SECTION 5

A DIVIDEND OR A DIVIDER? INVESTMENTS IN FAMILY PLANNING CAN ENHANCE EQUITABLE ECONOMIC DEVELOPMENT IN SUB-SAHARAN AFRICA

Across SSA, many national governments have adopted Sustainable Development Goal 10, "Reduce inequality within and among countries," in their national development strategies.[19] Section 4 of this report found that family planning programs are reaching women in the poorest households. In Section 5, we explore the extent to which investments in family planning, through its effects on fertility, may contribute to trends in socioeconomic inequality both between and within countries on the continent.

Poverty and Inequality: A Refresher

Across SSA, national development strategies tend to include goals around both poverty reduction and improvements in economic equality or shared prosperity. These two concepts are related and, sometimes, conflated. In simple terms, poverty captures deprivation, typically a monetary line below which basic needs cannot be met. Inequality refers to disparities across groups in areas such as income, education, health, or power

Fertility transitions occur when countries move from generally high fertility to low fertility. These transitions alter the age structure of national populations in ways that can boost savings, investment, and economic growth. But not all countries experience fertility transitions at the same time. When fertility transitions in some countries lag behind others, economic inequality between countries can widen. Similarly, if a country's total fertility rate declines in a top-down fashion, starting among the wealthiest households before poor households, economic inequality can also widen *within* countries. In short, fertility transitions can contribute to a dividend of accelerated economic growth, but they can also operate as a divider, expanding economic inequality.

The 2016 report explored the potential connections between wealth-based differentials in fertility and inclusive economic development. Our current report advances that work by using

statistical approaches that allow us to identify the leading sources of changes in economic inequality using population and economic data from the DHS, International Futures (IFS) project, United Nations, and World Bank. We first examine the relationship between fertility and between-country economic inequality in Africa, using the metric of regional economic inequality. Regional economic inequality is measured as inequality in gross domestic product (GDP) relative to the regional average. We then examine the relationship between fertility and within-country inequality, using the metric of resource inequality among children. Resource inequality among children aggregates two inputs: parental income and number of children in the household (household size).

Our findings confirm that changes in population age structure are a major contributor to trends in economic inequality between countries and are projected to drive a positive economic convergence—in which countries become more economically equal—over the next two decades. However, fertility differentials between the richest and poorest 20% of the population within countries are contributing to resource inequality among children.

Economic inequality between countries in Africa is mostly related to trends in fertility.

For the period 1990 to 2015, we analyzed the contributions of three factors related to regional economic inequality:

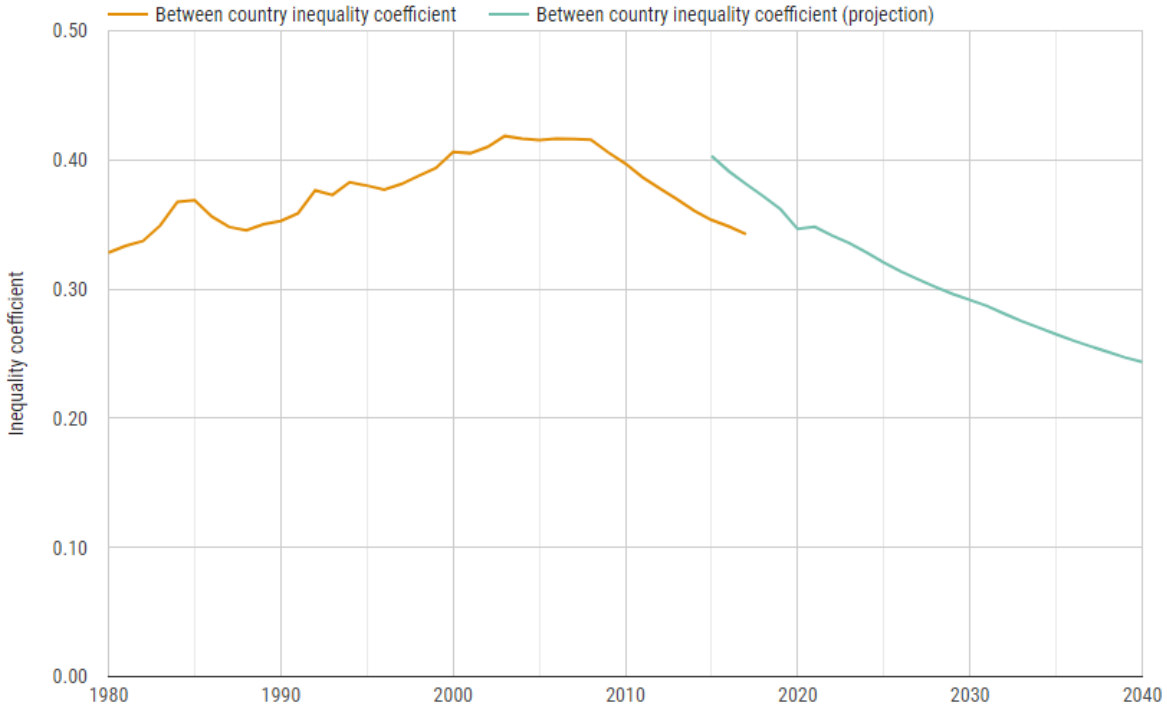
- **Relative economic productivity:** gross national income (GNI) per employed adult for each country relative to the regional average.
- **Relative population size:** share of the region's population in each country.
- **Relative population age structure:**dependency ratio of each country relative to the regional average.

Previous studies examining the sources of GDP inequality between countries have typically used two variables: relative GDP per capita (to measure economic productivity) and relative population size. Our analysis adds a third variable, age structure. This third variable helps us estimate to what extent changes in age structure within these countries—largely driven by national fertility trends—contribute to trends in economic inequality between these countries. In addition, our analysis proposes a more precise metric of productivity. GDP per capita is a common metric that lumps the entire population together, including dependents and the working-age population comprised of workers and nonworkers, and it is overly broad for our purposes. Instead, we use a metric of economic productivity that assesses income per employed adult. This approach enables a more precise and multidimensional comparison of countries based on relative productivity, relative employment, and relative age structure.

Between 1990 and 2015, the regional TFR for Africa fell from 5.9 to 4.6 births per woman, paving the pathway for transformations in population age structure. However, fertility did not decline at the same pace in every country. Vanguard countries such as South Africa and Botswana saw declines in fertility to below four children per woman by 1995, while fertility remained high (over six children per woman) in countries such as Niger and Mali through 2015.

Between 1990 and 2005, economic inequality between countries in Africa increased. Beginning around 2005, this trend shifted and inequality between countries decreased through 2015 (see **Figure 19**). Our analysis projects that economic inequality between countries will continue to decrease through 2040.

Figure 19: Current and Projected GDP Inequality Between African Countries, 1990-2040



Source: PRB analysis of Penn World Table Version 10.0, World Bank World Development Indicators, and International Futures data

Because economic inequality first increased and then decreased, we analyzed the relative contributions of the three variables—age structure, economic productivity, and population size—for the three distinct periods: 1990 to 2005 (the period of economic divergence), 2005 to 2015 (the period of economic convergence), and 2015 to 2040 (projected future trends), as **Table 6** details.

Table 6: Contribution of Changes in Age Structure, Economic Productivity, and Population Size to Inequality in GDP per Capita, 1990-2005, 2005-2015, and 2015-2040

Time period	Change in Inequality in GDP per capita	Relative Contribution to Change in Inequality in GDP Per Capita		
		Population age structure	Population size	Economic productivity
1990-2005	0.063	66%	2%	32%
2005-2015	-0.062	9%	-2%	93%
2015-2040	-0.16	63%	4%	33%

Source: PRB analysis of Penn World Table Version 10.0, World Bank World Development Indicators, and the South-Africa Institute for Security Studies, and the *2019 Revision* of *World Population Prospects*.

During the period of economic divergence from 1990 to 2005, economic inequality between countries increased by 18%. Approximately two-thirds (66%) of this increase was associated with relative differences in population age structure between countries that experienced significant TFR decline in the 1980s or prior and countries that continued to experience comparatively high fertility. Differences in economic productivity account for most of the remaining inequality.

Between 2000 and 2015—the period of economic convergence—economic inequality between countries narrowed, almost returning to its 1990 value. But only an estimated 9% of this reduction is tied to changes in population age structure. While countries with low income and high fertility underwent fertility transitions between 2005 and 2015, their TFRs remained significantly higher than in countries that made this transition earlier. It takes years before declines in fertility produce corresponding changes in population age structure. So the reduced economic inequality between countries during this period was driven almost entirely by relative differences in economic productivity.

Looking to the future, we anticipate that convergence will continue as projected inequality in GDP per capita for countries in SSA gradually decreases through at least 2040. Nearly two-thirds of this trend toward greater economic equality in the region is expected to be driven by changes in population age structure. Countries that realized fertility transitions from 2000 to 2015 will be seeing the results in their population age structure, and countries that currently have high fertility will undergo fertility transitions.

Fertility trends influence economic inequality among children within countries.

Africa is now home to eight of the 10 most economically unequal countries in the world. The 2016 report argued that differentials in fertility between the richest and poorest 20% of a country's population may compound inequities in economic opportunity. Lack of economic opportunity within a country can deepen inequality in ways that harm social cohesion and ultimately reduce economic competitiveness, even in contexts where absolute poverty may be declining.[20]

To analyze resource inequality among children within a country, we used statistical methods similar to our between-country analysis. Resource endowments per child depend largely on three factors: parental income, the share of parental income allocated to children, and the number of children. In households with more children, it may be more difficult for parental income to address each child's health and education needs. As fertility declines, households tend to have more resources to invest in the needs of each child. We examined the relative contributions of inequalities in household income and household size (number of children per household) to approximate resources invested in children for eight countries with available data during the period 1990 to 2018. In the absence of data on the share of parental income allocated to each child, we applied the conservative assumption that the share of parental incomes devoted to education is similar across income groups.

More specifically, we examined resource inequality among children by looking at two variables:

- **Inequality in parental income:** relative change in parents' income across the five DHS wealth quintiles (poorest to richest).
- **Inequality in household size:** relative change in the average number of children per household across five wealth quintiles (poorest to richest).

Table 7 shows that resource inequality among children was rising in all countries except Burkina Faso and Rwanda between 1990 and 2018. These two countries both had progressive socioeconomic policies aimed at narrowing gaps in parental incomes, which were a key factor in limiting resource inequality among children.

Table 7: Contribution of Parental Income and Fertility Differences in the Richest and Poorest Wealth Quintiles to Change in Resource Inequality Among Children, 1990-2018

Country	Time Period	Magnitude and direction of change in resource inequality among children	Relative contribution to change in resource inequality among children		Most influential quintile	Contribution of most influential quintile
			Income inequality	Fertility inequality		
Benin	2001-2017	0.14	159%	-60%	Lowest quintile	95%
Burkina Faso	1999-2014	-0.19	129%	-14%	Top quintile	48%
Cameroon	1998-2018	0.17	46%	59%	Lowest quintile	76%
Ethiopia	2000-2016	0.18	46%	55%	Lowest quintile	74%
Mozambique	1997-2015	0.19	-4%	123%	Second quintile	55%
Nigeria	2003-2010	0.06	75%	21%	Second quintile	49%
Rwanda	2005-2017	-0.11	120%	-14%	Top quintile	48%
Zambia	2002-2018	0.43	85%	6%	Lowest quintile	60%

Source: World Bank World Development Indicators and Demographic and Health Survey data for selected countries.

Overall, wealth-based fertility differentials (in which the wealthiest 20% of households have relatively lower fertility and the poorest 20% of households have relatively higher fertility) deepened existing resource inequality among children in all countries we studied except Benin. They were the leading driver of deepening resource inequality in Cameroon, Ethiopia, and Mozambique. In Zambia and Nigeria, fertility trends reinforced the effects of widening income inequality among parents. In Burkina Faso and Rwanda, fertility trends slowed the pace of reducing resource inequality.

If current fertility trends in the region persist and more African countries see faster fertility transitions, economic inequality *between* SSA countries is projected to decline through at least 2040. At the same time, wealth-based fertility differentials are contributing significantly to widening resource inequality among children *within* countries.

Persistent inequality in investment in the human capital development of children will slow country efforts to achieve inclusive economic growth and development. In this scenario, even as TFRs decline and economic equality between countries improves, the benefits of economic development may not be broadly shared within countries.

Continued growth in mCPR across the region, along with evidence that family planning programs are reaching women in the poorest households, may contribute to narrowing wealth-based fertility differentials. However, even where mCPR is increasing among women in lower wealth quintiles, fertility ideals remain one to three children higher compared with women in wealthier quintiles in most of the countries we studied. As we demonstrated in Section 3, the data on fertility ideals suggest the relationship between mCPR and TFR may be particularly weak among the poorest 20% of the population. Policymakers should pay attention to the unique dynamics within their population and consider the range of policy mechanisms, including economic policy levers, that target persistent resource inequality among children.