Economic Inequality and Divergence in Family Formation in Sub-Saharan Africa

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Economic inequality has been rising in many sub-Saharan African countries alongside rapid changes to union and family formation. In high-income countries marked by rising inequality, union and family formation practices have diverged across socioeconomic statuses, with intergenerational social and health consequences for the disadvantaged. In this study, we address whether there is also evidence of demographic divergence in low-income settings. Specifically, we model the age at first marriage and first birth by socioeconomic status groups for women born between 1960 and 1989 using Demographic and Health Survey data from 12 sub-Saharan African countries where economic inequality levels are relatively high or rising. We argue that economic and sociocultural factors may both serve to increasingly delay marriage and childbearing for the elite as compared to others in the context of rising inequality. We find emerging social stratification in marriage and childbearing, and demonstrate that this demographic divergence is driven by the elites who are increasingly marrying and having children at later ages, with near stagnation in the age at first marriage and birth among the remaining majority. We urge further research at the intersection of socioeconomic and demographic inequality to inform necessary policy levers and curtail negative social and health consequences.

Introduction

Over the last few decades, significant shifts in economic inequality and demographic change have taken place across the globe. Compelling evidence points to differences in trends within and across countries: while between-country economic inequality has been declining, within-country inequality has been rising (Firebaugh 2003). Likewise, although there has been some convergence in patterns of demographic change across the globe with
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respect to fertility (Dorius 2008) and gender inequality (Dorius and Firebaugh 2010; Pierotti 2013), there is also evidence of growing divergence in demographic change across the globe. Specifically, there has been between-country divergence in patterns of marriage, cohabitation, and household structure in lower income and middle-income countries over the last quarter century (Furstenberg 2019; Pesando et al. 2018). In high-income countries, a growing body of evidence also demonstrates within-country demographic divergence. For instance, in the United States, family formation patterns—including the timing and circumstances surrounding first birth—have diverged across socioeconomic groups (McLanahan 2004). Importantly, diverging family formation patterns in the United States have taken place within the context of growing economic inequality, begging the question as to whether rising economic inequality might be associated with within-country demographic divergence in other settings.

Sub-Saharan Africa is home to 10 of the 19 most economically unequal countries in the world (Odusola et al. 2017); however, we have no knowledge of the demographic relevance of rising economic inequality in these countries. Instead, research on sub-Saharan Africa focuses on overall shifts in family formation, paying less attention to differences between social groups. For instance, research shows that for most countries in sub-Saharan Africa, the age at first marriage and childbirth are increasing over time (Bongaarts, Mensch, and Blanc 2017; Garenne 2004). These changes have been associated with impressive economic growth and corresponding gains in human development indicators across the region in the last three decades (Beegle et al. 2016; Bongaarts, Mensch, and Blanc 2017; Shapiro and Gebreselassie 2014). It remains unclear, however, whether or not these average trends mask growing divergence in family formation patterns between social groups; particularly in countries experiencing rising economic inequality.

Existing research offers reason to expect that rising inequality in sub-Saharan Africa will correspond with divergence in union and family formation between socioeconomic groups. First, studies show that socioeconomic differences in family-formation processes are growing over time. For example, within countries, total fertility rates have diverged according to household wealth indices (Finlay, Mejia-Guevara, and Akachi 2018) and education (Eloundou-Enyegue, Giroux, and Tenikue 2017). In addition, the age at first marriage has diverged by educational attainment within some countries (Frye and Lopus 2018). Although these studies hint at divergence in demographic behaviors across socioeconomic groups, the correspondence with economic inequality remains unclear. However, research also shows that economic inequality is associated with demographic behavior. At the country level, cross-sectional analyses from sub-Saharan Africa find that economic inequality is associated with adolescent fertility
(Decker et al. 2017) and infant mortality (Babones 2008); and evidence points to a positive correlation between trends in the national adolescent birth rate and Gini coefficient (Santelli et al. 2017). These studies suggest that economic inequality could also pattern variation in demographic behavior across social groups.

In this study, we assess whether union and family formation processes are becoming increasingly stratified in sub-Saharan African countries that have experienced rising economic inequality. We classify countries according to trend and level of economic inequality and analyze Demographic and Health Survey (DHS) data to assess whether differences between socioeconomic groups in the timing of marriage and childbearing have been growing over time. We specifically analyze whether there is rising socioeconomic inequality in age at first marriage and age at first birth. To do so, we use education as a key indicator of socioeconomic status. The costs of secondary and tertiary education remain prohibitive for many, making educational attainment a particularly strong indicator of financial well-being (Lewin 2009). Educational attainment is also an increasingly important vehicle for social mobility (Lam, Leibbrandt, and Mlatsheni 2008), a major determinant of women’s economic status (Malhotra, Pande, and Grown 2005), and explains a significant amount of overall inequality (Beegle et al. 2016). We specifically differentiate the most socioeconomically advantaged women from others to assess whether “elites” are experiencing larger changes in family formation. Note that we use “elite” as a heuristic to differentiate the relatively socioeconomically advantaged from others. In so doing, we refer not only to political power, but to socioeconomic status and corresponding prestige, sometimes drawing on literature that describes an African “middle class.”1 We further identify how both economic and sociocultural factors may contribute to increasingly delayed marriage and childbearing for elite women.

Our findings show evidence of growing social stratification in key demographic processes—a reality that will carry implications for future social progress, demographic change, and intergenerational social mobility. Even as aggregate trends suggest women’s age at marriage and first birth are rising in sub-Saharan Africa, growing divergence between socioeconomic groups means that the economically vulnerable are increasingly most at risk of disadvantaged life course experiences. This vulnerability could, in turn, stall broader social progress in these settings.

**Conceptualizing demographic divergence in contexts of rising economic inequality**

Our interest in examining demographic divergence within the context of rising economic inequality is grounded in the literature on “diverging destinies” in the United States and Western Europe (McLanahan 2004;
McLanahan and Jacobsen 2015; Ryan 2012; Waldfogel, Craigie, and Brooks-Gunn 2010). This work shows that less-educated mothers have become increasingly likely to experience earlier and nonmarital childbearing, divorce, separation, and/or nonresidential parenting compared to relatively better educated mothers. The family patterns experienced by less-educated mothers are, in turn, associated with poorer social and health outcomes for their children. Diverging destinies in family formation have been theorized to be borne out of a few key processes. First, increased economic opportunity and advantage have accrued to educated women with a corresponding increased motivation for such women to use effective methods of contraception (McLanahan 2004). In addition, a concomitant decline in economic opportunities for the working class has resulted in a rise in informal partnerships as men are viewed as less “marriageable” (Cherlin, Ribar, and Yasutake 2016).

The countries of sub-Saharan Africa are economically, socially, racially, and politically dissimilar from Western contexts. Therefore, what follows is a conceptual model detailing why we might also expect demographic divergence in marriage and childbearing across socioeconomic groups in sub-Saharan African countries experiencing rising economic inequality. We argue that marriage and childbearing may be increasingly delayed for the relatively elite stemming from longstanding economic and sociocultural factors.

The lure of economic opportunity

The perception of education as the mechanism for upward mobility—a concept deeply rooted in colonialism—serves as the rationale for the elite delaying family formation. During and immediately following colonial administrations, educated Africans secured formal-sector employment while those without education did not—swiftly generating a burgeoning elite (Ferguson 1999; Spronk 2014). For many, this instilled the deep-seated notion of education as a path to social mobility, which has persisted even as opportunity structures have shifted. Neoliberal economic change has constricted the public sector, generating fewer opportunities for skilled public sector employment, while fostering limited opportunities in technology and other private sector industries (Odusola et al. 2017). At the same time, the pool of eligible, skilled workers has increased with the expansion of mass education, a shrinking gender gap in attainment, and increased enrollment in higher education (Grant and Behrman 2010). This has resulted in a highly competitive skilled labor market (Antoine, Razafindrakoto, and Roubaud 2001).

For highly educated, elite young women—women who can reasonably expect to secure formal employment opportunities—early marriage and childbearing amount to significant opportunity costs. This is particularly
the case because both marriage and childbearing are mostly mutually exclusive to continued education for women in most sub-Saharan African settings. Similar to the United States, highly educated young women are also well-positioned to avoid unintended childbearing, given that they are more likely to have correct information on effective contraception and how to access it (Ainsworth, Beegle, and Nyamete 1996; Garenne 2004; Santelli et al. 2017). Corroborating these ideas, a recent study found contraceptive use played an important role in explaining household wealth-based differences in fertility rates across sub-Saharan African countries (Finlay, Mejia-Guevara, and Akachi 2018). For less advantaged young women, who have lower levels of economic and social capital, navigating the pathway to adulthood remains difficult, particularly given gendered expectations and corresponding barriers. In many contexts across sub-Saharan Africa, parents invest in their daughters’ education with an eye toward potential social mobility within a cultural belief system that presumes the successful completion of their school can only occur in the absence of romantic relationships (Frye 2017). Girls are expected to follow a “sequential model” of transition to adulthood—school, then marriage and sex, followed by childbearing (Grant 2012; Mojola 2014). In accordance with these expectations, contraception is deemed unnecessary for women before marriage, and consequently, remains difficult for many never-married women to access (Chandra-Mouli et al. 2014). Further, many parents cannot afford school fees, particularly for more costly secondary school, let alone higher education. Moreover, completion of secondary school does not guarantee a pathway to social mobility. In such settings, relationships—particularly with men of far higher economic standing—may not only support school expenses but may also offer longer term economic security than completed schooling. Thus, even educationally aspirational young women often end up welcoming a providing partner and motherhood, rather than incurring debt on investing in an unlikely successful educational future (Smith-Greenaway and Yeatman 2020). Furthermore, in the absence of information about and access to contraception, these relationships often result in pregnancy, which definitively truncates girls’ schooling in most contexts (Frye, 2017). Finally, for some young women, having a partner’s child can afford (at least short-term) economic security, which may be lacking at home (Bingenheimer and Stoebenau 2016).

The making of elite identity

In addition to rising economic inequality leading to differential economic costs of early marriage and childbearing, inequality may also lead to diverging family formation patterns because of a widening cultural gap between the rich and the poor. This gap results from the enactment of emerging class identities accompanied by social position–specific values, practices,
and lifestyles (Bourdieu 1984; Spronk 2012; Torche 2010). One such social practice that may serve to exacerbate social stratification is marriage.

Marriage practices have changed significantly over time in many countries across sub-Saharan Africa. Over the last half century, an increased emphasis has been placed on the couple and “companionate marriages,” sometimes characterized as shifts from traditional to modern marriage practices (Hirsch et al. 2009; Smith 2007). This emphasis on a couple’s emotional bonds has been accompanied by an increase in premarital dating relationships under increasingly commodified relationship ideals (Clark, Kabiru, and Mathur 2010; Parikh 2016). Further, men have become expected to meet the rising costs of relationships and marriage on their own. Increased engagement in the cash economy during the colonial period meant that men were increasingly able to afford their own marriage-related payments without reliance on kin (Constable 2009; Middleton 1960). Nonetheless, kin continue to play an important role in socially legitimizing unions across sub-Saharan Africa through a series of protracted marriage processes (Calvès 2016; Johnson-Hanks 2007; Meekers 1992; Smith 2010). These processes vary extensively within and among countries, but “formal” marriage often includes a form of kin introduction ceremony, an exchange of bridewealth, as well as a religious or civil wedding ceremony.

Although material exchange has long been a crucial component of the marriage process in much of Africa, bridewealth has become increasingly monetized, ceremony costs and levels of extravagance continue to rise, and formal marriage has become difficult for many to achieve (Calvès 2007; Hunter 2016; Johnson-Hanks 2007; Pauli 2018). In some contexts, weddings have taken on important symbolic power as a means by which to “display and enact class boundaries” (Pauli 2018, 256). The transforming cost and in some contexts, class-defining significance of marriage, could contribute to (perhaps indefinite) delays in marriage, particularly among the “near-elite” who contribute to the production of commodified marriage ideals, yet struggle to achieve them (Pauli 2018; Smith 2020). In other words, marriage ideals may influence the delay or even forgoing of marriage for those women who aspire to an elite identity. This appears to be the case in Namibia and South Africa where there has been a documented “retreat” from marriage (Hosegood, McGrath, and Moultrie 2009; Pauli 2018), and may be occurring in some contexts across West Africa (Calvès 2007).

As elite identity becomes increasingly tied to conspicuous consumption in countries with higher economic inequality, and relationship ideals are further commodified, marriage practices will continue to serve as opportunities to articulate and distinguish class status (Pauli 2018). Stated differently, in a context of rising inequality, one might expect further acceleration and delineation of class ideals enacted through marriage, which would continue to increase the costs associated with formal or respectable marriage. If these costs remain prohibitive for the majority, it may serve to
push the timing of marriage even further for those who aspire to elite ideals. Additionally, it could also shift marriage practices, relegating the relatively disadvantaged to a different set of such practices.

In summary, although there have long been socioeconomic differences in women’s transition to adulthood, marriage and childbearing, these differences are likely growing more rapidly in African contexts of rising economic inequality. In such settings, the elite are likely far better equipped to navigate new family pathways successfully than are their socioeconomically disadvantaged peers. Elite young women have greater access to both higher education and increasingly limited high-skilled formal labor market positions. Further, as they pursue this pathway to adulthood, elite women are both more highly motivated and better able to avoid early pregnancy than their more disadvantaged peers. In addition, alongside rising economic inequality is a corresponding differentiation in the social practices and values of the emerging elite: marriage has become a social practice that serves to define and maintain elite identity status. Together, these economic and cultural forces may serve to disproportionately delay marriage and childbearing for those who identify as elite or aspire to identify as such.

Methodology

Data

To examine whether the timing of first marriage and childbirth are becoming socially stratified in countries where inequality is rising, we leverage data from the DHSs. The DHSs are nationally representative household-based surveys conducted about every five years with women and men of childbearing age (typically 15–49 years). The DHS uses a stratified two-stage cluster sampling design (ICF International 2012). Because DHS questionnaires have remained stable over time on key indicators, we can create synthetic cohorts by combining the same birth cohorts from different cross-sectional surveys to examine trends in first marriage and childbirth over time. In each country, we combine all eligible and available surveys to construct 10-year synthetic birth cohorts. Specifically, after appending all eligible surveys in each country, we recode the data to include respondents across surveys who were born within the three decades under examination (1960–1969, 1970–1979, and 1980–1989). We include data from women aged between 20 and 39 at the time of the survey to ensure most women are of sufficient age to complete their education. We exclude women 40 and older to reduce recall bias on reporting of dates for life events (Espeut and Becker 2015; Koski, Clark, and Nandi 2017; Masquelier 2013).

Figure 1 lays out the selection criteria for surveys included in this analysis. We focus on women born between 1960 and 1989 who would have experienced union and family formation between about 1980 and 2010.
importantly, this timeframe corresponds to dramatic economic change in sub-saharan africa, including structural adjustment policies that influenced countries’ economic development and integration into the global economy (labonté and torgerson 2005). to capture this timeframe, we restricted analyses to countries for which we could use at least three surveys (countries have between three to six surveys available), with the first survey conducted between 1986 and 1996 to allow for an adequate sample of women born beginning in 1960. a total of 23 countries met these criteria.

we further restricted the sample to countries with reliable country-level inequality data available through the united nations development programme (undp) integrated inequality database.² this database draws on gini coefficients derived from household consumption expenditure data across the most robust existing global inequality databases for countries where high quality, consistent inequality measures were available for at least four data points between 1993 and 2011 (cornia and martorano 2016). the undp categorized countries into inequality trends (e.g., falling, rising) and levels (very low, low, medium, high, very high).³ our analytic
sample comprises 83 DHSs across 17 countries that we group into categories by inequality level and trend. We classify countries as: (1) falling and low levels of economic inequality (Gini < 0.45) (Burkina Faso, Madagascar, Mali, Niger, and Senegal); (2) falling, but medium or high levels of inequality (Gini ≥ 0.45) (Cameroon, Namibia, Rwanda, and Zimbabwe); and (3) rising economic inequality, regardless of level (Ghana, Ivory Coast, Kenya, Malawi, Nigeria, Tanzania, Uganda, and Zambia). See Table A1 in the Appendix in the Supporting Information for a complete list of countries and analytic sample sizes.4

Key measures

Outcome measures. Our outcome measures are age at first marriage and age at first birth. DHS interviewers ask all women their current marital status at the time of the interview, including whether they are never married, currently married, or living together as spouses, divorced, or separated, or widowed. Among women who have ever married, DHS interviewers ask women their age, in years, at the time of the start of their first union, which we use to estimate women’s age at first marriage.

In addition to reporting their marital history, women also complete full birth history calendars. Among other questions, DHS interviewers ask women if they have children, and if so, the year that their first child was born. With this information, combined with women’s year of birth, we calculate women’s age (in years) at the time of their first birth.

Explanatory measures. To capture socioeconomic divergence in family formation, we use a measure of relative educational attainment ( McLanahan 2004). We construct relative attainment measures because inequality is a relational concept, and because women’s educational attainment levels have changed over the study period in many countries. We construct a binary cohort-specific measure using educational attainment data from women aged 20–49 in each country, with a cut point at 10 percent to capture the elite as compared to the bottom 90 percent of the educational distribution. Given that the absolute population size of a “middle class” or “elite” population remains small in African settings—in some cases fewer than 1 percent ( Scharrer, O’Kane, and Kroeker 2018), we prioritize differentiating the most economically advantaged women from others. The 10 percent cut point recognizes the limited elite segment of women who have experienced significant socioeconomic gains while ensuring adequate sample sizes for robust estimates across category. This approach is comparable to one recently employed by Friedman and colleagues to examine educational inequality across the globe ( Friedman et al. 2020).

To demonstrate the change and variation captured by this variable construction, Figure 2 shows the median number of grades in school completed
FIGURE 2 Women’s median number of grades completed over time; by relative education attainment category, DHS

for women over time in each country by relative educational attainment category.

The graphs compare the median education among women in the bottom 90th percentile to the top 10th percentile across the three birth cohorts, with the earliest cohort (1960–1969) on the far left and the most recent (1980–1989) on the far right. These graphs show both the substantial gap in attainment levels across constructed categories as well as variation in grades attained and trends across countries. Note that while there are gains to the median education level attained for those in the bottom 90th percentile of the educational distribution in the majority of countries, and in some cases these gains are substantial (e.g., Ghana, Malawi, Tanzania), there are exceptions. For example, in Ivory Coast, among the bottom 90th percentile, the median number of years of education attained remains zero across all three cohorts. In some countries, there is indication of a sharper rise in attainment levels for the elite (most notable in Ivory Coast, Kenya, Rwanda, and Uganda). Finally, it is important to highlight that only recent cohorts of elites achieve median education levels equivalent to some tertiary schooling—important for expanding economic opportunities—and this is only the case in eight of 12 countries.

Analytic approach

We first examine whether rising economic inequality is associated with demographic divergence in the sub-Saharan African context. To do so, we pool women’s responses across 83 surveys and 17 countries and fit a linear regression model with country-level, linear fixed effects models where age at first marriage and age at first birth are the outcomes and covariates include all possible main effects and interactions of relative educational attainment group (a dummy variable set to 1 if a person has a high education), birth cohort, and country inequality trend (a dummy variable set to 1 if inequality has been falling). Of particular interest from these models are the coefficients for the main association between education and the outcome variables, the two-way interactions between high education and birth cohort, and the three-way interactions between high education, birth cohort, and the country inequality trend indicator variable. We would expect the main association between education and the outcome variables to be positive, indicating that highly educated women are older when they have a first marriage or birth. Positive significant interactions between more recent birth cohorts and high education would indicate divergence; the association of relative education and age at first birth or marriage is larger for members of that birth cohort. Conversely, negative interactions between birth cohort, high education, and falling inequality indicate that the association of education and age at first birth or marriage is smaller for members of that birth cohort in countries with falling inequality. Thus, if there is divergence
in age at family formation by socioeconomic status, especially in countries with rising economic inequality, we will observe significant and positive interactions between education and each successive birth cohort and negative interactions of equal or greater magnitude between education, birth cohort, and falling inequality.

After establishing the relationships between country-level inequality and relative demographic trends in the pooled-country analysis, we then turn our attention to more granular, country-specific analyses to examine variation in the patterns and extent of social stratification in union and family formation across context. Here, we focus on 12 countries across two groups, (1) those where inequality has been rising (eight countries) and (2) those where inequality levels have been medium or high but falling (four countries). We include the latter category as we would expect existing social stratification in family behavior in such contexts, corresponding to higher levels of baseline economic inequality. We exclude the five countries (Burkina Faso, Madagascar, Mali, Niger, and Senegal) with both low and falling levels of inequality, given that the pooled models confirm no meaningful divergence in family formation behavior across socioeconomic status in countries where inequality has been falling, and there is less reason to anticipate divergence in countries where inequality levels have remained low. By focusing on the 12 country contexts with rising or relatively high levels, but falling inequality, we offer a more targeted examination of the relevance of the diverging destinies framework. Although our results are in no way causal, we describe the similarities and distinctions in findings across countries as they relate to the countries’ inequality profile.

In these country-specific, multivariable regression analyses, we assess evidence of social stratification in family formation over time using ordinary least squares models. We regress age at first marriage and first birth on birth cohort, relative educational attainment, and an interaction between birth cohort and relative educational attainment to assess the extent to which the effect of relative educational attainment on our outcomes varies by birth cohort. Again, we anticipate positive interaction terms, which would mean that elite women in later birth cohorts are increasingly more likely to delay marriage and childbearing as compared to the remaining majority in countries where inequality is rising. In each country-specific model, we control for religion and subnational region, or ethnicity when available—given established links between religion, ethnicity, and family formation (Adebowale et al. 2012; Johnson-Hanks 2006). As noted in Table A1 in the Appendix in the Supporting Information, in countries where data on ethnicity are not available, are missing at high rates, or where multiple categories resulted in small cell sizes, we instead use subnational region, which often correlates strongly with ethnicity. Note that we ran models specifying the interaction term in two distinct ways, first with the reference group set to the earliest, and then second, with the reference group set to the middle
birth cohorts, allowing us to examine the extent of change between the specific cohorts.

Data analyses were conducted in Stata (version 14) and use sampling weights. We present the results of these analyses in figures that display, for the pooled analysis and each country, the predicted age at event by educational attainment groups across cohorts, with controls set to cohort-specific country-level averages.

Results

Inequality trends and demographic divergence

Figure 3 presents the predicted age at marriage and childbirth from the pooled, country-level fixed effects linear regression models. In line with research on education and family formation, elites both marry and begin childbearing at older ages than others. Results show that women with relatively high socioeconomic status in more recent birth cohorts are delaying marriage significantly longer in countries where inequality has been rising (see Table A2 in the Appendix in the Supporting Information for regression coefficients). Conversely, in countries with falling inequality, the age at first marriage for women with high socioeconomic status has been relatively steady over time, with some evidence of convergence such that the difference in age at first marriage by education is declining for more recent birth cohorts (relative to 1960–1969). Figure 3 shows similar results for age at first birth: there is significant, growing divergence between educational groups in countries with rising inequality; however, no such divergence is observed in countries with falling inequality. Together, these results support our hypothesis that there is evidence of demographic divergence between socioeconomic groups—particularly in countries with rising inequality.

FIGURE 3  Trends in predicted age at first marriage and birth over successive birth cohorts by relative educational attainment categories, using DHS data from 83 surveys in 17 sub-Saharan African countries

NOTE: Predicted age at first marriage and age at first birth from linear regression models including main effects and interaction terms for birth cohort, relative education level, and country-level inequality trend as well as country-level fixed effects. Country fixed effects set at mean in shown figures.
We now turn our focus to countries of rising or higher levels of inequality to examine country-specific patterns and the extent of stratification in the timing of marriage and childbearing.

Country-level inequality and demographic divergence

In Figure 4, we display the predicted age at marriage over time from ordinary least squares regression models that control for religion and subnational region or, when available, ethnicity, focusing specifically on unequal countries where inequality is either falling (panel a) or rising (panel b). As shown, in countries marked by rising economic inequality, there is growing divergence over time in the predicted age at first marriage across socioeconomic status groups even after adjusting for these controls (see Table A3 in the Appendix in the Supporting Information for regression coefficients). Elite women in more recent birth cohorts have experienced a substantial increase in age at first marriage relative to their less-advantaged peers. In contrast, the predicted age at first marriage is either stagnant, or only slightly increasing, for women in the bottom 90 percentile over time. In most countries, among the less well-off, the predicted age at marriage never rises above 19 years (with the exception of Rwanda and Namibia).

There are, nonetheless, important between-country differences in patterns of demographic change. In seven countries, the age at marriage increases significantly more for the elites compared to the remaining majority; of note, all of these countries except Rwanda are marked by rising economic inequality. There is also variation in the magnitude of divergence, with the most dramatic divergence observed in Ghana, Tanzania, and Malawi. For example, the elite in Ghana delay marriage for an additional 2.5 years over time. Notably, only countries with falling inequality have predicted declines in the age at marriage for both groups over time (e.g., Namibia, Zimbabwe) or evidence of socioeconomic convergence in the age at first marriage (e.g., Zimbabwe).

Figure 5 presents the predicted age at first birth over time across groups. Trends in age at first birth generally mirror those for age at first marriage with a few notable differences. Age at first birth diverges significantly by socioeconomic status in more countries than does age at first marriage (nine of 12 countries; see Table A4 in the Appendix in the Supporting Information for regression coefficients). There is evidence of divergence in predicted age at first birth in every country with rising inequality, either overall or between cohorts. As depicted in Figure 5, the associations are largest in Ghana, Ivory Coast, Tanzania, Uganda, and Malawi, in particular. Again, aside from Rwanda, there is less evidence of divergence in countries with falling inequality, where established gaps are narrowing (Namibia, Zimbabwe), or stable (Cameroon).
FIGURE 4  Trends in predicted age at first marriage over successive birth cohorts by relative educational attainment categories, by country

(a) Falling inequality

(b) Rising inequality

NOTE: Predicted age at first marriage from linear regression models including main effects and interaction terms for birth cohort, relative education level, as well as country-specific controls.
FIGURE 5  Trends in predicted age at first birth over successive birth cohorts by relative educational attainment categories, by country

(a) Falling Inequality

(b) Rising Inequality

NOTE: Predicted age at first birth from linear regression models including main effects and interaction terms for birth cohort, relative education level, as well as country-specific controls.
Sensitivity analyses: Low-inequality and demographic divergence

Although the pooled country-level fixed-effects models offer no indication of demographic divergence in countries where economic inequality is both low and falling (Burkina Faso, Madagascar, Mali, Niger, and Senegal), we ran country-specific models to further examine whether there is in fact divergence in these contexts. These models, presented in Table A5 in the Appendix in the Supporting Information, show evidence of convergence in the age at marriage in Mali, Madagascar, and Niger. For age at first birth, we find evidence of convergence in Madagascar. Notably, however, there is divergence in Burkina Faso and Senegal, although the size of this divergence is smaller than that observed in countries with rising inequality.

Sensitivity analyses: The destinies of the least advantaged

Our main analyses offer a careful accounting of the experiences of elite women relative to their peers yet leave unanswered questions about the specific experiences of the least advantaged. Thus, in the second set of supplementary analyses, we modify the relative educational attainment categories to consider the least advantaged. These results better speak to those potentially “left behind” in unequal contexts, as prioritized by the Sustainable Development Goals. Our analysis draws from McLanahan’s (2004) measure of social stratification, based on the interquartile range in the educational distribution, to generate a third relative educational attainment category that represents the bottom 25 percent of the educational distribution. Specifically, we divide the sample into the bottom 25 percent, middle 65 percent, and top 10 percent, and replicate the multivariable regression analysis. Note that we exclude two additional countries from these analyses, Ivory Coast and Nigeria, as more than one-third of women in early birth cohorts had no formal education.

As shown in Figures A1 and A2 in the Appendix in the Supporting Information, there is some indication of emerging divergence between the bottom 25th percentile and other groups. Namely, in four of the eight countries with rising inequality (Ghana, Malawi, Tanzania, and Uganda), the age at first marriage is declining over time for the least well-off while it is either stable, or rising very slightly, for those in the middle category. The findings are even more pronounced for first birth: the age at first birth is declining among the least well-off in six countries (Kenya, Malawi, Ghana, Uganda, Tanzania, and Zambia), and is stable or modestly rising for the middle group. Although these findings suggest that the experiences of the least-advantaged women must be studied carefully going forward, they also underscore that it is only among the elites that we see the clearest indication of demographic divergence.
Discussion and conclusion

Similar to what has been documented in the United States and Western Europe, we find emerging social stratification in family formation processes in sub-Saharan African countries, especially those with rising economic inequality. This evidence of diverging destinies is driven by recent cohorts of elite women who are marrying and having children at significantly later ages relative to their peers, while there has been near stagnation in the age at first marriage and childbirth among nonelite women over time. By examining patterns by trends in economic inequality, we help to further explain heterogeneity in the timing of union formation across countries as documented by previous studies (Frye and Lopus 2018; Shapiro and Gebreselassie 2014).

Why is there compelling evidence of diverging destinies in contexts of rising inequality? We hypothesize that both economic and sociocultural forces may be at play. For instance, in countries with growing inequality, more favorable economic opportunities may encourage the most advantaged women to pursue higher education and the establishment of their careers, thereby generating opportunity costs to marriage and childbirth. Access to and effective use of contraception is another mechanism through which women motivated to delay childbearing can then do so. Sociocultural forces may also compel elite and near-elite women and their partners to delay marriage and childbearing until it can be conducted in a “respectable” manner in line with higher class expectations. Although our data do not allow us to parse the salience of these forces, this is a topic ripe for future research.

It is also unclear what this growing demographic divergence portends for family change going forward: Will the behaviors of elite women act as a new model of family formation for their nonelite peers, or will they continue to chart a distinct course? There could be an eventual top-down diffusion of marriage and childbearing practices across socioeconomic class that eventually gives way to demographic convergence, with the less well-off changing their behavior as influenced by the dominant cultural model, or the more well-off changing their behavior to match that of the majority (Frye and Lopus 2018). In line with this possibility, a recent study suggests that mobile phones may be increasing the downward diffusion of elite ideals, which may lead to different outcomes for future cohorts (Billari, Rotondi, and Trinitapoli 2020). Alternatively, if the elite continue to be distinct, and the behaviors of nonelite women do not converge, this will surely stall any further rise in the overall age at first marriage and first birth, and may be an important vehicle for broader inequality.

Although our results emphasize the role of contemporary trends in economic inequality, we recognize that future trends are likely to vary across countries with variable histories, absolute levels, and causes of
economic inequality. With respect to history and level of inequality, Eloundou-Enyegue, Giroux, and Tenikue’s (2017) application of a demographic Kuznets hypothesis to fertility inequality is relevant. This hypothesis extends the notion of the Kuznet curve of inequality to fertility: fertility rates fall among higher socioeconomic status groups and then, eventually, among lower socioeconomic status groups. Consistent with this hypothesis, there is an indication of demographic convergence in countries where inequality had been high for at least a decade prior to the start of our observation (Namibia, Zambia, Zimbabwe). However, surprisingly, the supplementary analyses of the least-educated women suggest that convergence is not driven by their modeling behaviors of the elite, but rather, by the elite reverting to outcomes in line with the disadvantaged. That is, in these countries, the age at marriage and childbearing has declined for the most well-off—perhaps a result of the continued economic barriers that the near-elite experience. These findings underscore the importance going forward of carefully attending to country-specific patterns in union and family formation. If the majority continue to have an early age at first marriage and birth, this increases the likelihood of both relationship instability (Smith-Greenaway and Clark, 2018; Tilson and Larsen 2000) and higher overall fertility (Bongaarts 1978), and restricts the capacity to invest in individual children (Caldwell 1982), with intergenerational economic consequences (McLanahan 2004).

Efforts to make sense of country-specific patterns may find that the root causes of economic inequality in a country are relevant to understanding demographic trends. If opportunity structures remain highly competitive and the pool of educated youth far exceeds the opportunities for commensurate employment, it may be that only a very small fraction of the highest elite, who hold large volumes of social and political capital, can respond to economic factors, while everyone else becomes discouraged by low returns to education. For example, this may be more likely in countries where growth (and inequality) has been generated by extractive industries, such as the case in Namibia, and where more formal-sector economic opportunities remain scarce. By contrast, in contexts of economic growth, with rising inequality marked by the emergence of a relatively larger middle-class and higher returns to education in the formal labor market (e.g., Kenya), a larger percentage of women may opt to delay marriage and childbearing, resulting over time in demographic convergence toward the elite model. Overall, future research should include efforts to test the mechanisms that lead to divergence in demographic behavior, and the extent to which this may be attributed to trends in economic inequality. In so doing, it may be important to account for the root causes of changes to inequality levels, as this likely influences how people experience economic inequality.

Although we focus here on the growing divergence in the timing of family formation, the same social forces may also lead to growing
divergence in marriage *practices*, which may also explain subtle differences in our study findings. As elite marriage ideals become increasingly tied to conspicuous consumption, rather than aspire to out-of-reach ideals, the majority may practice marital bricolage, generating new approaches to marriage. For example, in Nairobi, Kenya, within low-income settings, the most common form of marriage is “come we stay,” a union characterized by the lack of formal ceremony or kin involvement (Pike, Mojola, and Kabiru 2018). Likewise, while large-scale surveys have indicated a retreat from marriage in South Africa (Garenne 2016; Hosegood, McGrath, and Moultrie 2009), smaller case studies point instead to alternative union formation patterns. Hunter (2016) describes different forms of cohabitation, differentiating more casual from “legitimate cohabitation,” marked by some form of introduction ceremony, and often a promise of future *lobola* (bridewealth) payment that may or may not be fulfilled over time. Variation in the emic definition of what constitutes “being married” may help to explain why our findings on divergence in the age at first marriage are not as dramatic as age at first childbirth, as unlike marriage, childbirth is a discrete, objectively measurable event. Capturing such qualitative differences would require far more nuanced measures of cohabitation and marriage. Despite longstanding recognition of gaps in measurement (Meekers 1992), detailed data on marriage histories and union formation *processes* remain notably absent from many large-scale demographic surveys (Clark and Brauner-Otto 2015). Stated simply, DHS measures of marriage are insufficient for capturing distinctions in marriage practices across social status and thus could obfuscate the trends in age at marriage across groups. This is a limitation of the data we have that should be addressed in future research.

Although we have emphasized the role of economic inequality in facilitating diverging destinies, this is but one dimension of possible relevance to understanding where divergence may be most apparent. Aside from the economic context, the gender system is also relevant to understanding the stratification of union and family formation processes between social groups. Cross-national studies of demographic divergence in Europe suggest that differences in gender systems moderate the extent of divergence in family behavior across an educational gradient (Kalmijn 2007; McLanahan and Jacobsen 2015). That is, in settings where the gender system is more egalitarian and open to women’s changing roles in the public and private spheres, there may be a greater potential for demographic divergence than in settings where the gender system is less egalitarian and constrains women’s opportunities both in and out of the home. Moreover, what it means to be an elite could change in future cohorts with the expansion of education and employment opportunities; thus, 10 percent may cease to be an appropriate cut point. Finally, beyond examining other dimensions of the country context, future research that studies men as well as women could be generative. It is unclear whether the same patterns of demographic
divergence may exist for men. Although men face strong economic pressures with respect to the cost of marriage, they balance these while navigating competing notions of respectable masculinity.

Additional questions remain; however, this study demonstrates the value of studying demographic divergence in sub-Saharan Africa. Understanding inequality in family formation is critical given its broader social and health implications. Age at marriage and first birth are associated with a wide range of indicators tied to women’s—and their children’s—well-being. For instance, delaying marriage and childbearing past adolescence is known to reduce women’s risk of HIV/AIDS (Clark 2004) and to improve maternal health outcomes (Zabin and Kiragu 1998). It also allows mothers to reduce their children’s risk of morbidity and premature death (Clark and Hamplová 2013), and to better invest in their children’s own economic future (McLanahan 2004). If the elite are increasingly better equipped to protect their own health, as well as that of their children, we can anticipate growing inequality in women’s and children’s health and well-being in the region—even more so given that limited social protection policies exist for the disadvantaged in many of these countries. This article highlights the pressing need for further research at the intersection of socioeconomic and demographic inequality to inform necessary policy levers for reducing the social and health consequences of each in sub-Saharan Africa.

Data availability statement

We worked with publicly accessible Demographic and Health Survey data sourced through the IPUMS-DHS program (Heger, King, and Sobek 2020). Data are available at https://www.idhsdata.org/idhs/

Notes

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1 The “middle-class” in Africa is the subject of increasing scrutiny with respect to both etic and emic understandings of its boundaries and determinants of membership in contexts across sub-Saharan Africa (Scharrer, O’Kane, and Kroeker 2018).

2 The Integrated Inequality Database was built explicitly to support the analysis of the United Nations Development Programme report on inequality in sub-Saharan Africa (Odusola et al. 2017), which draws on and compares the main existing global inequality databases, that is, WIDER’s WIDv3, the World Bank Povcal, and International Income Distribution Database (I2D2) databases, Milanovic’s All-Gini, and data from well-documented academic studies.

3 We also include Namibia and Zimbabwe in our analyses despite their not
being included in the IID-SSA for the following reasons: (1) They are both countries with known high levels of inequality; (2) the available Gini coefficient estimates were of high quality and were measured in ways consistent with other countries; (3) the reason for their exclusion from the IID-SSA was that neither country had four evenly spaced measures that could be used to serve as the basis for generating interpolated annual Gini estimates (Namibia had 3, Zimbabwe 2) (Cornia and Martorano 2016); and (4) the estimates available, however, were spaced far enough apart to indicate change over time and, in both countries, inequality levels fell during this time period.

4 Appendixes are available at the supporting information tab at wileyonlinelibrary.com/journal/pdr.

References


