

Women's Labor Participation in Africa

A Review of Key Drivers and Challenges



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ACET African Center for Economic Transformation

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ABOUT THIS REPORT

The study examines the determinants of women's labor market participation in Africa using Bayesian Model Averaging to address model uncertainty in cross-country regressions. Our results suggest a U-shaped relationship between income per capita and female labor force participation, which implies that women's participation increases with increased economic development.

The findings also indicate that factors such as economic complexity, religious fractionalization, freedom of mobility, access to assets, adolescent fertility rate, mental and physical health, human capital, flexibility in labor market regulations, and employment in the services sector are associated with increased female labor force participation. However, factors such as social networks, globalization, ethnic and language fractionalization, minimum wage policies, workplace discrimination, and gender disparities in formal employment hinder participation.

This paper shows mutually consistent evidence to support prior studies on female labor force participation and that correcting systemic and structural barriers represents a "gender-smart" way to promote gender parity in the labor market.

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1. Introduction

Most countries have made significant strides in achieving gender parity in socioeconomic development, including women's representation in the workforce. Despite those strides, many women are still excluded from the workforce, creating a considerable gap in labor force participation (Woldemichael, 2020).¹ African countries face the same challenges that hamper global progress toward gender equality. Even though approximately half of working-age women participate in the labor force, regional heterogeneities are more skewed than expected. Gender gaps in participation remain particularly high among North African countries—where men's rates of participation are more than three times higher than women's rates.

What drives the gender gap in labor force participation, and what can be done to close it? To help answer that question, this study investigates the determinants of and barriers to female labor force participation in Africa.

With a sizable decline in fertility rates and in gender gaps in education, Africa has seen strong growth in female labor force participation. It has also experienced significant growth in the services sector, which accounts for a large share of female employment. Currently, the continent boasts a large youthful working-age population. Although women represent more than 50 percent of that population, the female labor force participation rate (FLFPR) has lingered well below 60 percent, compared to a male labor force participation rate that has mostly trended above 70 percent over the last three decades. Moreover, African countries are experiencing attrition in female labor force participation. What are the possible driving factors? And how can policy improve female labor force participation in Africa? For the most part, the limited studies on African countries have had mixed findings.

Africa's future economic potential depends partly on the demographic dividend of women (World Bank, 2011). To realize this potential, their contribution to economic growth can be maximized through greater participation. Research has shown that several factors affect the rate of participation, including religious and cultural attitudes toward women's work roles, policy interventions, and other structural factors such as limited employment opportunities and the production infrastructure of certain industries that makes women's participation untenable (Donnelly et al., 2016; Kemp 2020). Existing studies have focused primarily on advanced economies (e.g., Tam 2011; Verick 2014; Codazzi, Pero, and Albuquerque Sant'Anna, 2018) and other developing economies (e.g., Heath and Jayachandran, 2016; Klasen, 2019; Klasen et al., 2021; González and Virdis, 2022).

Of the limited studies on women's labor force participation in African countries, most considered a single country or considered several countries in the Middle East and North Africa region. Others that employed econometric techniques used only aggregated labor force participation as a control variable, which reduces the generalizability of their findings.

In this regard, the literature for African countries lacks contextual evidence of the exact determinants or drivers of female labor force participation. Whereas focusing on the aggregate participation rate creates the impression that those determinants are responsible for the FLFPR at all levels, delineating by age cohort, geographic location, and other variables has far-reaching implications for policy.



2. Objectives and contributions of the study

Ensuring fair access to socioeconomic opportunities requires overcoming the gender-based discrimination that women face. This study aims not only to investigate the drivers of female labor force participation but also to shed light on policies to address gaps in gender equality and the welfare of women in Africa. The study therefore seeks to answer four questions:

1. What is the current state of female labor force participation in Africa, and how has it evolved in the last two decades?
2. What public policies have countries in the region implemented to influence women's workforce status?
3. What are the key factors, and their relative influence, in driving women's labor force participation in Africa?
4. What policies are needed to stimulate the involvement of women in Africa's workforce?

In doing so, the study contributes to the literature in the following ways.

First, it contributes to both ACET's and STEG's research themes. It is consistent with ACET's "gender program that charts the binding constraints to gender equity and equality" and "human well-being with particular emphasis on female participation in the labor market," and with STEG's "Cross-cutting issue 1: Gender"—all of which center on the changing role of women as a critical and overarching source of economic transformation.

Second, the study examines the current state of female labor market participation in Africa, and how it has evolved in the last two decades.

Third, because improved socioeconomic development (such as increased formal school enrollment, better health, and lower fertility rate) appears not to have created more opportunities to increase FLFPR, the study seeks to identify the factors that affect women's ability to enter the workforce. It does so using the Bayesian Model Averaging approach.

Fourth, the study sheds light on female labor participation by cohort. It remains empirically useful to establish whether determinants vary by age, which previous studies have failed to analyze.

Finally, the study conducts an in-depth exploration of the observed policies and strategies that have shaped the pattern of women's work status over the last two decades in two countries—Kenya and Senegal. These two countries are quite unique in terms of their progress on economic transformation, recent growth experiences, and historical treatment of women in the labor market.



3. Literature review

Despite extensive study of female labor participation in both advanced and developing economies, little research has focused specifically on African countries. Previous studies have used various models, including supply-side and demand-side perspectives, to analyze short- and long-term determinants of female labor force participation. These studies, however, rely mostly on variables with more relevance to advanced economies; socioeconomic and cultural differences, and lack of data availability, make it difficult to draw meaningful conclusions for developing countries in Africa.

Societal perceptions about women have changed significantly over the past century, and women's access to labor market opportunities has increased because of steady growth in female education and technological advancement. In Sub-Saharan Africa, the place of women in the family was generally assumed to be in the kitchen and for childbearing (Ahinkorah et al., 2020). However, the promotion of human rights, women's empowerment, and the worsening living standards of families have called this idea into question; and many countries see women's participation in the labor market as an important choice for development and progress. Nevertheless, women often undertake entrepreneurial activities because of the difficulty in securing paid jobs in both the private and public sectors.

Recent evidence suggests that women have broken the "glass ceiling" in the labor market by expanding beyond the services industry (Bertrand et al., 2019; Cotter, Hermsen, and Vanneman, 2001). Klassen (2019), however, found that the behavior of female labor participation in developing countries is inconsistent with secular theories such as the feminization U hypothesis, which highlights low female labor force participation at early stages of development due to privileges accorded to men through education, technology, and social norms that consider manual work at factories not ideal for women.

As development progresses, however, the manufacturing sector yields retail and clerical positions that require women's capabilities, raising the FLFPR (Boserup 1970; Goldin 1995; Tam 2011). Klasen (2019) found, instead, that female labor force participation in developing countries is influenced by the interplay of household economic conditions, economic structure, structural change, and persistent gender norms and values that shape women's economic opportunities. These factors influence their decisions about certain occupations and define the extent to which women can break down occupational barriers. That study also found that, although the impact of rapid fertility decline, strong expansion of female education, and favorable economic conditions cannot be ignored in understanding female labor force participation in developing countries, its implication is minimal.

Heckman and LaFontaine (2010) found that educational attainment at almost every level causally produces gains on the labor market. Higher levels of education correspond with higher potential earnings in the labor market. Schooling affects labor market participation by indirectly raising the age of marriage and age at first birth, which allows women to develop stronger ties to the labor market. More educated women may feel more empowered to influence household decision-making or resist constricting social norms, leading to greater labor market activity. Another study found that gains in education do not always translate into gains in employment, indicating the presence of bottlenecks during the school-to-work transition, such as childcare responsibilities, lack of economic opportunities for women, and gender gaps in education (Rodríguez-Oreggia and Freije, 2012).

Using census data from a heterogeneous sample of 13 Sub-Saharan African countries, Backhaus and Loichinger (2022) found that higher enrollment in education mechanically depresses female labor force participation, weakening the relationship between education and female labor force participation. After taking age into consideration, however, those authors found a strong and positive association between education and female labor force participation. They further revealed a positive association between education and female employment in the nonprimary sector.

More recently, Asiedu and Chimbar (2020) used quasi-experimental evidence from Ghana to examine the impact of remittances on labor force participation patterns in Africa. They found that remittances have a strong depressing effect on workforce decisions, particularly for women in rural areas compared to those in urban areas. Idowu and Owoeye (2019), using seemingly unrelated regression and data for 20 selected African countries from 1990 to 2018, found that both economic growth and inequality are positive determinants of women's labor participation decisions. They found that other factors such as manufacturing growth rate, education, fertility, and culture contribute to female labor supply.

Although the inverted U-shaped relationship remains ambiguous, Roncolato (2016), using South Africa's 2007 Community Survey, found that the feminization U shape exists only between the share of nonagricultural employment and women's labor force participation. Roncolato further emphasized that household and care constraints, which affect the time endowments of women, likely explain the declines in women's labor force participation during the early period of structural transformation.

Cooray, Dutta, and Mallick (2017) examined the impact of trade openness on labor force participation using panel data from 48 Sub-Saharan African countries, from 1985 to 2012. The findings reveal that, although trade openness encourages labor force participation, it has a much stronger effect for men than for women. However, trade openness improves female labor force participation only if institutions are efficient. Ntuli and Wittenberg (2013) investigated the determinants of black women's labor force participation in post-Apartheid South Africa between 1995 and 2004. Their findings show that throughout this period higher education and urban residence were associated with higher female labor force participation, whereas the reverse is the case for nonlabor income, marriage, and fertility. Those authors also found that the increase in black women's labor force participation between 1995 and 2004 could be attributable mainly to increases in the returns on education rather than to changes in their labor market characteristics. Heath and Jayachandran (2016) reviewed the existing evidence on female labor force participation more favorably, pointing to the positive impact of increased female enrollment in education.

Nazier and Ramadan (2018) examined the constraints and opportunities of ever-married women's labor force participation in Egypt using the Egypt Labor Market Panel Survey of 2012. They found a strong association between women's education and employment type. Moreover, their results confirm the role played by a mother's employment status in her daughter's labor force participation. This connection notwithstanding, those authors found that community characteristics also play a significant role in women's labor supply decisions.

Novignon, Nonvignon, and Arthur (2015), using a dynamic panel data model for Sub-Saharan African countries from 1990 to 2011, found that population health status (measured by life expectancy at birth) is positively correlated with female labor force participation but not with male labor force participation. Their study failed, however, to capture the impact of cultural and social norms. For Africa, gender norms and cultural constraints play a leading role in shaping labor force participation trends (Lopez-Acevedo et al., 2021).

In Madagascar, Herrera, Sahn, and Villa (2019) used longitudinal data to examine the transition from adolescence to adulthood and how teen fertility informs employment outcomes. Those authors employed a multinomial logit model to estimate the effect of the timing of first birth on female selection into four categories: nonparticipation, informal employment, formal employment, and student. Their findings reveal that motherhood increases the likelihood of employment and that women whose first birth occurs during adolescence are mostly employed in low-quality informal jobs. This effect is partially, but not entirely, mediated by the effect of teen childbearing on schooling.

The literature shows, therefore, that several factors affect women's presence in the labor market. The limited current empirical literature on what drives women's labor force participation in Africa, however, highlights the need for further research in the African context.

3.1. Stylized facts: Dynamics of female labor participation in Africa

Since the early 1990s, most African economies have experienced significant increases in female labor force participation, marking a period of economic and social change for women's empowerment on the continent. Despite historical in-country policy initiatives to support female employment, however, overall average progress in the rate of participation is below 60 percent, with the aggregate participation rate in 2021 just one percentage point below that in 1990.

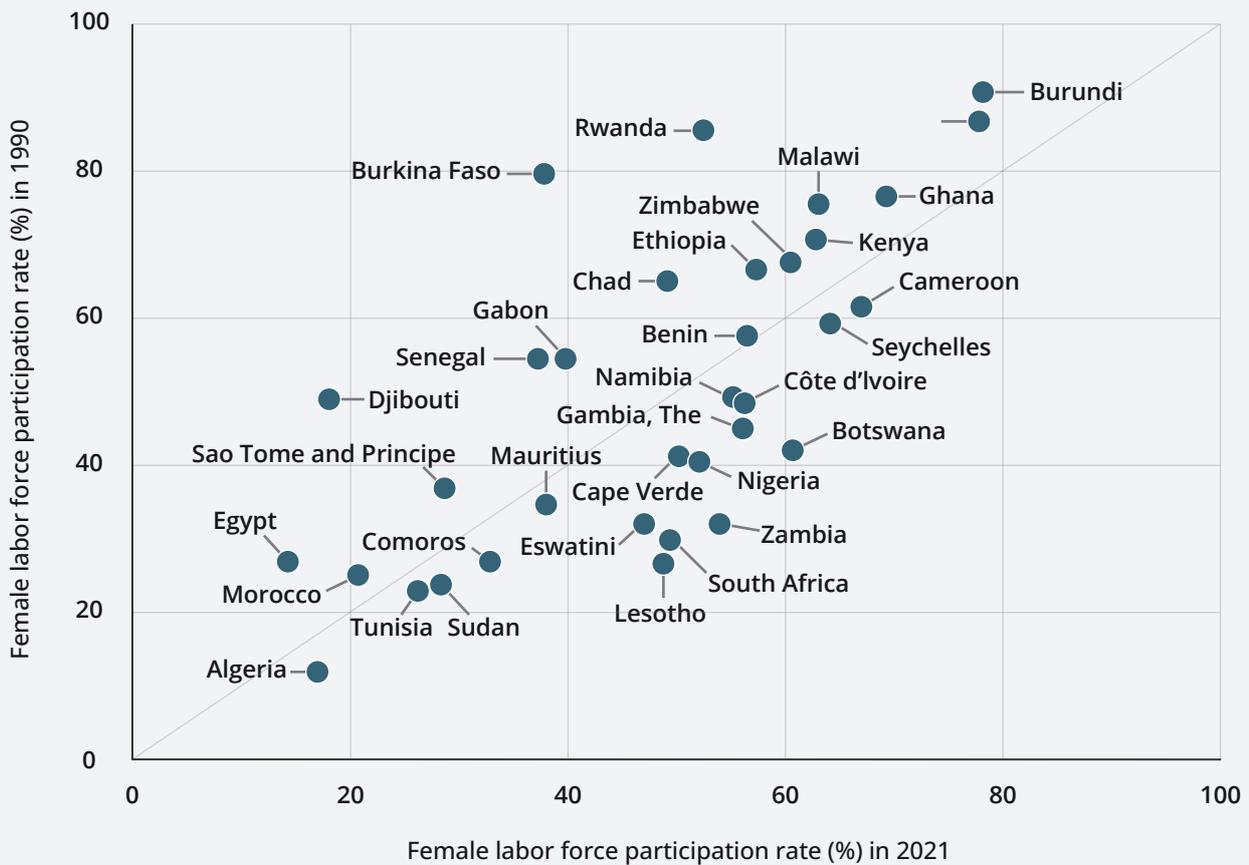
In most countries, women have a higher workforce attachment today than they did three decades ago; aggregate female participation rates have increased by more than five percentage points in Algeria, Botswana, Cape Verde, Cameroon, Comoros, Côte d'Ivoire, Eswatini, The Gambia, Lesotho, Namibia, Nigeria, Seychelles, South Africa, Sudan, and Zambia. Other countries—including Burkina Faso, Burundi, Chad, Djibouti, Egypt, Ethiopia, Gabon, Ghana, Kenya, Malawi, Mozambique, Rwanda, São Tomé and Príncipe, and Senegal—lost more than five percentage points over the same period.²

Countries below the gray diagonal line in Figure 1 have seen some positive changes in women's workforce attachment. According to national estimates, the FLFPR in countries such as Algeria, Burkina Faso, Chad, Comoros, Djibouti, Egypt, Eswatini, Gabon, Lesotho, Mauritius, Morocco, São Tomé and Príncipe, Senegal, South Africa, Sudan, and Tunisia has either fallen or held below 50 percent.

Female labor force participation in Africa has shown a decelerating trend since the global financial crisis, from 55.1 percent in 2007 to 52.4 percent in 2020 (Figure 2). At the same time, the female employment rate³ declined from 50.87 percent in 2002–2011 to 49.51 percent in 2012–2021 (ILO, 2021). This discrepancy suggests that women's participation in the labor force is largely driven by employment rather than by unemployment, which averaged about 6.6 percent to 7.8 percent. In North Africa (Algeria, Egypt, Morocco, Sudan, and Tunisia), however, only a quarter or less of women participate in the labor force (Figure 1). North Africa has the lowest FLFPRs despite high educational attainment in the region (World Bank, 2017).

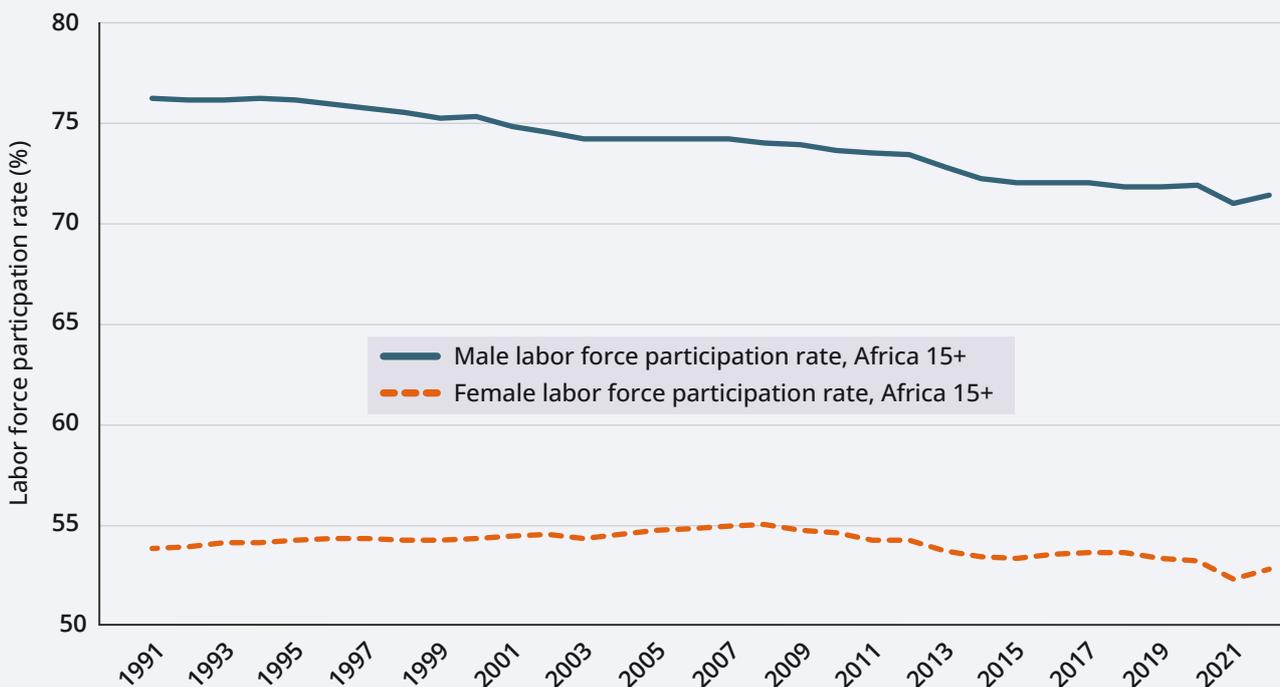
Female labor force participation differs by age group (Figure 3). Notably, the participation rate among women ages 15–24 years has seen a declining trend over the last 30 years, whereas that for women 25 years and older has experienced an increasing trend (from 58.6 percent in 1990 to as much as 61.6 percent in 2007). This increase likely reflects the growth of the services sector, which led more women to transition from agricultural to service-related employment (particularly in wholesale and retail activities).

Figure 1. Female labor force participation rates in Africa, 1990 vs. 2021



Source: Based on national estimates from the International Labour Organization.
 Note: When a country has data for 1990 or the latest available year, the figures show the closest year with available data (within a five-year window).

Figure 2. Female and male labor force participation rates in Africa, 1990–2021



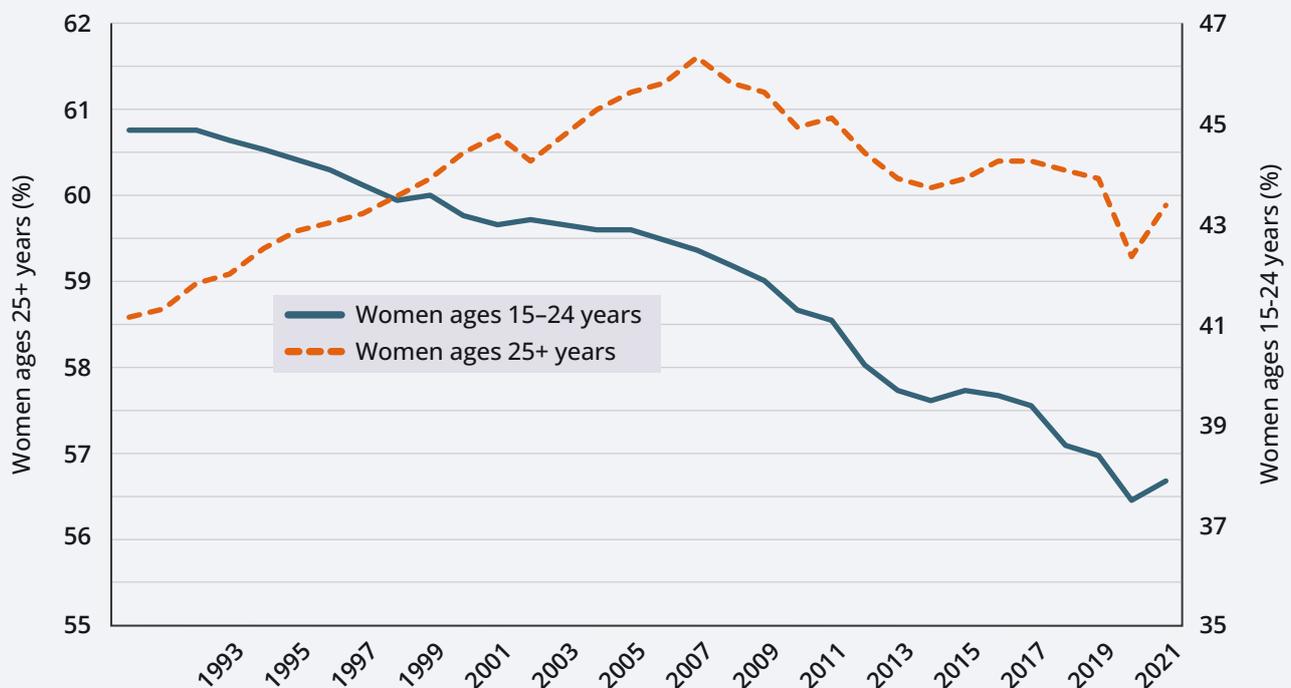
Source: Based on data from the International Labour Organization, ILOSTAT.

3. Literature review

The decline in labor force participation among the younger cohort can be attributed to increased investment in education, improvements in education systems, and higher enrollment rates—and the resulting decrease in the proportion of young women who are out of school in the early stages of education (from 51.4 percent in 2001 to 31 percent in 2021).⁴

Additionally, social policies such as school feeding programs, the African Union Protocol to the African Charter on Human and Peoples Rights on the Rights of Women in Africa (Maputo Protocol), and the Millennium Development Goals (MDGs) have paved the way for greater equality in education and training, resulting in reduced proportions of girls entering the labor market at an early age.⁵ The Maputo Protocol, adopted by the African Union in 2003, emphasized the need for African governments to enact measures to eliminate discrimination against women and girls in education and ensure their equal access to and retention in quality education. The MDGs raised awareness of the need for efforts to promote gender equality in education globally as well as in Africa (United Nations, 2015). Such policy frameworks served to create opportunities for girls and women to access higher education and skills training for the world of work.

Figure 3. Female labor force participation rate in Africa, by age cohort, 1990–2021



Source: Based on modeled estimates from the International Labour Organization, ILOSTAT.

Women in North Africa have had lower average employment relative to their counterparts in Sub-Saharan Africa (Table 1), despite the implementation in North African countries (e.g., Morocco and Tunisia) of several policies to support female labor force participation. Such policies include maternity leave, equal pay for equal work, quotas for women in public office, legal protection against discrimination, incentives for companies to hire women, and public education campaigns to encourage women to join the workforce.

It remains unclear why female employment in North Africa has lagged behind that of Sub-Saharan Africa and other regions. Evidence from other related studies suggests that the most probable causes are deep-seated cultural values or religious beliefs that limit women's access to employment and market opportunities (Ross 2008; Norris 2010).

Table 1. Female and male employment rates in Africa, by region, 1992–2021 (%)

Region	1992–2001		2002–2011		2012–2021	
	Female	Male	Female	Male	Female	Male
North Africa	17.22	64.22	17.81	64.38	17.19	62.20
Sub-Saharan Africa	60.28	71.62	60.55	70.86	58.22	68.84
Africa	50.43	69.88	50.87	69.33	49.51	67.40

Source: International Labour Organization World Employment and Social Outlook (WESO online database).

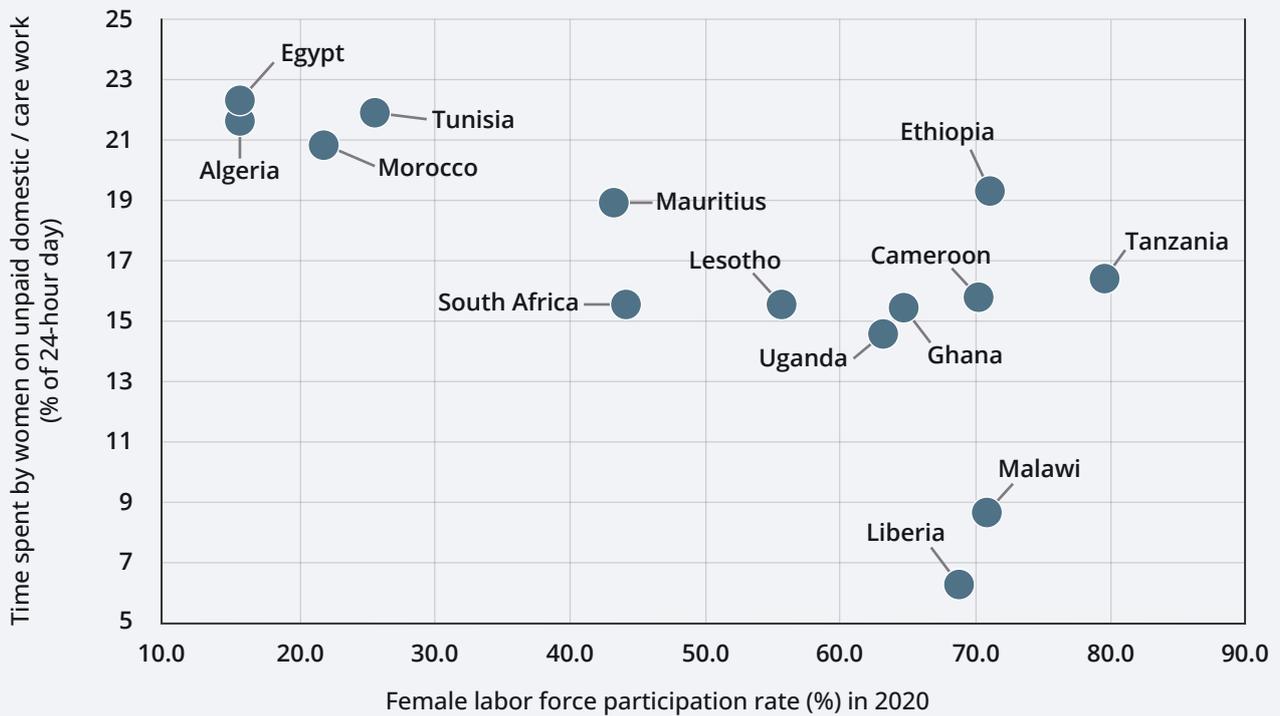
Note: Employment rate, or employment-to-population ratio, is the number of persons employed as a percent of the total working-age (15+) population.

Despite their lower overall employment rate, women in North African countries have a higher average rate of participation in formal employment relative to women in Sub-Saharan African countries. In North Africa, women prefer to work in the formal (public) sector because it generally offers working conditions that allow them to balance work and family life. Women who engage in the informal sector earn less than their male counterparts, have limited career progression options, and may suffer from sexual harassment in the workplace (OECD, ILO, and CAWTAR, 2020). Female formal employment as a share of total female employment in North Africa increased from 37.50 percent in 1991 to 49.70 percent in 2021. Meanwhile, the same proportion for women in Sub-Saharan Africa increased only from 14.65 percent in 1991 to 18.09 percent in 2019 before declining to 17.08 percent in 2020 because of the impact of the COVID-19 pandemic (ILO, 2023).

High informality in the labor market drags more women into vulnerable employment, often characterized by less employment stability, lack of social protection, and lower earnings. The informal employment rate for women declined by only 2 percentage points, from 90.3 percent in 2004 to 88.3 percent in 2021 compared to an average rate of 82.5 percent for men in 2021. Of all employed women in Sub-Saharan Africa, about 79.80 percent were in vulnerable employment in 2019, a decline of 5.13 percentage points from 84.93 percent in 2000. Notably, in 2019, South Africa had the lowest proportion of vulnerable employment among total female employment (10.59 percent) whereas Chad had the highest (98.77 percent).

Women in Sub-Saharan Africa spend on average about 2.7 times more hours per day on domestic and unpaid care work than do men (ILO, 2018). Such work by women is not monetized and is, instead, seen as part of women's responsibility to home building. As shown in Figure 4, women spend more than 20 percent of their time on unpaid care and domestic work in North African countries—Egypt (22.4 percent), Tunisia (21.9 percent), Algeria (21.7 percent), and Morocco (20.8 percent)—compared to less than 7 percent for men. Sub-Saharan Africa countries show a less extreme difference because of the participation rate of women in the informal sector.

The average jobs gap rate⁶ for females has also worsened over the past decade, representing a decline in employment opportunities for females compared to a slight improvement for men. The jobs gap rate for females increased by 2.4 percentage points (from 23.8 percent in 2007 to 26.2 percent in 2021) compared to 1.9 percentage points for men (from 15.6 percent to 17.5 percent over the same period).

Figure 4. Time spent on domestic/unpaid care work and FLFPR in Africa, 2020

Source: International Labour Organization; World Bank Gender Data Portal.

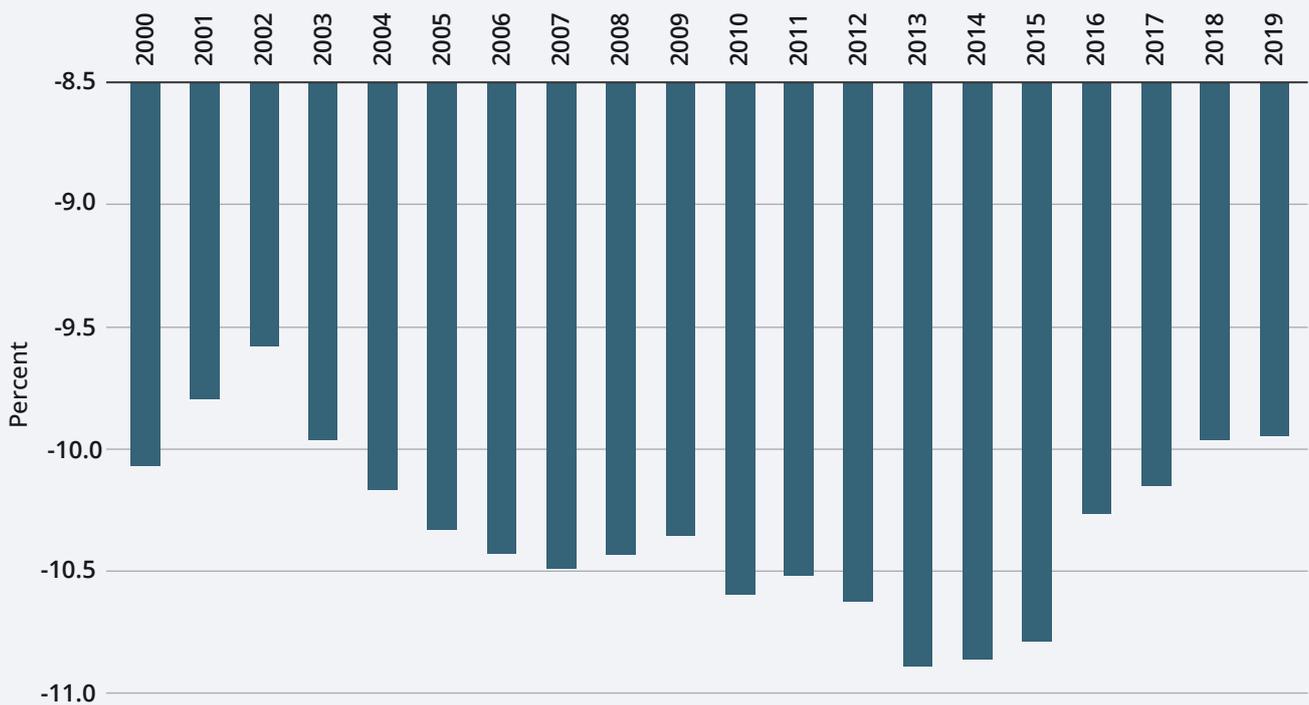
Note: Data on time spent on unpaid domestic/care work are for the latest year with available data.

Further evidence shows that women tend to experience higher wage inequality (Figure 5). The gap between women and men in salaried employment worsened from 9.58 percent in 2002 to 10.89 percent in 2013 but improved to 9.94 percent in 2019. The wage employment gap creates disincentives for female labor force participation and limits women's opportunity for economic advancement.

In terms of occupations, women in Africa are underrepresented in higher management (Figure 6). The proportion of women in management positions (as a share of total female and male managers) increased from 19.24 percent in 2000 to 29.75 percent in 2020. Over the same period, the proportion of men in those positions decreased from 80.76 percent to 70.25 percent. Most women work as technicians and associate professionals, clerical support workers, and service and sales workers.

Women's employment varies across broad economic sectors (i.e., agriculture, industry, and services). Seasonal variations in the demand for labor in the agriculture sector affect the labor supply of women, and employment in the sector has declined for both women and men. In the three decades since 1991, the services sector experienced significant growth in female employment in the second decade, rising from 40.83 percent in 1991–2000 to 50.29 percent in 2001–2010, but witnessed a decline to 36.5 percent in 2011–2020 (Figure 7). Women's employment in industry, which lagged in the second decade, had significant growth from 14.08 percent in 2001–2010 to 40.88 percent in 2011–2020, surpassing men's employment growth in the sector.

Figure 5. Incidence of unequal employment in paid employment in Africa, 2000–2019



Source: Based on World Development Indicators data.

Figure 6. Employment in Africa, by sex and occupation, 2000 vs. 2020



Source: Based on modeled estimates from the International Labour Organization, ILOSTAT.

Panel B of Figure 7 shows the specific subsectors of industry in which women exhibited strong employment growth. Female employment experienced significant and continuous growth in the mining and quarrying and utility subsectors (Ofori, Asongu, and Tchamyou, 2021) and in the construction subsector. Additionally, after falling in the second decade, female employment in the manufacturing sector increased from 10.7 percent in 2001–2010 to 31.85 percent in 2011–2020 compared to a slight decrease in male employment.

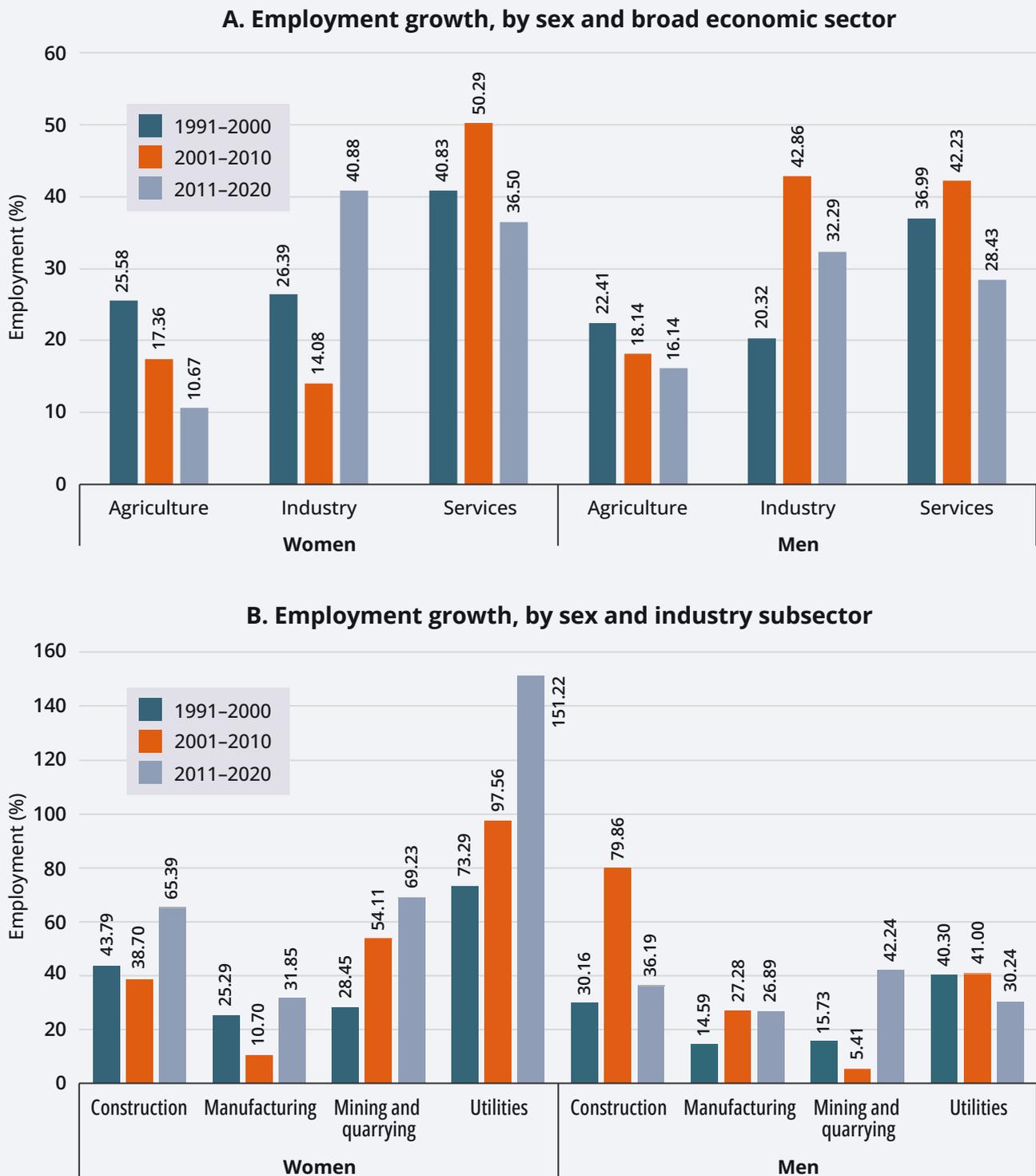
In the early 1990s, limited opportunities for education and training and the lack of social protection for those at risk of poverty compelled women ages 25 years and older to work (ILO, 2016). Their labor force participation rate increased significantly, with that increase sustained until the global economic crises beginning in 2007. The crises led to a decline in investment opportunities across countries, which reduced economic opportunities and, thus, the labor force participation rate of prime-age women.

A decline in the labor force participation rate of prime-age women is a cause for concern because of its association with poor health, higher mortality, higher fertility, aging of the population, and a depressed employment prospect (Eliason and Storrie, 2009; Sullivan and Von Wachter, 2009). The phenomenon of “discouraged workers” drives most prime-age women into inactivity (Gaddis and Klasen, 2014). Both men and women ages 15–24 years have high inactivity rates (Figure 8), partly ascribed to insufficient education and training. Among cohorts ages 25 years and older, however, women in both rural and urban areas have higher rates of inactivity compared to their male counterparts. The difference may reflect factors such as gender-biased hiring practices, inflexible working conditions, increase in domestic and unpaid care work, and lack of opportunities for upskilling and reskilling (Jasmin and Abdur Rahman, 2021).

In terms of educational attainment, women with advanced education have the highest rate of labor force participation, followed by women with intermediate education, basic education, and less than basic education (Figure 9). A trade-off appears to exist, however, between the workforce attachment of highly educated women and that of women with lower levels of education.

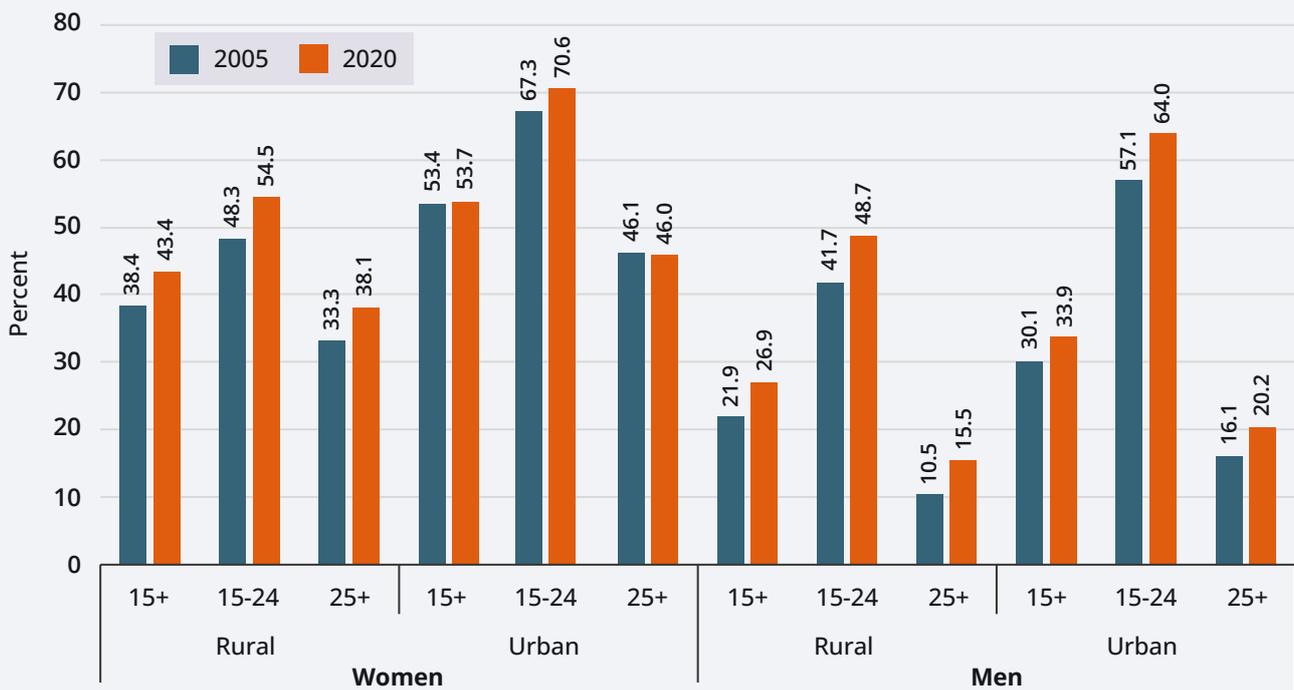
Between 2000–2010 and 2011–2021, the average participation rate of women with advanced and intermediate education decreased by 1.43 and 5.46 percentage points, respectively, compared to gains of 0.53 and 3.51 percentage points for women with basic education and less than basic education, respectively, over the same period. This trade-off may reflect employment rigidities for highly educated women relative to those with basic education, weakening employment opportunities, displacement of skilled workers as a result of economic crisis, and high levels of mismatch between skills and job requirements (Grigoli, Koczan, and Topalova, 2020).

Figure 7. Employment growth in Africa, 1991–2020



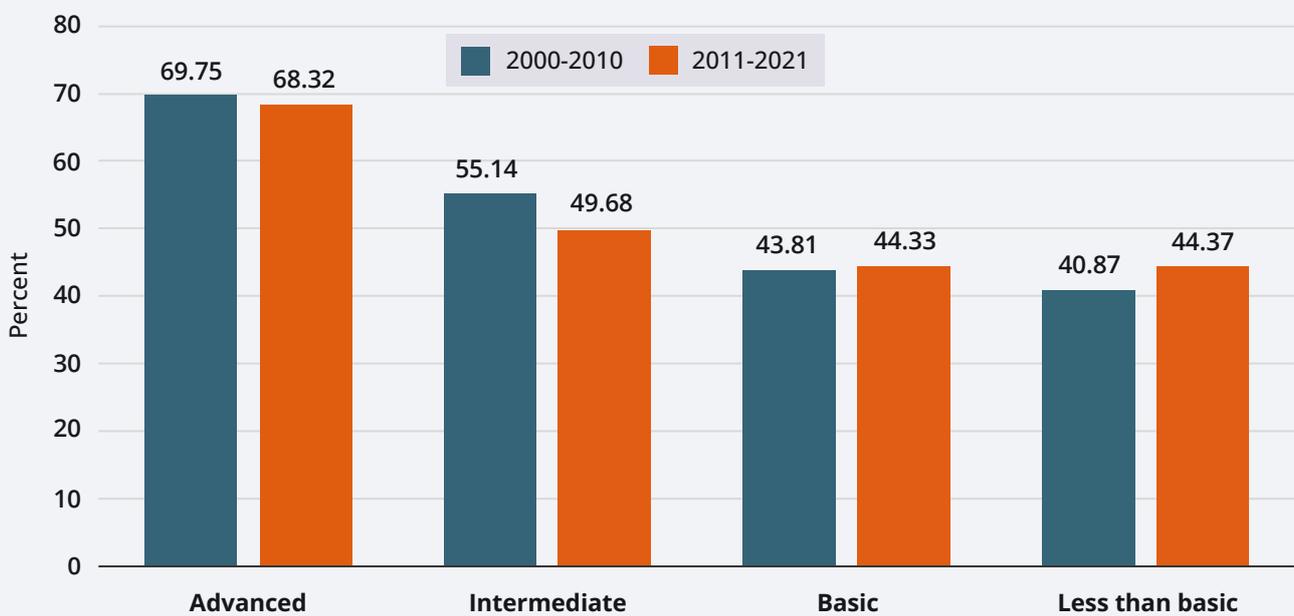
Source: Based on modeled estimates from the International Labour Organization, ILOSTAT.

Figure 8. Inactivity rates in Africa, by sex and area of residence, 2005 vs. 2020



Source: Based on modeled estimates from the International Labour Organization, ILOSTAT.

Figure 9. Female labor force participation in Africa, by educational attainment, 2000–2010 vs. 2011–2021



Source: Based on modeled estimates from the International Labour Organization, ILOSTAT.

3.2. In-country policy diagnostics

Structural barriers such as gender discrimination in terms of unequal pay, limited access to education and training, and lack of supportive policies and infrastructure continue to hinder women's ability to fully participate in the labor market. Although many countries in Africa have policies to support female labor force participation, the varying effectiveness and impact of those policies leave much work to be done to improve women's labor force participation in Africa. This section looks at Kenya and Senegal to examine patterns of female labor force participation and their key determinants.

3.2.1. Kenya

Kenya's labor market remains quite skewed, reflecting discrimination on the basis of gender, race, wealth, schooling, ethnicity, culture, religion, and regional affiliation. For this reason, considerable gaps exist in the labor force participation of various groups. In terms of gender, women's participation has oscillated between 70.5 percent in 1990 and 73.0 percent in 2022.⁷ After declining by a percentage point in 2020 as a result of the COVID-19 pandemic, the participation rate has since recovered. Disaggregation of labor force participation, however, demonstrates underrepresentation of Kenyan women in decent work.

Despite constituting the majority (50.5 percent) of the population according to the 2019 Kenya Population and Housing Census, women account for only about 36.5 percent of wage employment in Kenya (KNBS, 2017). At the sector level, women's employment is concentrated in services (54.5 percent) and agriculture (34.8 percent), with industry employment accounting for only 10.6 percent as of 2021.⁸

In terms of industry classification (Table 2), women are underrepresented in activities requiring high skills and education—such as professional, scientific, and technical (29 percent); information and communication (35.6 percent); and financial insurance activities (38.5 percent)—but overrepresented in activities linked to traditional caregiving roles—such as education (47.7 percent), human health and social work (57.7 percent), and activities of households as employers of domestic personnel (60.6 percent).

Data from the International Labour Organization show higher levels of women in vulnerable employment (69 percent) and in the informal economy (90.2 percent). When evaluated in terms of those not in employment, education, or training, the proportion of females is twice that of males (18 percent vs. 9 percent)—meaning that young women lack the knowledge to participate in decent jobs and civic life compared to young men in Kenya (ILO, 2022).

Table 2. Employment of women and men in Kenya, by industry and type of employment

Industry	Women (%)	Men (%)
Administrative and support service	9.8	90.2
Mining and quarrying	16.9	83.1
Manufacturing	20.4	79.6
Real estate	23.3	76.7
Financial and insurance	38.5	61.5
Accommodation and food service	30.9	69.1
Information and communication	35.6	64.4
Professional, scientific, and technical	29.0	71.0
Education	47.7	52.3
Human health and social work	57.7	42.3
Activities of households as employers of domestic personnel	60.6	39.4

Source: KNBS, 2017, 2018; World Bank.

In the last two decades, two development plans have contributed to the participation of women in Kenya's labor market. First, the five-year economic recovery strategy for wealth and employment creation (2003–2007) aimed to reverse decades of slow and stagnant economic growth that had undermined the well-being of Kenyans. Acknowledging the nonparticipation of women in the labor market, the plan further acknowledged the gender gaps in labor force participation due to women's lack of access to productive assets and the prolonged deterioration of the economic environment. The medium-term plan promised affirmative action for marginalized populations, including women, and led to the creation of the Women Enterprise Fund in 2006.

Second, Kenya's long-term plan (Vision 2030) also emphasized gender inequality as a key development challenge and promoted women's empowerment through initiatives such as gender mainstreaming across ministries, departments, and agencies; enacting a national affirmative action policy; and monitoring compliance. Kenya established important policy, legislative, and regulatory guidelines to protect the dignity of women in the labor market and in households. They include the Public Procurement and Disposal Act (2005), Sexual Offences Act (2006), Employment Act (2007), Prohibition of Female Genital Mutilation Act (2011), Sexual Offences (Medical Treatment) Regulations (2012), Matrimonial Property Act (2013), Marriage Act (2014), Sexual Offences Rules of Court (2014), Protection Against Domestic Violence Act (2015), and Employment (Amendment) Act No. 15 (2022).

In addition, Kenya developed key policy documents—such as the National Policy on Gender and Development (2019), National Policy on Eradication of Female Genital Mutilation (FGM) (2019), and Women Economic Empowerment Strategy (2020–2025)—to support the gender aspirations of the various legal frameworks. Affirmative action programs—particularly the Women Enterprise Fund, UWEZO Fund, National Government Affirmative Action Fund, Youth Enterprise Development Fund, and Access to Government Procurement Opportunity—have elevated women's participation in the labor market through provision of interest-free credit to start and expand women's enterprises nationwide.

Gendered social protection has attempted to enhance women's participation in the labor force as an early intervention against poverty among women and girls. Certain factors, however, have hindered those efforts. For example, religious practices may prohibit women from taking advantage of affirmative action programs, taboos may discourage women from reporting sexual harassment at work, and women in the informal economy face decent work deficits, such as lack of paid maternity leave, unpaid care work, credit constraints, irregular payments, unpaid overtime, and noncompliance by employers with occupational safety and health standards.

Beyond the two development plans, Kenya has also domesticated in its constitution international aspirations such as the Convention on Elimination of all Forms of Discrimination against Women, the Maputo Protocol, and the Solemn Declaration on Gender Equality in Africa. Kenya's constitution has created room for the gender-sensitive laws mentioned earlier, ensuring that women can get decent jobs, work at night, work in "dangerous" jobs, receive equal pay for equal work, inherit property, and receive recognition for their nonmonetary contributions to marriage and to family businesses.

3.2.2. Senegal

In 2014, Senegal adopted the Emerging Senegal Plan to transform its economy through growth-enhancing investments in priority sectors and generate strong and self-sustaining employment opportunities by 2035. Although the plan's implementation has resulted in an average annual growth rate of 5.4 percent over the period 2014–2021, an examination of the economy reveals a dysfunctional labor market that could compromise the government's aspirations for inclusive growth and transformation.

Like other African countries, Senegal is confronted with high youth unemployment—estimated at 15.7 percent in 2015 and reaching about 23.6 percent in 2021, with the level for women double that for men. Female labor force participation has remained among the lowest on the continent, with a rate not exceeding 40 percent of the total female population.

Female labor force participation in Senegal varies by educational attainment. Whereas the rate for women with a basic level of education has remained relatively stable (36.3 percent in 2011 vs. 36.1 percent in 2019), the rate for women with an intermediate level of education has decreased significantly (36.6 percent in 2011 vs. 22.3 percent in 2019). Women with an advanced level of education have the highest participation rate, although it decreased from 47.0 percent in 2011 to 40.8 percent in 2019, with a peak of 69.3 percent in 2018.

As noted in Kiani (2013) and Attioui et al. (2017)—who examined employment in Pakistan and Morocco, respectively—women with higher educational attainment tend to access and remain in paid employment more than those with lower levels. Increased female education reduced the level of vulnerable employment from 93 percent in 1991 to 73 percent in 2015, but the level rose to 77 percent in 2021.

At the sectoral level, observed trends show higher participation of women in the services sector, with the rate rising from 42.5 percent in 2001 to 70.9 percent in 2019. Agriculture experienced a more pronounced decline in its share of total employment for women (43.7 percent in 2001 vs. 17.9 percent in 2019). Over the same period, employment in industry improved from 7.5 percent to 11.2 percent. Despite those improvements, about 91.9 percent of women work in the informal economy and the average salary gap between men and women is 41 percent.

Senegal has made women's access to the labor market one of the priorities of its various development policies and strategies. The government has implemented national action plans aimed at increasing women's participation in the labor force, such as affirmative action in politics and education, as well as gender-sensitive budgeting. In this regard, three strategic objectives reflect the country's ambition to offer productive and adequately paid work, with better prospects for personal development and social integration: (i) strengthening the basis for high productivity, with the expectation that women will participate more in wealth creation activities; (ii) promoting decent work, with particular attention to young

3. Literature review

people and women to ensure that they have the opportunity to participate in the development effort; and (iii) promoting gender equity and equality by ensuring the protection of the rights of girls and women.

In order to achieve those objectives, Senegal has made several legal commitments. At the international level, Senegal has ratified, among others, the United Nations Convention on the Elimination of All Forms of Discrimination against Women; Agenda 2030 on the achievement of the 17 Sustainable Development Goals, particularly MDG 5, which aims at the empowerment of all women and girls; African Union Gender Policy (2009); Agenda 2063: The Africa We Want (2015); and the Solemn Declaration on Gender Equality in Africa.

At the national level, it has adopted several policies in favor of women's empowerment, including establishment of a committee for the review of legislative and regulatory laws that discriminate against women (2016), the law on parity (2010), measures in the agriculture sector in favor of women, and Law No. 2016-32 of the Mining Code, which promotes equal employment opportunities for women and men and guarantees pay equity between female and male employees with equal qualifications.

At the economic level, to overcome the financing constraints faced by women, the General Delegation for Rapid Entrepreneurship of Youth and Women, created in 2017, promotes entrepreneurship and employment of women and youth. Additionally, specific funds for women—including the National Fund for the Promotion of Women's Entrepreneurship, National Credit Fund for Women, and Project to Support the Development of Women's Entrepreneurship and Youth Employment—provide training programs to increase women's skills and knowledge, and have established microfinance institutions to support women entrepreneurs.

The programs and advances have had mixed results. The gap between women's and men's participation rates remains high. Cultural, religious, and legal practices continue to limit women's participation in the labor market and their access to productive resources. Despite a strong political stance in favor of gender equality, and despite substantial legislative and institutional policies, discriminatory practices against women remain widespread in Senegal. Customary practices have taken precedence over legislative instruments, implying profound inequalities between women and men. Particularly in rural areas, culture, custom, and religion confine women to their most traditional roles and limit their access to productive resources such as land, access to financing, property rights, and patents. Women in rural areas participate less in decision-making, and cultural and religious prejudices confine women to domestic and reproductive activities, thus depriving women of their spirit of initiative and making them dependent, like in other African societies, on men.



4. Data and empirical strategy

4.1. Data

The International Labour Organization defines labor force participation rate as the proportion of the working-age population (those ages 15 and older) that is economically active during a specified period of time. The labor force participation rate includes both the employed and the unemployed who are actively seeking work. To analyze the determinants of the FLFPR in Africa, we employed data from the International Labour Organization; the World Bank's World Development Indicators; the World Bank's Women, Business and the Law database; the World Bank's Gender Data Portal; the Legatum Prosperity Index; the Quality of Government Institute database; and the V-Dem Institute. These sources offer extensive comparable cross-country data sets that capture labor market characteristics and health and socio-cultural factors that amplify the extent of market status. The study examined data for 38 African countries from 2000 to 2020.

4.2. Model specification

The objective of the study was to investigate empirically the determinants of the FLFPR in Africa. Following the literature, we adopted an empirical approach that relates female labor force participation to factors that may affect women's decisions to supply their services to the market. Specifically, we estimated the following econometric model:

$$\begin{aligned} FLFPR_{it} = & \beta_1 + \beta_2 Economic_{it} + \beta_3 Cultural\ and\ religion_{it} + \beta_4 Social\ factors_{it} \\ & + \beta_5 Health\ factors_{it} + \beta_6 Quality\ of\ employment\ indicators_{it} + v_t \\ & + \varepsilon_{it} \end{aligned}$$

where i and t represent country and time indexes, respectively; $FLFPR$ is a vector measuring the female labor force participation rate for age cohorts 15–64 years, 15–24 years, 25–54 years, and 55–64 years; $Economic$ is the proxy for economic outcomes including economic complexity, personal remittances, globalization, and real income; $Cultural\ and\ religion$ measures the effects of societal values and norms (ethnic, language and religious fractionalization, mobility, social network, and social tolerance) on women's access to economic opportunities; $Social\ factors$ includes women's empowerment, school completion rate, adolescent fertility rate, fertility rate, age dependency ratio, and technology; $Health\ factors$ represents mental and physical health; $Quality\ of\ employment\ indicators$ represents a vector of labor market conditions (including human capital, labor market regulation, minimum wage, sector employment, pay, workplace discrimination, and gender disparities in formal employment) that either encourage or discourage women's engagement in the labor market; and v and ε are country and time fixed effects and the error term, respectively. Table 3 shows the summary of the descriptive statistics, and Table A.1 in the Appendix provides summary descriptions of variables.

Table 3. Summary of descriptive statistics

Variable	Mean	Std. dev.	Minimum	Maximum
FLFPR (15–64 years)	56.23	16.923	12.3	87.1
FLFPR (15–24 years)	42.02	16.247	7.5	79.9
FLFPR (25–54 years)	67.90	18.115	14.3	96.2
FLFPR (55–64 years)	57.83	22.683	2.7	96.4
Women’s political empowerment	0.69	0.139	0.29	0.90
Technology score	0.34	0.275	0.00	1.00
Personal remittances	0.30	1.828	-8.58	3.99
Economic complexity	-0.79	0.614	-2.42	1.22
Human capital index	1.82	0.425	1.07	2.91
Access to finance	43.60	15.577	10.00	75.00
Mental health	51.79	11.320	18.57	76.65
Physical health	48.58	13.133	18.10	76.30
Social network	56.92	10.322	23.58	77.08
Social tolerance	46.42	11.824	12.28	77.37
Index of globalization	49.13	9.466	23.61	72.35
Ethnic fractionalization	0.64	0.243	0.04	0.93
Language fractionalization	0.65	0.269	0.01	0.92
Religious fractionalization	0.52	0.259	0.003	0.86
Flexibility of labor market	0.46	0.158	0.00	0.81
Gender disparity in formal employment	-0.61	0.532	-2.63	0.18
Adolescent fertility rate	4.82	5.923	0.00	34.20
School completion rate	0.46	0.204	0.07	1.00
Institutional quality	0.48	0.212	0.00	1.00
GDP per capita	1876.18	1871.926	255.100	10,959.34
Mobility	78.48	20.835	25.00	100
Workplace discrimination	59.24	33.533	0.00	100
Pay	51.69	28.287	0.00	100
Asset ownership	67.85	26.262	0.00	100
Social protection	0.65	0.212	0.00	1.00
Age dependency ratio	75.78	17.936	23.92	106.89
Mean age	32.99	1.864	28.03	38.48
Fertility rate	4.67	1.427	1.36	7.73

Source: Own calculations.

4.3. Presentation of empirical results

This section presents the empirical analysis of the study. Specifically, it reports on the descriptive statistics, correlation matrices, and empirical estimations based on Bayesian Model Averaging (BMA). We employed BMA to overcome some of the drawbacks of previous research approaches. BMA is unique in addressing inherent regression model uncertainty, which is quite high in cross-country regressions (Raftery, Madigan, and Hoeting, 1997; Fernandez, Ley, and Steel, 2001; Fragoso, Bertoli, and Louzada, 2018). The BMA procedure estimates different combinations of explanatory variables and subsequently weights the coefficients using various measures of model fit.

As a consequence, BMA conveniently limits concerns about omitted variable bias and the resultant endogeneity, which leads to inconsistently estimated coefficients, a major concern in econometric analysis. BMA evaluates the numerous possible regressors and estimates their posterior inclusion probability (PIP), that is, the probability that the regressors are relevant in explaining the dependent variable, in addition to the weighted mean and variance of their corresponding coefficients. Women's labor market decisions are often selected in an ad hoc manner relative to certain theories (supply-side or demand-side) to avoid an overfitted model. However, BMA allows the control for potentially relevant determinants within a unifying framework without any theoretical justification. Although BMA has become standard in the empirical literature (Sala-i-Martin, Doppelhofer, and Miller, 2004; Tobias and Li, 2004), it has not been applied to study labor market issues.

Table 4 reports the correlation matrix, and Table 5 shows the baseline results of the BMA for the determinants of the labor force participation rate of women ages 15–64 in Africa. The results have been sorted according to the PIPs of the explanatory variables. The results show that economic development (per capita GDP), human capital development, employment in services, adolescent fertility rate, physical health, gender disparities in formal employment, mobility, workplace discrimination, asset ownership, minimum wage, language fractionalization, religious fractionalization, economic complexity, age, flexibility of labor market, index of globalization, ethnic fractionalization, social network, mental health, pay, and institutional quality exhibit high PIPs (between 82 percent and 100 percent).

As such, these variables are more likely to play a significant role in determining the pattern of the FLFPR in the countries in this panel. Factors such as technology, access to finance, and fertility rate contributed between 25 percent and 39 percent. Other explanatory variables—including school completion rate, age dependency ratio, women's political empowerment, personal remittances, and social tolerance—contributed little to female labor force participation.

The results show the feminization U-shaped relationship between economic development and FLFPR in Africa. PIPs of 100 percent support the notion that economic development is an important determinant of female labor force participation. This result aligns with evidence from Goldin (1995), Tam (2011), and Gaddis and Klasen (2013) emphasizing that, as the structure of the economy changes, the manufacturing sector creates a host of retail and clerical positions for which women's capabilities (mental human capital) become more important than physical human capital. The substitution effect and rise in the relative wages of women increase their demand and thus their participation rate. Replacing the dependent variable with the participation rate of women ages 25–54 and 55–64 resulted in a similar U-shaped relationship, suggesting that as a woman ages the income effect that discourages her participation in the labor force as a result of demand for children tends to decrease over time. In this regard, the social stigma against married women who work lessens, raising their participation rate (Tam 2011). We found the contrary when we replaced the dependent variable with women ages 15–24 years.

This finding is consistent with evidence from Klassen (2019), who found that the behavior of female labor participation in developing countries is inconsistent with secular theories such as the feminization U hypothesis. This finding is not surprising because the participation rate of this cohort has declined over the last two decades as a result of increased investment and effectiveness of government policy in achieving

greater gender parity in education and training. Such policies have reduced the proportion of out-of-school adolescent females, creating opportunities for access to higher education and skills training before entry into the workforce.

The result shows a positive association between age and female labor force participation. This finding is intuitive because age determines the timing of initial labor market entry and eventual exit (Besamusca et al., 2015). Thus, an individual transitioning into adulthood would need to “make ends meet,” thereby raising the average rate of participation in the labor force (Brixiová and Kangoye, 2014). The positive posterior mean of human capital index implies that human capital is beneficial to labor force participation, although that of women ages 15–24 years is negative (Table 6). That negative relationship could have two causes. First, the pursuit of higher education and specialized training may delay entry of women ages 15–24 into the labor force. Backhaus and Loichinger (2022) found similar evidence in South Africa, where female cohorts between 15 and 20 years accumulate more years of schooling on average but plateau at age 20. Second, given the “loose” labor market, a lack of suitable employment options that align with the young people’s education and training may impede active participation in the labor market (Yamauchi and Tiongco 2013). Brixiová and Kangoye (2014) found that skills mismatch among educated youth job seekers plays a critical role in labor force participation in Eswatini.

Nevertheless, despite rising educational attainment in most African countries, the effectiveness of the education system in building the noncognitive skills needed for successful integration of youth into the labor market remains in the early stages (Filmer and Fox, 2014; Fox et al., 2016).

Table 4. Summary of correlation matrixes

Correlations	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
1. Women's political empowerment index	1.000																																				
2. Technology score	.242**	1.000																																			
3. Personal remittances	0.051	-0.021	1.000																																		
4. Economic Complexity Index	.176**	.370**	.191**	1.000																																	
5. Human capital index	.132**	.616**	-.097*	.310**	1.000																																
6. Access to finance	-0.068	-.308**	0.017	-.457**	-.444**	1.000																															
7. Social protection	-.099**	-.176**	-.224**	-.284**	-.191**	.207**	1.000																														
8. Mental health	.116**	.129**	-.086*	0.028	-0.030	.164**	.134**	1.000																													
9. Physical health	.119**	.332**	-0.070	-0.034	.107**	-0.011	-0.039	.525**	1.000																												
10. Social networks	0.040	.291**	0.022	.132**	.238**	-0.016	-0.029	.395**	.155**	1.000																											
11. Social tolerance	.244**	-0.030	-.096*	-.079*	-.227**	.241**	.229**	0.052	-.090*	.208**	1.000																										
12. Index of globalization	.287**	.772**	0.060	.432**	.681**	-.410**	-.163**	.301**	.342**	.418**	-.168**	1.000																									
13. Minimum wage	0.018	.415**	-0.074	0.046	.295**	-.091*	.201**	.103**	0.062	.143**	-0.013	.390**	1.000																								
14. Fertility rate	-.175**	-.736**	-0.065	-.569**	-.728**	.472**	.288**	-0.039	-.232**	-.226**	.207**	-.712**	-.358**	1.000																							
15. Employment in services	0.033	0.063	-.088*	-.173**	.113**	-0.058	.092**	.311**	.269**	.088*	-.175**	.367**	-.120**	0.035	1.000																						
16. GDP per capita	.083*	.775**	-.224**	.342**	.682**	-.357**	-.107**	0.067	.234**	.276**	-.161**	.720**	.489**	-.726**	.118**	1.000																					
17. GDP per capita square	.088*	.779**	-.247**	.345**	.683**	-.363**	-.105**	0.069	.238**	.271**	-.148**	.709**	.481**	-.728**	.097**	.998**	1.000																				
18. Mean age	.222**	.622**	-0.026	.078	.423**	-.141**	-0.067	0.017	0.062	.313**	.238**	.485**	.378**	-.432**	.094**	.579**	.583**	1.000																			
19. Ethnic fractionalization	.083*	-.286**	-.201**	-.557**	-.202**	.235**	.392**	-0.025	-.122**	0.049	.441**	-.226**	0.047	.551**	.314**	-.292**	-.299**	0.063	1.000																		
20. Language fractionalization	.181**	-.191**	-.193**	-.432**	-.182**	.258**	.282**	-0.056	-.172**	0.023	.477**	-.207**	0.071	.505**	.198**	-.189**	-.199**	0.049	.810**	1.000																	
21. Religious fractionalization	.128**	-.212**	-.344**	-.238**	.222**	0.025	.074*	-.338**	-.428**	-.172**	.197**	-.160**	-0.071	.184**	.225**	-.087*	-.081*	.101**	.439**	.386**	1.000																
22. Flexibility of labor market	-.082*	-.244**	.174**	-.239**	-.284**	.111**	-.195**	0.060	.171**	0.041	0.006	-.136**	-.344**	.351**	0.062	-.335**	-.344**	-.089*	.241**	.183**	-.096**	1.000															
23. Gender disparities in formal employment	.262**	.444**	0.049	.457**	.367**	-.278**	-.256**	.138**	.236**	.235**	-.130**	.357**	0.044	-.586**	-.097**	.393**	.414**	.218**	-.500**	-.465**	-.173**	-.273**	1.000														
24. Adolescent fertility rate	-.148**	-.551**	-0.054	-.419**	-.393**	.271**	.264**	-.225**	-.475**	-0.063	.397**	-.516**	-.128**	.724**	0.023	-.485**	-.492**	-.141**	.665**	.552**	-.449**	.427**	-.548**	1.000													
25. Mobility	.135**	.174**	0.069	.340**	-0.014	-.132**	-.120**	-.106**	-0.008	-0.012	-0.009	0.029	0.048	-.306**	-.180**	0.042	0.047	.077*	-.298**	-.176**	-.119**	-.326**	.201**	-.266**	1.000												
26. Workplace discrimination	.402**	.145**	-0.014	0.043	0.029	-0.001	-0.064	.097**	.219**	.115**	.182**	.211**	-.099**	-.147**	.242**	-.071*	-0.068	-.082*	0.031	0.012	0.016	-.102**	.102**	-.072*	.220**	1.000											
27. Pay	.339**	.091*	0.038	.259**	.236**	-.206**	-.127**	-0.014	-.125**	0.066	-0.023	.151**	-.161**	-.171**	-0.068	0.053	0.054	0.039	-.121**	0.067	.176**	-.0015	.118**	0.006	.231**	.285**	1.000										
28. Age dependency ratio	-.184**	-.770**	0.031	-.695**	-.614**	.375**	.182**	-.147**	-.340**	-.199**	.198**	-.677**	-.405**	.905**	0.038	-.751**	-.763**	-.486**	.551**	.497**	.290**	-.583**	-.796**	-.088*	-.082*	1.000											
29. School completion rate	.189**	.727**	.095*	.521**	.804**	-.433**	-.291**	.154**	.266**	.324**	-.232**	.784**	.307**	-.855**	.080*	.713**	.711**	.434**	-.477**	-.390**	-.142**	-.244**	-.536**	-.635**	.218**	.115**	.260**	-.764**	1.000								
30. Asset ownership	.324**	-0.068	-.236**	-.188**	-.188**	0.020	0.024	.098**	-0.060	-0.066	-0.054	.348**	-.112**	0.045	0.051	-.079*	-0.067	-.124**	.248**	.338**	.528**	-.166**	-.056	.239**	.169**	.309**	.172**	0.063	-0.011	1.000							
31. Institutional quality	.472**	.487**	-0.036	.513**	.321**	-.341**	-.128**	.149**	.255**	.293**	.168**	.512**	.173**	-.529**	-.157**	.425**	.434**	.358**	-.232**	-.173**	-.148**	-0.066	.416**	-.302**	.141**	.161**	.224**	-.512**	.460**	0.021	1.000						

Source: Own calculations.

Table 5. Results of drivers of female labor force participation in Africa, women ages 15–64 years

	PIP	Post mean	Post SD	t-statistic
GDP per capita	1.00	-0.486	0.143	-3.41
GDP per capita square	1.00	0.025	0.010	2.54
Human capital index	1.00	0.145	0.036	4.06
Employment in services	1.00	0.047	0.009	5.19
Adolescent fertility rate	1.00	0.354	0.029	12.04
Physical health	1.00	0.331	0.048	6.9
Gender disparities in formal employment	1.00	-0.251	0.025	-10.1
Mobility	1.00	0.382	0.029	13.22
Workplace discrimination	1.00	-0.098	0.016	-6.15
Asset ownership	1.00	0.107	0.026	4.13
Minimum wage	1.00	-0.040	0.008	-4.67
Language fractionalization	1.00	-0.297	0.051	-5.82
Religious fractionalization	1.00	0.518	0.062	8.42
Economic complexity	1.00	0.087	0.017	4.96
Mean age	1.00	0.707	0.137	5.18
Flexibility of labor market score	0.98	0.174	0.054	3.22
Index of globalization	0.98	-0.387	0.127	-3.05
Ethnic fractionalization	0.95	-0.230	0.088	-2.61
Social network	0.87	-0.133	0.068	-1.97
Mental health	0.86	0.117	0.061	1.92
Pay	0.83	0.038	0.022	1.75
Institutional quality score	0.82	0.132	0.078	1.69
Technology score	0.39	0.038	0.054	0.71
Access to finance	0.29	-0.013	0.023	-0.55
Fertility rate	0.25	0.008	0.017	0.5
School completion rate	0.08	-0.008	0.034	-0.22
Age dependency ratio	0.08	0.007	0.035	0.2
Women's political empowerment	0.08	0.005	0.030	0.18
Personal remittances	0.08	0.000	0.002	-0.22
Social tolerance	0.06	0.002	0.014	0.16

Source: Own calculations.

Table 6. Results of drivers of female labor force participation in Africa, women ages 15–24 years

	PIP	Post mean	Post SD	t-statistic
GDP per capita	1.00	-0.008	0.302	-0.03
GDP per capita square	1.00	-0.019	0.021	-0.91
Human capital index	1.00	-0.017	0.049	-0.35
Employment in services	1.00	0.051	0.013	3.98
Adolescent fertility rate	1.00	0.277	0.050	5.49
Physical health	1.00	0.667	0.069	9.72
Gender disparities in formal employment	1.00	-0.301	0.044	-6.87
Mobility	1.00	0.370	0.040	9.26
Workplace discrimination	1.00	-0.161	0.020	-7.95
Asset ownership	1.00	0.148	0.035	4.2
Institutional quality score	1.00	0.552	0.087	6.37
Language fractionalization	1.00	-0.438	0.071	-6.16
Pay	1.00	0.148	0.024	6.2
School completion rate	1.00	-0.620	0.110	-5.65
Religious fractionalization	1.00	0.690	0.082	8.43
Economic complexity	1.00	0.156	0.025	6.34
Women's political empowerment	0.85	-0.256	0.137	-1.87
Ethnic fractionalization	0.73	-0.203	0.150	-1.35
Personal remittances	0.71	-0.012	0.009	-1.31
Age dependency ratio	0.55	-0.155	0.162	-0.96
Flexibility of labor market score	0.34	0.058	0.095	0.62
Age	0.32	-0.135	0.229	-0.59
Minimum wage	0.21	-0.004	0.010	-0.43
Index of globalization	0.19	-0.047	0.116	-0.41
Social tolerance	0.13	0.011	0.038	0.29
Fertility rate	0.13	-0.004	0.018	-0.24
Social network	0.10	-0.008	0.031	-0.25
Mental health	0.08	0.005	0.027	0.19
Access to finance	0.05	0.001	0.008	0.13
Technology score	0.04	0.001	0.012	0.06

Source: Own calculations.

Consistent with the hypothesis of Warren and Gilroy (1976), we found a positive posterior mean of employment in services. The result is also in line with the findings of Boserup (1970) and Goldin (1995). The service sector provides women with flexible working hours, part-time options, and a wide range of job opportunities that support work-life balance needs (Gehring and Klasen, 2017; Goldin and Mitchell 2017). The emergence of the retail subsector created an attractive employment opportunity for women, one not subject to stigmatization (Tam 2011). Similarly, the research finds a positive sign for the coefficient of the adolescent fertility rate. This result is consistent across the age cohorts considered. Thus, higher adolescent pregnancy rates may lead to increased financial pressure, particularly on young women, incentivizing their early participation in the labor force.

This finding supports evidence from Herrera, Sahn, and Villa, (2019), who found in Madagascar that motherhood increases the probability of employment. Particularly, they found that women who had their first child during adolescence are almost twice as likely to participate in the labor market as those who had their first child in their early twenties. Thus, early marriage and childbearing limit the autonomy of young women to make decisions about their participation in the labor market. Such young women find themselves constrained in their labor market choices, either working few hours or choosing occupations that offer flexible schedules and home-based work. Sub-Saharan Africa continues to have the highest rate of adolescent fertility—101 births per 1,000 women as of 2021.⁹

According to human capital theory, health plays an important role in individuals' labor supply decisions because it is regarded as a form of human capital (Grossman, 1972). Thus, an occurrence of health limitations amounts to an adverse shock to one's human capital and to labor supply (Cai, 2010). In this regard, this report examined two aspects of health: mental and physical.

First, physical health is positively correlated with female labor force participation in Africa, confirming evidence from Cai (2010). According to Appleton, Hoddinott, and Mackinnon (1996), the extent to which physical strength is rewarded in the labor market may incentivize greater participation of women with good physical health.

Second, despite the positive posterior mean, the result shows that the impact of mental health differs by age cohort. In the model with women ages 15–64 years and 25–54 years, PIPs are between 86 percent and 94 percent (Table 7); however, PIPs of women ages 15–24 years and 55–64 years are less than 10 percent. This result is not surprising because workers ages 25–54 years have a higher probability of labor market attachment than the other age cohorts, making sound mental health very important to this cohort. Frijters, Johnston, and Shields (2010); Vecchio et al. (2014); and Novignon, Nonvignon, and Arthur (2015) confirm the positive relationship between mental health and female labor force participation.

Table 7. Results of drivers of female labor force participation in Africa, women ages 25–54 years

	PIP	Post mean	Post SD	t-statistic
GDP per capita	1.00	-0.559	0.160	-3.5
GDP per capita square	1.00	0.033	0.011	2.99
Human capital index	1.00	0.203	0.038	5.39
Employment in services	1.00	0.031	0.008	3.88
Adolescent fertility rate	1.00	0.309	0.036	8.54
Gender disparities in formal employment	1.00	-0.210	0.027	-7.72
Mobility	1.00	0.395	0.029	13.81
Workplace discrimination	1.00	-0.088	0.015	-5.89
Minimum wage	1.00	-0.045	0.009	-5.15
Language fractionalization	1.00	-0.254	0.054	-4.71
Religious fractionalization	1.00	0.508	0.071	7.14
Economic complexity	1.00	0.094	0.018	5.21
Mean age	1.00	0.984	0.141	6.98
Physical health	0.99	0.191	0.054	3.56
Social network	0.97	-0.174	0.056	-3.14
Mental health	0.94	0.139	0.054	2.57
Asset ownership	0.94	0.084	0.033	2.56
Index of globalization	0.94	-0.331	0.136	-2.44
Flexibility of labor market score	0.93	0.160	0.064	2.49
Ethnic fractionalization	0.80	-0.169	0.107	-1.58
Fertility rate	0.65	0.029	0.025	1.16
Technology score	0.49	0.051	0.060	0.86
Access to finance	0.37	-0.017	0.026	-0.66
Women's political empowerment	0.12	0.011	0.041	0.28
Institutional quality score	0.11	0.009	0.031	0.28
Age dependency ratio	0.10	0.012	0.047	0.26
Pay	0.09	0.002	0.007	0.25
Social tolerance	0.08	0.004	0.017	0.21
School completion rate	0.07	0.006	0.033	0.19
Personal remittances	0.04	0.000	0.001	0.03

Source: Own calculations.

4. Data and empirical strategy

The variable measuring gender disparity in formal employment also ranks high among the explanatory variables with a 100 percent PIP. The posterior mean of the coefficient is negative, in accordance with our expectations. A higher inequity in accessing formal employment opportunities lowers female labor force participation. Thus, high gender inequities in formal employment entail the emergence of gaps between men and women in terms of their access to and representation in formal or waged employment. This finding corroborates evidence from Anyanwu and Augustine (2013), who found that lower gender equality in formal employment in North African countries contributes to lower participation of women in the labor force.

The results further reveal that mobility accounts for an increasing rate of female labor force participation. Here, mobility reflects a score (between 0 and 100) on four questions measuring constraints to a woman's agency and freedom of movement, both of which are likely to influence her decision to enter the labor force and engage in entrepreneurial activity: Can a woman choose where to live in the same way as a man? Can a woman travel outside her home in the same way as a man? Can a woman apply for a passport in the same way as a man? And can a woman travel outside the country in the same way as a man? Freedom of movement without any restrictions allows women to make informed economic decisions that could greatly engender their participation in the labor force, especially in waged employment (Kennan, 2014). This finding is in line with evidence from Mehta and Sai (2021) who found that women may have less autonomy and be less likely to seek nonfamilial employment in India if their economic independence is heavily constrained by a lack of freedom of movement.

The coefficient of workplace discrimination is negatively correlated with female labor force participation. We found low PIPs (0.17 percent) for women ages 55–64 years, however, which may be attributed to their high inactivity rate, greater experience on the job, and lack of competition because they are nearing retirement (Table 8). Workplace discrimination reflects a score (between 0 and 100) on four questions measuring laws that affect women's decisions to enter the labor market: Can a woman get a job in the same way as a man? Does the law prohibit discrimination in employment based on gender? Is there legislation on sexual harassment in employment? And are there criminal penalties or civil remedies for sexual harassment in employment? The higher the score, the lower the level of workplace discrimination and harassment.

The overall results show that the absence of laws to control workplace discrimination or harassment reduces women's labor force participation. Both discrimination and harassment not only violate the basic fabric of human rights but also have wider social and economic consequences that inhibit women's labor market entry and employment retention. Discrimination stifles opportunities, wastes women's talent and capability needed for economic progress, and accentuates social tensions and inequalities in the workplace (Tanaka 2016; Adejugbe and Adejugbe 2018).

Table 8. Results of drivers of female labor force participation in Africa, women ages 55–64 years

	PIP	Post mean	Post SD	t-statistic
GDP per capita	1.00	-1.407	0.246	-5.73
GDP per capita square	1.00	0.083	0.017	4.8
Human capital index	1.00	0.027	0.054	0.51
Employment in services	1.00	0.086	0.011	7.73
Adolescent fertility rate	1.00	0.630	0.040	15.79
Physical health	1.00	0.265	0.052	5.09
Gender disparities in formal employment	1.00	-0.445	0.036	-12.41
Mobility	1.00	0.434	0.037	11.75
Ethnic fractionalization	1.00	-0.511	0.088	-5.77
Language fractionalization	1.00	-0.241	0.061	-3.98
Flexibility of labor market score	1.00	0.496	0.065	7.66
Access to finance	1.00	-0.116	0.025	-4.66
Religious fractionalization	1.00	0.668	0.061	10.89
Mean age	1.00	1.199	0.172	6.97
Minimum wage	0.99	-0.040	0.011	-3.61
School completion rate	0.58	0.149	0.146	1.02
Institutional quality score	0.53	0.089	0.097	0.91
Age dependency ratio	0.39	-0.093	0.134	-0.69
Index of globalization	0.28	-0.073	0.136	-0.54
Pay	0.21	0.008	0.019	0.44
Workplace discrimination	0.17	-0.006	0.015	-0.38
Fertility rate	0.12	0.004	0.014	0.29
Women's political empowerment	0.11	0.012	0.044	0.27
Personal remittances	0.11	0.001	0.003	0.28
Social network	0.10	-0.007	0.026	-0.25
Asset ownership	0.07	0.002	0.012	0.19
Technology score	0.06	0.003	0.019	0.17
Mental health	0.05	0.002	0.015	0.12
Social tolerance	0.05	-0.001	0.010	-0.07
Economic complexity	0.04	0.000	0.005	0

Source: Own calculations.

4. Data and empirical strategy

To examine the effect of gender differences in property and inheritance law, including instances in which customary law and judicial precedent support legal systems, we included a variable from the Women, Business and the Law database that captures the following five questions measuring equality in the ownership of assets: Do men and women have equal ownership rights to immovable property? Do sons and daughters have equal rights to inherit assets from their parents? Do male and female surviving spouses have equal rights to inherit assets? Does the law grant spouses equal administrative authority over assets during marriage? And does the law provide for the valuation of nonmonetary contributions?

The variable is scored between 0 and 100. The higher the score, the better the laws of the country at allowing women to own assets. Generally, we found evidence of a positive relationship between asset ownership and FLFPR in Africa. This finding corroborates evidence from Abraham, Ohemeng, and Ohemeng (2017), who found in Ghana that having equal rights to asset ownership increases the probability that women will participate in the labor force through entrepreneurship. Those authors showed that women from comparatively financially endowed households are less likely to work in the informal sector, which reflects the unattractiveness of that sector's high opportunity cost.

On the effect of culture and societal norms, we used ethnic, language, and religious fractionalization. The mean of the coefficient of religious fractionalization is positive, but it is negative for language and ethnic fractionalization. Irrespective of the diversity in religious beliefs and affiliations, religious communities often foster social capital. These religious communities provide opportunities for networking and exchange of information including about potential job openings or business ventures. Through these networks, congregants may gain access to employment opportunities not readily available through traditional channels. This result is in line with findings of Amin and Alam (2008) in Malaysia and of Lehrer (1995) in the United States. In contrast, the presence of multiple languages or ethnic groups induces inherent hierarchical structural categorization that may induce discrimination in the labor market (Awaworyi Churchill 2017).

According to Boserup (1970) and Goldin (1995), female labor force participation may increase when the locus of production shifts from home to factory and service activities as an economy develops and production sophistication increases. In line with this assertion, we found a positive mean coefficient for economic complexity, suggesting that, as diversity and sophistication of a country's economic activities increase, employment opportunities that fall outside of the traditional economic production boundaries also increase. The ripple effect leads to the emergence of a range of employment opportunities that do not exclude women (Tam 2011).

We found flexible labor market conditions to be associated with FLFPR in Africa. Specifically, the coefficient shows the likelihood of a 17.4 percent increase in the FLFPR. This finding corroborates evidence from Di Tella and MacCulloch (2005), who found that flexibility of labor market conditions induces a rise in both employment rate and labor force participation rate. Thus, flexible labor market policies eliminate explicit barriers and create impartial hiring practices, which encourages female labor force participation (Goldin and Rouse, 1997).

We also found a negative posterior mean coefficient of globalization. The PIP of globalization is about 98 percent, suggesting that this variable has a significant impact on the female labor force participation model. Wood (1995) found that, in economies where trade and outsourcing are assumed to be harmful to unskilled workers, globalization is likely to hurt such workers (the majority of whom are women). Accordingly, Wacker, Cooray, and Gaddis (2017) also found that the effect of globalization on female labor force participation depends on a country's industrial structure, with more negative effects in economies with a low share of industry in value added. In contrast, Cooray, Dutta, and Mallick (2017) found a positive relationship between globalization (proxied by trade openness) and labor force participation in 48 Sub-Saharan African countries over the period 1985–2012.

4. Data and empirical strategy

In a world of information asymmetries, firms leverage networks to identify and hire productive workers—hiring referred workers more often than nonreferred workers (Puga and Soto, 2018). In contrast, we found that the mean coefficient of social network exhibits a negative relationship with FLFPR in Africa, with a PIP of 87 percent. This finding supports conclusions of Flory, Leibbrandt, and List (2015) and Niederle and Vesterlund (2007) that, although women may have a huge social network, aversion to competition may prevent existing employees from referring their networks for employment. Likewise, Beaman, Keleher, and Magruder (2018) found in Malawi that men systematically refer few women, despite their ability to refer qualified women when explicitly asked for female candidates, and that women do not refer enough high-quality women to offset men's behavior.

We found that the coefficient of minimum wage exhibits a negative relationship, suggesting that legislation mandating a higher minimum wage may reduce the demand for workers and thus affect female labor force participation by increasing the relative number of the unemployed (Ragan, 1977). This finding is intuitive because wage rigidities (including minimum wage laws) that push wages up too high kill off labor demand, particularly for youth with no experience (Bhorat et al., 2016; Fox, Senbet, and Simbanegavi, 2016). They do so because a higher minimum wage translates into higher costs, potentially leading firms to reduce their labor demand, thereby creating “tight” labor market conditions and worsening the unemployment situation. Thus, a minimum wage reduces the value of entering the labor market (Wessels, 2005; Neumark and Wascher, 2007).



5. Conclusion and policy implications

Despite recent significant progress by many countries in achieving gender parity in various aspects of socioeconomic development, such as in education, health, and politics, gender gaps in terms of women's participation still exist in the labor force. This gap is particularly striking in Africa. It is imperative therefore to gain a comprehensive understanding of the underlying factors contributing to this inequality in labor force participation.

Overall, our findings align with evidence from existing studies on female labor force participation. Specifically, our results highlight the positive role of economic development, economic complexity, and religious fractionalization in promoting female labor force participation. Additionally, we found that female labor force participation is negatively correlated with globalization and with ethnic and language fractionalization.

We found also that freedom of mobility and asset ownership improve female labor force participation but that women's social networks undermine female labor force participation. Additionally, adolescent fertility rate and mental and physical health are positively correlated with female labor force participation, highlighting the importance of addressing health-related issues to promote women's empowerment in the labor force. Our findings also reveal that human capital, flexibility in labor market regulations, and employment in the services sector contribute to higher participation rates among women. However, minimum wage policies, workplace discrimination, and gender disparities in formal employment create a wedge that discourages women's participation in the labor force.

In terms of policy implications, we argue that systemic and structural barriers to women's participation in the labor market will require structural solutions. Such solutions may involve addressing workplace discrimination, promoting gender equality in employment, and creating an enabling environment for women to access and succeed in the labor market.

Although investment in education and educational attainment have risen in most African countries, the effectiveness of the education system in aligning noncognitive skills with the labor market remains vital in improving participation levels. Including gender-sensitive career guidance in education curricula to enable teachers to provide career guidance at critical junctures will be imperative.

Also, although the services sector provides important employment opportunities for women, the levels of informality and vulnerability within the sector leave much room for improvement. Thus, labor market governance will play a critical role in ensuring the accessibility of social protection in the informal sector to improve the economic well-being of women.

Implementing progressive programs that combine life skills and livelihood training can empower young women and equip them with the knowledge and skills to make informed decisions about their sexual and reproductive health, thereby reducing the incidence of early labor force participation.

To address labor market barriers and encourage women's participation, we call for stronger gender-smart and adaptive workplace policies to curb workplace discrimination, harassment, violence, and gendered disparities in formal employment that discourage women's participation in male-dominated workplaces.

Although we did not find a significant link between technology and FLFPR, we cannot overlook the importance of technology in current economic dispensation. Particularly, we argue that policies that foster inclusion in the provision of digital skills training should be encouraged to equip and harness entrepreneurial capacity of young girls and women for the changing future world of work.

ENDNOTES

- 1 Labor force participation comprises both employed and unemployed people searching for work.
- 2 Data based on International Labour Organization nonmodeled national estimates.
- 3 The female employment rate, or female employment-to-population ratio, corresponds to the proportion of a country's female population ages 15 and older that is employed.
- 4 Based on World Development Indicators 2023 data on average estimate of adolescents out of school (percent of young women of lower-secondary school age) in Africa.
- 5 School feeding programs, World Food Programme (<https://www.wfp.org/what-we-do/school-feeding>); The Maputo Protocol, African Union (<https://au.int/en/treaties/protocol-african-charter-human-and-peoples-rights-rights-women-africa-maputo-protocol>); UNESCO, 2020.
- 6 The gap between the actual employment and potential employment.
- 7 World Development Indicators 2023 (<https://data.worldbank.org/indicator/SL.TLF.CACT.FE.ZS?locations=KE>).
- 8 <https://www.ilo.org/wesodata>.
- 9 <https://www.who.int/news-room/fact-sheets/detail/adolescent-pregnancy>.

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Appendix

Table A.1. Summary description of variables

Variable	Description	Source
Female labor force participation	Labor force participation rate, female (% of female population) (modeled ILO estimate). The age cohorts include 15–64, 15–24, 25–54, and 55–64 years.	International Labour Organization (ILO)
Women's political empowerment	The process of increasing capacity for women, leading to greater choice, agency, and participation in societal decision-making.	V-Dem Institute
Technology score	A composite score of mobile cellular subscriptions (per 100 people) and individuals using the internet (% of population).	World Bank, World Development Indicators (WDI); International Telecommunication Union, World Telecommunication/ ICT Indicators Database
Personal remittances	Personal transfers and compensation of employees as defined in the sixth edition of the International Monetary Fund Balance of Payments Manual.	WDI
Economic complexity	The Economic Complexity Index (ECI) measures the capabilities and know-how of a given country determined by the diversity, ubiquity, and complexity of the products it exports.	The Quality of Government Institute database (QOG)
Human capital index	Based on years of schooling (Barro and Lee, 2010) and assumed returns, based on Mincer equation estimates around the world.	Penn World Table 10.01
Access to finance	A composite score of bank loans, lines of credit, and grants.	Legatum Prosperity Index
Mental health	Variable that includes emotional well-being, less depressive disorders and suicidal tendencies.	Legatum Prosperity Index
Physical health	Variable that includes physical pain, health problems, communicable diseases, noncommunicable diseases, and raised blood pressure.	Legatum Prosperity Index

Variable	Description	Source
Social network	Variable that includes respect, opportunity to make friends, and help to another household.	Legatum Prosperity Index
Social tolerance	Variable that includes perceived tolerance of ethnic minorities, perceived tolerance of LGBT individuals, and perceived tolerance of immigrants.	Legatum Prosperity Index
Index of globalization	A weighted average of the following variables: economic globalization, social globalization, and political globalization. Measured on a scale of 1 to 100.	QOG; KOF Swiss Economic Institute, KOF Globalisation Index
Ethnic fractionalization	A combination of racial and linguistic characteristics; based on Alesina et al., (2003).	QOG
Language fractionalization	Variable that reflects that probability that two randomly selected people from a given country will not belong to the same linguistic group; based on Alesina et al. (2003).	QOG
Religious fractionalization	Variable that reflects the probability that two randomly selected people from a given country will not belong to the same religious group; based on Alesina et al. (2003).	QOG
Flexibility of labor market	A composite score for cooperation in labor-employer relation, flexibility of employment contract, flexibility of wage determination, and flexibility of hiring practices.	QOG
Gender disparity in formal employment	The difference between wage and salaried male workers and female workers.	WDI
Adolescent fertility rate	The number of births per 1,000 women ages 15–19.	WDI
School completion rate	The composite score for female primary and lower-secondary completion rates (% of relevant age group).	WDI
Institutional quality	A composite score of political stability, rule of law, and regulatory quality.	World Bank, Worldwide Governance Indicators
GDP per capita	A measure of economic development.	WDI
Mobility	A composite score of whether a woman can travel outside her home, apply for a passport, and travel outside the country in the same way as a man.	Women, Business and the Law database (WBL)

Variable	Description	Source
Workplace discrimination	A composite score measuring whether a woman can get a job in the same way as a man, if the law prohibits discrimination in employment based on gender, if a country has legislation on sexual harassment in employment, and if it has criminal penalties or civil remedies for sexual harassment in employment.	WBL
Pay	A composite measure of whether the law mandates equal remuneration for work of equal value, allows a woman to work at night, allows a woman to work in a job deemed dangerous, and allows a woman to work in an industrial job in the same way as a man.	WBL
Asset ownership	A measure of whether men and women have equal ownership rights to immovable property, sons and daughters have equal rights to inherit assets from their parents, male and female surviving spouses have equal rights to inherit assets, the law grants spouses equal administrative authority over assets during marriage, and the law provides for the valuation of nonmonetary contributions.	WBL
Social protection	A composite score that measures the length of maternity leave, if the law mandates equal remuneration, and if the government administers 100% of maternity leave.	World Bank Gender Data Portal
Age dependency ratio	Ratio of dependents to the working-age population.	WDI
Mean age	Average age of economically active female population.	ILO
Fertility rate	Total number of births per woman.	WDI

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