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A NATIONAL METHODOLOGY FOR MEASURING AND MONITORING INFORMAL EMPLOYMENT: INDICATORS, ESTIMATION PROCEDURES, AND INTERNATIONAL PRACTICE

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Abstract. Informal employment remains one of the most persistent structural challenges of transitional labour markets, limiting the coverage of social insurance, narrowing the tax base, and constraining the accumulation of stable, rights-based employment. This article examines the conceptual and methodological foundations of a national system for measuring and monitoring informal employment, developed in line with the recommendations of the International Labour Organization (ILO) and the International Conference of Labour Statisticians (ICLS). The study presents the job-based approach to identifying informality, describes the principal indicators used for its quantification — the number of persons in informal employment, the informal employment rate, the rate of partial informal employment, the share of vulnerable employment, the social protection coverage rate, and the composite informality index — and illustrates their calculation with worked numerical examples.
Keywords: informal employment, labour market statistics, informal employment rate, vulnerable employment.

Introduction

The modernization of the labour market, the expansion of productive employment, and the strengthening of social protection are recognized priorities of state socio-economic policy in transition economies, including the Republic of Uzbekistan. Within this process, the formalization of labour relations and the gradual reduction of informal employment are regarded as essential conditions for ensuring labour-market stability. Informal employment is characterized by the incomplete legal formalization of labour relations, limited participation in social insurance schemes, and the partial or non-registration of earned income. In the short run, informal employment may absorb surplus labour and mitigate open unemployment; in the long run, however, it tends to erode the quality of jobs, weaken the social protection system, and restrict the expansion of the formal sector.

A high incidence of informal employment reduces contributions to pension and social insurance funds, leaves labour rights insufficiently protected, narrows the revenue base of the state budget, and is generally associated with lower labour productivity. For these reasons, an accurate assessment of informal employment and the design of an effective policy response require a reliable methodological foundation. International practice demonstrates that the first stage of any effective reduction strategy is the precise measurement of the real scale of informality. According to ILO recommendations, informal employment should be assessed at the level of the individual job, using criteria such as the existence of a written employment contract, coverage by social insurance, and official registration with the relevant state bodies.

The purpose of this article is to examine the conceptual architecture and the indicator system of a national methodology designed to identify, measure, and monitor informal employment, and to relate this system to international statistical standards and comparative country experience.

2. Conceptual Foundations and the Job-Based Approach

For the purposes of this methodology, informal employment denotes a labour relationship that exists in fact but has not been fully formalized according to legally established procedures, namely one lacking a registered employment contract, adequate social insurance coverage, or official registration in state information systems. A key methodological premise, consistent with ILO guidance, is that informality is determined not by the formal status of the enterprise but by the legal and social characteristics of the individual job. Consequently, informal jobs may exist even within officially registered enterprises: if a worker has no employment contract, if social insurance contributions are not paid on their behalf, or if the employment relationship is not reflected in official statistics, that particular job is classified as informal regardless of the enterprise's registration status.

A related concept, vulnerable employment, denotes a labour-market risk category comprising own-account workers and contributing (unpaid) family workers, whose income stability and social protection are comparatively low and whose probability of transition into informal employment is comparatively high. The conceptual model underlying the methodology evaluates informal employment through three interconnected dimensions: the number of persons in informal employment, the share of informal jobs in total employment, and the share of vulnerable employment. This multidimensional approach allows for a more complete assessment of the scale of informality than any single indicator considered in isolation.

3. The Indicator System

3.1. Persons in Informal Employment (NE). The number of persons in informal employment (NE) constitutes the principal absolute national indicator. Although informality is identified at the level of the individual job, national statistical practice aggregates results with reference to each person's main job, so that NE is expressed as a count of persons rather than jobs. This indicator expresses, in absolute terms, the number of individuals employed without social insurance coverage, a registered employment contract, or compulsory state registration, and provides the basis for planning formalization policy across regions, sectors, and social groups.

3.2. Informal Employment Rate (IE). The informal employment rate (IE) expresses the share of informally employed persons within total employment and is calculated as follows:

$$IE = (NE / TE) \times 100$$

where NE denotes the number of persons in informal employment and TE denotes total employment. For instance, if total employment in a country equals 1,000,000 persons, of whom 320,000 are informally employed, then IE = (320,000 / 1,000,000) × 100 = 32 per cent, meaning that 32 of every 100 employed persons work informally. Regions in which IE exceeds 35 per cent are identified as priority areas for targeted formalization programmes; this threshold, together with the broader interpretive scale, is derived from comparative international statistical analysis and is subject to periodic review, typically every five years.

3.3. Partial Informal Employment Rate (PIE). Partial informal employment refers to jobs in which a formal employment contract exists but social insurance contributions are not paid in full, or a portion of earned income is not officially recorded. It is calculated as:

PIE = (PNE / TE) × 100

where PNE is the number of persons in partial informal employment. In an illustrative case where TE equals 1,000,000 and PNE equals 80,000, PIE = 8 per cent, indicating that eight of every hundred employed persons receive part of their remuneration outside official records — for example, a worker whose officially reported salary is 2 million units while the actual salary is 4 million, with the difference paid informally. This indicator captures hidden institutional weaknesses within formally registered employment relationships.

3.4. Vulnerable Employment Rate (VE). The vulnerable employment rate reflects the share of employment forms characterized by unstable income and comparatively weak social protection, principally own-account work and unpaid family work:

VE = (OA + FW) / TE × 100

where OA denotes own-account workers and FW denotes unpaid family workers. Suppose total employment equals 250,000, of which 52,000 are own-account workers and 18,000 are unpaid family workers; then VE = (70,000 / 250,000) × 100 = 28 per cent. VE is not a direct measure of informality but a structural risk indicator that anticipates the likelihood of future transitions into informal status.

3.5. Social Protection Coverage (SPC). Social protection coverage measures the share of employed persons covered by the social insurance system:

SPC = (SI / TE) × 100

If total employment equals 500,000 and 300,000 persons are covered by social insurance, SPC = 60 per cent. A high SPC value signals a comparatively formalized and stable labour market, whereas a low value is generally associated with a higher incidence of informality and weaker institutional stability in labour relations.

3.6. Employment Status Structure (MBM). The employment-status indicator characterizes the distribution of employed persons by status — employees, employers, own-account workers, and unpaid family workers:

MBM share = (specific employment category / total employment) × 100

Although this indicator does not directly measure informality, it identifies structural risk groups: for example, if 25,000 of 100,000 employed persons in a given region are own-account workers, their share equals 25 per cent, a signal that vulnerable and potentially informal employment may be comparatively widespread in that region.

3.7. Informal-to-Formal Transition Rate (ITR). The transition rate measures the effectiveness of formalization efforts over a given period:

ITR = (Nt / N0) × 100

where Nt is the number of persons who moved from informal to formal employment during the reporting period and N0 is the total number of informally employed persons in the preceding period. If N0 equals 180,000 and Nt equals 27,000, ITR = 15 per cent, meaning that 15 per cent of previously informal workers were formalized within one year. A rising ITR indicates that formalization reforms

are producing measurable results, while a persistently low value points to the need for stronger policy intervention.

3.8. The Composite Informality Index (CII). Because no single indicator can fully capture the multidimensional nature of informality, a composite index is constructed from three normalized components — the informal employment rate (IE), the vulnerable employment rate (VE), and an adjusted social protection coverage indicator, SPC_adj = 100 − SPC, the latter reflecting the share of the workforce outside social protection. The composite index is defined as:

CII = (0.5 × IE) + (0.3 × VE) + (0.2 × SPC_adj)

The weighting scheme assigns the largest weight to IE, reflecting its direct measurement of the core problem; a substantial weight to VE, reflecting its role as a forward-looking risk indicator; and a smaller weight to the social-protection gap, reflecting its role as an indicator of institutional stability. The resulting index ranges from 0 to 100 and is conventionally interpreted in four bands: 0–25 (low), 25–50 (moderate), 50–75 (high), and 75–100 (systemic), enabling comparison across regions, sectors, age groups, and gender.

4. Data Sources and Statistical Quality Control

The methodology relies primarily on labour force sample surveys, supplemented by administrative data from tax authorities, the employment-contract registry, and social insurance and pension records. Because informal activity is, by its nature, incompletely captured in administrative registers, sample survey data are treated as the primary and authoritative source, while administrative data serve a verification function. Statistical reliability is reinforced through a representative sampling design, repeat interviews, cross-source data comparison, and the estimation of sampling error, with indicators reported within a 95 per cent confidence interval.

An early-warning mechanism monitors the joint dynamics of IE, VE, and SPC to detect emerging instability: a sustained two-year increase in IE, a simultaneous rise in both IE and VE, or a declining trend in SPC are treated as signals warranting an in-depth analytical review within thirty days, informing timely policy adjustment before informality becomes structurally entrenched.

5. International Experience

Comparative international practice illustrates the value of monitoring multiple informality indicators in combination. In Brazil, the coordinated tracking of informal employment, social insurance coverage, and vulnerable employment between 2000 and 2020 contributed to a reduction in informality from roughly 59 per cent to approximately 40 per cent, accompanied by an expansion of formal jobs and social protection coverage. Turkey applied a similar combined approach between 2005 and 2022, reducing informal employment from approximately 52 per cent to around 30 per cent through the parallel analysis of informality, insurance coverage, and transition indicators.

In the Republic of Korea, the identification of risk groups combined with the expansion of social protection contributed to increased labour-market stability, reduced informality, and improved productivity. China achieved measurable formalization gains by simplifying business registration procedures, encouraging enrolment in social insurance, and expanding vocational employment programmes. These experiences collectively demonstrate that systemic monitoring, rather than isolated interventions, underlies successful formalization outcomes.

6. Conclusion

The methodology presented in this article establishes a coherent, internationally consistent framework for measuring and monitoring informal employment through a system of complementary indicators rather than a single summary statistic. The job-based approach to defining informality, combined with the calculation of NE, IE, PIE, VE, SPC, MBM, ITR, and the composite informality index, enables a multidimensional assessment of the scale, structure, and dynamics of informal employment.

Comparative international experience confirms that the joint, systematic application of such indicators supports evidence-based formalization policy, strengthens social protection coverage, and contributes to the long-term stability of the labour market. Further empirical work should focus on refining sectoral and regional disaggregation and on integrating digital-platform employment into the existing indicator framework.

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