Wage Differential of Informal Employment in Nepal

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Abstract

The total number of occupations or positions held during the specified reference period constitutes informal employment. It is deemed that a person has an informal job or employment if their employment relationship is, legally or practically, exempt from national labor legislation, income taxation, social protection, or the right to specific employment benefits. In Nepal, the problem of informal work is growing, and the economic yardstick for measuring social justice is the wage gap. This research uses a logistic regression approach to examine the factors that influence informal employment in Nepal. The computation of the factors affecting informality and wage disparities in informal employment in Nepal was done using two estimating techniques. The daily salary is significantly negatively impacted by informal employment. The workers who participate in informality make less money per day than those who work in regular employment. The findings indicate a positive and statistically significant relationship between worker age and daily pay. Workers are more likely to make a daily wage the older they are. When the workers are of the janajati ethnic group, their daily wages increase. But the daily wage of workers is not much impacted by dalit laborers. Workers who are married are more likely than other workers to have greater daily pay. They are therefore favorably related to one another. The outcome also showed that the worker's daily income grows along with their level of education. As a result, there is an association.

Keywords: wage differential, informal employment, labour, production unit

Introduction

While informal employment refers to jobs or labour, the informal sector refers to production units. The total number of occupations or positions held during the specified reference period constitutes informal employment. It is regarded that a person has an informal work or employment if their employment relationship is, either theoretically or practically, exempt from state labor legislation, tax rates, social protection, or the right to particular employment benefits (social security, paid annual leave and paid sick leave). Depending on work status, job characteristics, and employment benefits obtained, the operational meaning of informal employment may vary. Therefore, informal workers are not eligible for employment benefits, health and safety precautions, favorable working circumstances, or legal and social security protection. The following six job categories are included under informal employment

(ICLS, 2013). They are: I own-account workers who work in their own informal businesses; (ii) employers who work in their own informal businesses; (iii) contributing family workers, whether they work in formal or informal sectors of the economy; (iv) members of informal producers' cooperatives; (v) employees who hold informal jobs in both formal and informal sectors of the economy, or who are employed as domestic help by households for a wage; and (vi) own-account workers.

The ILO (2003) makes a distinction between the official and informal sectors in the case of Nepal. According to the definition, all government agencies, non-profit organizations, informal businesses, private homes, farms, and personal/family businesses are institutions where there are opportunities for work, whether they are formal or informal. The formal sector is the organization that maintains accounting records, is a registered firm at the federal level, employs six or more persons with social security benefits at a particular job. A farm or other economic entity that employs five or fewer people without paying social security taxes at non-fixed locations and is not registered at the national level falls within the informal sector. Since the informal sector is not the focus of this study, the explanations that follow will lean in that direction.

The ability to take yearly and sick leave as well as employer social security contributions are the most frequently utilized indicators to distinguish between formal and informal employment. In this regard, ILO (2003) offers the following six justifications for the existence of informal employment in the economy. These include: I not revealing the existence of the jobs or the employees; (ii) temporary or casual employment; (iii) jobs with wages or hours of work below a certain threshold (e.g. for social security contributions); (iv) employment by corporations or by members of a household; (v) jobs where the employee's place of employment is outside the employer's enterprise's premises (e.g. out-workers with an employment contract); and (vi) jobs for which It implies that there is informal employment, which may give rise to both positive and negative economic arguments about wages and other benefits.

Despite having a higher level of education than men or urban women, rural women have less options for regular employment, which results in salary inequality (Yamamoto, Matsumoto, Kawata & Kaneko, 2019). In Nepal, one in five individuals have jobs in the agriculture, forestry, and fishing sectors, according to CBS (2019). Women typically work in the agricultural, forestry, fishing, wholesale and retail commerce, and education sectors while the majority of male workers are employed in the construction, manufacturing, and transportation sectors. The result could be an unequal wage distribution scheme for the same amount of work and workers. The informal sector accounts for 68% of employment in the Middle East and North America, and 54% in Latin America and the Caribbean. Less than 50% of all employment, or 37%, is in Eastern Europe and Central Asia (Bonnet, Vanek & Chen, 2019). In Nepal, 85.14 percent of employment is unofficial (CBS, 2017), which is higher than the average for the world and a little lower than the average for South Asia.

In Nepal, the problem of informal work is growing, and the economic yardstick for measuring social justice is the wage gap. The informal economy is developing more and more every day. Therefore, the primary goal of the research is to use a logistic regression approach to investigate the factors that influence informal employment in Nepal.

Review of Literature

According to ILO (2003), there are three categories of institutional sector in Nepal: formal sector, informal sector, and households. The formal sector consists of the government, state-owned enterprises, for-profit businesses, NGOs, etc. They are registered with the appropriate authorities in accordance with national law. Private farms and businesses are those that are held by people or families and are not organized as distinct legal entities, which mean they are not registered with the appropriate authorities. Private businesses are therefore regarded as belonging to the unorganized sector. The informal sector includes households who only produce commodities for their own consumption, such as those who build their own homes, engage in subsistence farming, or hire paid domestic help.

The total number of unpaid jobs performed in households, businesses in the formal economy, or both during a certain reference period is referred to as informal employment. The conceptual framework of informal employment divides the entire employment into two dimensions: the kind of production units and the kind of job. The legal structure and other enterprise-related qualities define the kind of production units, whereas the employment status and other job-related criteria define the type of job. The production units are divided into three categories: households, formal sector businesses, and informal sector businesses. Corporations (including quasi-corporations), non-profit organizations, unincorporated businesses owned by government agencies, and privately owned unincorporated businesses that provide goods and services for sale or barter are all examples of formal sector firms. Private unincorporated businesses (apart from quasi-corporations) owned by individuals, households, or multiple members of the same household are considered informal sector businesses. Unincorporated partnerships and cooperatives established by members of different households that lack complete sets of accounts also fall under this category. Households that manufacture items only for their own end use are excluded, as are those who hire paid domestic employees (such as maids, laundresses, gardeners, watchmen, and drivers) but not those that do unpaid domestic or personal services (such as housework or caring for family members). Formal and informal employment status is divided into two categories. Own-account employees, family members who contribute to the employer, employees, and producers are all included in the definition of the employment status. The following criteria are used to differentiate between formal and informal employment: the enterprise, the too-small job location and/or unregistered, the jobs outside of the scope of applicable laws, the jobs that are atypical (like casual, part-time, temporary, or home-based jobs), or the subcontracting arrangements in production chains (like industrial outwork) (Hussmanns, 2004).

Figure 1

Informal Employment Nepal Flowchart

Status in employment
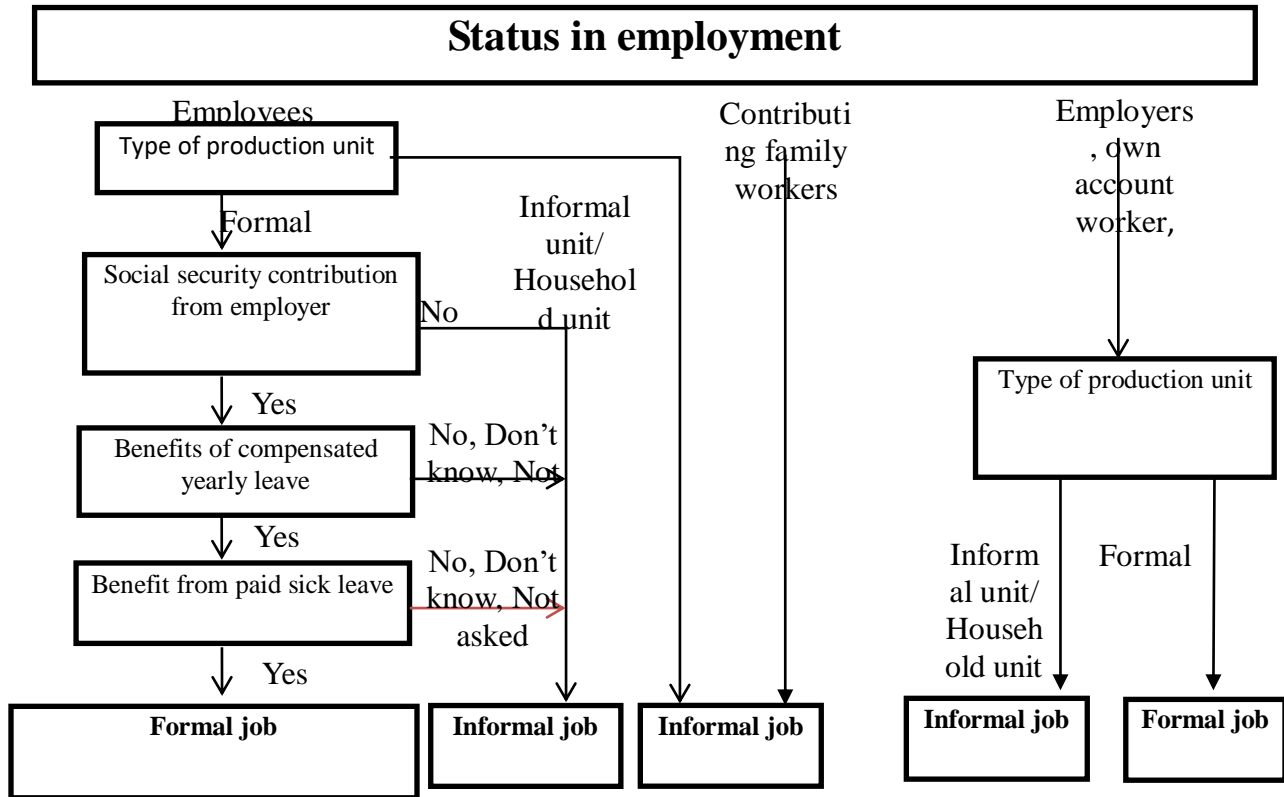
Source: ILO, 2003

ILO bases its definition of informal employment on two factors: the nature of the production units and the nature of the jobs. The production units are broken down into households, formal sector businesses, and unofficial sector business. These all are explained above. The employees with formal type of production unit provide benefits such as employer Contribution to social security, paid yearly leave, and paid sick leave benefits. The employees with informal production unit or household unit and contributing family workers fall under an informal job, are restricted from these benefits. Similarly, employers, their own account worker with informal production unit/ household unit are informal job, whereas with the formal production unit comes under a formal job.

Therefore, Suwal and Pant (2009) claims, the registration criterion of informal economic activities are impractical. He further states, there is no effective follow-up or enforcement system to register for an establishment. The household surveys, the basis of informal employment estimates, are irregular and these estimates are limited to some aggregates because of lack of transactions' detail information. Thus, he concludes, regular surveys are required to capture the economic activities. Hence, measuring the unofficial sector is fraught with difficulty.

Yamamoto and Kaneko (2017) used data from the Nepal Living Standard Survey representing more than 6,000 workers to analyze the gender wage difference for permanent and temporary workers in Nepal. They discover that the salary disparity between urban and rural workers is smaller in casual employment but is larger in regular employment. They also show that women in rural areas struggle to find steady job, and the majority either work irregular hours or are unemployed. This shows that despite having higher education levels, women in rural areas still face significant wage discrimination and have fewer opportunities to secure stable employment.

Meghir, Narita, and Robin (2015) developed an equilibrium wage-posting model with the help of Brazillian labour force survey data in formal or informal sector of the heterogeneous firms among the workers, who conduct sporadic on- and off-duty searches. A fact is observed in the data, the firms in the different sectors has the equal productivity in equlibrium. Allocating workers to positions with higher productivity can raise wages, total production, and welfare while also boosting competitiveness on the formal labor market. They also found tightening enforcement does not increase unemployment.

Araujo, Ponczek, and Souza (2016) created a model to assess the influence of labor courts on wage distributions in both the official and informal sectors. From the literature review, it was found, wage gap and productivity of labour has the negative relationship, when there was the presence of active labour courts. Therefore, job regulation and justice branch affect the labour contract. The active labour courts decreases the unskilled worker's informality but do not have any impact on worker's formality.

According to CBS (2017), there are more people over 15 in rural areas (7,452) than in urban areas (5,950). The converse is true for the labor force, as there are greater work opportunities in urban regions. 2,185 people work in rural areas, compared to 4,901 in metropolitan areas. As a result of the higher population density in urban areas, unemployment rates are also higher there (Detail information that explains employment by locality and employment to population rates is shown in table in Annex D and E). The overall employment-to-population ratio for people aged 15 and over is 35.6%, with 46.2 percent coming from urban areas and 35.6% from rural areas. More men live in cities than in rural areas. The informal, non-agricultural sector has the largest proportion of employment in the NLS 2017/18 report, according to CBS (2017), while the informal agricultural sector has the lowest percentage of employment (20.2%). Similar to this, formal employment in the non-agricultural sector is higher than formal employment in agriculture, with 36.5 percent vs. 1.3 percent. About 1% of all jobs were held by private families. The non-agriculture industry's informal sector (45.8%) had the most male employees, followed by the formal non-agriculture sector (39%) In terms of female employment, formal non-agriculture (32.3%) had the highest concentration, followed by informal non-agriculture (32.9%), formal agriculture (1.2%), and formal non-agriculture (31.8%). In private households, 0.6% of men and 1.8% of women worked (CBS, 2017).

Table 1

Formal and Informal Sector Employment by Education

Employment (sector)	Tertiary	Secondary	Less Than secondary	Basic	Less Than Basic	Literate (level less)	Early Childhood Education	Illiterate and No Schooling	Nepal
Formal	91.6	76.1	53.8	37.7	27.7	27.8	7.1	16	46.5
Informal	8.4	23.9	46.2	62.3	72.3	72.2	92.9	84	53.5

Source: NLFS, 2017/18

In postsecondary education, the official sector accounted for a sizable percentage (91.6%), whereas the informal sector only accounted for a small portion (8.4%). At the secondary education level, the employment rates in the formal and informal sectors were 76.1 percent and 23.9 percent, respectively. Early childhood education had the highest rate in the informal sector (92.9%) while it had the lowest rate in the formal sector (7.1%). There are more persons working in the unofficial sector below the basic level of education. As a result, those with higher education levels are more likely to work in the formal economy.

Table 2

Formal and Informal Sector Employment by Province

	Total	Agri.	Non Agri.	Formal Sector	Agri.	Non Agri.	Private Hhlds.	Informal Sector
								Thousands
Nepal	7 086	90	2	2 675	1 434	2	73	4 411
Province 1	1 208	21	422	444	246	508	10	764
Madesh	1 261	3	270	272	447	526	17	989
Bagmat	2 129	25	1	1 027	245	826	31	1 102
Gandaki	606	11	229	240	93	267	5	366
Lumbini	1 139	18	391	410	277	445	7	729
Karnali	288	6	125	131	42	114	2	157
Sudurpashchim	455	5	147	151	83	218	2	303
Nepal	100	1.3	36.5	37.8	20.2	41	1	62.2
Province 1	100	1.7	35	36.7	20.4	42.1	0.8	63.3
Madesh	100	0.2	21.4	21.6	35.4	41.7	1.3	78.4
Bagmati	100	1.2	47	48.2	11.5	38.8	1.4	51.8
Gandaki	100	1.8	37.8	39.7	15.4	44.1	0.8	60.3
Lumbini	100	1.6	34.4	36	24.4	39.1	0.6	64
Karnali	100	2.2	43.4	45.5	14.5	39.4	0.5	54.5
Sudurpashchim	100	1.1	32.2	33.3	18.3	47.9	0.5	66.7

Source: NLFS, 2017/18

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Methodology

The Central Bureau of Statistics is the study's main source of secondary data (CBS). The Central Bureau of Statistics conducts the Nepal Labor Force Survey (NLFS) on behalf of the National Planning Commission (NPC).This study work is based on the NLFS-III, which is one of three nationally representative labor surveys (NLFS I (1998/99), NLFS II (2008), and NLFS III (2017/18)) with data accessible. The dependent variable for the factors that influence informality is employment in the informal sector, which has a value of one when the worker is working there and zero otherwise. Age, gender, education level, married status, ethnicity, HH-size, male-headed households, own-land ownership, and wealth quintile are the explanatory variables. Similar to before, the explanatory variables for wage disparity, with the exception of informal work, are the same for daily wage or hourly wage, which is the dependent variable. Informal Employment: We made a distinction between formal and informal employment using questions D08, D13, D14, D15, D16, and D17 of section D of the NLFS's 2017–18 survey.

Variable of the study

Age, a continuous variable, is one of the independent factors. Categorical variables include gender, education level, marital status, ethnicity, HH size, male-headed households, own-land ownership, and wealth quintile.

We created the continuous wage variable as the dependent variable for the regression model. With the exception of informal employment, the independent variables are the same as earlier. The specifics are described below.

Estimation Strategy

The computation of the factors influencing informality and salary disparities in informal work in Nepal uses two estimating techniques. Below is a description of the basis estimation strategy: factors that affect informality The factors influencing informal employment are estimated using a straightforward Logit model. The dependent variable in the regression model is a binary value that is one if the employee works in the unorganized sector and zero otherwise. Age, gender, education level, married status, ethnicity, HH-size, male-headed households, own-land-ownership, and wealth quintile are the main explanatory factors. The likelihood of engaging in informal employment as opposed to formal employment is regressed and examined using the MLE approach.

According to the Gujarati, Porter & Gunasekar (2012), the log of odds ratio is defined as:

$$L_i = \left[\frac{P_i}{1 - P_i}\right] = \beta_1 + \beta_2\ X_i + u_i$$

where, P_i is the probability to participate in informal employment, X_i is a set of explanatory variables as defined above, β_i are constant parameters and u_i is individually and identically distributed error terms.

The following is a basic estimating approach to calculate the salary gap of informal employment:

$$Y_i = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 \ldots\ldots + \beta k x_i + \varepsilon_i$$

where, Y_i is the dependent variable wage in terms of daily or hourly basis; x_i are the independent variables such as age, informality, ethnicity, marital status, education level, HH-size, male-headed household, own land owner and wealth quintile.

Results and Discussion

The informality by age and education are presented in the tables. The Logit and the multiple regression models are conducted for the informality's determinants and the wage differential in the informal employment in Nepal respectively. The data are analyzed using the software Stata, and hence, the results are interpreted.

Table 3

Informal Employment and Informal Sector

| | informal sector | | | |
Informal employment	Formal Sector	Informal Sector	Households	Total
Formal Employment	2418	7	0	2425
Informal Employment	3592	10556	219	14367
Total	6010	10563	219	16792

Source: Authors Calculation

The following table displays the number of formal and informal jobs in the formal and informal sectors, in individual homes, and overall. There are 219 informal employment in households, 10,556 informal employment in the informal sector, and 3,592 informal jobs in the formal sector. 14,367 people work in the informal sector as a whole.

Table 4

Proportion of Informal Employment

	Freq.	Percent	Cum.
Formal Employment	2425	14.44	14.44
Informal Employment	14367	85.56	100.00

Source: Researcher's calculation

Based on NLFS 2017/18 data, informal employment is estimated to be 85.56 percent of total employment, while formal employment is 14.44 percent.

Table 5

Informality by Age

Informality	Age (Aggregate)				
	15-24	25-54	55-64	65+	Total
Informal employment in the informal sector	2084	7053	983	436	10556
	19.74	66.82	9.31	4.13	100.00
Informal employment in the formal sector	883	2544	120	45	3592
	24.58	70.82	3.34	1.25	100.00
Informal employment in households	56	133	24	6	219
	25.57	60.73	10.96	2.74	100.00
Formal employment	142	2053	186	44	2425
	5.86	84.66	7.67	1.81	100.00
Total	3165	11783	1313	531	16792
	18.85	70.17	7.82	3.16	100.00

Source: Researcher's calculation

With 66.82 percent, 70.82 percent, 60.73 percent, and 84.66 percent correspondingly, the age group 25-54 engages in more informal employment than households, the formal sector, the informal economy, households, and the workforce as a whole. Since a person's primary working age is between 25 and 54, it gets smaller as they get older.

Table 6

Informality by Education

informality	Education level				Total
	No schooling	Primary	Secondary	Tertiary	
Informal employment in the informal sector	3,687	4,200	2,534	135	10,556
Informal employment in the formal sector	383	834	1,688	687	3,592
Informal employment in households	106	72	41		219
Formal employment	162	519	1,190	554	2,425

Source: Researcher's calculation

No schooling, basic, secondary, and tertiary education levels are all categorized. There are 3,687, 4,200, 2,534, and 135 workers in the informal sector who have not completed their primary, secondary, or higher education, respectively. Thus, workers with less education are more interested in informality. The better educated a person is, the more involved they are in the formal economy.

Determinants of Informality in Nepal

The determinants of informality are the elements that have an impact on informal employment in Nepal. The informal employment variable—a binary variable with a value of one if the worker is employed in the informal sector and zero otherwise—is the dependent variable of the Logit regression model. A worker's gender, age, ethnicity, marital status, level of education, household size, and whether or not the family is headed by a man are the main demographic explanatory variables. The economic explanatory variables include the worker's wealth quintile and own-land ownership.

Table 7
Nature of Regression Equation

Dependent Variable: Informal Employment (inf_emp1)			
Dependent Variables			
S.n	Code	Description	Coefficient and expected signs
1	male1	Gender where male is one and female is otherwise	$\beta_1(+)$
2	ilo_age	working age workers of age 15 to 65	$\beta_2(+)$
3	eth_bct1	worker's where Brahmin, Chhetri and Thakuri is one and zero otherwise	$\beta_3(-)$
4	eth_jjati1	worker's ethnicity where Janajati is one and zero otherwise	$\beta_4(-)$
5	eth_dalit1	Worker's ethnicity where Dalit is one and zero otherwise	$\beta_5(+)$
6	others1	worker's marital status where one is married and zero otherwise	$\beta_6(+)$
7	ms_m1	Worker's marital status where one is married and zero otherwise	$\beta_7(+)$
8	urban1	urban rural where urban is one and zero is rural	$\beta_8(-)$
9	EduLevel	education level of the workers	$\beta_9(+)$
10	Hhsize	household size of the workers	$\beta_{10}(+)$
11	hh_male1	household head of the family where one is household head of family if male and zero otherwise	$\beta_{11}(+/-)$
12	own_land_own	own land cultivated by worker	$\beta_{12}(+)$
13	wq1	wealth quintile of the poorer worker	$\beta_{13}(+)$
14	wq4	wealth quintile of the richest worker	$\beta_{16}(-)$

First, section D of the NLFS questionnaire is used to create the informal employment variable. The nature, conditions, and types of informal employment depend on the enterprize registration, enterprize type, and job itself. It is regarded as informal employment if the business is a corporation (D14), registered with the appropriate authority (D15), and its primary activity is within the government, a state-owned enterprise, or an international organization or foreign embassy. Private, public, nonprofit, and household enterprises all fall under the category of enterprises. Worker statuses include family caregivers who are not being paid, employers, employees, and own-account workers. The formal, unofficial, and household sectors of the economy all exist. Social security, paid annual leave, and paid sick leave are requirements for employment. Workers who are employed in families, the informal economy, or own-account businesses who have access to benefits like social security, paid time off, and sick leave are referred to as having informal employment. Below are the variables' descriptive statistics from the model:

Table 8

Descriptive Statistics of the Variables

Variables	Obs.	Mean	Std. Dev	Variance	Skewness	Kurtosis	Min	Max
inf_emp1	3000	0.8387	0.3679	0.1354	-1.8414	4.39072	0	1
male1	3001	0.8630	0.3439	0.1182	-2.1119	5.4605	0	1
ilo_age	3001	40.0483	11.3126	127.9747	0.3866	2.7125	14	84
eth_bct1	3001	0.3452	0.4755	0.2261	0.6511	1.4239	0	1
eth_jjati1	3001	0.3942	0.4888	0.2388	0.4329	1.1875	0	1
eth_dalit1	3001	0.2089	0.4066	0.1653	1.4319	3.0504	0	1
ms_m1	3001	0.9110	0.2847	0.0811	-2.8874	9.3374	0	1
EduLevel1	3001	2.2756	0.9978	0.9957	0.2552	1.9945	1	4
hh_size	3001	0.8630	0.3439	0.1182	1.6195	12.8133	1	27
hhh_male1	3001	4.2056	4.2056	3.6260	-2.112	5.4604	0	1
own_land_own	3001	1.4422	04967	0.2467	0.2328	1.0542	1	2
Wq1	3001	0.1516	0.3587	0.1287	1.9428	4.7743	0	1
Wq2	3001	0.1719	03774	0.1424	1.7388	4.0235	0	1
Wq3	3001	0.2033	0.4225	0.1620	1.4742	3.1748	0	1
Wq4	3001	0.2459	0.4307	0.1855	1.1800	2.3925	0	1
Wq5	3001	0.2273	0.4191	0.1757	1.3017	2.6944	0	1

Source: Researcher's calculation

The variables used in the regression model's descriptive statistics are displayed in the table above. The average worker has 83.87 percent informal employment, followed by men with 86.30 percent. The average age of the workforce is 40 years old, and the proportions of Brahmin, Chhettri and Thakuri, Janajati, and dalit workers are 34.54 percent, 39.42 percent, and 20.89 percent, respectively. 91.10 percent of workers on average are married. The majority of employees pursue primary education. The average household size is 4, and 86.30 percent of workers are men. 42 workers on average are landowners. The table above includes various summary statistics like standard deviation, variance, skewness, variance, minimum, and maximum.

Dummies for the various independent variables are created as previously indicated. The wealth-related variable is derived from Section A of the NLFS III questionnaire and includes the type of worker's home, the primary source of drinking water, the primary source of fuel, the primary source of household lighting, the primary source of household facilities, and ownership of any agricultural land, including land operated by workers or land operated on behalf of others. These are all merged using the PCA approach, which reduces huge, dimensional variables to small, uncorrelated ones while maintaining the most variance possible. It generates the wealth quantile dummy. They are wq1, wq2, wq3, wq4, and wq5, with wq1 being the poorest and having the lowest level of wealth. Thus, the Logit regression model performs regression on both dependent and independent variables. The output from STATA version 12 is displayed in the table below:

Table 9

Logit Regression Results and the Odd Ratios of the Coefficients

VARIABLES	inf_emp1 (1)	inf_emp1 (2)	odds ratio (1)	odds ratio (2)
male1	-0.661***	-	0.862	-
	(0.0683)	-	(0.179)	-
ilo_age	-0.0400***	-0.0297***	0.934***	0.934***
	(0.00301)	(0.00403)	(0.00612)	(0.00612)
eth_jjati1	0.241***	0.229***	1.182	1.182
	(0.0654)	(0.0871)	(0.165)	(0.165)
eth_dalit1	0.425***	0.544***	1.669**	1.669**
	(0.0917)	(0.118)	(0.347)	(0.347)
ms_m1	-0.602***	-0.415**	0.562**	0.562**
	(0.0985)	(0.172)	(0.148)	(0.148)
EduLevel1	-0.809***	-0.806***	0.295***	0.295***
	(0.0377)	(0.0498)	(0.0238)	(0.0238)
Hhsize	0.0634***	0.0458**	1.140***	1.140***
	(0.0130)	(0.0216)	(0.0429)	(0.0429)
own_land_own	-0.163**	-0.245***	0.952	0.952
	(0.0660)	(0.0888)	(0.138)	(0.138)
wq1	1.907***	2.166***	3.790***	3.790***
	(0.170)	(0.216)	(1.129)	(1.129)
wq2	1.603***	1.769***	3.044***	3.044***
	(0.128)	(0.162)	(0.701)	(0.701)
wq3	1.029***	1.070***	1.860***	1.860***
	(0.0939)	(0.119)	(0.348)	(0.348)
wq4	0.837***	0.920***	1.729***	1.729***
	(0.0763)	(0.0968)	(0.267)	(0.267)
hhh_male1	-	-0.491***	-	0.862
	-	(0.119)	-	(0.179)
Constant	5.329***	4.587***	1,428***	1,428***
	(0.247)	(0.356)	(862.9)	(862.9)
R-square	29.91	29.91	-	-
Observations	11,273	5,502	2,947	2,947

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Source: Researcher's calculation

All of the independent factors' effects on the dependent variable are statistically significant in the table above. That implies that the dependent and independent variables are related. Age, male1, ilo age, ms m1, own land own, EduLevel1, and age all negatively affect informal employment, whereas eth jjati1, eth dalit1, hhsize, wq1, w2, w3, and w4 positively affect it at the 1% and 5% significant levels. The coefficient of male1 indicates that having an informal work is less likely for men than for women. In a similar vein, the likelihood of having an informal job decreases as workers' ages rise. The eth jjati1 coefficient and the eth dalit1 coefficient are both positive. In contrast to Brahmin, Chhetri, Thakuri, and other groups, both Janajati and Dalit laborers are more likely to engage in informal employment. The hhh male1 variable is replaced instead of male1, as they perfectly correlate to each other. In comparison to women, the male-headed family works less in the unorganized sector. The results of the other variable reflect those from the previous results. R - square is 21.88 percent, which for cross-sectional data is satisfactory. The regression model is statistically highly significant, according to the LR Chi2 test, which has a p-value of less than 0.05.

Wage Differential among Formal and Informal Employment

The dependent variable in the regression model is the daily or hourly wage. Age, ethnicity, married status, education level, HH size, male-headed household, own-land ownership, and the wealth quintile (wq2, wq3, wq4 and wq5) are the explanatory variables. The dependent and independent variables, coefficient, and predicted signs for the regression model are given as follows:

Table 10
Nature of Regression Equation

Dependent Variable: Daily wage of the worker (d_wage)			
Independent Variables			
S.n	Code	Description	Coefficient and expected signs
1	inf_emp1	gender of workers where male is one and female is otherwise	$\beta_1(+/-)$
2	ilo_age	working age workers of age 15 to 65	$\beta_2(+/-)$
3	eth_jjati1	worker's ethnicity where Janajati is one and zero otherwise	$\beta_3(-)$
4	eth_dalit1	Worker's ethnicity where Dalit is one and zero otherwise	$\beta_4(-)$
5	ms_m1	Worker's marital status where one is married and zero otherwise	$\beta_5(+)$
6	EduLevel	education level of the workers	$\beta_6(+)$
7	Hhsize	household size of the workers	$\beta_7(+)$
8	hh_male1	household head of the family where one is household head of family if male and zero otherwise	$\beta_8(+/-)$
9	own_land_own	own land cultivated by worker	$\beta_{12}(+)$
10	wq2	wealth quintile of the poorer worker	$\beta_{13}(-)$
11	wq5	wealth quintile of the richest worker	$\beta_{16}(+)$

Similarly,

Table 11
Nature of regression equation

S.n	Code	Description	Coefficient and expected signs
Dependent Variable: Hourly wage of the worker (h_wage)		
Independent Variables		
1	inf_emp1	gender of workers where male is one and female is otherwise	$\beta_1(+/-)$
2	ilo_age	working age workers of age 15 to 65	$\beta_2(+/-)$
3	eth_jjati1	worker's ethnicity where Janajati is one and zero otherwise	$\beta_3(-)$
4	eth_dalit1	Worker's ethnicity where Dalit is one and zero otherwise	$\beta_4(-)$
5	ms_m1	Worker's marital status where one is married and zero otherwise	$\beta_5(+)$
6	EduLevel	education level of the workers	$\beta_6(+)$
7	Hhsize	household size of the workers	$\beta_7(+)$
8	hh_male1	household head of the family where one is household head of family if male and zero otherwise	$\beta_8(+/-)$
9	own_land_own	own land cultivated by worker	$\beta_{12}(+)$
10	wq2	wealth quintile of the poorer worker	$\beta_{13}(-)$
11	wq5	wealth quintile of the richest worker	$\beta_{16}(+)$

The Section F, or questionnaire, of the NLFS is used to construct the wage variable. While F01b concerns the basis of payment, F01c offers information regarding the worker's pay received in rupees. First, three variables are created for the daily, weekly, and monthly bases of payment, respectively: x1, x2, and x3. Cash wages of both the hourly and daily variety are produced. x1 on a daily basis is divided by 8 hours, x2 on a weekly basis by 48 (8*6), and x3 on a monthly basis is split by 200 (8*25) in order to convert to an hourly rate. Similar to how x1 is calculated everyday, x2 is the weekly wage divided by 6, and x3 is the monthly wage divided by 25 to calculate daily wage

i.e. hc_wage= x1/8+ x2/48 + x3/200

dc_wage= x1 + x2/6 + x3/25

These are the monetary wages that were received. According to F03 question, the employer also offers several amenities to the employees, including accommodation, food, transportation, clothing, and others. F04 deals with employee payments for these facilities. The sum they paid in rupees was F06.

As a result, daily and hourly wages in kind are produced. In order to calculate the hourly and daily wages in kind, subtract F06 from F04 and divide the result by 2400 (300*8) and 300, respectively. After adding the wages in cash and kind, the final daily wage (d wage) and hourly wage (h wage) are produced. The dependent and independent variables mentioned above are

used to do the multiple regressions. As a result, the outcome from STATA version 12 is displayed below:

Table 12
Multiple Regression Results

VARIABLES	(1) d_wage	(2) h_wage
inf_emp1	-279.5***	-34.94***
	(20.76)	(2.595)
ilo_age	3.147***	0.393***
	(0.685)	(0.0856)
eth_jjati1	51.02***	6.377***
	(15.97)	(1.996)
eth_dalit1	-5.491	-0.686
	(19.59)	(2.448)
ms_m1	64.54**	8.068**
	(25.40)	(3.175)
EduLevel1	112.5***	14.07***
	(8.745)	(1.093)
Hhsize	-9.266**	-1.158**
	(3.829)	(0.479)
hhh_male1	199.4***	24.92***
	(20.77)	(2.596)
own_land_own	32.50**	4.063**
	(16.09)	(2.012)
wq2	-5.658	-0.707
	(23.62)	(2.952)
wq3	5.110	0.639
	(23.15)	(2.893)
wq4	3.023	0.378
	(23.62)	(2.952)
wq5	102.5***	12.81***
	(26.44)	(3.305)
Constant	295.5***	36.93***
	(61.77)	(7.722)
Observations	2,947	2,947
R-squared	0.285	0.285

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Source: Researcher's calculation

Results from the multiple regression model are shown in the table above. At the 1% and 5% levels of significance, the variables inf emp1, ilo age, eth jajti1, ms m1, EduLevel1, hhsize,, hhh male1, and own land own are statistically significant. This indicates that they affect the

dependent variable. However, the statistical significance of eth dalit1, wq2, wq3, and wq4 is negligible. Workers who work in informal employment make Rs. 279.4863 less per day than those who work in regular employment. Therefore, there is a bad correlation between daily wage and informal work. The daily income of a worker likewise rises by Rs. 3.147272 as their age rises by 1 unit. The likelihood of the eth jjati1 employees getting a high daily income of Rs. 51.01842 is high. Married workers typically make Rs. 64.54 more per day than other workers. According to the education coefficient, ceteris paribus, the average daily pay rises by around Rs. 112.5368 for each extra year of education. The association between the daily salary and informal employment is unfavorable. The worker's daily wage reduces by Rs. 9.265911 as their height grows. The daily wage is also Rs. 199.3791 more when a male is in charge of the household than when a female is. A worker who has their own land has a chance of making Rs. 32,50063 more per day. The wq5 is important in relation to daily pay. The highest paid employee makes Rs. 102.4574 more per day than the lowest paid employee. The p-value for the F-test is less than 0.05, which makes it statistically significant. R^2 is 28.47%, which means that variation in the independent variable accounts for 29.47% of the variation in the dependent variable.

In terms of the hourly wage, the variables ilo age, hhsize, own land own, wq2, and wq3 are statistically insignificant, whereas inf emp1, eth jjati1, eth dalit1, ms m1, EduLevel1, hhh male1, and wq4 and wq5 are statistically significant. Hourly pay has a positive association with unofficial employment. The informal employment coefficient is -34.94, which indicates that, when all other factors are held constant, the average hourly wage of informal workers is approximately Rs. 34.94 less than the average hourly wage of formal workersThe hourly wages of Dalit and Janajati workers are higher by Rs. 4.161766 and Rs. 6.377, respectively. The hourly income of married workers rises by Rs. 8.068 more than that of other workers. The hourly wage of the male-headed family rises by Rs. 24.92 more than that of the female-headed one. As the coefficient of wq5 is Rs. 12.81, the hourly wage of the richer worker likewise rises. The p-value for the F-test is less than 0.05, which makes it statistically significant. R^2 is 28.5%, which suggests that the variance in the independent variables accounts for 28.5% of the variation in the dependent variable.

Conclusion

The pay between official and informal jobs varies. It is the main adverse effect of informality. People who work informally are less likely than those who do so to make a daily and hourly wage. However, when the workers' hourly and daily wages are compared, the hourly wage is higher. The informal economy generates more wage income than the formal one. The formal sector hires experienced, educated individuals, and social security contributions are also made easier. People are more involved in informality when they are young, but as they become older, they start to gravitate toward the formal sector since the wages there are higher than those in the informal sector. People who are older, janajati, married, have more education, are male household heads, own land, and are the richest earn more per day and per hour. As a result, formal job pays more than unofficial employment. 85.16 percent of employees participate in informal work. However, many of them continue to go unnoticed and unreported. So, there needs to be substantial attention at the national level. Better policies for education and training should be prioritized since they will encourage people to transition from informal to formal employment.

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