Intersecting Constraints: Exploring Labour Market Barriers for Urban Women in Sub-Saharan Africa

Alexander Stöcker

Intersecting constraints: exploring labour market barriers for urban women in Sub-Saharan Africa

Alexander Stöcker

Bonn 2025

Dr Alexander Stöcker is a researcher in the department "Transformation of Economic and Social Systems" at the German Institute of Development and Sustainability (IDOS) in Bonn.

Email: alexander.stoecker@idos-research.de

On behalf of

Abstract

This study examines the determinants of female labour force participation (FLFP) and female wage employment (FWE) of urban women in four SSA countries: Benin, Senegal, Uganda and Zambia. Using extensive micro-level data and a unified empirical framework, we investigate the multitude of constraints women face in both these dimensions. The methodology tries to bridge the drawbacks of typical macro-level cross-country studies and detailed country case studies, enabling direct comparisons over time and across countries. Key findings highlight substantial cross-country heterogeneity in barriers to female employment, including education, household wealth, motherhood, and male breadwinner norms. While higher education consistently enhances FLFP and FWE, motherhood negatively affects wage employment more persistently than labour force participation. Interaction effects between barriers, such as motherhood and male breadwinner norms, underscore their compounded impact. Additionally, local labour market conditions, namely the variety of occupations available, moderate these barriers, amplifying disadvantages for women in labour markets with higher levels of occupational variety. The study emphasises the importance of context-specific policy interventions. Recommendations include vocational training in Benin, advocacy for shifting restrictive norms in Senegal, targeted support for labour market transitions in Uganda, and addressing male breadwinner norms in Zambia. Future research should delve deeper into how labour market transitions influence female employment and how negative consequences can be remedied.

Contents

Figures

Tables

Figures and Tables in the Appendix

Abbreviations

AME	average marginal effect
DHS	Demographic and Health Surveys
FLFP	female labour force participation
FWE	female wage employment
GDP	gross domestic product
ILO	International Labour Organization
IPUMS	Integrated Public Use Microcredit Series
ISCO	International Standard Classification of Occupations
IWI	International Wealth Index
PCA	principal components analysis
PPP	power purchasing parity
SSA	Sub-Saharan Africa
USD	United States dollars
WBL	Women, Business and the Law

1 Introduction

Labour markets play a crucial role in explaining poverty and economic development at the micro- and macro-levels and represent a major issue in the search for a more just distribution of resources, especially across gender. Increasing women's labour force participation generally ranks high on the agenda of policymakers, due to its associated positive impacts on women's empowerment, the human capital of their children, and overall economic growth (Ashraf et al., 2022; Heath et al., 2024; Hsieh et al., 2019). While the past decades have seen considerable reductions in some gender gaps, most notably in education, as well as rapidly declining fertility across most of the developing world (Gaddis & Klasen, 2014), women are globally still less likely to be active in the labour market than men. Female labour force participation has largely stagnated in all regions except Latin America across the last 30 years.[1] Even more importantly, when women are economically active, they tend to have less stable types of employment, with lower pay and worse working conditions (Lo Bue et al., 2022). This goes along with a highly persistent gender-based occupational and sectoral segregation, meaning that some occupations and sectors comprise relatively more women than others (World Bank, 2011). The employment situation is particularly dire for women in Sub-Saharan Africa (SSA), as it is the region with the third-largest gender gap in terms of economic opportunities, education, health and political leadership according to the Global Gender Gap Report (WEF [World Economic Forum], 2021). Thus, women's empowerment on the continent features heavily in the African Union Agenda 2063, with women's labour market outcomes being identified as a crucial element in this regard (AfDB [African Development Bank], 2021). Identifying the specific factors that constrain women's labour market outcomes and how the organisation of labour differs within and across countries more generally will be paramount in promoting more gender equality in labour markets across SSA.

Methodologically, this study tries to bridge the gap between typical macro-level cross-country studies that fail to consider the large heterogeneity within their sample and the incomparability of focused country case studies. For this, it employs a unified empirical framework that enables direct comparisons between countries and over time, using large-scale census data from four SSA countries – Benin, Senegal, Uganda and Zambia[2] – covering roughly two-and-a-half decades from around 1990. The aim is to study determinants of both female labour force participation (FLFP) and female wage employment (FWE), by first identifying important barriers to female employment, and then investigating how they are linked to each other and to differences in the variety of occupations that are available.

1.1 Literature review and contribution

The literature studying female labour force participation in developing countries is already quite extensive.[3] This literature differentiates between factors that affect women's decisions to participate in the labour market (i.e., supply-side factors); those that affect employers' decisions to hire women in their firms (i.e., demand-side factors); and those influencing both sides.

---

1   For 2019, ILOSTAT estimates put the labour force participation rate for women at 48 per cent and at 73 per cent for men, respectively.

2   While the selection of countries is certainly restricted by data availability, these four countries cover SSA geographically well and, while they are alike in some aspects, they also differ considerably in other aspects thus representing the heterogeneity of the continent.

3   Thorough reviews of this literature can be found in Heath & Jayachandran (2018), Klasen (2019) and, more recently, Heath et al. (2024). Stöcker and Zintl (2024) provide a more recent review that also focuses on the specific situation in SSA.

Beginning on the supply side, the role of fertility and childcare is heavily discussed as an important barrier in the literature. Overall, the evidence on the link between fertility and FLFP on the macro-level is mixed and seems to be context-specific (Aaronson et al., 2021; Klasen, 2019), while micro-studies using individual-level data generally find a negative link between fertility and FLFP (Bandiera et al., 2020; Canning & Schultz, 2012). As women typically spend more time on childcare than men (Orkoh et al., 2022), this reduces their available time for paid work, affecting their job choices and career outcomes (Berniell et al., 2023; Kleven et al., 2024). A meta-analysis of studies from low-income countries has found that improving access to external childcare increases FLFP (Halim et al., 2023). Given that women do not take their decision to work in a vacuum, many studies consider the impact of household dynamics, especially between husbands and wives, indicating that being married matters a lot for women's employment choices (Heath et al., 2024). Household wealth generally seems to lower FLFP, as women in poor contexts often work out of economic necessity (Klasen, 2019). Furthermore, Bursztyn et al. (2023) provide cross-country evidence that men are less likely to agree that women should have the freedom to work outside their home than women themselves do, with this difference being particularly large in developing countries. There is a general understanding that raising women's bargaining power in the household can help them overcome this opposition from husbands (Heath et al., 2024).

Moving closer to the roots of gender inequality, the role of cultural norms, that is, the formal and informal rules and expectations in a society that guide people's behaviour, receive increasing attention in the literature. A small but well-published body of literature has documented several important historical determinants of the prevailing gender attitudes, to understand why some societies have developed more restrictive gender norms (Alesina et al., 2013; Hansen et al., 2015; Santos Silva et al., 2023). While isolating and measuring the impact of these cultural norms is empirically challenging, the study by Fernández and Fogli (2009) provides evidence of the strong impact of inherited cultural values by looking at second-generation immigrants in the United States, finding that women whose ancestry is in countries with lower FLFP also tend to work less. Cultural norms can constrain women's decisions to work in different ways, but often focus on i) restrictions to social interactions and freedom of movement; ii) the role of male breadwinning, that is, men being responsible for provision of income through employment and women are responsible for household obligations; and iii) gender differences on childcare and other household responsibilities (Jayachandran, 2021; Pearse & Connell, 2015).

While the presence of historical determinants suggests that these restrictive norms against women's employment are highly persistent, there is some evidence that short-run interventions that increase FLFP could have larger multiplier effects in the long run (Dhar et al., 2022; Field et al., 2021; Ho et al., 2024), which is also in line with a simple model of intergenerational learning that is able to explain the path of FLFP in the United States (Fernández, 2013). Additionally, it seems that some of this persistence is based on individual misperceptions about the societal approval of these norms and correcting these misperceptions could go a long way to mitigating their negative impact on women's employment decisions (Bursztyn et al., 2023; Bursztyn et al., 2020).

The literature on demand-side barriers is much less expansive, although some evidence suggests that demand-side restrictions could play a more important role than supply-side factors (Gentile et al., 2023; Klasen et al., 2021). Important demand-side constraints include the discrimination of women in hiring and promotion (Gradín, 2021; Muñoz Boudet et al., 2013). The evidence of the impact of increasing women's human capital, that is, through formal education, vocational or entrepreneurship training, is rather mixed. While better access to primary schooling improved the mothers' ability to find paid or skilled work in some contexts (Chicoine, 2021; Keats, 2018), others found no impact (Zenebe Gebre, 2020). Improving education at the secondary level appears to have more substantial positive effects (Duflo et al., 2024). McKenzie (2017) reviewed the literature on the effectiveness of vocational training and only found modest effects in general and no evidence that these programmes were more effective for women. This

is in line with Bandiera et al. (2022), who found that such interventions were more effective when FLFP was already higher, suggesting that the previously mentioned supply-side barriers negatively affect their effectiveness.

Along the development path, economic shifts and the patterns of structural change also play a critical role in women's employment choices. This is closely linked to the sectoral and occupational segregation by gender, which seems to be increasing in most low- and middle-income countries (Borrowman & Klasen, 2020). The fact that occupational segregation seems to increase more strongly than sectoral segregation suggests that women expand horizontally into the workforce, but fail to advance vertically up to higher levels of the occupational hierarchy. Furthermore, Bandiera et al. (2022) provide new insights into how labour market transitions (i.e. from unpaid to paid work and from self- to wage employment) are not gender-neutral, showing that (poor) women generally transition later and that some women seem to drop out of the labour market during these transitions. Such a U-shape relationship is known as the feminisation U-hypothesis, which posits that FLFP rates first decline as countries move from low- to middle-income levels, while rising again at higher income levels. Empirical support for this theory is mixed however, as it is not able to explain the considerable cross-country differences in FLFP trends and levels especially in middle-income countries (Gaddis & Klasen, 2014; Klasen, 2019). According to Uberti and Douarin (2023) the U-shape hinges on the presence of less gender-equal norms that impact the labour market transitions along the development path.

While the higher participation of women in the labour market can be regarded as a necessary condition for more gender equality, it is not a sufficient one, as the type of employment and its quality play a critical role. Overall, there has only been limited research on job quality and vulnerable employment pertaining to gender in developing countries. Besides a few studies based on aggregate estimates by the ILO linking the incidence of vulnerable employment to gender (ILO [International Labour Organization], 2016, 2018), Lo Bue et al. (2022) provided a first more-thorough descriptive assessment on gender gaps in vulnerable employment in a larger cross-country sample. Among other things, the authors showed that the incidence of vulnerable employment and its gender gap was particularly large in SSA. As can be expected, they find that women are more likely to be in vulnerable employment and that marriage and parenthood are important determinants of this gender gap. The study also connects the cross-country heterogeneity in the gender gap to the legal discrimination against women, showing that there are relatively less women in vulnerable employment, when women have the same marriage and parenthood rights and when they can equally register businesses and inherit assets and properties. When decomposing the change over time in the gender gaps, the results indicate that improvements in education and reduced fertility have been the main drivers of the relative reduction in vulnerable employment among women over the last two decades. However, their evidence also suggests that the room for a further decline in the gender gap is closing, as differences in supply-side characteristics cannot explain the gap currently remaining. The only factor having a sizable impact on the current gap is the sectoral segregation, that is, the fact that women and men are more likely to work in some sectors than others, which has also been found by other studies (Arora et al., 2023; Borrowman & Klasen, 2020; Seguino & Braunstein, 2019).

This current study adds to this literature and provides a number of important insights. First, the specific country context matters. The impact of various determinants on female labour market participation, such as education, household wealth, and having children, varies significantly across different countries and over time. This variability suggests that broad trends like the feminisation U-hypothesis do not apply uniformly. While our findings generally support the so-called lower "child penalties" in SSA found in Kleven et al. (2024), this only holds for labour force participation, whereas motherhood has more persistent negative impacts on female wage employment, suggesting that many women are trapped in less stable self-employment. Furthermore, each country's unique socio-economic context plays a crucial role in shaping both

women's labour force participation and wage employment, emphasising the importance of considering country-specific factors in both analysis and policymaking. Such country-specific insights and policy recommendations are provided in the conclusions.

Second, the various different barriers to women's labour force participation and wage employment interact with each other. Factors such as motherhood, male breadwinner norms, household wealth and education intersect in different ways to influence both FLFP and FWE. For instance, while in some of our countries the negative motherhood effect is exacerbated by the presence of male breadwinner norms as measured by being married and male wage employment in the household, in others they are unrelated. Wealth and education are further moderators of the link between motherhood and FLFP and FWE. Properly understanding such interactions is vital for the design of effective policy interventions and to avoid unintended effects: for example, a childcare subsidy in Uganda which on the contrary resulted in the expansion of male wage employment rather than female employment in two-parent households (Bjorvatn et al., 2022).

Third, the study adds insights into how the identified supply-side barriers are linked to labour market transitions, namely the increasing occupational variety. In line with the findings in Bandiera et al. (2022) the analysis reveals that the number of different occupations that are available in regional labour markets differs considerably across, and within countries. Furthermore, the rising occupational variety also influences the prevalence of barriers to FLFP in some contexts, namely by reinforcing the negative effects of having children and male breadwinner norms. This further underscores the need to stop looking at barriers to female employment in isolation to understand what determines female employment and what can be done to stimulate it.

2   Data and methodology

2.1   Data sources

The sample studied is based on four Sub-Saharan African countries for which larger household surveys were available in the requisite scope and quality. With the selected countries, we tried to properly represent the large variety across the continent including two countries from West Africa, Senegal and Benin, Zambia from Southern Africa, and Uganda from East Africa. Figure 1 depicts some descriptive statistics for these four countries.

Figure 1: Selected economic indicators

(a) GDP per capita, PPP

(b) Gender equality

(c) Women, Business and the Law index

(d) Economic structure
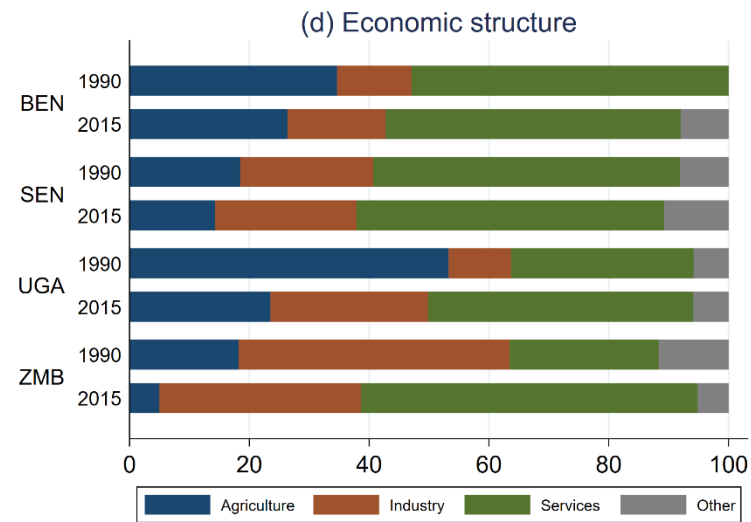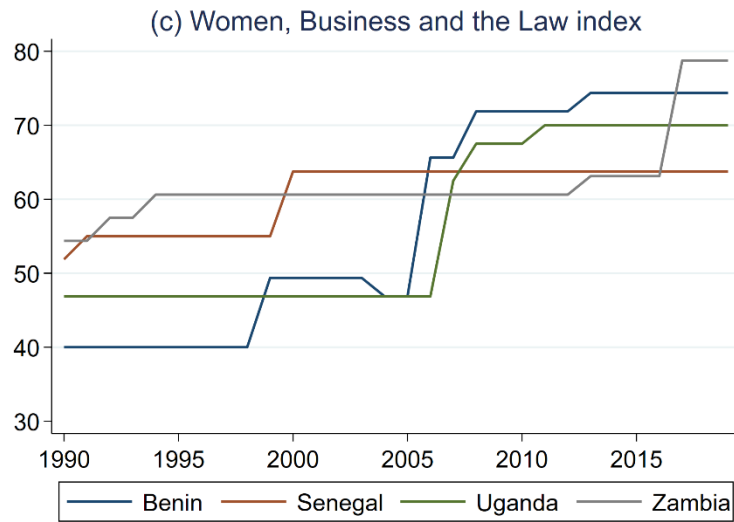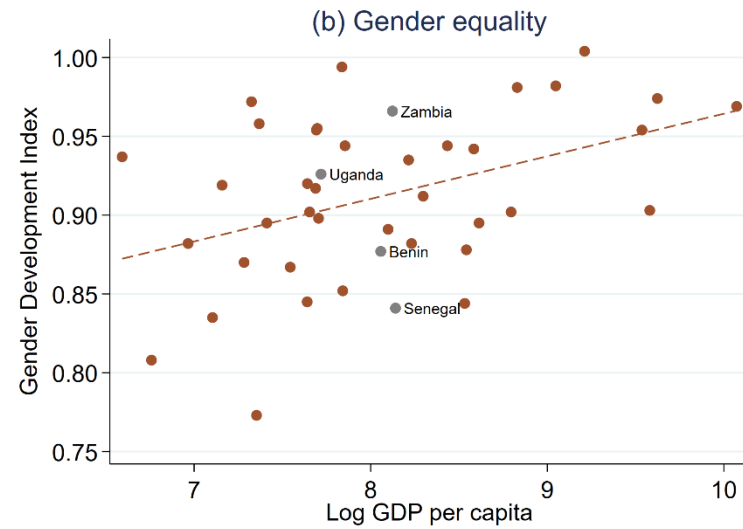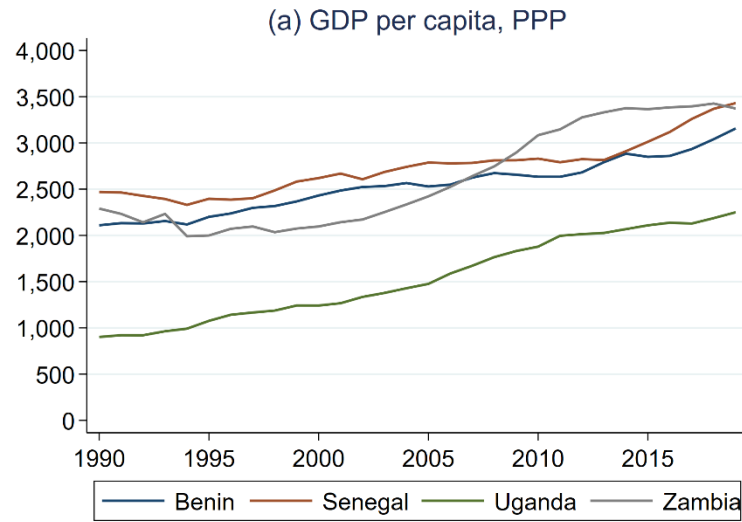
Sources: (a) World Bank (n.d.); (b) UNDP (2019); (c) World Bank (2023); (d) World Bank (n.d.)

The main data source for our analysis is the Integrated Public Use Microdata Series (IPUMS) International (Minnesota Population Center, 2020). This census data contains harmonised samples for our four countries, typically covering 10 per cent of the population.[4] The great advantage of using large-scale census data for our analysis is the ability to model local labour demand factors by calculating these measures based on the same micro-level data on subnational levels for the analysis. While the exact census years differ in each country, our sample roughly covers 20+ years between 1990 and the mid-2010s, including three surveys for each country that are roughly 10 years apart. This study focuses on urban households,[5] as has been done by other comparable studies mainly due to the problem of underreporting of female work in agricultural settings (Hirway & Jose, 2011) and other measurement errors that are more severe in rural areas, thus making the data less comparable across countries. Additionally, the living realities in urban and rural Africa differ greatly (Lagakos, 2020), making an analysis across this divide less meaningful. In the end, our dataset includes about 680,000 urban women between 25 and 54 years. Table A1 in the Appendix provides further information on the dataset.

2.2   Descriptives and country context

The four countries in our sample are fairly homogenous in their income level with Senegal, Benin and Zambia lying just above USD 3,000 (GDP per capita, PPP), which puts them at around the continent's average, while Uganda was consistently the poorest country in our sample over the whole sample period with just over USD 2,000 in the most recent year. On the other hand, the economic structure evolved quite differently over time in the studied countries (see Figure 1(d)). While the sectoral composition of GDP was fairly stable in Senegal and Benin between 1990 and 2015, Uganda especially saw a considerable decrease in the economic importance of the agriculture sector, which has benefitted both the industrial and the service sectors there. In terms of value added in 1990, agriculture already played a minor role in Zambia, while the industrial sector was particularly important due to the large mining industry in the country. The contribution of the agricultural sector fell further in 2015, while the importance of the service sector increased. The period since 1990 was generally a period with positive economic growth in our sampled countries, as their per capita GDP grew between 3.2 per cent per year (Uganda) and 1 per cent per year (Senegal). In terms of gender equality, the four countries differ again when compared within a pool of African peers (see Figure 1(b)). While Zambia and Uganda have more gender equality than their income levels would predict, Benin and especially Senegal exhibit less gender equality than expected. In terms of legal discrimination, Figure 1(c) reports the countries WBL Index score based on the Women, Business and the Law dataset, which collects information on laws and regulations that affect women's economic opportunities. The graph indicates that the situation improved in all countries, especially during the 2000s but, while Benin has made relatively large progress, the situation of Senegalese women has seen only modest improvements.

---

4   The census surveys utilised are based on a total of 15.8 million observations. More information on how data is harmonised can be obtained from the IPUMS website https://international.ipums.org/international/.

5   Most census surveys include a direct identifier of the household's location, that is, urban or rural. Unfortunately, this is not the case for Senegal in 1988 and Zambia in 2010. Here we identify urban households through the availability of electricity given the very low shares of rural households with access (i.e. 4.9 per cent in Senegal in 1993 and 4 per cent in Zambia in 2010, according to World Bank data). We argue that access to electricity is predominately determined by the exogenous choice of state institutions to provide electricity in certain areas and less by the socio-economic status of the household itself. However, this identification reduces the sample size for those two years as there is also no universal access to electricity in urban areas and we thereby exclude a considerable number of urban households from the sample.

Both female labour force participation (FLFP) and female wage employment (FWE) differ substantially across the countries sampled both in levels and partly also in trends (see Figure 2). In contrast, labour force participation is extremely high and stable among men for all countries, mostly above 90 per cent. In Benin, women's participation rates rose initially between 1992 and 2002, but then returned to medium levels in 2013, while the gap between married and unmarried women is quite small. In Senegal, FLFP rates were particularly low at 20 per cent for married women in 1988 and, while they have risen, they were still just above 40 per cent in 2013. Participation rates for unmarried women followed the same trend, leaving a persistent gap of about 20 percentage points to married women. Initially, Uganda and Zambia even had larger gaps by marital status in the first census years, but here FLFP rates had also risen among married women and reduced the gap to unmarried women. This is especially the case in Uganda, where FLFP rates have almost closed the gap to men.

Looking at type of employment the picture changes considerably. The generally low share of wage employment indicates that the transition towards wage employment, as described by Bandiera et al. (2022), is still ongoing even in the urban areas of the countries studied. In Benin, the share of wage employment for both genders is generally much lower than in the other countries, having stagnated at about 20 per cent for men and around 10 per cent for women. Senegal is the only country where men do not have the highest share of wage employment, as it is slightly higher for unmarried women. However, this needs to be seen in light of the much lower participation rates among women, indicating that, in absolute terms, men still hold the majority of wage jobs. The slowly rising FLFP in Senegal also goes along with a falling share of female wage employment indicating that those women entering the labour market do this predominantly in more vulnerable self-employment.

In Zambia, the patterns are more mixed. In general, the share of wage employment is considerably higher than in the other countries, but there is again a substantial gender gap. While the share of wage employment fell initially between 1990 and 2000, again suggesting that the increase in FLFP among married women was predominantly in self-employment, it increased again between 2000 and 2010, especially among unmarried women, thereby leading to a more pronounced marital gap. In contrast, in Uganda rising FLFP rates go along with a rising share in wage employment among women, which reduced the initial gender gap in wage employment, thereby making Uganda the only country in our sample with relatively small gender gaps in both LFP and the share of wage employment.

As already mentioned, educational levels of women have improved worldwide, and this is also the case for the women in our sample (see Figure A1). There have been particularly strong decreases in the share of women with less than primary education in Zambia[6] and Uganda, while the progress in Benin and Senegal has been noticeably slower. Another worldwide trend mentioned is the falling fertility levels that that can also be observed in the countries in our sample. While in Senegal, fertility among those women in our sample fell below 3 in 2013, the Ugandan women in our sample were still giving birth to almost 4 children on average.

---

6   The particularly strong progress of female education between 2000 and 2010 could be driven by our change in identifying urban households, thereby biasing the analysis. However, looking at other data sources supports the view that female education expanded considerably in Zambia over the period studied. Data from the Human Development Report (UNDP [United Nations Development Programme], 2019) indicates that the gender gap in education has narrowed, which serves as the main explanation of the strong performance on the Gender Development Index for Zambia, as described above.

Figure 2: Labour force participation and share of wage employment by gender and marital status

(a) Benin

(b) Senegal
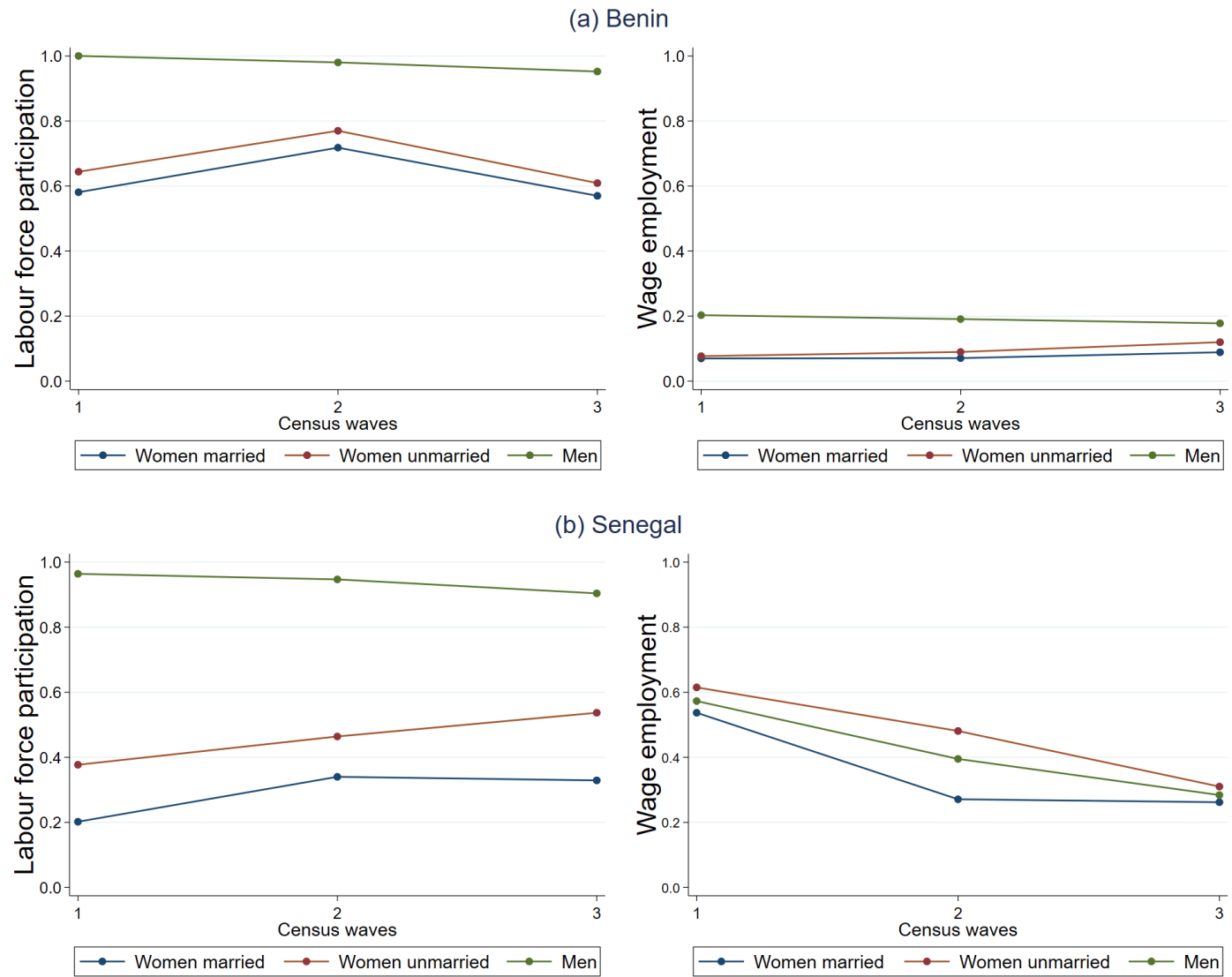
(continued)
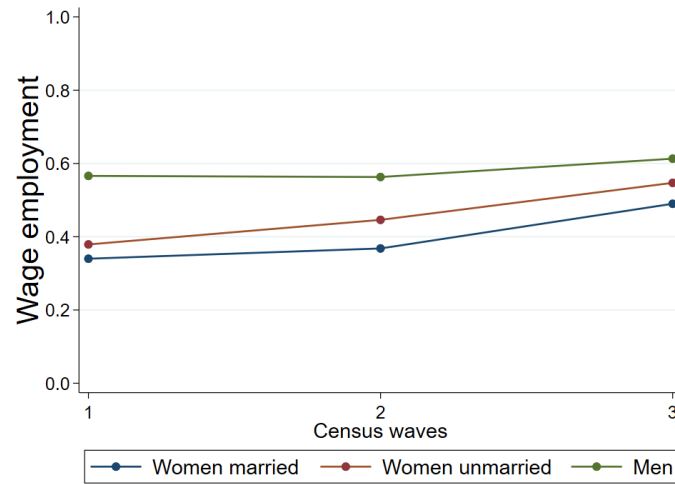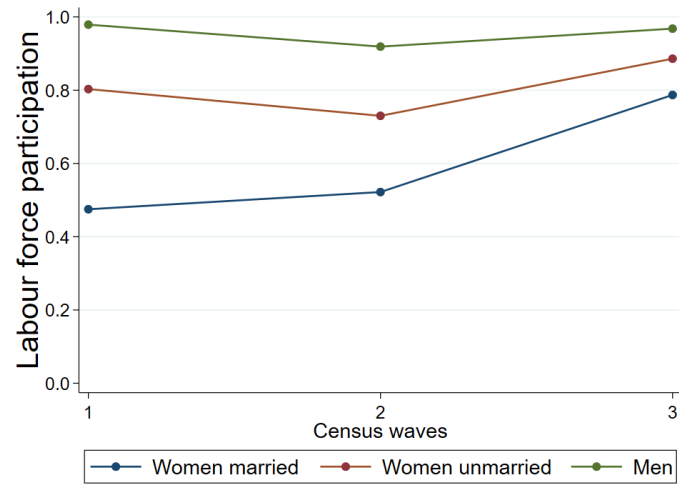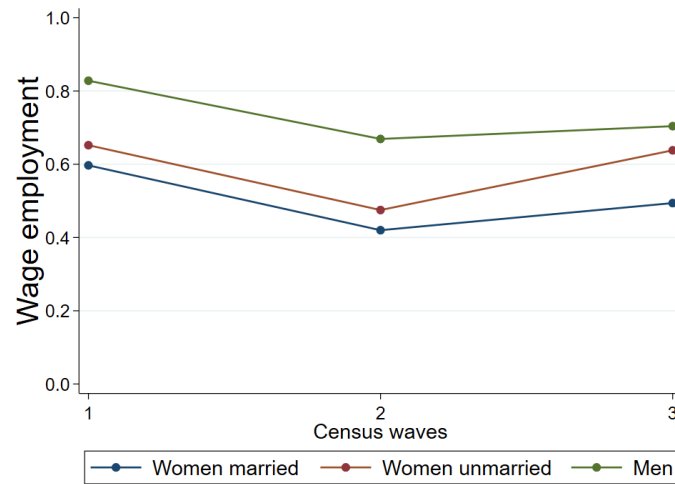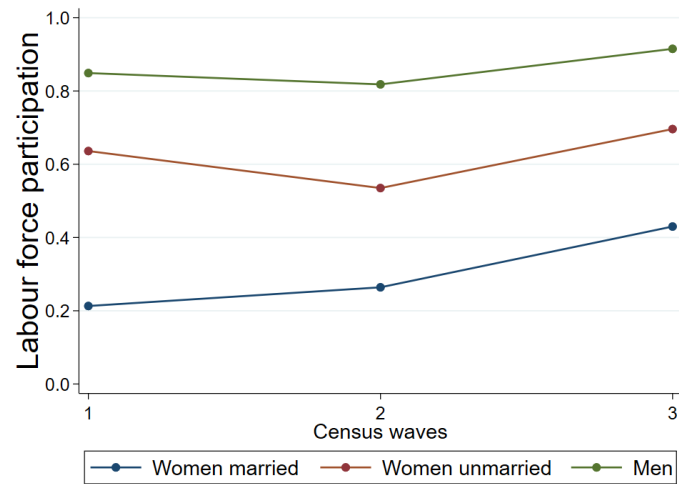
Notes: Urban women only, aged 25-54; Source: Author's calculation and visualisation based on IPUMS data

2.3   Empirical model

This subsection introduces the unified empirical framework we rely on in our analysis of female employment. It consists of a probit model for women, aged 25 to 54, residing in urban areas[7]:

$$P(LM_{ict} = 1) = \Phi \left(\sum_E \beta_{ct}^E D_{ict}^E + \boldsymbol{X}_{ict}\boldsymbol{\gamma}_{ct} + \delta_{rct} \right) \qquad (1)$$

where LM are the two binary measures of employment of woman *i* in country *c* and year *t*. The first measure reflects the labour force participation status, for example, it is coded as 1, if a respective woman is active in the labour market and 0 otherwise.[8] The second measure depicts their employment status, that is, if they are employers or permanent wage employees.[9] The latter also reflects some aspects of the employment quality, as it is in line with the ILO's measurement of vulnerable and non-vulnerable employment (ILO, 2010).[10] D^E_{ict} is a set of dummies describing the women's educational attainment in four categories (less than primary; primary; secondary; and tertiary). X_{it} is a vector of further individual and household characteristics, containing the woman's age, aged squared, marital status, and dummies for her ethnic group and religion, that is, a dummy that is 1 for Muslim women. We further include the migration history of the women in the form of a dummy that is 1 for those currently residing outside their birth region. At the household level, the number of children is captured in four categories: i) children aged 0-2; ii) children aged 3-5; iii) boys aged 6-14; and iv) girls aged 6-14. After that, we try to capture the household's socio-economic status through the educational attainment of the household head, with a separate dummy if the woman is the head, and the presence of male wage employment in the household. Furthermore, we employ the International Wealth Index (IWI), which is an asset-based indicator of household wealth that is comparable across low- and middle-income countries (Smits & Steendijk, 2014).[11] Due to data limitations this variable can only be calculated for the last census waves, thus all analyses involving wealth variables are restricted to these years. δ_{rct} are regional fixed effects that will help to control for different demand and supply conditions at the local labour market for each country and year. We cluster standard errors at the same level. Later, we extend the specification by adding a measure of occupational variety at the regional level. For this, we adhere to Bandiera et al. (2022) by counting the number of occupations in the International Standard Classification of Occupations (ISCO) at the 3-digit level that are occupied by individuals in a region in our four

---

7   The specification of the model closely follows that of Klasen et al. (2021) as well as Klasen and Pieters (2015). The selection of explanatory variables follows from the relevant literature (see Klasen and Pieters (2015) for further deliberations on this).

8   Women are active in the labour market, when they are either employed or recorded as unemployed. The dummy is coded 0 for all women recorded as housewives or inactive for other reasons. Women in school, living on rents, and who have retired are excluded from the analysis.

9   This dummy is coded 0 for all women working on their own account, as an unpaid family worker, as an apprentice, or as a cooperative/occasional employee.

10 Gindling and Newhouse (2014) show that employment status can be used to rank workers' socio-economic status, with employers being best off, followed by wage employees, which reflects our measure. Obviously, the quality of employment is a much more complex issue and there are some new efforts underway to measure it in a more multidimensional way including aspects such as income, job security, and working conditions (see Sehnbruch et al., 2020). Sadly, lack of data availability prevents us from employing a more complete measure for quality of employment.

11 The IWI was constructed using information on asset ownership from Demographic and Health Surveys (DHS), aggregating and harmonising this data into twelve variables on consumer durables, housing characteristics, and access to public services. Following a principal components analysis (PCA), they provide weights for each variable, which are used to compute a combined wealth score that ranges between 0 and 100. Using the same set of variables and methodology, we calculate a wealth score based on our IPUMS census data for the last census waves in each country.

countries.[12] Based on this, we calculate a dummy that is 1 if a region's occupational variety is above average, signifying a high occupational variety, and 0 if it is below average. Thus, this unified empirical framework is characterised by employing the same specifications of the regression models and comparable data sources, allowing for a direct comparison of the various estimates across countries and over time.

The average marginal effects (AME) estimates resulting from this probit model should be understood as reduced-form correlations. The problem of endogeneity will likely be introduced through omitted individual and household unobservables that jointly determine both FLFP and FWE and some of the other included covariates, such as education, marriage and fertility. By focusing on prime-age women who have mostly finished their education and marriage and fertility choices, we assume the problem of reverse causality to be less concerning. This study does not try to identify causal relationships between the included covariates, in line with Klasen et al. (2021). As they point out, causal identification would require a quasi-experimental strategy that is applicable to all countries and years similarly, which is hardly feasible.

In the second part of the analysis, we study interaction effects between some of the variables of interest. Given that the coefficient estimates of interaction terms in non-linear models, such as our probit model, are commonly not accepted as appropriate measures for depicting interactions, we follow the best practices presented in Mize (2019). In our case, this usually involves the interaction of binary or categorical variables, which is fairly straightforward, as they only produce a manageable amount of different potential values that need to be compared. In the case of binary variables, interactions will be portrayed in tabular form, while multiple categories will be visualised graphically. Mize (2019) provides illustrative examples for the different procedures.

3   Results

3.1   Baseline probit results: barriers to women employment

This subsection presents the baseline findings of the probit estimations of the model described above, which aim to identify the key barriers to female labour force participation and access to stable wage employment across the countries studied. The analysis leverages both the graphical depiction of average marginal effects and the detailed results of the probit models, as provided in Figures A2-A7 and Tables B1-B8 in the Appendix. Specifically, it examines the impact of education; the presence and age of children; different measures proxying male breadwinning norms; and household wealth on women's employment outcomes. By highlighting the similarities and differences in these patterns, the results try to illustrate how contexts differ across the countries studied. The results are further summarised in Table 1.

---

12 In line with Bandiera et al. (2022), we only count occupations that employ at least 0.1 per cent of the regional workforce to reduce measurement error. Similarly, we confirmed the robustness of our results by using 0.5 per cent or 1 per cent as thresholds instead.

Table 1: Summary of estimation results

	Education	Children (by age group)	Male breadwinner norm	Household wealth
Benin				
FLFP	Strong linear increase (weaker in 2002)	0-2 years: small or no effect 3-5 years: small or no effect 6-14 years: no effect	Marriage: no effect Male wage employment: no effect Female head: positive effect	No effect
FWE	Weak increase	0-2 years: small or no effect 3-5 years: small negative effect 6-14 years: no effect	Marriage: no effect Male wage employment: small positive effect Female head: small positive effect	Linear increase
Senegal				
FLFP	Strong linear increase	0-2 years: strongest negative effect 3-5 years: strong negative effect 6-14 years: no effect	Marriage: strong negative effect Male wage employment: no effect Female head: positive effect	U-shape
FWE	Strong S-shape (gap between primary and secondary education)	0-2 years: negative effect (no effect in 2010) 3-5 years: negative effect 6-14 years: negative effect	Marriage: negative effect Male wage employment: strong positive effect (decreasing over time) Female head: positive effect	Linear increase
Uganda				
FLFP	Strong linear increase (weaker in 2014)	0-2 years: strong negative effect 3-5 years: small or no effect 6-14 years: no effect	Marriage: negative effect (decreasing over time) Male wage employment: negative effect in 1991 Female head: strong positive effect (decreasing over time)	Linear decrease
FWE	Strong S-shape (gap between primary and secondary education)	0-2 years: negative effect (no effect 1991) 3-5 years: negative effect 6-14 years: negative effect	Marriage: negative effect Male wage employment: strong positive effect Female head: positive effect	Increase with slowing rate
Zambia				
FLFP	Strong linear increase	0-2 years: strong negative effect 3-5 years: small or no effect 6-14 years: no effect	Marriage: negative effect (decreasing over time) Male wage employment: negative effect in 2010 Female head: strong positive effect (decreasing over time)	U-shape
FWE	Strong S-shape (gap between primary and secondary education)	0-2 years: negative effect 3-5 years: negative effect 6-14 years: negative effect	Marriage: unstable effect over time Male wage employment: strong positive effect Female head: positive effect	Linear increase

Note: Results can be found in Figures A2–A7.

Source: Author's calculations

Beginning with education, the results indicate a strong linear increase for the probability of being in the labour force with rising education (see Figure A2). This positive link seems to be flatter in contexts with higher FLFP rates, that is, in Benin in 2002 and Uganda in 2010, which suggests that it is particularly women with lower education who join the labour force there.[13] The relationship between education and being wage-employed is somewhat flat for women in Benin due to the generally very low levels of wage employment there, as described above (see Figure A3). For the other three countries, the analysis reveals that having below-secondary education is a strong barrier for obtaining wage employment. This is indicated by the strong S-shape patterns in the graphs with a rather small increase in the likelihood to be wage-employed between no education and primary education, then a strong increase in the probability when having completed secondary education, before another smaller increase for those women with tertiary education. In Senegal, the average marginal effect – indicating the average change in the probability for a woman being wage-employed – increases from 0.13 for women with primary education to 0.41 for women with secondary education. Similarly, the increases in Uganda and Zambia are from 0.07 to 0.37 and 0.06 to 0.42, respectively (see Tables B6 to B8).

As described from the literature above, having children plays a crucial role in female employment, as gendered social norms[14] ascribe the responsibility of childcare predominately to women. However, dividing the analysis by the age of children and the type of employment offers more detailed insights (see Figure A4). There is a strong negative impact of having small children (ages 0-2 years), which also stays constant over the various different periods in our sample. While this effect is strongest in Senegal, reducing the probability for FLFP by about 0.05 for each child, it is still considerable in Uganda and Zambia, but particularly small and generally not statistically different from zero in Benin. The negative effect already starts to fade when children are progressing towards school age (e.g. 3-5 years) and only remains negative and significant in Senegal. These stronger effects in Senegal are in line with the descriptive observations above that indicate less gender equality and less progress on the WBL index there. Once children reach school age, there is barely any negative impact on women's labour force participation anymore. In Senegal the negative effects for young boys seem to be slightly lower than for girls, which is consistent with the findings and interpretation of Klasen et al. (2021) that in some contexts young girls will take up the household chores of their mothers and thereby enable them to work outside the home. The pattern changes considerably when we analyse the impact of children on the likelihood of being in wage employment (see Figure A5), as the negative effects generally remain constant over time and the age of the children, mostly ranging between -0.02 and -0.04. Benin stands out, as the effects there are mostly not statistically different from zero, which could be related to the generally low incidence of wage employment there. Overall, these patterns suggest that women are able to return to the labour force quite quickly after having given birth, which is in line with the findings of Kleven et al. (2024), but they then do so mostly in less stable, non-wage employment.

The social norm of male breadwinners and women as secondary income earners in a household is another important barrier to female employment mentioned in the literature, which can also be identified in our sample. The strong negative effect of being married on female labour force participation (see Figure A6) is a first indication of the presence of such a male breadwinner norm. The results indicate that there is no such marriage effect in Benin, while the negative probabilities are reducing in magnitude over the sample period of about 20 years in Uganda and Zambia, falling from -0.20 and -0.14 respectively to below -0.05. The latter suggests that the rising FLFP rates in both countries is in considerable part driven by married women. In Senegal, there appears to be a continuation of the negative marriage effect over time, indicating that it

---

13 The odd pattern for tertiary education in the earlier waves of Zambia not increasing the probability of being in the labour force is subject to the very few women with tertiary education in those samples and needs to be interpreted with care.

14 The importance of gendered social norms is also reflected in the strong and consistently lower probability of Muslim women participating in the labour force and engaging in wage employment, which has been pointed out in previous studies (Klasen et al., 2021; Klasen, 2019).

tends to be unmarried women entering the labour force across the period studied. The higher probability for female household heads to participate in the labour force can be found in all four countries, supporting the view that household heads perform the role of breadwinners. The evidence from the impact of male wage employment in a household is less straightforward, as it only shows strong negative effects on FLFP in single years in Uganda and Zambia. Thus, it has to be interpreted with caution. Looking at the impact of the same variables on the probability for female wage employment (see Figure A7) indicates that again being married has a negative impact, albeit with less consistency and again not in Benin. Female household heads as the main breadwinners are more likely to be wage-employed, which is again a consistent pattern in all four countries. In contrast to the negative impact on FLFP, the presence of male wage employment in a household seems to go along with more female wage employment, which is again a consistent finding across countries and time. Thus, dual-income households are more likely when women have access to wage employment, reflecting the persistence of the breadwinner model in contexts where they do not – especially in Uganda and Zambia.

Lastly, there is evidence of strong effects of household wealth on both FLFP and FWE when we divide the women in the sample into wealth quintiles. Looking at FLFP first, in Senegal and Zambia the marginal effects follow a U-shape, with negative effects in the middle quintiles indicating that women from the poorest and riches wealth groups are most likely to be in the labour force. While the former reflects the importance of economic necessity, the latter suggests that women from richer households are less constrained in their choice to participate in the labour force. In Uganda, there is a continuously falling probability of FLFP across all wealth quintiles, suggesting that women's activities in the labour force are strongly driven by economic necessity and that, once this eases, they increasingly drop out of the labour force. Only in Benin does wealth not seem to affect FLFP. Looking at FWE, the marginal effects of wealth are positively sloped in all four countries with the strongest effects in Uganda, indicating that woman at the bottom of the wealth distribution are particularly unlikely to be in wage employment. This finding is in line Zipfel (2023), but there is of course uncertainty on the causal direction of this link, as being in wage employment could also be the cause for higher wealth.

3.2   How do different barriers interact?

Building on the analysis of individual barriers to women's labour force participation and engagement in wage employment, this subsection examines how these barriers interact, with a particular focus on the intersection of having children and the other identified determinants of FLFP and FWE, namely male breadwinning norms, household wealth, and education. Given the significant impact of motherhood observed in the previous section, this analysis aims to explore how the presence of children amplifies or mitigates the effects of other barriers, providing a deeper understanding of the structural and contextual factors that shape women's employment choices. Understanding these interactions is critical, as they can compound the disadvantages faced by women with children in both accessing the labour force and wage employment. The results are summarised below in Table 2 with full results reported in Tables B9-B10 and Figures A8-A11.

We began by investigating the interaction between male wage employment and having children below the age of 5 years in affecting female labour force participation (see Table B9). The results suggest that the presence of a male wage earner increases the negative effect of having small children in all four countries, which shows that the decision of mothers to remain outside the labour market is in part determined by the presence of a male breadwinner in the household. However, the magnitude of this moderating effect differs across countries and is much lower in Benin (by 1.1 percentage points), where child penalties are generally low, and Senegal (by 1.3 percentage points) where FLFP is relatively low. The effect is more pronounced in Uganda and even more so in Zambia, with reductions in the probability by 2.2 and 4.9 percentage points respectively. This further stresses the greater importance of male breadwinning in these two countries as seen above.

Table 2: Summary of results of interactions between barriers

	Male wage x children	Marriage x children	Wealth x children	Education x children
Benin	On FLFP: Effect of having children is *slightly stronger* for women with male wage employment in household (1.1 ppt lower probability)	On FLFP: Effect of having children is *not significantly different* for married and unmarried women	On FLFP: Effect of having children is *not considerably different* between women from different wealth groups On FWE: Effect of having children is *not considerably different* between women from different wealth groups	On FLFP: Effect of having children is *slightly less negative* for women with lowest and highest education On FWE: Effect of having children is *only negative* for women with highest education
Senegal	On FLFP: Effect of having children is *slightly stronger* for women with male wage employment in household (1.3 ppt lower probability)	On FLFP: Effect of having children is *not significantly different* for married and unmarried women	On FLFP: Effect of having children is *not considerably different* between women from different wealth groups On FWE: Effect of having children is *slightly more negative* for women from poorer wealth groups	On FLFP: Effect of having children is *less negative* for women with secondary education and higher On FWE: Effect of having children is *increasingly negative* for women with lower education
Uganda	On FLFP: Effect of having children is *stronger* for women with male wage employment in household (2.2 ppt lower probability)	On FLFP: Effect of having children is *stronger* for married women (3.6 ppt lower probability)	On FLFP: Effect of having children is *increasingly negative* with rising wealth On FWE: Effect of having children is *not considerably different* between women from different wealth groups	On FLFP: Effect of having children is *slightly less negative* for women with lowest and highest education On FWE: Effect of having children is *increasingly negative* for women with lower education
Zambia	On FLFP: Effect of having children is *considerably stronger* for women with male wage employment in household (4.9 ppt lower probability)	On FLFP: Effect of having children is *stronger* for married women (4.2 percentage points lower probability)	On FLFP: Effect of having children is *less negative* for women in richest wealth group On FWE: Effect of having children is *not considerably different* between women from different wealth groups	On FLFP: Effect of having children is *less negative* for women with lowest and highest education On FWE: Effect of having children is *increasingly negative* for women with lower education

Note: Results can be found in Tables B9 and B10 and Figures A8 to A11.

Source: Author's calculation

Next, we looked at the interaction between marriage and motherhood on FLFP (see Table B10), although disentangling the overlapping marriage and child penalties is empirically challenging (see Kleven et al. (2024) for another attempt at this). Our results suggest that the negative effect of having small children does not differ statistically between married and unmarried women in Benin and Senegal. Looking at the first differences, that is, the differences in the probability of being in the labour force with and without having small children for both married and unmarried women separately, provides additional insights. For Benin, the probabilities do not differ much across all four subgroups, which is in line with the results above that both marriage and children have a relatively small impact on FLFP. In Senegal it appears that both effects of being married and having children reduce the probability of being in the labour force by around 10 percentage points, which accumulates in a difference of about 20 percentage points between unmarried women without children and married women with children. In Uganda and Zambia, the negative effect of having children is significantly stronger for married women, further reducing the probability of being in the labour force by 3.6 and 4.2 percentage points, respectively. This further underlines the importance of the male breadwinner model in determining women's labour supply in these two countries, as unmarried mothers are more likely to participate in the labour force.

For the analysis of the interaction between household wealth and what some have termed the child penalty on FLFP, we again make use of the wealth index to divide the women in our sample into wealth quintiles (see Figure A8). The results suggest no strong differences in the negative effect of having children across the different wealth groups in Benin, as the probability for being in the labour force rests around 0.6 for women without children below 5 years, while the probability for women with children lies slightly below that across all wealth quintiles. In Senegal, the graph shows the already mentioned U-shape with higher probabilities of FLFP in the bottom and top wealth quintiles, but this pattern does not differ between women with and without children. Similarly, the results for Zambia depict the same U-shape with a relatively constant child penalty across wealth groups that is only considerably smaller in the top wealth quintile. This indicates that the higher probability of being in the labour force for women in the richest households reported above, seems to be connected to the smaller negative impact of having children for these women. Women in rich households seem to better able to cope with their care and household obligations, which could be either driven by being able to afford external childcare and/or having access to better paid jobs, potentially due to better education. Some of these explanations can be checked below. On the other hand, in Uganda there appears to be no child penalty in the lowest wealth quintile, while the gap between those women with and without children increases with increasing wealth. As the probability of being in the labour force remains relatively constant at 0.85 across all wealth groups for women without children, the negative income effects in Uganda mentioned above are almost entirely driven by women with small children. This suggests that the observed income effect is not related to a general labour-leisure substitution, but rather a substitution with unrecorded care work.

In terms of wage employment (see Figure A9),[15] the graphs indicate that the probability for wage employment increases with wealth, although this increase is relatively small in Benin and much larger in Uganda, while in Zambia also women from poorer households already have a relatively high probability of being wage-employed. Furthermore, the results suggest that there are considerable child penalties for wage employment in Uganda and Zambia, but this gap between women with and without children does not differ much across the different wealth groups. Thus, the smaller child penalties in very rich households in Zambia appear not to be driven by their access to wage employment alone. In contrast, in Senegal, the gap in the probability of being

---

15 Given that our analysis above also revealed considerable child penalties for women with older children in terms of wage employment, we compare here women with children under 14 years and women without children under 14 years.

wage-employed between women with and without children is higher in the two lower wealth quintiles, indicating that the care burden particularly disadvantages poorer women in terms of getting access to more stable wage employment there. This could of course again be linked to differences in access to external childcare or education outcomes.

Lastly, we compared both FLFP and FWE for women with and without children across the educational spectrum to get a sense on how the educational background of women is related to the child penalty. This is of course challenging as education outcomes themselves are partly determined by motherhood, as women might have to drop out of school prematurely when they get pregnant and/or are giving birth. Still, in terms of FLFP (see Figure A10) our interaction plots show that child penalties are relatively small among women with tertiary education in all four countries, as one would expect. In Benin gaps are generally relatively small, in particular among women with the lowest and highest levels of education, which is also the case in Uganda. In Senegal there is not only a clear gap in the probability of being in the labour force between women with primary and secondary education as reported above, child penalties are also considerably larger for women with primary education or less, indicating that lack of education and having children go hand in hand in disadvantaging women in participating in the labour force there. Like Senegal, Zambia exhibits a similar gap in the probability of FLFP between women with primary and secondary education, while the child penalty is smaller for women in the lowest and highest education group. Thus, the smaller child penalties for mothers from richer households could be partly determined by better education.

When it comes to wage employment (see Figure A11), the results show that the largest gaps between women with and without children are generally at the lower levels, especially below secondary education. However, in Benin the probability for wage employment below secondary education is very low and gaps are generally negligible there, while the largest gap is for women with tertiary education. In Senegal, child penalties are largest among least-educated women and much smaller with primary education, while women beyond secondary education actually have a slightly higher probability of being wage-employed when having children. In Uganda, the magnitude of child penalties falls with rising educational levels, while in Zambia child penalties are largest for women below secondary education and much smaller for women with secondary education and beyond. In the latter case, the probability for wage employment is already rather high, irrespective of the woman's motherhood status, which suggests that the lower child penalties for women in richer households could be linked with better education outcomes for these women.

3.3 How do barriers interact with the variety of occupations?

Bandiera et al. (2022) describe a number of labour market transitions that take place along the development path with an increase in occupational variety, that is, the number of different occupations available in a labour market, being one important aspect in this process. It has been shown that this process is not gender-neutral, as women and men take up these new jobs to differing extents. Therefore, in this subsection, we look at how differences in the occupational variety in local labour market is related to FLFP of i) women with children; and ii) women with male wage employment in the household. Thus, we interact the dummy variable identifying regions with low and high occupational variety, as described in subsection 2.3., with these two measures that have been identified as important barriers.

To provide some background on the occupational variety in the studied countries, Table B11 shows the differences in the regional occupational variety, showing that it varies considerably both between countries and within them. While Benin and Senegal both have relatively lower occupational variety, there is a much wider range within Benin than in Senegal. This also reflects their more stagnant economic structures and lower shares of the industrial sector, as described above. In contrast, Zambia has comparatively high levels of occupational variety but lower

heterogeneity, while Uganda has the widest gap between those regions with low and high levels of occupational variety This is again in line with the descriptives above, as Zambia is more advanced in terms of structural transformation, while the economic structure recorded the largest changes, which will likely be driven by some regions more than others. In addition, Table B12 provides a breakdown of how FLFP and the share of women in wage employment differ between the regions with low and high occupational variety in each country. While women in regions with high occupational variety are considerably more active in the labour force in Benin and Senegal, the opposite is the case in Uganda and Zambia. In terms of women in wage employment, their share is always higher in high variety regions but, while this difference is relatively high in Senegal and particularly in Uganda, it is much smaller in Zambia, where the share of women in wage employment in the low variety regions is already comparatively high.

Looking at the interaction of occupational variety and child penalties first (see Table B13), the results indicate that the lower probabilities to be in the labour force in regions with high occupational variety in Benin and Zambia are not linked to differences in child penalties, as the negative impact of having children is almost identical in low and high variety regions in these two countries. In contrast, child penalties in Senegal and Uganda are significantly larger in regions with high occupational variety. In the latter, the probability of being in the labour force is almost 6 percentage points lower for women with children in regions with high occupational variety compared to the difference for women in regions with low occupational variety. Looking at the first differences reveals that women in high variety regions without children are most likely to be in the labour force, while women with children there are least likely to be in the labour force. As the difference in the prevalence of wage employment between low and high variety areas is largest in Uganda and Senegal (see Table B12), this positive link of high occupational variety and high child penalties could work through the higher occurrence of wage employment which, as we have seen above is less accessible to women with children. In contrast, in Zambia, wage employment is already much more prevalent in areas with low occupational variety, which explains why we cannot observe a difference in child penalties, since women with children already face this disadvantage in low variety areas due to the higher prevalence of wage jobs there. In Benin, the absence of the positive link between child penalties and occupational variety can be explained by the overall very low levels of wage employment and the overall low child penalties.

The lower probability of being in the labour force for women with children in high variety areas potentially runs through two channels. First, women with children might not be able to take up the more prevalent wage jobs there given their lower flexibility and time constraints due to their care burden. Second, the more prevalent wage jobs will then predominately be taken up by men (=husbands), which might reduce the economic need for women to participate in the labour force, that is, the male breadwinner mechanism. In order to provide evidence on the latter, Table B14 presents results of the interaction between occupational variety and the presence of male wage employment on the probability of being in the labour force. Indeed, it appears that the higher child penalties in high variety areas in Uganda seems to be connected to male breadwinning, as the negative effect of male wage employment on women's probability of being in the labour force is significantly stronger in regions with high occupational variety. In contrast, in Senegal, no such difference can be observed, and the higher child penalties could rather be connected to the lower flexibility and the time constraint of mothers. While the results also indicate no interaction between occupational variety and male wage employment in Benin, we observe a contrasting result in Zambia. This suggests that the negative impact of male wage employment on FLFP is higher in regions with low occupational variety. This might be explained by the higher economic necessity for women to work in households without access to wage employment in those regions, due to the relatively higher number of households with lower wealth there and the strong U-shaped wealth effect in Zambia as shown above.

4   Conclusions and policy implications

This Discussion Paper has provided a detailed account of the key determinants of both female labour force participation and female wage employment in four countries in Sub-Saharan Africa by utilising comparable, large-scale microdata in a unified empirical framework. This subsection first summarises the general findings and key takeaways, then looks in more detail into the country-specific patterns, before providing policy recommendations based on these findings and finishing with a short outlook on future research.

4.1   General findings and key takeaways

There are three key takeaways from the evidence presented: contexts matter; the different barriers to female employment interact with each other; and the variety of occupations is also related to the impact of barriers

While there are a few common features, these are outweighed by country-specific patterns. Overall, we find that higher education is consistently linked to a higher probability for women to be in the labour force, while the link to wage employment mostly follows an S-shape indicating a strong increase in the likelihood of being wage-employed for women who have secondary education or above. Additionally, having small children is generally negatively associated with the likelihood of being in the labour force, but this effect vanishes as the children grow older in line with findings for SSA in Kleven et al. (2024). On the other hand, the negative effect of having children on the likelihood of being wage-employed is more persistent regardless of the children's age. This suggests that a large number of mothers returning to the labour force end up in less stable self-employment. Notwithstanding these common features, many of the different effects, both at the individual and household levels, differ considerably across countries and over time. For one, the magnitudes of the negative effects of having children on FLFP differs considerably across countries with the largest effects in Senegal, while effects in Benin are very close to zero. Furthermore, male breadwinning norms express themselves differently in the countries studied. Whereas the probabilities for FLFP and FWE are consistently higher for women in female-headed households in all four countries, the negative effects of being married differs again considerably across countries and also over time in some countries. Living in households with male wage employment only has considerably negative effects in Uganda and Zambia in some years. Also, the impact of household wealth on FLFP differs across countries from having no effect, to a U-shape relationship, to a consistently negative effect. Therefore, it is important to provide specific country stories, which will be done in more detail in the next section.

The barriers to FLFP and FWE interact in different ways across countries. This study supports the observation that the negative effect of having children is linked to the presence of the male breadwinner norm in the countries studied. Both barriers seem to reinforce each other, but the magnitude of this effect also differs and is strongest in Uganda and Zambia. Thus, policies that aim to reduce the negative impact of having small children on FLFP by providing specific support to mothers may be less effective if they do not also address male breadwinning motives. The evidence in Bjorvatn et al. (2022) further illustrates this on a concrete example. Their study on the effects of a childcare subsidy in Uganda found that while, in single-mother households, mothers used the time when children were taken care of to focus on their own businesses, in two-parent households, the additional time was utilised to allow fathers to increase their wage work. Furthermore, this study indicates that the negative effects of having children also differ by household wealth and women's educational levels, suggesting that women in poorer households are more negatively affected by having children (in Uganda and Zambia only), while the negative effect of having children is stronger for women with medium levels of education. It is essential to understand these interplays to improve the situation of women in the labour market, so that interventions designed to address one barrier are not

negatively impacted by related barriers, to avoid ineffective interventions and unintended consequences.

The impact of barriers to FLFP relates to the differences in the variety of occupations available in the local labour market across countries. We find that the negative effect of having children on FLFP is larger in regions with higher occupational variety in Senegal and especially in Uganda. In Uganda the negative effect of male wage employment on FLFP is also stronger in regions with higher occupational variety, which suggests that it is mainly men who take up the emerging wage employment in those regions with higher occupational variety, thereby pushing women out of the labour force and into being housewives. We do not find such an effect in Senegal, but find that, in Zambia, the negative effect of male wage employment is larger in regions with low occupational variety, which could be explained by the higher economic necessity of women without male wage employment in the household in those regions. These findings supplement the narrative in Bandiera et al. (2022), which observes rising gender inequality in employment due to labour market transitions, by connecting this observation to the prevalence of child penalties and the male breadwinner norm as seen in Uganda. Still, the exact mechanism at play here needs further investigation.

4.2   Country-specific findings

Diving deeper into the specific country cases provides more nuanced insights. The analysis for Benin revealed relatively high levels of FLFP, but very few women in wage employment, which is in line with a general low level of wage employment in the country. The positive impact of education is rather flat, as also women with very low levels of education are finding their way into the labour force. Child and marriage penalties are virtually non-existent and male breadwinning and income effects are also playing minor roles. Given this low prevalence of barriers to women's access to the labour force, there are also no strong interactions between these barriers and the local variety of occupations available. On the one hand, Benin appears to be in the group of countries with a less-restrictive norms environment as also Kleven et al. (2024) observed. On the other hand, Benin's labour market also only stands at the beginning of the described transition towards wage employment.

The evidence from Senegal paints a very contrasting picture. While there were relatively few women active in the labour market at the beginning of the study period, a considerable part of those were in more stable wage employment. However, the majority of women that have entered the labour market over the last two decades did so in less stable self-employment. Education is a strong determinant for FLFP and creates a strongly divided labour market in terms of type of employment, for instance, those with a low education are predominantly in self-employment and those with higher education are more likely to be wage-employed. The child and marriage penalties are among the strongest and most persistent in the sample, indicating the highly restrictive norms environment preventing women from engaging in work outside their home due to care and household obligations and likely a strong social stigma. Additionally, women are further disadvantaged by the transition towards wage employment, as child penalties become more salient, further constraining their chances of working outside the home. Overall, wage employment is less pronounced among women with children, low wealth and education, which is in line with the narrative in Zipfel (2023). Nevertheless, there is a group of highly educated women at the top of the wealth distribution in more stable wage employment who are able to withstand the restrictive social norms.

The situation in both Uganda and Zambia is more mixed, albeit with different nuances. In Uganda, the positive effect of education on women's engagement in the labour market becomes flatter over time, while FLFP is falling with increasing wealth. Both indicate that the observed increase in FLFP over the study period is predominantly driven by less educated and poorer women entering the labour market. Thus economic necessity appears to be a strong motive for

women's engagement in the labour market, which is to be expected, given that Uganda is the poorest country in the sample. Child penalties follow the common pattern described above, for example, for FLFP only for women with small children, while for FWE they are more consistent. In general, wage employment is mostly only attainable for better educated women without children. The aforementioned negative effect of wealth on FLFP seems to be solely driven by women with younger children, as FLFP for women without children is constant across all wealth groups. This indicates the waning effect of economic necessity in countering the negative impact of motherhood on women's labour force participation. Additionally, child penalties are larger in regions with higher occupational variety and, while male breadwinning motives as an explanation for FLFP seem to decline over time overall, they appear to play a stronger negative role in regions with higher occupational variety where wage employment is more prevalent. Both indicate that labour market transitions continually put women at a disadvantage by reinforcing the existing barriers to women's engagement in (wage) labour, which underlines the observations of Bandiera et al. (2022).

Lastly, in Zambia, lacking higher education provides a strong barrier to entering the labour force and obtaining wage employment. There is a considerable increase in probabilities for women with secondary education and above, creating a two-tiered labour market. The negative effect of having children can again only be observed for small children in terms of FLFP, but is more persistent on FWE. Male breadwinning features especially strongly in Zambia, although there is some indication of it easing slightly over time. More importantly it is also closely connected to and amplifies the negative effects of motherhood and therefore it represents one of the main mechanisms that restrict women's engagement in the labour market. Additionally, FLFP in Zambia exhibits particularly strong wealth effects, which follow a pronounced U-shape with lower probabilities of being in the labour force in the middle-wealth groups. Women in the highest wealth group are also subject to a much smaller child penalty, which appears to be connected to better education and, with that, access to more stable wage employment. In contrast to Uganda, labour market transitions do not appear to amplify the existing barriers for women's engagement, as child penalties are equally large in regions with low and high occupational variety, while male breadwinning appears to be less prevalent in regions with higher occupational variety.

4.3   Policy recommendations and future research

Based on the described findings, the following policy recommendations can be derived. The **period following childbirth** can be highlighted as a pivotal time for women, shaping their future career paths and opportunities. To support returning mothers effectively, tailored interventions are essential. Mentoring programmes during this period could provide guidance and encouragement, while this phase also presents an opportunity for women to attain further education beyond secondary levels and/or participate in re-skilling programs. These initiatives can substantially enhance their chances of securing wage employment, thereby mitigating the adverse effects associated with labour market transitions towards wage employment, which has been shown to be particularly challenging for mothers. Efforts to **alleviate the childcare burden** must be integrated with **interventions targeting entrenched male breadwinner norms**, as both appear to complement each other.

Stressing again the importance of context specificity, each country studied warrants different approaches. The specific context in **Benin** suggests that vocational and skills training interventions focused on women will be more efficient, as there is only a limited need to shift restrictive social norms. However, in order to improve women's access to more stable wage employment, there is a need to **support this process of transformation in the labour market**. Given that the transformation towards wage employment is spearheaded by growing firms, policies that alleviate barriers to firm growth seem particularly suitable in this regard. While the

less-restrictive norms environment would suggest that this transformation should be less gendered, there is a need to monitor women's engagement in the labour market throughout this transformation process.

The results in **Senegal** suggest that stand-alone **vocational and skills trainings** will be less effective in improving FLFP and FWE and **there is a strong need to combine these trainings with advocacy and information campaigns** that are able to transform the prevailing norms, focusing on the strong social stigma that seems to be attached to women working outside their home. There are widespread misperceptions surrounding these restrictive social norms in most countries, as the actual support for women working outside the home in the society is regularly underestimated by people (see e.g. Bursztyn et al. (2023); Bursztyn et al. (2020). This would suggest that correcting these wrong beliefs might already go a long way to reducing the social stigma. While the group of women at the top of the education and wealth distribution could be leveraged as role models for such campaigns, it remains essential for role models to be accessible and easy to identify with. These interventions should be further complemented by **expanding the access and cultural acceptance of external care facilities** to improve women's access to the emerging wage employment.

The policy focus in **Uganda** should be to **counteract the negative impact of labour market transitions**. This could be done by implementing focused interventions that give particular support to women that move to labour markets with higher occupational variety. This support needs to address the underlying male breadwinning motives that appear to reinforce the negative child penalties, once it becomes a viable strategy. Providing avenues for affirmative action especially in public sector employment could be a viable strategy to attenuate the negative impacts of the labour market transitions in the medium term, before more opportunities for wage employment become available.

In **Zambia** policies and interventions that can further address male breadwinner motives will be particularly helpful. **There is a clear need to challenge the norm that men should prioritise work over family and women prioritise family over work and to establish a more balanced division of both obligations.** Establishing dual-earner households through propagating their advantages through information campaigns and in educational institutions could be a potential strategy, as this model seems more prevalent in the top wealth quintiles.

Lastly, several avenues for future research can be identified. While using the differentiation between self-employment and wage employment follows the ILO definition of vulnerable employment, it is still a rather crude measure for the decency of a particular work engagement. Including **a more sophisticated measure for job quality** might provide further valuable insights. Since this paper uses a simple methodology that only identifies basic correlations, the observed patterns should be tested separately using a more advanced approach to better understand the causal directions of the identified relationships. Furthermore, additional research is needed to focus in more detail on how labour market transitions affect female employment by looking more closely at the shift towards wage employment and differences in the emergence of occupations, which also entails the different situations in urban and rural areas.

References

Aaronson, D., Dehejia, R., Jordan, A., Pop-Eleches, C., Samii, C., & Schulze, K. (2021). The Effect of Fertility on Mothers' Labor Supply over the Last Two Centuries. *The Economic Journal, 131*(633), 1-32. https://doi.org/10.1093/ej/ueaa100

AfDB. (African Development Bank). (2021). *The African Development Bank Group Gender Strategy 2021-2025*. Author.

Alesina, A., Giuliano, P., & Nunn, N. (2013). On the Origins of Gender Roles: Women and the Plough. *The Quarterly Journal of Economics, 128*(2), 469-530. https://doi.org/10.1093/qje/qjt005

Arora, D., Braunstein, E., & Seguino, S. (2023). A macro analysis of gender segregation and job quality in Latin America. *World Development, 164*, 106153. https://doi.org/10.1016/j.worlddev.2022.106153

Ashraf, N., Bandiera, O., Minni, V., & Quintas-Martınez, V. (2022). Gender roles and the misallocation of labour across countries (unpublished manuscript).

Bandiera, O., Buehren, N., Burgess, R., Goldstein, M., Gulesci, S., Rasul, I., & Sulaiman, M. (2020). Women's Empowerment in Action: Evidence from a Randomized Control Trial in Africa. *American Economic Journal: Applied Economics, 12*(1), 210-259. https://doi.org/10.1257/app.20170416

Bandiera, O., Elsayed, A., Heil, A., & Smurra, A. (2022). Economic Development and the Organisation Of Labour: Evidence from the Jobs of the World Project. *Journal of the European Economic Association, 20*(6), 2226-2270. https://doi.org/10.1093/jeea/jvac056

Berniell, I., Berniell, L., De La Mata, D., Edo, M., & Marchionni, M. (2023). Motherhood and flexible jobs: Evidence from Latin American countries. *World Development, 167*, 106225. https://doi.org/10.1016/j.worlddev.2023.106225

Bjorvatn, K., Ferris, D., Gulesci, S., Nasgowitz, A., Somville, V., & Vandewalle, L. (2022). *Childcare, labor supply, and business development: Experimental evidence from Uganda* (CEPR Discussion Paper, 17243). CEPR Press.

Borrowman, M., & Klasen, S. (2020). Drivers of Gendered Sectoral and Occupational Segregation in Developing Countries. *Feminist Economics, 26*(2), 62-94. https://doi.org/10.1080/13545701.2019.1649708

Bursztyn, L., Cappelen, A. W., Tungodden, B., Voena, A., & Yanagizawa-Drott, D. (2023). How Are Gender Norms Perceived? *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.4394127

Bursztyn, L., González, A. L., & Yanagizawa-Drott, D. (2020). Misperceived Social Norms: Women Working Outside the Home in Saudi Arabia. *American Economic Review, 110*(10), 2997-3029. https://doi.org/10.1257/aer.20180975

Canning, D., & Schultz, T. P. (2012). The economic consequences of reproductive health and family planning. *Lancet, 380*(9837), 165-171. https://doi.org/10.1016/S0140-6736(12)60827-7

Chicoine, L. (2021). Free Primary Education, Fertility, and Women's Access to the Labor Market: Evidence from Ethiopia. *The World Bank Economic Review, 35*(2), 480-498. https://doi.org/10.1093/wber/lhz042

Dhar, D., Jain, T., & Jayachandran, S. (2022). Reshaping Adolescents' Gender Attitudes: Evidence from a School-Based Experiment in India. *American Economic Review, 112*(3), 899-927. https://doi.org/10.1257/aer.20201112

Duflo, E., Dupas, P., & Kremer, M. (2024). *The Impact of Secondary School Subsidies on Career Trajectories in a Dual Labor Market: Experimental Evidence from Ghana* (CEPR Discussion Paper, 19344). CEPR Press.

Fernández, R. (2013, 2013/02/01/). Cultural Change as Learning: The Evolution of Female Labor Force Participation over a Century. *American Economic Review, 103*(1), 472-500. https://doi.org/10.1257/aer.103.1.472

Fernández, R., & Fogli, A. (2009). Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics, 1*(1), 146-177. https://doi.org/10.1257/mac.1.1.146

Field, E., Pande, R., Rigol, N., Schaner, S., & Troyer Moore, C. (2021). On Her Own Account: How Strengthening Women's Financial Control Impacts Labor Supply and Gender Norms. *American Economic Review, 111*(7), 2342-2375. https://doi.org/10.1257/aer.20200705

Gaddis, I., & Klasen, S. (2014). Economic development, structural change, and women's labor force participation: A reexamination of the feminization U hypothesis. *Journal of Population Economics, 27*(3), 639-681. https://doi.org/10.1007/s00148-013-0488-2

Gentile, E., Kohli, N., Subramania, N., Tirmazee, Z., & Vyborny, K. (2023). *Barriers to Entry: Decomposing the gender gap in job search in Pakistan* (ADB Economics Working Paper Series, 707). Asian Development Bank (ADB).

Gindling, T. H., & Newhouse, D. (2014). Self-Employment in the Developing World. *World Development, 56*, 313-331. https://doi.org/10.1016/j.worlddev.2013.03.003

Gradín, C. (2021). Occupational Gender Segregation in Post-Apartheid South Africa. *Feminist Economics, 27*(3), 102-133. https://doi.org/10.1080/13545701.2021.1906439

Halim, D., Perova, E., & Reynolds, S. (2023). Childcare and Mothers' Labor Market Outcomes in Lower- and Middle-Income Countries. *The World Bank Research Observer, 38*(1), 73-114. https://doi.org/10.1093/wbro/lkac003

Hansen, C. W., Jensen, P. S., & Skovsgaard, C. V. (2015). Modern gender roles and agricultural history: The Neolithic inheritance. *Journal of Economic Growth, 20*(4), 365-404. https://doi.org/10.1007/s10887-015-9119-y

Heath, R., Bernhardt, A., Borker, G., Fitzpatrick, A., Keats, A., McKelway, M., …Sharma, G. (2024). *Female Labour Force Participation* (VoxDevLit, 11(1)). https://voxdev.org/sites/default/files/2024-04/FemaleLabourForceParticipation_Issue1.pdf

Heath, R., & Jayachandran, S. (2018). The Causes and Consequences of Increased Female Education and Labor Force Participation in Developing Countries. In S. L. Averett, L. M. Argys, & S. D. Hoffman (Eds.), *The Oxford Handbook of Women and the Economy* (pp. 344-368). Oxford University Press (OUP). https://academic.oup.com/edited-volume/34672/chapter/295419470

Hirway, I., & Jose, S. (2011). Understanding Women's Work Using Time-Use Statistics: The Case of India. *Feminist Economics, 17*(4), 67-92. https://doi.org/10.1080/13545701.2011.622289

Ho, L., Jalota, S., & Karandikar, A. (2024). *Bringing Work Home: Flexible Arrangements as Gateway Jobs for Women in West Bengal* (STEG Working Paper, WP080). Structural Transformation and Economic Growth (STEG).

Hsieh, C.-T., Hurst, E., Jones, C. I., & Klenow, P. J. (2019). The Allocation of Talent and U.S. Economic Growth. *Econometrica, 87*(5), 1439-1474. https://doi.org/10.3982/ECTA11427

ILO (International Labour Organization). (2010). *Global Employment Trends January 2010* (978-92-2-123256-8). Author.

ILO. (2016). *Women at Work: Trends 2016* (978-92-2-130796-9). Author.

ILO. (2018). *World Employment and Social Outlook: Trends for Women 2018 - Global snapshot* (978-92-2-131586-5). Author.

Jayachandran, S. (2021). Social Norms as a Barrier to Women's Employment in Developing Countries. *IMF Economic Review, 69*(3), 576-595. https://doi.org/10.1057/s41308-021-00140-w

Keats, A. (2018). Women's schooling, fertility, and child health outcomes: Evidence from Uganda's free primary education program. *Journal of Development Economics, 135*, 142-159. https://doi.org/10.1016/j.jdeveco.2018.07.002

Klasen, S. (2019). What Explains Uneven Female Labor Force Participation Levels and Trends in Developing Countries? *The World Bank Research Observer, 34*(2), 161-197. https://doi.org/10.1093/wbro/lkz005

Klasen, S., Le, T. T. N., Pieters, J., & Santos Silva, M. (2021). What Drives Female Labour Force Participation? Comparable Micro-level Evidence from Eight Developing and Emerging Economies. *The Journal of Development Studies, 57*(3), 417-442. https://doi.org/10.1080/00220388.2020.1790533

Klasen, S., & Pieters, J. (2015). What Explains the Stagnation of Female Labor Force Participation in Urban India? *The World Bank Economic Review, 29*(3), 449-478. https://doi.org/10.1093/wber/lhv003

Kleven, H., Landais, C., & Leite-Mariante, G. (2024). The Child Penalty Atlas. *Review of Economic Studies*. https://doi.org/10.1093/restud/rdae104

Lagakos, D. (2020). Urban-Rural Gaps in the Developing World: Does Internal Migration Offer Opportunities? *Journal of Economic Perspectives, 34*(3), 174-192. https://doi.org/10.1257/jep.34.3.174

Lo Bue, M. C., Le, T. T. N., Santos Silva, M., & Sen, K. (2022). Gender and vulnerable employment in the developing world: Evidence from global microdata. *World Development, 159*, 106010. https://doi.org/10.1016/j.worlddev.2022.106010

McKenzie, D. (2017). How Effective Are Active Labor Market Policies in Developing Countries? A Critical Review of Recent Evidence. *The World Bank Research Observer, 32*(2), 127-154. https://doi.org/10.1093/wbro/lkx001

Minnesota Population Center, (2020). *Integrated Public Use Microdata Series, International: Version 7.3* IPUMS. https://doi.org/10.18128/D020.V7.3

Mize, T. (2019). Best Practices for Estimating, Interpreting, and Presenting Non-linear Interaction Effects. *Sociological Science, 6*, 81-117. https://doi.org/10.15195/v6.a4

Muñoz Boudet, A. M., Petesch, P., & Turk, C. (2013). *On Norms and Agency*. World Bank. https://doi.org/10.1596/978-0-8213-9862-3

Orkoh, E., Claassen, C., & Blaauw, D. (2022). Poverty and Intrahousehold Gender Inequality in Time Use in Ghana. *Feminist Economics, 28*(4), 221-253. https://doi.org/10.1080/13545701.2022.2080854

Pearse, R., & Connell, R. (2015). Gender Norms and the Economy: Insights from Social Research. *Feminist Economics, 22*(1), 30-53. https://doi.org/10.1080/13545701.2015.1078485

Santos Silva, M., Alexander, A. C., Klasen, S., & Welzel, C. (2023). The roots of female emancipation: Initializing role of Cool Water. *Journal of Comparative Economics, 51*(1), 133-159. https://doi.org/10.1016/j.jce.2022.11.001

Seguino, S., & Braunstein, E. (2019). The Costs of Exclusion: Gender Job Segregation, Structural Change and the Labour Share of Income. *Development and Change, 50*(4), 976-1008. https://doi.org/10.1111/dech.12462

Sehnbruch, K., González, P., Apablaza, M., Méndez, R., & Arriagada, V. (2020). The Quality of Employment (QoE) in nine Latin American countries: A multidimensional perspective. *World Development, 127*, 104738. https://doi.org/10.1016/j.worlddev.2019.104738

Smits, J., & Steendijk, R. (2014). The International Wealth Index (IWI). *Social Indicators Research, 122*(1), 65-85. https://doi.org/10.1007/s11205-014-0683-x

Stöcker, A., & Zintl, T. (2024). *Economic development and barriers to (decent) work for women in SSA and MENA* (IDOS Discussion Paper, Issue 16/2024). https://doi.org/10.23661/idp16.2024 German Institute of Development and Sustainability (IDOS).

Uberti, L. J., & Douarin, E. (2023). The Feminisation U, cultural norms, and the plough. *Journal of Population Economics, 36*(1), 5-35. https://doi.org/10.1007/s00148-022-00890-5

UNDP (United Nations Development Programme). (2019). *Human development report 2019: Beyond income, beyond averages, beyond today: Inequalities in human development in the 21st century*. https://hdr.undp.org/sites/default/files/hdr2019.pdf

WEF (World Economic Forum). (2021). *Global Gender Gap Report 2021*. Author.

World Bank. (n.d.). *World development indicators (Database)*. https://databank.worldbank.org/source/world-development-indicators

World Bank. (2011). *World Development Report 2012: Gender Equality and Development*. Author.

World Bank. (2023). Women, Business and the Law 2023. doi:10.1596/978-1-4648-1944-5 https://openknowledge.worldbank.org/server/api/core/bitstreams/b60c615b-09e7-46e4-84c1-bd5f4ab88903/content

Zenebe Gebre, T. (2020). Free Primary Education, Timing of Fertility, and Total Fertility. *The World Bank Economic Review, 34*(3), 730-748. https://doi.org/10.1093/wber/lhz003

Zipfel, C. (2023). *The Demand Side of Africa's Demographic Transition: Desired Fertility, Wealth, and Jobs* (unpublished manuscript).

Appendix

Data

Table A1: Sample overview

Country	Year	Survey	N*
Benin	1992	National Census	29,851
	2002	National Census	42,571
	2013	National Census	72,692
Senegal	1988	General Census of Population and Housing	23,658
	2002	General Census of Population and Housing	65,748
	2013	General Census of the population, housing, agriculture and livestock	98,811
Uganda	1991	Population and Housing Census	24,688
	2002	Population and Housing Census	42,045
	2013	National Population and Housing Census	131,791
Zambia	1990	Census of Population, Housing and Agriculture	43,955
	2000	Census of Population and Housing	48,935
	2010	Census of Population and Housing	54,403
Total			678,978

Notes: *Number of observations of urban women ages 25-54. Samples for estimations can be smaller due to missing covariates.

Additional figures

Figure A1: Educational attainment over time by country
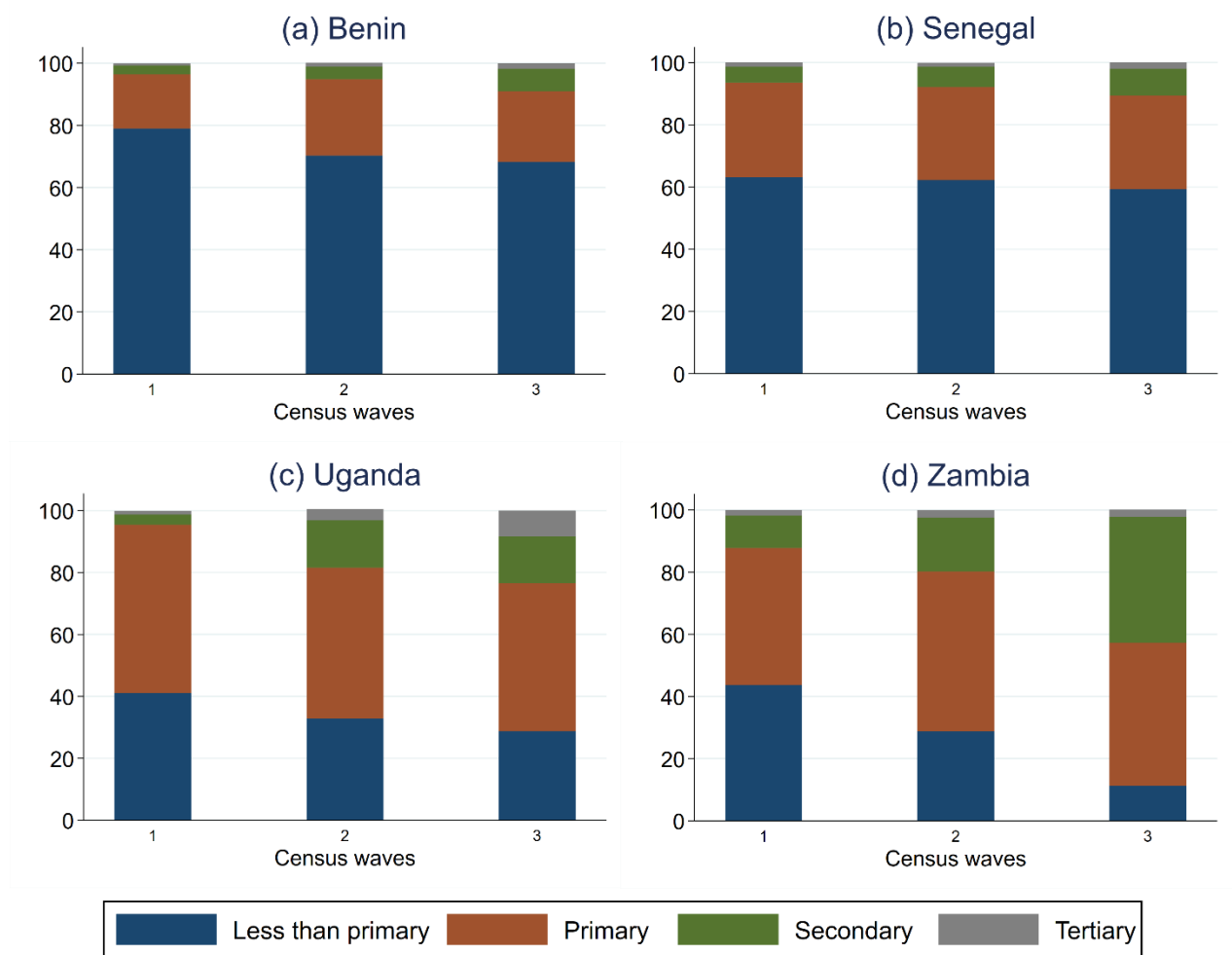
Source: Author's calculation and visualisation based on IPUMS data

Figure A2: Marginal effects of own education on female labour force participation
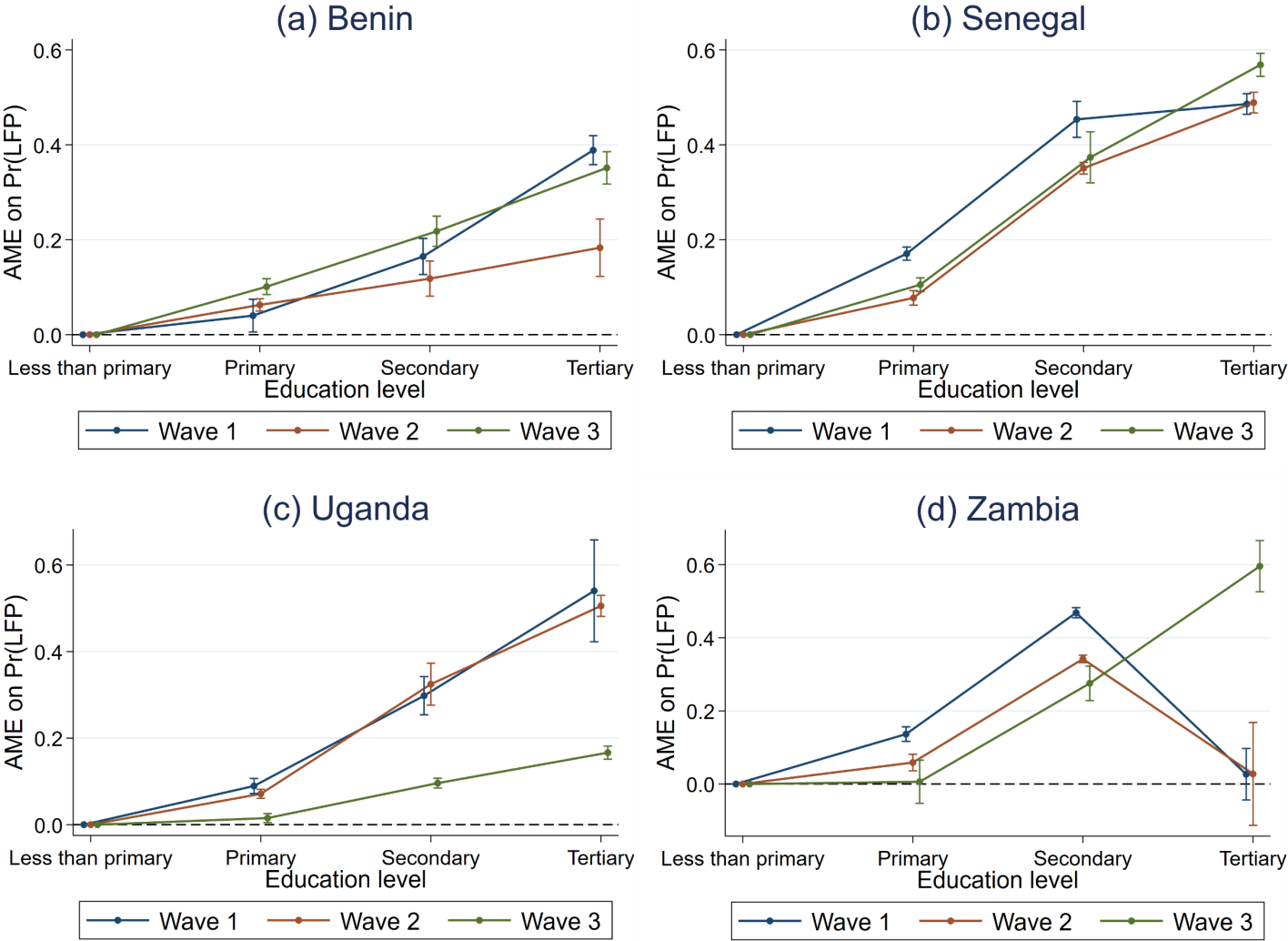
Note: Figures show estimates of AMEs for probabilities of labour force participation of women with 95 per cent confidence intervals.

Figure A3: Marginal effects of own education on female wage employment
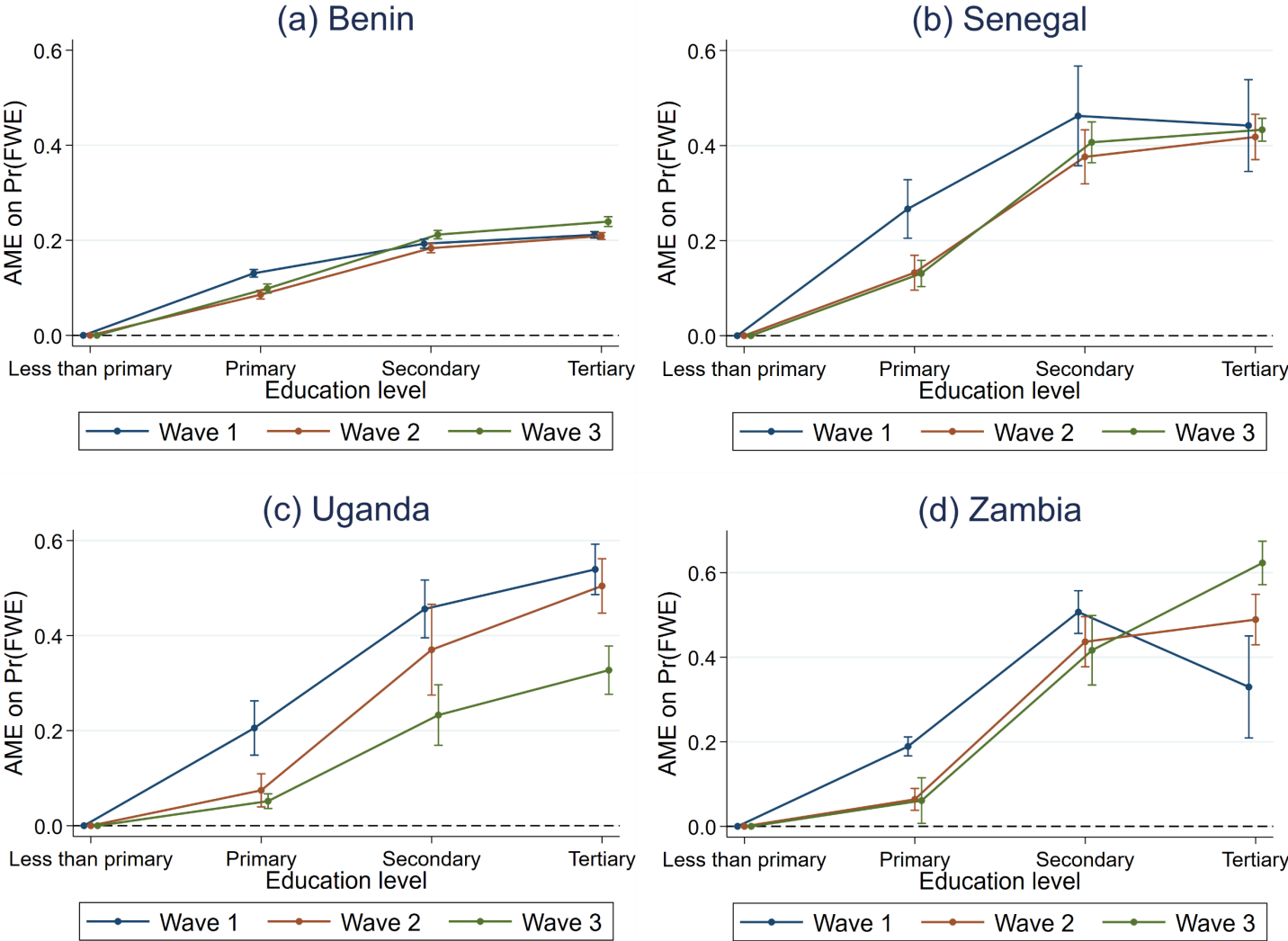
Note: Figures show estimates of AMEs for probabilities of wage employment of women with 95% confidence intervals.

Figure A4: Marginal effects of number of children by age on female labour force participation
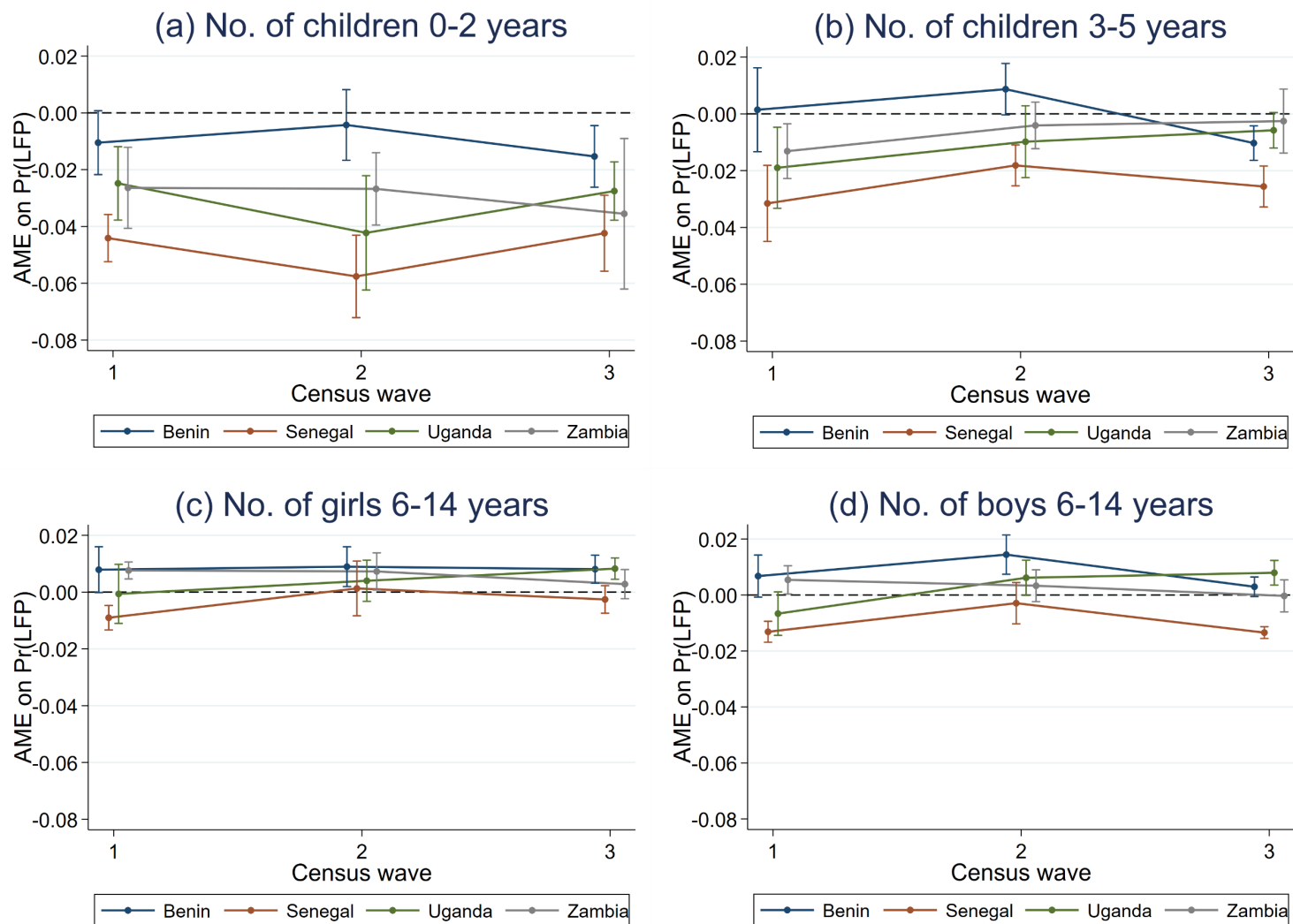
(a) No. of children 0-2 years

(b) No. of children 3-5 years

(c) No. of girls 6-14 years

(d) No. of boys 6-14 years

Note: Figures show estimates of AMEs for probabilities of labour force participation of women with 95% confidence intervals.

Figure A5: Marginal effects of number of children by age on female wage employment
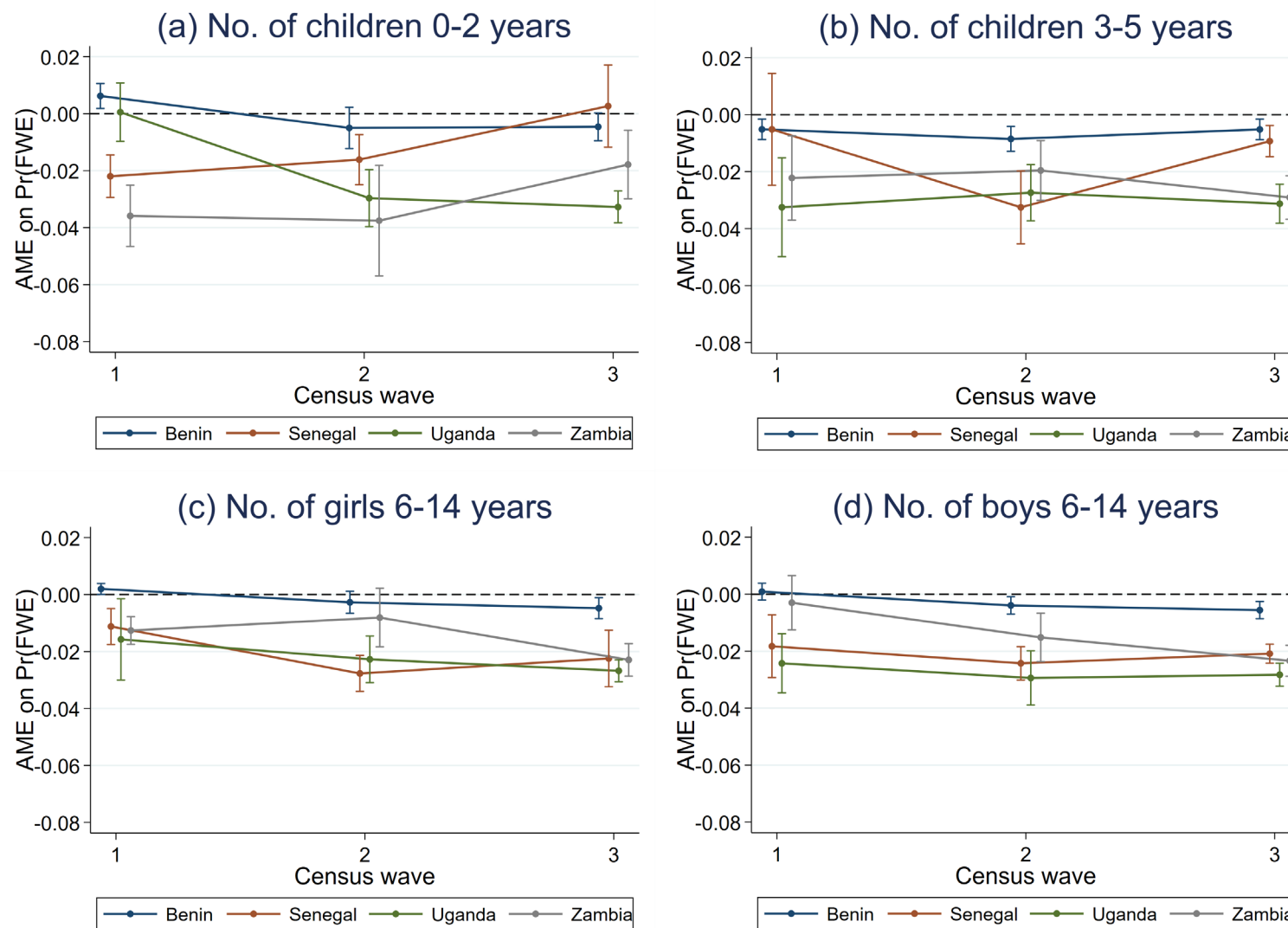
Note: Figures show estimates of AMEs for probabilities of wage employment of women with 95% confidence intervals.

Figure A6: Marginal effects of marriage, male wage employment, female household (HH) head and wealth on female labour force participation

(a) Marriage

(b) Male wage employment

(c) Wealth (only wave 3)

(d) Female HH head

Note: Figures show estimates of AMEs for probabilities of labour force participation of women with 95% confidence intervals.

Figure A7: Marginal effects of marriage, male wage employment, female household (HH) head and wealth on female wage employment

Note: Figures show estimates of AMEs for probabilities of wage employment of women with 95% confidence intervals.

Figure A8: Probability of labour force participation by wealth and children
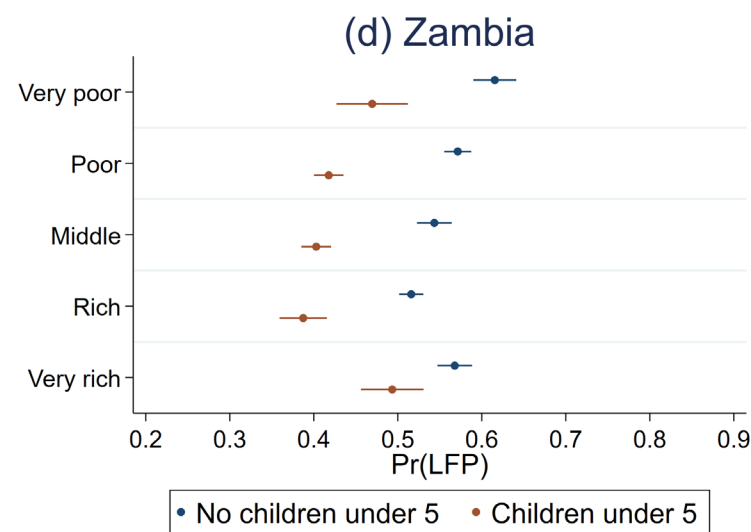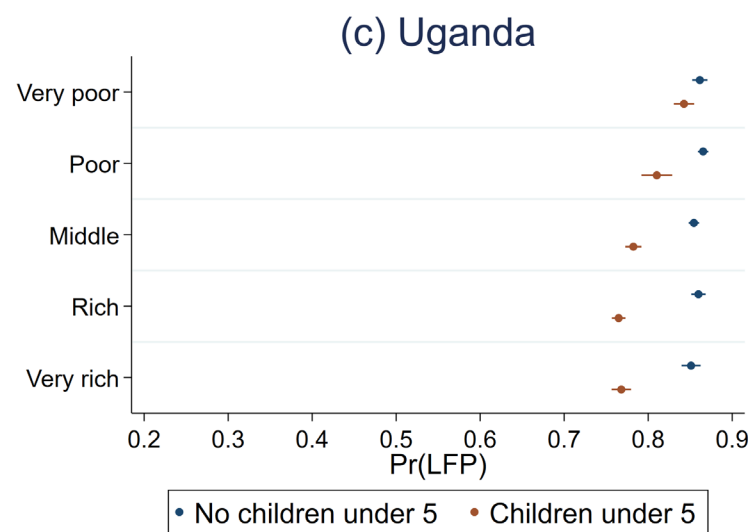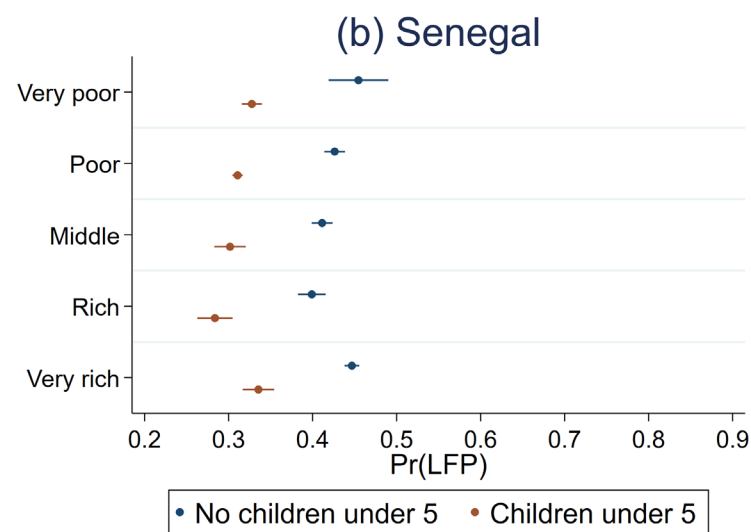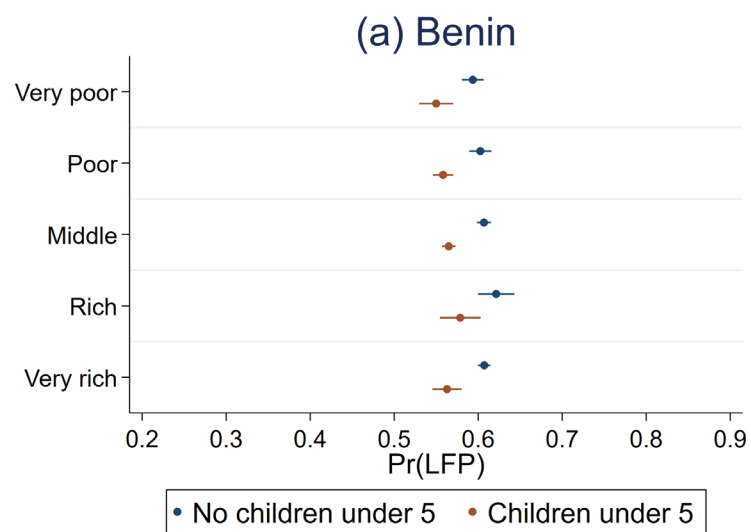
Notes: Figures show probabilities of labour force participation of women by wealth group and having children under 5 with 95% confidence intervals

Figure A9: Probability of wage employment by wealth and children
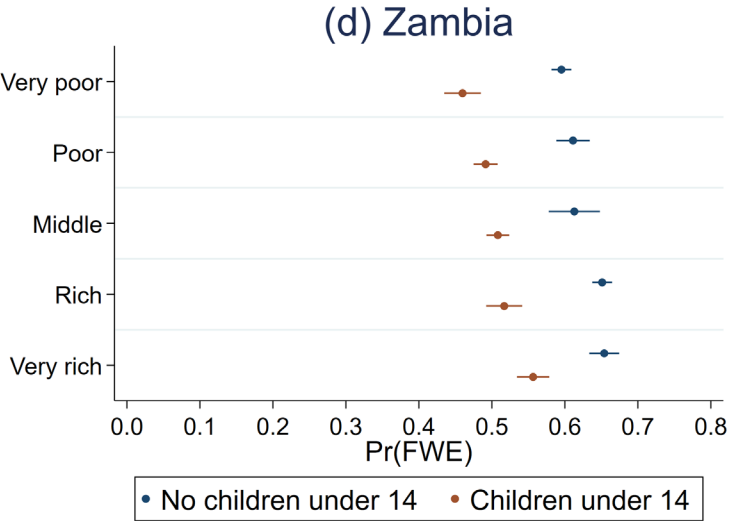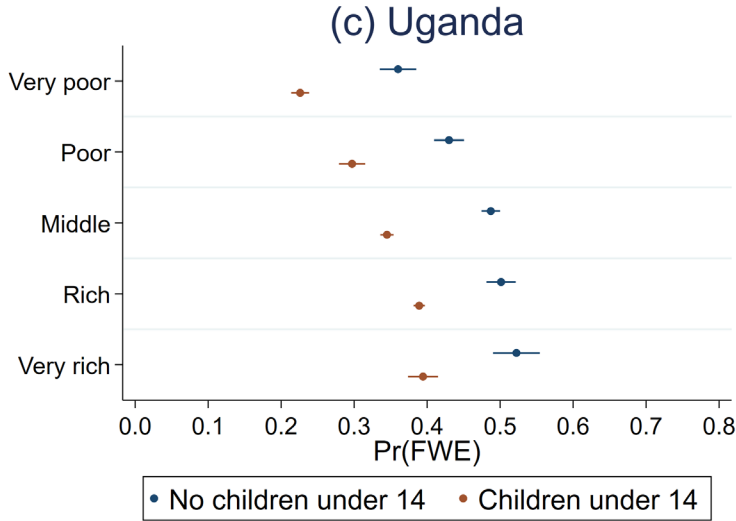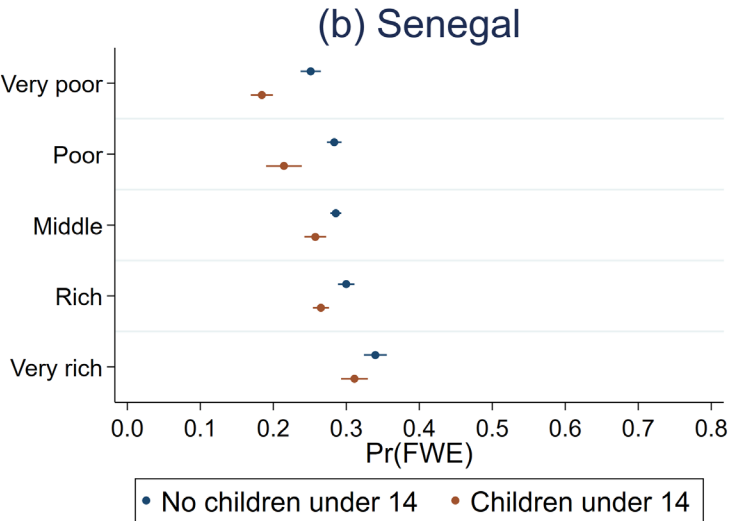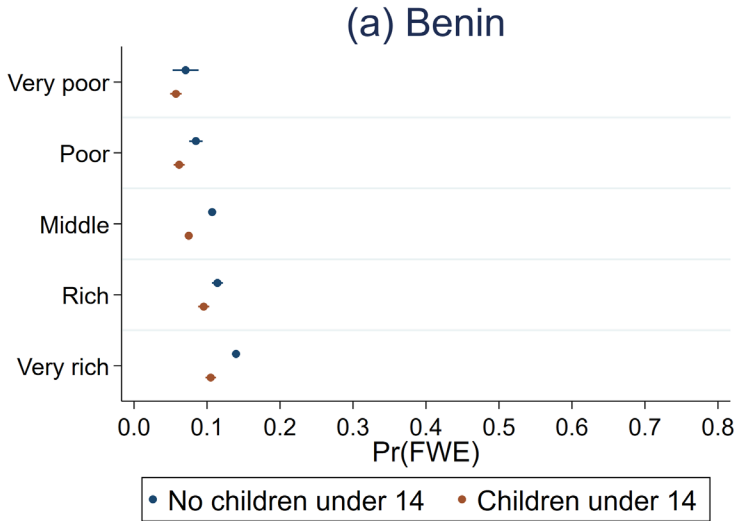
Notes: Figures show probabilities of wage employment of women by wealth group and having children under 14 with 95% confidence intervals

Figure A10: Probability of labour force participation by education and children
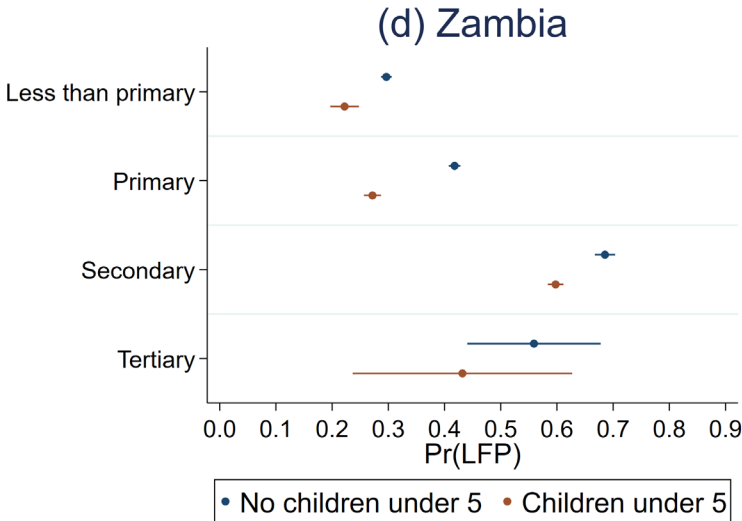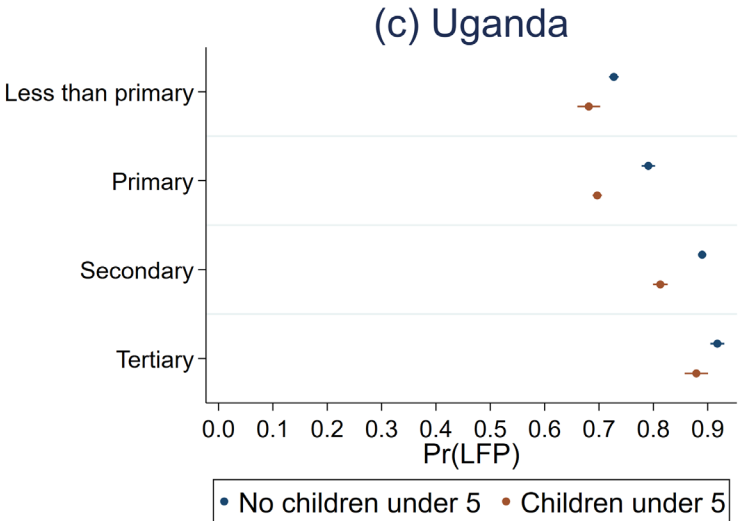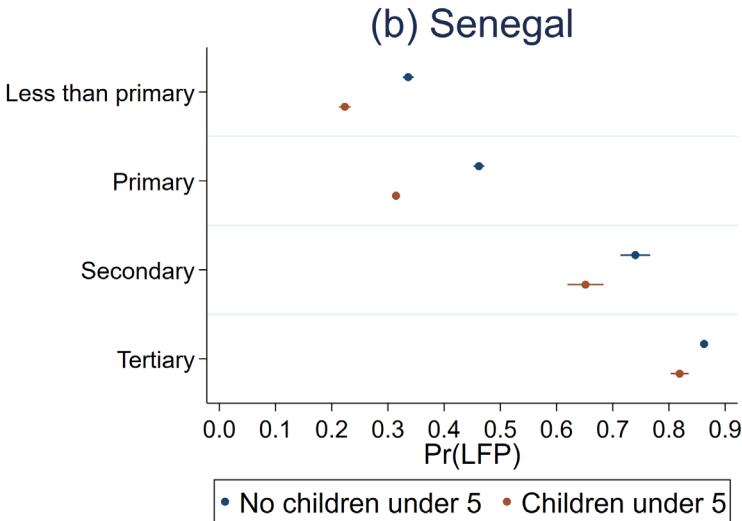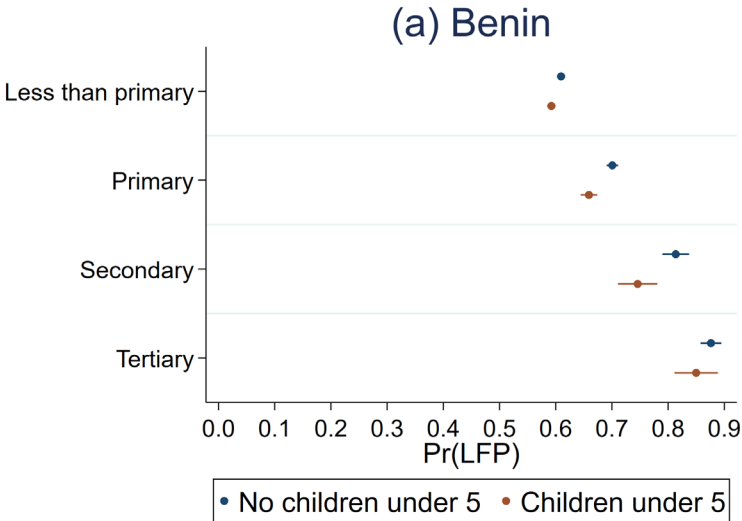
Notes: Figures show probabilities of labour force participation of women by education and having children under 5 with 95% confidence intervals.

Figure A11: Probability of wage employment by education and children
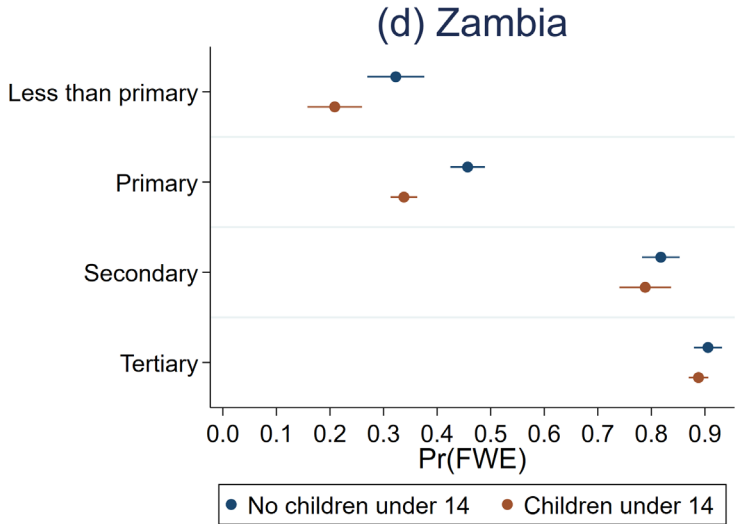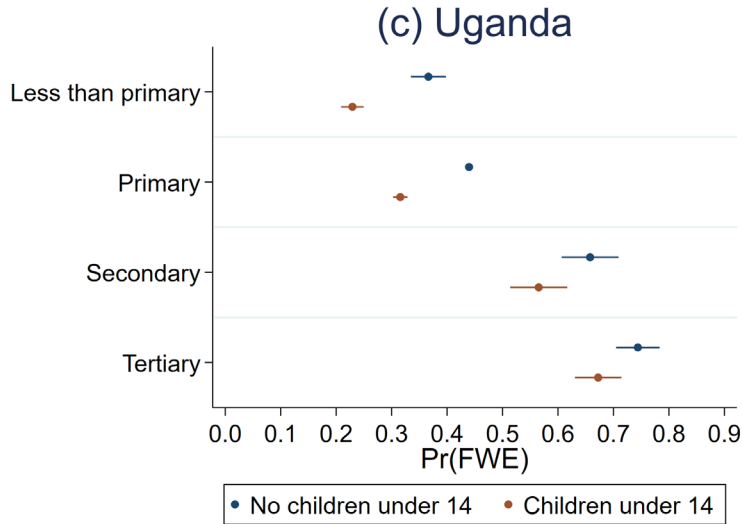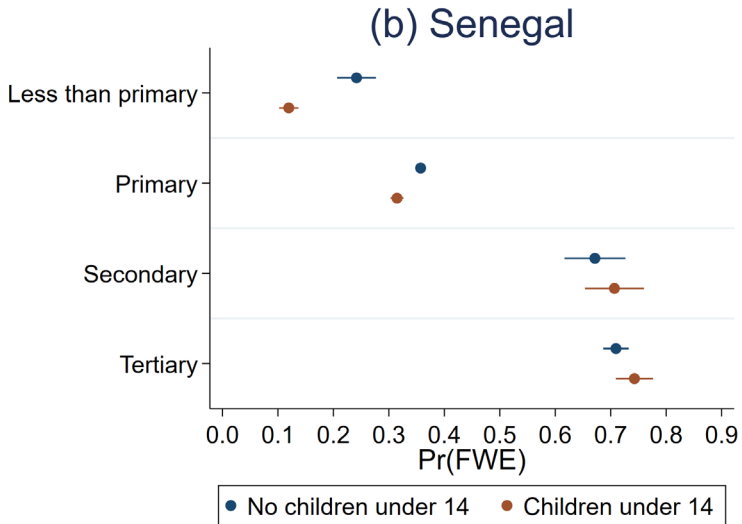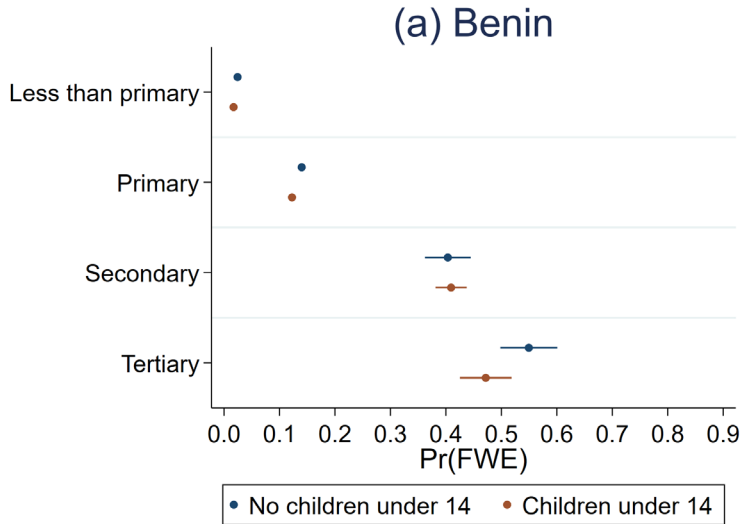
Notes: Figures show probabilities of wage employment of women by education and having children under 14 with 95% confidence intervals.

Additional tables

Table B1: Benin: average marginal effects

Pr(Labour Force Part.)	(1) 1992	(2) 2002	(3) 2013
Primary education	0.0401*	0.0627***	0.101***
	(2.27)	(9.49)	(11.90)
Secondary education	0.165***	0.118***	0.218***
	(8.48)	(6.25)	(13.40)
Tertiary education	0.389***	0.183***	0.351***
	(25.00)	(5.95)	(20.22)
Head primary education	-0.0784***	-0.0173	0.0213
	(-5.62)	(-1.18)	(1.57)
Head secondary education	-0.0433*	0.00724	0.0292
	(-2.32)	(0.56)	(1.85)
Head tertiary education	0.0499*	0.0441*	0.0609**
	(2.43)	(2.05)	(3.27)
Female household (HH) head	0.0981***	0.0855***	0.132***
	(6.25)	(5.77)	(8.46)
Male wage employment	-0.0156	-0.00532	0.0162*
	(-1.70)	(-0.63)	(2.56)
No. of children 0-2	-0.0105	-0.00426	-0.0153**
	(-1.83)	(-0.67)	(-2.77)
No. of children 3-5	0.00144	0.00869	-0.0103***
	(0.19)	(1.88)	(-3.32)
No. of children 6-14 male	0.00676	0.0144***	0.00295
	(1.76)	(4.03)	(1.66)
No. of children 6-14 female	0.00790	0.00896*	0.00808**
	(1.92)	(2.51)	(3.21)
Married	-0.000839	-0.0165	0.0273**
	(-0.04)	(-1.61)	(3.12)
Adja	0.0671*	0.101***	0.145***
	(2.33)	(4.85)	(9.73)
Fon	0.0667	0.109***	0.156***
	(1.86)	(4.09)	(9.70)
Bariba	-0.00951	0.0816*	0.0598***
	(-0.24)	(1.97)	(3.38)
Dendi	-0.0375	0.0564	0.0159
	(-0.98)	(1.54)	(0.57)
Yoa	0.0318	0.0900**	0.0708**
	(1.04)	(3.22)	(3.23)
Peulh	-0.157*	-0.00899	-0.0862**
	(-2.23)	(-0.17)	(-3.05)
Otamari	-0.0148	0.119**	-0.0496
	(-0.31)	(2.84)	(-1.03)
Yoruba	0.117**	0.124***	0.144***
	(3.07)	(5.02)	(7.53)
Muslim	-0.0411*	-0.0423*	-0.0258
	(-2.25)	(-2.05)	(-1.53)
Migrant	-0.0364**	-0.0287**	0.00951
	(-3.15)	(-3.12)	(1.67)
Observations	27385	40527	67187

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B2: Senegal: average marginal effects

Pr(Labour Force Part.)	(1) 1988	(2) 2002	(3) 2013
Primary education	0.171***	0.0776***	0.105***
	(23.96)	(9.94)	(14.28)
Secondary education	0.454***	0.351***	0.374***
	(23.50)	(56.19)	(13.59)
Tertiary education	0.486***	0.489***	0.569***
	(43.87)	(44.14)	(46.01)
Head primary education	0.0167	-0.0119	0.00160
	(1.18)	(-1.25)	(0.41)
Head secondary education	0.0675***	0.0350**	0.0356**
	(3.80)	(3.01)	(3.17)
Head tertiary education	0.101***	0.0930***	0.0593***
	(7.29)	(4.54)	(4.97)
Female HH head	0.0744***	0.0882***	0.0769***
	(5.89)	(7.48)	(32.67)
Male wage employment	-0.0145*	0.00754	0.0297**
	(-2.54)	(1.89)	(3.15)
No. of children 0-2	-0.0441***	-0.0576***	-0.0424***
	(-10.40)	(-7.78)	(-6.21)
No. of children 3-5	-0.0315***	-0.0181***	-0.0256***
	(-4.61)	(-4.93)	(-6.95)
No. of children 6-14 male	-0.0131***	-0.00292	-0.0134***
	(-6.88)	(-0.78)	(-12.57)
No. of children 6-14 female	-0.00902***	0.00130	-0.00258
	(-4.10)	(0.27)	(-1.04)
Married	-0.0657***	-0.0925***	-0.128***
	(-10.65)	(-8.11)	(-15.62)
Wolof	0.0428*	0.00638	0.0397***
	(2.11)	(0.39)	(6.19)
Peul (rel.)	0.0113	-0.0493*	0.00507
	(0.55)	(-2.18)	(0.77)
Serer	0.118**	0.0677*	0.115***
	(3.17)	(1.99)	(6.34)
Diola (rel.)	0.0967**	0.0253	0.0630**
	(3.02)	(0.80)	(3.28)
Madinka (rel.)	0.0105	-0.00776	0.0332***
	(0.49)	(-0.55)	(5.35)
Bassari (rel.)	0.237***	-0.0117	0.0854*
	(3.38)	(-0.18)	(2.29)
Soninke (rel.)	0.000671	-0.106***	-0.0284
	(0.02)	(-3.35)	(-1.31)
Muslim	-0.0421***	-0.0234*	-0.0333***
	(-5.01)	(-2.18)	(-3.34)
Migrant	-0.00224	0.0178	0.0298**
	(-0.56)	(1.54)	(2.70)
Observations	22976	60673	82009

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B3: Uganda: average marginal effects

Pr(Labour Force Part.)	(1) 1991	(2) 2002	(3) 2014
Primary education	0.0894***	0.0712***	0.0153**
	(10.11)	(13.43)	(2.90)
Secondary education	0.298***	0.325***	0.0959***
	(13.23)	(13.11)	(16.67)
Tertiary education	0.540***	0.505***	0.166***
	(9.00)	(40.62)	(21.61)
Head primary education	-0.0116	-0.0259	-0.0256***
	(-1.17)	(-1.69)	(-6.40)
Head secondary education	0.0929***	-0.0180	-0.0247***
	(5.48)	(-1.37)	(-4.99)
Head tertiary education	0.123***	0.00423	-0.00393
	(6.36)	(0.25)	(-0.43)
Female HH head	0.177***	0.154***	0.0579***
	(17.74)	(6.26)	(11.09)
Male wage employment	-0.0447***	0.000995	-0.00147
	(-7.20)	(0.12)	(-0.44)
No. of children 0-2	-0.0248***	-0.0423***	-0.0275***
	(-3.76)	(-4.11)	(-5.25)
No. of children 3-5	-0.0190**	-0.00981	-0.00578
	(-2.61)	(-1.52)	(-1.81)
No. of children 6-14 male	-0.00665	0.00616	0.00795***
	(-1.68)	(1.93)	(3.53)
No. of children 6-14 female	-0.000620	0.00399	0.00827***
	(-0.12)	(1.08)	(4.33)
Married	-0.198***	-0.0512***	-0.0390***
	(-19.81)	(-7.46)	(-4.23)
Baganda	-0.0862	0.0177	0.0663***
	(-1.29)	(0.17)	(5.53)
Rutara	-0.0506	0.0254	0.0703***
	(-0.72)	(0.23)	(5.81)
Bafumbira (rel.)	-0.0591	0.00190	0.0614***
	(-0.86)	(0.02)	(4.77)
Acholi (rel.)	-0.124	-0.0827	0.0542**
	(-1.75)	(-0.63)	(3.16)
Bagwere (rel.)	-0.0376	-0.00535	0.0798***
	(-0.52)	(-0.05)	(4.71)
Basoga	-0.190*	-0.00772	0.0617***
	(-2.41)	(-0.08)	(4.55)
Ateker	-0.140	-0.0638	0.0390
	(-1.90)	(-0.53)	(1.74)
Bagisu (rel.)	-0.0321	0.0138	0.0908***
	(-0.42)	(0.13)	(6.22)
Lugbara (rel)	-0.0963	-0.00648	0.0705***
	(-1.29)	(-0.06)	(7.22)
Baamba (rel.)	-0.0345	0.000721	0.111***
	(-0.43)	(0.01)	(5.39)
Kalenji	-0.105	-0.0481	0.0603***
	(-0.84)	(-0.41)	(3.87)
Karo	-0.171*	-0.0429	0
	(-2.03)	(-0.35)	(.)
Muslim	-0.0554***	-0.0174*	-0.0218***
	(-3.96)	(-2.33)	(-4.67)
Migrant	-0.000707	0.00204	-0.0180*
	(-0.10)	(0.19)	(-2.54)
Observations	19,991	35,213	113,172

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B4: Zambia: average marginal effects

	(1)	(2)	(3)
Pr(Labour Force Part.)	1990	2000	2010
Primary education	0.137***	0.0587***	0.00612
	(13.46)	(5.06)	(0.20)
Secondary education	0.469***	0.342***	0.275***
	(66.22)	(65.17)	(11.44)
Tertiary education	0.0266	0.0276	0.596***
	(0.74)	(0.38)	(16.64)
Head primary education	-0.0342***	-0.0129	-0.0387**
	(-7.82)	(-1.30)	(-2.93)
Head secondary education	0.0333***	-0.000829	-0.0714***
	(7.51)	(-0.12)	(-4.03)
Head tertiary education	0.0375	0.0239	0.00957
	(1.39)	(1.59)	(0.48)
Female HH head	0.217***	0.138***	0.130***
	(19.61)	(24.50)	(8.87)
Male wage employment	-0.0246*	-0.00395	-0.0670***
	(-2.46)	(-0.35)	(-3.93)
No. of children 0-2	-0.0264***	-0.0268***	-0.0355**
	(-3.63)	(-4.12)	(-2.63)
No. of children 3-5	-0.0131**	-0.00406	-0.00255
	(-2.67)	(-0.97)	(-0.44)
No. of children 6-14 male	0.00541*	0.00331	-0.000311
	(2.10)	(1.14)	(-0.11)
No. of children 6-14 female	0.00763***	0.00729*	0.00281
	(5.00)	(2.18)	(1.07)
Married	-0.136***	-0.127***	-0.0663***
	(-26.51)	(-29.53)	(-5.53)
Bemba (rel.)	-0.0575	0.109***	0.00150
	(-1.51)	(8.22)	(0.11)
Tonga (rel.)	-0.0349	0.134***	0.0277
	(-1.26)	(9.68)	(1.30)
Chewa (rel.)	-0.0548	0.102***	-0.00316
	(-1.55)	(11.30)	(-0.18)
Tumbuka (rel.)	-0.0602	0.104***	0.0174
	(-1.49)	(8.40)	(0.78)
Lunda (rel.)	-0.0758*	0.111***	0.00512
	(-2.17)	(6.20)	(0.25)
Kaonde (rel.)	-0.0399	0.123***	0.0206
	(-1.13)	(7.24)	(0.99)
Nkoya (rel.)	-0.0705*	0.107***	0.0244
	(-2.26)	(6.16)	(0.55)
Lozi	-0.0551	0.114***	-0.0136
	(-1.36)	(21.88)	(-1.31)
Lungu (rel)	-0.0499	0.128***	0.00359
	(-1.28)	(11.91)	(0.20)
Totela (rel.)	-0.178***	0.190***	-0.157*
	(-3.34)	(3.37)	(-2.55)
Kwangwa (rel.)	-0.0173	0.0862*	0.0802
	(-0.53)	(2.33)	(1.63)
Migrant	0	-0.0454*	-0.149***
	(.)	(-1.97)	(-4.62)
Muslim	0.0158***	-0.0000962	-0.0146
	(4.27)	(-0.02)	(-1.57)
Observations	39991	42199	44973

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B5: Benin: average marginal effects

Pr(Wage Employ)	(1) 1992	(2) 2002	(3) 2013
Primary education	0.131***	0.0856***	0.0986***
	(31.88)	(18.50)	(20.21)
Secondary education	0.193***	0.183***	0.212***
	(39.17)	(37.39)	(47.07)
Tertiary education	0.211***	0.209***	0.239***
	(60.99)	(57.87)	(45.52)
Head primary education	0.0220***	0.00665	0.00557
	(6.31)	(1.64)	(1.17)
Head secondary education	0.0435***	0.0306***	0.0317***
	(7.12)	(7.72)	(8.44)
Head tertiary education	0.0543***	0.0394***	0.0574***
	(10.80)	(6.01)	(14.35)
Female HH head	0.0457***	0.0230***	0.0331***
	(11.35)	(9.16)	(7.75)
Male wage employment	0.0174***	0.0133***	0.0317***
	(6.05)	(6.22)	(15.64)
No. of children 0-2	0.00622**	-0.00500	-0.00462
	(2.80)	(-1.36)	(-1.86)
No. of children 3-5	-0.00516**	-0.00853***	-0.00519**
	(-2.82)	(-3.83)	(-2.81)
No. of children 6-14 male	0.000885	-0.00394*	-0.00559***
	(0.58)	(-2.56)	(-3.63)
No. of children 6-14 female	0.00197*	-0.00274	-0.00479*
	(2.00)	(-1.39)	(-2.54)
Married	0.00546	0.000226	-0.00311
	(1.57)	(0.05)	(-0.79)
Adja	0.0192***	0.0151***	0.0164
	(3.38)	(5.64)	(1.80)
Fon	0.0248**	0.0113**	0.0279***
	(3.27)	(3.06)	(3.29)
Bariba	0.0644***	0.0274*	0.0438***
	(5.50)	(2.34)	(4.20)
Dendi	0.0772***	0.0162	0.0499***
	(6.63)	(0.90)	(5.46)
Yoa	0.0434*	-0.00592	0.0401***
	(2.05)	(-0.24)	(4.01)
Peulh	0.0761***	0.00888	0.0666***
	(3.92)	(0.32)	(4.91)
Otamari	0.0605**	-0.00841	0.0565***
	(2.93)	(-1.28)	(6.21)
Yoruba	0.0207**	0.00436	0.0263*
	(2.94)	(1.07)	(2.20)
Muslim	-0.0349***	-0.00967*	-0.0245***
	(-4.90)	(-2.08)	(-3.33)
Migrant	0.0253**	0.0107**	0.0162***
	(3.21)	(2.93)	(4.02)
Observations	16215	29494	39203

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B6: Senegal: average marginal effects

Pr(Wage Employ)	(1) 1988	(2) 2002	(3) 2013
Primary education	0.267***	0.132***	0.131***
	(8.49)	(7.09)	(9.30)
Secondary education	0.462***	0.376***	0.407***
	(8.64)	(12.98)	(18.57)
Tertiary education	0.442***	0.418***	0.433***
	(8.98)	(17.18)	(35.37)
Head primary education	0.0588***	0.0417**	0.0566***
	(5.57)	(3.23)	(11.18)
Head secondary education	0.140***	0.0968***	0.0998***
	(5.36)	(4.60)	(13.57)
Head tertiary education	0.167***	0.140***	0.156***
	(7.31)	(4.98)	(11.68)
Female HH head	0.0778***	0.0903***	0.0618***
	(7.85)	(6.18)	(15.75)
Male wage employment	0.0681***	0.0586***	0.0376***
	(5.29)	(8.96)	(9.89)
No. of children 0-2	-0.0220***	-0.0162***	0.00267
	(-5.77)	(-3.61)	(0.36)
No. of children 3-5	-0.00516	-0.0325***	-0.00929***
	(-0.52)	(-4.98)	(-3.32)
No. of children 6-14 male	-0.0183**	-0.0243***	-0.0209***
	(-3.25)	(-8.13)	(-12.26)
No. of children 6-14 female	-0.0112***	-0.0277***	-0.0225***
	(-3.50)	(-8.57)	(-4.44)
Married	-0.0188	-0.0808***	-0.0275***
	(-1.69)	(-16.88)	(-9.83)
Wolof	0.0397**	0.0130	0.0421**
	(2.60)	(1.53)	(2.82)
Peul (rel.)	0.0612***	0.00957	0.0450**
	(3.33)	(0.87)	(2.97)
Serer	0.192***	0.145***	0.0938***
	(15.14)	(8.93)	(6.37)
Diola (rel.)	0.206***	0.164***	0.0938***
	(7.42)	(4.82)	(4.22)
Madinka (rel.)	0.0510	0.0351**	0.0383
	(1.83)	(2.68)	(1.45)
Bassari (rel.)	0	0.0733	0.0621*
	(.)	(1.39)	(2.14)
Soninke (rel.)	0.0247	0.0154	0.0358
	(0.68)	(1.06)	(1.61)
Muslim	-0.104***	-0.0763***	-0.0383***
	(-5.48)	(-27.98)	(-4.50)
Migrant	0.0460***	0.0312***	0.0255***
	(4.37)	(5.30)	(5.50)
Observations	5560	22274	31365

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B7: Uganda: average marginal effects

Pr(Wage Employ)	(1) 1991	(2) 2002	(3) 2014
Primary education	0.205***	0.0746***	-0.00316
	(7.04)	(4.17)	(-0.62)
Secondary education	0.455***	0.370***	0.170***
	(14.90)	(7.58)	(6.62)
Tertiary education	0.539***	0.506***	0.287***
	(20.13)	(17.50)	(14.80)
Head primary education	0.0901***	-0.0138	-0.0105
	(8.82)	(-0.72)	(-1.38)
Head secondary education	0.177***	-0.0112	-0.00751
	(10.26)	(-0.49)	(-1.01)
Head tertiary education	0.226***	-0.0130	0.0105
	(7.18)	(-0.77)	(1.29)
Female HH head	0.110***	0.0274	0.101***
	(7.01)	(1.15)	(7.90)
Male wage employment	0.108***	0.109***	0.238***
	(9.13)	(18.46)	(15.81)
No. of children 0-2	-0.00000810	-0.0300***	-0.0178***
	(-0.00)	(-5.79)	(-4.02)
No. of children 3-5	-0.0326***	-0.0277***	-0.0158***
	(-3.54)	(-5.48)	(-4.72)
No. of children 6-14 male	-0.0236***	-0.0297***	-0.0184***
	(-5.02)	(-6.17)	(-8.57)
No. of children 6-14 female	-0.0159*	-0.0230***	-0.0187***
	(-2.24)	(-5.54)	(-7.32)
Married	-0.0602***	-0.0618***	-0.0299***
	(-5.90)	(-6.31)	(-3.92)
Baganda	0.000238	0.0483	0.00411
	(0.00)	(0.62)	(0.15)
Rutara	0.0832	0.0427	0.00905
	(0.68)	(0.52)	(0.33)
Bafumbira (rel.)	0.115	0.0366	-0.0211
	(1.03)	(0.48)	(-0.63)
Acholi (rel.)	0.108	0.116	0.0962**
	(0.90)	(1.41)	(2.99)
Bagwere (rel.)	0.0340	0.131	0.0462
	(0.29)	(1.26)	(1.45)
Basoga	0.0899	0.128	0.0582
	(0.85)	(1.17)	(1.66)
Ateker	0.0767	0.155	0.0945*
	(0.62)	(1.79)	(2.56)
Bagisu (rel.)	0.0572	0.142	0.0382
	(0.47)	(1.88)	(1.12)
Lugbara (rel)	0.142	0.154	0.107***
	(1.41)	(1.75)	(3.75)
Baamba (rel.)	0.0610	0.0554	-0.0181
	(0.50)	(0.56)	(-0.44)
Kalenji	0.0410	0.0509	0.158***
	(0.27)	(0.46)	(3.96)
Karo	0.0536	0.0854	0
	(0.47)	(0.96)	(.)
Muslim	-0.119***	-0.0601***	-0.0214***
	(-13.77)	(-7.52)	(-4.19)
Migrant	0.0362*	0.0128	0.0235***
	(2.14)	(1.00)	(4.69)
Observations	11,745	19,927	89,509

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B8: Zambia: average marginal effects

	(1)	(2)	(3)
Pr(Wage Employ)	1990	2000	2010
Primary education	0.189***	0.0638***	0.0609*
	(16.58)	(4.85)	(2.22)
Secondary education	0.507***	0.437***	0.416***
	(19.65)	(14.44)	(9.93)
Tertiary education	0.330***	0.489***	0.623***
	(5.36)	(16.03)	(23.73)
Head primary education	0.00560	-0.0409***	-0.0487**
	(0.23)	(-6.58)	(-3.29)
Head secondary education	0.145***	0.0515***	-0.0284
	(6.69)	(4.94)	(-1.61)
Head tertiary education	0.0800***	0.0888***	0.00743
	(5.41)	(4.11)	(0.32)
Female HH head	0.218***	0.0562***	0.0851**
	(25.19)	(12.20)	(3.05)
Male wage employment	0.112***	0.0729***	0.120***
	(10.88)	(7.29)	(7.55)
No. of children 0-2	-0.0359***	-0.0376***	-0.0179**
	(-6.53)	(-3.80)	(-2.91)
No. of children 3-5	-0.0222**	-0.0196***	-0.0291***
	(-2.94)	(-3.65)	(-7.46)
No. of children 6-14 male	-0.00299	-0.0152***	-0.0234***
	(-0.61)	(-3.50)	(-8.44)
No. of children 6-14 female	-0.0126***	-0.00809	-0.0230***
	(-5.12)	(-1.55)	(-7.88)
Married	0.0326***	-0.0348**	-0.0203
	(3.36)	(-2.92)	(-1.22)
Bemba (rel.)	-0.186	0.163**	-0.0346
	(-0.83)	(2.95)	(-0.79)
Tonga (rel.)	-0.111	0.244***	0.0123
	(-0.52)	(4.60)	(0.31)
Chewa (rel.)	-0.148	0.216***	-0.0124
	(-0.63)	(3.95)	(-0.24)
Tumbuka (rel.)	-0.124	0.204**	-0.0190
	(-0.54)	(3.27)	(-0.39)
Lunda (rel.)	-0.196	0.151**	-0.0243
	(-0.85)	(2.99)	(-0.58)
Kaonde (rel.)	-0.208	0.161**	-0.0107
	(-0.89)	(2.86)	(-0.25)
Nkoya (rel.)	-0.0604	0.248**	-0.0324
	(-0.27)	(2.94)	(-0.57)
Lozi	-0.0662	0.226***	-0.00551
	(-0.31)	(5.45)	(-0.13)
Lungu (rel)	-0.181	0.137**	-0.0737
	(-0.81)	(2.70)	(-1.69)
Totela (rel.)	-0.347	0.0674	0.00243
	(-1.88)	(0.67)	(0.06)
Kwangwa (rel.)	-0.195	0.145	-0.0170
	(-0.91)	(1.66)	(-0.36)
Migrant	0	-0.00780	-0.0422
	(.)	(-0.26)	(-1.43)
Muslim	0.0239	0.0166*	0.0348***
	(1.70)	(2.50)	(4.02)
Observations			

Note: Robust t-statistics in parentheses *** p<0.01, ** p<0.05, * p<0.1

Table B9: Interaction effect of male wage employment and children under 5

	First differences	Second differences
Benin		
No male wage employment: Pr(LFP): No children – children	0.602 – 0.560 = 0.042***	0.042 – 0.053 = -0.011*
Male wage employment: Pr (LFP): No children – children	0.624 – 0.571 = 0.053***	
Senegal		
No male wage employment: Pr(LFP): No children – children	0.400 – 0.281 = 0.119***	0.119 – 0.132 = -0.013*
Male wage employment: Pr (LFP): No children – children	0.420 – 0.289 = 0.132***	
Uganda		
No male wage employment: Pr(LFP): No Children – Children	0.789 – 0.722 = 0.066***	0.066 – 0.088 = -0.022***
Male wage employment: Pr (LFP): No cChildren – children	0.798 – 0.710 = 0.088***	
Zambia		
No male wage employment: Pr(LFP): No children – children	0.455 – 0.363 = 0.092***	0.092 – 0.141 = -0.049***
Male wage employment: Pr (LFP): No children – children	0.439 – 0.298 = 0.141***	

Notes: Stars indicate significance levels of differences, *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table B10: Interaction effect of marriage and children under 5

	First differences	Second differences
Benin		
Unmarried:	0.640 – 0.600 =	
Pr(LFP): No children – children	0.041***	
		0.041 – 0.029 =
Married:	0.643 – 0.614 =	0.012
Pr (LFP): No children – children	0.029***	
Senegal		
Unmarried:	0.483 – 0.384 =	
Pr(LFP): No children – children	0.099***	
		0.099 – 0.092 =
Married:	0.367 – 0.275 =	0.007
Pr (LFP): No children – children	0.092***	
Uganda		
Unmarried:	0.820 – 0.799 =	
Pr(LFP): No children – children	0.030***	
		0.030 – 0.065 =
Married:	0.770 – 0.705 =	-0.036***
Pr (LFP): No children – children	0.065***	
Zambia		
Unmarried:	0.515 – 0.464 =	
Pr(LFP): No children –children	0.050***	
		0.050 – 0.093 =
Married:	0.403 – 0.310 =	-0.042***
Pr (LFP): No children – children	0.093***	

Notes*:* Stars indicate significance levels of differences, *** p<0.01, ** p<0.05, * p<0.1

Table B11: Regional occupational variety (OV) by country

	Minimum	Maximum
Benin	27	68
Senegal	35	62
Uganda	12	79
Zambia	49	88

Source: Author's calculations based on IPUMS census data

Table B12: Female employment by levels of occupational variety (OV)

	Share of female labour force participation		Share of female wage employment	
	Low OV	High OV	Low OV	High OV
Benin	55.2	65.5	4.3	9.8
Senegal	30.4	37.2	21.2	35.0
Uganda	77.6	74.2	24.9	43.3
Zambia	39.5	38.5	46.7	57.3

Source: Author's calculations based on IPUMS census data

Table B13: Interaction effect of occupational variety and children under 5

	First differences	Second differences
Benin		
Low occupational variety:	0.668 – 0.640 = 0.028***	
Pr(LFP): No children –children		0.028 – 0.031 = -0.003
High occupational variety:	0.632 – 0.601 = 0.031***	
Pr (LFP): No children –children		
Senegal		
Low occupational variety:	0.422 – 0.318 = 0.104***	
Pr(LFP): No children –children		0.104 – 0.129 = -0.025**
High occupational variety:	0.404 – 0.275 = 0.129***	
Pr (LFP): No children –children		
Uganda		
Low occupational variety:	0.769 – 0.744 = 0.025***	
Pr(LFP): No children –children		0.025 – 0.084 = -0.059***
High occupational variety:	0.796 – 0.711 = 0.084****	
Pr (LFP): No children –children		
Zambia		
Low occupational variety:	0.477 – 0.356 = 0.121***	
Pr(LFP): No children –children		0.121 – 0.123 = -0.002
High occupational variety:	0.435 – 0.312 = 0.123***	
Pr (LFP): No children –children		

Notes*:* Stars indicate significance levels of differences, *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table B14: Interaction effect of occupational variety and male wage employment

	First differences	Second differences
Benin		
Low occupational variety: Pr(LFP): No male wage – male wage	0.646 – 0.677 = -0.030***	-0.030 – -0.024 = -0.007
High occupational variety: Pr (LFP): No male wage – male wage	0.610 – 0.634 = -0.024*	
Senegal		
Low occupational variety: Pr(LFP): No male wage – male wage	0.365 – 0.404 = -0.039***	-0.039 – -0.040 = 0.001
High occupational variety: Pr(LFP): No male wage – male wage	0.336 – 0.376 = -0.040***	
Uganda		
Low occupational variety: Pr(LFP): No male wage – male wage	0.753 – 0.768 = -0.015	-0.015 – 0.049 = -0.064***
High occupational variety: Pr(LFP): No male wage – male wage	0.775 – 0.726 = 0.049****	
Zambia		
Low occupational variety: Pr(LFP): No male wage – male wage	0.515 – 0.315 = 0.200***	0.200 – 0.114 = 0.086***
High occupational variety: Pr(LFP): No male wage – male wage	0.429 – 0.315 = 0.114***	

Notes: Stars indicate significance levels of differences, *** $p<0.01$, ** $p<0.05$, * $p<0.1$