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# How does fertility affect female employment? Evidence from Albania

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# How does fertility affect female employment?

## Evidence from Albania


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**Abstract**
This article inspects the relationship between fertility and employment, providing an explanatory mixed-methods analysis to gauge their nexus for rural and urban Albania over the 2000s. Instrumenting reproductive decision with having two first-born daughters in a 2SLS model of employment, we find that having an additional child influences negatively employment probability for rural mothers, but it does not influence employment decision in urban areas. Rural women are particularly dependent on their fertility decision if they have low levels of education. This effect is not particularly relevant to specific types of rural employment, but it is reinforced by demographic traits of the household, such as if there are seniors in the household or if the partner is working. The analysis highlights that there is a different and relatively worse labour market trajectory experienced by rural women than their urban counterparts. The article then examines qualitatively how structural and contextual settings influence women in their decisions. It inspects the experience of rural women from three distinct rural municipalities, exploring the differential roles that policy could play to favour their insertion.



**Keywords**
Albania, Female employment, Fertility

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**Résumé**
Cet article explore la relation entre la fécondité et l'emploi, proposant une analyse à méthodes mixtes pour évaluer leur lien pour les zones rurales et urbaines en Albanie au cours des années 2000. En instrumentant dans un modèle de probabilité d'emploi (2SLS) la décision de reproduction avec le fait d'avoir deux filles aînées, nous constatons qu'avoir un enfant supplémentaire influence négativement la probabilité d'emploi pour les mères dans les zones rurales, mais ceci n'influence pas la décision d'emploi dans les zones urbaines. Les femmes rurales sont particulièrement dépendantes de leurs décisions de fécondité si elles ont un faible niveau d'éducation. L'effet de la décision de reproduction n'ai pas un effet statistiquement significatif pour différents types d'emploi dans le milieu rural. Toutefois, son effet est renforcé par des caractéristiques du ménage, comme la présence des personnes âgées dans le ménage ou si le conjoint travaille. L'analyse souligne que les femmes rurales connaissent une trajectoire d'accès au marché du travail différente et relativement plus défavorable que leurs homologues urbaines. L'article considère ensuite, d'une façon qualitative, comment les cadres structurels et contextuels influencent les femmes dans leurs décisions. Il examine l'expérience des femmes rurales et des employeurs de trois municipalités rurales distinctes, en explorant les rôles différentiels que les politiques publiques pourraient jouer pour favoriser leur insertion.

**Mots-clés**
Albanie, emploi féminin, fécondité

**Remerciements**
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# 1. Introduction

The literature has long investigated the central question to labour studies as how fertility or reproductive decision interacts with the choice to provide one's services into the job market. There have been advancements in the understanding of how fertility choice *per se* is embedded in a peculiar socio-normative, cultural and political environment that may influence its effects on employment decisions over time. The literature shows that, globally, where contraceptives become or are available there is a trending decrease in fertility (Bongaarts and Casterline, 2018). At the same time, an increase in the control of women of their fertility decision has positive welfare effects for them (Balbo et al., 2013; Bongaarts and Casterline, 2018). Moreover, over the last decades female participation in the labour market has been experiencing an upward trend worldwide. On the one side, this event is justified by growing evidence on a clear positive correlation between education and employment, where greater education achieved by women does not only affect the probability of work but also the type of work experienced (Heath and Jayachandran, 2016). On the other side, the economic and legislative environment experienced by women strongly affect whether jobs can be secured, with research showing that the level and depth of family policies like childcare or family planning have a strong impact on labour force participation (Bailey, 2006; Miller, 2010).

The employment-fertility interaction varies across countries, where differences are identified in both the social fabric and normative interactions that dictate reproductive outcomes, as well as in the overall economic environment experienced (Michaud and Tatsiramos, 2011; Fanelli and Profeta, 2021).The recent literature on the link between family size and female labour supply highlights the lack of a causal relationship for developing and transition economies (Aaronson et al., 2021; Agüero and Marks, 2008, 2011). Moreover, in middle-income countries, women are found to juggle their child rearing and employment decisions with the overarching issue of income inequality experienced in the labour market (Finlay, 2021). Whether these findings are true for the Albanian context is a matter of empirical investigation.

Contextualising reproductive rights and outcomes is essential for supporting women in their choice of where and when to work, as well as the terms and conditions of that work (Gammage et al., 2020). The employment-fertility relationship could provide important knowledge of the labour market evolution in Albania, relevant to guiding policy makers in the context of gender-transformative policies, both towards greater gender parity and women's economic empowerment. Albania is among the most conservative countries in Europe in terms of gender norms, ranking second in the patrilocality index among 40 low and middle-income countries included in the Demographic and Health Surveys (DHS) (Grogan, 2018). After the fall of the Communist regime, which guaranteed female employment while maintaining gender roles in the household (Falkingham and Gjonca, 2001), several market reforms like wage and price liberalisations modified the characteristics of the world of work in the country (World Bank, 2002). The void of social protection and economic rights reinforced women's homemaking roles (Tarifa, 1994) and occupational segregation (EIGE, 2020). Today, a widespread patriarchal vision in the Albanian society is still reflected in gender wage gaps (Miluka, 2013), imbalances in

intra-household resource allocations (Betti et al., 2020; Mangiavacchi et al., 2018) and strong preferences of boys at birth (Trako, 2019; Grogan, 2018; Lerch, 2013).

This article first proposes an employment probability analysis inspecting the fertility decision via the effect of having additional children. In order to establish a causal link between the two variables, we apply an instrumental variable approach that identifies fertility decision via an instrument that indicates if the first two born children of woman are female. Following the literature (for an extensive review, see Bhalotra and Clarke, 2022), our framework looks specifically at employment decision of women who are already parents of multiple kids. Thus, we do not account in the analysis for the childless population (women have already made the choice of having a child versus none). However, we implicitly assume that for the chosen sample of women with multiple children there may had been a quantity/quality trade-off in the decision of having multiple children in the first place (Aaronson et al., 2014).[1] Expanding Trako (2019)'s work on Albania for the early 2000s, we ask whether there has been any significant evolution over time across rural and urban areas, but also how rural female workers and local employers perceive such changes today. The analysis uses qualitatively data collected in 2020 for three selected municipalities (Expertise France, 2021). These were chosen for the Expertise France (2021) report to exemplify the multiplicity of rural municipalities in terms of size and production. Particular attention is given to structural gaps perceived by women, on aspects like social norms and the flexibility of labour markets, which are found in the literature to promote the conciliation of work and family (Doepke et al., 2022).

There are two distinguishing features to our research contributing to the literature on the employment-fertility relation. First, we construct our employment regressions based on the latest two waves of DHS data. This is the most robust and recent dataset on household dynamics and women fertility available in the context of Albania, used to inspect its evolution among rural and urban areas over time. Moreover, on the methodological side, we carefully address potential endogeneity related to the fertility decision and selectivity issues with respect to the instrument and its validity in the context of Albania. Second, we perform an explanatory mixed-methods analysis (Creswell and Clark, 2017), making use of novel qualitative data from focus group discussions with women and with employers from three municipalities of rural Albania. This approach provides a way to triangulate the quantitative data and corroborate its results. Moreover, it allows to gauge information on the context experienced by rural women when exploring the agency over their work, their reproductive and care choices.

We find that having an additional child influences negatively employment probability for mothers in rural areas, but it does not influence employment decision of those in urban areas. We find that individual characteristics matter, as rural women employment is dependent on their fertility decision particularly if they have low levels of education. The literature shows that mothers may work more in the informal sector once their family size increases (Schmieder, 2021),

[1] Aaronson et al. (2014) inspect the extensive and intensive margins of a fertility transition model. As the price of investing in children reduces with an additional child, their model predicts increased investment in children and a decline in the chances of having an additional child. Moreover, the literature suggests that having more than one child results in greater inter-generational support for senior parents (see Oliveira 2016 for an empirical application to China).

but we do not find any statistically relevant effect for specific types of employment that could lead to either informal or more unstable jobs. Nonetheless, we find that the negative relationship is maintained once we explore endogenous demographic traits of the household, such as if there are seniors living in the household or if the partner is currently working. The analysis highlights that there is a different and relatively worse labour market trajectory experienced by rural women than their urban counterparts. Thus, we explore how structural settings affect the contextual surroundings where rural women make their employment decisions. Using qualitative data, we analyse the experience reported by rural women in three distinct rural municipalities of Albania, exploring the differential roles that policy could play to reduce barriers to their insertion.

As per the findings of the focus-groups, the absorption of rural women in the labour market is limited by the types of available jobs, the majority of which are still offered in the urban areas. Women and employers report lack of training, skills mismatch, and often lack of information regarding job-search and employment services. Rural women make their decisions on very diverse trajectories *vis-à-vis* urban women. Among the main factors identified by the focus groups as the inhibiting contextual setting of women's employment in the rural areas there are the lack of childcare and inadequate coverage of childcare during working hours. Moreover, long distances to jobs or low remuneration also play a big part. Women report as determining factors the perception of deteriorating working conditions, the lack of public transportation and its high costs, as well as the reinforcing of social norms towards the primary role of women as caregivers. These all imply decreasing the trade-offs between the choice of having children and working. These findings are also substantiated by similar studies conducted on the profile of long-term registered unemployed job-seekers with employment services (UNDP, 2021) and gender-based discrimination and labour in Albania (GADC, 2022), which identify similar issues to women's barriers to employment and labour market access in Albania.

The article is structured as follows. Section 2 below describes briefly the history and legislative context that surrounds the analysis. Section 3 presents the data, the variables used and it describes the estimating sample. Section 4 proposes the identification strategy and discusses the choice of the instrument for fertility, addressing the threats to internal and external validity of the empirical strategy. The results are presented and discussed in Section 5, in which the quantitative findings are followed by the qualitative analysis for the three municipalities under study and an in-depth comparison of female workers and employers views in rural areas. Finally, the last section concludes.

## 2. Contextualising the evolution of female labour force participation and legislation in Albania

During the fifty years of the Communist regime, an egalitarian system was put in place in Albania, guaranteeing full employment and thus changing outcomes for women outside the household, while still keeping in place the gender roles inside the household unaffected

(Falkingham and Gjonca, 2001). After the fall of communism, the initial stage of the transitional period was characterised by a time of shocks eliminating the existing social support system, revitalisation of traditional values, liberalisation reforms, and a massive outflow of migration (Carletto et al., 2006). In addition, the market reforms that followed increased earning inequalities through wage and price liberalisations, and changed the characteristics of employment and the world of work in the country (World Bank, 2002). The void of social protection and economic rights reinforced women's homemaking roles (Tarifa, 1994). Consequently, women were burden with more unpaid work within the household, but less mobility and chances to find jobs. The degree of feminisation in the traditional fields such as public health and education inherited from the communist system continued to increase in the post-communist years. To date, occupational segregation and segregation of women in particular fields of education such as education, health and welfare, humanities and arts remain high (EIGE, 2020). A derivative of the increased feminisation was the social devaluation of these jobs in terms of wages (Vullnetari and King, 2016), which persists today (Miluka, 2013).

In the early 2000s, roughly a decade after the fall of the Communist regime, large gaps existed between women and men in terms of labour force participation and employment. In 2003, there was 23.8 percent points gap in labour force participation rate (70.5 percent of working age men participated in the labour force compared to 46.7 percent of women) (AMLSA, 2006). Likewise, in 2004, the rate of labour force participation rate for men was 68.6 percent, while for women 46.4 percent (AMLSA, 2006). Employment statistics show that in 2004, the employment rate was 38.3 percent for women and 60.1 percent for men. Gender gaps in labour force participation and employment rates continue to persist and be considerable, but they have been slowly reduced. The labour force participation rate during this time has average a 17.3 percentage points, with the latest rates for 2021 of 61.4 percent for women and 77.3 percent for men (INSTAT, 2021). Employment gaps in the last decade have averaged 13.9 percentage points with the latest rates for 2021 of 53.8 percent for women and 68.2 percent for men (INSTAT, 2021). Likewise, women were mainly concentrated in the social-state-service sector, where 80.0 percent of employees are women (AMLSA, 2006). In 2019, the percentage of employed women in education, human health and social work activities was 13.8 percent compared to only 3.9 percent for men (EIGE, 2020).

Over the last decade, there has been scattered academic evidence produced on the determinants of employment decision in Albania. Estimates for the early 2000s show that, for parents of at least two children, there is a positive effect of fertility on parental labour supply for younger less educated parents who mainly live in extended families (Trako, 2019).[2] However, this evidence warrants a revaluation. Albania has been displaying since the last two decades the institutional and political will for putting forward considerable interventions, demonstrated by various reforms and ongoing pledges to improve female participation to the economy, thus an analysis of the most recent trends is warranted to bring scientific evidence at the service of policymaking.

Its legal framework on gender equality is quite comprehensive, earning Albania a score of

[2] Trako (2019) puts together different sources of data to conduct an analysis till 2012. The study finds that mothers increased their labour supply and had a greater likelihood to work off-farm. For fathers, their likelihood to work off-farm also increased, as did the probability of having a second occupation. To this end, there might be two mechanisms in place driving the results, such as childcare being provided by non-parental adults in extended families, and greater financial costs because of bearing more children (Trako, 2019).

90.9 percent from the UNWOMEN Global Sustainable Development Goals (SDG) Database, which monitors the SDGs worldwide (UNWOMEN, 2020). There are various important pieces of legislation that protect women against discrimination, such as the Law on Gender Equality in Society (No. 9970, dated 24.07.2008), which specifically aims to guarantee protection from gender discrimination, as well as the Law on Protection from Discrimination (No. 221, dated 4.2.2010), which further extends the scope to include many grounds of discrimination. The "National Strategy on Gender Equality 2021-2030" also promotes gender equality in many fields of life including employment, and equal inclusion of women in non-traditional fields of employment, as well as education in those fields, along with promoting equality in unpaid labour and equal sharing of household responsibilities, as well as equal participation and representation in political and public decision-making. The "National Employment and Skills Strategy 2019-2020" also aims to foster gender equality in employment and skill formation, as well as greater inclusion and territorial cohesion to better include women from rural or distant areas. The strategy acknowledges the need to better serve rural women with employment services and vocational education and training (VET). In 2019, the revised Law No.15/2019 "On Employment Promotion in the Republic of Albania" specifically included women victims of trafficking, women victims of gender-based violence, and women victims of domestic violence as eligible beneficiaries of employment promotion programmes of subsidised wages, on-the-job training, and internship programmes. The 2019 law was part of the reform of employment services focusing on redesigning the Active Labour Market Programmes, their delivery, and monitoring and evaluation (in order to improve their impact and compatibility with the labour market and programmes available in the European Union). The Albanian Labour Code also provisions for gender equality demanding equal pay for equal value work, as well as including special provisions for the protection of pregnant women, and provisions against discriminatory hiring practices. In an effort to promote equality in unpaid care labour and childcare responsibilities, the latest amendment to the Labour Code also provisioned for the right of both parents to demand parental leave, but statistics at the time of writing are unavailable. Specific institutions to protect against discrimination are also in place, such as the Commissionaire for the Protection Against Discrimination and the Ombudsman.

Lastly, it is important to highlight that family policy initiatives, like childcare support, may play an essential role to determine future evolution for female active labour market participation. There exists to date both forms of public and private childcare provision in the country. The public childcare provision includes crèches for the age 0-3 and kindergartens at age 3-6. Both crèches and kindergartens are subsidised by the government, and parents have to pay a fee for the meal provisions. This fee is of about 1.1 USD per day for the crèche and 1.36 USD for the kindergarten (MoT, 2022). Particularly for preschool, there is a low level of financing from the part of the state (UNESCO, 2017), and to the best of our knowledge no recent reform has yet taken place to introduce any school meal programme or to revise the overall location of institutes and availability. Given the present legislative framework, it is important to enquire how women perceive their fertility-employment relation, to further guide policymaking.

# 3. Data

We adopt an explanatory mixed-methods approach (Creswell and Clark, 2017), inspecting cross-sectional data from the Demographic and Health Survey (DHS) for Albania, as well as qualitative data collected as focus group discussions with women and employers from rural Albania (Expertise France, 2021).

As primary quantitative data, we use two waves of the Albanian DHS collected respectively in 2008/09 and in 2017/18. DHS is a nationally representative survey of women, men and households on demographic, health and other socio-economic characteristics. The survey collected between 2008 and 2009 interviews of 7,584 women and of 3,013 men in the 15-49 age group. Between 2017 and 2018, DHS interviewed 10,860 women and 6,142 men. We follow the literature (Angrist and Evans, 1998) in restricting the sample of analysis to the population of women aged at least 20 years of age and up to 35 years old, and reporting having all children below the age of 18 (2,997 observations over two waves).

We make use of individual level information, such as number of children, employment status in the last seven days and in the last twelve months, type of occupation and stability of jobs. We also inspect a large set of controls, such as a normalised household wealth index based on household assets, age, education, religion, ethnic group, urban/rural status, number of adult household members and other characteristics related to the fertility experience, such as age at last birth and sex and age of the children. Table 1 displays the summary statistics for our sample. Half of the sample is residing in rural areas, has 10 years of completed education (more than primary education) and a majority is Muslim of religion. Almost all the sample is currently married and by construction, the number of children is above 2. On average, half of the sample had a male as their first child, suggesting no reasons to believe there is gender selection at first birth in this sample. The average age is 31 years old and the age at first birth is 22. Regarding work, the 32 percent of women in the sample worked over the last week (or similarly 38% have been working in the last 12 months). Moreover, in each household there are more than two adults actively engaged in an occupation.

Moreover, the article makes use of a novel qualitative survey collected in 2020 as part of a report by Expertise France (2021) as secondary data for performing a comparative analysis to inspect rural labour market differences in three areas of rural Albania.[3] We use the qualitative data for three municipalities of Lushnjë, Elbasan and Korcë. Six Focus Group (FG) discussions were set-up to inspect the conditions of rural women participating in the labour market and the perception of employers from the same areas (participants were identified with the support of the National Agency for Employment and Skills or NAES local offices and the municipalities). The three rural women FG discussions were conducted in September 2020 gathering 12 women in Elbasan, 15 women in Korcë and 12 women in Lushnjë. Women invited to join the interviews across the three selected municipalities depict a balanced representation in terms of living areas, age and levels of education, and situation towards income-generating activities. Moreover, three employer FGs were conducted in September 2020 with 9 employers

[3]The NAS report was conducted between February 2020 and February 2021, by a team led by Expertise France in close relation with the NAES, its local offices in three selected municipalities and the three local municipalities' teams. The NAS report also benefits of a desk review and of informant interviews at municipal level performed between 2020 and 2021.

in Elbasan, 9 employers in Korcë and 12 employers in Lushnjë.[4] In each FG discussion, a semi-structured interview plan was used to guide the exchanges.

The structure of the interview was mainly focused on identifying access to public employment services, access to services supporting income-generating activities for women, access to decent work and non-discriminatory workplace, access to childcare and supporting social services, access to mobility and transportation, and access to a gender-equality supporting environment free from adverse social norms, stereotyping and violence. The municipalities account for possible structural differences in the political economy of rural areas in Albania. Each municipality was chosen as a significant share of its territory is rural, but has a distinct economic profile (encompassing sectors of economic activity such as agriculture, tourism, etc.) and shows at the political level a strong will to address women economic empowerment issues.

Situated in West-central Albania (see Figure 1), Lushnjë is the smallest in size of the three municipalities, less developed administratively and in terms of infrastructures (government services or public transports) than the other municipalities due to its small size, agriculture accounts for approximately 60 percent of employment. Korcë is in the east; its agricultural employment is at 50 percent and has a higher level of social services offered and number of women groups. The municipality of Elbasan is located in the centre-north of the country and it has more than 60 percent of employment in agriculture. Nonetheless, it is slightly better in terms of policy engagement and public infrastructures than the other two municipalities, influenced by its economic and political closeness to the capital, Tirana.

# 4. Identification strategy

The baseline estimation to measure the impact of offspring size on the employment of mothers of multiple children is as follows:

$$Y_{ilt} = \beta_0 + \beta_1 \, Children_{ilt} + \lambda_{ilt} + \mu_l + \tau_t + \gamma_{ilt} \tag{1}$$

Where $Y_{ilt}$ is the linear probability for a female individual *i* of location *l* in year *t* to be employed. $Children_{ilt}$ is the number of children had by the individual used to represent the output of fertility decision (Agüero and Marks, 2008, 2011; Heath, 2017) and $\beta_1$ is the causal parameter of interest representing the labour market impact of a marginal birth. Three vectors for individual characteristics ($\lambda_{ilt}$), location ($\mu_l$) and time ($\tau_t$) control the heterogeneity of this relationship. The model in equation 1 could possibly suffer from endogeneity due to omitted variables bias and reverse causality. Preferences could be mitigated by expectations on life expectancy, family size and/or labour market/career profiles. They could also be mediated by social, cultural and economic constraints (Rosenzweig and Schultz, 1985; Oliveira, 2016; Gammage et al., 2020).[5] Among various instruments used in the literature to overcome the

[4] The employer identification was conducted with the support of the NAES local offices and municipalities seeking for a balanced representation of company size and sector (agriculture and agricultural-processing, manufacturing, services industry, food production, hospitality and tourism.)

[5] As a descriptive example, ambitious women could have higher opportunity costs of bearing children and thus

identification issue, we inspect in detail below the use of same-sex instrument for the Albanian context.[6]

### 4.1. Instrument identification and assumptions

We follow Angrist and Evans (1998), Trako (2019), Agüero and Marks (2011) and Ebenstein (2009) in using an Instrumental Variable (IV or Two Stages Least Squares, 2SLS) estimator for fertility decision with the gender of the first two children as a source of exogenous variation to explain decision over child bearing without directly affecting labour market participation. Angrist and Evans (1998) who first introduced this IV show that women with two same-sex children will be more likely to have a third child (or higher order birth), and the validity of the instrument is ensured as the gender of a future child is randomly assigned. To apply this identification to our setting, we note the traditional values towards offspring rearing in Albania. Similar to Korea and other Asian countries (Schultz, 2001, 2007), there is a strong preference for boys. This implies that several households could decide to have an additional third child in case the first two children are girls[7].

To investigate this hypothesis, we inspect the significance and magnitude of the first stage regression in Table 2, questioning whether the instrument represented as *same sex of children* or separate instruments by specific gender of first births have a direct influence on the number of children. We also assess the relevance of adding a binary variable for male first child (or second child). This binary variable is used to control for those having a male firstborn, which is known to possibly affect subsequent fertility behaviour by reducing the likelihood of additional childbearing (Dahl and Moretti, 2008). This control variable is also relevant to an employment equation, as it would capture any direct influence of traditional values toward the sex of offspring that may lead women to dedicate more time to the task of rearing a son (Schultz, 2007). The table reveals that, as reported in the literature, having same sex children increases the number of children *ceteris paribus*, even after controlling for the gender of first (and second) order child to be a male (column 1-3). Introducing separately a binary variable for the first same-sex births by gender (column 4) as either *two male children* or *two female children*, the coefficients show that fertility preference alters the number of children solely in the event of two female first births. Moreover, the association between having a first male child and lower number of children disappears as soon as the gender-specific indicators

voluntarily chose to have fewer of them. In this case, ambition is positively correlated with the probability to be employed and negatively with the number of children, $\beta_1$ would be biased upwards, so that the OLS coefficient is overestimated. On the other hand, some women may have strong preferences for having children but might face liquidity constraints to sustain them, the latter being alleviated when employed. In this case, having a job reduces the costs of having children, leading to a downwards bias to the estimation. Although it is difficult to say which effects prevail *a priori*, we could expect that, for an emerging economy like Albania, women in urban areas may be more likely to be constructing their preferences in the first scenario, where labour market is more diverse, wages are higher and there possibly is greater availability of contraceptives. On the contrary, women from rural villages might be more likely to form their preference set in environments characterised by stronger gender norms and lower income, therefore in this case a downward bias could prevail.

[6]We further assess whether other common IVs from the literature would be a useful robustness, but we acknowledge that the observations are too few in the DHS sample at our disposal to make meaningful comparisons for self-reported infertility (Agüero and Marks, 2011) or miscarriage/stillbirth.

[7]The LATE conditions of the 2SLS estimator implies that fertility decision is to be interpreted only at the intensive margin (how many children to have, given the cost of investing in them). This means that the external validity of the analysis applies only for the sample of women who already have made the decision to have a child (Angrist and Evans, 1998). This subset of the population however corresponds to 80.71% of women aged 20+ in Albania.

are introduced in the regression (column 5). The table thus confirms that for Albania fertility is more responsive to unmet gender preferences of women with two girls. Moreover, the indicator for a male offspring does not seem to significantly alter the number of children had. In the sample, 26.7 percent of women with multiple off-springs have had two daughters.

We use the *two female children* indicator variable as main specification, keeping male first child binary as additional control (column 6, binary variable with mean 0.47). Either adding separately or jointly a second order male birth indicator (with mean 0.49) does not improve the model F-statistic of the firsts stage regression (column 7-8). A major issue with such an instrument would be if the gender of the first two children is correlated with marital preferences. It could happen for example in case women have interrupted pregnancies (direct alteration of birth) or got divorces due to unmatched gender preferences (indirect). We do not find any statistical evidence in self-reported measures across the sample that the gender of the first child at birth tends to be predominantly male (see Table 1) nor any disproportional rate of divorced women without kids or with a female as first-born (and only child at time of the survey - not shown, but available on request).

We compare in Table 3 the difference in means for those without same-female gender of two kids or with (column 1 and 2 respectively). We are reassured that no statistical difference exists in demographics or other controls, except for having greater number of children (the instrumented variable) and having a male first-born or last born child (which by construction will be lower for households with two female children). We report in the Appendix (Table A1, p.37) a reduced form equation showing there is no direct influence of our instrument on the likelihood of employment over the sample.

### 4.2. Empirical strategy

We estimate the following 2SLS model:

$$Children_{icmt} = \alpha_0 + \alpha_1 \, Two\, female\, children_{icmt} + \alpha_2 \lambda_{icmt} + \mu_m + \tau_t + \epsilon_{icmt} \tag{2}$$

The first stage regression has as dependent variable $Children_{irmt}$ that is a continuous variable capturing the number of children of a female individual *i* of DHS cluster *c* in municipality *m*, in year *t*. The instrument $Two\, female\, children_{icmt}$ assumes the value 1 if the first two children of woman *i* are females and 0 otherwise. The exclusion restriction derives from the fact that the sex of the child is quasi-random and uncorrelated with labour supply and other characteristics that could affect simultaneously childbearing and employment decisions. The second stage is defined as follows:

$$Employment_{icmt} = \beta_0 + \beta_1 \, \widehat{Children}_{icmt} + \beta_2 \lambda_{icmt} + \mu_m + \tau_t + \varepsilon_{icmt} \tag{3}$$

Where $Employment_{icmt}$ is the linear probability for a female individual *i* of DHS cluster *c* in municipality *m*, in year *t* to be employed last week.[8] We introduce a vector of individual-

[8]The main results are reported for the *employment last week* measure as they should be less prone to measurement error, but we also perform the analysis using *employed in the last 12 months* as robustness, and could

and household-level controls $\lambda_{icmt}$ such as rural/urban residence, a household wealth index, years of education, number of adults in the household, marriage status, age, age$^2$, whether the first-born is a male and age at first birth. As fertility is related to social and cultural norms, we also introduce religion and ethnic group fixed effects (six and seven groups respectively), as they could account for cultural heterogeneity and traditional values that are correlated with preferences for offspring's gender. All regressions absorb local and time heterogeneity with municipality and survey fixed effects (61 municipalities in two periods). Finally, standard errors are clustered at DHS cluster level.

The analysis is performed for a sub-sample of the female population aged between 20 and 35 with multiple children below 18 years of age (Angrist and Evans, 1998). Building upon the literature(Angrist and Evans, 1998; Agüero and Marks, 2011; Ebenstein, 2009) we also perform the analysis separately by urban and rural areas and by education levels, so to account for underlying structural differences that could drive the relationship between fertility decision and employment probability (Angrist and Evans, 1998; Agüero and Marks, 2011).[9]

# 5. Results

Table 4 displays results of the correlation between fertility and employment probability in Albania, reporting estimation for a dependent variable defined as being employed in the last 7 days (Columns 1-3) and having been employed in the last year (Columns 4-6). Column 1(4) shows a negative correlation between the number of children and the linear probability to be employed last week (last year) for the entire sample of women with at least two children below 18. In terms of magnitude, having one additional child decreases the probability to be employed by 7%, or a reduction of 2.5 percentage points from a mean of 32% of women employed last week (Column 1). Column 2(5) and Column 3(6) show the regression results split by rural/urban residence of households. In line with the literature on fertility and employment decision (Aaronson et al., 2021), we find larger negative and more significant coefficients for women residing in wealthier urban areas. This implies that women in cities have access to better-remunerated jobs, so the trade-off between the choice of having children and working should be larger.

Although the coefficients in Table 4 are indicative of a substitution between having children and being employed, the effect from such a linear model can be biased. For this reason, we apply a 2SLS strategy, with the first stage results presented in Table 5. Across all columns, having had two girls increases the mean number of children compared to mixed-gender births. As in Table 4 we also include religion fixed effects and ethnicity fixed effects in order to rule out cultural heterogeneity in the optimal children number and especially in the decision

be used for comparison with multi-country DHS studies (see Agüero and Marks (2008, 2011)).

[9] Angrist and Evans (1998) and Agüero and Marks (2011) show that the bias from overestimation is reduced with an increase in education levels and for low-income countries. For extremely low-income countries and low-educated women, they find that OLS could even underestimate the childbearing pressure on labour supply. Furthermore, Ebenstein (2009) compares the effect of childbearing costs on employment between Taiwanese women and US women, using preference for male children as an instrument. He finds that, contrary to previous literature, OLS underestimate the real coefficient. He explains this results by the magnitude of the first stage coefficient: the lowest the education and stronger preference for boys, the largest the number of children and the largest the effect of children on employment.

to have a further child after having had two girls. Furthermore, larger coefficients and a strong F-statistics for the sample of rural households suggests that the preference for boy may be larger in these areas than in the cities. Across all specifications, the Kleibergen-Paap F-statistic is well above 10, indicating that the instrument is relatively strong.

Table 6 displays the second stage's coefficients of the 2SLS model. The dependent variable in Columns 1 to 3 is employment last week and Columns 4-5 uses employment in the last 12 months as an outcome. The results in Column 1 and 4, using the entire sample, show that the negative relationship persists. Interestingly, once we split the sample by rural/urban areas, the results are concentrated in rural areas, whereas for urban areas this is not statistically significant. The IV corrects for the simultaneous and endogenous decision to enter the labour market and have children. As expected, this upwards bias is correctly reduced for urban areas, so that the coefficients for the urban sample in Table 6 is no longer statistically different than zero. This implies that fertility decision has no significant impact on labour market participation for Albanian women from urban areas. Rural areas have strong negative coefficients of having an additional child on employment probability, and this could be due to a different type of bias: a liquidity constraint effect could prevail and a downward bias influences the OLS results. For this reason, the IV coefficients in the rural sample are larger in magnitude than OLS. Despite correcting opposing direction of bias, the effects of fertility on employment probability in rural areas is larger and still drives the result of the overall sample in Column 1 and 4.[10] We thus explore in details in next section potential mechanisms that explain divergence in results between rural and urban areas, looking at heterogeneity in women's characteristics and around different trends over time.

### 5.1. Mechanisms and heterogeneity analysis

We inspect in Table 7 whether there is any heterogeneity in the analysis according to level of education. The rationale behind this is that there might be a different attachment to the trade-off between employment and other activities according to the employment prospects available to a perspective worker. We then inspect the population with more than primary education (Col.1, for a sample combining women with achieved secondary or tertiary, respectively 26% and 11% of the sample). There is no direct impact of the fertility on the decision of the probability of employment and instead the greater the number of years of age, the higher the probability on being employed. Whereas, looking at the 63% of the sample with primary or lower (Col.2), the probability of employment is strongly negatively affected by the fertility decision as well by the presence of a first-born child. Moreover, the Table suggests that this result is solely driven by the rural sample (Col.4).

Then we inspect the heterogeneity across waves. There could have been several structural modification in both the economic environment as well the socio-normative interactions for women so, albeit acknowledging it might be sensitive to a reduced statistical power, we

[10] We run a battery of robustness analyses to corroborate the main results found. First, we modify the main definition of employment question elicited in the DHS, showing in Table A3 that the headline results are unaltered if we inspect the employment linear probability over the last 12 months (Columns 1-3). We further also report the main equation replicated with a log form for the instrumented variable, surely reporting the same results but this time expressed as an elasticity (Columns 4-6).

inspect separately each cross-section to verify the estimation persists across time (Table A4). For year 2008/09 the estimation reveal that the rural sample does indeed capture the negative effect that fertility has on employment, as opposed to no effects in urban contexts (whereas restricting further the sample to only rural women with primary education alters the overall statistical power towards zero, Col 4). The negative correlation between greater fertility and reduced employment is still present in the wave 2017/18 (Col.5). Interestingly, reducing the cross-sections to the rural sample with primary education (Col.8) reveals that the fertility decision still is a strong deciding factor for rural women with low education in their employment decision. This result suggests that there is relevance to better understand how rural women experience barriers to employment, inspecting both the structural as well as contextual factors that may impinge rural women from attending a job.

As last heterogeneity analysis, we explore the type of employment that rural and urban women engage with in the dataset. Females residing in rural areas tend to experience a lower employment participation than their urban counterparts, but structural differences exist also in terms of type of job. Table A5 shows that women in rural areas are much more likely to work in the agricultural sector (+53 %), as self-employed ($+11.2\%$) or for a family member (+29.2%), often without remuneration (+38 %). At the same time, they are more engaged in seasonal occupations (+32.8%). Given the characteristics of the jobs available to them, women in rural areas can react in two ways after the birth of a child. First, they leave out the labour market as the opportunity cost of working is relatively low and women face stronger social pressure to care of children. Second, they continue working as informal and agriculture jobs allows to more flexibly care of children (Aaronson et al., 2021). The statistics and main employment results found point towards the first option, however when we perform an analysis of the specific employment probabilities by type of occupation we find insignificant impacts of fertility decision (Table A6, where the dependent variable is employment in a specific occupation over the last year). We notice nevertheless that for the rural women sample under analysis, in wave 2017/18 there is a higher probability for being self-employed as well as working for someone else than in 2007/08, but no significant difference in either employment in an unstable job or agriculture.[11] Whereas for urban women there is a reduced probability in 2017/18 of being employed in an unstable job (occasional or seasonal), possibly confirming that they tend to have greater access to quality occupations over time.[12]

We thus inspect some possible channels driving the results found: endogenous household characteristics that could affect the liquidity constraints of women, but also changes in social norms within the household.

[11] Table A8 compares employment means by type over time, showing between 2008 and 2018 a drop of 41.5 percentage points of women working for family members in rural areas. This decrease is only 9.7 p.c in urban areas. Likewise, more women work stably in rural areas (+17.1 pc, against +6.3 in urban areas) and they are more likely to get paid (+32.3 pc in rural areas, +0.3 pc in urban areas).

[12] Figure A1 confirms the descriptive statistics of Table A7 and A8 by regressing employment outcomes with a time and rural dummy. The figure shows that women in rural areas have overall worse employment conditions than in urban areas, but the gap is largely reduced in 2018. The convergence in the job market between cities and countryside could explain the null results for rural areas in 2018 of Table 9. The opportunity costs of childbearing increases as the job market improves, thus rural women are less likely to be affected in their labour market decision in 2018 than 2008 with an additional child.

### 5.1.1. Endogenous household characteristics

We explore how domestic characteristics influence fertility in its effects on the employment decision. In Table 8 we investigate a sample of women that are either living in a household where any senior member aged 60+ is present or those without (Panel A, columns 1-2 for the full sample, 3-4 for rural areas). The interest behind such specification is that women with children tend to be the ones engaged in primary care of dependent members (children and old-age individuals). The presence (absence) of somebody in retirement age could provoke different effects on the employment decision of a working-age woman. On the one side, the presence of an elderly member could alleviate the burden of childcare on the woman, thus having an additional child could be freeing some of her time allocated to household/offspring care, which could be diverted towards greater employment. On the other side, the presence of the elderly member could be in itself an addition to the care needs of the households, which would negatively correlate her fertility decision with her employment decision. Table 8 reveals that the latter trait seems to prevail for the sample: overall restricting the sample to households either with or without seniors living in the households keeps the negative fertility-employment relationship. However, the situation differs when we look at rural areas (where is more common for households to live with multiple generations under a same roof). If rural women live in a nuclear household (see Col. 4), their employment decision is not statistically significantly influenced by the fertility decision, suggesting this group might be driven by other traits, like their level of education directly influencing job opportunities available to them.

Moreover, in Panel B of Table 8 we investigate whether for year 2018 there are any employment probability differentials among women whose partner is currently employed and those with a partner not employed (Panel B, columns 5-6 for the full sample, 7-8 for rural areas). The results again prove that the household composition matters in guiding the effect of reproductive decisions towards employment. If the partner is employed, this should imply an additional source of revenue relieving the household liquidity constraints, thus women could afford to trade-off work in the presence of an additional child (Col. 5 and 7). However, in the absence of an additional revenue from the husband's employment, there is a positive but statistically insignificant probability to engage in an employment activity due to an additional child.

### 5.1.2. Inspecting proxies of household gender norms

A possible channel influencing differences between rural and urban female behaviour in the labour market might be related to gender norms and aspirations. In the absence of questions relating to the role of women in childbearing and employment, we attempt an exercise for proxying household gender norms in two ways: if the male partner is the main decision-maker within the household and the ideal number of children. Figure 2a shows that male partners in rural areas do not necessarily have larger financial decisions than in urban areas, but they have relatively larger saying in women health care and in giving the permission to visits their relatives. However, the gap between the areas is largely reduced in 2018. Once we analyse directly how household change their fertility preferences over time, 2b shows that households in rural areas in 2018 reduce what they indicate the ideal number of children, especially boys,

controlling for their actual number of children. These coefficients are also indicative of the instrument power similarly to Ebenstein (2009): larger preferences for the ideal number of boys are more likely to increase the probability to have an additional child if the first two born ones are female. However, these results do not explain the overall difference in the first stage coefficients between rural an urban in in Table 5 as the coefficients in Figure 2b are not statistically different between rural and urban. On the other hand, they might be a possible driver of the overall decrease found in the first stage coefficients over time in Table 9.

## 5.2. Learning from rural women

### 5.2.1. Overall findings from focus groups

The focus group discussions of women in the three selected municipalities shared various concerns regarding employment services, childcare services, training, infrastructure, social norms, perceived discrimination, knowledge of their rights in the workplace, etc. which affect their livelihoods, and labour market status. Women in the three municipalities shared the difficulties of employment services reaching rural women, and believe that more efforts should be undertaken to provide services to rural women located in distant areas. They cited that employment services were located far from their administrative units. The inability to reach employment services also limits the information available to them regarding employment services. In addition, limited digital skills, lack of internet access, lack of computers, and often sharing a cellular phone with the whole family, further impedes them from finding out information regarding employment services. Job searching is therefore mainly conducted through family, friends, and social administrators at the municipality, rather than employment services. Long-term unemployed women in the municipality of Korcë also noted a distrust in the ability of employment services in finding them jobs. In the municipality of Lushnjë, women note the work done by social administrators in terms of information sharing and believe that collaboration between social administrators and employment offices would be more beneficial in term of information sharing and job searches.

Access to decent working conditions is also a major concern for women, which often led to rejection of job-offers or labour market inactivity. A consensus exists that a high proportion of job-offers provide low wages and inadequate working conditions. Women declared that low-skilled jobs often offered wages below the legal minimum wage, as well as unpaid extra hours of work reaching twelve hours per day with no days off, as well as unavailability of transport and childcare. Deteriorating working conditions are especially reported for fish processing jobs, due to inadequate working conditions (including cold temperature in the working environment, high humidity, etc.). When asked regarding their labour rights stemming from the legal provisions (including working conditions, pay for over time, ability to take vacations, maternity leave, reporting offenses, etc.), women in the FGs report that they have very little knowledge of their rights and the way to report offenses when their rights are violated. Consequently, women report that they have never filed any complaints or reported any violations and they are unaware of the procedures for reporting complaints or violations. They also report to have no knowledge of their rights during pregnancy.

There is also perceived discrimination in terms of gender, age, ethnicity, and disability. Women reported that they perceive that employers prefer to recruit and pay men better. In women's view employers consider men more stable and productive in employment because they are not responsible for parental duties, do not take maternity leave or have other family obligations. Some women report difficulties in finding a job after the age of 40 years, and they believe that employers prefer younger women, because they are viewed as more productive. Some women report difficulties in finding a job after age 40. Women from the Roma and Egyptian communities also report perceived discrimination due to their ethnicity making it hard for them to find employment. Likewise, women with disabilities feel that public policies do not support them and experience a lack of job opportunities that are appropriate for their situation.

Given the perceived low wages and hard working conditions in formal occupations, women often resort to either informal jobs, or to receiving economic aid that they would lose if they enter formal employment. Some women reported that they have been employed in informal jobs in agriculture and textile industry while being registered as unemployed job seekers so that they would not lose their economic assistance. Women and their households perceive economic aid as stable and guaranteed income over time, while employment is perceived only in a short to medium-term and is not seen as a satisfactory source of income. As such, women also report family pressure in keeping economic aid.

The issue of childcare is a strong commonality among all women in the focus groups across municipalities. Lack of childcare is identified as a strong reason to reject job offers or continue to stay in unstable employment conditions. Childcare services offered by the state are limited in capacity and they are incompatible with working hours. Therefore, family members get involved to help, mainly through grandmothers. However, this type of childcare is mainly short-lived, since grandmothers often give up their roles as caregivers especially considering their age and health problems. In the very limited instances when a company offers nursery places, the working hours do not allow for tending to children's needs. In this sense, women and their children need to be ready by 5 am to be on the working site at 6 am to continue work until 6 pm to arrive home at 7 pm.

The lack of transportation is yet another barrier faced by women and especially rural women living in distant areas. Whereas most job opportunities are outside of the rural areas, public transport offer is very limited for rural areas with no public transport in certain areas or limited hours of transportation ending at 5 pm. This constraint is also identified by the government, which has provisioned for transportation vouchers to the work place through its 2019 employment promotion law (Law No.15/2019. "On Employment Promotion"). However, there is no available data on whether this provision has been roll-out yet nor on the procedures for enforcing it. Additionally, transportation costs are high relative to incomes. Lastly, women in the focus groups highlighted the persistence of strong patriarchal norms where women's employment is still considered as an 'obstacle' to the well-being of the family. Husband's migration also leaves women as the sole care giver in the family without sufficient income for the household. Even in the households where women's employment is conceivable, it is nevertheless common for women to go for a job interview with their husband or mother-in-law, who often ask the employer about working conditions or schedules, and sometimes make the final decision whether to accept the job. Certain jobs that expose women to men or to the

public are sometimes prohibited by the household (such as cleaner, baker, hairdresser, etc.). These findings are also substantiated by an investigation on the profile of long-term registered unemployed job-seekers with the Albanian employment services (UNDP, 2021).

On the employer's side, across the three municipalities, they confirmed difficulties in recruiting women from rural or distant areas. As such, they pointed out that there are various unfilled vacancies and rejections from the job seekers. More specifically, employers in all three municipalities face difficulties in recruiting in the sectors of textile or food processing, particularly in skilled positions. This is a widespread sentiment that the interviewed firms report existing across various sectors, as often recruitment agencies have difficulty in providing suitable profiles that would match the wage proposed with the work-day requirements (in terms of transport and time). Employers also stated in their focus groups that they perceive women to prefer other options than industry jobs, such as economic assistance and involvement in small agricultural activities. Consequently, employers report having sometime resorted to recruit different profiles, like workers from North Africa or the Middle East.

Thus, there seems to be a mismatched perception over employment opportunities that creates a friction between women's offer in rural or distant areas and employers' demand. Women report sometimes choosing economic aid over employment because of the low wages, the lack of transportation or childcare, and due to perceived deteriorating working conditions. Employers from the focus groups perceive this as women's favouring economic aid over employment, without necessarily understanding the reasons behind it, and consequently substitute women's employment for other profiles. This in turn adds an additional barrier to women's employment.

Although employers admit to favour recruitment of workers from urban areas, some employers believe that rural women perform better because they adapt more easily and are more likely to work in difficult working conditions than women in urban areas are. Employers too recognize the difficulties in transportation and high transportation cost. They also consider as a priority to inform women of their rights and duties linked to employment contract. However, on the employers' side, there are often repeated violations of the contractual obligations on the side of the women workers that causes financial burden to the employer. Employers also recognize the need for childcare and transportation for women. However, they also believe that they are insufficient to overcome the social barriers to women's employment.

The employer's perspective differed from that of women in terms of perceived discrimination. Some employers report that women outperform men. They also state that there is no discrimination based on age, on the contrary, they consider easier to recruit women older than 40 years of age since they do not take maternity leave and have fewer family barriers.

Regarding employment services, employers from the FGs identify the heavy general bureaucracy as a barrier of their participation in employment promotion programmes, which provide subsidized employment and on-the-job training for vulnerable registered unemployed job-seekers, including women. In addition, employers consider that the individual skills assessment of the registered unemployed job seekers and job integration preparation by the NAES could be strengthened. Employers reported that when women are informed about their job position and their tasks, they adapt better and demonstrate a greater determination to effectively and professionally perform their tasks. Employers also noted that the curricula of

vocational training are outdated in terms of technologies and tools. They pointed out that, due to the mismatch in the VET curricula with the needed practical skills, they need to provide a three-month training for the new recruits.

### 5.2.2. Comparison between quantitative and qualitative results

The analysis now digs into the specific traits of rural labour markets and particular focus one three characteristic rural areas that we surveyed qualitatively in 2020 (Expertise France, 2021). We first show that there is a significant quantitative difference between urban and rural areas across important dimensions individuated in qualitative interviews. Table 10 shows that there are differences regarding women's employment status, distance to work, household decision-making roles, and enrolment of children in pre-school in an effort to capture need for childcare. On average, women's employment is higher in the urban areas compared to rural areas as indicated by the differences on the status of employment of women in the last week. Furthermore, walking to work is more frequent for women in urban areas as are shorter distances to work compared to women living in rural areas. This aligns with longer distances to work for women living in rural areas, and the need for transportation to reach their work place. Consistent with more pervasive patriarchal social norms in rural areas, decision making by husbands on earnings and large purchases is larger in rural areas compared to urban areas. Lastly, there is a higher percentage of children in preschool in urban areas compared to rural areas.

We inspect in Table 11 three aspects that might be essential to further advance the inclusiveness of the female labour force in rural Albania: the structural limitations of being working in rural areas, the socio-cultural norms that women live and practice as well as the services at their disposal to effectively manage work-life balance when children are involved. For each of these dimensions, we compare qualitatively the results found in the focus group discussions to DHS data, both at the national and to counties in which the Need Assessment Study had been conducted. Data from the DHS show that overall women's employment is low in all three municipalities. Elbasan has the lowest reported rate of 20.6 percent, compared to Lushnjë (39.9 percent) and Korcë (36.8 percent). Women report to predominantly walk to work which varies between 72.7 percent for Elbasan, 78.2 percent for Lushnjë, and 81.5 percent for Korcë. On average women report to walk to work for about 17 minutes in Lushnjë, 18 minutes in Elbasan and 21 minutes in Korcë. Gender roles appear to be more pervasive in Lushnjë, which has the highest reported rates of husband deciding on earning (22.9 percent compared to 12.0 percent for Elbasan and 8.3 percent for Korcë) and husband deciding on large purchases (19.4 percent compared to 6.6 percent for Elbasan and 6.5 percent for Korcë. The lack of childcare services may be symptomatic of the low reported rates by women of children attending preschool. Lushnjë has the highest reported rates by women of children attending preschool at 58.6 percent versus 40.6 percent for Elbasan and 45.4 percent for Korcë.

The DHS findings in Table 11 support the issues reported qualitatively by women's focus groups in the three municipalities. The barriers identified by the women in the focus groups of long distances to work for women in the rural areas and the lack or limited schedules of public transportation is also sustained in the DHS data. It shows that women use walking as the

main mean of transportation to work for longer distances in the rural areas. Furthermore, the identification by women in the focus groups of the lack of child-care services is also reflected in the DHS data. As presented above, there are low levels of reported preschool attendance by mothers in the three municipalities, which does not go beyond 60 percent, and that may point towards unavailability of child-care especially in rural or distant areas. Lastly, the reported social norms by women in the focus groups where the employment decision is often influenced or taken by the husbands and mother in laws. These household members are also reported attending the job interviews to assess the quality of the work environment, a notion in line with the reported levels of decision making among members, in which husbands decide predominantly on earnings and large purchases in the three municipalities. Such barriers identified through the DHS sample reinforce the evidence found for Albania (GADC, 2022).

# 6. Conclusions

This article explores the nexus between fertility decision and employment probability, using latest data available for rural and urban Albania. Our analysis shows that employment probability in rural areas is diverging than urban areas, and that the fertility decision is not the same in its impact on employment probabilities.

Applying a 2SLS model where we instrument the number of children had, we find that having an additional child influences negatively employment probability for mothers from rural areas, but it does not influence employment decision of those in urban areas. Exploring the traits of the two labour markets, we ascertain that jobs have grown faster in urban areas than rural in absorbing women labour force. Even if between 2007/08 and 2017/18 there has been a significant improvement in the types of occupations that rural women could access, they still make their decisions on very diverse trajectories.

Moreover, we find that personal traits matter in explaining this nexus for Albania, as rural women employment is dependent on their fertility decision particularly if they have low levels of education. As per variation across types of employment, we do not find any statistically significant effect of fertility decision for specific types of employment. We however find that contextual or endogenously defined characters like demographic traits of the household do matter for this decision. The presence of seniors living in the household or the current employment status of the partner reinforce the negative association between fertility and employment.

We then explore how structural settings affect the contextual surroundings where rural women make their decisions. Using qualitative data, we analyse the experience reported by rural women and employers in three distinct rural municipalities of Albania, exploring the differential roles that policy could play to reduce barriers to female insertion. Consistent with the 2SLS findings, focus groups in the rural areas point out that presence of grandmothers in the household is an unreliable and often short-term solution to childcare, substantiating women's role as caregivers within the household. Social norms are quite pervasive in rural areas, affecting intra-household decision-making regarding women's employment. Lack or costly transportation and longer distances for rural women in distant areas also present a barrier to women's employment. The trade-off between childcare and receiving low wages in unstable jobs with deteriorating working conditions often works against women accepting employment. There seems to be a vicious circle particularly for rural women living in distant areas, in which they report having limited access to information and employment services, as well as lack of childcare and transportation. Moreover, women report facing social norms that mainly see their role as care providers within the household. Being confronted with job offers with low wages, in distant areas, and with unsatisfactory working conditions often lead women to refuse such job offers. Local employers perceive this as a preference of women for economic aid rather than working, therefore they report seeking for other types of profiles, such as migrant work. The finding on mismatched perceptions over employment opportunities highlights the differential roles that policy could play to favour rural women's insertion in the labour market.

In light of these findings, there should be increased efforts by policy-makers to provide

integrated employment and social services to women, and especially women in rural areas that are either unaware of these services or unable to reach them. The separation and lack of coordination between employment services and social services creates an additional burden on women, increasing their transaction costs to seek employment. Coverage with employment services in rural or distant areas should also expand in order to increase outreach of these (vulnerable) women who often go undetected. Furthermore, the role of the municipalities and involved stakeholders should be strengthened. Further support should be provided to social administrators, who conduct the groundwork and have extensive knowledge of their communities and vulnerable groups, in order to provide wider outreach services. Expansion of public transportation with adequate scheduling and affordable costs should also be considered, especially for rural areas, which continue to be more isolated. The same stands for childcare services, the availability of which is lacking in rural or distant areas, and where the old belief that senior members of the household in these areas make up for the lack of services no longer stands. Although further evidence is needed to assess the latter issue, there seems to be the need for more childcare services to be closer to the workplace, for example with initiatives strengthening partnerships between employers and municipalities.

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# Tables

Table (1) Descriptive statistics

| | Mean | SD | Min | Max | N |
|---|---|---|---|---|---|
| Currently working | 0.32 | 0.47 | 0.00 | 1.00 | 2997 |
| Employed in the last year | 0.38 | 0.48 | 0.00 | 1.00 | 2997 |
| Rural | 0.51 | 0.50 | 0.00 | 1.00 | 2997 |
| Wealth | 0.63 | 0.19 | 0.00 | 0.99 | 2997 |
| Years of education | 10.50 | 4.46 | 0.00 | 24.00 | 2997 |
| Adults in the household | 2.89 | 1.24 | 1.00 | 9.00 | 2997 |
| Married | 0.98 | 0.15 | 0.00 | 1.00 | 2997 |
| Muslim | 0.83 | 0.37 | 0.00 | 1.00 | 2997 |
| Age | 30.63 | 3.44 | 20.00 | 35.00 | 2997 |
| Age at 1st birth | 21.77 | 3.00 | 13.00 | 35.00 | 2997 |
| Number of children | 2.36 | 0.62 | 2.00 | 6.00 | 2997 |
| Two female children | 0.26 | 0.44 | 0.00 | 1.00 | 2997 |
| First child: male | 0.49 | 0.50 | 0.00 | 1.00 | 2997 |

**Notes.** Pooled cross-sections DHS 2007 & 2017-18. Sample selection: female respondents aged 20 to 35 years of age, with at least two children and whose age is below the age of 18. Sample weights are applied.

Table (2) Analysis of same gender instruments: First stage analysis of number of children.

| | Dependent: Number of children | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Same sex | 0.161*** | 0.156*** | 0.160*** | | | | | |
| | (0.024) | (0.024) | (0.024) | | | | | |
| Two male children | | | | 0.002 | -0.007 | | | |
| | | | | (0.028) | (0.031) | | | |
| Two female children | | | | 0.311*** | 0.320*** | 0.320*** | 0.301*** | 0.313*** |
| | | | | (0.034) | (0.037) | (0.037) | (0.037) | (0.047) |
| First child: male | | -0.145*** | -0.147*** | | 0.018 | 0.015 | | 0.011 |
| | | (0.025) | (0.025) | | (0.027) | (0.025) | | (0.031) |
| Second child: male | | -0.163*** | | | | | -0.013 | -0.007 |
| | | (0.025) | | | | | (0.025) | (0.031) |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 2997 | 2997 | 2997 | 2997 | 2997 | 2997 | 2997 | 2997 |
| First-stage F-stat | 46 | 44 | 46 | 42 | 38 | 76 | 67 | 44 |
| Adj-$R^2$ | 0.23 | 0.27 | 0.25 | 0.27 | 0.27 | 0.27 | 0.27 | 0.27 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The dependent variable captures the linear probability to have at least worked once last week or in the last 12 month. The sample is restricted to women aged between 20 and 35 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (3) Balance table: difference in means between the IV sample and non IV sample

| | (1) | (2) | (3) |
|---|---|---|---|
| Variable | No IV | IV: Two female children | Difference |
| Rural | 0.506 | 0.515 | 0.009 |
| | (0.500) | (0.500) | (0.021) |
| Wealth | 0.634 | 0.627 | -0.007 |
| | (0.185) | (0.188) | (0.008) |
| Years of education | 10.485 | 10.545 | 0.060 |
| | (4.453) | (4.483) | (0.186) |
| Adults in the household | 2.904 | 2.852 | -0.052 |
| | (1.247) | (1.215) | (0.052) |
| Married | 0.979 | 0.970 | -0.008 |
| | (0.145) | (0.170) | (0.006) |
| Muslim | 0.828 | 0.848 | 0.020 |
| | (0.378) | (0.359) | (0.016) |
| Age | 30.632 | 30.645 | 0.013 |
| | (3.471) | (3.364) | (0.144) |
| Age at 1st birth | 21.806 | 21.650 | -0.157 |
| | (3.026) | (2.903) | (0.125) |
| Number of children | 2.280 | 2.606 | 0.326*** |
| | (0.540) | (0.741) | (0.025) |
| First child: male | 0.662 | 0.000 | -0.662*** |
| | (0.473) | (0.000) | (0.017) |
| Last child: male | 0.624 | 0.333 | -0.292*** |
| | (0.484) | (0.472) | (0.020) |
| Observations | 2,195 | 802 | 2,997 |

**Notes.** The table reports the means for women with at least two children of mixed gender (column 1), women with at least two female firstborn children (column 2) and their statistical difference (column 3). Pooled cross-sections DHS 2007 & 2017-18. Sample selection: female respondents aged 20 to 35 years of age with at least two children, reporting having any child below the age of 18.

Table (4) Average effect of number of children on employment probability - OLS

| Dependent: | Employed last week | | | Employed last year | | |
|---|---|---|---|---|---|---|
| | (1) All | (2) Rural | (3) Urban | (4) All | (5) Rural | (6) Urban |
| Number of children | -0.071*** | -0.051** | -0.094*** | -0.091*** | -0.090*** | -0.093*** |
| | (0.020) | (0.022) | (0.036) | (0.020) | (0.023) | (0.036) |
| Rural | -0.061** | | | -0.071** | | |
| | (0.029) | | | (0.030) | | |
| Wealth | 0.135 | 0.284** | 0.292* | -0.060 | 0.125 | 0.231 |
| | (0.093) | (0.115) | (0.176) | (0.101) | (0.122) | (0.179) |
| Years of education | 0.017*** | 0.018*** | 0.014*** | 0.017*** | 0.016*** | 0.013** |
| | (0.004) | (0.005) | (0.005) | (0.004) | (0.005) | (0.005) |
| Adults in the household | 0.019** | 0.019* | 0.025* | 0.022*** | 0.017 | 0.035*** |
| | (0.008) | (0.010) | (0.014) | (0.008) | (0.011) | (0.013) |
| Married | -0.042 | -0.014 | -0.066 | -0.019 | 0.007 | -0.037 |
| | (0.077) | (0.110) | (0.097) | (0.077) | (0.113) | (0.095) |
| Age | 0.046 | -0.018 | 0.140** | 0.038 | -0.012 | 0.117* |
| | (0.041) | (0.049) | (0.065) | (0.043) | (0.053) | (0.066) |
| $Age^2$ | -0.000 | 0.001 | -0.002* | -0.000 | 0.001 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Age at 1st birth | -0.013*** | -0.013** | -0.013** | -0.012*** | -0.016*** | -0.007 |
| | (0.004) | (0.005) | (0.006) | (0.004) | (0.005) | (0.006) |
| First child: male | -0.012 | -0.009 | -0.005 | -0.012 | -0.014 | -0.008 |
| | (0.023) | (0.026) | (0.036) | (0.024) | (0.028) | (0.036) |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj-$R^2$ | 0.15 | 0.14 | 0.15 | 0.13 | 0.17 | 0.14 |
| Observations | 2997 | 1662 | 1328 | 2997 | 1662 | 1328 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. Pooled cross-sections DHS 2007 & 2017-18. The dependent variable captures the linear probability to have at least worked once in the last year. Sample selection: female respondents aged 20 to 35 years of age, with at least two children and whose age is below the age of 18. Sample weights are applied. Groups FE stands for including both ethnic group fixed effects and religious group fixed effect. Standard errors are clustered at the DHS-cluster level.

Table (5) First stage: Average effect of having two girls as first born on number of children

| Dependent: | Number of children | | |
|---|---|---|---|
| | (1) All | (2) Rural | (3) Urban |
| Two female children | 0.320*** | 0.432*** | 0.201*** |
| | (0.037) | (0.044) | (0.058) |
| Rural | -0.060* | | |
| | (0.032) | | |
| Wealth | -0.558*** | -0.372*** | -0.849*** |
| | (0.098) | (0.139) | (0.201) |
| Years of education | -0.011*** | -0.016*** | -0.004 |
| | (0.003) | (0.004) | (0.006) |
| Adults in the household | -0.018** | -0.005 | -0.039*** |
| | (0.009) | (0.012) | (0.014) |
| Married | 0.098 | 0.188** | 0.034 |
| | (0.083) | (0.093) | (0.117) |
| Age | 0.082* | 0.140** | 0.009 |
| | (0.049) | (0.060) | (0.081) |
| $Age^2$ | -0.000 | -0.001 | 0.001 |
| | (0.001) | (0.001) | (0.001) |
| Age at 1st birth | -0.060*** | -0.064*** | -0.057*** |
| | (0.004) | (0.007) | (0.006) |
| First child: male | 0.015 | 0.028 | -0.014 |
| | (0.025) | (0.032) | (0.039) |
| Municipality FE | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes |
| Observations | 2997 | 1662 | 1328 |
| First-stage F-stat | 76 | 94 | 12 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The sample is restricted to women aged between 20 and 35 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (6) Second stage: Average effect of number of children on employment probability

| Dependent: | Employed last week | | | Employed last year | | |
|---|---|---|---|---|---|---|
| | (1) All | (2) Rural | (3) Urban | (4) All | (5) Rural | (6) Urban |
| Number of children | -0.128* | -0.121** | -0.119 | -0.110 | -0.122* | -0.059 |
| | (0.068) | (0.060) | (0.162) | (0.070) | (0.062) | (0.160) |
| Rural | -0.064** | | | -0.071** | | |
| | (0.030) | | | (0.031) | | |
| Wealth | 0.104 | 0.253** | 0.288 | -0.071 | 0.110 | 0.270 |
| | (0.099) | (0.117) | (0.201) | (0.105) | (0.123) | (0.206) |
| Years of education | 0.017*** | 0.017*** | 0.014*** | 0.017*** | 0.016*** | 0.013*** |
| | (0.004) | (0.005) | (0.005) | (0.004) | (0.005) | (0.005) |
| Adults in the household | 0.018** | 0.019* | 0.024 | 0.022*** | 0.017 | 0.036** |
| | (0.008) | (0.010) | (0.015) | (0.008) | (0.011) | (0.015) |
| Married | -0.041 | -0.001 | -0.074 | -0.019 | 0.011 | -0.043 |
| | (0.075) | (0.106) | (0.095) | (0.077) | (0.112) | (0.095) |
| Age | 0.054 | -0.006 | 0.147** | 0.042 | -0.006 | 0.121* |
| | (0.042) | (0.050) | (0.066) | (0.043) | (0.054) | (0.067) |
| $Age^2$ | -0.000 | 0.001 | -0.002* | -0.000 | 0.001 | -0.002 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Age at 1st birth | -0.016*** | -0.018*** | -0.014 | -0.013** | -0.019*** | -0.005 |
| | (0.006) | (0.006) | (0.010) | (0.006) | (0.006) | (0.010) |
| Last child: male | -0.038* | -0.021 | -0.065* | -0.013 | 0.002 | -0.038 |
| | (0.022) | (0.028) | (0.035) | (0.023) | (0.028) | (0.037) |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 2997 | 1662 | 1328 | 2997 | 1662 | 1328 |
| First-stage F-stat | 94 | 114 | 16 | 94 | 114 | 16 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The dependent variable captures the linear probability to have at least worked once last week or in the last 12 month. The sample is restricted to women aged between 20 and 35 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (7) Average effect of number of children on employment probability by level of education achieved.

| Second stage | Dependent: Employed last week | | | |
|---|---|---|---|---|
| Sample by education | Above primary education | Primary or lower | | |
| | | All | Urban | Rural |
| | (1) | (2) | (3) | (4) |
| Number of children | -0.345 | -0.216** | -0.403 | -0.152* |
| | (0.290) | (0.089) | (0.302) | (0.083) |
| Rural | -0.070 | -0.078** | | |
| | (0.054) | (0.035) | | |
| Wealth | 0.032 | 0.012 | -0.152 | 0.131 |
| | (0.258) | (0.110) | (0.315) | (0.135) |
| Years of education | 0.028*** | -0.017 | -0.025 | 0.002 |
| | (0.008) | (0.012) | (0.028) | (0.011) |
| Adults in the household | 0.013 | 0.022** | 0.034 | 0.018* |
| | (0.017) | (0.010) | (0.022) | (0.011) |
| Married | 0.035 | -0.044 | -0.098 | -0.020 |
| | (0.098) | (0.091) | (0.155) | (0.125) |
| Age | 0.152 | 0.036 | 0.143* | -0.013 |
| | (0.104) | (0.047) | (0.086) | (0.055) |
| $Age^2$ | -0.002 | -0.000 | -0.002 | 0.001 |
| | (0.002) | (0.001) | (0.002) | (0.001) |
| Age at 1st birth | -0.016 | -0.033*** | -0.057** | -0.021** |
| | (0.015) | (0.009) | (0.025) | (0.009) |
| First child: male | -0.000 | -0.071** | -0.054 | -0.077** |
| | (0.052) | (0.032) | (0.065) | (0.035) |

| First stage | Dependent: Number of children | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Two female children | 0.190*** | 0.393*** | 0.248*** | 0.476*** |
| | (0.059) | (0.043) | (0.075) | (0.051) |
| Municipality FE | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes | Yes |
| Observations | 1112 | 1882 | 597 | 1279 |
| First-stage F-stat | 10 | 84 | 11 | 86 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The table reports a 2SLS model for having worked last week (showing the main covariates for the second stage and instrument from the first stage). The sample is composed of women aged between 20 and 35 with at least two children whose age is below 18. Column 1 restricts the data to women having achieved higher than primary education, Column 2-4 with below or equal to primary. The specification is also inspected for urban (Col.3) or rural areas only (Col. 4). Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (8) Heterogeneous average effect of number of children on employment probability in rural areas

| | **Panel A. Elderly in the household** | | | | **Panel B. Partner employment status** | | | |
|---|---|---|---|---|---|---|---|---|
| | All | | Rural | | All | | Rural | |
| | Seniors in hh (1) | No seniors in hh (2) | Seniors in hh (3) | No seniors in hh (4) | Partner employed (5) | Partner not employed (6) | Partner employed (7) | Partner not employed (8) |
| Number of children | -0.233* | -0.245* | -0.211* | -0.153 | -0.524** | 0.024 | -0.489* | 0.026 |
| | (0.120) | (0.131) | (0.115) | (0.117) | (0.264) | (0.165) | (0.258) | (0.162) |
| Rural | -0.074 | -0.054 | | | -0.164*** | 0.005 | | |
| | (0.045) | (0.037) | | | (0.045) | (0.051) | | |
| Wealth | 0.111 | -0.033 | 0.230 | 0.227 | 0.025 | 0.156 | 0.317 | 0.148 |
| | (0.154) | (0.136) | (0.188) | (0.153) | (0.233) | (0.202) | (0.220) | (0.194) |
| Years of education | 0.009 | 0.020*** | 0.009 | 0.018*** | 0.005 | -0.009 | 0.006 | -0.008 |
| | (0.006) | (0.005) | (0.007) | (0.007) | (0.005) | (0.008) | (0.005) | (0.008) |
| Adults in the household | 0.037*** | 0.003 | 0.055*** | -0.003 | 0.024* | 0.018 | 0.019 | 0.018 |
| | (0.014) | (0.014) | (0.016) | (0.019) | (0.014) | (0.018) | (0.014) | (0.018) |
| Age | -0.006 | 0.085 | 0.016 | -0.035 | 0.141* | 0.047 | 0.150* | 0.047 |
| | (0.064) | (0.066) | (0.069) | (0.088) | (0.083) | (0.070) | (0.084) | (0.070) |
| $Age^2$ | 0.001 | -0.001 | 0.000 | 0.001 | -0.002 | -0.001 | -0.002 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Age at 1st birth | -0.022** | -0.024** | -0.022* | -0.019* | -0.033** | -0.010 | -0.031** | -0.010 |
| | (0.009) | (0.010) | (0.012) | (0.010) | (0.016) | (0.011) | (0.015) | (0.011) |
| First child: male | -0.007 | -0.060 | -0.030 | -0.020 | -0.039 | -0.086* | -0.032 | -0.086* |
| | (0.038) | (0.037) | (0.043) | (0.048) | (0.051) | (0.049) | (0.050) | (0.049) |
| Married | 0.030 | -0.066 | 0.051 | -0.192 | | | | |
| | (0.107) | (0.103) | (0.116) | (0.202) | | | | |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | No | No | No | No |
| Group FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1350 | 1641 | 807 | 851 | 1355 | 420 | 1355 | 420 |
| First-stage F-stat | 40 | 42 | 39 | 59 | 19 | 15 | 19 | 15 |
| Data | 2008-2018 | 2008-2018 | 2008-2018 | 2008-2018 | 2018 | 2018 | 2018 | 2018 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The dependent variable captures the linear probability to have at least worked once last week. Panel B only uses data for 2018, only DHS year with information about partner's employment status. The sample is restricted to women areas aged between 20 and 35 with at least two children whose age is below 18 (in rural areas only in column 3-4 and 7-8). Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (9) Yearly analysis: Average effect of number of children on employment - IV

| Dependent: | Employed last week | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Year: 2008/09 | | | | Year: 2017/08 | | | |
| | (1) All | (2) Urban | (3) Rural | (4) R Primary | (5) All | (6) Urban | (7) Rural | (8) R Primary |
| N. of children | -0.160* | 0.161 | -0.215** | -0.090 | -0.360** | -0.714 | -0.155 | -0.210* |
| | (0.093) | (0.242) | (0.096) | (0.097) | (0.177) | (0.525) | (0.136) | (0.123) |
| Rural | 0.092** | | | | -0.133*** | | | |
| | (0.047) | | | | (0.035) | | | |
| Wealth | 0.192 | 0.388 | 0.276 | 0.290 | 0.119 | -0.265 | 0.163 | 0.004 |
| | (0.137) | (0.306) | (0.171) | (0.194) | (0.166) | (0.499) | (0.152) | (0.171) |
| Education | 0.047*** | 0.056*** | 0.034*** | 0.011 | 0.006 | 0.005 | 0.009 | -0.003 |
| | (0.007) | (0.011) | (0.012) | (0.029) | (0.004) | (0.007) | (0.006) | (0.013) |
| Adults | 0.006 | 0.027 | 0.004 | -0.000 | 0.023** | 0.017 | 0.026* | 0.030** |
| | (0.011) | (0.019) | (0.017) | (0.016) | (0.011) | (0.021) | (0.013) | (0.013) |
| Married | -0.090 | -0.156 | -0.094 | -0.350 | -0.025 | -0.127 | 0.095 | 0.102 |
| | (0.130) | (0.149) | (0.222) | (0.233) | (0.090) | (0.142) | (0.064) | (0.069) |
| Age | -0.023 | 0.086 | -0.036 | -0.073 | 0.113* | 0.195 | 0.044 | 0.034 |
| | (0.059) | (0.104) | (0.074) | (0.084) | (0.060) | (0.126) | (0.066) | (0.074) |
| $Age^2$ | 0.001 | -0.001 | 0.001 | 0.002 | -0.001 | -0.002 | -0.000 | 0.000 |
| | (0.001) | (0.002) | (0.001) | (0.001) | (0.001) | (0.002) | (0.001) | (0.001) |
| Age at 1st birth | -0.025*** | -0.011 | -0.030** | -0.018 | -0.026** | -0.046 | -0.016* | -0.029*** |
| | (0.009) | (0.016) | (0.012) | (0.012) | (0.011) | (0.032) | (0.010) | (0.011) |
| First child: male | -0.040 | 0.054 | -0.054 | -0.041 | -0.036 | -0.042 | -0.013 | -0.099** |
| | (0.040) | (0.066) | (0.054) | (0.057) | (0.041) | (0.075) | (0.039) | (0.044) |

First stage

| Dependent: | Number of children | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Year: 2008/09 | | | | Year: 2017/08 | | | |
| | (1) All | (2) Urban | (3) Rural | (4) R Primary | (5) All | (6) Urban | (7) Rural | (8) R Primary |
| Two girls | 0.434*** | 0.293*** | 0.562*** | 0.577*** | 0.242*** | 0.160** | 0.354*** | 0.418*** |
| | (0.064) | (0.107) | (0.079) | (0.089) | (0.042) | (0.064) | (0.055) | (0.067) |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1174 | 561 | 612 | 479 | 1818 | 762 | 1047 | 796 |
| First-stage F-stat | 47 | 7 | 51 | 42 | 33 | 6 | 42 | 39 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. 2SLS model with as dependent variable the linear probability to have at least worked once last week. The sample is restricted to women aged between 20 and 45 with at least two children whose age is below 18 in Year 2008/09 (Col 1-4) or 2017/18 (Col 5-8). Data is further restricted to be either for urban (Col 2 and 6) or rural areas (Col 3 and 7), or rural sample with primary education (Col 4 and 8). Sample weights are applied. Group fixed effects capture separately religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (10) Rural/Urban comparison

| Variable | (1) Rural | (2) Urban | (3) Difference |
|---|---|---|---|
| Worked last week | 0.276 | 0.434 | -0.157*** |
| | (0.447) | (0.496) | (0.009) |
| Walk to work | 0.742 | 0.477 | 0.265*** |
| | (0.438) | (0.500) | (0.016) |
| Walking distance to work | 20.050 | 18.565 | 1.485** |
| | (19.078) | (16.842) | (0.714) |
| Husband decides on earnings | 0.151 | 0.089 | 0.062*** |
| | (0.358) | (0.285) | (0.007) |
| Husband decides on large household purchases | 0.113 | 0.078 | 0.035*** |
| | (0.317) | (0.268) | (0.007) |
| Child in preschool | 0.463 | 0.500 | -0.037* |
| | (0.499) | (0.500) | (0.019) |
| Observations | 5,900 | 4,960 | 10,860 |

**Notes:** Cross sections data from DHS 2017-18. The table reports mean levels as well as the p-value for a test statistics (t-test for level) of differences across the rural and urban samples.

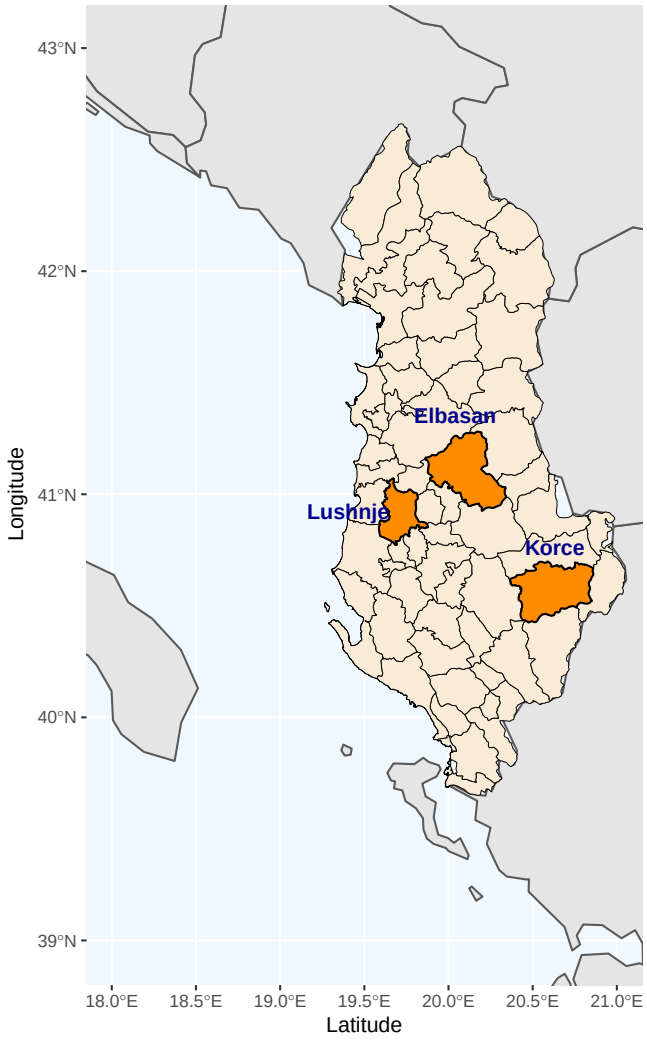
Table (11) Comparing municipal differences: Qualitative and quantitative data

| | NAS: key points from focus groups | | | DHS | | |
|---|---|---|---|---|---|---|
| | Elbasan | Lushnje | Korce | Elbasan | Lushnje | Korce |
| *Panel A*: *Unemployment* | | | | | | |
| Employment | Felt high overall | Felt high overall | Felt high, but also for women with a college degree | 0.206 | 0.399 | 0.368 |
| | | | | (0.404) | (0.490) | (0.483) |
| Observations | | | | 563 | 541 | 573 |
| *Panel B*: *Distance from workplace* | | | | | | |
| Walking as main mean to commute | High transport costs | High transport costs | High transport costs | 0.727 | 0.782 | 0.815 |
| | | | | (0.447) | (0.413) | (0.389) |
| Walking distance to work (minutes) | | | | 18.059 | 17.106 | 20.904 |
| | | | | (16.762) | (14.936) | (18.232) |
| Observations | | | | 563 | 541 | 573 |
| *Panel C*: *Gender norms* | | | | | | |
| Husband decides on earnings | Men administer earnings | Husbands decides about female employment | Husbands have a say on the type of jobs the wife can be employed in | 0.120 | 0.229 | 0.083 |
| | | | | (0.325) | (0.420) | (0.276 |
| Husband decides on large purchases | | | | 0.066 | 0.194 | 0.065 |
| | | | | (0.249) | (0.396) | (0.248) |
| Observations | | | | 563 | 541 | 573 |
| *Panel D*: *Childcare* | | | | | | |
| At least one child is attending preschool | Feel lack of full-time kindergartens | Feel lack of full-time kindergartens | Feel lack of full-time kindergartens | 0.406 | 0.586 | 0.454 |
| | | | | (0.493) | (0.494) | (0.500) |
| Observations | | | | 563 | 541 | 573 |

**Notes.** Cross sections DHS 2017-18 and qualitative data (Expertise France, 2021). The sample in panel A, B and C are restricted to all female respondents. The sample in panel D is restricted to females with children aged 2-6.

# Figures

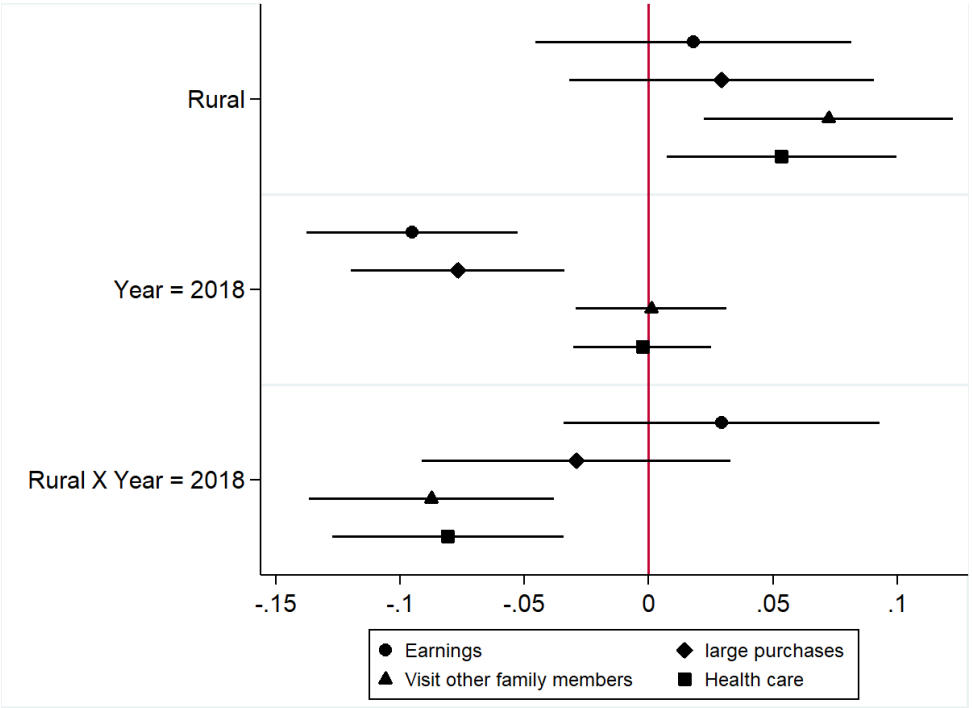
Figure (1) Municipalities selected for the qualitative interviews



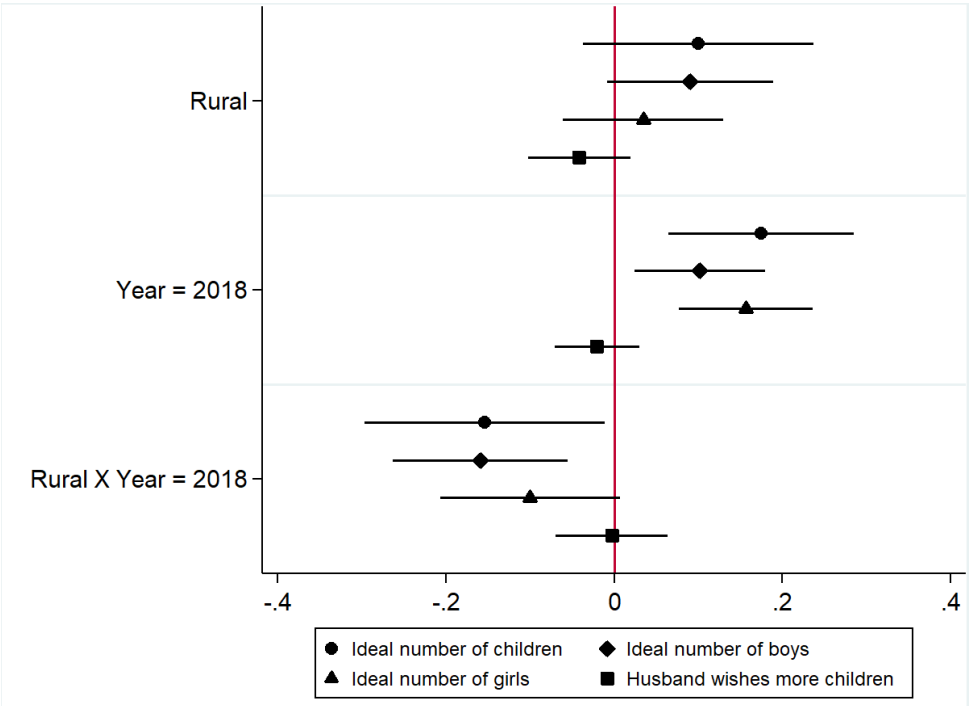

**Notes.** Source: Need Assessment Study 2022

Figure (2) Gender norms differences over time

(a) What husband mainly decides on




(b) Ideal number of children




**Notes**:Each symbol represents a different regression, with dependent variables indicated in the legends. Confidence intervals at 90%. All regressions include number of children, wealth, years of education, marriage status, age squared and age at birth as controls and municipalities fixed effects. The sample is restricted to women aged 20-35 with children below 18.

# Appendix - additional tables and figures

Table (A1) Reduced form equation

| Dependent variable | Employed last week | | | Employed last year | | |
|---|---|---|---|---|---|---|
| | (1) All | (2) Rural | (3) Urban | (4) All | (5) Rural | (6) Urban |
| Number of children | -0.047*** | -0.035** | -0.063** | -0.063*** | -0.070*** | -0.066*** |
| | (0.014) | (0.016) | (0.025) | (0.015) | (0.019) | (0.025) |
| 1st and 2nd born are female | -0.032 | -0.029 | -0.032 | -0.010 | -0.016 | -0.002 |
| | (0.022) | (0.028) | (0.037) | (0.023) | (0.029) | (0.037) |
| Rural | -0.051** | | | -0.041* | | |
| | (0.022) | | | (0.024) | | |
| Wealth | 0.051 | 0.080 | 0.358*** | -0.159** | -0.034 | 0.298** |
| | (0.066) | (0.084) | (0.131) | (0.073) | (0.093) | (0.135) |
| Years of education | 0.020*** | 0.017*** | 0.019*** | 0.022*** | 0.017*** | 0.019*** |
| | (0.002) | (0.003) | (0.004) | (0.002) | (0.004) | (0.004) |
| Adults in the household | 0.011* | 0.009 | 0.016 | 0.015** | 0.012 | 0.020* |
| | (0.006) | (0.007) | (0.011) | (0.007) | (0.008) | (0.011) |
| Married | -0.027 | -0.007 | -0.049 | -0.008 | 0.024 | -0.025 |
| | (0.053) | (0.071) | (0.075) | (0.055) | (0.080) | (0.074) |
| Age | 0.068** | 0.032 | 0.135** | 0.053 | 0.020 | 0.109* |
| | (0.032) | (0.040) | (0.053) | (0.035) | (0.045) | (0.056) |
| $Age^2$ | -0.001 | -0.000 | -0.002** | -0.000 | 0.000 | -0.001 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Age at 1st birth | -0.011*** | -0.013*** | -0.010* | -0.013*** | -0.019*** | -0.008 |
| | (0.003) | (0.004) | (0.005) | (0.003) | (0.004) | (0.005) |
| First child: male | -0.026 | -0.022 | -0.020 | -0.023 | -0.028 | -0.014 |
| | (0.019) | (0.024) | (0.031) | (0.020) | (0.025) | (0.031) |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj-$R^2$ | 0.15 | 0.14 | 0.13 | 0.14 | 0.17 | 0.13 |
| Observations | 2997 | 1662 | 1328 | 2997 | 1662 | 1328 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The dependent variable is a binary variable taking the value 1 if the sex of the first two children is female, 0 otherwise. The sample is restricted to women aged between 20 and 35 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (A2) Analysis of instruments (RURAL ONLY)

**Panel A: First stage**

| | Dependent: Number of children | | | | | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Same sex | 0.219*** | 0.208*** | 0.219*** | | | | |
| | (0.033) | (0.030) | (0.032) | | | | |
| Boy1 | | 0.188*** | 0.189*** | | -0.036 | -0.020 | -0.028 |
| | | (0.031) | (0.031) | | (0.038) | (0.038) | (0.032) |
| Boy2 | | 0.224*** | | | | 0.016 | |
| | | (0.031) | | | | (0.042) | |
| Two boys | | | | 0.003 | -0.016 | | |
| | | | | (0.035) | (0.042) | | |
| Two girls | | | | 0.415*** | 0.432*** | 0.416*** | 0.432*** |
| | | | | (0.042) | (0.044) | (0.060) | (0.044) |

**Panel B: Second stage**

| | Dependent: currently employed | | | | | | |
|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| Number of children | -0.212* | -0.214* | -0.212* | -0.134** | -0.187** | -0.214* | -0.188** |
| | (0.121) | (0.126) | (0.120) | (0.063) | (0.083) | (0.126) | (0.084) |
| Boy1 | | 0.040 | 0.040 | | 0.035 | 0.040 | 0.035 |
| | | (0.036) | (0.036) | | (0.033) | (0.036) | (0.033) |
| Boy2 | | 0.011 | | | | 0.011 | |
| | | (0.038) | | | | (0.038) | |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Controls | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1662 | 1662 | 1662 | 1662 | 1662 | 1662 | 1662 |
| First-stage F-stat | 44 | 48 | 47 | 50 | 47 | 48 | 94 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The dependent variable captures the linear probability to have at least worked once last week or in the last 12 month. The sample is restricted to women aged between 20 and 35 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (A3) Robustness: Dependent variable for employment in last 12 months & Instrumented variable in log form.

| Robustness | Dependent: Employed last 12 months | | | IV: Ln number of children | | |
|---|---|---|---|---|---|---|
| | (1) All | (2) Rural | (3) Urban | (4) All | (5) Rural | (6) Urban |
| Number of children | -0.174* | -0.165** | -0.175 | | | |
| | (0.090) | (0.082) | (0.233) | | | |
| Ln number of children | | | | -0.656*** | -0.511** | -0.875 |
| | | | | (0.245) | (0.227) | (0.651) |
| Rural | -0.076** | | | -0.071** | | |
| | (0.030) | | | (0.030) | | |
| Wealth | -0.108 | 0.094 | 0.162 | 0.040 | 0.234** | 0.090 |
| | (0.111) | (0.121) | (0.268) | (0.106) | (0.118) | (0.274) |
| Years of education | 0.016*** | 0.015*** | 0.012** | 0.015*** | 0.016*** | 0.013** |
| | (0.004) | (0.005) | (0.005) | (0.004) | (0.005) | (0.005) |
| Adults in the household | 0.021** | 0.017 | 0.031** | 0.016* | 0.019* | 0.016 |
| | (0.008) | (0.010) | (0.015) | (0.008) | (0.010) | (0.015) |
| Married | -0.012 | 0.024 | -0.036 | -0.027 | 0.013 | -0.060 |
| | (0.075) | (0.107) | (0.093) | (0.072) | (0.101) | (0.092) |
| Age | 0.045 | -0.000 | 0.118* | 0.060 | 0.004 | 0.139* |
| | (0.044) | (0.055) | (0.068) | (0.043) | (0.051) | (0.072) |
| $Age^2$ | -0.000 | 0.001 | -0.001 | -0.000 | 0.001 | -0.002 |
| | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) | (0.001) |
| Age at 1st birth | -0.017** | -0.021*** | -0.012 | -0.024*** | -0.022*** | -0.026* |
| | (0.007) | (0.007) | (0.014) | (0.007) | (0.008) | (0.015) |
| First child: male | -0.024 | -0.028 | -0.018 | -0.037 | -0.034 | -0.034 |
| | (0.029) | (0.034) | (0.050) | (0.029) | (0.033) | (0.052) |

First stage

| Robustness | Dependent: Employed last 12 months | | | IV: Ln number of children | | |
|---|---|---|---|---|---|---|
| | (1) All | (2) Rural | (3) Urban | (4) All | (5) Rural | (6) Urban |
| Two female children | 0.320*** | 0.432*** | 0.201*** | 0.118*** | 0.159*** | 0.075*** |
| | (0.037) | (0.044) | (0.058) | (0.013) | (0.016) | (0.021) |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 2997 | 1662 | 1328 | 2997 | 1662 | 1328 |
| First-stage F-stat | 76 | 94 | 12 | 81 | 104 | 13 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The dependent variable captures the linear probability to have at least worked once last week. The sample is restricted to women aged between 20 and 45 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects capture separately religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (A4) Robustness: Average effect of number of children on employment - IV

| Dependent: | Employed last year | | | | | |
|---|---|---|---|---|---|---|
| | Year: 2008/09 | | | Year: 2017/08 | | |
| | (1) All | (2) Rural | (3) Urban | (4) All | (5) Rural | (6) Urban |
| Number of children | -0.171* | -0.265*** | 0.152 | -0.213 | -0.054 | -0.487 |
| | (0.095) | (0.099) | (0.242) | (0.166) | (0.128) | (0.473) |
| Rural | 0.097* | | | -0.133*** | | |
| | (0.053) | | | (0.035) | | |
| Wealth | -0.017 | 0.108 | 0.337 | 0.139 | 0.135 | -0.163 |
| | (0.139) | (0.166) | (0.325) | (0.164) | (0.168) | (0.458) |
| Years of education | 0.044*** | 0.020 | 0.057*** | 0.006 | 0.011* | 0.004 |
| | (0.008) | (0.014) | (0.011) | (0.004) | (0.006) | (0.006) |
| Adults in the household | 0.011 | 0.009 | 0.032 | 0.029*** | 0.023 | 0.034* |
| | (0.011) | (0.016) | (0.020) | (0.011) | (0.014) | (0.020) |
| Married | -0.106 | -0.136 | -0.144 | 0.018 | 0.127* | -0.079 |
| | (0.126) | (0.195) | (0.146) | (0.088) | (0.067) | (0.130) |
| Age | 0.003 | -0.006 | 0.121 | 0.087 | 0.054 | 0.135 |
| | (0.064) | (0.083) | (0.107) | (0.057) | (0.068) | (0.104) |
| $Age^2$ | 0.001 | 0.001 | -0.002 | -0.001 | -0.000 | -0.002 |
| | (0.001) | (0.001) | (0.002) | (0.001) | (0.001) | (0.002) |
| Age at 1st birth | -0.028*** | -0.041*** | -0.009 | -0.014 | -0.010 | -0.025 |
| | (0.009) | (0.011) | (0.015) | (0.011) | (0.009) | (0.029) |
| First child: male | -0.038 | -0.042 | 0.057 | -0.021 | 0.003 | -0.033 |
| | (0.041) | (0.057) | (0.066) | (0.039) | (0.039) | (0.069) |
| | First stage | | | | | |
| | Dependent: Number of children | | | | | |
| | Year: 2008/09 | | | Year: 2017/08 | | |
| | (1) All | (2) Rural | (3) Urban | (4) All | (5) Rural | (6) Urban |
| Two female children | 0.434*** | 0.562*** | 0.293*** | 0.242*** | 0.354*** | 0.160** |
| | (0.064) | (0.079) | (0.107) | (0.042) | (0.055) | (0.064) |
| Municipality FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Group FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 1174 | 612 | 561 | 1818 | 1047 | 762 |
| First-stage F-stat | 47 | 51 | 7 | 33 | 42 | 6 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The dependent variable captures the linear probability to have at least worked once in the last 12 months. The sample is restricted to women aged between 20 and 35 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects capture separately religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (A5) Difference in means between urban and rural areas by type of employment

| Variable | (1) Urban | (2) Rural | (3) Difference |
|---|---|---|---|
| **Panel A: Type of occupation** | | | |
| professional/technical/managerial | 0.320 | 0.097 | -0.223*** |
| | (0.467) | (0.296) | (0.018) |
| clerical | 0.044 | 0.010 | -0.034*** |
| | (0.206) | (0.100) | (0.008) |
| sales | 0.114 | 0.049 | -0.065*** |
| | (0.318) | (0.216) | (0.013) |
| agricultural - employee | 0.020 | 0.557 | 0.537*** |
| | (0.141) | (0.497) | (0.015) |
| services | 0.090 | 0.067 | -0.023* |
| | (0.286) | (0.250) | (0.012) |
| skilled manual | 0.273 | 0.123 | -0.149*** |
| | (0.445) | (0.329) | (0.018) |
| unskilled manual | 0.139 | 0.097 | -0.042*** |
| | (0.346) | (0.296) | (0.015) |
| **Panel B: For whom working** | | | |
| for family member | 0.194 | 0.486 | 0.292*** |
| | (0.395) | (0.500) | (0.020) |
| for someone else | 0.643 | 0.238 | -0.404*** |
| | (0.479) | (0.426) | (0.021) |
| self-employed | 0.164 | 0.276 | 0.112*** |
| | (0.370) | (0.447) | (0.018) |
| **Panel C: Job stability** | | | |
| all year | 0.906 | 0.531 | -0.376*** |
| | (0.292) | (0.499) | (0.018) |
| seasonal | 0.051 | 0.379 | 0.328*** |
| | (0.220) | (0.485) | (0.016) |
| occasional | 0.043 | 0.090 | 0.047*** |
| | (0.202) | (0.286) | (0.011) |
| **Panel D: Payment type** | | | |
| not paid | 0.043 | 0.423 | 0.380*** |
| | (0.203) | (0.494) | (0.016) |
| cash only | 0.934 | 0.388 | -0.546*** |
| | (0.248) | (0.488) | (0.017) |
| cash and in-kind | 0.012 | 0.070 | 0.058*** |
| | (0.111) | (0.256) | (0.008) |
| in-kind only | 0.010 | 0.119 | 0.109*** |
| | (0.101) | (0.324) | (0.010) |
| Observations | 1,099 | 916 | 2,015 |

**Notes.** Balance table reporting means for urban, rural and their statistical difference. Pooled cross-sections DHS 2007 & 2017-18. Sample selection: employed female respondents aged 20 to 49 years of age, reporting having any child below the age of 18. The data is reported for the full sample (column 3), for urban or rural samples (2,490 and 2,778 observations respectively).

Table (A6) Average effect of number of children, rural and time binaries on employment probability in different occupations.

| Second stage | | | |
|---|---|---|---|
| **A. Dependent: Self-employed** | All | Rural | Urban |
| | (1) | (2) | (3) |
| Number of children | 0.134 | 0.184 | 0.386 |
| | (0.179) | (0.213) | (0.441) |
| Rural=1 | 0.132*** | | |
| | (0.047) | | |
| Year=2018 | -0.010 | 0.132* | -0.029 |
| | (0.036) | (0.069) | (0.050) |
| **B. Dependent: Working for someone else** | All | Rural | Urban |
| | (1) | (2) | (3) |
| Number of children | -0.135 | -0.057 | -0.702 |
| | (0.214) | (0.209) | (0.708) |
| Rural=1 | -0.184*** | | |
| | (0.059) | | |
| Year=2018 | 0.168*** | 0.157** | 0.114 |
| | (0.047) | (0.062) | (0.085) |
| **C. Dependent: Working in unstable job** | All | Rural | Urban |
| | (1) | (2) | (3) |
| Number of children | 0.146 | -0.061 | 0.423 |
| | (0.161) | (0.233) | (0.338) |
| Rural=1 | 0.113** | | |
| | (0.045) | | |
| Year=2018 | -0.007 | 0.088 | -0.072** |
| | (0.034) | (0.072) | (0.033) |
| **D. Dependent: Work in agriculture** | All | Rural | Urban |
| | (1) | (2) | (3) |
| Number of children | 0.109 | 0.100 | 0.116 |
| | (0.132) | (0.189) | (0.108) |
| Rural=1 | 0.216*** | | |
| | (0.039) | | |
| Year=2018 | -0.010 | 0.028 | 0.002 |
| | (0.028) | (0.066) | (0.013) |
| Municipality FE | Yes | Yes | Yes |
| Year FE | Yes | Yes | Yes |
| Controls | Yes | Yes | Yes |
| Observations | 974 | 473 | 489 |
| First-stage F-stat | 19 | 17 | 3 |

**Notes.** *** p-value <0.01, ** p-value <0.05, *p-value < 0.10. The table reports a 2SLS second stage regression for having worked over the last 12 months either as A. Self-employed, B. For someone else, C. In an unstable job or D. in an Agricultural job (other main covariates for the second stage are not reported). The sample is composed of women aged between 20 and 35 with at least two children whose age is below 18. Sample weights are applied. Group fixed effects include religion groups and ethnic groups. Standard errors are clustered at the DHS-cluster level.

Table (A7) Share of women per aggregate occupation

| | Rural | | Urban | |
|---|---|---|---|---|
| | 2008 (1) | 2018 (2) | 2008 (3) | 2018 (4) |
| **Panel A: Share of employed women** | | | | |
| Employed last week | 0.275 | 0.293 | 0.406 | 0.491 |
| Employed last year | 0.411 | 0.335 | 0.438 | 0.518 |
| Observations | 1080 | 1698 | 1168 | 1322 |
| **Panel B: Occupation** | | | | |
| professional/technical/managerial | 0.078 | 0.120 | 0.366 | 0.298 |
| clerical | 0.003 | 0.019 | 0.035 | 0.049 |
| sales | 0.076 | 0.016 | 0.211 | 0.067 |
| agricultural - employee | 0.655 | 0.436 | 0.027 | 0.017 |
| services | 0.078 | 0.053 | 0.122 | 0.074 |
| skilled manual | 0.085 | 0.170 | 0.219 | 0.298 |
| unskilled manual | 0.025 | 0.186 | 0.019 | 0.197 |
| Observations | 459 | 457 | 514 | 585 |

**Notes.** The sample is restricted to women aged at least 20 with children below 18.

Table (A8) Share of women per job type

| | Rural | | Urban | |
|---|---|---|---|---|
| | 2008 (1) | 2018 (2) | 2008 (3) | 2018 (4) |
| **Panel A: For whom working** | | | | |
| for family member | 0.671 | 0.256 | 0.259 | 0.162 |
| for someone else | 0.114 | 0.392 | 0.540 | 0.693 |
| self-employed | 0.214 | 0.353 | 0.201 | 0.146 |
| **Panel B: Job stability** | | | | |
| all year | 0.454 | 0.625 | 0.864 | 0.927 |
| seasonal | 0.432 | 0.314 | 0.055 | 0.049 |
| occasional | 0.113 | 0.062 | 0.081 | 0.024 |
| **Panel C: Payment type** | | | | |
| not paid | 0.567 | 0.244 | 0.076 | 0.027 |
| cash only | 0.248 | 0.562 | 0.916 | 0.943 |
| cash and in-kind | 0.047 | 0.099 | 0.002 | 0.017 |
| in-kind only | 0.138 | 0.095 | 0.006 | 0.013 |
| Observations | 459 | 457 | 514 | 585 |

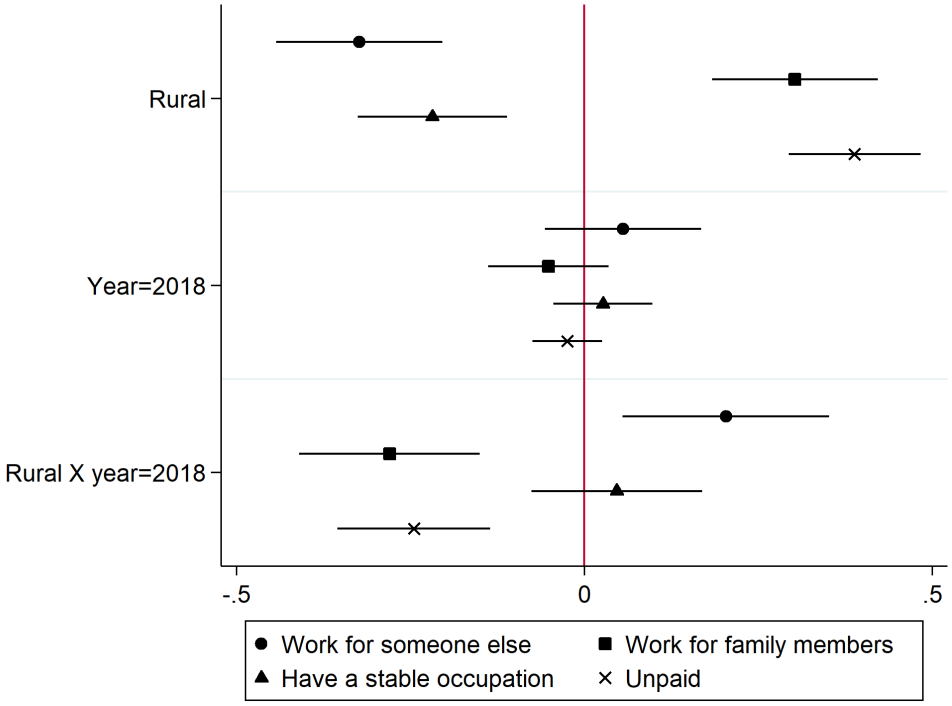
**Notes.** The sample is restricted to women aged at least 20 with children below 18.

Table (A9) Difference in means between urban and rural areas

| Variable | (1) Urban | (2) Rural | (3) Difference |
|---|---|---|---|
| Number of children | 2.321 | 2.511 | 0.190*** |
| | (0.581) | (0.740) | (0.018) |
| respondent currently working | 0.460 | 0.284 | -0.176*** |
| | (0.498) | (0.451) | (0.013) |
| Worked in the last year | 0.489 | 0.373 | -0.116*** |
| | (0.500) | (0.484) | (0.014) |
| Wealth | 0.752 | 0.514 | -0.238*** |
| | (0.114) | (0.180) | (0.004) |
| Years of education | 12.313 | 9.481 | -2.832*** |
| | (4.789) | (3.393) | (0.115) |
| Number of adults in the hh | 4.286 | 4.613 | 0.327*** |
| | (1.339) | (1.443) | (0.038) |
| Married | 0.966 | 0.982 | 0.015*** |
| | (0.180) | (0.134) | (0.004) |
| Muslim | 0.779 | 0.842 | 0.063*** |
| | (0.415) | (0.365) | (0.011) |
| Age | 34.803 | 33.969 | -0.833*** |
| | (5.480) | (5.333) | (0.149) |
| Age at 1st birth | 23.816 | 22.908 | -0.907*** |
| | (3.995) | (3.336) | (0.102) |
| First and second born children are female | 0.254 | 0.263 | 0.008 |
| | (0.436) | (0.440) | (0.012) |
| First and second born children are male | 0.251 | 0.235 | -0.016 |
| | (0.433) | (0.424) | (0.012) |
| Observations | 2,490 | 2,778 | 5,268 |

**Notes.** Balance table reporting means for urban, rural and their statistical difference. Pooled cross-sections DHS 2007 & 2017-18. Sample selection: female respondents aged 20 to 49 years of age, reporting having any child below the age of 18. The data is reported for the full sample (column 3), for urban or rural samples (2,490 and 2,778 observations respectively).

Figure (A1) Employment types probability differences across regressions coefficients for rural areas and over time




**Notes.** The figure reports the coefficients for rural and year binary variables and their interactions for four employment linear probability regressions (OLS). Employment is defined as having worked at least once last year either as employee for someone ($\beta$ coefficients represented as a circle), as employee for family members (square), or having a stable occupation (triangle), or as unpaid worker (cross). All regressions include number of children, wealth, years of education, marriage status, age squared and age at birth as controls and municipalities fixed effects. The sample is restricted to women aged 20-35 with children below 18. Confidence intervals at 95%.

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