

ORIGINAL ARTICLE

Social institutions, gender attitudes and female labour force participation in sub-Saharan Africa

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Abstract

Using data from the Ethnographic Atlas and World Values Survey within a structural equation modelling (GSEM) framework, we analyse how historical social institutions and current gender attitudes influence female employment outcomes, specifically female labour force participation in sub-Saharan Africa (SSA). We find that patriarchal systems generally reduce female labour force participation, in relation to matriarchal systems. We also find that current gender attitudes have negative effects that appear to be dominated by the historical social institutions. The findings suggest that historical social institutions are important in understanding gender dynamics in SSA because they inform on gender identification and appropriate gender roles.

KEYWORDS

Africa, attitudes, culture, gender, institutions

JEL CLASSIFICATION

E71, J16, O12, 055

1 | INTRODUCTION

Empirical studies have shown that the origins of gender unequal outcomes are rooted within social institutions and these institutions assign gender roles differently (see Alesina & Giuliano, 2015; Duflo, 2012; Mabsout & Van Staveren, 2010). In this paper, we focus not only on current gender attitudes but also on historical social institutions, namely, patriarchal and matriarchal societies, in understanding the association with female employment outcomes. We ask the following questions: Do these institutions (*i.e.* past and current) inform female employment outcomes today? If so, do they reinforce or offset each other? Central to our analysis is the hypothesis that both historical social institutions and current gender attitudes affect gender outcomes because they govern the norms about everyday life issues such as if women can participate in the paid labour market.

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Although we acknowledge that past institutions can also influence current institutions, we argue that not accounting for them in informing current gender outcomes, such as female labour force participation (henceforth FLFP), may be an oversight in today's literature. As such, we propose that historical social institutions are persistent and that therefore, compared with those from matriarchal societies, individuals whose social structure is predominantly patriarchal are more likely to reinforce unequal gender attitudes today due to more pronounced and rigid gender roles. Using data from the Ethnographic Atlas and World Values Survey (WVS) within a structural equation modelling (SEM) framework, we find that the effects of historical social institutions dominate those of current gender attitudes on FLFP today. We observe that matriarchal institutions increase FLFP, while patriarchal institutions have an opposite effect. Gender attitudes reduce FLFP but are consistently statistically insignificant. Most research on labour market outcomes generally focus on factors within the labour market to explain participation rates. Therefore, the findings in this paper provide further insights into understanding how other factors outside of the labour market such as culture affect FLFP in sub-Saharan Africa (SSA).

The analysis in this paper feeds into a broad set of literature including studies that examine factors that influence female participation in the labour market. According to Akbulut (2011), in the last 50 years, more women have entered the formal labour market resulting in an increase in FLFP on a global level. In explaining this trend, some studies have pointed to the narrowing of the gender wage gap in the labour market in developed countries such as the United States (Jones et al., 2015). This has been driven by a number of factors, including the rise in women's level and stock of human capital, which make their labour market supply characteristics similar to those of men. Theoretically, as these characteristics converge, men and women should be paid equally. Effectively, women's wages will rise, and this will attract more women into the labour market (i.e. an increase in FLFP).

Other studies such as Caucutt et al. (2002) suggest that the increase in returns to labour market together with the delay in the timing of fertility contributed to increased FLFP. Fogli and Veldkamp (2011) point to improved maternal employment conditions as a possible reason for increased female labour. They argue that once the uncertainty regarding maternal employment on children is reduced, more women will enter the labour force and each generation will update their parents' beliefs by observing the children of employed women. Outside of labour market and closer to our analysis, changes in preferences and attitudes have also been identified and analysed as factors that have contributed to the increase in women's employment rates. For example, Fernández et al. (2004) develop a model in which sons of working mothers prefer working wives. Due to this change in male preferences, more and more women will decide to work.

In line with our study, van Staveren (2013) compares the relative importance of gendered institutions (formal and informal) against women's access to education and paid employment (*i.e.* women's agency) in explaining women's empowerment in health, education and decision-making. In this study, formal institutions are captured by parental authority, land rights and laws against violence against women, while informal institutions are captured by female genital mutilation, early marriage and missing women (sometimes referred to as son preference). Their findings suggest that women's empowerment depends both on access to resources (positively) and on gendered institutions (negatively), with different institutions affecting different dimensions of empowerment. According to van Staveren (2013), irrespective of access to resources, gender institutions also determine women's achievements by influencing their agency capabilities. Findings from Gennaioli and Rainer (2007) confirm the persistent role of precolonial historical institutions in shaping the ability of African societies to undertake modernisation programs such as those in the labour market in colonial and postcolonial years. They argue that using contemporary features as the only source of contemporary development outcomes on the continent, as has been the case with most quantitative studies, is a restrictive way of analysing the region's development process.

While the literature on the effects of current factors and gender attitudes on women empowerment is well established, empirical literature linking historical social institutions to current women empowerment outcomes is still limited, leaving scope for more evidence-based studies. Culture and tradition are key features that are embedded in most African societies' social institutions, hence their role and/or influence on outcomes cannot be overlooked. We therefore contribute to this literature which focuses on the role

of historical institutions and development on contemporary outcomes (see Acemoglu et al., 2001, 2005; Herbst, 2000; Michalopoulos & Papaioannou, 2013). However, while these studies have predominantly looked at historical economic institutions, we focus on precolonial historical social institutions and their effects on contemporary gender outcomes.

These historical social institutions exert considerable pressure on individuals, households and even market-level decision-making behaviour that shapes economy-wide outcomes such as FLFP rates. As such, the advantage of using precolonial historical institutions data in our study is twofold: First, if we accept that social norms may partly influence or explain development and economic outcomes in Africa today, then using precolonial historical data will best capture these norms (as compared with contemporary data) because it captures African societies prior to colonisation and/or other external influences on their ways of life. Second, we also use precolonial historical data such as kinship type or land inheritance rules given that such data is less likely to be endogenous to contemporary outcomes such as FLFP, existing in spite of, not because of, the institutions that were intended to replace them, a fact which makes causal inference about the effects of institutions easier.

1.1 | Social institutions and gender outcomes: Theoretical framework

Many reasons have been put forth to explain gender inequality in the labour market. One such idea is power asymmetries at the household level. It has been argued that when men and women have asymmetric bargaining power, gender unequal outcomes such as labour force participation rates or even wage gaps emerge. But what is the root for this power asymmetry? According to Lundberg (2008), the single source for the discrepancy in bargaining power between men and women is the gender division of labour in the household. The greater this division of household labour, the fewer will be the outside options for the woman because in most cases, women are assigned the role of child-bearer and household caretaker. To this effect, social institutions become an important factor in the determination of bargaining power given that they contribute to the gender role ideology that dictates what the appropriate role of man and woman is in each society.

We consider social institutions as long-lasting norms, values and codes of conduct that exist within different traditions, customs, cultural practices, informal and formal laws and are long-lasting as they are passed on from one generation to another. While gender inequalities are observable in different forms, such as in education, health and economic and political participation, they derive from the gender roles that are established from social institutions which determine social and economic opportunities of men and women, their autonomy in taking decisions (see Abadian, 1996; Dyson & Moore, 1983; Hindin, 2000) or the capabilities to live the life they value (Sen, 2001). Within individual households, these institutions inform on individual choices that shape everyday life, for example, families have to decide on which family member to undertake paid labour or unpaid care labour.

In the labour market, employers use previously conceived and established gender norms rooted in social institutions to decide who deserves the job best, who to recruit, retrench or promote between men and women. If these institutions are highly gender inequitable and dominate the social landscape, they will not only affect norms and attitudes at the household or market levels, but may also exert measurable effects at a macro-level through government's distribution of resources in key economic sectors.¹ Figure 1 shows the theoretical model we adopt in this study. We consider the role of historical social institution and current gender attitudes, their interplay and impact on female labour force participation for our sample of countries.

¹In most countries, government is also responsible for the enactment, enforcement and regulation of antidiscrimination legislation in employment, rules on access to loans, inheritance and property ownership.

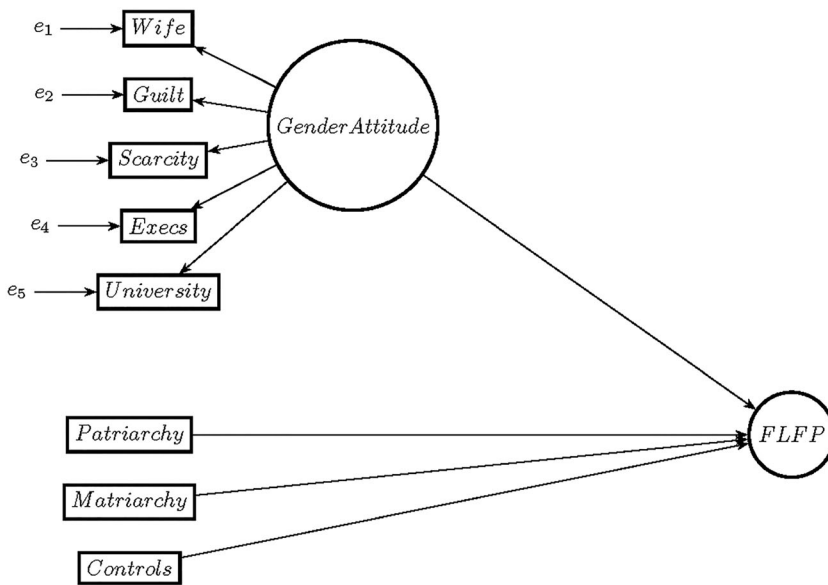


FIGURE 1 Theoretical model. Figure 1 shows the theoretical relationships between social institutions, gender attitudes and female labour force participation

1.2 | Kinship structures, land inheritance and marital residence rules and gender outcomes

Kinship matters for tracing one's descent but it also affects other everyday issues such as; family obligations, gendered division of labour, social interactions between family members and distribution of authority (Gottlieb & Robinson, 2016). Different kinship structures come with different principles and rules regarding everyday life. These principles and rules form the basis of different family values and structures. Kinship structure is a characteristic passed on from one generation to another through the family's values system. Younger family members identify and adopt older family members as their personal models for emulation and imitation. Like other social concepts, gender identification is also learnt and understood through the family values system passed on from the previous generations. Given this context, there may be some correlation between social institutions and gender identity and roles between the sexes which might affect overall gender (in)equality within a particular society. More specifically, we believe that persistence in cultural traits also informs on current attitudes on the appropriate roles of men and women in society. It is from these attitudes that we believe FLFP can vary across ethnicities and countries.

Kinship structure also determines how wealth, land and position are inherited across generations. It also affects other relationships such as alliances, trade and marriage patterns. Patrilineal kinship describes people's descent through the male line. For example, in a predominantly patrilineal society where people's descent is traced through the male line, both male and female children belong to their father's kin group and not their mother's. Second, it is only the male children who can pass on their kin's identity to their children, while children from the females members of the kin group adopt their own father's patrilineal identity. In such a system, it becomes automatic that only male children and their future male offspring will get first preferences in terms of wealth, land and position allocations. The opposite will be true in a predominantly matrilineal society.

There are two different strands of literature on the relationship between patrilineal kinship and gender outcomes. On one end is the literature that states that patriliney is bad for women in general because men structured the social roles to serve their own interests (Reh and Ludwor-Ene 1994). On the other

hand, there is literature that states that patriliney binds fathers to their sons and women are aware of the importance of these ties and they support such structures. (Smedley, 2004). In some cases, women are even believed to actively uphold patriliney when they condition their own sons to grow up wanting to be fathers, to have sons and pass something of their own identity and cultural knowledge to their sons. Although ownership of assets under patriliney follows the male line, the day-to-day control and care of these assets falls to women. This aspect may give the perceived ownership to women (Smedley, 2004). According to Gottlieb and Robinson (2016), there is also a debate on whether matrilineal kinship does improve women's outcome.

Some argue that while matrilineal descent patterns do not necessarily redistribute the decision-making power from men to women, the way in which land and lineage are passed and traced changes. Under matrilineal descent, men still make most of the final decisions just as in patrilineal setting however, women's access to land, resources (both physical and financial), social support networks are much stronger. Overall, this improves women's bargaining power and position over time.

An important element regarding kinship structure and its influence is that it determines the strength of social networks that can be established. As such, there is some correlation between kinship structure and marital residence rules. Patrilineal societies generally have the custom of patrilocality, where the bride goes to live with her husband's family in an extended household or in a nearby household. In this case, the new bride loses the social support of her natal family and is expected to defer to the preferences, authority and expectations of her husband's parents. In matrilocal societies, the newly married couple joins the bride's household or lives close by. In these societies, inheritance and social influence usually pass down through matrilineal kinship lines. As a result, under matrilocal residence, a woman can maintain her social structure, networks and support, thus she may fare better than if she had left.

We also consider traditional land inheritance rules as an important form of social institution. Historically, land has been recognised as a primary source of wealth, social status and power (Food and Agriculture Organization, 2002). Most economic activities rely on land and the majority of employees in rural areas work in agriculture, while in urban areas, land has increasingly become a scarce resource. In many societies there are both statutory and customary laws that govern access to property and land. However, in most African countries, statutory law granting women land rights is either absent or not sufficiently enforced (Food and Agriculture Organization, 2002) and in cases where such statutory law exists, it is mostly rooted in customary law. By its nature, customary law generally gives preference to male land and property rights over the rights of females in the same domains (Richardson, 2004).

Land inheritance is one main way an individual can own and control property. The inheritance criterion is often guided by kinship structures and residence rules upon marriage. In Africa, the main traditional land inheritance structure is patrilineal land inheritance. In its purest form, a woman under patrilineal land inheritance cannot directly own or inherit land or other property. Land or other property as such physical resources and wealth are passed down the male line. As such, women can only access and use land based on their relationship with males. This right to land and property accrues to a woman through her father or guardian while she is still single and through her husband when she gets married. However, in most cases, the rights also disappear with the death of the father, guardian or husband.

The other case is matrilineal land inheritance where a man's primary heirs are his nephews (his sisters' children). Even though it is guided by matrilineal kinship where lineages and families are traced to a female ancestor, and the blood line is traced through the female members of the family, patriliney is still codified in matrilineal societies because men like their patrilineal counterparts, wield the actual power since they sit as chiefs and headmen in traditional courts. While this might be the case, women are still arguably valued more highly than in the patrilineal system. According to the World Bank (2012b), the inability of women to legally inherit property may have negative consequences on their economic independence and security. This also affects their access to social and economic opportunities (see World Bank, 2012a, 2012b). Empirical evidence on the correlation between women's land rights and better outcomes such as bargaining power, HIV-AIDS exposure, domestic violence for women and their families and even child nutrition can be found in the literature (see Friedemann-Sánchez, 2006; Strickland, 2004; Deere et al., 2013; Allendorf, 2007).

2 | DATA

2.1 | Dependent variable

The WVS (1981-2014 Longitudinal version) contains data on 16 African countries, but we focus on the 10 countries that include the questions on gender attitudes that are of interest to this study. In these 10 countries, we have 36 ethnicities that we use in our analysis. The WVS data includes a question on ethnicities.

Data for FLFP is obtained from the WVS. We create this variable from self-reported employment status data from the survey. Individuals report their status as full-time, part-time, self-employed, housewife, student and unemployed. We focus on labour market employment outcomes hence we leave out students (as in Fortin, (2005)) and recode this variable as 1 if the woman is in full, part-time or self-employment and zero otherwise.²

2.2 | Historical data

We obtain data on ethnic homelands from the Murdock (1959) map and the Murdock (1967) Ethnographic Atlas. The Murdock (1959) map shows the distribution of ethnicities across Africa prior to colonisation while the Ethnographic Atlas is a database of 1270 ethnicities around the world and contains about 60 variables covering a variety of information on the day-to-day life of these groups of people. The account is largely based on the time of first description by Europeans which includes culture, geography and economic characteristics of these societies and are coded as categorical data (Fenske, 2013). After dropping eight uninhabited areas as well as the Guanche which is now part of Portugal, we have approximately 843 tribal areas.

The first variable of interest is a measure for kinship structure. This variable describes the traditional social structure (measured by descent) of the ethnic group in precolonial Africa. It is divided into 7 categories: patrilineal, duolateral, matrilineal, quasilineages, ambilineal, bilateral and mixed kinship structures. We create two dummies, one for patrilineal and another for matrilineal kinship such that patrilineal kinship is defined as equal to one if kinship structure equals patrilineal and zero otherwise. Matrilineal kinship is equal to one if kinship structure equals matrilineal and zero otherwise. Figure 2 shows the distribution of kinship structure in the different ethnic homelands. The figure shows that Africa is predominantly characterised by patrilineal kinship followed by matrilineal kinship structure.

The second variable of interest captures the marital residence rules in each ethnic group. This variable has 4 categories. We create two dummies, one for patrilocal residence which is equal to 1 if marital residence rules equals 'wife moves to husband's group' and zero otherwise. Matrilocal residence equals to 1 if marital residence rules equals 'husband moves to wife's group' and zero otherwise.

The third variable of interest measures land inheritance rules. Similar to kinship structure, land inheritance has seven categories. We perform a similar exercise as with kinship patterns and create two dummy variables, one for patrilineal land inheritance equals to 1 if land inheritance rules equals patrilineal and other patrilineal heirs or zero otherwise. Matrilineal land inheritance dummy equals to 1 if land inheritance equals to matrilineal land inheritance and other matrilineal heirs or zero otherwise. Table A2 gives more details on the main variables of interest.

²We appreciate that in terms of income earnings, job security and stability, the employment types stated above are not similar. Moreover, this method may indeed 'ignore' issues such as contract type, occupation and hours worked, but we think that this kind of analysis is a crucial first step in understanding these relationships between social institutions, gender attitudes and women's work in SSA, particularly at the micro level. We believe that based on our analysis, other deeper inquiries can be pursued that can unpack these relationships from a number of perspectives. However, we also break down FLFP by type into full-time, part-time and self-employed. We report those results in Appendix A1. The main findings are generally consistent with those we report in the main section, and we also find that patriarchy significantly increases the probability of a woman being engaged in self-employment.

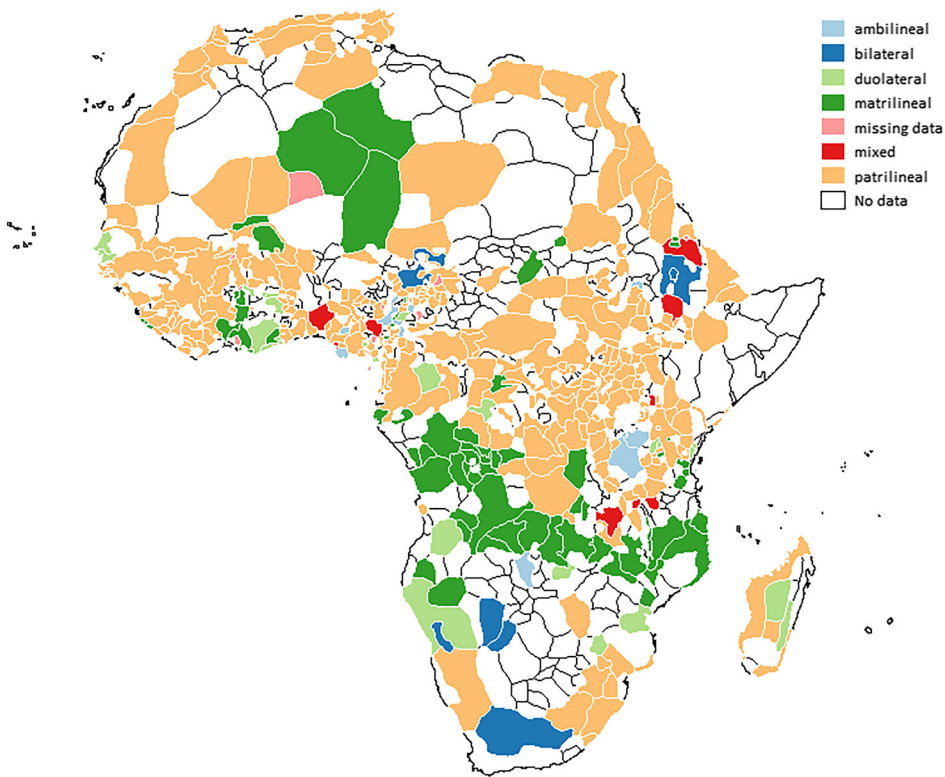


FIGURE 2 Historical ethnic boundaries in precolonial Africa. Figure 2 shows descent-specific ethnic boundaries in precolonial Africa. We have approximately 843 ethnic groups in the dataset [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

Given that these historical social institutions (*i.e.* kinship type, land inheritance and marital residence rules) may be highly correlated, we created two indices, patriarchy and matriarchy using principal component analysis (PCA). According to (Dunteman, 1989), PCA is a data reduction method used to obtain a smaller set of uncorrelated variables from a large number of correlated variables while maintaining maximum variation from the original set. By using this approach, we reduce our institution types from six to two composite variables. The patriarchy index consist of patrilineal kinship, patrilineal land inheritance and patrilocal residence. Matrilineal kinship, matrilineal land inheritance and matriloc residence were combined to develop a matriarchy index.

In PCA, the loadings of variables for each component represent the importance of the specific item to the respective component. When calculating an index using PCA, the loadings of the variables on the first component serve as weights for each variable; each item is multiplied by its loading and the weighted items are summed to produce a score. Unlike the weighted additive scoring measures, the weights assigned with PCA reflect the underlying variation of the data and are not pre-emptively determined.

Employing one of two criteria to decide on which component to use; either the eigenvalue-one or scree test, we used the first component which accounted for over 67% of the patriarchal index and 72% of the matriarchal index. The eigenvalue-one criteria retains any component with eigenvalue greater than one. According to Kaiser (1960), this component captures a greater amount of variance in the index. Alternatively, the scree test plots the eigenvalues associated with each component. On the plot, these eigenvalues appear as breaks between components with relatively high eigenvalues from those with smaller ones (Cattell, 1966). The components above the break are assumed to be meaningful and therefore retained.

We performed a correlation test between the principle components and the social institution variables, and results in Table 1 confirm the results we obtained using the eigenvalue-one criteria. For both indices, the first principal component is highly correlated with all three variables compared with other components.

We also include a set of historical controls. Data on plough use and agricultural suitability is obtained from Alesina et al., (2013). Economic development is measured using the density of ethnic groups' settlements patterns. Depending on its characteristics, an ethnic group is classified into any one of the following: (1) nomadic or fully migratory, (2) seminomadic, (3) semisedentary, (4) compact but not permanent settlements, neighbourhoods of dispersed family homesteads, (5) separate hamlets, (6) forming a single community, (7) compact and relatively permanent settlements and (8) complex settlements. With this information, we construct a variable that takes on integer values, ranging from 1 to 8, and is increasing in settlement density which is indicative of development.

Political structure is measured by the number of levels of jurisdictional hierarchies beyond the local community, with 1 representing the theoretical minimum (e.g. none/autonomous bands or villages) and 4 representing the theoretical maximum (such as villages nested within parishes, districts, provinces and a complex state). This variable also provides a measure of political complexity, ranging from 1 for stateless societies, through 2 or 3 for petty and larger paramount chiefdoms or their equivalent, to 4 or 5 for large states. Note that different types of organisation on the same level are counted as one, and organisations not held to be legitimate, for example, imposed colonial regimes, are excluded.

2.3 | Contemporary data

Contemporary individual data used in this analysis is built from the WVS 1981-2014 Longitudinal Dataset. The WVS is a cross-country project carried out in waves since 1981. In each wave, representative national surveys are done on values and beliefs of individuals in a cross section of countries. Some of the questions included in the questionnaire focus on demographics (sex, age and education), self-reported economic characteristics (income and social class) and provide answers for specific questions related to religion, gender and political preferences and attitudes. Among other gender-related attitudinal questions, the WVS has questions concerning the rigidity of gender identity, women's role as mothers and workers and beliefs about gender hierarchies in employment, education and politics.

We include five questions that capture current gender role attitudes. The first one is 'When jobs are scarce: Men should have more right to a job than women'. This variable captures attitudes or perceptions of the man as the main breadwinner or anti-egalitarian views or discriminatory attitudes against working women (Fortin, 2005). Responses for this variable are in an ordered format as disagree, neither agree or disagree and agree. Second, we use the variable *Being a housewife is just as fulfilling as paid work*. This variable captures the perceptions of the woman only as a home-maker, who should focus on maintaining the household. We also use variable 'Pre-school child suffers with working mother' to capture the inner conflict an individual experiences in deciding whether a woman should enter the labour market. This

TABLE 1 Correlation between principal components and social institutions variables

	Patrilineal	Patrilineal Inheritance	Patrilocal Residence
PC1	0.6435	0.8804	0.9135
PC2	0.7636	-0.3445	-0.2059
PC3	0.0524	0.3258	-0.3509
	Matrilineal	Matrilineal Inheritance	Matrilocal Residence
PC1	0.5048	0.9747	0.9747
PC2	0.8632	-0.2235	-0.2235

conflict is partly due to the clash between family values that emphasise the role of the woman as home-maker and egalitarian views that support an active role for women in the labour market. This has been coined ‘mother’s guilt’ by Buttrose and Adams (2006).

The fourth variable is ‘University is more important for a boy than a girl?’. This variable captures child preference in terms of educational opportunities and is important in determining the kind of job opportunities that males and females can access later on in life. The last attitudinal question ‘Men make better executives than women do?’. This variable captures attitudes about the workplace leadership capabilities of men and women. It is important in explaining gender gaps in leadership positions. Responses for these five questions are in an ordered format as strongly disagree, disagree, agree and strongly agree. There a number of other gender-related questions in the WVS, but our focus on these five offers an advantage of exploring gender equality in the labour market, as well as the reconciliation between work and family duties. Description of variables can be found in Table A3. We also include other data on age, ethnicity, marital status, social status and educational attainment from the same source.

2.4 | Descriptive statistics

We merge our two datasets, the WVS and the Ethnographic Atlas, such that each individual in our final dataset is assigned their ethnic-related characteristics from the Atlas.³ We focus on ethnic level data and analysis given that it allows us to analyse within country differences that contribute to differences in FLFP. Table A1 in the appendices shows the ethnic distributions within the set of countries in the sample. We believe that this kind of analysis is more informative in explaining issues such as labour market outcomes that may be influenced by choices individuals make at more micro levels such as households or community/group (*e.g.* ethnic) level. Below, we show sample characteristics and descriptive statistics for some of the ethnic-specific variables of interest.

From Table 2, five out of the 35 ethnicities in our sample used the plough for agricultural cultivation. In a study by Alesina et al. (2013), descendants of societies that traditionally practised plough agriculture today have less equal gender norms as measured by reported gender role attitudes and female participation in the workplace, politics and entrepreneurial activities. In terms of our social institutions, the majority of the ethnicities in the sample were predominantly patriarchal. In terms of economic activities, agriculture appears to have been the most dominant activity in most ethnicities in the sample.

From Table 3, on average, despite having an above average score for agricultural suitability, less than 20% of the ethnicities included in the sample used the plough in agriculture. This might imply that ethnicities that engaged in agriculture used subsistent methods of cultivation that were not technology intensive, a feature still common amongst most agrarian societies in Africa today. On the other hand, we find that for this sample of ethnicities analysed, the level of political and economic organisation, as measured by political structure and economic complexity was above average.

Tables 4 and 5 show some of the sample characteristics and descriptive statistics for the contemporary sample and contemporary variables we use. In Table 4, we report statistics for the current gender attitudinal responses discussed in Section 2.3. For four out of five of the gender attitudinal questions, we included in this analysis, men are more likely than women to either agree or strongly agree with the statements. Note that these questions are drafted such that positive and higher responses ‘indicate’ agreement with more gender unequal ideologies within the context of the specific questions (*i.e.* on average, male sample appears to drive the gender ‘unequal’ attitudes in this sample).

Table 5 shows that on average, the sample consists of individuals whose highest level of education is either primary or secondary school, have children, are married, mostly from low to upper lower middles class and report themselves as being religious. From Table 6, the average age in the sample is 34 years, and the average number of children is 2. Mean gender attitudes, as measured by the responses to the attitudinal questions, are slightly above average, indicating a bias towards gender unequal responses.

³A study by Anderson (2018) shows that around 60% of individuals stay in their historical ethnic areas.

TABLE 2 Ethnic level—sample characteristics

Country	Ethnicity	Agricultural_suitability	Gathering	Hunting	Agricultural	Plough
Ethiopia	Amhara	0.519427		Males only	Males mostly	1
Ghana	Ashanti	0.54		Males only	Equal	0
Burkina Faso	Bambara	0.901672	Females mostly	Males only	Males mostly	0
Zambia	Bemba	0.992486	Females mostly	Males only	Females mostly	0
Ghana	Dagomba	0.916786				0
Burkina Faso	Diula	0.906757		Males only	Males mostly	0
Mali	Dogon	0.584893	Equal	Males only	Males mostly	0
Ghana	Ewe	0.818912		Males only	Equal	0
Ghana	Ga	0.60446		Males only	Males mostly	0
Uganda	Ganda	0.462366		Males only	Females mostly	0
Uganda	Gisu	0.789006		Males only	Females mostly	0
Nigeria	Ibo	0.131915		Males only	Females mostly	0
Zambia	Kaonde	0.974017			Females mostly	0
Zambia	Lozi	0.997346	Females mostly	Males only	Females mostly	0
Uganda	Luo	0.903737		Males only	Equal	0
Mali	Malinke	0.853872	Females only	Males only	Males mostly	0
South Africa/Zimbabwe	Ndebele	0.971098	Females only	Males only	Females mostly	0
Zambia	Nyanja	0.968919		Males only	Females mostly	0
South Africa	Pedi	0.899009		Males only	Females mostly	0
Rwanda	Ruanda	0.545455	Equal	Males only	Females mostly	0
Mali	Senufo	0.983165	Females only	Males only	Males mostly	0
Zimbabwe	Shona	0.927555	Females only	Males only	Equal	0
Uganda	Soga	0.586031		Males only	Females mostly	0
Mali	Songhai	0.027613		Males only	Males mostly	0
Mali	Soninke	0.692257			Males mostly	0
South Africa	Sotho	0.902454	Females only	Males only	Females mostly	1
South Africa	Swazi	0.914508	Females only	Males only	Females mostly	1
Uganda	Teso	0.769501		Males only	Females mostly	1

TABLE 2 (Continued)

Country	Ethnicity	Agricultural_suitability	Gathering	Hunting	Agricultural	Plough
South Africa	Tswana	0.738423		Males only	Females mostly	0
South Africa	Venda	0.578115	Females mostly	Males only	Females mostly	0
South Africa	Xhosa	0.871571	Females only	Males only	Females mostly	1
Nigeria	Yoruba	0.829847	Females only		Males mostly	0
South Africa	Zulu	0.916303		Males only	Females mostly	0

TABLE 2 (Continued)

Country	Patrilineal	Matrilineal	Matrilineal_inherit	Patrilineal_inherit	Matrilocal	Patrilocal
Ethiopia	0	0	0	1	0	1
Ghana	0	0	1	0	1	0
Burkina Faso	1	0	0	1	0	1
Zambia	0	0	1	0	1	0
Ghana	0	0			0	0
Burkina Faso	1	0	0	0	0	1
Mali	1	0	0	1	0	1
Ghana	1	0	0	1	0	1
Ghana	1	0	0	1	0	0
Uganda	1	0	0	1	0	0
Uganda	1	0	0	1	0	1
Nigeria	1	0	0	1	0	1
Zambia	0	1	1	0	1	0
Zambia	0	0	0	1	0	1
Uganda	1	0	0	1	0	1
Mali	1	0	0	1	0	1
South Africa/Zimbabwe	1	0	0	1	0	1
Zambia	0	1	1	0	1	0
South Africa	1	0	0	1	0	1
Rwanda	1	0	0	1	0	1

TABLE 2 (Continued)

Country	Patrilineal	Matrilineal	Matrilineal_inherit	Patrilineal_inherit	Matrilocal	Patrilocal
Mali	1	0	0	1	0	1
Zimbabwe	0	0	0	1	0	1
Uganda	1	0	0	1	0	1
Mali	1	0	0	0	0	1
Mali	1	0	0	1	0	1
South Africa	1	0	0	0	0	1
South Africa	1	0	0	1	0	1
Uganda	1	0	0	1	0	1
South Africa	0	0	0	1	0	1
South Africa	0	0	0	0	0	1
South Africa	1	0	0	1	0	1
Nigeria	0	0	0	1	0	1
South Africa	1	0	0	1	0	1

Source: Ethnographic Atlas (Murdock, 1967).

TABLE 3 Ethnic level—descriptive statistics

	Mean	SD	Min	Max	Obs
Kinship structure	2.74	2.43	1.00	7.00	14,422
Residence rules after marriage	1.33	0.80	1.00	9.00	14,294
Inheritance rules for real property (land)	6.03	1.73	1.00	7.00	14,234
Political structure	3.44	0.71	1.00	4.00	14,422
Economic complexity	6.01	1.03	3.00	8.00	14,422
Agricultural_suitability	0.73	0.21	0.03	1.00	14,422
Plough	0.19	0.39	0.00	1.00	14,422
Observations	14,422	14,422	14,422	14,422	14,422

Source: Ethnographic Atlas (Murdock, 1967).

TABLE 4 Descriptive statistics—WVS attitude questions

Men_better_executive	Disagree strongly	Disagree	Agree	Agree strongly	Total	p value
N (%)	1584 (14.7)	3355 (31.1)	3174 (29.4)	2679 (24.8)	10,792 (100.0)	
	***	***	***	***	***	***
Female, n (%)	981 (61.9)	1921 (57.3)	1539 (48.5)	1164 (43.4)	5605 (51.9)	
Male, n (%)	603 (38.1)	1434 (42.7)	1635 (51.5)	1515 (56.6)	5187 (48.1)	0.00
Housewife	Disagree strongly	Disagree	Agree	Agree strongly	Total	p value
N (%)	2541 (16.7)	6003 (39.4)	4167 (27.3)	2529 (16.6)	15,240 (100.0)	
	***	***	***	***	***	***
Female, n (%)	1480 (58.2)	3157 (52.6)	2105 (50.5)	1291 (51.0)	8033 (52.7)	
Male, n (%)	1061 (41.8)	2846 (47.4)	2062 (49.5)	1238 (49.0)	7207 (47.3)	0.00
Mother's_Guilt	Disagree strongly	Disagree	Agree	Agree strongly	Total	p value
N (%)	943 (17.1)	2253 (40.8)	1478 (26.8)	850 (15.4)	5524 (100.0)	
	***	***	***	***	***	***
Female, n (%)	538 (57.1)	1223 (54.3)	746 (50.5)	440 (51.8)	2947 (53.3)	
Male, n (%)	405 (42.9)	1030 (45.7)	732 (49.5)	410 (48.2)	2577 (46.7)	0.01
University_Attendance	Disagree strongly	Disagree	Agree	Agree strongly	Total	p value
N (%)	4838 (31.2)	6005 (38.8)	2586 (16.7)	2057 (13.3)	15,486 (100.0)	
	***	***	***	***	***	***
Female, n (%)	2904 (60.0)	3127 (52.1)	1189 (46.0)	878 (42.7)	8098 (52.3)	
Male, n (%)	1934 (40.0)	2878 (47.9)	1397 (54.0)	1179 (57.3)	7388 (47.7)	0.00
Job_scarcity	Disagree	Indifferent	Agree	Total	p value	
N (%)	7314 (46.8)	2029 (13.0)	6292 (40.2)	15,635 (100.0)		
	***	***	***	***	***	
Female, n (%)	4530 (61.9)	1062 (52.3)	2570 (40.8)	8162 (52.2)		
Male, n (%)	2784 (38.1)	967 (47.7)	3722 (59.2)	7473 (47.8)	0.00	

Source: World Values Survey.

3 | ESTIMATION

Using the attitudinal responses, whose responses are ordered, we operationalise a latent variable, gender attitude within a structural equation model framework (*i.e.* confirmatory factor analysis [CFA]). This variable is defined as

TABLE 5 Contemporary sample characteristics

Columns by: Gender	Female	Male	Total	<i>p</i> value
Full sample, <i>N</i> (%)	8236 (52.3)	7513 (47.7)	15,749 (100.0)	
Categorical				
(Highest educational level attained), <i>n</i> (%)				
No Educ, <i>n</i> (%)	1347 (16.4)	918 (12.2)	2265 (14.4)	
Primary Educ, <i>n</i> (%)	2830 (34.4)	2354 (31.3)	5184 (32.9)	
Secondary Edu, <i>n</i> (%)	3032 (36.8)	3007 (40.0)	6039 (38.4)	
Tertiary Educ, <i>n</i> (%)	1021 (12.4)	1232 (16.4)	2253 (14.3)	0.00
(Has children?), <i>n</i> (%)				
No child, <i>n</i> (%)	2005 (24.3)	2888 (38.4)	4893 (31.1)	
Has child(ren), <i>n</i> (%)	6231 (75.7)	4625 (61.6)	10,856 (68.9)	0.00
(Marital status), <i>n</i> (%)				
Not married, <i>n</i> (%)	2395 (37.2)	2977 (45.7)	5372 (41.5)	
Married, <i>n</i> (%)	4048 (62.8)	3532 (54.3)	7580 (58.5)	0.00
Social class (subjective), <i>n</i> (%)				
Upper class, <i>n</i> (%)	133 (1.7)	143 (2.0)	276 (1.8)	
Upper middle class, <i>n</i> (%)	717 (9.1)	755 (10.4)	1472 (9.7)	
Lower middle class, <i>n</i> (%)	1935 (24.6)	1740 (23.9)	3675 (24.3)	
Working class, <i>n</i> (%)	1576 (20.0)	1664 (22.9)	3240 (21.4)	
Lower class, <i>n</i> (%)	3513 (44.6)	2972 (40.9)	6485 (42.8)	0.00
(Religious person?), <i>n</i> (%)				
Not religious, <i>n</i> (%)	1779 (21.7)	2418 (32.4)	4197 (26.8)	
Religious, <i>n</i> (%)	6434 (78.3)	5055 (67.6)	11,489 (73.2)	0.00

Source: World Values Survey.

TABLE 6 Contemporary descriptive statistics

	Mean	SD	Min	Max	Obs
Housewife	2.44	0.95	1.00	4.00	15,240
Mother's_Guilt	2.40	0.94	1.00	4.00	5524
University_Attendance	2.12	1.00	1.00	4.00	15,486
Men_better_executive	2.64	1.01	1.00	4.00	10,792
Job_scarcity	−0.07	0.93	−1.00	1.00	15,635
Age	34.45	13.31	16.00	98.00	15,669
Number of children	2.22	2.22	0.00	8.00	15,749
Social class (subjective)	3.94	1.10	1.00	5.00	15,148
Highest educational level attained	1.53	0.91	0.00	3.00	15,741
Marital status	0.59	0.49	0.00	1.00	12,952
How often do you attend religious services	0.73	0.44	0.00	1.00	15,686
Observations	15,749				

Source: World Values Survey.

$$GenderAttitude_{ie}^* = \alpha_{ie} + \beta WVSQ_response_{ie} + \varepsilon_{ie}. \quad (1)$$

Equation (1) relates the latent variable $GenderAttitude_{ie}^*$ for individual i from ethnic group e to a linear index of observable characteristics that include $WVSQ_response_{ie}$ and the error term. $WVSQ_response_{ie}$ assumes any of the five WVS attitudinal questions described above which we name: *Housewife*, *Mother's_Guilt*, *Job_scarcity*, *University_Attendance*, or *Men_executives*. There are four choice outcomes such that

$$Gender\ Attitude^{H,MG,UA,ME} = \begin{cases} 1 = \text{Strongly disagree} \\ 2 = \text{Disagree} \\ 3 = \text{Agree} \\ 4 = \text{Strongly agree} \end{cases}$$

The only *GenderAttitude* with three choice outcomes is *Job_scarcity* which is given as

$$Job_scarcity = \begin{cases} -1 = \text{Disagree} \\ 0 = \text{Neither} \\ 1 = \text{Agree} \end{cases}$$

where superscripts H, MG, UA, ME and JS are abbreviated designations for the attitudinal questions discussed above. Given the theoretical model laid out in the paper, to examine the association between historical social institutions, gender attitudes and contemporary FLFP, we estimate the following generalised structural equation model (GSEM):

$$FLFP_{ie} = \alpha + \beta Social_Institution_{ie}^{p,m} + \rho GenderAttitude_{ie} + X_{ie}^H + X_{ie}^C + \varepsilon_{ie}, \quad (2)$$

where variable *GenderAttitude* is estimated as in Equation (1). The variable $FLFP_{ie}$ represents FLFP, as described in the data section. $Social_Institution_{ie}^{p,m}$ is an indicator variable for historical institutions that is 1 if present and 0 otherwise, and the superscripts p and m indicate patriarchy and matriarchy, respectively. X_{ie}^H is a vector of the historical controls discussed in the data section, while X_{ie}^C is a vector of contemporary controls also discussed in the data section. We include these in order to control for other possible influences on FLFP. Using this set of variables, we estimate the relationship between historical social institutions, current gender attitudes and FLFP using GSEM.

GSEM estimates the unknown coefficient in a set of linear structural equations. Variables in an GSEM equation system are usually observed variables, and unmeasured latent variables that are not observed, but relate to observed variables. GSEM assumes there is a causal structure among a set of latent variables, and that the observed variables are indicators of the latent variables. The latent variables may appear as linear combinations of observed variables, or they may be intervening variables in a causal chain (Hoyle, 1995; Kaplan, 2008).

4 | RESULTS AND DISCUSSION

4.1 | Main results

Tables 7 and 8 report the results on the GSEM for historical social institutions, current gender attitudes and FLFP. Table 7 is for matriarchy while Table 8 is for patriarchy. By its nature, GSEM estimates the

association between variables in two stages, first, a measurement model for defining the latent variable as well as the structural model, for the regression analysis. Column 2 in both Tables 7 and 8 contains the standardised factor loadings. They are standardised for model identification and the first item, Housewife is constrained for identification purposes. We can interpret these standardised factor loadings as correlations between the item and its factor or how much each item explains or contributes to the latent construct variable. The factor loadings for the measurement models under both matriarchy and patriarchy in Tables 7 and 8 are quite similar in terms of signs and magnitude. Each item loads positively and significantly on latent variable ‘Gender Attitude’ indicating that the WVS questions are good predictors for the latent construct variable ‘Gender Attitude’.

The factor loading for the item mother’s guilt on the latent variable ‘Gender Attitude’ is 0.905 under matriarchy. A one standard deviation increase in mother’s guilt leads to a 0.905 standard deviation increase in the latent variable ‘Gender Attitude’. Note that by construction and based on the ordered structure of the items (*i.e.* WVS responses), the latent variable ‘Gender Attitude’ captures unequal gender attitudes. Therefore, the loading for the item mother’s guilt means that a one standard deviation increase (*i.e.* agrees more) in an individual’s response to the question that a preschool child suffers if their mother works causes a 0.905 standard increase in unequal gender attitudes. The higher the variance, the

TABLE 7 GSEM analysis—matriarchy

A. Measurement model	Factor loadings	<i>p</i> value	<i>z</i> values
Gender attitude			
Housewife: Being a housewife is just as fulfilling as paid work	**	**	**
Mother’s guilt: Preschool child suffers if mother works	0.905	0.000	14.257
Job scarcity: When jobs are scarce, men should get jobs first	0.829	0.000	12.626
University attendance: University is more important for boy than girl	1.151	0.000	15.909
Male executives better: Men make better executives than women	2.446	0.000	15.287
B. Structural model	Coefficients	<i>p</i> value	<i>z</i> values
Hypothesised relationships			
Gender attitude → Female labour force participation	−0.048	0.342	−0.951
Matriarchy → Female labour force participation	0.052	0.024	2.259
Plough → Female labour force participation	0.092	0.060	1.878
Economic complexity → Female labour force participation	−0.010	0.538	−0.616
Political hierarchies → Female labour force participation	−0.036	0.379	−0.880
Agricultural suitability → Female labour force participation	0.478	0.009	2.594
Age → Female labour force participation	0.002	0.073	1.794
Having children → Female labour force participation	0.121	0.000	4.792
Religious person → Female labour force participation	0.027	0.278	1.085
Social status			
Low class → Female labour force participation	−0.251	0.000	−9.365
Middle class → Female labour force participation	−0.077	0.004	−2.916
Upper class → Female labour force participation	−0.152	0.051	−1.951
Level of education			
Primary education → Female labour force participation	0.042	0.316	1.003
Secondary education → Female labour force participation	0.125	0.003	2.933
Tertiary education → Female labour force participation	0.191	0.000	4.090

Note: Model fit statistics (Obs = 2177; $\chi^2 = 742$, $df = 123$; CFI = 0.696; TLI = 0.622; RSMEA = 0.002; SRMR = 0.041. R^2 values: Housewife = 0.229, Mother’s guilt = 0.198, Job scarcity = 0.164, Male executives = 0.302, University attendance = 0.365. ** Items constrained for identification purposes. All reported loadings and coefficients are standardised.

TABLE 8 GSEM analysis—patriarchy

A. Measurement model	Factor loadings	<i>p</i> value	<i>z</i> values
Gender attitude			
Housewife: Being a housewife is just as fulfilling as paid work	**	**	**
Mother's guilt: Preschool child suffers if mother works	0.905	0.000	14.269
Job scarcity: When jobs are scarce, men should get jobs first	0.828	0.000	12.625
University attendance: University is more important for boy than girl	1.150	0.000	15.906
Male executives better: Men make better executives than women	2.445	0.000	15.291
B. Structural model	Coefficients	<i>p</i> value	<i>z</i> values
Hypothesised relationships			
Gender attitude → Female labour force participation	−0.055	0.280	−1.080
Patriarchy → Female labour force participation	−0.037	0.017	−2.385
Plough → Female labour force participation	0.069	0.155	1.421
Economic complexity → Female labour force participation	−0.012	0.405	−0.833
Political hierarchies → Female labour force participation	−0.002	0.946	−0.068
Agricultural suitability → Female labour force participation	0.367	0.019	2.343
Age → Female labour force participation	0.002	0.066	1.838
Having children → Female labour force participation	0.120	0.000	4.745
Religious person → Female labour force participation	0.028	0.262	1.121
Social status			
Low class → Female labour force participation	−0.251	0.000	−9.354
Middle class → Female labour force participation	−0.078	0.003	−2.942
Upper class → Female labour force participation	−0.155	0.046	−1.996
Level of education			
Primary education → Female labour force participation	0.043	0.301	1.034
Secondary education → Female labour force participation	0.126	0.003	2.953
Tertiary education → Female labour force participation	0.192	0.000	4.095

Note: Model fit statistics (Obs = 2177; $\chi^2 = 765$, $df = 99$; CFI = 0.689; TLI = 0.622; RSMEA = 0.0052; SRMR = 0.042. R^2 values: Housewife = 0.229, Mother's guilt = 0.198, Job scarcity = 0.164, Male executives = 0.302, University attendance = 0.365. ** Items constrained for identification purposes. All reported loadings and coefficients are standardised.

more that factor explains the variability in the latent construct variable. In both Tables 7 and 8, the item 'men make better executive than women' has the highest loading on the latent construct variable. According to Kline et al. (2012), if all factor loadings are greater than 0.7, this is a good evidence of convergent validity, as cut-off for 'acceptable is around 0.4'.

The structural models focus on how social institutions and gender attitudes influence FLFP.⁴ We also include the control variables discussed in the data section. Table 7 shows that matriarchy is positively correlated with FLFP, while in Table 8 patriarchy is negatively and significantly correlated with FLFP. On the other hand, current gender attitudes have a negative, though insignificant correlation with FLFP in both models.

⁴We also estimate the same models for the types of employment, that is, full-time, part-time and self-employment. Our findings on the impact of gender attitudes and institutions on women's labour force participation are largely consistent with what we report here. Generally, gender attitudes are negatively correlated with a woman being in any type of employment, but their effects appear more significant for full-time and self-employment. On the other hand, patriarchy generally negatively correlates with female participation in any type of work, while matriarchy shows a positive correlation. Again, these results appear significant for full-time and self-employment. We believe that these findings may be indicative of the labour market structure in most of the countries included in the sample, that is, high unemployment rates, large informal economies and mostly agrarian-based. These characteristics affect the gender division of labour in the household as well as guide the labour market decisions from both demand and supply perspectives. However, further analysis is needed to unpack these relationships.

The results in both Tables 7 and 8 lend support to our hypothesis that first, historical social institutions are just as important as current gender attitudes to consider in understanding female employment outcomes today. Second, even though the correlation between current gender attitudes and FLFP is insignificant, we believe that this does not imply that current gender attitudes are irrelevant for FLFP.

A possible explanation for this insignificance is the implicit–explicit discrepancy theory, which proposes that if there is a discrepancy between implicit (*i.e.* beliefs informed by historical socialisation) and explicit gender attitudes (*i.e.* beliefs informed by current environment, such as WVS questions), then individuals will have divergent views with regards to gender equality Muschalik et al. (2019). We maintain that the historical social institutions are persistent and therefore may still have a more dominant effect on FLFP today than current gender attitudes. Although gender attitudes may be changing and becoming more egalitarian, they still reflect some traditional attitudes regarding the role of women.

In terms of the control variables, we find that relative to other regions, in societies that were historically suitable for agricultural practice, FLFP today is higher and this relationship is significant. The role of agricultural practice and early transition into agriculture has been discussed as an important indicator on how much societies have advanced today (see Alesina et al., 2013; Putterman, 2008). This result is consistent with most empirical studies in Africa today where agriculture continues to play a significant role in many societies (see Food and Agriculture Organization, 2018; International Monetary Fund, 2016; Lastarria-Cornhiel, 2008).

Plough use, economic development (as measured by economic complexity) and political institutions (as proxied by political hierarchies) are insignificantly correlated with FLFP. Except for plough use, the other two are negatively correlated with FLFP and these results are largely consistent with the literature. For example, the relationship between economic development and FLFP has been hypothesised to be U-shaped such that at low levels of economic development, FLFP declines with economic development but as countries become more developed, the relationship turns positive as women's education rises and the return to female labour increases (Boserup, 1970; Goldin, 1990; 1994; Mammen & Paxson, 2000). This creates an incentive for women to enter the labour market mainly as white-collar workers in the service sector, thus explaining the latter upward portion of the U-shape (Galor & Weil, 1996).

In terms of political institutions, Beer (2009) states that existing research provides conflicting evidence about the relationship between democracy and gender outcomes. On one hand, women in more democratic societies, can freely and better express and pursue their views and interests. Democratic governments also tend to pursue gender equality through legislation such as quotas for female university students or parliamentarians (Inglehart et al., 2003; McDonagh, 2002). On the other hand, democracies and other formal institutions (defined as rules of the game) that governments may set up to reduce gender inequality may not be effective in doing so because these formal institutions are often set up to correct or effect changes that pre-existed and were often guided by informal institutions such as patriarchal practices. In this regard, democracy may not mitigate the gender inequality perpetuated by patriarchy (Azari & Smith, 2012; Levitsky & Way, 2012).

With regard to the contemporary controls, except for social status, age, having children (or fertility), being a religious person and educational attainment all increase FLFP; however, not all these significantly do so. Women with children are more likely to work compared with those without. While this may appear contrary to popular belief, it is important to note that childbearing behaviour and decisions to participate in the labour force are often jointly determined; and some characteristics which influence childbearing behaviour also correlate with women's labour force participation (Van der Stoep, 2008). Moreover, empirical evidence suggest that many societies in SSA culturally considered marriage as universal, and they also practise early marriage (Lesthaeghe, 1989; Van de Walle, 1968). Though this was encouraged as a way to avoid premarital sex and childbearing (Kalule-Sabiti et al., 2007), it has been cited as one of the reasons why fertility rates are generally higher in the region (Ayiga & Rampagane, 2013).

Educational attainment significantly increases FLFP. The importance and effects of education on labour force participation are well documented for both developing and developed countries (Anyanwu, 2016; Gakou et al., 2008; Kanjilal-Bhaduri & Pastore, 2018; Totouom et al., 2018). Investment in women's education increases women's opportunities to work outside the home (Ince, 2010).

According to Schultz (1994), higher levels of education push women's wages above the reservation wage threshold, drawing more women into the labour force.

We find a negative correlation between social class and FLFP. Social class implicitly shows income distribution and inequality. Several studies have established links between income inequality and FLFP (Amin & DaVanzo, 2004; Björklund, 1992; Del Boca & Pasqua, 2003; Gronau, 1982; Harkness, 2010; Nelissen, 1990; Western et al., 2008). These studies suggest that this relationship is bidirectional, such that while FLFP may reduce income inequality, income inequality can also act as a factor which could reduce FLFP. Our findings are consistent with the discussion by Klasen and Lamanna (2009), that income inequality negatively changes economic realities and motivates externalities that limit opportunities for women, leading to an increase in female unemployment.

We find a positive though insignificant correlation between religion and FLFP in both models. Most studies report a negative correlation between religion and FLFP (Stranges, 2022). However, most of these studies use the religion variable as a denomination, such as Christianity or Muslim. We define religion as one's self-declared level of involvement in religious issues. As such, the weak correlation may simply indicate that involvement in religious issues has minimal impact on women working.

We also report the model fit statistics including the root mean square error of approximation (RMSEA), which is a popular measure of the discrepancy between the model-based and observed correlation matrices. It uses the model chi-square in its computation but makes adjustments based on model complexity (parsimony adjusted) and has a known sampling distribution, so it is possible to compute confidence intervals. We also include two additional popular fit measures: the comparative fit index (CFI) and the standardised root mean square residual (SRMR) to assess model adequacy. The CFI is a member of a family of incremental fit indexes that compare your model to a restricted baseline model. As the name implies, the SRMR is based on the actual differences (discrepancies) between the model-based covariances and the actual covariances.

The R^2 values reported in the notes section in Tables 7 and 8 are the squared standardised loadings of items. In an GSEM, any variable that has an arrow pointing to it is defined as a dependent variable (endogenous variable) and will have an R^2 value attached to it which shows the percentage of that item's variance that is explained by the corresponding latent variable. The higher the percentage of variance of an item that is explained by the factor, the better the item is at measuring the factor. The model goodness of fit indices for the GSEM analysis suggest that the models are fairly good fits to the data.

4.2 | Additional analysis

It is widely accepted that the past often informs the present and future, therefore as additional analysis, we determine how social institutions influence current gender attitudes. We redefine Equation 1 as shown below and estimate FLFP as in Equation (3) and run a two-part GSEM analysis (shown in Table 9).

$$GenderAttitude_{ie}^* = \alpha_{ie} + \beta WVSQ_response_{ie} + \gamma Social_Institutions_{ie} + \varepsilon_{ie} \quad (3)$$

In Measurement Model 1 in Table 9, we first determine the correlation between historical social institutions (*i.e.* patriarchy and matriarchy) and a hypothetical latent variable that we call 'social norms'. Social norms are the perceived informal, mostly unwritten, rules that define acceptable and appropriate actions regarding an issues (*e.g.* gender roles and behaviour) within a given group or community, thus guiding human behaviour (Cialdini et al., 1990; Cislighi & Heise, 2018; Sood et al., 2020).

Column 2 in Table 9 contains the standardised factor loadings. Patriarchy is constrained for identification purposes. Our results here show that relative to patriarchy, matriarchy is negatively and significantly correlated with 'social norms'. A one standard deviation increase in matriarchy leads to a 0.923 standard deviation decrease in the latent variable 'social norms'. Intuitively, this result means that compared with patriarchy, matriarchy is less aligned with historical social institutions that hinder female

TABLE 9 GSEM analysis—interacting historical social institutions and current gender attitudes

A. Measurement Model 1	Factor loadings	<i>p</i> value	<i>z</i> values
Social norms—construct			
Patriarchy	**	**	**
Matriarchy	−0.923	0.000	−24.337
B. Measurement Model 2	Factor Loadings	<i>p</i> value	<i>z</i> values
Gender attitude—Construct			
Housewife: Being a housewife is just as fulfilling as paid work	**	**	**
Mother's guilt: Preschool child suffers if mother works	0.904	0.000	14.207
Job scarcity: When jobs are scarce, men should get jobs first	0.832	0.000	12.636
University attendance: University is more important for boy than girl	2.445	0.000	15.242
Male executives netter: Men make better executives than women	1.163	0.000	15.905
Social norms	−0.158	0.346	−0.942
C. Structural model	Coefficients	<i>p</i> value	<i>z</i> values
Hypothesised relationships			
Social norms → Female labour force participation	−0.043	0.000	−6.771
Gender attitude → Female labour force participation	−0.038	0.467	−0.728
Plough → Female labour force participation	−0.076	0.114	1.579
Economic complexity → Female labour force participation	−0.011	0.454	−0.748
Political hierarchies → Female labour force participation	−0.015	0.668	−0.429
Agricultural suitability → Female labour force participation	0.412	0.003	2.944
Age → Female labour force participation	0.002	0.067	1.832
Having children → Female labour force participation	0.125	0.000	4.827
Religious person → Female labour force participation	0.027	0.264	1.116
Social status			
Low class → Female labour force participation	−0.251	0.000	−9.359
Middle class → Female labour force participation	−0.078	0.003	−2.958
Upper class → Female labour force participation	−0.154	0.047	−1.983
Level of education:			
Primary education → Female labour force participation	0.043	0.303	1.031
Secondary education → Female labour force participation	0.126	0.000	2.954
Tertiary education → Female labour force participation	0.192	0.000	4.103

Note. Model fit statistics (Obs = 2177, $\chi^2 = 8202$, $df = 137$; CFI = 0.464. The CFI compares the current model with the baseline model. TLI = 0.358. TLI also compares the current model with the baseline model. RSMEA = 0.167. RSMEA *p* value = 0.05. The RSMEA compares the current model with the saturated model. Patriarchy = 0.978; Matriarchy = 0.941; House_wife = 0.227; Mother's_Guilt = 0.196; Job_scarcity = 0.165; Male_execs = 0.306; University_Attendance = 0.363; Female labour force participation = 0.165; Genderatt = 0.001. ** Items constrained for identification purposes. All reported loadings and coefficients are standardised.

empowerment. This result is in line with the discussion in Section 1.2 of this paper that matriarchy and patriarchy generally have an opposing impact on gender norms.

Having asserted how social institutions influence ‘social norms’, we proceed to determine how these social norms influence gender attitudes. We define attitudes as what an individual thinks and feels about a behaviour or practice and whether they judge it favourably or unfavourably (Social Norms Learning Collaborative, 2021; Sood et al., 2020). Unlike social norms that are socially constructed, and collectively accepted, attitudes are individually motivated and focus on individual beliefs. To confirm this association, we proceed to estimate the second latent variable ‘Gender Attitudes’ using a combination of

(historical) social institutions, as measured by the aforementioned latent variable ‘social norms’, as well as contemporary WVS responses to gender attitudes questions.

We find a negative though insignificant correlation between historical social institutions and current gender attitudes. This result is consistent with some of the findings in the literature. For example, according to Fishbein and Ajzen (1977), personal attitudes are mostly ‘internally’ motivated judgements about something—while social norms (created through social institutions) are ‘beliefs’ about what other people (*i.e.* family and community) would do or approve of. This difference between these two concepts is important because some people may want one thing at a personal level, for example, more egalitarian gender outcomes, but are often pushed by the social norms to do the opposite in order to conform with the rest of their society (Miller & McFarland, 1987; Prentice & Miller, 1996).

It is possible that socially constructed norms (*i.e.* those created under systems such as patriarchy or matriarchy) and personal attitudes (*i.e.* WVS responses to gender attitudes questions) may align, however, they are often separate and tend to oppose each other (Cislaghi & Heise, 2020). Attitudes can influence whether a person conforms to a norm or not; however, they are not in and of themselves norms (UNICEF, 2021). The strength of the norm will determine to what extent a person will engage in a practice that is not aligned to their attitude.

In terms of the WVS questions, each item loads positively and significantly on ‘Gender Attitude’. The factor loading for item mother’s guilt on the latent variable Gender Attitude is 0.904, meaning that a one standard deviation increase in mother’s guilt leads to a 0.904 standard deviation increase in the latent variable Gender Attitude. The item ‘university is more important for a boy than girl child’ has the highest loading on the latent variable ‘Gender Attitude’.

The structural model in Table 9 shows the correlation between historical institutions, gender attitudes and FLFP. Our overall conclusion still remains the same as previous findings in Tables 7 and 8. Historical institutions are persistent, relatively more so than current gender attitudes. The negative association with FLFP highlights the opposing dynamics between patriarchal and matriarchal institutions (as seen in Tables 7 and 8), with patriarchy still playing a more dominant role in our sample of countries. These findings suggest that relative to individual attitudes, it is the collective ‘norms’ of a society that exert more influence on outcomes such as FLFP. The control variables are largely consistent with the findings reported in Tables 7 and 8. The model goodness of fit indices for the GSEM analysis suggest that the model is a fairly good fit to the data.

5 | CONCLUSION

Understanding gender outcomes within the labour market is an important issue within growth and development economics. In this paper, we focus on FLFP given that empirical evidence shows that it is both a driver and an outcome of development. It is therefore important to understand the factors that drive female labour, particularly for policy formulation.

The analysis in this paper focuses on historical social institutions, through historical social institutions and current gender attitudes as important drivers for FLFP. We used precolonial historical social institutions as a contributory factor to FLFP today because we believe that the persistence in certain cultural norms and values contributes to decision-making behaviour today, including those affecting labour force participation. We find that consistent with our hypothesis, FLFP is lower in predominantly patriarchal societies than in predominantly matriarchal societies. Current gender attitudes reduce FLFP but are insignificant and dominated by the effects from historical social institutions.

The analysis in this paper focuses on historical social institutions and current gender attitudes as important drivers for FLFP. We used precolonial historical social institutions as a contributory factor to FLFP today because we believe that the persistence in certain cultural norms and values contributes to decision-making behaviour today, including those affecting labour force participation. We find that consistent with our hypothesis, FLFP is lower in predominantly patriarchal societies than in predominantly

matriarchal societies. Current gender attitudes reduce FLFP but are insignificant and dominated by the effects from historical social institutions.

Historical social institutions tend to be persistent and difficult to change. For example, the perception of the men as the breadwinner, or the woman as a home-maker are values that individuals learn and adopt from a young age about what is perceived as the appropriate roles of men and woman within their society. These values form part of their belief system and may persist over generations. As such, it is important that as government formulates policies targeted at gender equality in the workplace, cultural factors be considered and understood.

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CONFLICT OF INTEREST

The authors would like to disclose no potential conflicts of interest.

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APPENDIX APPENDIX

TABLE A1 List of countries and ethnicities in the sample

Country	Ethnicities
Burkina Faso	Bambara
	Diula
Ethiopia	Amhara
Ghana	Ashanti
	Dagomba
	Ewe
	Ganda
Mali	Bambara
	Dogon
	Senufo
	Songhai
	Soninke
Nigeria	Ibo
	Yoruba
Rwanda	Ruanda
South Africa	Ndebele
	Pedi
	Sotho
	Swazi
	Tswana
	Venda
	Xhosa
	Zulu
	Ganda
	Gisu
Uganda	Luo
	Soga
	Toro
	Bemba
	Kaonde
Zambia	Lozi
	Nyanja
	Ndebele
	Shona

Source: Ethnographic Atlas.

TABLE A2 Variables description

Description of variables in dataset	Original variable	Data source
Patrilineal Kinship equals to 1 if kinship type is patrilineal	v43 It is divided into seven categories, namely, patrilineal, matrilineal, duolateral, bilateral, ambilineal, quasilineage and missing data	Ethnographic Atlas
Patrilineal Inheritance equals to 1 if inheritance type equals patrilineal	v74 has seven categories absence of individual property rights matrilineal (sister's sons), other matrilineal heirs, children, with daughters receiving less, children, equally for both sexes, other patrilineal heirs and patrilineal (sons)	Ethnographic Atlas
Patrilocal Residence equals to 1 if residence type equals patrilocal	v11 has four categories wife to husband's group, husband to wife's group, couple to either group or neolocal and no common residence	Ethnographic Atlas
Matrilineal Kinship equals to 1 if kinship type is matrilineal	v43	Ethnographic Atlas
Matrilineal Inheritance equals to 1 if inheritance type equals matrilineal	v74	Ethnographic Atlas
Matrilocal Residence equals to 1 if residence type equals matrilocal	v11	Ethnographic Atlas
Settlement Patterns—proxy for historical economic development	v30 categories include (1) nomadic or fully migratory, (2) seminomadic, (3) semisedentary, (4) compact but not permanent settlements, neighbourhoods of dispersed family homesteads, (5) separate hamlets, (6) forming a single community, (7) compact and relatively permanent settlements and (8) complex settlements	Ethnographic Atlas
Political hierarchy—proxy for political institutions	v33 ranging from no level to four levels, coded 1 to 5 (increasing in levels)	Ethnographic Atlas
Historical female labour force participation		Ethnographic Atlas
Agricultural Suitability—value between 0 and 1		Alesina et al. (2013)
Plough equals 1 if ethnicity practised agriculture using a plough		Alesina et al. (2013)
Age	X003	World Values Survey
Has a child equals to 1 if individual has one or more children	X011	World Values Survey
Male equals to 1 if individual identifies as male	X001	World Values Survey
Middle class equals 1 if individual identifies as being in the middle class	X045	World Values Survey
Upper class equals 1 if individual identifies as being in the upper class	X045	World Values Survey
Primary education equals 1 if individual had some primary education	X025	World Values Survey
Secondary education equals 1 if individual had some secondary education	X025	World Values Survey
Tertiary education equals 1 if individual had some tertiary education	X025	World Values Survey

(Continues)

TABLE A2 (Continued)

Description of variables in dataset	Original variable	Data source
Religious attendance equals 1 if individual goes to church at least once a year	F028	World Values Survey
Female labour force participation equals to 1 if the woman is in full-time, part-time and self-employment and zero otherwise	X028	World Values Survey

TABLE A3 World Values Survey (WVS) variables description

Description of variables in dataset	Original description	Data source
Job_scarcity	C001—When jobs are scarce: Men should have more right to a job than women	World Values Survey
Housewife	D061—Being a housewife just as fulfilling strongly disagree (1), disagree (2), agree (3) and strongly agree (4)	World Values Survey
Mother's_Guilt	D057—Preschool child suffers with working mother—strongly disagree (1), disagree (2), agree (3) and strongly agree (4)	World Values Survey
University_Attendance	D060—University is more important for a boy than a girl strongly disagree (1), disagree (2), agree (3) and strongly agree (4)	World Values Survey
Men_executives	D078—Men make better executives than women do—strongly disagree (1) disagree (2) agree (3) and strongly agree (4)	World Values Survey
Polity	-	Center for Systemic Peace