Women's informal labor market participation in Ecuador

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Abstract

This paper describes trends, correlates, and critical patterns driving women's labor force participation in Ecuador between 2015 and 2021. We aim to understand better what factors cause women to choose to work in the informal sector in that country. To do that, we process data from seven waves (2015 to 2021) of the Ecuadorian National Survey of Employment and Unemployment. We document changes through time in female employment trends, and isolate key patterns of the statistical associations between household characteristics and those trends. We found an increase in the share of 15-year-old or older women who were active and occupied, as well as an increase in their holding of informal jobs. In addition, OLS estimates point to working informally as a second-best strategy where women—economically constrained, low-skilled agents—substitute for formal employment, opting for informal jobs when facing obstacles in meeting basic needs.

1. Background

Over the past four decades, female labor participation rates have significantly increased in most Latin America and the Caribbean (LAC) countries. Nevertheless, women still face persistent gender wage gaps and greater vulnerability to unemployment than men. In addition, female work is disproportionately concentrated in informal, low-productivity sectors. In fact, labor informality is a prevalent problem in LAC (ILO, 2018), with 53.1 percent of employed women working in informal activities.

While definitions of informality vary, it tends to be associated with several phenomena, such as workers not being protected via social security, the evasion of taxes, and disincentives for investment, as well as shadow activities of low productivity. Traditionally, informal employment has been considered an alternative to unemployment when barriers to entering formal employment exist, often generated by labor market regulations. By 'absorbing' the surplus labor in the economy, informal employment has been thought of as involuntary (De Soto, 2000; Dickens and Lang, 1985; Fields, 1975; Harris and Todaro, 1970; Lewis, 1954). Working informally has also been viewed as a voluntary, cost-minimizing decision based on workers' earnings and the absence of labor regulation in the informal sector, i.e. government 'distortions' (Maloney, 1999). Alternatively, the informal sector has been seen as a heterogenous pool of workers that consists of at least two groups: those engaged in activities with subsistence goals, and those engaged in activities with decreasing labor cost and capital accumulation goals (Fields, 1990; Maloney, 2004).

Despite the significant amount of study on informal employment to date, research on the determinants of women's informal labor market activities in LAC (and specifically Ecuador) is scarce. The literature concerned with LAC labor informality has chiefly analyzed how policy reforms affect its prevalence, with a focus on isolating the effects of payroll taxes,[1] social insurance,[2] and social assistance interventions.[3] Other studies have sought to estimate labor supply elasticities via structural and discrete choice labor supply models, or using grouped estimation techniques.[4] Understanding how factors such as demographics, school achievement,

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[1] For instance, the 2012 tax reform in Colombia reduced payroll taxes was found to increase formal employment (Antón, 2014; Fernandez and Villar; 2017; Morales and Medina; 2017). Conversely, it has been shown that the increases in payroll taxes that took place from 1982 to 1996 in that country reduced formal employment (Kugler and Kugler, 2009).

[2] Extending health insurance coverage to dependent children of registered workers has been found to raise registered employment in Uruguay (Bergolo and Cruces, 2014), and Ecuador (Molina-Vera, 2021). However, in Mexico, the introduction of free health care insurance covering individuals who were not accessing contributory health insurance was shown to reduce formal employment (Bosch and Campos-Vazquez, 2014), specifically among less-educated workers (Azuara and Marinescu, 2013).

[3] Social assistance was found to have statistically insignificant, and at most small, effects on the adult labor supply in Mexico, Nicaragua, and Honduras (Alzúa et al., 2013). Providing a universal child allowance that took the form of cash transfers to unregistered workers with children did to a decrease in formal employment for eligible workers in Argentina (Garganta and Gasparini, 2015). In Brazil, the introduction of Bolsa Familia induced a reallocation from the formal to the informal sector (de Brauw et al., 2013).

[4] For example, Pradhan and van Soest (1997) estimate static structural labor supply models in Bolivia, showing that a 10 percent decrease in formal sector wages might lead to a reallocation of a greater magnitude for men than for women. Alternatively, using grouped estimation techniques, McKay et al. (2019) find no robust effect of taxes on formal work in four sub-Saharan African countries. Osei et al. (2019) find a small size elasticity of formal employment resulting from an increase in social protection in Ghana. Using both approaches, Jara and Rattenhuber (2022) show that in the case of Ecuador, on average formal employment elasticities for single women are low and that for women in couples, formal

family composition, age and ethnicity correlates with informality in LAC (particularly informality among women) is critical from a policy perspective, as it helps better understanding a pervasive pattern across labor markets of the region (Gasparini and Tornarolli, 2009). Knowing whether informal employment among women is demand-led and voluntary, or supply-led and involuntary is essential to the designing of interventions to strengthen incentives for women to enter formal employment.

In addition, since 2020, the COVID-19 pandemic has had an unprecedented impact on LAC labor markets. Social distancing measures taken to contain the spread of COVID-19 led to major increases in the share of the inactive population, considerably reducing informality, with minor changes in (less-flexible) formal jobs. As a result, recent estimates indicate that the current and partial recovery of employment has been led by growth in informal employment, accounting for at least 70 percent of the net creation of jobs in several LAC countries. Given that alike informal workers, women have been disproportionately affected by the contraction in employment and income induced by the crisis, and that women displayed higher informality rates before the pandemic, gaining a better understanding of the determinants of women's informal labor market participation, and whether these relations have evolved since the peak of the COVID-19 pandemic is dearly relevant. The clear comprehension of such links can inform the design, and encourage the adoption of inclusive, sustainable policies to support the creation of more formal employment, and guarantee the income and social protection of workers and families in vulnerable conditions, thereby limiting the harmful social and labor impacts of the COVID-19 crisis in LAC.

Ecuador, our country of interest, is a fascinating case in terms of the trends and determinants of female labor informality in LAC. During the late 1990s, the country went through major macroeconomic and financial crises, resulting in the dollarization of its economy in 2000. Today, income inequality is high, poverty is widespread, and Ecuador is marked by persistent informality. Labor informality in the country is higher than the regional average—64 percent of 15-year-old and older who were active and occupied worked in the informal sector as of December 2021. Ecuadorian labor informality persists today, although it experienced a decline during the 2000s and even if, over the last two decades, the government has implemented several policies to promote formal employment.[5] Importantly, informality is higher among women. While female labor force participation has increased by about 5 percentage points over the last 10 years (ILO, 2021), the proportion of women working informally exceeds those of men (ILO, 2018), likely explained by the adjustment by women, specifically married women, of their labor supply more flexibly than men (Bargain et al., 2014).

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employment elasticities are larger under the discrete choice approach whereas they are low and nonsignificant under the grouped-data estimations.

[5] Between 2008 and 2018, we could cite the introduction of an active minimum wage policy (*salario digno*), with the goal of realizing the so-called 'living wage'; the promotion and extension of social security coverage as part of Ecuador's *Nacional Plan de Buen Vivir*, as well as the development of decent working conditions and respect for labor rights; the standardization of domestic work conditions, including an increased minimum wage and compulsory enrollment in the country's social security program; the promotion of quality employment, aiming at reducing gaps in access to quality employment; and job placement strategies for young people.

Bringing more women into the Ecuadorian formal labor force is also a policy essential, as it is a recipe for increasing labor quality and productivity and hence positively impacting economic growth in a fiscally sustainable way. Formal employment opportunities for women have direct benefits regarding household poverty and the well-being of all household members. Women who are formally employed increase the purchasing power of, and provide financial security for their households, which often translate into better health and education investments. Achieving a deeper understanding of how to promote the formal labor force participation of Ecuadorian women requires a deep exploration of the key patterns and determinants that drive that behavior.

This technical note analyses the determinants of female labor market participation broadly and the decision between formal and informal employment, specifically in Ecuador. Using nationally representative survey data from the 2015 to 2021 National Surveys of Employment, Unemployment and Underemployment (*Encuesta Nacional de Empleo, Desempleo y Subempleo*, ENEMDU), we characterize changes in trends in labor market participation and informality among women in Ecuador over time, enriching the limited existing evidence for this country. The results of our analysis are meant to inform the design of interventions aiming at strengthening social protection and, relatedly, incentives for women to enter formal employment, outcomes that are extremely relevant to the recovery from the economic impact of the COVID-19 pandemic and the long-term sustainability of economic growth.

2. Data

To conduct this analysis, we process the December rounds of seven waves, from 2015 to 2021, of the ENEMDU, a rotative household panel survey conducted by the Ecuador National Institute of Statistics and Census (*Instituto Nacional de Estadísticas y Censos*, INEC).[6] In the analysis below, we apply survey weights to ensure that our results are nationally representative.

There exist various definitions of informality. The INEC, in line with the ILO, defines an informal worker according to enterprise characteristics, that is, as an individual who works in a firm that is not registered—does not have a Single Taxpayer Registry (*Registro Único del Contribuyente*, RUC)—and employs less than 100 workers (domestic workers are excluded from this definition). Another definition, in line with the Inter-American Development Bank (IADB) approach, considers a worker to be informal if the worker is an active and occupied individual who does not access social security. Throughout the analysis, we opt for the latter definition, as it provides a clearer picture of the prevalence of informal workers by ensuring, for instance, the identification of those who will be able to access a pension upon retirement as well as other mandated benefits. In the annex, we assess the robustness of our descriptive statistics and estimation results using the INEC definition.

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[6] This survey does not follow individuals continuously; it is constructed from four quarterly reports, spread over two consecutive years. Households are interviewed in two consecutive quarters; a new sample unit is interviewed in the next two consecutive quarters; and then, the first sample unit is interviewed again in two successive quarters. Importantly, the rotative panel feature of the ENEMDU was interrupted during the COVID-19 pandemic.

After statistics on labor force participation and informality over time for the Ecuadorian population ages 15 years old or more are presented, the unit of analysis remains a 15-year-old or older female individual for the rest of the analysis.

3. Descriptive statistics

3.1. Labor market participation

Table 1 presents the evolution of labor market participation for men and women from December 2015 to December 2021. Over the period of analysis, the share of active and occupied slightly increased from 62.09 percent in 2015 to 63.49 percent in 2021, despite a temporary decline in 2020, likely due to the COVID-19 pandemic mitigation and prevention measures, such as mobility restrictions, curfews, and the suspension of nonessential activities. In contrast, the proportions of unemployed, i.e. active and unoccupied, and inactive, appear to have remained stable over this period, not exceeding 3 and 40 percent, respectively, of the Ecuadorian population aged 15 years old or more, with a temporary increase in 2020. We note, however, a rise in the proportion of the inactive of a greater magnitude, suggesting that pandemic-induced labor market changes are reflected in affected workers' exiting, possibly temporarily, the labor force (ILO, 2020).

These statistics mask strong gender heterogeneities. While the rate of active and occupied among men remained higher than among women during the period of study—75.76 and 51.61 percent in 2021, respectively—it has been decreasing since 2018, when it amounted to 77.34 percent, in spite of a rebound in 2021, after the peak of the COVID-19 pandemic. On the other hand, the share of active and occupied women had increased to 51.61 percent as of December 2021, above the pre-COVID-19 pandemic level, and regardless of a decrease already apparent in 2018. Relatedly, ignoring unemployment, the proportion of inactive men increased by almost 4 percentage points, while the proportion of inactive women declined by about 3 percentage points.

Table 1. Labor market participation among Ecuadorian men and women, 2015–2021 (ratios)

Time	Men and women			Men			Women		
	Active and occupied	Active and unoccupied	Inactive	Active and occupied	Active and unoccupied	Inactive	Active and occupied	Active and unoccupied	Inactive
Dec-2015	0.6209	0.0245	0.3547	0.7700	0.0256	0.2044	0.4789	0.0234	0.4977
Dec-2016	0.6282	0.0282	0.3436	0.7651	0.0290	0.2058	0.4964	0.0275	0.4761
Dec-2017	0.6371	0.0259	0.3371	0.7734	0.0237	0.2029	0.5068	0.0279	0.4653
Dec-2018	0.6232	0.0200	0.3567	0.7548	0.0206	0.2246	0.4955	0.0195	0.4850
Dec-2019	0.6204	0.0224	0.3572	0.7479	0.0241	0.2280	0.4969	0.0207	0.4824
Dec-2020	0.5977	0.0264	0.3759	0.7359	0.0223	0.2419	0.4629	0.0305	0.5067
Dec-2021	0.6349	0.0257	0.3394	0.7576	0.0260	0.2164	0.5161	0.0254	0.4585

Note: Nationally representative sample of the Ecuadorian population ages 15 years or more.

3.2. Informality

Table 2 presents the evolution of informal work for active and occupied men and women from December 2015 to 2021. Over the period of analysis, the share of active and occupied without

access to social security increased from 53.26 percent in 2015 to 64.33 percent in 2021. We note the increase of the greatest magnitude, 5.03 percentage points, between 2019 and 2020, plausibly resulting from the COVID-19 pandemic and consistent with existing evidence (Botello Peñaloza and Guerrero Rincón, 2022). Interestingly, men and women display similar rates: 52.55 percent of active and occupied men, and 54.34 percent active and occupied women, were not affiliated with social security in 2015, compared to 63.72 and 65.21 percent, respectively, in 2021. In addition, both Ecuadorian men and women experienced rises in informality of similar magnitude between 2019 and 2020: 4.97 percentage points among men and 5.11 percentage points among women.[7,8]

Table 2. Labor market informality among Ecuadorian men and women, 2015–2021

Time	All	Men	Women
Dec-2015	0.5326	0.5255	0.5434
Dec-2016	0.5488	0.5450	0.5545
Dec-2017	0.5666	0.5587	0.5782
Dec-2018	0.5748	0.5766	0.5721
Dec-2019	0.5950	0.5978	0.5908
Dec-2020	0.6453	0.6475	0.6419
Dec-2021	0.6433	0.6372	0.6521

Note: Nationally representative sample of the Ecuadorian population ages 15 years or more, active and occupied in the previous week.

3.3 Characterizing informality among Ecuadorian women

Below, we present a series of statistics characterizing Ecuadorian women, 15 years old or more, active and occupied, whether they are affiliated to social security. We observe marked differences. First, as shown in Table 3, the majority of women with access to social security, 62.04 percent in 2021, were wage employed, compared to 19.32 percent of women without access to social security, who were mostly own-account workers (48.08 percent of all employed women in 2021), even though there was a decrease (increase) in wage employment (self-employment) among women with access to the social security system in the country over the period of analysis.

Table 3. Employment status, Ecuadorian women, 2015–2021

	Affiliated to social security					Not affiliated to social security				
Time	Waged	Employer	Own account	Unpaid	Domestic	Waged	Employer	Own account	Unpaid	Domestic
Dec-2015	0.7013	0.0240	0.1387	0.0661	0.0699	0.2154	0.0165	0.4964	0.2103	0.0615

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[7] While statistics are, qualitatively, alike, when informality is defined according to enterprise characteristics, as shown in Table A1, informality rates were lower in magnitude, being 47.96 percent among men and 50.04 percent among women in 2021.

[8] However, it might be the case that this preliminary descriptive analysis masks major heterogeneities. It has indeed been found that reforms promoting formal employment that were implemented between 2008 and 2018, mentioned in footnote 1, increased formal employment in the medium term, that is, at least one year after the reforms went into effect, among large firms; formal employment in smaller enterprises was only affected temporarily, if at all. Formalization was also observed among domestic workers (Arias et al., 2020).

Dec-2016	0.6600	0.0233	0.1636	0.0815	0.0716	0.2007	0.0211	0.4849	0.2280	0.0652
Dec-2017	0.6605	0.0216	0.1732	0.0867	0.0579	0.2073	0.0170	0.4718	0.2443	0.0597
Dec-2018	0.6292	0.0259	0.1769	0.1000	0.0681	0.1910	0.0163	0.4785	0.2431	0.0711
Dec-2019	0.6210	0.0259	0.1639	0.1128	0.0763	0.1593	0.0166	0.4733	0.2792	0.0717
Dec-2020	0.6255	0.0205	0.2009	0.0999	0.0532	0.1558	0.0091	0.4814	0.2953	0.0585
Dec-2021	0.6204	0.0224	0.2061	0.1008	0.0502	0.1932	0.0181	0.4808	0.2507	0.0573

Note: Nationally representative sample of the Ecuadorian female population ages 15 years or more, active and occupied in the previous week.

Second, while Table 4 indicates that the greater part of women working formally or informally had a job in the tertiary sector, the share was higher among the former, 73.46 percent, compared to the latter, 60.99 percent, in 2021; both groups experienced a decrease (increase) in tertiary sector work (primary sector work) over the period of study.

Table 4. Sector of activity, Ecuadorian women, 2015–2021

	Affiliated to social security			Not affiliated to social security		
Time	Primary sector	Secondary sector	Tertiary sector	Primary sector	Secondary sector	Tertiary sector
Dec-2015	0.1183	0.1117	0.7701	0.2673	0.0986	0.6341
Dec-2016	0.1370	0.1065	0.7565	0.2653	0.1114	0.6233
Dec-2017	0.1410	0.1109	0.7482	0.2650	0.1230	0.6120
Dec-2018	0.1667	0.1034	0.7298	0.2836	0.1123	0.6041
Dec-2019	0.1699	0.1027	0.7274	0.3095	0.1044	0.5861
Dec-2020	0.1861	0.0955	0.7183	0.3002	0.0878	0.6120
Dec-2021	0.1576	0.1078	0.7346	0.2993	0.0908	0.6099

Note: Nationally representative sample of the Ecuadorian female population ages 15 years or more, active and occupied in the previous week.

Third, Table 5 shows that women affiliated to social security in 2021 tended to hold white-collar (higher-skilled) occupations (69.48 percent). In contrast, women who were not affiliated to social security mostly worked in lower-skilled, blue-collar occupations (60.48 percent). This is likely explained by the fact that, usually, white-collar and higher-skilled occupations tend to be in the formal sector. Yet, we note a decrease (increase) in the proportion of higher- (lower-)skilled occupations since 2015 for all women.

Table 5. Occupations, Ecuadorian women, 2015–2021

	Affiliated to social security		Not affiliated to social security	
Time	White-collar occupations	Blue-collar occupations	White-collar occupations	Blue-collar occupations
Dec-2015	0.7161	0.2839	0.4692	0.5308
Dec-2016	0.6921	0.3079	0.4707	0.5293
Dec-2017	0.6953	0.3047	0.4327	0.5673
Dec-2018	0.6611	0.3389	0.4243	0.5757
Dec-2019	0.6628	0.3372	0.4030	0.5970

Dec-2020	0.6644	0.3356	0.4067	0.5933
Dec-2021	0.6948	0.3052	0.3952	0.6048

Note: Nationally representative sample of the Ecuadorian female population ages 15 years or more, active and occupied in the previous week.

Fourth, Table 6 highlights that women working formally were more educated than women working informally, in spite of an overall rise in educational attainment. In 2021, 49.23 (19.92) percent of women working formally had tertiary (basic) education. In comparison, 14.06 (37.64) percent of women working informally had tertiary (basic) education. Moreover, we note a contrasting trend in secondary education, with the proportion of those having secondary education decreasing among women working formally, but increasing among those working informally, over the period of analysis.

Table 6. Educational attainment. Employed Ecuadorian women, 2015–2021

	Affiliated to social security				Not affiliated to social security			
Time	None or less than primary education	Primary education	Secondary education	Tertiary education	None or less than primary education	Primary education	Secondary education	Tertiary education
Dec-2015	0.0156	0.1876	0.3295	0.4673	0.0736	0.4323	0.3896	0.1045
Dec-2016	0.0197	0.2084	0.3233	0.4486	0.0670	0.4281	0.4033	0.1015
Dec-2017	0.0200	0.1971	0.3218	0.4611	0.0698	0.4107	0.4091	0.1104
Dec-2018	0.0214	0.2200	0.3065	0.4521	0.0714	0.4324	0.3918	0.1044
Dec-2019	0.0209	0.2241	0.2941	0.4609	0.0728	0.4079	0.4152	0.1041
Dec-2020	0.0326	0.1955	0.2797	0.4922	0.0660	0.3778	0.4402	0.1160
Dec-2021	0.0123	0.1992	0.2962	0.4923	0.0400	0.3764	0.4430	0.1406

Note: Nationally representative sample of the Ecuadorian female population ages 15 years or more, active and occupied in the previous week.

Last, Table 7 reveals that, during the entire period of analysis, employed women were more likely to work in urban than in rural areas; a pattern that holds irrespective of whether the employment arrangement affiliates the employee to the social security system. However, employed women who are not affiliated to the social security system were more likely to be employed in rural areas than their counterparts whose work arrangements affiliate them to the social security system.

Table 7 also reveals changes in the regional composition of the proportion of women working in the informal sector through time. This is evidenced by the fact that the proportion of employed women not affiliated to social security in the Sierra region was 51% in 2015, while, in 2022, it had shrunk to 38%. In parallel, that proportion grew from 6% to 15% in the Amazonia region during the same period.

Table 7. Locations of employment, Ecuadorian women, 2015–2021

	Affiliated to social security					Not affiliated to social security				
Time	Urban	Rural	Sierra	Costa	Amazonia	Urban	Rural	Sierra	Costa	Amazonia

Dec-2015	0.7814	0.2186	0.5545	0.4052	0.0367	0.6360	0.3640	0.5139	0.4228	0.0617
Dec-2016	0.7444	0.2556	0.5473	0.4106	0.0391	0.6402	0.3598	0.5055	0.4275	0.0658
Dec-2017	0.7643	0.2357	0.5170	0.4359	0.0425	0.6332	0.3668	0.4907	0.4427	0.0648
Dec-2018	0.7501	0.2499	0.5519	0.4118	0.0364	0.6353	0.3647	0.4978	0.4319	0.0702
Dec-2019	0.7496	0.2504	0.5788	0.3813	0.0372	0.6150	0.3850	0.5241	0.4033	0.0711
Dec-2020	0.7419	0.2581	0.5239	0.4076	0.0673	0.6523	0.3477	0.4128	0.4537	0.1323
Dec-2021	0.7556	0.2444	0.5014	0.4300	0.0659	0.6359	0.3641	0.3792	0.4689	0.1507

Note: Nationally representative sample of the Ecuadorian female population 15 years or more, active and occupied in the previous week.

4. What are the determinants of women's decisions to participate in the informal labor market in Ecuador?

4.1. Ordinary least squares (OLS)
We explore the determinants of female labor participation and informality by estimating a series of pooled (cross-section) ordinary least squares (OLS) regressions along the following lines:

$$y_{ict} = x'_{ict}\beta + \delta_t + \gamma_c + u_{ict} \tag{1}$$

where *y* is the outcome variable of interest, alternatively a binary variable taking the value of 1 if a 15-year-old or older woman *i* living in canton *c* at time *t* is active and occupied and 0 otherwise, or a binary variable taking the value of 1 if a 15-year-old or older woman *i* living in canton *c* at time *t* is active, occupied, and not affiliated to social security and 0 otherwise. δ stands for year fixed effects; γ, for canton fixed effects; and *u* is the error term.[9] *x* is a vector of the explanatory variables that are possible determinants of labor force participation, in line with the literature: age groups, ethnicity, past migration, educational attainment, relationship to household head, marital status, household size, household dependency ratios, household poverty, location, and survey year. In specifications studying informality, employment status, sector of activity, and occupation are added as explanatory variables.

4.2 Estimation sample descriptive statistics
The estimation sample descriptive statistics listed in Table 8 already highlight the marked differences by labor market participation status among Ecuadorian women. Active and occupied women were, on average, significantly older than unemployed or inactive women; they were more likely to identify as indigenous or *mestizas*; to have attained tertiary education; to be a household head; to be married or separated; and to live in rural households that are less likely to be poor, of smaller size, and have a larger share of members younger than 15 years of age and a lower proportion of members older than 64 years of age.

In contrast, conditional on being active and occupied, women without access to social security were, on average, younger and less likely to identify as *mestizas* than women affiliated to social

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[9] Results are provided with standard errors that are clustered at the canton level. Clustering standard errors at the household level provides qualitatively similar results.

security; they are likely to have attained, at most, secondary education; to be separated or single; to live in poor households that are generally larger and that have a larger share of members younger than 15 years of age. With regard to job characteristics, women holding informal jobs tend to face strong vulnerability in employment, being primarily own-account or unpaid workers, compared to women working formally, who are more likely to be wage employed. The former are also more likely to work in the primary sector, in lower-skilled, blue-collar occupations.

Table 8. Estimation sample descriptive statistics

	15-year-old or older women					Active and occupied 15-year-old or older women				
	Mean	SD	Active unemployed or inactive	Active and occupied	(4)-(3)	Mean	SD	Not affiliated to social security	Affiliated to social security	(9)-(8)
Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Age groups										
15–24	0.2385	0.4261	0.3500	0.1300	-0.217***	0.1285	0.3346	0.1600	0.0800	-0.077***
			(0.01)	(0.01)	[0.006]			(0.01)	(0.00)	[0.008]
25–34	0.2013	0.4010	0.1600	0.2400	0.080***	0.2416	0.4281	0.2300	0.2600	0.037***
			(0.00)	(0.00)	[0.007]			(0.00)	(0.01)	[0.008]
35–44	0.1869	0.3899	0.1200	0.2500	0.130***	0.2527	0.4346	0.2500	0.2600	0.019***
			(0.00)	(0.00)	[0.005]			(0.00)	(0.00)	[0.005]
45–54	0.1478	0.3549	0.1000	0.1900	0.093***	0.1949	0.3961	0.1900	0.2100	0.023***
			(0.00)	(0.00)	[0.006]			(0.00)	(0.01)	[0.007]
55–64	0.1077	0.3100	0.1000	0.1200	0.025***	0.1205	0.3255	0.1200	0.1300	0.013*
			(0.00)	(0.00)	[0.004]			(0.01)	(0.00)	[0.007]
+65	0.1178	0.3224	0.1700	0.0600	-0.111***	0.0618	0.2408	0.0700	0.0500	-0.015***
			(0.01)	(0.00)	[0.008]			(0.00)	(0.00)	[0.004]
Ethnic groups										
Indígena	0.0814	0.2734	0.0500	0.1200	0.074***	0.1185	0.3232	0.1700	0.0500	-0.121***
			(0.01)	(0.02)	[0.016]			(0.03)	(0.01)	[0.019]
Afroecuatoriano	0.0153	0.1228	0.0200	0.0100	-0.0020	0.0143	0.1185	0.0200	0.0100	-0.0020
			(0.00)	(0.00)	[0.002]			(0.00)	(0.00)	[0.002]
Negro	0.0157	0.1242	0.0200	0.0100	-0.006***	0.0125	0.1113	0.0100	0.0100	-0.0020
			(0.00)	(0.00)	[0.002]			(0.00)	(0.00)	[0.002]
Mulato	0.0120	0.1087	0.0100	0.0100	-0.003*	0.0106	0.1026	0.0100	0.0100	-0.0020
			(0.00)	(0.00)	[0.001]			(0.00)	(0.00)	[0.002]
Montubio	0.0488	0.2154	0.0600	0.0400	-0.025***	0.0363	0.1871	0.0400	0.0400	0.0010
			(0.01)	(0.01)	[0.006]			(0.01)	(0.01)	[0.004]
Mestizo	0.8115	0.3911	0.8300	0.7900	-0.036***	0.7932	0.4050	0.7400	0.8700	0.124***
			(0.02)	(0.02)	[0.011]			(0.02)	(0.02)	[0.015]
Blanco	0.0150	0.1216	0.0200	0.0100	-0.0020	0.0142	0.1185	0.0100	0.0200	0.0030
			(0.00)	(0.00)	[0.001]			(0.00)	(0.00)	[0.002]
Otro	0.0004	0.0199	0.0000	0.0000	0.0000	0.0003	0.0183	0.0000	0.0000	0.0000
			(0.00)	(0.00)	[0.000]			(0.00)	(0.00)	[0.000]
Past migration										
Born in city of current residence	0.6212	0.4851	0.6200	0.6200	-0.0060	0.6184	0.4858	0.6100	0.6300	0.0200
			(0.01)	(0.01)	[0.007]			(0.02)	(0.02)	[0.021]
Born in another city	0.3619	0.4806	0.3600	0.3600	0.0010	0.3623	0.4807	0.3700	0.3600	-0.0120
			(0.01)	(0.01)	[0.006]			(0.02)	(0.02)	[0.020]

Born in another country	0.0169	0.1289	0.0100	0.0200	0.005***	0.0193	0.1376	0.0200	0.0100	-0.008***
			(0.00)	(0.00)	[0.002]			(0.00)	(0.00)	[0.002]
Education										
None or less than primary	0.0533	0.2246	0.0600	0.0500	-0.013***	0.0467	0.2110	0.0600	0.0200	-0.045***
			(0.01)	(0.01)	[0.003]			(0.01)	(0.00)	[0.005]
Primary	0.3479	0.4763	0.3700	0.3300	-0.044***	0.3256	0.4686	0.4100	0.2100	-0.202***
			(0.02)	(0.03)	[0.011]			(0.02)	(0.03)	[0.012]
Secondary	0.3998	0.4898	0.4300	0.3700	-0.056***	0.3718	0.4833	0.4200	0.3100	-0.106***
			(0.02)	(0.02)	[0.007]			(0.02)	(0.01)	[0.014]
Tertiary	0.1991	0.3993	0.1400	0.2600	0.113***	0.2559	0.4364	0.1100	0.4600	0.353***
			(0.01)	(0.02)	[0.012]			(0.01)	(0.02)	[0.012]
Employment status										
Wage-employed						0.3755	0.4843	0.1900	0.6500	0.459***
								(0.01)	(0.02)	[0.021]
Employer						0.0188	0.1357	0.0200	0.0200	0.007***
								(0.00)	(0.00)	[0.002]
Own-account worker						0.3558	0.4788	0.4800	0.1700	-0.308***
								(0.02)	(0.01)	[0.028]
Unpaid worker						0.1857	0.3889	0.2500	0.0900	-0.159***
								(0.03)	(0.02)	[0.014]
Domestic worker						0.0642	0.2451	0.0600	0.0700	0.0010
								(0.01)	(0.01)	[0.005]
Sectors										
Primary						0.2319	0.4220	0.2900	0.1500	-0.133***
								(0.05)	(0.04)	[0.026]
Secondary						0.1043	0.3056	0.1000	0.1100	0.0020
								(0.01)	(0.01)	[0.006]
Tertiary						0.6639	0.4724	0.6100	0.7400	0.130***
								(0.05)	(0.03)	[0.028]
Occupations										
White-collar						0.5303	0.4991	0.4300	0.6800	0.257***
								(0.03)	(0.03)	[0.017]
Blue-collar						0.4697	0.4991	0.5700	0.3200	-0.257***
								(0.03)	(0.03)	[0.017]
Relationship to household head										
Household head	0.2114	0.4083	0.1500	0.2700	0.123***	0.2736	0.4458	0.2800	0.2600	-0.021*
			(0.01)	(0.01)	[0.004]			(0.01)	(0.01)	[0.011]
Household head partner	0.4376	0.4961	0.4200	0.4600	0.043***	0.4594	0.4984	0.4500	0.4700	0.0110
			(0.01)	(0.01)	[0.009]			(0.01)	(0.02)	[0.009]
Child	0.2418	0.4282	0.2800	0.2000	-0.083***	0.2001	0.4001	0.1900	0.2100	0.018*
			(0.01)	(0.00)	[0.009]			(0.00)	(0.01)	[0.010]
Son- or daughter-in-law	0.0258	0.1586	0.0300	0.0200	-0.016***	0.0176	0.1316	0.0200	0.0100	-0.009***
			(0.00)	(0.00)	[0.003]			(0.00)	(0.00)	[0.002]
Grandchild	0.0154	0.1233	0.0200	0.0100	-0.015***	0.0081	0.0894	0.0100	0.0100	0.0010
			(0.00)	(0.00)	[0.001]			(0.00)	(0.00)	[0.001]

Parent or parent-in-law	0.0230	0.1498	0.0400	0.0100	-0.031***	0.0072	0.0845	0.0100	0.0000	-0.004***
			(0.00)	(0.00)	[0.002]			(0.00)	(0.00)	[0.001]
Other relative	0.0357	0.1856	0.0500	0.0300	-0.019***	0.0259	0.1588	0.0200	0.0300	0.0020
			(0.00)	(0.00)	[0.002]			(0.00)	(0.00)	[0.002]
Domestic worker	0.0009	0.0295	0.0000	0.0000	0.002***	0.0017	0.0416	0.0000	0.0000	0.003***
			(0.00)	(0.00)	[0.000]			(0.00)	(0.00)	[0.001]
Other nonrelative	0.0083	0.0909	0.0100	0.0100	-0.004***	0.0064	0.0799	0.0100	0.0100	-0.002*
			(0.00)	(0.00)	[0.001]			(0.00)	(0.00)	[0.001]
Marital status										
Married	0.3129	0.4637	0.2700	0.3500	0.082***	0.3542	0.4783	0.3300	0.3900	0.060***
			(0.01)	(0.02)	[0.012]			(0.02)	(0.02)	[0.008]
Separated	0.0954	0.2938	0.0600	0.1300	0.063***	0.1272	0.3332	0.1400	0.1100	-0.036***
			(0.01)	(0.02)	[0.009]			(0.02)	(0.02)	[0.008]
Divorced	0.0314	0.1744	0.0200	0.0400	0.025***	0.0441	0.2053	0.0300	0.0600	0.025***
			(0.00)	(0.00)	[0.002]			(0.00)	(0.01)	[0.005]
Widow	0.0654	0.2473	0.0800	0.0500	-0.033***	0.0489	0.2156	0.0500	0.0400	-0.007**
			(0.00)	(0.00)	[0.004]			(0.00)	(0.00)	[0.003]
Cohabitating	0.2220	0.4156	0.2400	0.2000	-0.044***	0.1998	0.3998	0.2200	0.1700	-0.057***
			(0.02)	(0.01)	[0.010]			(0.01)	(0.01)	[0.009]
Single	0.2728	0.4454	0.3200	0.2300	-0.093***	0.2259	0.4182	0.2200	0.2400	0.0160
			(0.01)	(0.01)	[0.005]			(0.01)	(0.01)	[0.011]
Household size	4.2758	2.0591	4.3800	4.1600	-0.220***	4.1646	2.0091	4.3500	3.8900	-0.456***
			(0.08)	(0.06)	[0.050]			(0.05)	(0.06)	[0.051]
Less than 15-year-old dependency ratio	0.1923	0.2023	0.1800	0.2000	0.024***	0.2042	0.2092	0.2200	0.1700	-0.051***
			(0.01)	(0.01)	[0.004]			(0.00)	(0.01)	[0.004]
More than 64-year-old dependency ratio	0.1094	0.2427	0.1400	0.0800	-0.055***	0.0815	0.2062	0.0800	0.0800	0.0050
			(0.01)	(0.00)	[0.007]			(0.00)	(0.00)	[0.003]
Below national poverty line	0.2176	0.4126	0.2400	0.1900	-0.051***	0.1917	0.3936	0.2700	0.0700	-0.204***
			(0.02)	(0.02)	[0.009]			(0.03)	(0.01)	[0.017]
Urban	0.7131	0.4523	0.7400	0.6800	-0.058***	0.6837	0.4650	0.6300	0.7500	0.120***
			(0.06)	(0.07)	[0.015]			(0.07)	(0.06)	[0.028]
Observations	184701		89605	95096	184701	95083		55024	40059	95083

Note: Standard deviations in parentheses. Standard errors in brackets. Significance levels: *P < 10%, ** P< 5%, *** P< 1%.

4.3 Estimation results

Table 9 presents the results from pooled OLS estimations of Equation (1). Column (1) displays estimates for labor marker participation, and column (2), estimates for not being affiliated to social security, conditional on being active and occupied.

Column (1) confirms a decrease in labor market participation among Ecuadorian women in 2020, compared to 2019, that might have been, nonetheless, offset by an increase in 2021. In column (2), we similarly observe an increase in the propensity to work informally in 2021, without, however, an expected decrease in 2020 compared to 2019.

Specifically, column (1) indicates that age is a statistically significant determinant of labor market participation among women: being 25 to 64 years old increases the propensity to be active and occupied, compared to being 15 to 24 or more than 65 years old. Identifying as indigenous, compared to *mestiza*, is positively associated with working. Being born in another country is similarly associated with a greater likelihood of working, as is educational attainment, household headship, and being separated or divorced, compared to being married. As suggested by estimation sample descriptive statistics in Table 8, poverty and living in urban areas are negatively correlated with labor market participation among women.

While age is a statistically significant determinant of informality among women, in contrast to labor market participation, this relationship is clearly negative.[10] We note, nonetheless, that identifying as indigenous, in comparison to *mestiza*, is likewise positively associated with informality,[11] as is being born in another country. As highlighted by the above descriptive statistics, levels of education lower than tertiary are positively correlated with informality. Certain job characteristics are clearly linked to informality. For instance, being self-employed, either as an employer or own-account worker, being an unpaid worker, working in tertiary sectors, and in lower-skilled, blue-collar occupations, raise the propensity of holding an informal job. Furthermore, being the head of a household, being separated or single, compared to being married, household size, poverty, and living in an urban area each increase the likelihood of working with no social security affiliation among women.[12]

Overall, these results suggest that, in Ecuador, working informally might be seen as a second-best strategy where women as economically constrained, low-skilled agents, substitute for formal employment, opting for informal jobs when facing obstacles in meeting basic needs.

Table 9. Estimation results

Variables	Active and occupied (1)	Not affiliated to social security (2)
Age groups (base category: 15–24 years old)		
25–34 years old	0.2924***	-0.0982***
	(0.0138)	(0.0065)
35–44 years old	0.3610***	-0.1553***
	(0.0124)	(0.0102)
45–54 years old	0.3359***	-0.2040***
	(0.0144)	(0.0128)
55–64 years old	0.2384***	-0.2630***
	(0.0094)	(0.0192)

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[10] This is consistent with evidence from panel data for Argentina, Brazil and Mexico, where entry into the informal salaried sector appears strongly biased towards the youth (Bosch and Maloney, 2010).

[11] These results are not surprising, given the presence of ethnic segregation in the Ecuadorian labor market. Ethnic minorities often face limited access to public services, such as education or health, and tend to reside in rural areas (Canelas, 2014; Atal et al., 2009).

[12] There is evidence that poverty and household headship are positively correlated with working informally in Chile (Amuedo-Dorantes, 2004) and Argentina (Devicienti et al., 2009).

More than 65 years old	-0.0383***	-0.2820***
	(0.0123)	(0.0222)
Ethnic groups (base category: mestizo)		
Indígena	0.1764***	0.0943***
	(0.0173)	(0.0101)
Afroecuatoriano	0.0187	0.0211
	(0.0211)	(0.0200)
Negro	-0.0174	0.0014
	(0.0159)	(0.0257)
Mulato	-0.0022	0.0174
	(0.0210)	(0.0208)
Montubio	-0.0205	-0.0466***
	(0.0135)	(0.0138)
Blanco	-0.0182	-0.0061
	(0.0173)	(0.0197)
Other ethnic groups	-0.0090	-0.2357*
	(0.0352)	(0.1336)
Past migration (base category: born in city of current residence)		
Born in another city	-0.0004	0.0019
	(0.0040)	(0.0053)
Born in another country	0.0604***	0.1656***
	(0.0119)	(0.0163)
Education (base category: tertiary education)		
Less than primary education	-0.1605***	0.4042***
	(0.0185)	(0.0165)
Primary education	-0.1351***	0.2999***
	(0.0120)	(0.0114)
Secondary education	-0.1166***	0.2282***
	(0.0086)	(0.0135)
Employment status (base category: Domestic worker)		
Wage-employed		-0.1525***
		(0.0197)
Employer		0.0962***
		(0.0295)
Own-account worker		0.2736***
		(0.0277)
Unpaid worker		0.2179***
		(0.0306)
Sector (base category: tertiary sector)		
Primary sector		-0.0765***
		(0.0133)
Secondary sector		-0.0230*
		(0.0128)
Occupation (base category: blue-collar occupation)		
White-collar occupation		-0.0629***
		(0.0079)
Relationship to household head (base category: household head)		
Household head partner	-0.1422***	-0.0241***
	(0.0117)	(0.0081)
Child	-0.1390***	-0.0392***
	(0.0165)	(0.0081)
Son- or daughter-in-law	-0.1531***	0.0112
	(0.0172)	(0.0146)
Grandchild	-0.1871***	-0.0653***
	(0.0166)	(0.0234)

	(1)	(2)
Parent or parent-in-law	-0.2609***	0.0527*
	(0.0100)	(0.0292)
Other relative	-0.1809***	-0.0235**
	(0.0215)	(0.0115)
Domestic worker	0.3079***	-0.3823***
	(0.0336)	(0.0748)
Other nonrelative	-0.1266***	0.0585**
	(0.0191)	(0.0228)
Marital status (base category: married, union de hecho)		
Separated	0.1126***	0.0670***
	(0.0109)	(0.0103)
Divorced	0.0483***	0.0262*
	(0.0182)	(0.0140)
Widow	-0.0479***	-0.0104
	(0.0148)	(0.0152)
Cohabitating	-0.0293***	0.0448***
	(0.0078)	(0.0090)
Single	0.0039	0.0541***
	(0.0089)	(0.0136)
Household size	-0.0016	0.0058***
	(0.0015)	(0.0017)
Less than 15-year-old dependency ratio	-0.0128	0.0236
	(0.0155)	(0.0146)
More than 64-year-old dependency ratio	0.0078	-0.0242
	(0.0178)	(0.0174)
Below national poverty line	-0.0843***	0.0744***
	(0.0090)	(0.0114)
Urban (*base category: rural*)	-0.0615***	0.0713***
	(0.0084)	(0.0123)
Period (base category: December 2019)		
December 2015	-0.0167	-0.0221***
	(0.0109)	(0.0074)
December 2016	0.0041	-0.0240***
	(0.0072)	(0.0072)
December 2017	0.0064	-0.0132*
	(0.0115)	(0.0077)
December 2018	0.0037	-0.0113**
	(0.0079)	(0.0057)
December 2020	-0.0270**	0.0099
	(0.0119)	(0.0085)
December 2021	0.0224**	0.0399***
	(0.0087)	(0.0124)
Observations	184,701	95,083
R-squared	0.2239	0.3741

Note: Column (1) presents OLS estimates for the sample of women who were 15 years old or older, where the dependent variable is a binary variable with a value of 1 if an individual was active and occupied, and 0 otherwise. Column (2) presents OLS estimates for the sample of active and occupied women who were 15 years old or older, where the dependent variable is a binary variable with a value of 1 if an individual declared that she was not affiliated to social security, and 0 otherwise. Robust standard errors in parentheses, clustered at the city (canton) level. All specifications include canton fixed effects. Sample weights are applied to ensure estimates are nationally representative. Statistical significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

5. Conclusions and policy implications

In this technical note, we analyzed the determinants of female labor market participation, and the decision between formal and informal work in Ecuador, a middle-income country characterized by persistent levels of informal employment, particularly among women. Using nationally representative survey data from 2015 to 2021, we observe an increase in the share of 15-year-old or older women who were active and occupied, as well as an increase in their holding of informal jobs. In addition, OLS estimates point to working informally as a second-best strategy where women—economically constrained, low-skilled agents—substitute for formal employment, opting for informal jobs when facing obstacles in meeting basic needs. These results enrich the limited evidence for this country; they might be of value to those designing interventions aimed at strengthening social protection and, relatedly, incentives to enter formal employment. These are features of key relevance in the recovery from the economic impact of the COVID-19 pandemic.

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Annexes

Table A1. Labor market informality among Ecuadorian men and women, 2015–2021, enterprise-based informality

	Men and women				Men				Women			
Time	Formal	Informal	Domestic	Not classified	Formal	Informal	Domestic	Not classified	Formal	Informal	Domestic	Not classified
Dec-2015	0.5129	0.3944	0.0274	0.0654	0.5230	0.3874	0.0026	0.0870	0.4975	0.4050	0.0653	0.0322
Dec-2016	0.4908	0.4194	0.0290	0.0608	0.5089	0.4088	0.0027	0.0796	0.4639	0.4352	0.0680	0.0328
Dec-2017	0.5035	0.4252	0.0257	0.0456	0.5217	0.4175	0.0029	0.0578	0.4770	0.4364	0.0590	0.0277
Dec-2018	0.4739	0.4477	0.0297	0.0487	0.4854	0.4492	0.0026	0.0629	0.4570	0.4455	0.0698	0.0277
Dec-2019	0.4574	0.4545	0.0314	0.0568	0.4700	0.4523	0.0024	0.0753	0.4391	0.4576	0.0736	0.0298
Dec-2020	0.4278	0.4950	0.0269	0.0502	0.4336	0.4902	0.0078	0.0684	0.4188	0.5025	0.0566	0.0221
Dec-2021	0.4478	0.4882	0.0240	0.0400	0.4646	0.4796	0.0024	0.0534	0.4239	0.5004	0.0548	0.0209

Note: Nationally representative sample of the Ecuadorian population 15 years old or older, active and occupied in the previous week.

Table A2. Estimation sample descriptive statistics, enterprise-based informality

	Active and occupied 15-year-old or older women				
	Mean	Standard deviation	Working formally	Working informally	(4)-(3)
Variable	(1)	(2)	(3)	(4)	(5)
Age groups					
15–24	0.1285	0.3346	0.1200 [0.01]	0.1400 [0.01]	0.015* [0.008]
25–34	0.2416	0.4281	0.2800 [0.00]	0.1900 [0.00]	-0.091*** [0.005]
35–44	0.2527	0.4346	0.2700 [0.00]	0.2300 [0.00]	-0.037*** [0.007]
45–54	0.1949	0.3961	0.2000 [0.00]	0.1900 [0.00]	0.0000 [0.005]
55–64	0.1205	0.3255	0.1000 [0.00]	0.1400 [0.01]	0.042*** [0.004]
65+	0.0618	0.2408	0.0300 [0.00]	0.1000 [0.01]	0.071*** [0.006]
Ethnic groups					
Indígena	0.1185	0.3232	0.0400 [0.01]	0.2100 [0.03]	0.165*** [0.027]
Afroecuatoriano	0.0143	0.1185	0.0100 [0.00]	0.0100 [0.00]	-0.0010 [0.002]
Negro	0.0125	0.1113	0.0100 [0.00]	0.0100 [0.00]	0.0010 [0.002]
Mulato	0.0106	0.1026	0.0100 [0.00]	0.0100 [0.00]	-0.0020 [0.002]
Montubio	0.0363	0.1871	0.0300 [0.00]	0.0500 [0.01]	0.023*** [0.005]
Mestizo	0.7932	0.4050	0.8800 [0.01]	0.6900 [0.03]	-0.184*** [0.026]
Blanco	0.0142	0.1185	0.0200	0.0100	-0.004**

			[0.00]	[0.00]	[0.001]
Otro	0.0003	0.0183	0.0000	0.0000	0.0000
			[0.00]	[0.00]	[0.000]
Past migration					
Born in city of current residence	0.6184	0.4858	0.6000	0.6500	0.049*
			[0.02]	[0.02]	[0.027]
Born in another city	0.3623	0.4807	0.3800	0.3400	-0.0390
			[0.02]	[0.02]	[0.028]
Born in another country	0.0193	0.1376	0.0200	0.0100	-0.010***
			[0.00]	[0.00]	[0.002]
Education					
None or less than primary	0.0467	0.2110	0.0100	0.0900	0.077***
			[0.00]	[0.01]	[0.009]
Primary	0.3256	0.4686	0.2100	0.4700	0.264***
			[0.02]	[0.03]	[0.017]
Secondary	0.3718	0.4833	0.3800	0.3600	-0.0200
			[0.01]	[0.03]	[0.022]
Tertiary	0.2559	0.4364	0.4000	0.0800	-0.321***
			[0.02]	[0.01]	[0.011]
Employment status					
Wage-employed	0.3755	0.4843	0.6200	0.0800	-0.542***
			[0.01]	[0.00]	[0.012]
Employer	0.0188	0.1357	0.0300	0.0100	-0.015***
			[0.00]	[0.00]	[0.002]
Own-account worker	0.3558	0.4788	0.1500	0.6000	0.456***
			[0.01]	[0.03]	[0.040]
Unpaid worker	0.1857	0.3889	0.0900	0.3100	0.220***
			[0.01]	[0.03]	[0.025]
Domestic worker	0.0642	0.2451	0.1200	0.0000	-0.118***
			[0.01]	[0.00]	[0.009]
Sectors					
Primary	0.2319	0.4220	0.0700	0.4200	0.346***
			[0.02]	[0.07]	[0.053]
Secondary	0.1043	0.3056	0.1100	0.0900	-0.021***
			[0.01]	[0.01]	[0.006]
Tertiary	0.6639	0.4724	0.8100	0.4900	-0.325***
			[0.02]	[0.06]	[0.050]
Occupations					
White-collar	0.5303	0.4991	0.7000	0.3300	-0.372***
			[0.01]	[0.04]	[0.035]
Blue-collar	0.4697	0.4991	0.3000	0.6700	0.372***
			[0.01]	[0.04]	[0.035]
Relationship to household head					
Household head	0.2736	0.4458	0.2600	0.2900	0.023**
			[0.01]	[0.01]	[0.010]
Household head partner	0.4594	0.4984	0.4400	0.4900	0.047***
			[0.02]	[0.01]	[0.009]
Child	0.2001	0.4001	0.2300	0.1700	-0.057***
			[0.01]	[0.01]	[0.008]
Son- or daughter-in-law	0.0176	0.1316	0.0200	0.0200	0.0020
			[0.00]	[0.00]	[0.003]
Grandchild	0.0081	0.0894	0.0100	0.0100	-0.003**
			[0.00]	[0.00]	[0.001]
Parent or parent-in-law	0.0072	0.0845	0.0100	0.0100	0.003***
			[0.00]	[0.00]	[0.001]

Other relative	0.0259	0.1588	0.0300	0.0200	-0.010***
			[0.00]	[0.00]	[0.002]
Domestic worker	0.0017	0.0416	0.0000	0.0000	-0.003***
			[0.00]	[0.00]	[0.001]
Other nonrelative	0.0064	0.0799	0.0100	0.0000	-0.003**
			[0.00]	[0.00]	[0.001]
Marital status					
Married	0.3542	0.4783	0.3500	0.3600	0.0070
			[0.02]	[0.02]	[0.011]
Separated	0.1272	0.3332	0.1200	0.1300	0.0120
			[0.02]	[0.02]	[0.009]
Divorced	0.0441	0.2053	0.0500	0.0300	-0.024***
			[0.01]	[0.00]	[0.004]
Widow	0.0489	0.2156	0.0300	0.0700	0.036***
			[0.00]	[0.00]	[0.003]
Cohabitating	0.1998	0.3998	0.1800	0.2200	0.033***
			[0.01]	[0.01]	[0.009]
Single	0.2259	0.4182	0.2600	0.1900	-0.065***
			[0.01]	[0.01]	[0.008]
Household size	4.1646	2.0091	4.0300	4.3300	0.304***
			[0.07]	[0.06]	[0.071]
Less than 15-year-old dependency ratio	0.2042	0.2092	0.1900	0.2200	0.032***
			[0.01]	[0.00]	[0.004]
More than 64-year-old dependency ratio	0.0815	0.2062	0.0600	0.1100	0.046***
			[0.00]	[0.00]	[0.005]
Below national poverty line	0.1917	0.3936	0.0700	0.3400	0.270***
			[0.01]	[0.03]	[0.026]
Urban	0.6837	0.4650	0.8200	0.5200	-0.305***
			[0.05]	[0.08]	[0.042]
Observations		95083	52225	42858	95083

Note: Standard deviations in parentheses. Standard errors in brackets. Significance levels: * $p < 10\%$, ** $p < 5\%$, *** $p < 1\%$.

Table A3. Estimation results, enterprise-based informality

Variables	Enterprise-based informality (1)
Age groups (base category: 15–24 years old)	
25–34 years old	-0.0280***
	(0.0063)
35–44 years old	-0.0435***
	(0.0086)
45–54 years old	-0.0497***
	(0.0090)
55–64 years old	-0.0353***
	(0.0095)
More than 65 years old	-0.0377**
	(0.0170)
Ethnic groups (base category: mestizo)	
Indígena	0.0583***
	(0.0083)
Afroecuatoriano	0.0326**
	(0.0136)

Negro	0.0318***
	(0.0106)
Mulato	0.0073
	(0.0154)
Montubio	0.0030
	(0.0131)
Blanco	0.0215
	(0.0166)
Other ethnic groups	-0.1112*
	(0.0626)
Born in another city	-0.0163***
	(0.0051)
Born in another country	0.0055
	(0.0177)
Education (base category: tertiary education)	
Less than primary education	0.1895***
	(0.0100)
Primary education	0.1443***
	(0.0098)
Secondary education	0.0805***
	(0.0107)
Employment status (base category: Domestic worker)	
Wage-employed	0.2606***
	(0.0093)
Employer	0.4176***
	(0.0273)
Own-account worker	0.8149***
	(0.0334)
Unpaid worker	0.6492***
	(0.0267)
Sector (base category: tertiary sector)	
Primary sector	0.1029***
	(0.0121)
Secondary sector	-0.0605***
	(0.0085)
Occupation (base category: blue-collar occupation)	
White-collar occupation	-0.1611***
	(0.0104)
Household head partner	0.0017
	(0.0065)
Child	0.0003
	(0.0096)
Son- or daughter-in-law	0.0184
	(0.0132)
Grandchild	-0.0230
	(0.0203)
Parent or parent-in-law	-0.0094
	(0.0198)
Other relative	-0.0063
	(0.0095)
Domestic worker	0.0026
	(0.0119)
Other nonrelative	0.0230

	(0.0306)
Separated	0.0368***
	(0.0085)
Divorced	0.0181**
	(0.0089)
Widow	0.0138
	(0.0097)
Cohabitating	0.0275***
	(0.0059)
Single	0.0397***
	(0.0077)
Household size	0.0016
	(0.0014)
Less than 15-year-old dependency ratio	0.0273**
	(0.0128)
More than 64-year-old dependency ratio	0.0269**
	(0.0121)
Below national poverty line	0.0905***
	(0.0089)
Urban (*base category: rural*)	-0.0393***
	(0.0066)
Period (base category: December 2019)	
December 2015	0.0042
	(0.0058)
December 2016	0.0192***
	(0.0054)
December 2017	0.0058
	(0.0064)
December 2018	0.0034
	(0.0060)
December 2020	-0.0013
	(0.0081)
December 2021	0.0138*
	(0.0077)
Observations	95,083
R-squared	0.5754

Note: Sample of active and occupied women who were 15 years old or older, where the dependent variable is a binary variable taking the value of 1 if an individual was working for an enterprise of strictly less than 100 employees and without RUC and 0 otherwise. Robust standard errors in parentheses, clustered at the city (canton) level. Specification includes canton fixed effects. Sample weights are applied to ensure estimates are nationally representative. Statistical significance: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.