

Informal Employment: Deliberate Choice or Last Resort? A Job Satisfaction Perspective

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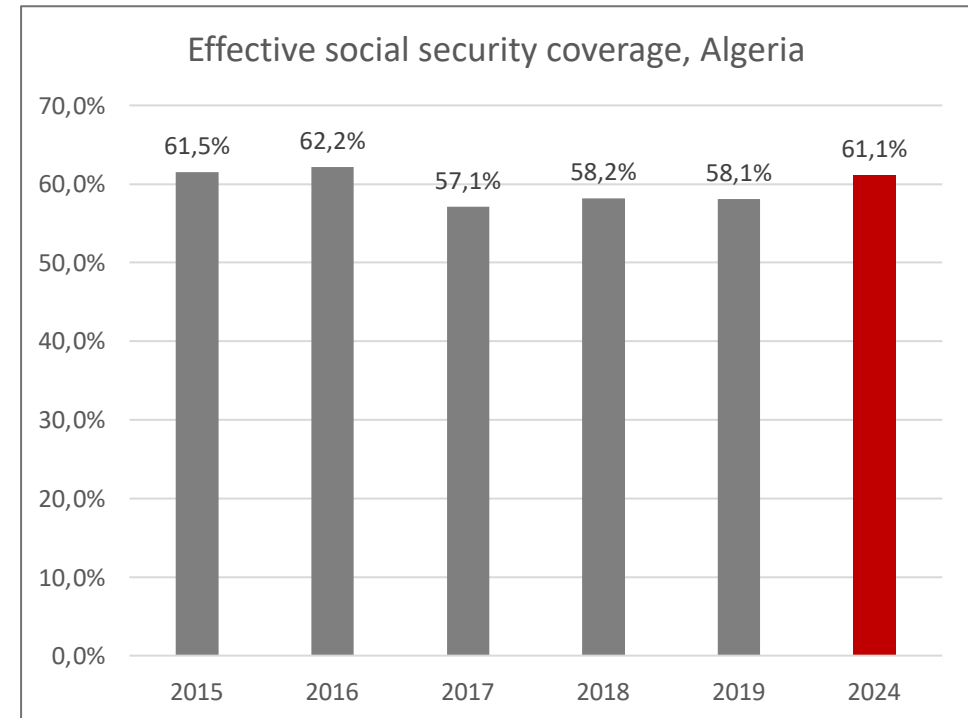
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Outline

- Background and Motivation
- Theoretical Debate on Informality
- Methodology and data description
- Results and discussion
- Policy implication and future research

Background and Motivation

- Algeria's labor market shifted from a state-led socialist system to a liberalized, market-oriented economy.
- Reforms in the 1990s (Law 90-11, IMF Structural Adjustment) reduced state employment and introduced labor market flexibility.
- These changes increased unemployment and rise of informal employment, initially seen as an involuntary fallback.
- Today, informal work still accounts for 38.9% of employment (ONS 2024).
- This paper questions whether informality is a constraint or a deliberate choice, using workers' job satisfaction approach.



Source: ONS, ACTIVITE, EMPLOI & CHÔMAGE EN MAI 2019, N° 879
ONS, ACTIVITE, EMPLOI & CHÔMAGE EN OCTOBRE 2024, N° 1051

- Active Population in October 2024 is about 12.055.000 people
- Not Affiliated with Social Security **38.9%** of employed workers

Theoretical Debate on Informality

Dualist views (e.g., Harris & Todaro, 1970) saw informal work as **involuntary**, due to the formal sector's limited capacity to absorb labor.

Structuralist approaches (e.g., Portes et al., 1989) also emphasized **constraint**, attributing informality to formal firms outsourcing to reduce costs under global competition.

From the late 1980s, **legalist and voluntarist views** (e.g., De Soto, 1994; Perry et al., 2007) argued that some workers **choose** informality to avoid burdensome regulations or based on personal preferences.

Informal employment : A choice or a constraint ?

Earnings Analysis
(Revealed Preferences)

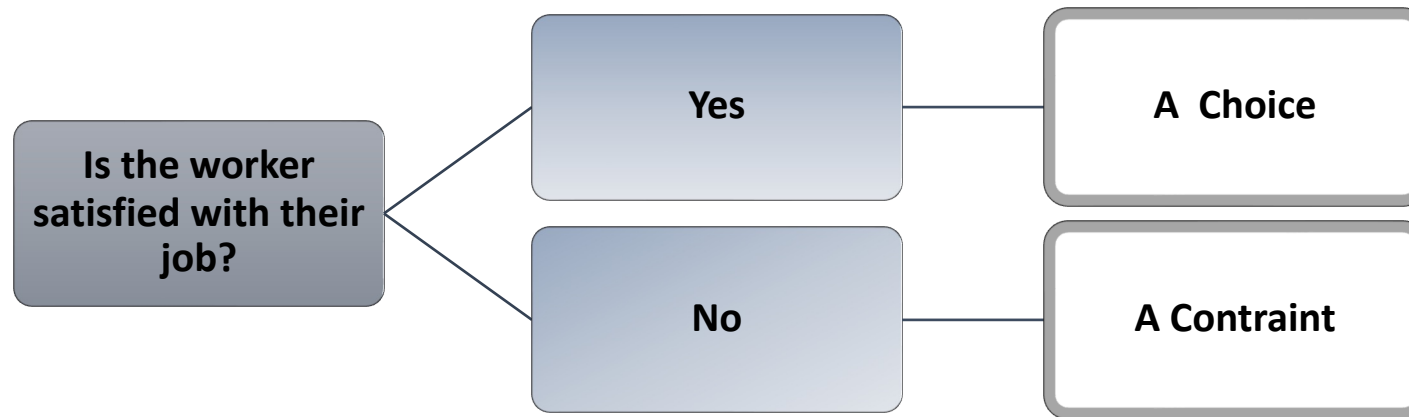
Wages don't
reflect all aspects
of job quality.

Sectoral Transitions
(Panel Data)

Persistence may
reflect either
constraints or
deliberate choices

subjective job satisfaction as
a proxy for **job desirability**
and **overall quality**

Informal Employment, a Choice or a constraint? a job satisfaction approach



In Algeria, Bensidoun & Souag (2013) :

- Used job search as proxy for Job satisfaction :
 - ✓ Satisfied = Not looking for another job = A choice
 - ✓ Not satisfied = looking for another job = A constraint
- Results : Informal wage jobs are often a last resort, especially for young, low-educated, and precariously employed individuals.

Methodology

Data collection & Sample characteristics

Research project : “Informal Economy in Algeria: Concepts, Operating Modes, and Impacts” Conducted by Research Center in Applied Economics for Development (CREAD)

- **Methodology:** '1-2'survey approach
- **Location :** Wilaya of Tlemcen (2018)
- **Sampling Strategy :**
Stage 1 : 104 districts selected from 53 municipalities
Stage 2: 20 households sampled per selected district
- **Sample size**
 2,080 households
 8614 individuals

Characteristic	Level	Percent
Gender	Male	52,5
	Female	47,5
Region	Urban	68,6
	Rural	31,4
Age	Under 5 y.o	4,7
	[5-15 years[11,3
	[15-25 years [16,1
	[25-35 years [20,1
	[35-45 years [14,2
	[45-55 years [13,2
	[55-65 years [12,6
	65 + y.o	7,8
Marital Status	Single	36,9
	Married	56,3
	Divorced / Separated	2,6
	Widower (widow)	4,1
Labour Force Status	Employed	41,2
	Unemployed	9,5
	Student/In Education	11,8
	Retired/Pensioner	11,4
	Housewife	25,0
	Other inactive	1,1

Job Satisfaction Index

"Are you satisfied with your job?"

Level of satisfaction (Likert scale):

1- Not satisfied at all

2- Not satisfied

3- Neither satisfied nor not satisfied

4- Satisfied

5- Very satisfied

Income	___
Nature of work	___
Job security	___
Working hours	___
Commuting	___
Work environment	___

Principal Component Analysis (PCA) Results: Importance of components

	PC1	PC2	PC3	PC4	PC5	PC6
Standard deviation	1.7463	0.9086	0.8592	0.7785	0.66593	0.58077
Proportion of Variance	0.5082	0.1376	0.1230	0.1010	0.07391	0.05622
Cumulative Proportion	0.5082	0.6458	0.7689	0.8699	0.94378	1.00000

Normalized weights

Income	Nature of work	Job security	Working hours	Commuting	Work environment
0.1670448	0.1923715	0.1797145	0.1858921	0.1362319	0.1387454

Robustness Check – Satisfaction Index (PCA)

- **PC1 explains 50.82%** of the total variance → justifies use as a summary measure.
- **Bartlett's Test:** $\chi^2 = 117,028$, $p < 0.001$ → variables are significantly correlated.
- **Kaiser-Meyer-Olkin (KMO)** = 0.50 → acceptable for PCA.
- **Cronbach's Alpha** = **0.87** → high internal consistency.
- PCA loadings (weights) were normalized to construct a **composite satisfaction score**.

Modelling strategy

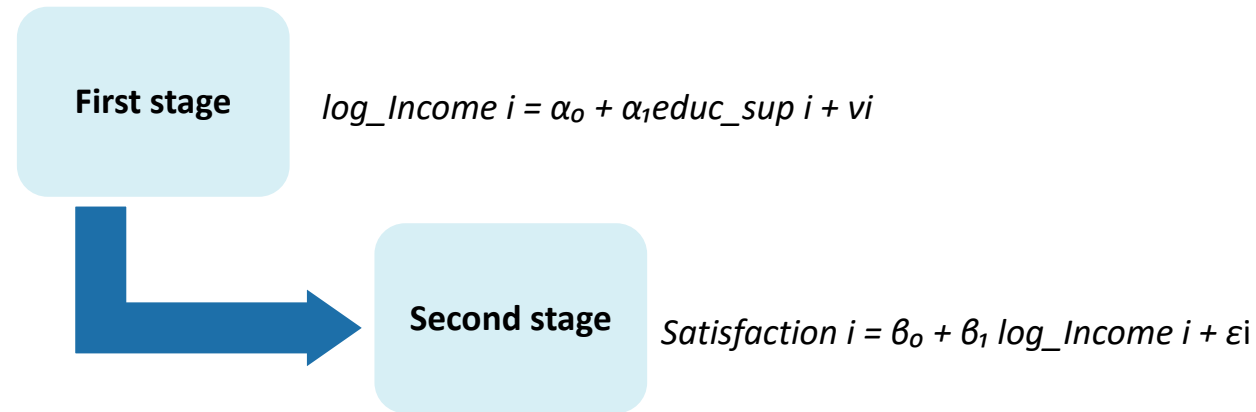
Is Informal employment a choice or a constraint?

- To address whether informal employment is a choice or a constraint, job satisfaction is analyzed using an ordered probit model with instrumental variable. Two specifications are used:
- A basic model distinguishing formal vs. informal jobs.
- A detailed model breaking down workers into four categories (formal/informal wage workers and self-employed), with interaction terms to explore differences in satisfaction drivers across job types.

Job satisfaction for formal and informal employed worker: what determine job satisfaction for both?

- Determinants of job satisfaction for formal and informal workers, using ordered probit model
- ordered probit model with instrumental variable for formal workers
- ordered probit model with instrumental variable for informal workers

Endogeneity test and instrumental variable



Additional instrumental variables tested

- Number of employed / unemployed / OLM individuals in the household
- Work experience (seniority)
- Unemployment rate in the district
- Number of household members working in public administration

Variable	2SLS
(Intercept)	-11.01*** (2.69)
log_Income	1.36*** (0.26)
R ²	-0.37
Adj. R ²	-0.37
Num. obs.	1652

*** p < 0.001; ** p < 0.01; * p < 0.05

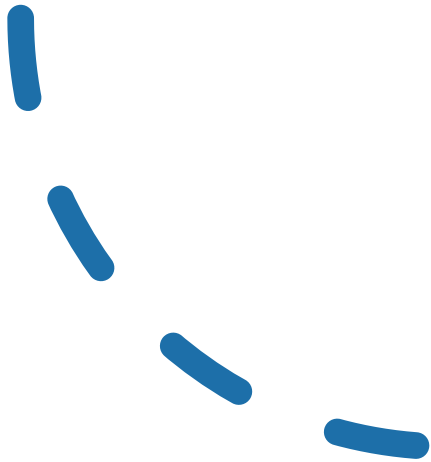
	df1	df2	statistic	p-value
Weak instruments	1	1650	43.23	6.50e-11 ***
Wu-Hausman	1	1649	20.78	5.54e-06 ***
Sargan	0	Na	NA	NA
*** p < 0.01; ** p < 0.05; * p < 0.1				

Results and discussion



Results :

Job satisfaction: Is Informal employment a choice or a constraint?



Determinants of job satisfaction

Individual Characteristics:

- **Formal vs Informal :**
Formal workers are more satisfied than informal ones.
- **Employment Status:**
Self-employed (especially formal) report satisfaction than employees.
- **Gender :**
Women report higher satisfaction than men, but job satisfaction drops for mothers with young children.
- **Age :**
Job satisfaction tends to decline with age.

Human Capital:

Education increases satisfaction, but the effect weakens in informal jobs.

Income

Higher income increases satisfaction

Variables	Dependent variable : Level of job satisfaction	
	Simplified model	Model with interactions
Employment status (ref : self employed)		
Wage worker	-0.48*** (0.07)	
Informal employment (ref : Informal worker)		
Formally employed	0.20*** (0.07)	
Employment situation (ref : Formal self-employed)		
Informal self-employed		-0.12** (0.06)
Formal wage worker		-0.46*** (0.05)
Informal wage worker		-0.93*** (0.06)
Gender (ref : Male)		
Female	0.36*** (0.05)	0.39*** (0.05)
Age	-0.04** (0.02)	-0.03* (0.02)
Age*2	0.00** (0.00)	0.00** (0.00)
Marital Status (ref : Not single)		
Single	-0.04 (0.07)	-0.03 (0.07)
Education (ref : Low education)		
Middle	0.16*** (0.04)	0.02 (0.07)
Graduation	0.29*** (0.03)	0.23*** (0.04)
Region (Ref : Urban)		
Rural	-0.03 (0.06)	-0.03 (0.06)
Household head (ref : not head)		
Head	-0.00 (0.05)	-0.02 (0.05)
Income		
Log_Income_instrument	0.43*** (0.04)	0.40*** (0.04)

Determinants of job satisfaction

Wealth :

Higher household wealth is associated with greater job satisfaction.

Company characteristics

- **Sector of Activity:**

Public administration workers are more satisfied; agricultural workers are the least satisfied.

- **Firm Size:**

Workers in larger firms report higher satisfaction than those in small firms.

Household composition

- **Young Children in the Household:**

Positive effect overall, but negative for women due to work–family conflict.

- **Household Composition:**

Satisfaction decreases when more formal workers or OLM members are in the household.

Variables	Dependent variable : Level of job satisfaction	
	Simplified model	Model with interactions
Wealth index (reference: Very low)		
Low	0.04 (0.06)	0.04 (0.06)
Medium	0.12** (0.06)	0.11* (0.06)
High	0.36*** (0.05)	0.36*** (0.06)
Very high	0.57*** (0.05)	0.56*** (0.06)
Size of the company (less than 10 employee)		
Between 10-49	0.04 (0.07)	0.12 (0.07)
Between 50-249	0.09 (0.08)	0.19** (0.08)
250 and more	0.19*** (0.06)	0.28*** (0.06)
Employment sector (ref : Agriculture)		
Industry	0.31*** (0.07)	
Construction	0.15* (0.08)	
Trade	0.07 (0.06)	
Services	0.22*** (0.06)	
Administration	0.53*** (0.06)	
Household characteristics		
Children under 5y.o (ref : no children under 5y.o)	0.45** (0.08)	0.48*** (0.08)
Number of unemployed in the household	-0.05 (0.05)	-0.05 (0.05)
Number of formally employed in the household	-0.07** (0.04)	-0.07** (0.04)
Number of informally employed in the household	-0.04 (0.05)	-0.02 (0.05)

Determinants of job satisfaction

Interactions :

- **Motherhood penalty:**


While women generally report higher job satisfaction, satisfaction declines among mothers of young children due to difficulties balancing work and family life.

- **Education mismatch:**

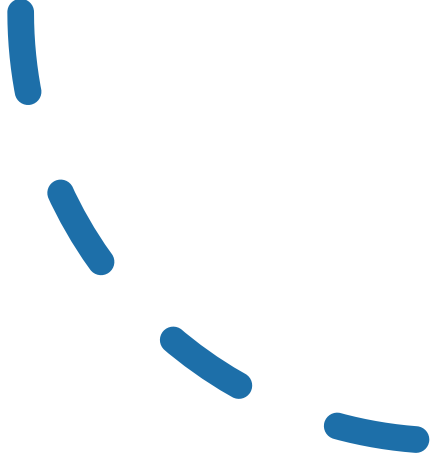
Job satisfaction increases with education, but drops when highly educated individuals work in informal jobs—especially as employees—reflecting a gap between their aspirations and job quality.

Dependent variable : Level of job satisfaction		
Variables	Simplified model	Model with interactions
Household characteristics		
Number of out of the labor force in the household	-0.04 (0.03)	-0.05* (0.03)
Interactions		
Gender * Household characteristics		
Female*Number of children under 5y.o		-0.09*** (0.02)
Education * Employment status		
Informal self-employed* Middle		0.11** (0.05)
Formal wage worker* Middle		0.24*** (0.04)
Informal wage worker* Middle		0.31*** (0.05)
Informal self-employed * Graduation		-0.60*** (0.01)
Formal wage worker * Graduation		0.27*** (0.05)
Informal wage worker * Graduation		-0.05*** (0.00)
Thresholds		
[1,2) [2,3)	2.24*** (0.00)	1.56*** (0.00)
[2,3) [3,4)	3.64*** (0.07)	2.97*** (0.07)
[3,4) [4,5)	5.12*** (0.08)	4.45*** (0.08)
AIC	3468.26	3477.00
BIC	3635.83	3660.79
Log Likelihood	-1703.13	-1704.50
Deviance	3406.26	3409.00
Num. obs.	1645	1645

***p < 0.01; **p < 0.05; *p < 0.1



Results :
Job satisfaction for formal and informal
employed worker: what determine job
satisfaction for both?



Determinants of job satisfaction Formal vs. Informal

Individual characteristics

- **Self-employed Vs Wage worker:**

Self-employed workers are more satisfied than salaried workers due to greater autonomy and flexibility.

- **Gender :**

Formal-sector women report higher satisfaction than men, likely driven by stronger preferences for job security.

- **Wealth**

Wealthier households are linked to higher satisfaction among formal workers, likely due to better job-matching opportunities.

Human Capital:

- Education boosts satisfaction in the formal sector but not in the informal one, where high expectations meet low job quality.

Region characteristics

- High local unemployment increases satisfaction among informal workers, suggesting they accept informal jobs as a better alternative to unemployment — reinforcing the idea that informality in Algeria is largely involuntary.

Dependent variable : Level of job satisfaction		
	Formal	Informal
Employment status (ref : self-employed)		
Wage worker	-0.35*** (0.12)	-0.70*** (0.13)
Gender (ref : Male)		
Female	0.23*** (0.09)	0.30 (0.22)
Marital Status (ref : Not single)		
Single	-0.11 (0.10)	0.24* (0.13)
Education (ref : low education)		
Middle	0.20* (0.12)	0.15 (0.13)
Graduation	0.51*** (0.14)	-0.27 (0.25)
Training (ref : No training)		
Training	0.09 (0.10)	-0.03 (0.12)
Wealth index (reference: Very low)		
Low	0.07 (0.12)	-0.04 (0.13)
Medium	0.12 (0.13)	0.24 (0.16)
High	0.44*** (0.13)	0.27 (0.18)
Very high	0.72*** (0.14)	0.30 (0.21)
Region characteristics		
Rural (Ref : Urban)	-0.09 (0.09)	0.10 (0.11)
Unemployment rate in the district	0.65 (0.40)	1.35*** (0.50)

Determinants of job satisfaction Formal vs. Informal

Individual characteristics

- Financial pressure from non-working household members lowers satisfaction, especially for informal workers.
- Having young children slightly raises satisfaction, reflecting the value of being able to provide for them.

Workplace location

- Remote work improve satisfaction, regardless of job type.
- Poor work environments (street, markets, farms, construction) reduce satisfaction, especially without social protection.

Income

- Higher income improve satisfaction, regardless of job type.

Dependent variabe : Level of job satisfaction		
	Formal	Informal
Household characteristics		
Children under 5y.o (ref : no children under 5y.o)	0.39*** (0.10)	0.53*** (0.15)
Number of unemployed in the household	-0.08 (0.07)	-0.05 (0.08)
Number of formally employed in the household	-0.10** (0.05)	0.08 (0.07)
Number of informally employed in the household	-0.03 (0.06)	0.11 (0.09)
Number of out of the labor force in the household	0.01 (0.03)	-0.11** (0.05)
Job characteristics		
Number of employee (ref: 1 worker, own account worker)		
Between 2-4 employee	-0.03 (0.13)	0.20 (0.13)
5 and more employee	0.18 (0.14)	0.22 (0.17)
Log_Income_instrument	0.21*** (0.02)	1.68*** (0.03)
Experience	0.22 (0.21)	0.33 (0.37)
Workplace location (ref: Fixed establishment)		
Sildwalk/ Mobile	-0.58*** (0.16)	-0.53*** (0.16)
Market	-0.39 (0.38)	-1.26*** (0.30)
Farm/ Agricultural setting	-0.15 (0.22)	-0.53*** (0.17)
Construction site	-0.30 (0.22)	-0.45** (0.19)
At home	0.89*** (0.27)	0.45* (0.25)
Others	-0.13 (0.12)	-0.14 (0.20)

Determinants of job satisfaction Formal vs. Informal

Working hours

- Among formal workers, satisfaction is highest with a standard 40-hour week; fewer or excessive hours reduce it.

Dependent variable : Level of job satisfaction		
	Formal	Informal
Weekly working hours (ref: 40 hours)		
Less than 40 hours per week	-0.18* (0.10)	-0.21 (0.22)
More than 40 hours per week	-0.26*** (0.09)	-0.19 (0.22)
Interactions		
Log_Income_instrument:Experience	-0.02 (0.02)	-0.03 (0.04)
Threshold		
[1,2][2,3)	0.43*** (0.01)	15.56*** (0.01)
[2,3)[3,4)	1.78*** (0.09)	17.17*** (0.11)
[3,4)[4,5)	3.31*** (0.10)	18.78*** (0.13)
AIC	2259.59	1155.30
BIC	2424.60	1297.41
Log Likelihood	-1096.80	-544.65
Deviance	2193.59	1089.30
Num. obs.	1097	548

***p < 0.01; **p < 0.05; *p < 0.1

Policy implication

Policy implication

- Agricultural sector: Extend social security coverage to agricultural workers through sector-specific schemes (e.g., like CACOBATH for construction), to address climate-related risks and increase protection.
- Motherhood & Informality: Promote flexible work arrangements (e.g., part-time or adaptable schedules) to support women after childbirth and reduce involuntary informal employment.
- Youth & Education: Address graduate unemployment by improving access to quality formal jobs to reduce reliance on informal work and better utilize human capital.
- Workplace Vulnerability: Improve protection for informal workers, especially those outside formal facilities, by expanding social security to sectors like agriculture, construction, and trade.
- Overall Goal: Reduce labor market vulnerabilities, enhance job satisfaction, and ensure fairer and more secure working conditions across all sectors.



Thank you

