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Research Paper

Determinants of Rural Women's Entry into Income Earning Employment: Empirical Evidence from Sebeta Hawas District of Central Oromia, Ethiopia

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Abstract

Enhancing women's labor force participation remains a central component of the gender equality and women's empowerment agenda. This paper examines the major determinants of rural women's entry into non-farm employment. A mixed-methods research design was employed, generating both quantitative and qualitative data through surveys, life history calendars, interviews, and focus group discussions. A multistage sampling technique was used to select 1,066 survey participants. Quantitative data were analyzed using descriptive statistics and event history analysis, while qualitative data were analyzed thematically to substantiate and enrich the quantitative findings. The study identified a range of factors that significantly influence women's entry into non-farm employment, which were categorized as individual, family-related, and contextual factors. The results further indicate that certain variables, such as membership in associations, never-married status, attainment of secondary or higher education, and residence in households with high wealth status, exert a consistent influence across both wage employment and self-employment. In contrast, other factors, including primary education, birth cohort, migration status, previously married status, household size, policy period, and place of residence, exhibit varying effects depending on the type of employment. The findings suggest that promoting women's entry into employment requires broadening current government efforts, which predominantly focus on job creation, by placing greater emphasis on ensuring women's access to decent work, social services, and infrastructure, as well as on transforming gender relations within households and society at large.

1. Introduction

The agenda of gender equality and women's empowerment, with a stronger emphasis on the promotion of a more active role for women as decision makers and owners of economic resources, has continued to be a critical consideration in global development circles. It has been commonly featured among different global policy objectives, including the 2030 Sustainable Development Goals (UN, 2015). Enhancing women's access to resources, which includes participation in the labour force, is also conceptually understood as a key component of women's empowerment (Golla et al., 2011; Kabeer, 1999).

Despite the well-documented multifaceted significance of women's access to productive resources, particularly in reducing household poverty (Alemayehu et al., 2024; Nardos & Mulugeta, 2019; Girma, 2021), positively contributing to household human capital and capabilities (Afridi et al., 2016; Majlesi, 2016), and enhancing overall economic growth (Appiah, 2018; IMF, 2018; Seebens & Sauer, 2007; Urama et al., 2022), the complex nature of women's labour force

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participation is widely acknowledged in labour economics (Becker, 1985).

Women's employment decision is contingent on their life course trajectories which are recognized to be much more heterogeneous than that of men (Anxo et al., 2007; Franco & Winqvist, 2002). Women's labour supply has been noted to more elastic, not only with regard to family events such as marriage or childbirth, but also regarding changes in the non-labour income such as partner's characteristics and alternative income sources (Blundell & MaCurdy, 1999). Additionally, theoretical literature emphasizes the significance of different levels of factors in shaping women's labour force participation. Van der Lippe & Van Dijk's (2001) *macro-micro approach* suggests that women's labour supply decision is explained by both women's individual and family characteristics and a range of contextual factors which include normative and institutional factors that may affect the labour market structure.

Ethiopian women, in general, have a lower socio-economic status in society. This is primarily reflected in their limited access to and control over assets and productive resources (Mekonnen et al., 2025; NEWA et al., 2024; Behr et al., 2023). Recognising the importance of addressing gender inequality, Ethiopia has ratified several international and regional agreements on gender equality that commit the state to implementing and enforcing existing instruments on human and women's rights. In line with these commitments, the country has undertaken a range of institutional and policy measures to promote gender equality.

Accordingly, gender equality is a key government commitment enshrined in the Constitution of Ethiopia (FDRE, 1995, Article 35). The equality provisions stipulated in the Constitution have been extended through the formulation of several legal frameworks and the mainstreaming of gender equality and women's empowerment into ongoing development processes. For instance, in the current Ten-Year Development Plan (2021–2030), gender and social inclusion are identified as key strategic pillars. The Plan sets out a range of strategic objectives and corresponding indicators, primarily aimed at empowering women and enabling them to benefit from economic development through skills development, capacity building, and equitable participation (PDC, 2020).

Following these policy initiatives, women's labour force participation has emerged as one of the key areas in which positive changes have been observed in Ethiopia. According to official data, the female employment-to-population ratio increased from 58.5 to 69.8% between 1999 and 2013, with more pronounced changes in women's economic activity occurring in rural areas than in urban areas (CSA, 2014, p. 66). More recent figures indicate that Ethiopia closed 58.7% of the gender gap in economic participation and opportunity in 2024, a marginal improvement from 56.8% in 2006 (WEF, 2006, p. 62; WEF, 2024). The expansion of microcredit programmes and the adoption of economic development policies in the early 1990s, marking a shift towards export-oriented agricultural development, are among the key initiatives aimed at enhancing rural women's access to paid employment and income-generating opportunities (Hirut et al., 2012; Tesfamicheal & Seife, 2018).

The importance of non-farm activities in the rural economy is well documented. Studies indicate that, in Africa, approximately 42% of the rural population derives income from rural non-farm activities (FAO, 1998, p. 290). In Ethiopia, it has been reported that slightly over one-third of rural households nationwide participate in non-farm income-generating activities, particularly wage employment and self-employment (Neglo et al., 2021, p. 73). Rural non-farm employment (RNFE) has increasingly become an important area of research, with its positive contribution to achieving sustainable rural development widely emphasised (Aytolign et al., 2024; Taye & Nayak, 2022; Wakuma et al., 2024). However, despite this growing body of work, notable gaps remain. Much of the existing literature focuses on household-level analyses of participation in rural non-farm activities and their associated impacts, often without adequate attention to women's experiences. The relative invisibility of women's realities in RNFE studies can partly be attributed to the predominance of rural women in unpaid family work and their disproportionately high reproductive responsibilities. In reality, despite their frequent marginalisation and lack of recognition, women play a vital role in the rural economy, not only through their participation in agricultural activities but also through engagement in non-farm income-generating activities.

There is a well-established distinction between wage employment and self-employment in terms of workspaces, the nature of work, flexibility in accommodating family responsibilities, and the cultural stereotypes associated with each (Bose, 2007; Erman et al., 2002; Pant, 2000; Shah, 2014). These differences are widely recognised as playing a key role in shaping women's decisions to enter employment. In response to gaps identified in previous studies on women's participation in RNFE (Dagmawe, 2022; Fasika, 2024; Aytolign & Martha, 2025), it is essential to extend existing research by explicitly capturing the variations between the two broad types of non-farm employment, namely wage employment and self-employment. This study also contributes to the existing body of knowledge by serving as a case study that illuminates women's lived realities in RNFE in developing-country contexts.

Hence, this study aims to illustrate the complex nature of women's entry into non-farm labour markets in rural Ethiopia. The main objective is to examine the key determinants of women's employment entry, focusing on rural women in Sebeta Hawas District, located in the central part of Oromia, Ethiopia. In addition, the study explores whether the factors predicting women's employment entry vary by the type of rural non-farm work, specifically wage employment *versus* self-employment.

2. Materials and Methods

2.1 The study area: context setting

The study area, Sebeta Hawas District, is located in the central part of the Oromia Regional State, Ethiopia. Sebeta town serves as the administrative centre of the district. Administratively, the district comprises 42 rural *kebeles* (the lowest administrative unit in Ethiopia) and two town administrations, namely Tefki and Awash Melka Kunture. According to the 2025 population projection report census data (ESS, 2025), Sebeta Hawas is the most populous district in the area, with a total population of 200,864, of whom 102,650 (51.1%) are male and 98,214 (48.9%) are female. Official statistics further indicate that 91.3% of the population reside in rural areas, and agricultural activity constitutes the dominant livelihood for the majority of residents in the district.

In rural areas, women commonly engage in self-employed non-farm income-generating activities such as producing and selling traditional beverages and food, petty trading (mainly agricultural crops and vegetables), and pottery, among others, to supplement household income. Moreover, the district has experienced significant expansion of private investment. Non-traditional export industries (NTEIs), particularly the floriculture sector, have grown steadily since the late 1990s, with most flower farms located in the rural kebeles surrounding Sebeta and Tefki towns. Sebeta Hawas District is notable for being one of the first areas in the country where privately owned flower farms began operations, with relatively older flower farms concentrated in the area. This development has created wage employment opportunities for unskilled and semi-skilled rural women residing nearby (Tizita, 2014). Despite its contribution to job creation, especially for women, and its role in generating substantial foreign exchange earnings, the floriculture industry is frequently associated with social and environmental sustainability concerns (Shiferaw et al., 2022). Common issues include low wages, workers' health and occupational safety challenges, sexual harassment, and recurrent violations of workers' rights and freedoms (Anteneh, 2013; Belay, 2020).

2.2 Research design and methods of data collection

The study employed a mixed-methods research approach, generating both quantitative and qualitative data through surveys, life history calendars, interviews, and focus group discussions (FGD). Primary data were collected in two sequential phases: a household survey phase followed by a qualitative data collection phase.

The household survey enabled gathering a range of quantitative data capturing both household-level and individual women's characteristics using structured questionnaires. Additionally, life course transitions (that is, events) related to family and work were documented using the life history calendar (LHC). Retrospective, time-varying data on employment and related attributes, such as migration, marriage, childbirth and survival, and access to microcredit, were recorded at yearly intervals. Migration-related events were collected from birth, whereas employment- and marriage-related events were recorded from age 10. The LHC's effectiveness in systematically capturing retrospective life course data in

full context is well established (Axinn & Pearce, 2006; Freedman et al., 1988).

For the qualitative component, 14 in-depth interviews and five FGD sessions were conducted to explore women's experiences. In addition, key informant interviews were held with an expert from the district Women and Children's Affairs Office and with managers of three flower farms in the study area.

2.3 Sampling techniques and sample size

The study employed a multi-stage sampling technique. In the first stage, five rural kebeles, namely Sebeta 05, Dima Manyo, Haro Jila Fulaso, Bonde, and Nanno Tefki, were purposefully selected from the 42 kebeles in the district. Selection was based on the distribution of major employers of rural women, primarily flower farms. All selected kebeles, except Nanno Tefki, which was included as it serves as a labour supply hub for NTEIs around Tefki and Sebeta, are locations of flower farms within the district.

In the second stage, sample households from each kebele were drawn using a Probability Proportional to Size (PPS) systematic sampling technique, with size determined by the number of households listed in the household registration records obtained from the respective health posts. The sample size was estimated using the formula provided by ICF International (2012, p. 9):

$$n = Deft^2 \frac{\left(\frac{1}{P} - 1\right)}{\alpha^2}$$

where, *n* is the estimated sample size; *Deft* is the design effect (Default value of 1.5); *P* is the estimation proportion; and *α* is the level of significance.

Using α, P and the default design effect values of 0.05, 0.5 and 1.5, respectively, the sample size was estimated to be 900 households. Hence, a total of 900 households were randomly selected, of which a total of 851 households (94.6 %) were visited during the fieldwork and successfully interviewed. The remaining 49 sample households were dropped out of the planned samples due to the difficulty of getting mature persons who can give full information about the households or refusal to cooperate with the interviewers.

In the third stage, individual women to be covered in the study were identified. All women in economically active age group (15-59 years) residing in the sample kebeles were eligible for the study. Accordingly, a total of 1,066 women residing in the 851 sample households were identified and successfully interviewed during the survey.

2.4 Methods of data analysis

The qualitative data were analysed using thematic analysis, and pseudonyms were employed to protect the anonymity of research participants. Quantitative data were entered using Census and Survey Processing Software (CSPro) version 4.1 and analysed using SPSS version 20.0. Descriptive statistics were used to characterise the study population, while a discrete-time event history model (Allison, 2014) was applied to account for the time-varying nature of women's employment status over the observation period. A discrete-time logit model was employed to analyse a person-year dataset containing 13,812 spells. The person-year data were constructed from the original survey, with each record representing a life year of exposure to the risk of first employment, measured from when a woman turned 10 until she either obtained her first job or was censored at the date of the survey.

Based on Allison (2014), the hazard rate of the employment entry event, λ_t, is defined as the conditional probability of entering into employment at time t, given that the event has not already occurred prior to t.

$$\lambda_t = \Pr(T = t | T \geq t), \quad t = 1, 2, \ldots, k;$$

A discrete-time logit model, which is used to estimate women's likelihood of entry into wage employment and self-employment, can be expressed by the equation:

$$\text{logit}(\lambda_t, X) = \ln\left(\frac{\lambda_t}{1-\lambda_t}\right) = a + \beta' X_t, \quad t = 1, 2, \ldots, k$$

where, *a* is constant term representing the value of the logit(λ_t) for years with a baseline value of all variables X_t in the model; X_t is a vector of covariates (which may be either fixed or time-varying); β' is a vector of coefficients associated with the covariates.

As women's employment has three possible responses (indicated below), the analysis of determinants of women's employment entry employs the discrete-time multinomial logit regression model.

Data input

a) Dependent variable

To examine the likelihood of women's entry into wage employment and self-employment, the women's employment status, collected as a time-varying outcome variable, was coded into three categories: non-income earning, referring to either unpaid family work or economically inactive women (coded 0); self-employment (coded 1); wage employment (coded 2).

b) Explanatory variables

The empirical model included a range of independent variables, both time-varying and fixed. These comprised individual-level socio-demographic characteristics (birth cohort, education, and migration status), family-related indicators (marital status and presence of pre-school children), and contextual factors encompassing household-level characteristics and structural factors that may influence women's labour market entry. The contextual factors considered were household wealth status, household size, policy period, membership in women's or youth associations, kebele, religion, and ethnic group. The policy period was classified into two categories: pre-1993 (coded 0) and post-1993 (coded 1), with 1993 marking the year the Ethiopian National Women's Policy, which promotes gender equality, was promulgated. In addition, the time elapsed from age 10 to either the occurrence of the employment entry event or the survey year was included in linear and quadratic forms (Time and Time^2) to account for the well-established non-monotonic relationship between a woman's age and employment entry (Drobnic et al., 1999).

3. Results and Discussion

3.1 General description of the study participants

Table 1 presents descriptive statistics for the 1,066 women included in the study. Slightly over a quarter of the women (27%) had never engaged in any income-earning activity, while 37% had entered self-employment and 36% had entered wage employment. The results also indicate that women typically enter both wage work and self-employment at a median age of approximately 30 years. The proportion of wage-employed women was higher among those with higher levels of education, younger birth cohorts, and smaller household sizes, whereas the opposite pattern was observed for self-employed women. For instance, as shown in Table 1, the proportion of wage-employed women increased from 31% among women with no education to 47% among those with at least secondary education. In contrast, the proportion of self-employed women decreased from 47 to 15% across the same educational categories.

As shown in Table 1, while a relatively higher proportion of the migrant women (42%) and never married women (50%) entered into wage employment, the majority of return migrants (55%) and previously married (55%) tend to enter more into self-employment. A greater proportion of women residing in households with low wealth status were, however, observed to enter into both wage employment (45%) and self-employment (39%).

Data on timing of employment entry showed that there is a tendency of entering into wage employment at an early age among those attaining higher level of education, never married, and residing in household with few members. This is contrary to the pattern observed for self-employment entry. Women who belong to a younger birth cohort and those residing in poor households enter into both employment categories at much younger age than their counterparts.

Higher proportion of women with pre-school child (46%) tend to enter into self-employment than those with no pre-school child (32%). Women residing in Nanno Tefki and Sebeta 05 have shown higher participation rate (46 and 44%, respectively) and entered into wage work at much younger age (median age of 23 and 26 years, respectively) than others. Women residing in Haro Jila Fulaso, however, showed the highest entry rate (55%) and early entry into self-employment jobs.

3.2 Determinants of women's entry into employment

Table 2 presents the result of multivariate analyses that were fitted to determine the predictors of women's wage employment and self-employment entry. Whilst fitting the model, interaction effects between each of the variables and time and time square were checked, and the interaction terms with significant values were included in the model. Only coefficients with statistically significant effects are presented.

Table 1: Percentage distribution of women's first entry into employment and Median age at first employment across the variables (N = 1,066)

Variable	N	Employment category (%)			Median age at first employment ± SE	
		Wage employment	Self-employment	Non-income earning	Wage employment	Self-employment
Education						
No education	626	31.2	47.1	21.7	39 ± 4.87	29 ± 1.85
First cycle primary	139	37.4	34.5	28.1	23 ± 1.96	24 ± 1.56
Second cycle primary	178	44.4	18.5	37.1	20 ± 0.78	34 ± 4.59
Secondary and higher	123	47.2	15.4	37.4	22 ± 0.56	33 ± 4.00
Birth cohort						
2002- 2006	225	40.9	6.2	52.9	18 ± 0.21	19 ± 0.09
1992- 2001	349	49.6	32.4	18.1	22 ± 0.57	27 ± 0.37
1982 -1991	251	32.3	50.2	17.5	31 ± 0.97	27 ± 1.82
1972- 1981	131	23.7	55.0	21.4	41 ± 1.17	32 ± 3.04
1962- 1971	110	6.4	63.6	30.0	56 ± 1.06	30 ± 4.32
Migration status						
Non migrant	802	34.7	36.0	29.3	30 ± 1.55	31 ± 1.88
Migrant	209	41.6	36.4	22.0	27 ± 3.68	34 ± 4.52
Return migrant	55	34.5	54.5	10.9	30 ± 2.78	24 ± 2.61
Marital Status						
never married	300	50.0	7.3	42.7	19 ± 0.25	31 ± 1.83
currently married	555	30.1	46.3	23.6	41 ± 1.10	28 ± 2.21
previously married	211	31.8	55.0	13.3	39 ± 4.33	28 ± 2.14
Widowed	63					
Divorced	148					
Presence of pre-school child						
No	668	37.3	31.7	31.0	30 ± 1.82	36± 2.35
Yes	398	33.9	46.0	20.1	30± 1.87	25± 1.10
Household Wealth status						
Low	370	45.1	39.2	15.7	25 ± 1.52	28 ± 1.85
Medium	372	38.4	40.1	21.5	28 ± 1.42	28 ± 1.92
High	324	22.8	31.2	46.0	45 ± 1.40	38 ± 1.44
Household size						
1-2 persons	146	62.3	26.7	11.0	21 ± 0.86	41 ± 2.33
3-4 persons	319	47.0	34.5	18.5	24 ± 1.25	31 ± 2.09
at least 5 persons	601	23.8	40.9	35.3	43 ± 1.13)	28 ± 1.76
Membership in women/youth association						
No	818	36.8	32.3	13.7	29 ± 1.38	34 ± 2.34
Yes	248	33.5	52.8	30.9	34 ± 4.19	24 ± 1.53
Ethnic group						
Oromo	939	37.0	36.6	26.4	29 ± 1.19	30 ± 1.77
Others	127	29.1	40.2	30.7	39 ± 4.72	31 ± 3.77
Religion						
Orthodox	956	36.1	37.3	26.6	30 ± 1.49	29 ± 1.60
Others	110	35.5	34.5	30.0	29 ± 1.98	44 ± 2.31
Kebele						
Bonde	140	29.3	37.9	32.9	45 ± 10.19	28 ± 2.74
Dima Manyo	99	23.2	41.4	35.4	45 ± 2.51	36 ± 4.22
Haro Jila Fulaso	170	16.5	54.7	28.8	45 ± 2.02	24 ± 1.33
Nanno Tefki	146	45.9	32.2	21.9	23 ± 1.84	44 ± 2.09
Sebeta 05	511	44.0	31.5	24.5	26 ± 1.18	35 ± 2.18
Overall	1066	36.0	37.1	26.9	30 ± 1.34	30 ± 1.67

Table 2: Results of the discrete-time multinomial logit model

Variable	Wage Employment Vs. Non-income earning			Self-employment Vs. Non-income earning			Wage Employment Vs. Self-employment		
	B (I)	SE (II)	Exp (B) (III)	B (IV)	SE (V)	Exp (B) (VI)	B (VII)	SE (VIII)	Exp (B) (IX)
Intercept	-5.33	0.42***		-2.90	0.29***		-2.42	0.50***	
Education									
No education (Ref)			1.00			1.00			1.00
First cycle primary	0.32	0.17†	1.38	0.28	0.18	1.32	0.04	0.24	1.04
Second cycle primary	0.09	0.04*	1.09	-0.32	0.20	0.73	0.41	0.18*	1.50
Secondary and higher	-5.45	1.23***	0.004	-1.99	0.76**	0.14	-3.47	1.45*	0.03
Secondary and higher * Time	0.95	0.23***		0.21	0.11*		0.74	0.25**	
Secondary and higher * Time^2	-0.04	0.01**					-0.03	0.01**	
Birth Cohort									
2002- 2006	1.88	0.24***	6.54	-0.40	0.34	0.67	2.28	0.41***	9.78
1992- 2001	0.84	0.18***	2.31	0.29	0.17†	1.34	0.54	0.24*	1.72
1982 -1991 (Ref)			1.00			1.00			1.00
1972- 1981	-0.68	0.27*	0.51	-0.33	0.17*	0.72	-0.35	0.31	0.71
1962- 1971	-2.1	0.49***	0.12	-0.22	0.19	0.80	-1.88	0.53*	0.15
Migration status (Time varying)									
Non-migrant (Ref)			1.00			1.00			1.00
Migrant	1.47	0.30***	4.35	0.22	0.29	1.25	1.25	0.41**	3.49
Migrant * Time	-0.07	0.03**					-0.06	0.03*	
Return migrant	-0.37	0.45	0.69	1.38	0.28***	3.97	-1.75	0.52**	0.17
Marital Status (Time varying)									
never married	-.89	0.32**	0.41	-1.69	0.24***	0.18	0.80	0.40*	2.23
never married * Time	0.16	0.03***		0.10	0.03**				
Currently married (Ref)			1.00			1.00			1.00
previously married	0.82	0.20***	2.27	0.26	0.18	1.29	0.57	0.26*	1.76
Presence of pre-school children (Time varying)									
No (Ref)			1.00			1.00			1.00
Yes	-0.08	0.17	0.93	0.01	0.14	1.01	-0.09	0.22	0.92
Household Wealth status									
Low	0.27	0.13*	1.31	0.01	0.13	1.01	0.27	0.14†	1.30
Medium (Ref)			1.00			1.00			1.00
High	-0.50	0.15**	0.61	-0.48	0.14***	0.62	-0.01	0.20	0.99
Household size									
1-2 persons (Ref)			1.00			1.00			1.00
3-4 persons	0.14	0.16	1.15	0.09	0.20	1.09	0.05	0.25	1.05
at least 5 persons	-0.32	0.17†	0.73	0.32	0.19	1.38	-0.64	0.26*	0.53
Membership in Women's /youth association									
No (Ref)			1.00			1.00			1.00
Yes	0.29	0.14*	1.34	0.49	0.12***	1.63	-0.20	0.18	0.82

Table 2: Results of the discrete-time multinomial … (Continued)

variable	Wage Employment Vs. Non-income earning			Self-employment Vs. Non-income earning			Wage Employment Vs. Self-employment		
	B (I)	SE (II)	Exp (B) (III)	B (IV)	SE (V)	Exp (B) (VI)	B (VII)	SE (VIII)	Exp (B) (IX)
Policy Period (Time varying)									
Pre_1993 (Ref)			1.00			1.00			1.00
Post_1993	0.78	0.24**	2.18	-0.07	0.17	0.93	0.85	0.29**	2.34
Kebele									
Bonde	-0.32	0.19†	0.73	-0.04	0.18	0.96	-0.28	0.25	0.76
Dima Manyo	-0.53	0.23*	0.59	-0.06	0.19	0.95	-0.47	0.30	0.63
Haro Jila Fulaso	-0.77	0.21***	0.46	0.48	0.15**	1.62	-1.25	0.26***	0.29
Nanno Tefki	0.24	0.16	1.27	0.04	0.18	1.04	0.20	0.23	1.22
Sebeta 05(Ref)			1.00			1.00			1.00
Ethnic group									
Oromo (Ref)			1.00			1.00			1.00
Others	-0.63	0.20**	0.54	0.07	0.18	1.08	-0.70	0.27**	0.50
Religion									
Orthodox (Ref)			1.00			1.00			1.00
Others	-0.11	0.19	0.90	-0.04	0.20	0.96	-0.07	0.27	0.94
Time (Time varying)	0.15	0.04***	1.16	-0.03	0.01**	0.98	0.17	0.05***	1.19
$Time^2$ (Time varying)	-0.003	.001**	0.997	0.001	0.000*	1.001	-0.002	0.001*	0.998
Total Years of Observation (Spells)	13,812								
Total Employment Events (wage employment, self-employment)	779 (384, 395)								
-2 Log Likelihood	5,707.45								
Model Chi-Square (df)	1013.42 (60)***								

Note: † p<0.1, *p<.05, ** p<.01, *** p<.001 and reference category has an odds ratio of 1.00

3.2.1 Individual level characteristics

Education

The regression results show that first-cycle (Grades 1–4) and second-cycle (Grades 5–8) primary education have a significant positive effect on women's entry into wage employment, although the effect of first-cycle education is marginal. Women with first-cycle and second-cycle primary education are, respectively, 38 and 9 % more likely than women with no education to enter wage employment rather than remain non-income earners (Table 2, Panel III). When comparing the likelihood of entering wage employment versus self-employment (Table 2, Panel IX), women with second-cycle primary education are 1.5 times more likely than women with no education to enter wage employment rather than self-employment. Secondary and higher education, however, show a significant negative effect on women's engagement in both wage employment and self-employment relative to remaining non-income earners. In addition, women with at least secondary education are less likely than women with no education to enter wage employment rather than self-employment (Table 2, Panel IX).

Overall, the findings suggest that primary education facilitates entry into wage employment, whereas secondary and higher education are associated with substantially lower participation. This pattern reflects the structure of the local labour market. On the demand side, employers favour women with some education over those with none, as basic schooling is perceived to enhance productivity. On the supply side, women with limited education are more willing to accept the low wages offered by NTEIs, while women with secondary and higher education tend to avoid such positions. The lower likelihood of self-employment among women with higher education is consistent with evidence from Pakistan (Faridi et al., 2011), and with earlier studies documenting a non-monotonic relationship between

education and self-employment (Georgellis & Wall, 2000). Focus group discussions further reveal strong social expectations in the study area that educated women should secure well-paid, high-quality wage employment, with failure to do so carrying social stigma.

Birth Cohort

Birth cohort is an important individual-level determinant of women's entry into wage employment. Younger cohorts are significantly more likely than older cohorts to enter wage employment rather than remain non-income earners or become self-employed. Specifically, women in the youngest cohort (2002–2006) are 6.54 times more likely than those in the 1982–1991 cohort to enter wage employment rather than remain non-income earners, and 9.78 times more likely to do so rather than become self-employed. In contrast, women in the oldest cohort (1962–1971) are 88 and 85% less likely, respectively, to enter wage employment compared with remaining non-income earners or becoming self-employed (Table 2, Panels III and IX).

Evidence from the FGDs suggests that the higher participation of younger cohorts in wage employment is largely driven by their limited access to land, the primary source of rural livelihoods. This constraint often compels wives in younger households to engage in income-generating activities to support household subsistence. In addition, local wage labour markets tend to favour younger women, who are commonly perceived by employers as faster learners and more productive. As one flower farm manager noted, "*When recruiting workers, we prefer young women because they learn quickly, are productive, and have fewer social responsibilities, resulting in lower absenteeism*."

Migration Status

Migrant women exhibit a higher likelihood of entering wage employment, although they do not differ significantly from non-migrants in their tendency to enter self-employment relative to remaining non-income earners (Table 2, Panel VI). This higher wage employment participation among migrants is partly explained by the growing influx of young women attracted by available wage opportunities in the area. The findings support the view of migration as a response to employment constraints at the place of origin and to perceived job opportunities at the destination (Bundervoet, 2018; Gibson & Eshetu, 2012). An in-depth interview with a migrant woman illustrates this mechanism: "*We usually come here with the promise of wage work through personal networks. Once we arrive, we actively look for jobs because of the strong financial pressure we face away from our families*."

In contrast, return migrant women are more likely to enter self-employment than wage employment. Return migrants are 3.97 times more likely than non-migrants to become self-employed rather than remain non-income earners, yet are 83% less likely to enter wage employment rather than self-employment (Table 2). This pattern can be attributed to two main factors. First, many return migrants come back with savings accumulated during migration, enabling them to start self-employed activities. Second, their broader exposure to alternative livelihoods allows them to better assess the low wages, poor working conditions, and health risks associated with the wage jobs, particularly in flower farms, commonly available in the area. As a result, return migrants tend to prefer self-employment, consistent with the view that self-employment can serve as a buffer against unsatisfactory wage employment opportunities (Evans & Leighton, 1989).

3.2.2 Family life course

Marital Status

The multivariate regression results indicate that marital status significantly influences women's entry into employment. Although the positive interaction between time and the never-married dummy suggests an increasing likelihood of labour market entry over time, never-married women are, on average, less likely than married women to enter either wage employment or self-employment rather than remain non-income earners. This pattern may reflect their relatively lower household responsibilities and weaker economic pressure to earn income. In rural Ethiopia, unmarried women often aspire to marriage and remain under close parental supervision, which may limit their motivation and opportunity to engage in income-generating activities. As age increases, however, family control tends to relax and marriage prospects decline, allowing greater freedom to participate in the labour market. This interpretation is consistent with the positive time interaction effect, indicating that labour market

participation becomes more acceptable for older women regardless of marital status.

Conditional on participation, never-married women are more likely to enter wage employment than self-employment. Specifically, they are 2.23 times more likely than currently married women to engage in wage work rather than self-employment (Table 2, Panel IX). Previously married women (separated, divorced, or widowed) also show a higher propensity for wage employment: they are 2.27 times more likely than currently married women to enter wage work rather than remain non-income earners, and 1.76 times more likely to do so rather than engage in self-employment (Table 2, Panels III and IX). This greater reliance on wage employment among previously married women likely reflects their role as household heads and primary income earners. In addition, female-headed households may face fewer domestic constraints from patriarchal authority, providing greater autonomy to engage in paid work outside the home (Masika et al., 1997).

Finally, the presence of pre-school children has no statistically significant effect on women's entry into any employment type. Although this finding contrasts with much of the existing literature, which reports a strong negative association (Budig, 2003; Drobnic et al., 1999), it can be explained by the childcare support systems observed in the study area. Women with young children commonly rely on nearby relatives, particularly mothers-in-law, or on older children, especially daughters, and occasionally neighbours, to provide childcare while they are at work.

3.2.3 Household level Contextual factors

Household status

At the household level, the results indicate that women from economically better-off households are less likely to enter either wage employment or self-employment. Relative to women from households with medium wealth status, those from high-wealth households are 39 and 38% less likely to participate in wage employment and self-employment, respectively, than to remain non-income earners. In contrast, women from low-wealth households are 1.31 times more likely than those from medium-wealth households to enter wage employment rather than remain non-income earners (Table 2).

The higher likelihood of wage employment among women from low-wealth households, also documented in previous studies (Bridges et al., 2011; Heintz et al., 2018), suggests that financial pressure is a key push factor driving women's labour market participation. Conversely, women from high-wealth households consistently exhibit lower participation in both wage employment and self-employment. This pattern may reflect their better access to land, which makes engagement in family farming more attractive than wage work (Desai & Jain, 1994). In addition, young women from wealthier households are more likely to remain in school and postpone income-generating activities until later in life. From a social perspective, women in better-off households also tend to have broader social networks and greater involvement in community activities, which can limit the time available for paid work. As one married woman from a relatively wealthy household explained, *"…for a rural wife, more wealth means more workload at home and in the community*."

Household size

Larger household size significantly reduces women's likelihood of entering wage employment. Women from households with five or more members are 47% less likely than those from households with one to two members to enter wage employment rather than self-employment (Table 2, Panel IX). This negative association supports the widely held view that domestic responsibilities constrain women's participation in wage work.

In contrast, household size has a limited effect on women's participation in self-employment. Relative to wage employment, women in larger households are more inclined toward self-employment, reflecting the differing nature of the two activities. In the study area, self-employment is often household-based, making it easier to combine income-generating activities with domestic duties. Women from larger households also reported relying on unpaid family labour to support their self-employed enterprises.

3.2.4 Other contextual factors

Policy period

Turning to structural factors, the results indicate that the post-1993 policy period is positively associated with

women's entry into wage employment. Compared with the pre-1993 period, women in the post-1993 era are 2.18 times more likely to enter wage employment rather than remain non-income earners, and 2.34 times more likely to do so rather than become self-employed. This finding underscores the role of policy interventions in promoting women's participation in wage labour. In contrast, the policy period has no significant effect on women's entry into self-employment. Evidence from FGDs suggests that this reflects weak implementation of policies intended to support women's self-employment, particularly microcredit programmes. Many women reported limited access to entrepreneurship training alongside credit provision, which in some cases resulted in indebtedness and asset loss, thereby discouraging the use of such programmes to establish self-owned businesses.

Membership in women's/youth associations

The study further shows that membership in women's associations positively influences participation in both wage employment and self-employment. Survey results indicate that association members are 34 and 63% more likely to enter wage employment and self-employment, respectively, than to remain non-income earners. Interviews with women highlight the role of these associations in facilitating information exchange about services and opportunities that support women's engagement in income-generating activities in the study area.

Place of residence

Place of residence (kebele) has a significant effect on women's entry into employment. Relative to women living in Sebeta 05, those residing in Bonde, Dima Manyo, and Haro Jila are 27 (though marginal), 41, and 54% less likely, respectively, to enter wage employment rather than remain non-income earners. In contrast, women in Haro Jila Fulaso are 1.62 times more likely than those in Sebeta 05 to enter self-employment rather than remain non-income earners (Table 2, Panel IV), but are 71% less likely to enter wage employment rather than self-employment (Table 2, Panel IX).

These differences underscore the importance of spatial accessibility in shaping women's employment choices. The sampled kebeles vary in proximity to NTEIs and in access to main roads and transport services. Sebeta 05 and Nanno Tefki are adjacent to Sebeta and Tefki towns, respectively, with most households within walking distance of NTEIs. In contrast, households in Dima Manyo, Bonde, and especially Haro Jila Fulaso are located farther away. While most kebeles have access to asphalt roads and public or employer-provided transport, Haro Jila Fulaso faces more severe transport constraints, relying primarily on horse-drawn carts along gravel roads.

As a result, residence in more remote kebeles constrains women's participation in wage employment. Where NTEIs are difficult to reach due to poor road access and limited transport services, women are more likely to engage in self-employment than wage employment, as illustrated most clearly by the case of Haro Jila Fulaso.

Ethnic group

Compared with becoming non-income earners or self-employed, women from ethnic groups other than Oromo are approximately 50% less likely to enter wage employment. This finding suggests that language may play a role in employment entry, as women who do not speak Afan Oromo, the official and most widely used language in the area, face lower chances of securing wage jobs. Additionally, many flower farms were established on land previously owned by local Oromo farmers, who increasingly participate in flower farm work to compensate for lost farming income. There is also a tacit preference for hiring family members affected by land loss. When additional workers are needed, farms often rely on current employees to announce vacancies in their neighbourhoods, resulting in a predominance of workers from the same ethnic group.

4. Conclusion

Rural women in the study area participate in both wage employment and self-employment to earn income, although these non-farm activities are generally characterized by low pay and poor working conditions, as widely documented in the literature on NTEIs. Consistent with the *macro-micro* framework (Van der Lippe & Van Dijk, 2001), the study demonstrates that individual characteristics, family-related factors, and broader contextual conditions significantly influence women's decisions to engage in income-earning

activities. At the individual level, education, migration status, and birth cohort were significant predictors of labour market entry. Among family-related factors, marital status strongly shapes women's employment decisions, while household wealth and size also exert significant influence.

Broader contextual factors further determine employment entry. Policy interventions, membership in women's associations, and residence in locations with better access to infrastructure and job opportunities play a crucial role in facilitating labour market participation. Notably, the study diverges from previous findings regarding the effects of secondary and higher education and the presence of pre-school children, which appear less influential in this context. These differences reflect the low-pay, poor-condition nature of available jobs and the presence of social support systems for childcare in the community.

The effects of some of the factors vary between wage employment and self-employment, reflecting the distinct nature of these work types in terms of pay, conditions, social value, and cultural expectations regarding women's roles. In conclusion, women's employment decisions are shaped by a complex interplay of individual and family characteristics, job attributes, socio-cultural norms, policy context, and residential access to infrastructure. Enhancing women's labour market participation therefore requires not only job creation but also ensuring access to decent work, social services, and infrastructure, alongside broader efforts to transform gender relations within households and society.

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