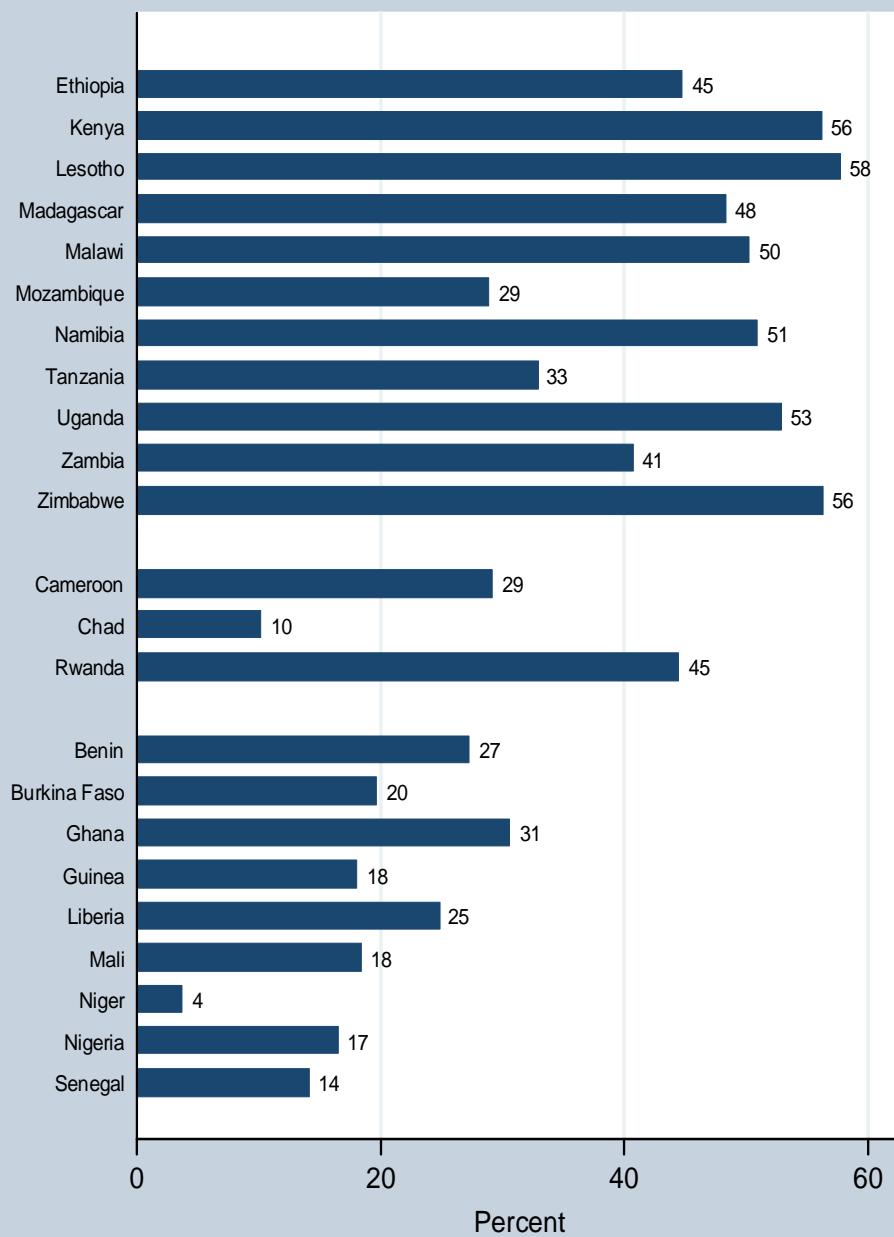


Figure 3b: Percent Wanting No More Children: Parity 2  
Most Recent Survey Since 2000

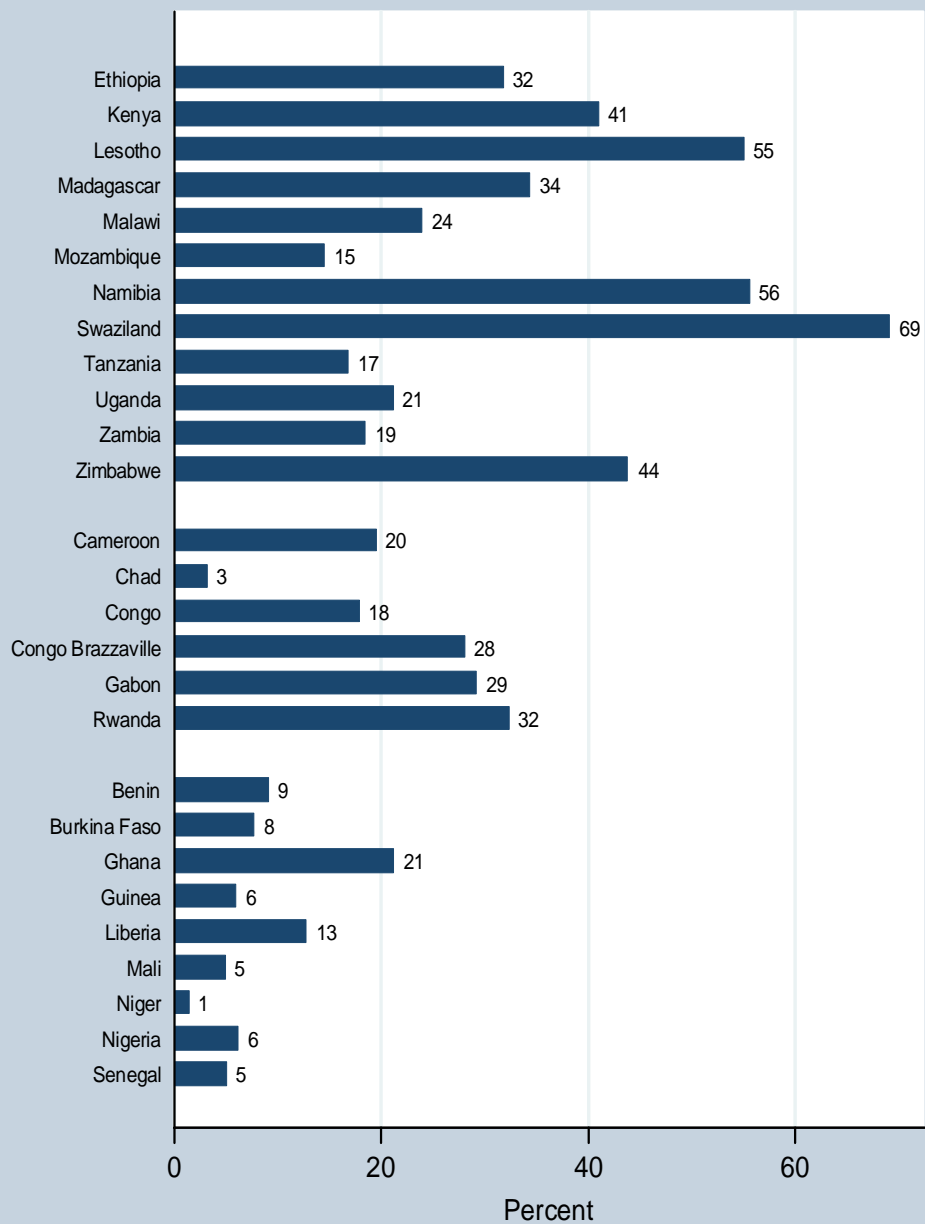


Figure 3c: Percent Wanting No More Children: Parity 4  
Most Recent Survey Since 2000

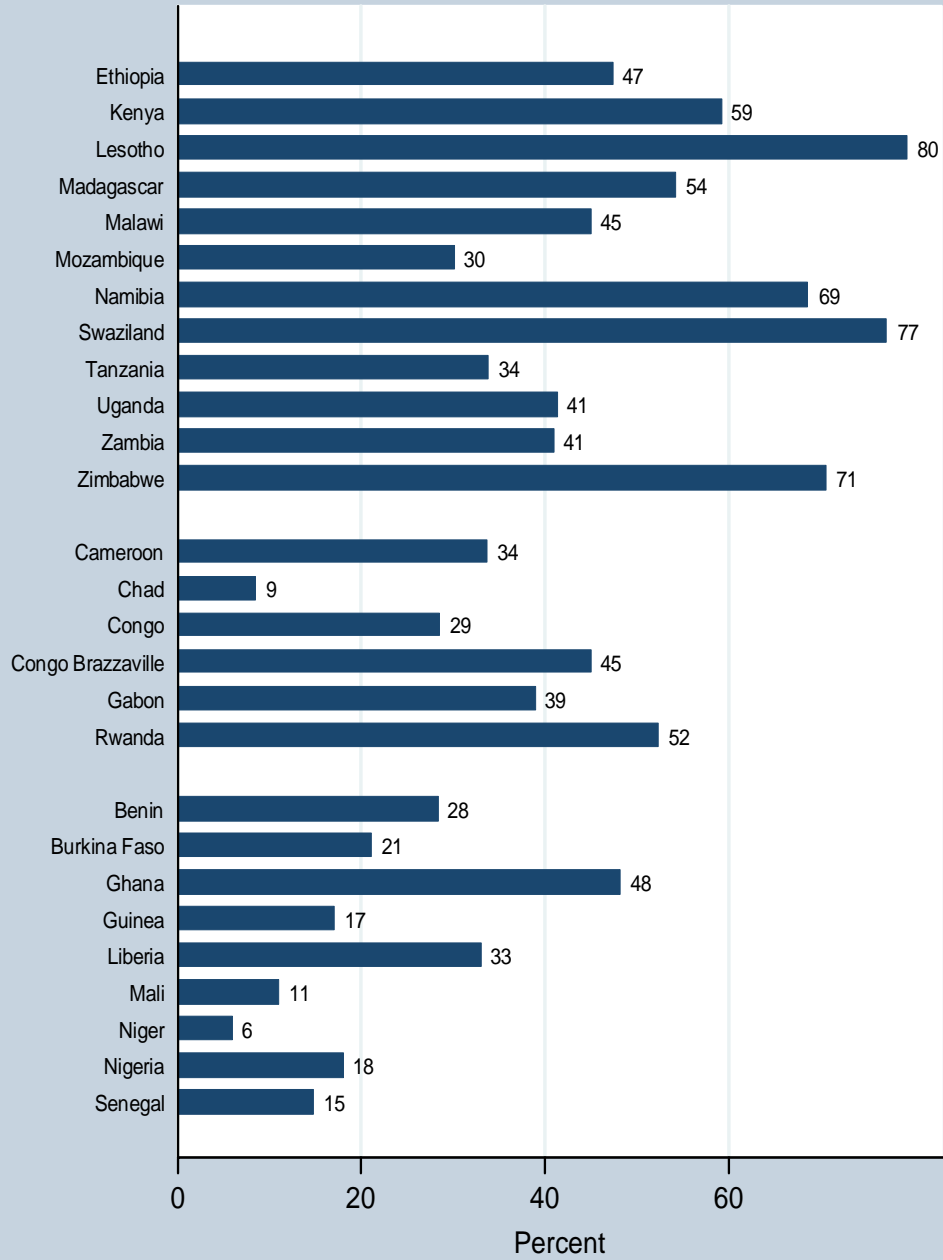


Figure 4a: Annual Change in Percent Wanting No More: Age 30-34  
Most Recent Survey and Earliest Survey

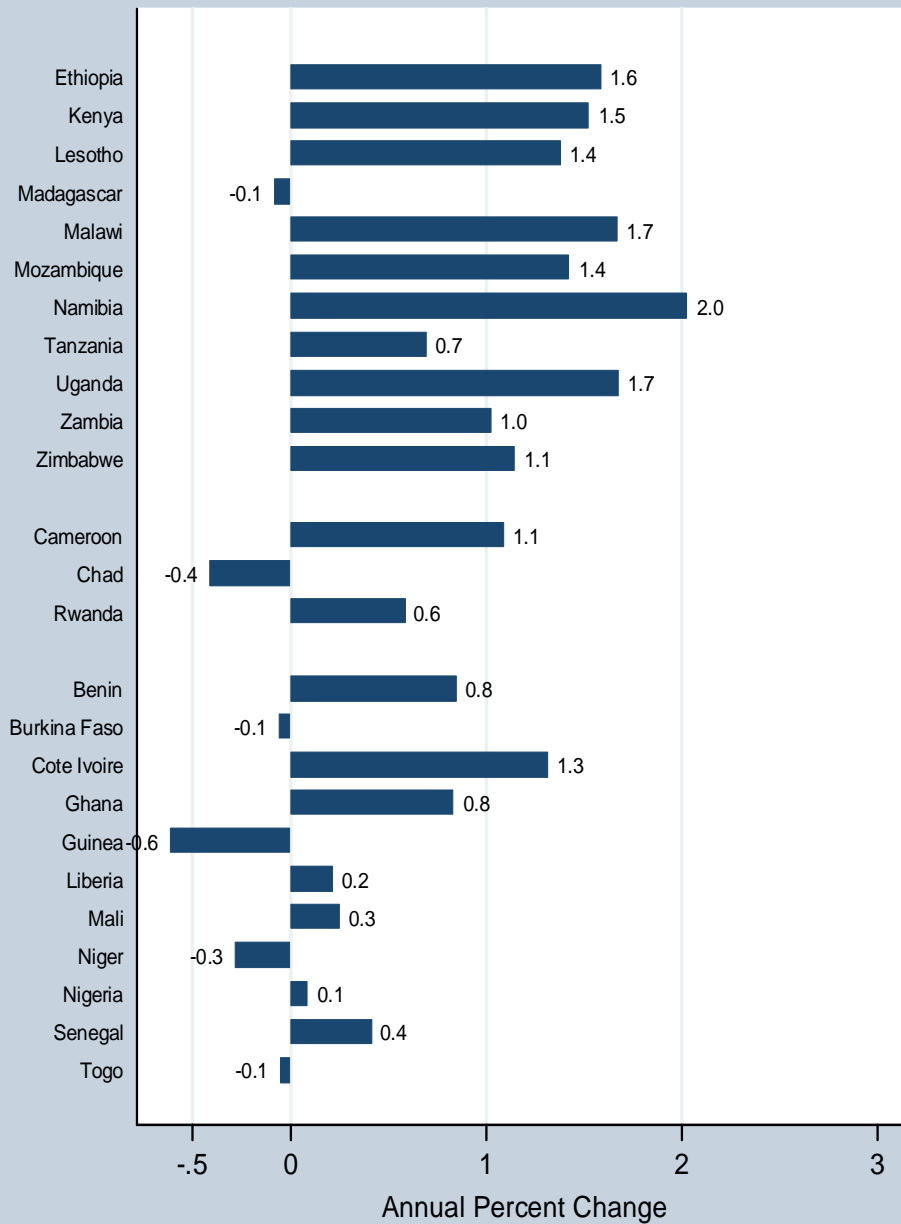


Figure 4b: Annual Change in Percent Wanting No More: Parity 2  
Most Recent Survey and Earliest Survey

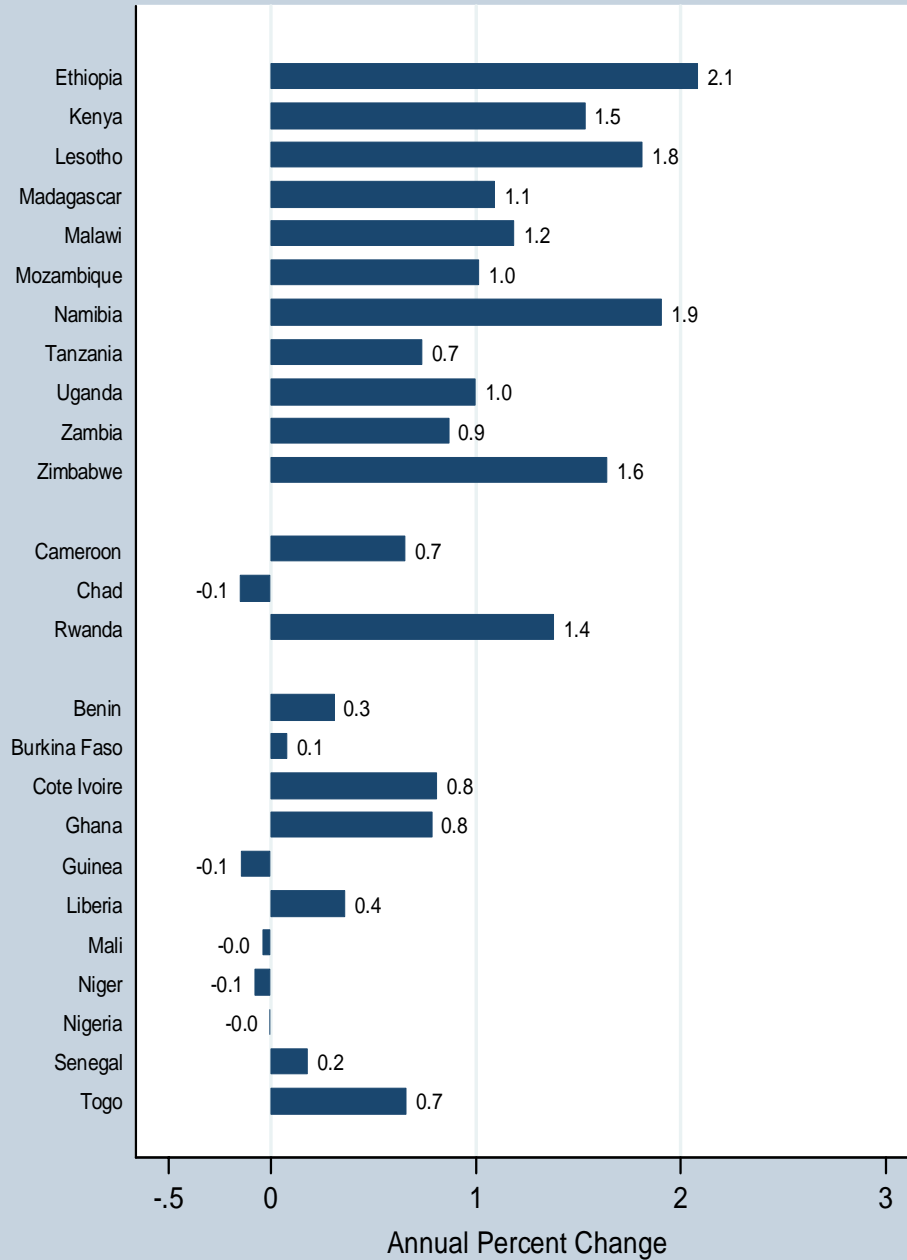


Figure 4c: Annual Change in Percent Wanting No More: Parity 4  
Most Recent Survey and Earliest Survey

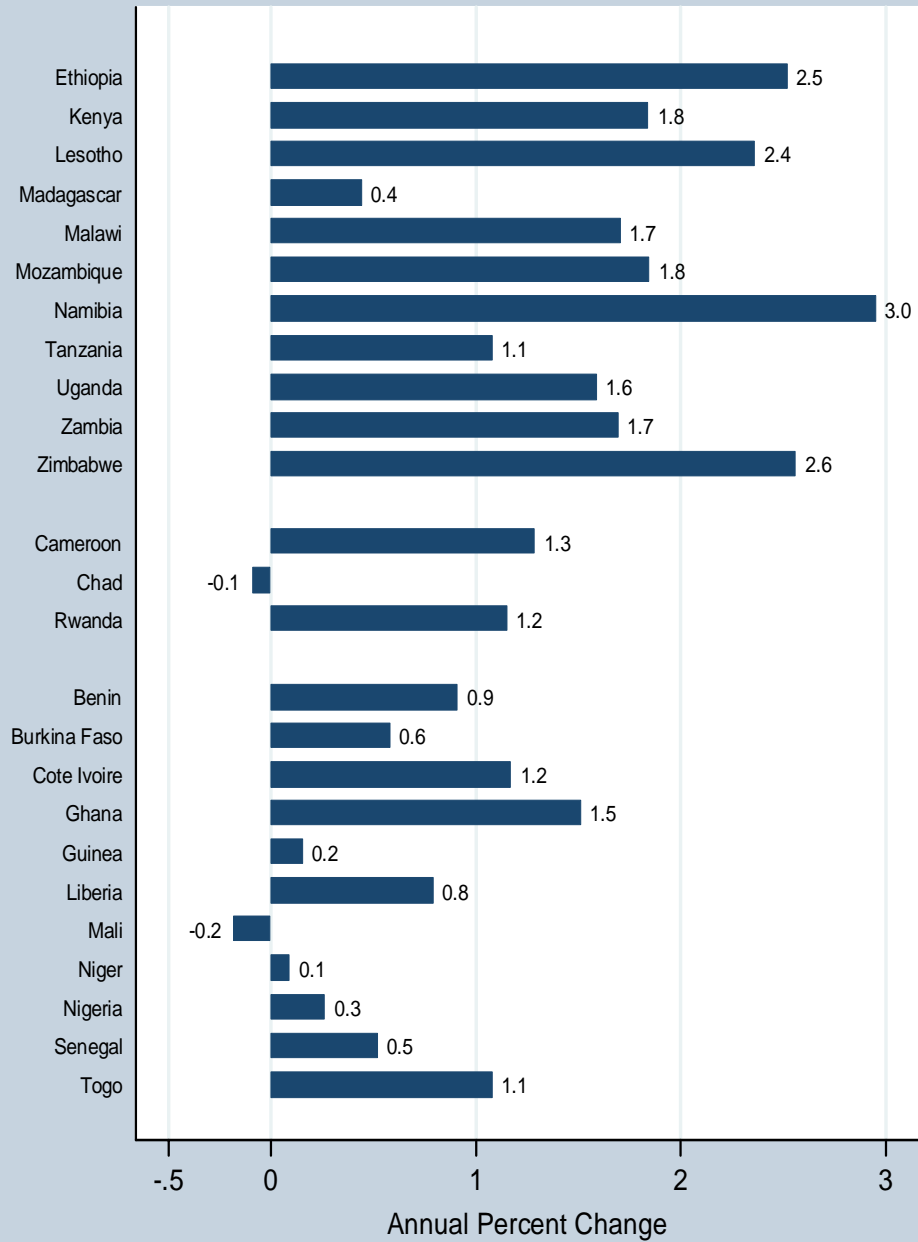
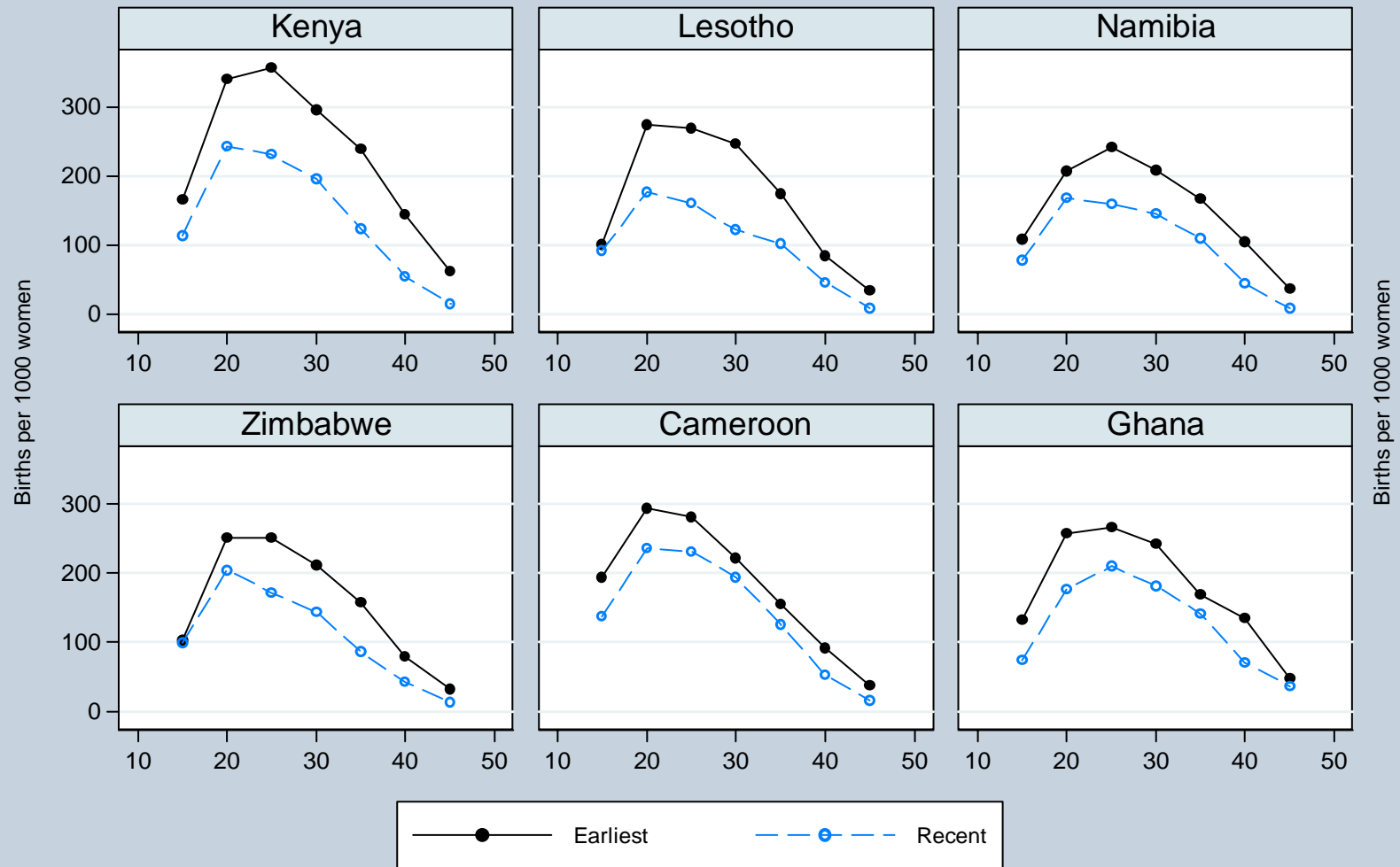
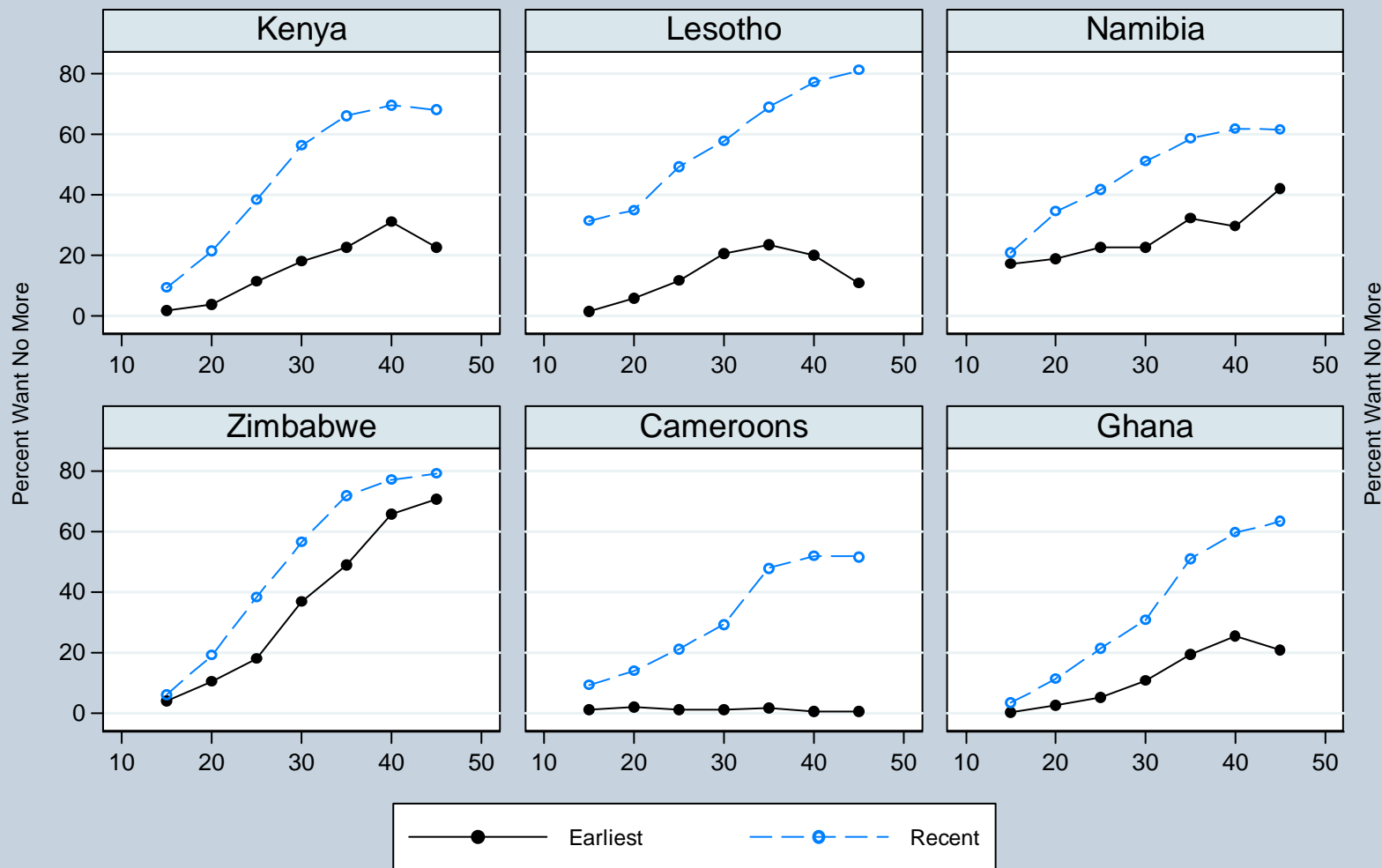


Figure 5: Age-Specific Fertility Rates



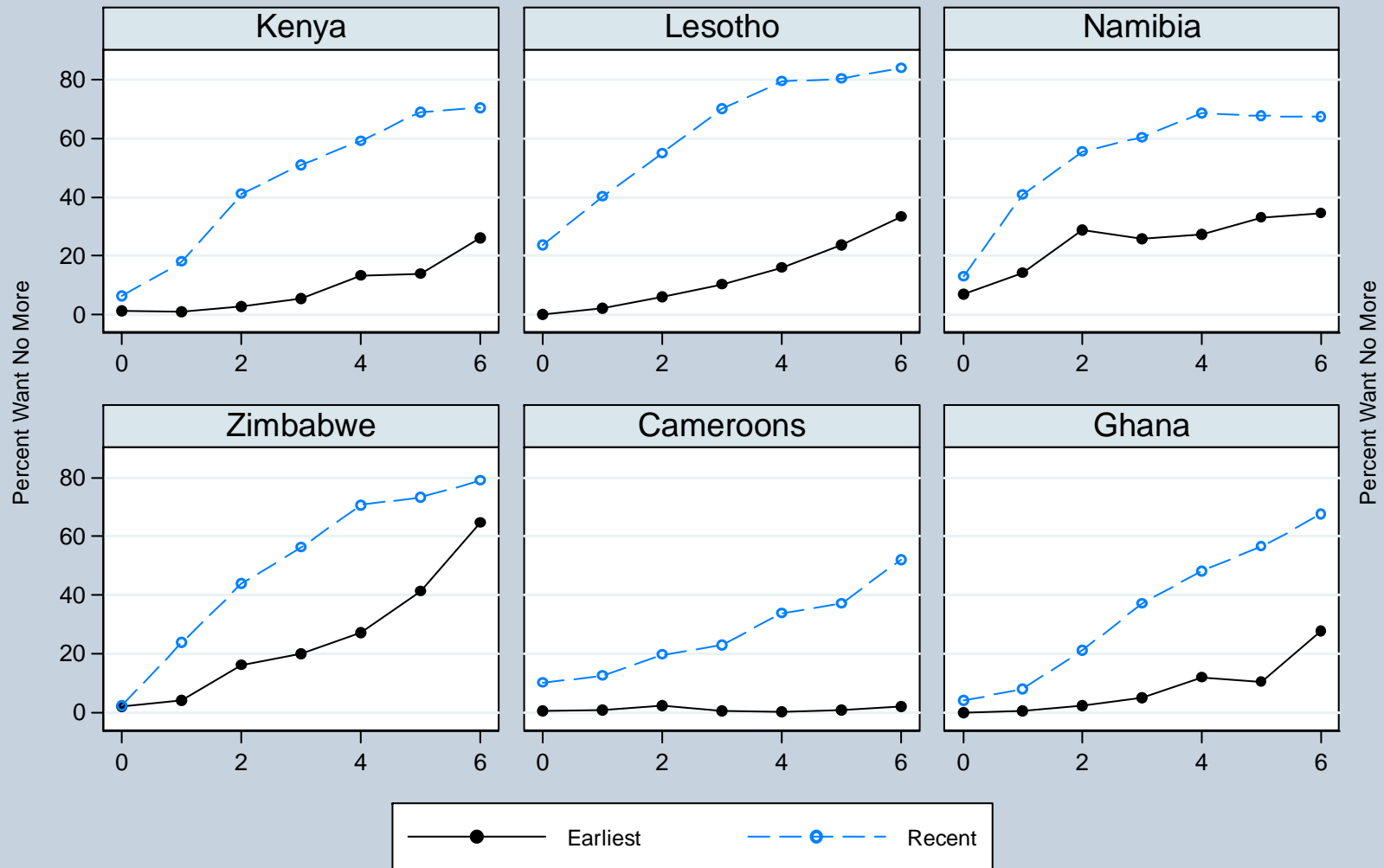
First and most recent WFS / DHS survey

Figure 6a: Desire to Stop Childbearing, by Age



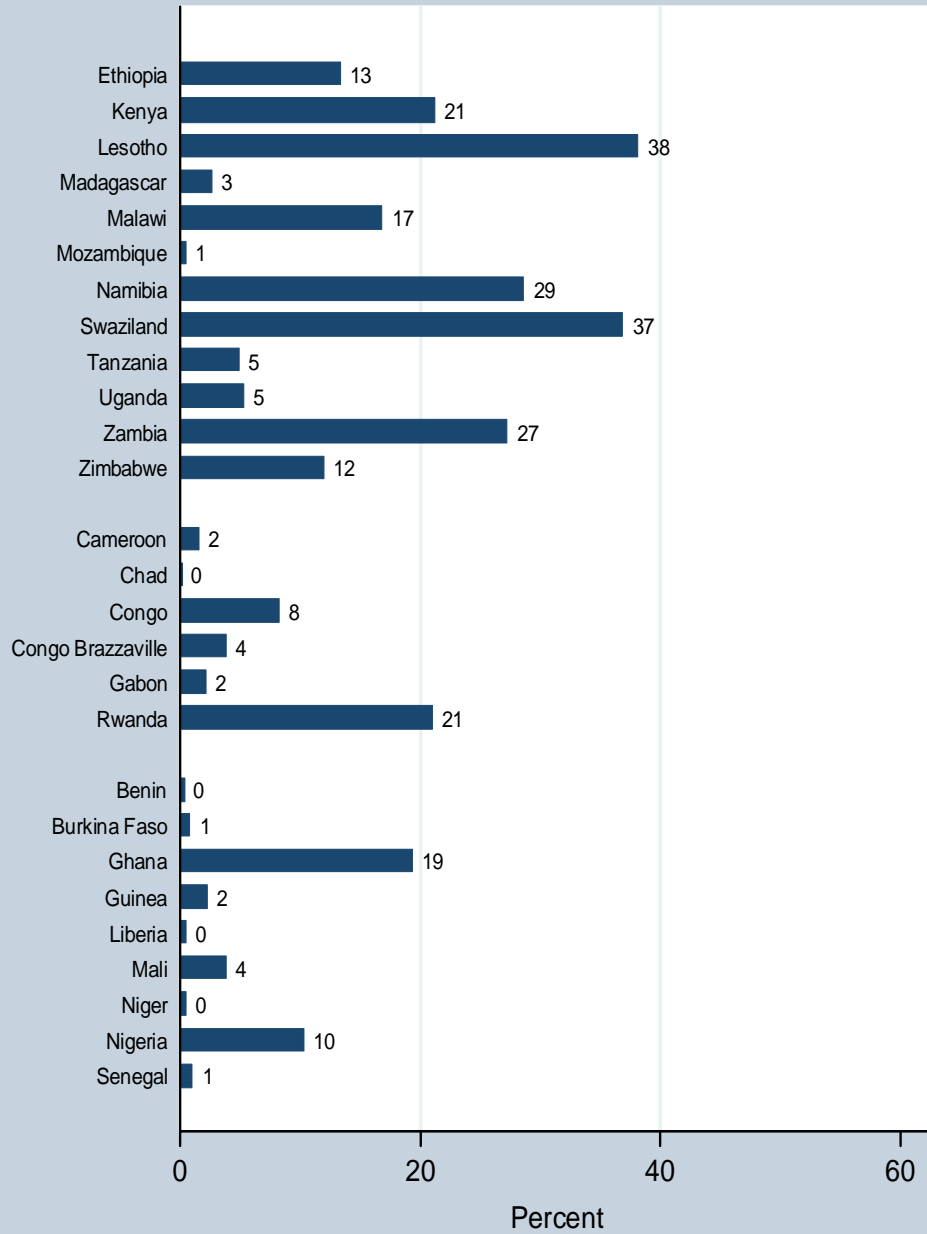
First and most recent WFS / DHS survey

### Figure 6b: Desire to Stop Childbearing, by Parity



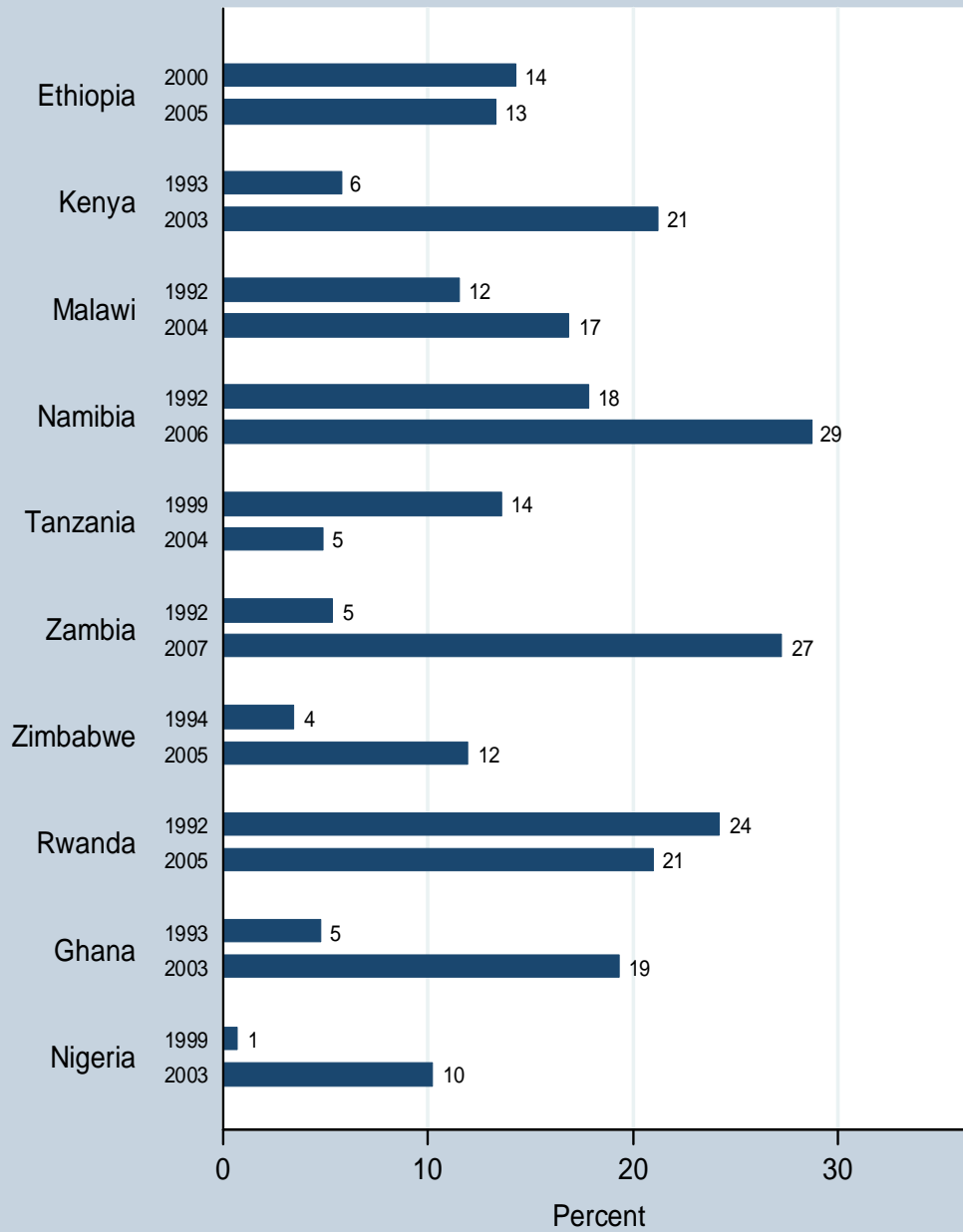
Earliest and most recent WFS / DHS survey

Figure 7a: Percent First Births Unwanted  
Most Recent Survey Since 2000



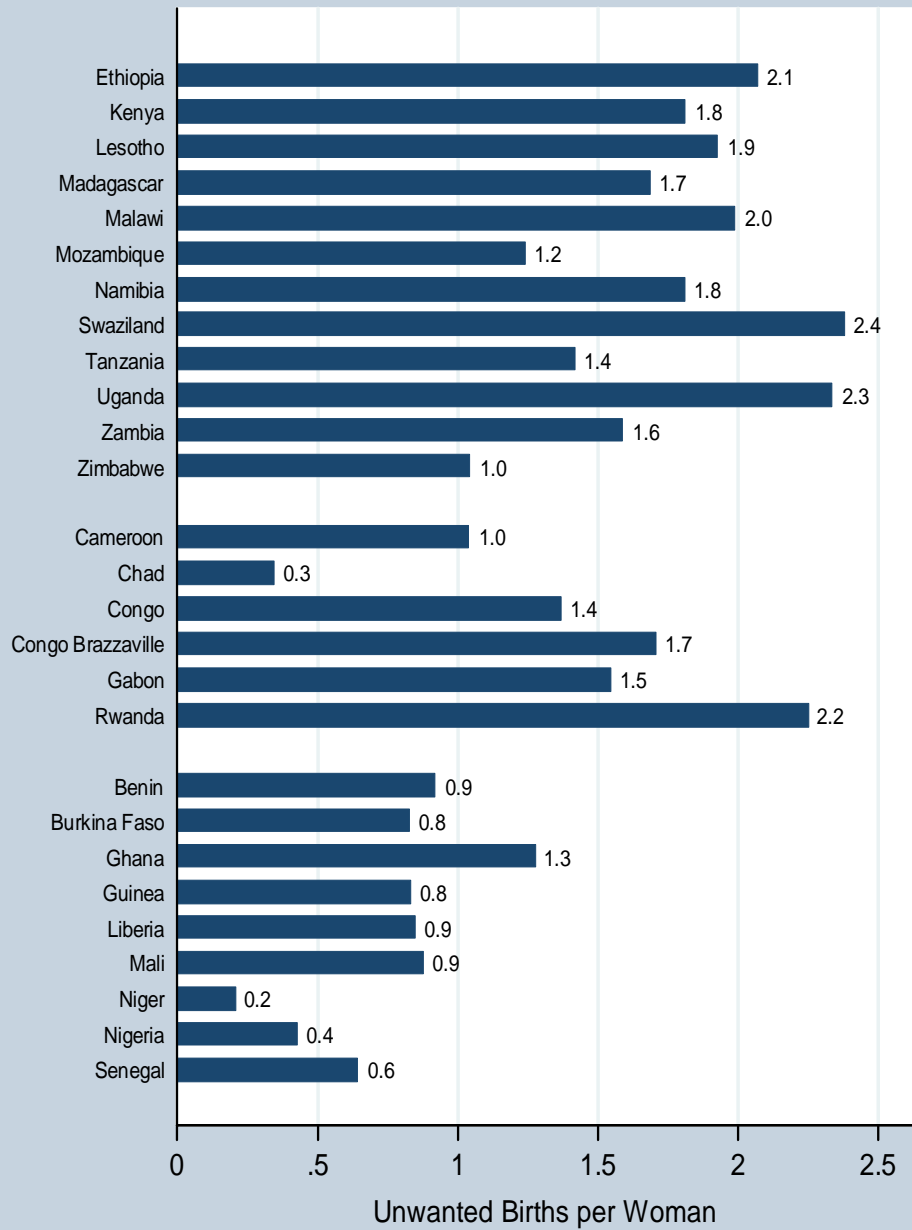
Births during 5 years before survey

Figure 7b: Percentage of First Births Unwanted  
Recent Trends



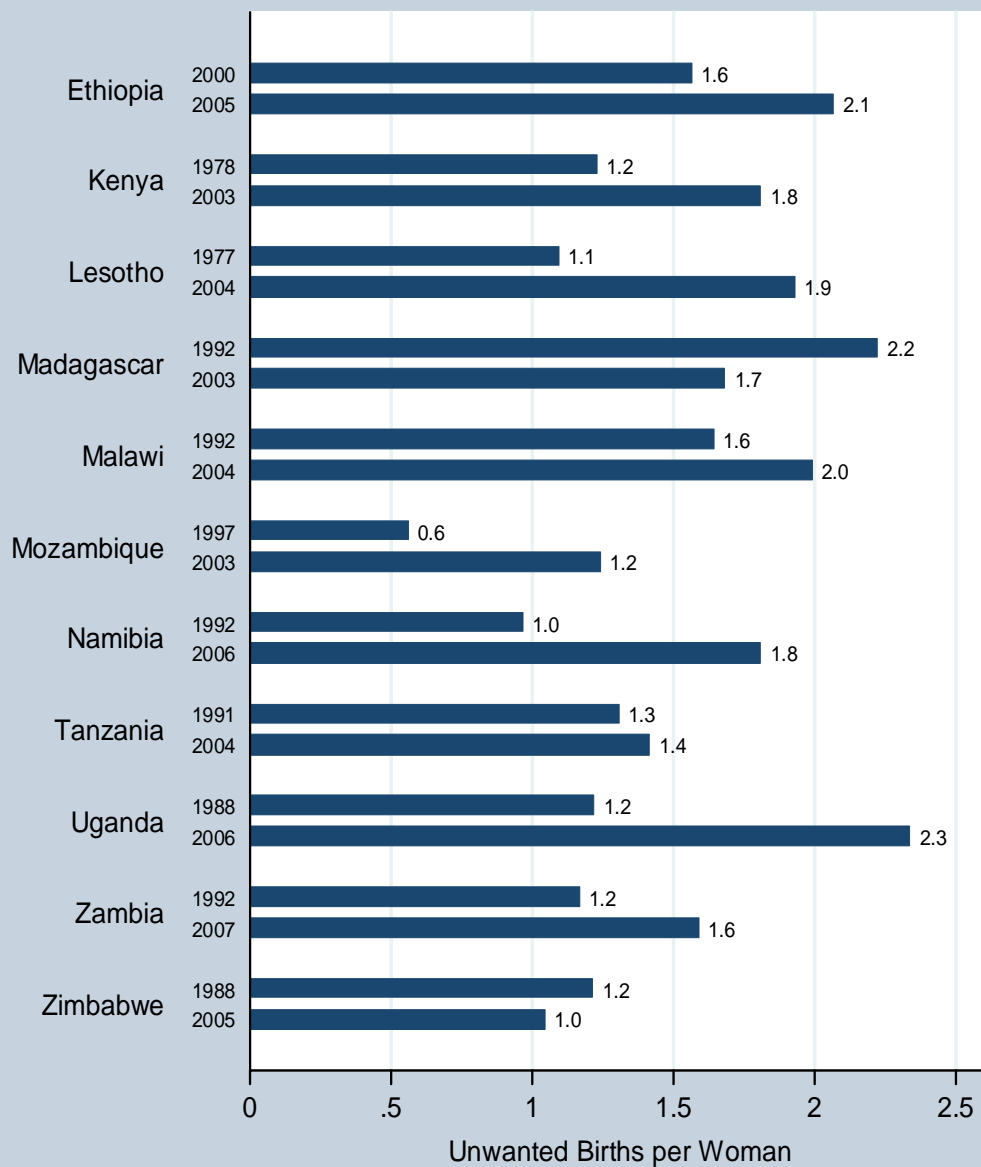
Births during 5 years before survey

Figure 8a: Unwanted Total Fertility Rate  
Most Recent Survey Since 2000



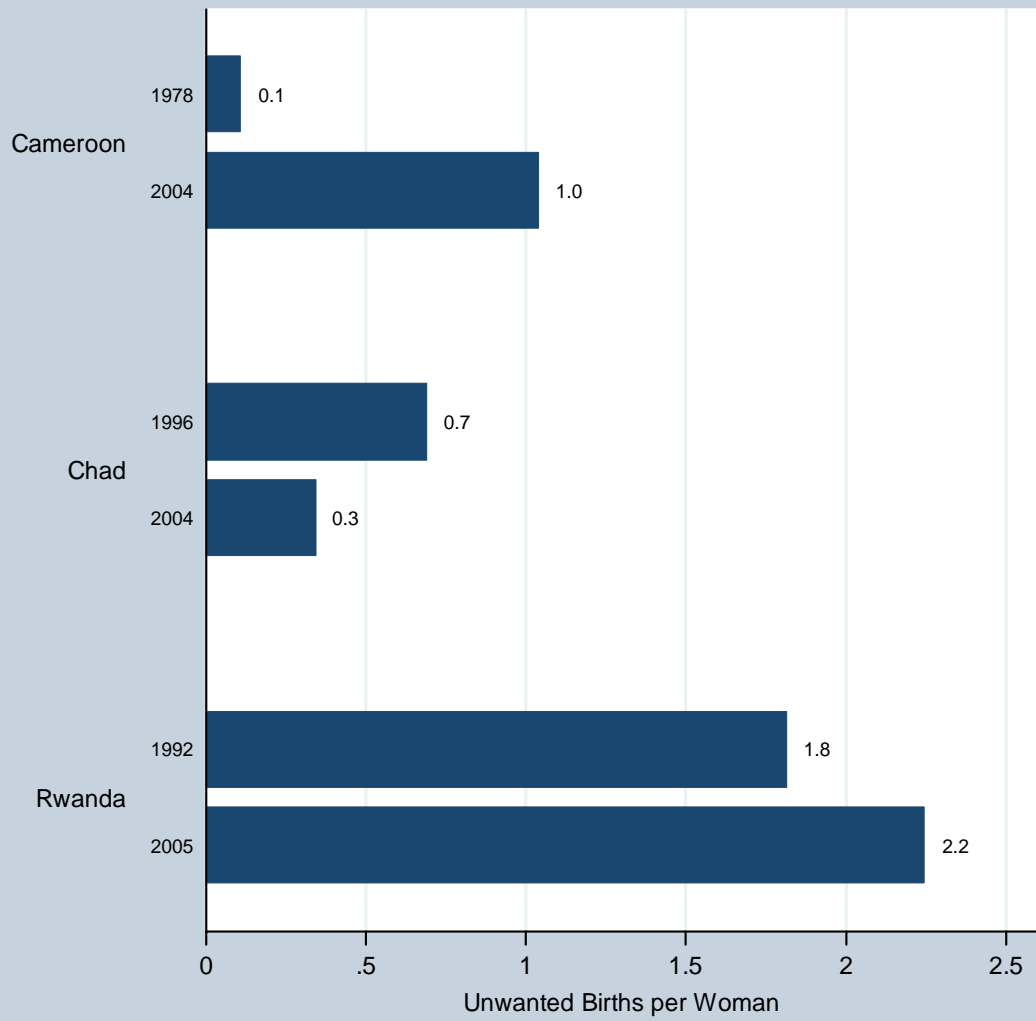
Aggregate Prospective estimates, 36 months before survey

Figure 8b: Unwanted Total Fertility Rate  
Recent Trends: Eastern and Southern



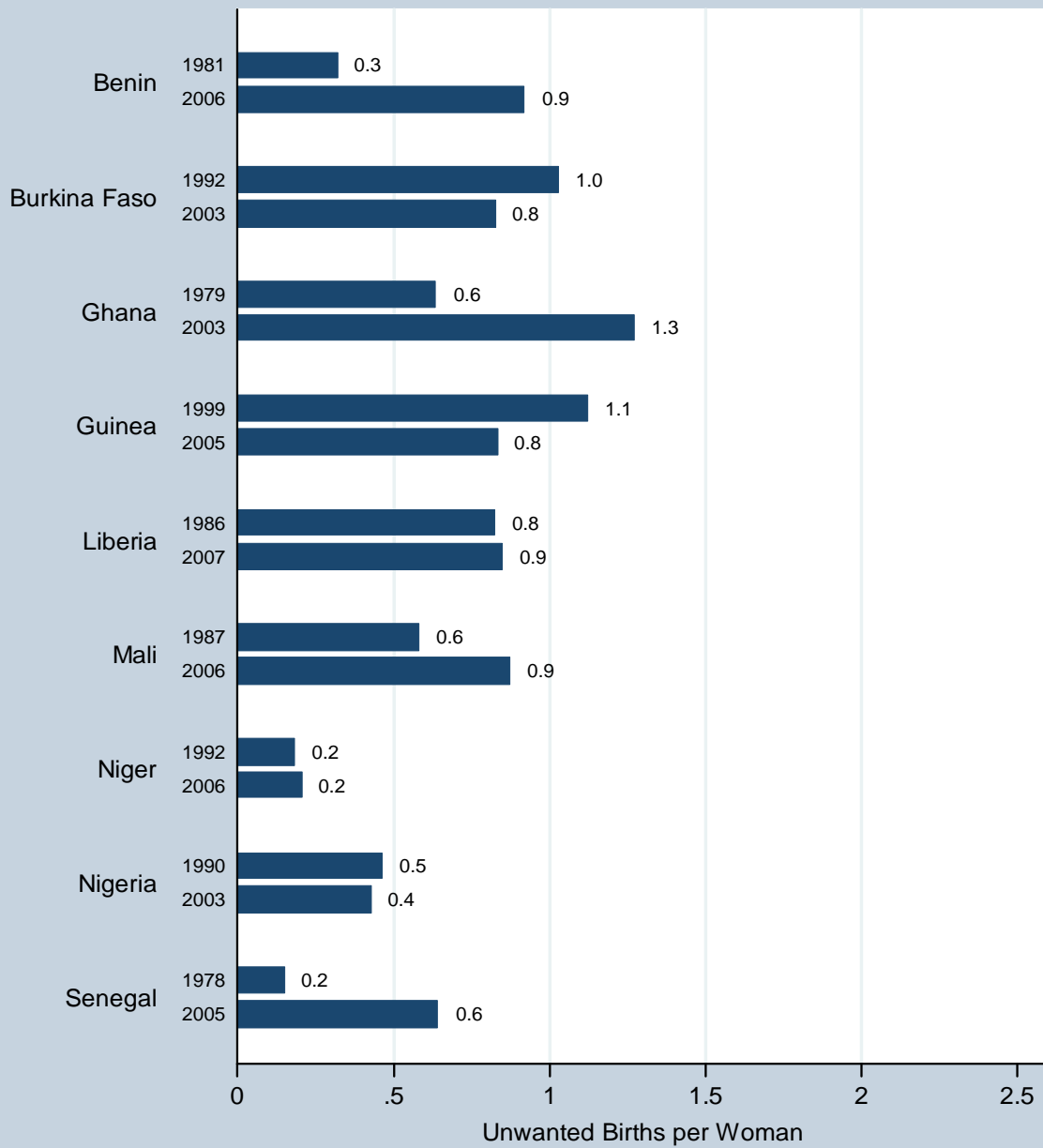
Aggregate Prospective estimates, 36 months before survey

Figure 8c: Unwanted Total Fertility Rate  
Recent Trends: Middle



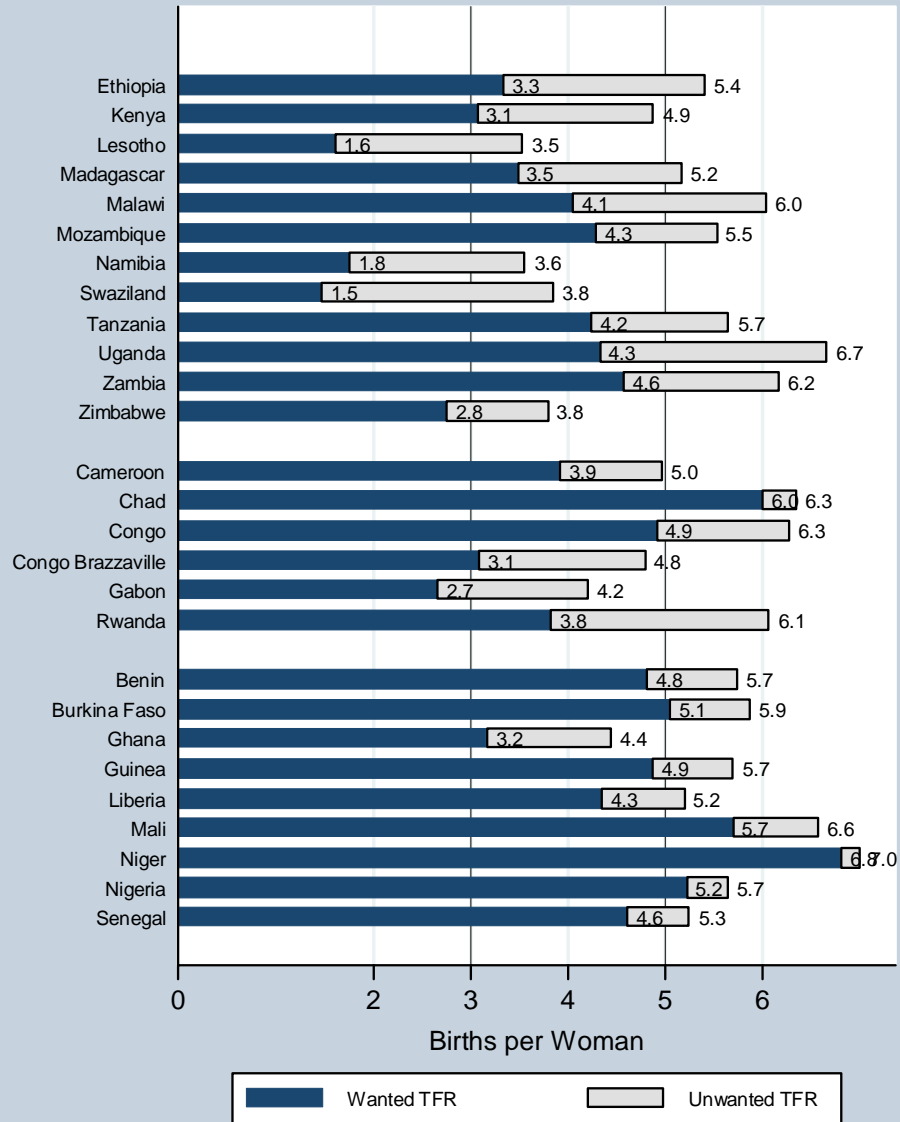
Aggregate Prospective estimates, 36 months before survey

Figure 8d: Unwanted Total Fertility Rate  
Recent Trends: West



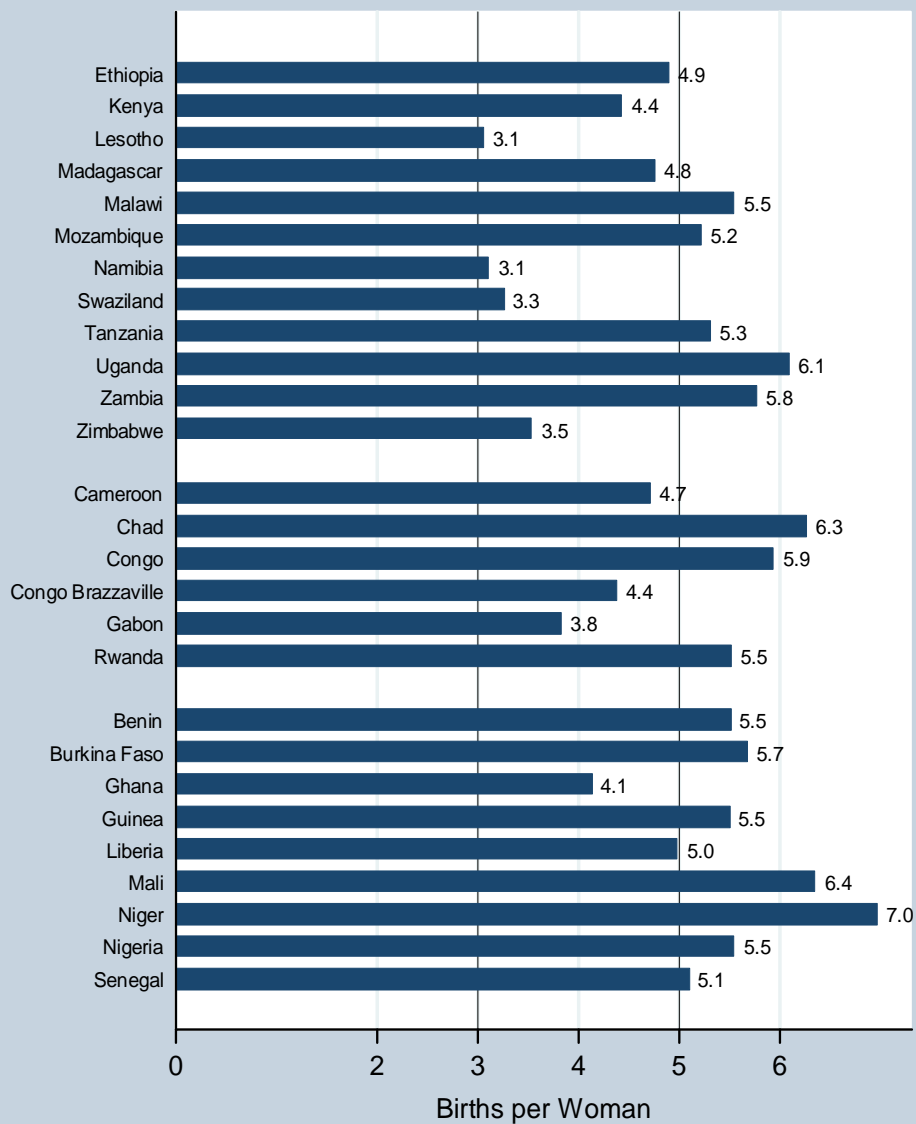
Aggregate Prospective estimates, 36 months before survey

Figure 9a: Total Fertility Rate and Components  
Most Recent Survey Since 2000



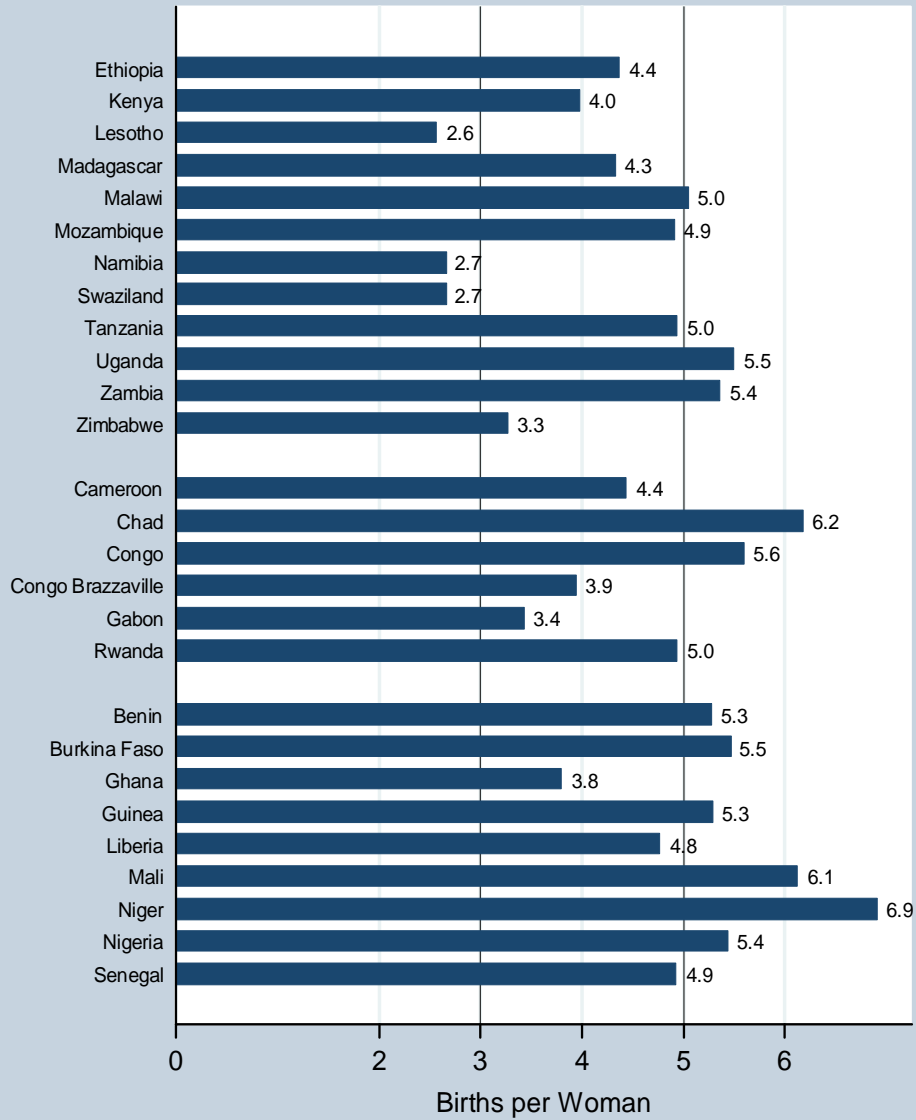
Aggregate Prospective estimates, 36 months before survey

Figure 9b: TFR with 25% Reduction in Unwanted TFR  
Most Recent Survey Since 2000



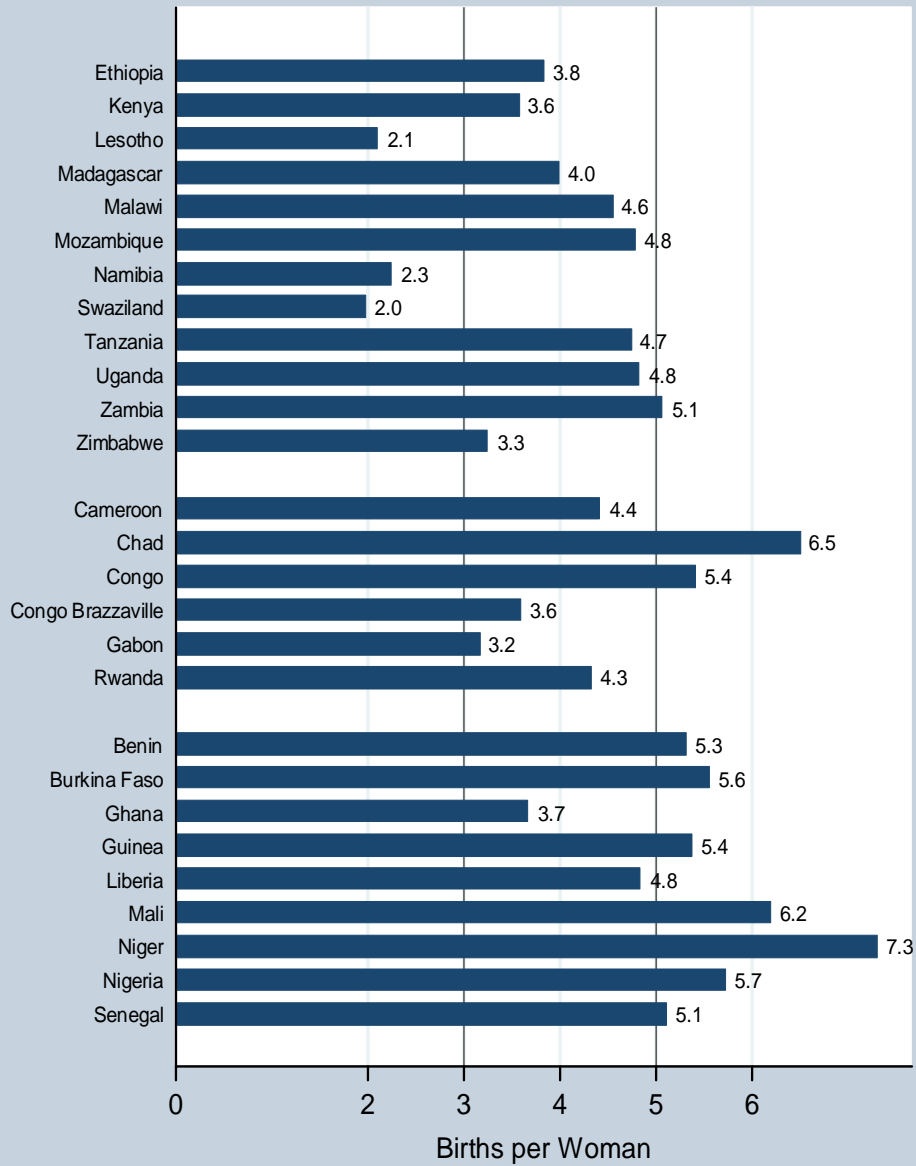
Aggregate Prospective estimates, 36 months before survey

Figure 9c: TFR with 50% Reduction in Unwanted TFR  
Most Recent Survey Since 2000



Aggregate Prospective estimates, 36 months before survey

Figure 9d: TFR with Unwanted TFR=0.50  
Most Recent Survey Since 2000



Aggregate Prospective estimates, 36 months before survey