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Political Instability, Economic Restructuring, and the Informal Sector: Evidence from Palestine

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ABSTRACT

This study investigates how prolonged political instability and economic restructuring have shaped the informal sector in Palestine. Using data from the Palestinian Labor Force Survey and applying econometric analysis with selection correction, we examine structural and institutional determinants of informal employment and how these dynamics are mediated by conflict. The findings reveal that weak formal job creation and institutional deficits have sustained a large informal workforce, consistent with dualist and institutionalist theories that view informality as a residual sector for those excluded from formal employment. Higher regional employment rates and broader social security coverage are associated with significantly lower informal employment, whereas agrarian economic structure and limited enforcement correlate with higher informality. Conflict-related violence has a nuanced impact; spikes in fatalities cause overall labor participation (including informal) to contract, while intensive-margin responses among those who remain informally employed are more muted and region-specific, with any added-worker adjustment largely confined to informal earnings in particular local labor markets rather than emerging uniformly. The analysis also uncovers pronounced gender and regional heterogeneity: women exhibit different informal labor patterns than men, and Gaza's informal sector expanded markedly under blockade relative to the West Bank. These results show the informal economy's role as both a structural byproduct of insufficient formal opportunities and a buffer during turmoil, offering insights for theory and policy on labor informality in conflict-affected developing economies.

JEL CODES: J46; O17; J21; D74; J08

KEYWORDS: informal employment; labor markets; political instability; conflict; social protection; sample selection; Palestine

1. INTRODUCTION

The informal sector comprises a substantial portion of employment in developing economies worldwide, operating outside formal regulations and social protections. Classic dual-sector development theory (Lewis, 1954) conceived of the informal economy as a residual segment: a pool of surplus labor engaged in low-productivity activities due to limited absorption by the modern formal sector. Over time, research has shown that informality is not a transient phenomenon of early development but a persistent feature even in middle-income countries, often accounting for over half of non-agricultural employment in regions like South Asia and sub-Saharan Africa (ILO, 2018). In the Middle East and North Africa (MENA), informality has proven especially entrenched, reflecting structurally weak private sectors and labor markets that fail to generate enough formal jobs (Gatti et al., 2014). The Palestinian economy is a vivid case wherein chronic political instability and economic distortions have fostered high levels of informal employment. Decades of conflict, mobility restrictions, and institutional fragmentation have impeded formal sector growth, while a young and rapidly expanding labor force faces scarce formal opportunities. Consequently, a large share of Palestinians seek livelihoods in informal work, from petty trade and agriculture to day labor and home-based enterprises. Recent estimates indicate that roughly one-third to one-half of Palestinian workers are informally employed, with the rate varying markedly between the comparatively better-off West Bank and the embattled Gaza Strip (PCBS, 2022; UNCTAD, 2020). Understanding the determinants of this pervasive informality, and how it has evolved amid political upheavals and economic restructuring, is both an analytical and policy imperative.

The period from 2009 to 2023 encompasses significant political-economic shifts in occupied Palestine that likely influenced labor market informality. After the Second Intifada (2000–2005) devastated the economy, subsequent years saw modest recovery in the West Bank under a new state-building agenda and international aid inflows, while the Gaza Strip endured a blockade and recurrent wars (2008–09, 2012, 2014, 2021) that ravaged its formal economy. This divergence created an experiment in economic trajectories: the West Bank experienced, to

some extent, periods of growth and institutional development (e.g., expansion of the public sector and services in urban centers like Ramallah), whereas Gaza's economy virtually collapsed, with formal private industries crippled and most of the population relying on humanitarian aid or informal activities for survival (UNCTAD, 2020). In both regions, however, political instability remained a constant factor, whether through episodic violence, restrictive Israeli movement controls, or internal political fractures between the Palestinian Authority in the West Bank and de facto Hamas authority in Gaza. These conditions constitute an extreme stress test for labor markets. On one hand, instability and uncertainty tend to discourage investment and formal job creation, pushing workers into informality or unemployment. On the other hand, households facing economic hardships may increasingly turn to informal work as a coping strategy when formal employment options vanish. This study focuses on how such forces (structural economic conditions, institutional features, and conflict-related shocks) have interacted to shape the incidence and nature of informal employment in Palestine over the 2009–2023 period.

Figure 1 below presents the aggregate evolution of informal sector participation over the study period. Informality remains persistently high throughout 2009–2023, fluctuating within a relatively narrow range and showing no sustained downward trend.

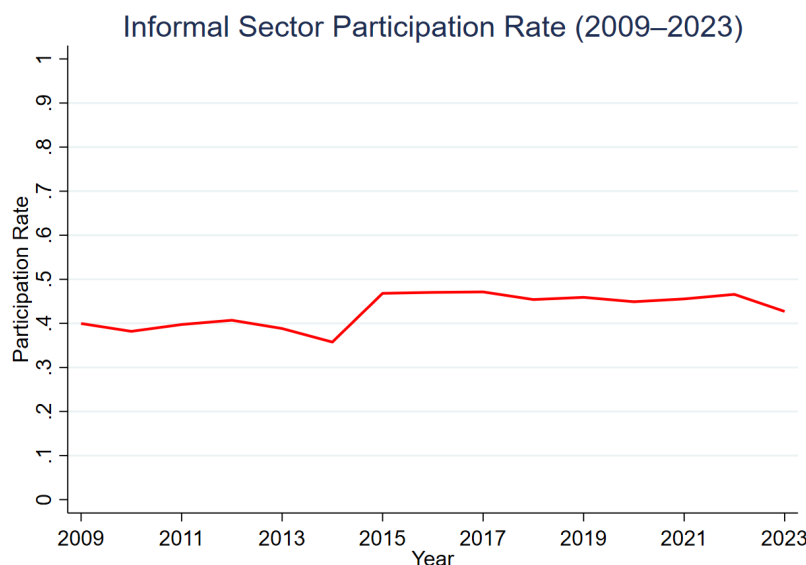


Figure 1. Informal Sector Participation Rate

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

A modest decline around 2013–2014 is followed by a noticeable increase and subsequent stabilization at elevated levels. The absence of structural decline, despite periods of partial economic recovery in the West Bank, suggests that informal employment is deeply embedded within the Palestinian labor market rather than a temporary cyclical phenomenon. At the same time, the post-2014 rise coincides with renewed political and economic disruptions, consistent with the argument that conflict exposure, institutional fragility, and weak formal job creation continue to sustain reliance on informal work.

This study is informed by several theoretical perspectives on the informal sector, which offer complementary lenses to interpret the Palestinian case. The dualist (or “structural unemployment”) perspective argues that the informal sector is a distinct, inferior segment of the economy, populated by individuals unable to find work in the formal sector (Fields, 2011; Lewis, 1954). In this view, informality is largely involuntary and stems from a lack of modern sector jobs. This framework seems highly pertinent to Palestine, where formal job scarcity (due to a stagnant private sector and public employment limits) forces many into informal livelihoods. Indeed, one symptom of a dualistic labor market in Palestine is the coexistence of a small core of secure public and formal jobs alongside a peripheral workforce engaged in casual, unregulated work or self-employment. Our empirical investigation tests this notion by examining whether informality is higher when formal employment opportunities are weak (as dualist theory would predict).

In contrast, the structuralist school emphasizes the linkages between the formal and informal economies, viewing the informal sector as an integral yet subordinate part of a broader capitalist system (Portes, Castells, & Benton, 1989). Rather than a separate realm, informal enterprises and workers are seen as providing cheap labor, inputs, or distribution channels that enable formal firms to reduce costs and circumvent labor regulations. This perspective highlights power imbalances: informal workers often absorb risks and earn meager incomes, thereby indirectly subsidizing the formal economy. In the Palestinian context, a structuralist interpretation would point to how formal institutions and businesses (including international NGOs, the aid-driven public sector, or even the Israeli labor market) might rely on informal labor (Chen, 2012). For example, formal construction projects may subcontract to informal crews, or families may survive via informal commerce when formal supply chains break down. Elements of this dynamic are evident in Palestine’s experience, such as the proliferation of informal tunnel

trade and smuggling in Gaza during the blockade, which supplied goods to the formal market at inflated prices (UNCTAD, 2020), or the dependence of many Palestinian households on informal micro-enterprises in the absence of sufficient formal jobs. By applying a structuralist lens, we can interpret our findings in terms of how changes in the formal sector (like public sector expansion or contraction) and broader economic structure (like the share of agriculture or services) translate into informal employment outcomes.

The legalist (or voluntarist) perspective, associated with Hernando de Soto, views informality as a rational choice by firms and workers seeking to avoid burdensome regulations, high taxes, and weak property rights enforcement, suggesting that some informal activity reflects entrepreneurial dynamism rather than marginalization (Perry et al., 2007). This perspective is relevant in the Palestinian context, where complex permitting systems, political instability, and overlapping Israeli and Palestinian governance structures discourage formalization, while inconsistent regulatory enforcement reduces incentives for micro-firms to register when public services and protections are uncertain (Oviedo, Thomas, & Karakurum-Özdemir, 2009). Complementing this, the institutional perspective emphasizes how broader institutional quality (including rule of law, political stability, social protection systems, and enforcement capacity) shapes labor market outcomes, arguing that informality often emerges from institutional weaknesses, corruption, and inadequate social insurance, with conflict and occupation in Palestine representing extreme forms of institutional disruption (La Porta & Shleifer, 2014). In fragile institutional environments such as Palestine, where labor law enforcement is uneven and governance capacity is limited, especially in Gaza, informality is closely linked to institutional breakdown. Accordingly, examining institutional indicators such as employer-provided benefits and conflict intensity allows assessment of whether stronger governance and social protection reduce informality and improve job quality, supporting the argument that institutional strengthening is central to formalization and labor market improvements (La Porta & Shleifer, 2014).

The dualist, structuralist, legalist, and institutional frameworks jointly provide a comprehensive lens for understanding informality in Palestine, as each captures different but overlapping drivers of informal employment. By testing structural factors (such as sectoral composition and regional wage disparities), institutional conditions (including conflict intensity and social protection coverage), and individual-level characteristics, the analysis seeks to determine which

theoretical explanations most strongly account for patterns of informal employment in the Palestinian context.

This paper contributes to the literature on informality and conflict by providing a comprehensive empirical analysis of informal labor in the occupied Palestinian territories using Palestinian Labor Force Survey (PLFS) data from 2009–2023, enabling yearly observation of labor outcomes across multiple conflict episodes, economic shifts, and social changes.

The study identifies how changes in conflict exposure and institutional conditions (such as pension coverage) shape informal employment, extending earlier Palestinian labor market research (Miaari & Sauer, 2011; Cali & Miaari, 2018). The findings support an “exclusion” narrative, where informality largely reflects lack of formal opportunities and institutional weakness rather than voluntary avoidance of regulation (La Porta & Shleifer, 2014). Evidence shows lower informality in regions with stronger formal employment and enforcement, while structural factors such as sector composition also matter, with agriculture-heavy areas exhibiting higher informality and conflict shocks reshaping informal employment through disruption of formal markets. Limited support is found for the legalist view, as most informal workers appear constrained rather than voluntarily informal. The study also documents substantial heterogeneity across gender and region, showing that conflict reduces men’s informal employment but has little measurable effect on women’s, while improved economic conditions reduce women’s informality more strongly, reflecting gendered labor market dynamics in patriarchal settings. Finally, the paper provides policy-relevant insights by linking macro-level factors (such as the Gaza blockade, public sector expansion, and partial social protection reforms) to micro-level labor outcomes, showing that reducing informality requires expanding formal job opportunities and strengthening social protection systems, thereby informing policy design in fragile and conflict-affected economies.

2. DATA

The analysis draws on pooled data from the Palestinian Labor Force Survey for 2009–2023. This nationally representative survey is administered quarterly by the Palestinian Central Bureau of Statistics and collects detailed information on employment, earnings and household characteristics, table 1 below presents the descriptive statistics.

Table 1. Descriptive Statistics (2009–2023)

Variable	Mean	Std. Dev.	Min	Max
Sector (1 = Informal)	0.407	0.491	0	1
Days worked (Last month)	18.491	7.555	0	31
Daily wage (in Local Currency)	72.504	50.143	11	600
Marital status (1= Married)	0.652	0.476	0	1
Age	35.069	12.137	15	65
School Attendance (1= attend)	0.049	0.217	0	1
Type of locality (1=Rural)	0.204	0.403	0	1
Gender (1 = female)	0.178	0.383	0	1
Refugee status (1=refugee)	0.411	0.492	0	1
Years of schooling	11.196	3.742	0	30
Governorates Economics Characteristics				
Average wages	109.33	37.708	60.654	255.904
Employment rate	0.763	0.116	0.427	0.974
Average years of schooling	9.706	0.492	8.323	10.958
% of workers in Israel	0.115	0.098	0	0.533
% of agriculture	0.075	0.078	0.001	0.453
% of workers in services	0.605	0.224	0.067	0.932
Conflict Intensity				
Number of fatalities / districts*	37.206	103.058	1	598
Social Protection				
share of private sector that provide maternity leave/district	0.157	0.167	0	0.679
share of private sector that provide pension / district	0.191	0.156	0.024	0.843

Total n = 225217, days worked & daily wages n = 29294.

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

*This number represents the total number of Palestinians killed by the Israeli army on an annual basis in each Palestinian district separately (16 districts: 11 in the West Bank and 5 in Gaza).

Our main sample compiles 225217 observations in which individuals aged 15–65 reported their labor-market status. Roughly 41% of these workers are engaged in informal activities reflecting the survey's broad coverage of both formal and informal employment. The dataset contains continuous measures of labor supply, such as days worked (sample size = 29294) in the last month (18.49 days, standard deviation 7.6), as well as daily wages (sample size = 29294) in local currency (mean $\approx$ 72.5 with a wide distribution between 11 and 600). Demographic controls include marital status (65 % married), gender (18 % female), refugee status (41 % refugees) and years of schooling (11.2 years on average).

To capture institutional and structural heterogeneity, governorate-level indicators are included, such as average wages, the employment rate, average years of schooling, and the sectoral composition of employment (share of workers in Israel/Settlements, share in agriculture and share in services). Conflict intensity is proxied by the number of conflict-related fatalities in each governorate and year, while social-protection variables measure the share of private-sector employers providing maternity leave and pension benefits. The governorate-level indicators provide important context for understanding how labor-market outcomes respond to economic structure, institutional quality and conflict. The dataset allows for a nuanced analysis of informal employment and labor supply across Palestine during a period characterized by political instability and economic restructuring.

Regarding the definition of informal economy, we adopted the ILO definition of the informal sector, which refers mainly to work conducted by production units (enterprises) operating outside the formal regulatory framework. This includes non-registration with government authorities, as well as other features such as small-scale operations, limited access to formal finance and markets, lack of formal accounting records, and family-based or own-account operations (ILO 2023). In our analysis, we rely on registration status to differentiate between formal and informal jobs.

3. ESTIMATION MODEL

To examine the determinants of informal employment and the intensity and remuneration of informal work, the empirical strategy proceeds in two steps. First, the probability of being employed in the informal sector is estimated using a Linear Probability Model (LPM). The dependent variable equals one if the individual is employed in the informal sector and zero otherwise. The baseline specification is:

$$Y_{idt} = \alpha + \beta X_{idt} + \gamma Z_{dt} + \delta_d + \tau_t + \varepsilon_{idt} \quad \text{Eq (1)}$$

Where Y denotes informal employment status for individual i in governorate d and year t . X_{idt} is a vector of individual characteristics including age, gender, marital status, refugee status, schooling, locality type, and school attendance. Z_{dt} captures governorate-level economic and institutional characteristics such as average wages, employment rate, sectoral composition, conflict intensity, and social protection indicators. δ_d and τ_t represent governorate and year fixed effects. Robust standard errors are used throughout. The LPM is preferred for ease of interpretation, as coefficients directly reflect percentage-point changes in the probability of informal employment.

In our interpretation, we converted the number of Palestinian fatalities into a logarithm. The motivation for using the natural logarithm of the outcome variables instead of their absolute values is that it reduces the influence of extreme values and allows for a more straightforward interpretation of regression coefficients as semi-elasticities or elasticities. This transformation is particularly relevant given the substantial variation in the number of Palestinian fatalities across districts and over time, including periods of significant escalation in fatalities associated with conflicts in Gaza, such as in 2012, 2014, and 2021.

However, hours worked, days worked, and daily wages are observed only for individuals who are employed in the informal sector. Estimating these outcomes using OLS on the selected sample may generate biased estimates if unobserved characteristics jointly influence both the probability of informal employment and labor outcomes. This constitutes a sample selection problem. To address this issue, a Heckman two-stage correction procedure is implemented.

The first stage estimates a probit selection equation in which the dependent variable is an indicator for being employed (or, in the case of wage and hours regressions, an indicator for reporting a positive outcome). The same variables used in the outcome equation enter the selection equation.

$$Y_{idt} = \alpha + \phi x_{idt} + \theta Z_{dt} + \delta_d + \tau_t + \varepsilon_{idt} \quad \text{Eq (2)}$$

The probit results are used to compute the inverse Mills ratio (IMR), defined as the ratio of the normal density to the normal cumulative distribution.

$$\lambda(IMR) = \frac{\Phi(\gamma_0 + \gamma_1 X_i)}{\Phi(\gamma_0 + \gamma_1 X_i)} \quad \text{Eq (3)}$$

Where ϕ represents the probability density function (PDF) of the standard normal distribution, which measures the height of the standard normal curve at a given point, while Φ provides the probability of a standard normal variable being less than or equal to that point. In the second stage, labor outcomes for informal workers are estimated via OLS including the IMR following equation 4:

$$Y_{idt} = \alpha + \beta X_{idt} + \gamma Z_{dt} + \rho \lambda_{idt} + \delta_d + \tau_t + \varepsilon_{idt} \quad \text{Eq (4)}$$

Where Y_{idt} denotes hours worked, days worked, or daily wages, and λ_{idt} is the inverse Mills ratio. The inclusion of this correction term captures unobserved characteristics that jointly influence selection and the outcome, thereby mitigating endogeneity. Under the assumption of joint normality of the error terms, the two-stage estimator yields consistent coefficients and provides a test for selection bias via the significance of the inverse Mills ratio. Robust standard errors are used to account for the generated regressor. This Heckman twostage approach enables simultaneous analysis of factors influencing informal employment and correction for nonrandom selection when modelling hours worked, days worked and wages.

4. RESULTS & DISCUSSION

4.1 Main Results

Table 2 presents the baseline estimates for informal participation and, conditional on being informal, the intensity and remuneration of informal work, while Figure 2 compares the evolution of average daily wages in the formal and informal sectors between 2009 and 2023.

Table 2. Factors associated with the Informal-Sector Participation, Days Worked, and Daily Earnings (Pooled Sample)

Dep. Var.	Being in Informal sector (1) <i>LPM</i>	Days worked - Informal sector (2) OLS	Income - Informal sector (3) OLS
Average wages	0.001*** (0.000)	0.004*** (0.000)	0.005*** (0.000)
Employment rate	-0.436*** (0.019)	0.416*** (0.100)	1.592*** (0.065)
Average years of schooling	0.022*** (0.004)	-0.165*** (0.017)	0.038*** (0.010)
Log (fatalities)	-0.006*** (0.001)	0.003 (0.004)	0.001 (0.002)
Log (fatalities)_Lag 1	0.001 (0.001)	-0.005 (0.003)	-0.004** (0.002)
Share of workers in Israel	-0.040* (0.023)	0.020 (0.092)	0.191*** (0.068)
Share of agriculture	0.628*** (0.023)	-0.295** (0.116)	-0.409*** (0.064)
Share of workers in services	-0.043*** (0.017)	0.568*** (0.073)	-1.143*** (0.047)
share of private sect provides maternity leave	0.052*** (0.010)	-0.072 (0.054)	0.284*** (0.033)

share of private sect provides pension	-0.525*** (0.012)	-0.529*** (0.036)	-0.099*** (0.026)
Constant	-0.525*** (0.012)	-0.529*** (0.036)	-0.099*** (0.026)
IMR (Lambda)		-0.112 (0.074)	-0.304*** (0.045)
Observations	225,217	29,294	29,294
R-squared	0.158	0.054	0.633
Individual characteristics	YES	YES	YES
Years Fixed Effects	YES	YES	YES

Robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$)

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

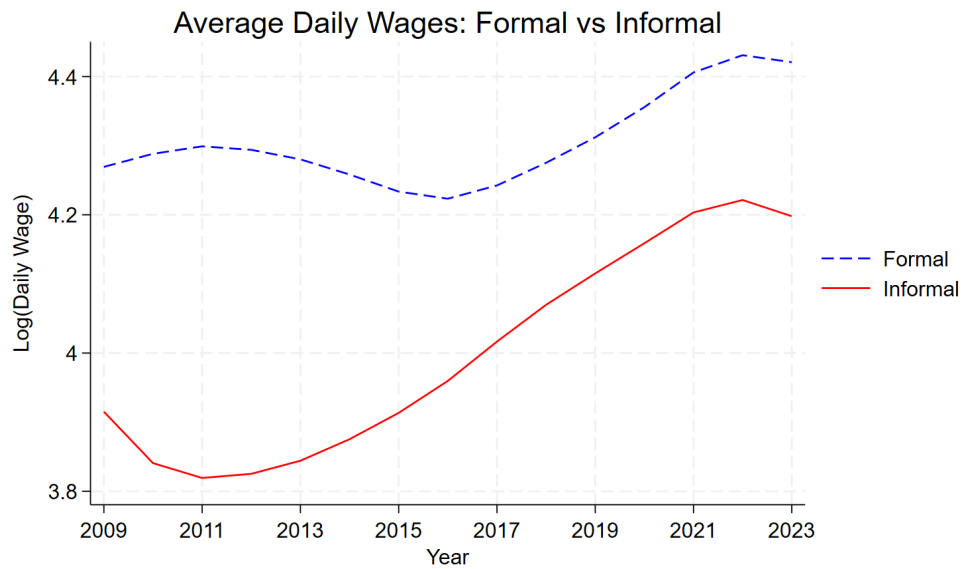


Figure 2. Average Daily Wages in the Formal and Informal Sectors

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

Formal wages consistently exceed informal wages throughout the period, indicating persistent labor market segmentation. Although both wage series trend upward over time, particularly after 2017, the gap between sectors remains substantial. The gradual increase in informal wages without convergence toward formal levels suggests that broader improvements in wage environments benefit informal workers only partially. This persistent differential supports the interpretation of a dual labor market structure in which formal employment remains associated with higher productivity, stronger institutional protection, and wage premia, while informal work continues to operate at systematically lower remuneration levels.

Beginning with the probability of being employed in the informal sector, the coefficient on average wages is positive and statistically significant. Although economically small, this result indicates that individuals residing in higher-wage governorates are slightly more likely to work informally, holding other factors constant. Rather than implying that higher wages cause informality, this pattern likely reflects spatial dualism (La Porta & Shleifer, 2014). High-wage areas (often characterized by a concentration of formal public-sector and professional jobs) may simultaneously host a peripheral informal economy that serves those formal workers (Chen, 2012). In such environments, individuals unable to access the formal core may remain economically active through informal services, petty trade, or construction (La Porta & Shleifer, 2014; Maloney, 2004).

On the other hand, the employment rate coefficient (-0.436) shows that stronger labor markets significantly reduce the likelihood of informal employment. A 10 percentage-point increase in the employment rate is associated with approximately a 4.4 percentage-point decline in informality. In other words, when formal jobs expand, workers transition out of informal activities. Informality thus appears closely linked to insufficient formal job creation rather than to low wage levels per se (Loayza & Rigolini, 2011).

Structural characteristics of local labor markets further clarify this mechanism. Agriculture is strongly positively associated with informal participation, consistent with the prevalence of unpaid family labor and seasonal arrangements without contracts (Chen, 2012). In contrast, services is negatively associated with informality, reflecting the importance of formal service employment (public administration, education, and regulated private services) in more urbanized governorates. Institutional variables strengthen this picture. The share of firms providing a pension is strongly negatively associated with informal participation (-0.525),

indicating that deeper formalization and social security coverage substantially reduce informality (Perry et al., 2007). By contrast, maternity leave coverage shows a positive association (0.052). This coefficient likely captures urban labor-market clustering, where formal-sector expansion (particularly in female-dominated services) coexists with a dense informal ecosystem supplying complementary goods and services (Chen, 2012). Thus, institutional development appears to reduce informality overall, although certain formal-sector characteristics may coincide with informal activity through complementary demand channels. Conflict introduces an additional dimension. The negative coefficient on log fatalities (-0.006) indicates that higher violence reduces the probability of being informally employed. Rather than suggesting improved conditions, which likely reflects overall employment contraction during periods of instability, when curfews, closures, and insecurity suppress both formal and informal work. Conflict therefore appears to shrink the extensive margin of employment (Di Maio & Leone, 2023; Blattman & Miguel, 2010).

Beyond participation, the intensive margin shows that labor demand and institutional conditions continue to shape outcomes once individuals are informally employed, as reflected in the days worked regression (Col. 2). A higher employment rate increases monthly days worked ($+0.416$), indicating that in stronger economies informal workers experience less underemployment and can secure more continuous work. Average wages are also positively associated with days worked ($+0.004$), suggesting that informal labor supply responds to improved earning opportunities or higher living costs in more prosperous areas. Thus, while stronger labor markets reduce informal participation, they increase work intensity among those who remain informal (Loayza & Rigolini, 2011).

Conflict operates differently across margins. While it significantly reduces the probability of informal employment, its contemporaneous effect on days worked among those who remain informally employed is positive but statistically insignificant ($+0.003$) in the pooled sample. On average, therefore, conflict compresses informal employment primarily at the extensive margin rather than reliably intensifying the effort of those who remain. As the regional analysis below shows, however, a more limited added-worker response surfaces in particular local labor markets (most clearly in the central West Bank, where conflict is associated with higher informal

earnings) while in Gaza it compresses working time rather than raising it (contrasting with Di Maio & Leone (2023), who find that conflict reduces work in the private sector).

Institutional variables are again central for work intensity. Pension coverage is associated with fewer days worked (-0.529), implying that stronger formal labor protections moderate extreme work schedules in informality. These results suggest that institutional depth does not only reduce informality at the extensive margin; it also improves job quality among those who remain informal, possibly through productivity spillovers or improved outside options (Loayza & Rigolini, 2011). Bosch and Campos-Vázquez (2014) show that expanded social protection reduces reliance on informal employment and alters labor supply margins. Meghir et al. (2015) demonstrate that outside options and institutional features shape wage-setting and labor allocation within informality, consistent with mechanisms affecting days worked and job intensity.

Sectoral composition further differentiates the conditions under which informal work is performed. A higher share of workers in agriculture at the district level is associated with fewer days worked (-0.295), consistent with the seasonal and intermittent nature of agricultural labor demand. In districts where agriculture constitutes a larger fraction of total employment, informal work is more likely to reflect crop cycles, weather constraints, and part-time family labor arrangements, all of which limit sustained work across the month. By contrast, a higher share of workers in services at the district level is associated with greater work intensity, increasing days worked ($+0.568$). Service-oriented districts (particularly those characterized by retail trade, transport, and small-scale urban commerce) tend to generate informal activities that require regular and extended operating schedules. Informal service providers often work six or seven days per week to remain competitive in dense local markets (Chen, 2012).

Chen (2012) documents how sectoral composition shapes the organization and intensity of informal work, noting particularly long and irregular working schedules in urban services and retail. La Porta and Shleifer (2014) show that informal firms are concentrated in small-scale services and retail activities, where competitive pressures and low productivity often translate into extended work schedules. These findings support the interpretation that sectoral structure systematically affects days worked and work intensity within informality.

Finally, the earnings regression (Col. 3) integrates these mechanisms. The employment rate has a large positive association with informal daily income (+1.592), indicating that informal wages rise strongly in better labor-market conditions. Conflict has no statistically significant contemporaneous effect on informal daily earnings in the pooled sample (0.001), indicating that any short-run scarcity or risk-premium pricing is confined to particular regional labor markets rather than operating economy-wide. Pension coverage is negatively associated with informal daily income (-0.099), consistent with more formalized labor markets concentrating the residual informal workforce in lower-paying activities, so that its influence operates through participation and work intensity as well as wages. In contrast, maternity leave coverage is positively associated with earnings, consistent with higher productivity environments and stronger wage norms in more regulated labor markets.¹

Sectoral composition at the district level also plays a central role in shaping informal earnings. A higher share of workers in agriculture at the district level significantly lowers informal daily income (-0.409). This reflects the low productivity and limited value-added typical of agricultural activities in Palestine, where informal farm work is often seasonal, family-based, and weakly remunerated. Districts more heavily concentrated in agriculture therefore tend to generate informal jobs with structurally lower pay.

Similarly, a higher share of workers in services at the district level is associated with an even larger reduction in informal daily earnings. Although services can encompass high-value activities, in the Palestinian context service-sector employment at the district level is frequently dominated by low-margin informal retail trade, small shops, and petty services rather than capital-intensive or highly productive tertiary industries. As a result, service-dominated districts are characterized by time-intensive but relatively low-paying informal work. By contrast, the omitted sectors (primarily industry and construction) appear to offer comparatively higher informal earnings, likely reflecting greater capital intensity and stronger demand for skilled manual labor.

Tokman (2007) documents systematic earnings differences across informal subsectors, with construction and certain industrial activities paying more than petty trade and low-end services. These findings provide empirical backing for cross-sector wage differentials within informality.

¹ Maloney (2004) notes that informal-sector incomes tend to be lower and lack benefits.

External labor market integration further conditions income outcomes. The share of workers employed in Israel is positively associated with informal earnings, suggesting that districts with stronger links to Israeli labor markets benefit from higher reservation wages and demand spillovers (Mansour, 2010; Miaari & Sauer, 2011). Finally, governorate average schooling exerts a positive and significant effect on informal income, indicating that human-capital-rich environments enhance productivity and raise earnings even within informal employment.

The results above reveal a coherent structure; employment growth and institutional depth reduce informal participation; stronger labor markets increase work intensity and earnings among those who remain informal; sectoral composition shapes both job quality and pay; and conflict compresses employment, with compensatory intensive-margin adjustments among active informal workers emerging mainly in specific regional labor markets. Informality in Palestine therefore emerges not as a uniform phenomenon but as a dynamic outcome of labor demand, institutional strength, economic structure, and instability.

Table 3. Determinants of Informal Employment Outcomes by Gender

Dep. Var	Panel A - Females			Panel B - Males		
	Being in the Informal	Days worked - Informal	Income - Informal sector	Being in the Informal	Days worked - Informal	Income - Informal sector
	(1)	(2)	(3)	(4)	(5)	(6)
	LPM	OLS	OLS	LPM	OLS	OLS
Average wages	0.001*** (0.000)	0.003* (0.001)	0.002* (0.001)	0.001*** (0.000)	0.003*** (0.000)	0.005*** (0.000)
Employment rate	-0.371*** (0.040)	-0.333 (0.646)	1.566*** (0.446)	-0.439** * (0.021)	0.403*** (0.103)	1.531*** (0.065)
Average years of schooling	0.024*** (0.008)	-0.110 (0.088)	-0.018 (0.061)	0.020*** (0.004)	-0.168*** (0.018)	0.045*** (0.010)
Log (fatalities)	-0.001 (0.002)	0.019 (0.020)	-0.001 (0.014)	-0.005** * (0.001)	0.003 (0.004)	0.002 (0.002)
Log (fatalities)_Lag 1	0.000 (0.001)	-0.003 (0.014)	0.008 (0.011)	0.001 (0.001)	-0.004 (0.003)	-0.005** (0.002)
% of workers in Israel	-0.228*** (0.049)	0.319 (0.586)	-0.153 (0.373)	0.008 (0.026)	-0.001 (0.093)	0.191*** (0.069)
% of agriculture	0.582*** (0.043)	-0.526 (0.593)	0.103 (0.379)	0.577*** (0.026)	-0.263** (0.117)	-0.465*** (0.063)
% of workers in services	-0.416*** (0.035)	-0.225 (0.328)	0.328 (0.287)	0.051*** (0.019)	0.629*** (0.075)	-1.197*** (0.047)
share of private sect provides maternity	-0.042** (0.019)	0.024 (0.261)	0.211 (0.219)	0.083*** (0.012)	-0.083 (0.055)	0.282*** (0.033)

share of private sect provides pension	-0.339*** (0.027)	-0.658*** (0.166)	0.243* (0.126)	-0.558** * (0.013)	-0.512*** (0.037)	-0.150*** (0.026)
IMR (Lambda)		0.036 (0.358)	-0.486* (0.279)		-0.175** (0.078)	-0.342*** (0.046)
Observations	40,312	1,546	1,546	184,905	27,748	27,748
R-squared	0.383	0.068	0.288	0.122	0.054	0.650
Individual characteristics	YES	YES	YES	YES	YES	YES
Year Fixed Effects	YES	YES	YES	YES	YES	YES
Robust standard errors in parentheses (***) p<0.01, ** p<0.05, * p<0.1)						

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data. These patterns, however, may conceal important distributional differences within the labor force. The effects of employment growth, institutional depth, and sectoral composition are unlikely to operate uniformly across demographic groups, particularly in a context characterized by pronounced gender gaps in labor force participation and occupational segregation. In Palestine, men and women differ substantially in sectoral allocation, access to formal employment, exposure to social protection, and responsiveness to macroeconomic shocks. As a result, the mechanisms identified above (such as the pro-cyclical response of informal days worked to labor demand or the role of pension coverage in reducing informality) may manifest differently by gender.

Moreover, certain institutional variables, including maternity leave coverage, are inherently gendered in their design and labor-market implications. Similarly, conflict and employment fluctuations may alter household labor supply decisions in ways that differentially affect men and women, either through added-worker effects or withdrawal from the labor market. For these reasons, it is essential to examine whether the determinants of informal participation, work intensity, and earnings vary systematically across genders.

The following section therefore disaggregates the analysis by gender to assess whether the structure identified in the pooled results masks distinct male and female trajectories within the informal labor market.

4.2 Gendered heterogeneity

Table 3 presents gender-disaggregated estimates, highlighting substantial differences in the determinants and outcomes of informal employment. These differences are particularly relevant in the Palestinian context, where female labor force participation remains extremely low (Hallaq & Daas, 2025), and where women's employment is concentrated in specific sectors. Conflict intensity significantly reduces men's probability of informal employment but has no statistically significant effect for women. This suggests that the aggregate contraction in informal participation during violent episodes is driven primarily by men, who constitute the majority of informal workers (PCBS, 2022). Women's informal participation appears largely unresponsive to conflict, likely reflecting their already limited attachment to the labor market and stronger mobility and social constraints during crises (Justino, 2009). Another possible explanation is that female labor force participation in Palestine is structurally low, limiting the scope for further adjustment along the informal margin. With participation rates consistently below 20% (PCBS; Hallaq & Daas, 2025), women's attachment to the labor market is already constrained by social norms, mobility restrictions, and limited employment opportunities. As a result, conflict shocks may primarily affect male employment dynamics, while women's informal participation remains statistically unchanged. By contrast, improvements in overall labor market conditions reduce informality for both genders, but the effect is substantially stronger for women. A higher regional employment rate sharply lowers female informal participation, indicating that women are more likely to enter (or remain in) the labor force when suitable formal opportunities exist. In weaker labor markets, some women appear to turn to informal activities out of necessity (Günther & Launov, 2012; Kucera & Roncolato, 2009). Social protection variables also display gender asymmetries. Pension coverage reduces informal employment for both men and women, with a stronger magnitude for men, reflecting men's greater integration into the labor force and responsiveness to formal job expansion. Maternity leave coverage increases men's likelihood of informal work (+0.083) while modestly reducing women's (-0.042). This may reflect sectoral segmentation: areas with stronger female-oriented formal employment may indirectly push some men into informal activities, while women who

can access formal jobs with benefits exit informality altogether (Perry et al., 2007). Sectoral composition further differentiates outcomes. A higher agricultural share substantially increases informal participation for both genders. Service-sector expansion reduces informality among women in particular, whereas for men a larger district service share is, if anything, weakly associated with higher informal participation, suggesting that urban and service-oriented regions provide more formal employment channels primarily for female workers. Regional education raises informal participation for both women and men, implying that contextual social and human-capital environments shape informal labor decisions across genders (Günther & Launov, 2012).

Conditional on being informally employed, gender differences persist in labor intensity and earnings. Conflict has no statistically significant effect on either men's or women's days worked or earnings conditional on informal employment, indicating that its labor-market impact operates mainly through participation rather than work intensity. Any gendered coping response is therefore muted at the pooled level, with women's informal work in particular remaining constrained by household responsibilities and safety concerns. Governorate macroeconomic conditions similarly affect men more strongly. Higher employment rates and regional wage levels significantly increase men's informal days worked and earnings, with more limited effects on women's informal days worked; women's informal earnings, however, respond strongly to the regional employment rate (1.566, $p > 0.01$). Pension coverage reduces both men's and women's informal days worked (-0.512 and -0.658, respectively). Service-sector dominance increases men's working time but is associated with lower male informal wages, reflecting crowded low-skill service activities. For women, by contrast, the association between service-sector dominance and informal earnings is positive but statistically insignificant, offering only weak evidence that urban service economies provide more remunerative niche opportunities for female informal workers.

the evidence indicates that informal labor dynamics are deeply gendered. Men's informal employment responds strongly to conflict, macroeconomic conditions, and institutional changes, particularly at the participation margin, with weaker and less consistent effects on work intensity. Women's informal engagement is more structurally constrained and context-dependent, shaped by sectoral composition, social norms, and access to formal employment rather than short-term economic fluctuations.

Regional Variations in Informal Employment Patterns

Figure 3 below illustrates the evolution of informal sector participation across major Palestinian regions between 2009 and 2023. The trajectories reveal substantial regional divergence.

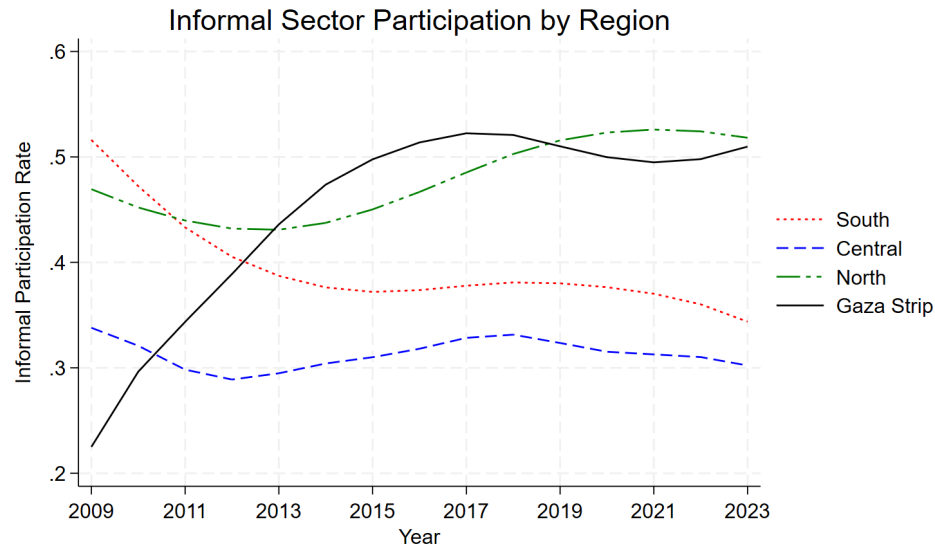


Figure 3. Informal Sector Participation Across Major Palestinian Regions

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data. The Gaza Strip exhibits a pronounced and sustained increase in informality, rising sharply after 2009 and stabilizing at levels exceeding those observed elsewhere, consistent with prolonged blockade, recurrent conflict, and the collapse of formal private-sector activity (UNCTAD, 2020). In contrast, the Central West Bank maintains comparatively lower and more stable informality rates, reflecting stronger institutional depth and greater public-sector absorption capacity. The Southern and Northern West Bank display intermediate patterns, with gradual shifts linked to sectoral composition and labor market integration. These distinct regional paths justify a disaggregated econometric analysis, as pooled estimates may conceal structurally different mechanisms operating across local labor markets.

Table 4. Determinants of Informal Employment: Southern West Bank (Hebron and Bethlehem)

	Being in the Informal sector	Days worked - Informal sector	Income - Informal sector
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Dep.Var.	LPM (1)	OLS (2)	OLS (3)
Average wages	-0.005*** (0.002)	-0.004 (0.006)	0.020*** (0.004)
Employment rate	0.355* (0.196)	0.118 (0.655)	-0.033 (0.454)
Average years of schooling	-0.160*** (0.053)	0.399*** (0.152)	-0.225* (0.123)
Log (fatalities)	-0.006 (0.008)	0.040 (0.027)	0.003 (0.018)
Log (fatalities)_Lag 1	0.002* (0.001)	-0.007 (0.006)	-0.004 (0.004)
% of workers in Israel	1.320** (0.621)	4.416** (2.075)	-7.231*** (1.458)
% of agriculture	1.274* (0.707)	3.152 (2.599)	-4.084** (1.802)
% of workers in services	0.366 (0.485)	2.151 (2.027)	-4.083*** (1.299)
share of private sect provides maternity leave	0.511*** (0.092)	-0.548 (0.374)	0.053 (0.247)
share of private sect provides pension	-0.254 (0.161)	1.487** (0.596)	-0.030 (0.414)
Constant	1.923*** (0.716)	-3.548 (2.419)	6.199*** (1.754)
IMR (Lambda)		0.786 (0.543)	0.468 (0.321)
Observations	48,557	5,154	5,154
R-squared	0.135	0.065	0.450
Individual characteristics	YES	YES	YES
Year Fixed Effects	YES	YES	YES

Robust standard errors in parentheses (*** p<0.01, ** p<0.05, * p<0.1)

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

Table 4 indicates that informality in the southern West Bank is shaped less by the counter-cyclical “fallback” mechanism observed elsewhere and more by a locally embedded, entrepreneurial informal economy. The selection terms in the days-worked and earnings equations are statistically insignificant, indicating little evidence of selection on unobservables in this subregion; entry into informal work here appears to reflect local labor-market structure rather than a distinct pool of workers selected on unobserved traits (Maloney, 2004; Perry et al., 2007). Average wages are negatively associated with informal participation (-0.005) but raise informal income ($+0.020$), implying that improvements in the local wage environment translate primarily into higher earnings for those already informal rather than large compositional changes, a pattern consistent with segmented labor market structures (Fields, 2005). Notably, the regional employment rate is weakly positive for informal participation, consistent with a pro-cyclical informal sector in which expansions activate both formal and informal activities simultaneously (Loayza & Rigolini, 2011). Higher regional schooling significantly reduces informality, reinforcing the role of human capital in expanding access to formal jobs and reducing reliance on low-productivity informal employment (Gindling, 1991; World Bank, 2019). Conflict has no statistically significant contemporaneous effect on informal days worked or informal income in this subregion, indicating that the added-worker adjustment observed in some other local markets does not operate here, in line with research showing that conflict affects labor markets through both direct and indirect channels over time (Blattman & Miguel, 2010; Justino, 2012). The most distinctive pattern concerns exposure to Israeli employment: greater work in Israel is associated with substantially more informal days worked but sharply lower informal income, consistent with labor-market dualism in which high-wage external employment coexists with a residual local informal sector characterized by longer working time and lower returns (Harris & Todaro, 1970; Fields, 2005). Agriculture increases informality and intensifies work effort, reflecting seasonal and self-employment dynamics typical of rural labor markets (Charmes, 2012), while a larger service share reduces informal income, consistent with evidence that much informal service activity is concentrated in low-margin petty trade (La Porta & Shleifer, 2014). Social protection measures show mixed associations, but pension coverage lowers informal participation, consistent with the view that stronger formal institutions and

social insurance systems reduce reliance on informal employment (Levy, 2008; Perry et al., 2007).

Table 5. Determinants of Informal Employment: Central West Bank (Ramallah, Jerusalem, and Jericho)

VARIABLES	Being in the Informal sector	Days worked - Informal sector	Income - Informal sector
	LPM	OLS	OLS
Average wages	-0.001*** (0.000)	-0.001 (0.001)	0.004*** (0.001)
Employment rate	-0.898*** (0.169)	0.649 (0.482)	-0.142 (0.336)
Average years of schooling	-0.054*** (0.018)	0.146** (0.065)	-0.022 (0.043)
Log (fatalities)	-0.004 (0.006)	0.005 (0.019)	0.051*** (0.013)
Log (fatalities)_Lag 1	0.002 (0.002)	0.007 (0.006)	0.002 (0.004)
% of workers in Israel	0.063 (0.052)	0.064 (0.156)	0.025 (0.117)
% of agriculture	0.619*** (0.120)	1.301*** (0.468)	-0.654** (0.316)
% of workers in services	-0.123 (0.097)	0.667** (0.334)	0.167 (0.234)
share of private sect provides maternity leave	0.633*** (0.079)	0.410 (0.363)	0.033 (0.231)
share of private sect provides pension	-0.004 (0.045)	0.298 (0.210)	-0.704*** (0.107)
Constant	1.836*** (0.212)	-0.010 (0.745)	3.696*** (0.498)
IMR (Lambda)		-0.072	-0.362

		(0.451)	(0.312)
Observations	34,230	4,278	4,278
R-squared	0.159	0.063	0.327
Individual characteristics	YES	YES	YES
Year Fixed Effects	YES	YES	YES

Robust standard errors in parentheses (** p<0.01, * p<0.05, * p<0.1)

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

Table 5 reflects a more conventional formalization process in the central West Bank, where stronger institutions and higher-quality employment opportunities are associated with lower informal participation, consistent with evidence that labor markets in the Ramallah–Jerusalem corridor are more institutionally embedded and public-sector oriented than peripheral regions (World Bank, 2018; UNCTAD, 2020). The selection terms are statistically insignificant, offering little evidence of selection on unobservable in the central West Bank, where formal employment is comparatively more accessible and informality is less sharply differentiated from the pool of excluded workers (Fallah, 2021).

Higher average wages reduce informal participation while increasing informal income, indicating that wage growth in the center both pulls workers toward formal employment and raises returns within the residual informal sector. This pattern aligns with evidence that public-sector wage setting and donor-driven labor demand in the central West Bank shape local labor market segmentation (Mansour, 2010; World Bank, 2018). The strong negative association between regional employment rates and informal participation is consistent with the central region's ability—through public administration, NGOs, and service-sector expansion—to absorb workers into formal employment when demand improves (UNCTAD, 2020; PCBS, 2022).

At the same time, employment improvements are not significantly associated with days worked among remaining informal workers, suggesting that in the central West Bank stronger labor demand operates mainly by reducing informal participation rather than by intensifying the work of those who remain (ILO, 2012). Higher regional schooling is weakly associated with lower informal participation but more days worked among informal workers (+0.146), consistent with evidence that education in Palestine improves access to public and formal employment while also increasing productivity among the self-employed (Assaad et al., 2019).

Conflict is associated with higher informal income (+0.051), plausibly reflecting selective continuation of essential, higher-margin activities during instability. Empirical studies show that conflict in the West Bank affects labor supply and sectoral allocation unevenly, often protecting politically connected or urban service activities while disrupting lower-productivity sectors (Mansour, 2010). Israeli employment shares have limited explanatory power in this sub-sample, consistent with evidence that commuting to Israel is more concentrated in peripheral districts than in Ramallah and Jerusalem (Miaari, Zussman, & Zussman, 2012).

Agriculture increases informal participation and days worked while lowering income, reflecting the low productivity and seasonal nature of agricultural work in areas such as Jericho (ILO, 2012; UNCTAD, 2020). Maternity leave coverage is positively associated with informal participation (+0.633), consistent with urban labor-market clustering in which formal, female-oriented employment coexists with a dense complementary informal sector (World Bank, 2018). Pension coverage shows more ambiguous associations, suggesting that even as formal employment expands, segmentation persists and informal workers may face more days worked and weaker earnings, a pattern consistent with structural dualism in the Palestinian labor market (UNCTAD, 2020), warranting cautious interpretation and sensitivity checks.

Table 6. Determinants of Informal Employment: Northern West Bank (Jenin–Nablus Cluster)

VARIABLES	Being in the Informal sector	Days worked - Informal sector	Income - Informal sector
	LPM	OLS	OLS
Average wages	0.008*** (0.000)	0.009*** (0.001)	-0.001 (0.001)
Employment rate	-1.002*** (0.085)	0.506 (0.361)	-0.136 (0.205)
Average years of schooling	0.157*** (0.016)	-0.103 (0.071)	-0.249*** (0.039)
Log (fatalities)	-0.023*** (0.003)	0.017 (0.012)	-0.002 (0.007)

Log (fatalities)_Lag 1	0.001 (0.001)	-0.002 (0.005)	-0.004 (0.003)
% of workers in Israel	-2.687*** (0.079)	-1.086*** (0.349)	0.365* (0.202)
% of agriculture	1.831*** (0.053)	-0.561** (0.266)	-0.905*** (0.126)
% of workers in services	1.798*** (0.112)	0.135 (0.481)	-0.732*** (0.266)
share of private sect provides maternity leave	0.372*** (0.036)	-0.262 (0.180)	0.075 (0.100)
share of private sect provides pension	-1.059*** (0.031)	-0.709*** (0.129)	0.209*** (0.069)
Constant	-1.073*** (0.184)	0.431 (0.782)	6.191*** (0.432)
IMR (Lambda)		1.736*** (0.297)	-0.122 (0.188)
Observations	70,881	9,637	9,637
R-squared	0.187	0.105	0.398
Individual characteristics	YES	YES	YES
Year Fixed Effects	YES	YES	YES

Robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Jenin–Nablus cluster include: Jenin Tubas Safit Qalqilya Tulkarm and Nablus)

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

Table 6 shows that informality in the northern West Bank is closely tied to restricted external connectivity and sectoral composition, with patterns consistent with economic stagnation and displacement of labor into low-quality activities. The selection terms are mixed—positive and significant in the days-worked equation but insignificant for earnings—so the coefficients, rather than a single selection story, best characterize this region, revealing a distinctive role for wages and Israeli access. Unlike other regions, higher average wages are associated with higher informal participation and greater work intensity, without a corresponding rise in informal income. This pattern is consistent with uneven wage gains concentrated among a minority

(public-sector or permit holders), raising local prices and participation pressures while leaving informal wages largely unchanged. The employment rate strongly reduces informal participation, but variation in employment conditions appears insufficient to materially improve informal job quality. Regional schooling increases informal participation while reducing informal income among informal workers (-0.249), with no significant effect on days worked, consistent with educated underemployment: in more educated northern localities, informal work may be fragmented, intermittent, and low paid, reflecting a mismatch between skills and available formal jobs. Conflict reduces informal participation in the short run, consistent with broad disruption rather than a coping-driven shift into informality. The most policy-salient results concern Israeli employment: greater access is associated with sharply lower informal participation, fewer informal days worked (-1.086), and higher informal income among those remaining informal (+0.365), consistent with reduced labor supply pressure and remittance-driven demand effects. Agriculture strongly increases informality and reduces informal income, confirming that agrarian dependence in the north is linked to widespread low-wage informal work. A higher services share also increases informality, plausibly reflecting the dominance of small-scale informal commerce rather than formal tertiary employment. Pension coverage reduces informality and improves informal job quality, implying that institutional strengthening and formal job creation would have outsized effects in this region.

Table 7. Determinants of Informal Employment: Gaza Strip

VARIABLES	Being in the Informal sector	Days worked - Informal sector	Income - Informal sector
	LPM	OLS	OLS
Average wages	0.007*** (0.001)	-0.003 (0.005)	-0.003* (0.002)
Employment rate	-0.441*** (0.054)	-0.073 (0.431)	1.307*** (0.198)
Average years of schooling	-0.031*** (0.008)	0.068 (0.064)	-0.054** (0.027)
Log (fatalities)	-0.003 (0.003)	-0.048*** (0.018)	0.010 (0.008)

Log (fatalities)_Lag 1	-0.001 (0.001)	0.001 (0.008)	-0.007* (0.004)
% of workers in Israel	4.163*** (1.078)	-3.601 (6.021)	8.188*** (2.258)
% of agriculture	0.663*** (0.060)	-0.135 (0.482)	-0.853*** (0.217)
% of workers in services	0.055 (0.112)	-0.153 (0.643)	0.723*** (0.268)
share of private sect provides maternity leave	-0.040 (0.027)	0.324 (0.222)	-0.477*** (0.100)
share of private sect provides pension	-0.273** (0.110)	-1.551** (0.776)	0.722** (0.341)
Constant	1.428*** (0.117)	3.225*** (1.108)	0.651 (0.454)
IMR (Lambda)		-0.656 (0.483)	0.747*** (0.176)
Observations	71,549	6,169	10,225
R-squared	0.207	0.054	0.152
Individual characteristics	YES	YES	YES
Year Fixed Effects	YES	YES	YES

Robust standard errors in parentheses (***) $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' calculations based on Palestinian Labor Force Survey (PLFS) data.

Table 7 portrays Gaza as an extreme case in which informality is entrenched by prolonged blockade, repeated conflict shocks, and the collapse of private-sector formality, producing a labor market characterized by rationed work opportunities and pervasive non-standard employment. The positive selection term indicates that unobserved traits associated with informal work are also associated with being employed, consistent with a setting where many individuals are fully excluded from work and only the most compelled or able secure informal activities. Average wages are positively associated with informal participation, consistent with wage movements driven by narrow formal segments (public sector, aid-linked employment)

that do not expand hiring but may raise participation pressures and costs of living. Employment rates reduce informal participation, suggesting that even limited job creation (often temporary programs) can shift individuals away from informality, though effects on informal job quality are weak. Education reduces informal participation and is associated with significantly lower informal income among those who remain informal (-0.054), while its association with days worked is not statistically significant, pointing to underutilization of human capital in a rationed labor market. Conflict does not systematically change informal participation but reshapes outcomes at the intensive margin, reducing days worked (-0.048) with no significant offsetting change in informal income, consistent with intermittent shutdowns that compress working time without raising returns. Israeli employment shares yield large but unstable associations, reflecting the very small share of Gaza workers with access to Israeli labor markets, so interpretation should be cautious. Agriculture increases informality and lowers informal income, while a higher services share is associated with higher informal income ($+0.723$), consistent with somewhat more remunerative urban service niches within an otherwise constrained economy. Social protection variables are scarce in Gaza's private sector, yet where pension and maternity coverage exist they are generally associated with lower informality, reinforcing that any expansion of formal, protected employment (however limited) reduces reliance on precarious informal livelihoods in an otherwise structurally constrained economy.

5. POLICY IMPLICATIONS

The findings highlight that expanding formal job creation is central to reducing informality in Palestine. Higher regional employment rates significantly lower the likelihood of workers entering informal jobs, indicating that inclusive economic growth, private sector development, and improved market access are essential. Reviving high-employment sectors such as construction and manufacturing, easing trade and movement restrictions, and supporting Gaza's economic recovery could increase formal opportunities. At the same time, institutional strengthening (particularly expanding social protection systems such as pensions, unemployment support, and labor law enforcement) can reduce both the incidence and

severity of informal work. Simplifying business registration and providing incentives for small firms to formalize can further reduce structural and regulatory barriers that sustain informality. The results also show the need for targeted and shock-responsive policies. Conflict periods require emergency employment programs, cash assistance, and support for informal businesses to prevent severe income losses, while long-term adaptive safety nets are needed to protect vulnerable workers. Gender-sensitive policies that expand female employment opportunities, reduce structural barriers (e.g., childcare, transport, and norms), and support women-led enterprises are likely to accelerate formalization. Similarly, youth-focused policies such as apprenticeships, skills development, and guided entrepreneurship can improve school-to-work transitions and reduce long-term informal labor dependence. Finally, strong regional differentiation is essential: Gaza requires large-scale recovery, infrastructure investment, and livelihood-linked humanitarian support, while the West Bank requires targeted development in lagging regions and balanced labor mobility arrangements. Overall, reducing informality requires a coordinated approach that expands formal employment, strengthens institutions, protects workers during shocks, and supports vulnerable groups while ensuring gradual, opportunity-based formalization rather than punitive enforcement.

6. CONCLUSION

This study examined the relationship between political instability, economic restructuring, and informal employment in Palestine. The findings indicate that persistent informality is primarily driven by structural constraints in the formal sector and institutional weakness, both of which are intensified by conflict-related shocks. Informal employment functions simultaneously as a survival mechanism for workers excluded from formal opportunities and as a shock absorber during periods of economic and security crises. Consistent with dualist and institutional perspectives, informality declines in regions with stronger formal labor demand, more diversified economic structures, and better labor market enforcement, while areas characterized by agricultural dependence, institutional fragility, or limited governance capacity exhibit higher informal employment. The results also show that wage levels alone do not

substantially reduce informality in the absence of broad-based job creation, highlighting that employment availability and institutional enforcement are the primary drivers of formalization. Conflict has complex but largely short-term labor market effects. Increases in conflict intensity reduce overall labor participation, but among those who remain employed informally, work intensity and earnings adjust in specific regional labor markets as households cope with income losses. The heterogeneity analysis further demonstrates that informal labor outcomes vary across gender and region. Women's informal employment is more responsive to improvements in formal job availability than to economic downturns, while men's informal employment is more sensitive to conflict and economic cycles. Regional disparities are particularly pronounced, with Gaza exhibiting structurally entrenched informality linked to prolonged economic isolation and conflict exposure, while parts of the West Bank show partial formalization associated with economic diversification and relatively stronger institutions. Overall, the findings suggest that reducing informality requires sustained job-intensive growth, institutional strengthening, and reduced conflict-related uncertainty. While the informal sector currently serves as a critical coping mechanism, long-term reductions in informality depend on expanding formal employment opportunities, strengthening labor protections, and addressing structural economic and political constraints, with implications extending to other fragile and conflict-affected economies.

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