Informal employment by type of production unit, selected African countries
Employment in the informal sector by nature of job, selected African countries

- Lesotho (2008)
- Liberia (2010)
- Madagascar (2005)
- South Africa (2010)
- Uganda (2010)
- Zambia (2008)
- Zimbabwe (2004)*

International Labour Office
Department of Statistics
Introduction to measurement methods
Measurement methods

Overview

Different measurement methods
Minimum set of data items
Recommended frequency
Statistical units

Methods:
- Labour force surveys
- Establishment-based surveys
- Mixed surveys
- Indirect methods

Summing up
**Measurement methods**

**Types**

**Direct estimation**
- Labour force surveys (household-based surveys with a labour force component)
- Establishment-based surveys
- Mixed household and enterprise surveys

**Indirect estimation**
- Macro-economic estimation
- Comparative analysis of statistics from different sources

Choice of survey method depends on:
(a) The data items that need to be measured;
(b) The existing surveys and sample frames in the country;
(c) Financial and human resources

Methods are not mutually exclusive. Each has strengths and limitations. Can be combined to improve coverage.
Measurement methods
Minimum set of data items

Employment in the informal sector
Informal employment
  Number of persons and number of jobs
Informal sector units
  Number of informal sector entrepreneurs
  Production, value added

All data items can be cross-classified by relevant variables
Measurement methods

Minimum set of data items: common cross-classifications

Characteristics of persons
  Sex, age group, level of educational attainment, urban/rural location

Characteristics of jobs (held by persons)
  Status in employment, occupation, hours of work, type of contract, income related to employment

Characteristics of units (where persons work)
  Kind of economic activity (industry), institutional sector, size of unit, type of workplace (with premises, household-based, itinerary), type of production unit (formal, informal own account enterprise, enterprise of informal employers, households)
**Measurement methods**

**Recommended frequency of data collection**

- **Employment in the informal sector**
  - Once a year

- **Number and characteristics of informal sector units**
  - Every five years

- **Informal employment**
  - Can be the same as for employment and unemployment statistics

However, in order to capture seasonal and sporadic activities, measurement should cover the whole year.
Measurement methods

Statistical units

Analytical units - for which the statistics are produced
  Informal sector unit (informal sector entrepreneur)
  Persons employed in informal sector units, persons in informal employment

Observation units - for which information is collected
  Are not always the same as the analytical unit - need for adjustment

Sampling units - units selected in sample
  Households, enterprises

Reporting units - that provide information (respond to a questionnaire)
  Persons, entrepreneurs
# Measurement methods

## Statistical units

<table>
<thead>
<tr>
<th>Unit</th>
<th>Labour force survey</th>
<th>Establishment surveys</th>
<th>Mixed surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample unit</strong></td>
<td>Household</td>
<td>Establishment</td>
<td>Households (first phase); informal sector entrepreneurs (second phase)</td>
</tr>
<tr>
<td><strong>Observation unit</strong></td>
<td>Jobs, persons and owners of informal sector units</td>
<td>Establishments jobs</td>
<td>Jobs, workers, and owners of informal sector unit (first phase); informal sector units (second phase)</td>
</tr>
<tr>
<td><strong>Reporting unit</strong></td>
<td>One or more members of the household</td>
<td>Owner or manager of establishment</td>
<td>One or more members of the household (first phase); owner of the informal sector unit (second phase)</td>
</tr>
<tr>
<td><strong>Analytical unit for employment</strong></td>
<td>Jobs and persons, owners of informal sector units</td>
<td>Jobs</td>
<td>Household component: jobs, persons and owners of informal sector units Informal sector survey: jobs, owners</td>
</tr>
<tr>
<td><strong>Analytical unit for informal sector units</strong></td>
<td></td>
<td>Establishments</td>
<td>Informal sector units, establishments</td>
</tr>
</tbody>
</table>

International Labour Office
Department of Statistics
Measurement methods
Minimum requirements

Sound sample design
Sample frame should be comprehensive
Sample size should be adequate for required detail in statistics
Informality should be a basic objective of sample design
It should take into account the need for statistics on informality
There should be enough observation units in all industries and areas

Inclusion of relevant questions in standard questionnaire
Registration, book-keeping and size of enterprise
Social security coverage and entitlement to holidays

Coverage of all jobs and economic units
Main and secondary jobs, household-based and itinerant economic units, all economic activities

Coverage of all seasons and sporadic activities
Measurement methods
Labour force surveys

What they do:
Collect detailed information about labour force characteristics of persons
Using a standard questionnaire

Data items
Number of persons in the informal sector and characteristics relating to their work, their person and their households
Number of informal sector entrepreneurs and characteristics relating to their work, their person and their households
Number of persons in informal employment and the characteristics related to their work, person and households
Measurement methods
Labour force surveys - Advantages

Existing survey infrastructure
Low cost of adding a set of questions on informality

Coverage
Of all jobs, all branches of economic activity, all informal workers (including employees & unpaid family workers)

Coherence
Data on informal sector and informal employment can be related at micro-level to other information collected in the same survey
Informal employment and working conditions measured at macro-level along with employment in other sectors and unemployment
Measurement methods
Labour force surveys - Limitations

Limited data items
Do not cover informal sector enterprises nor their characteristics

Response errors
Proxy respondents may not know enough about the employment situation of other household members
Even employees and contributing family workers may not know enough about the enterprise in which they work to classify in the informal sector

Unreliable estimates
If sample is not designed to produce informality estimates

Lack of coverage of seasonal and sporadic activities
If survey is not frequent enough or reference period is not long enough
Measurement methods
Establishment-based surveys

What they do:
- Collect detailed information about establishments/enterprises and their economic activities and other characteristics.
- Are usually carried out to supplement formal sector surveys, i.e., target all units excluded from list-based register.

Data items:
- Number of (informal sector) establishments and characteristics of units, such as organization & functioning, constraints & potentials.
- Production, income generated, costs, etc.
- Number of (informal sector) entrepreneurs and characteristics relating to their work, their person and their households.
- Number of jobs in (informal sector) establishments and characteristics relating to these jobs.
- Number of informal jobs in all establishments and characteristics relating to these jobs.
Measurement methods
Establishment-based surveys - Advantages

Coverage
- Of informal sector units
- Of informal sector jobs and working conditions

No proxy response
Information is provided by entrepreneurs

Coherence
Data on informal sector units can be related to economic units outside the informal sector, to obtain coherent data for the whole economy
Measurement methods
Establishment-based surveys - Limitations

Observation unit is not equal to analytical unit

Enterprise vs establishment
Linkages between different establishments belonging to the same enterprise
Double counting of enterprises is possible, if no checking is done to identify establishments belonging to the same enterprise

Worker vs job
Requires adjustments to the observations

Coverage
May not cover all kinds of economic activities (e.g., exclude agriculture, industry-specific surveys)
If not area-based, coverage of informal sector units will be incomplete
Even if area-based will exclude employees in households
Will tend to underestimate informal employment outside the informal sector

Response errors
Detailed information about the production, costs or sales of the unit may not be provided because no registers are kept

Cost
Listing operation in area-based surveys is expensive
Measurement methods

Mixed surveys

What they do

Collect detailed information about households and enterprises
Are carried out in two phases:
  Household survey phase identifies informal sector entrepreneurs
  Enterprise survey phase obtains information about enterprises owned by informal sector entrepreneurs

Data items:

Number of workers in the informal sector and in informal employment
  and characteristics related to their jobs, their person and their household

Number of informal sector units
  and their characteristics, including organization & functioning, constraints & potentials

Production, income generation, costs, etc.

Number of informal sector entrepreneurs
  and characteristics related to their person and their household
Mixed modular survey
First phase: Module attached to existing household-based surveys

Mixed independent survey
First phase: stand alone survey or listing operation of households

May use dual sample frames:
(a) An establishment frame of informal sector units operating with premises;
(b) A household frame for informal sector units operating within dwellings or mobile activities
Measurement methods
Mixed surveys - Advantages

Coverage
Complete coverage of informal sector enterprises, irrespective of size, kind of activity or type of workplace.

Enterprise data
Different informal sector activities undertaken by same individuals/households can be analysed in conjunction at the enterprise/household level.

Coherence
Data on informal sector enterprises can be related to characteristics of the entrepreneurs' households.
Data on informal sector activities can be related to data already obtained from the base survey.
Measurement methods
Mixed modular surveys - Advantages

Simple
Mixed modular surveys are less complex than mixed independent surveys. Estimation of survey results is facilitated through possibility to use the same sampling weights as the base survey.

Trends
Possibility of monitoring evolution of informal sector over time if base survey is conducted regularly and informal sector module attached periodically.

Economic
Lower cost than mixed independent survey: identification of sub-sample units on the basis of base survey data, no special listing operation needed.
Unreliability of estimates
In mixed modular surveys, the sample design does not necessarily incorporate informal sector measurement as a core variable.

The number of informal sector entrepreneurs may be quite small.

No control over distribution of Informal Sector sample by type of activity and its representativeness.

No guarantee to obtain reliable separate estimates for each type of Informal Sector activity.
Measurement methods
Mixed independent surveys - Limitations

Complexity of survey operations
Mixed independent surveys are more complex than mixed modular surveys

Cost
The listing operation is an expensive operation
Measurement methods

Indirect measurement methods

Common prior to direct measurement methods
Approximate estimates of employment in the informal sector and informal employment

Two approaches

Residual balance
Mainly to estimate employment in the informal sector and informal employment
Can also be used to estimate value added
Combine data from different sources

Macro-economic estimation (econometric models)
Mainly for national accounts for estimation of value added
Also to estimate number of informal units
Combine aggregated variables
Measurement methods
Indirect measurement methods - Residual balance approach

**Compares two sources**
- Population census or household survey (exhaustive source) - covering all employment
- Economic census, establishment survey or administrative records ("register" source) - covering the "formal" sector

**Problems**
- Different units: persons - jobs - may over or under-estimate informal employment
- "Register" source may cover less than the "formal" sector
Measurement methods

Indirect measurement methods - Macro-economic estimation techniques

Compares aggregated economic variables according to a set of assumptions

Supply-based methods
Determine production based on data about the supply of inputs that are used in producing goods and services: raw materials, labour, land, fixed capital, stocks, etc.

Labour input method

Demand-based methods
Determine production based on data on the uses of goods and services: household consumption, as intermediate consumption of other units, as exports, etc.
Measurement methods

Indirect measurement methods - Macro-economic estimation techniques - limites

Approximate and hypothetical
- Depend on assumptions made
- Depend on coverage and quality of data used

No specific identification of informal sector due to inclusion of statistically unrecorded activities of other parts of the economy

Can only provide estimates of the size of the informal sector, but not on its composition, functioning and other characteristics
Measurement methods

Summing up

When the main objective is to measure employment in the informal sector or informal employment
- Labour force survey
- Mixed modular survey

When the main objective is to measure value added of the informal sector
- Establishment survey

When the objective is to measure the number of enterprises in the informal sector and their characteristics
- Mixed survey (modular or independent)

When the objective is to measure both employment and production with the same source
- Mixed survey (modular or independent)

When no direct measurement exists
- Indirect methods
Labour force surveys

Overview

Requirements

Questionnaire design
  General considerations
  Type of questions
  Informal sector
  Informal employment
Labour force surveys
Requirements

Frequent and regular measurement
   Consider the effect on response burden and length of interview

Cover secondary jobs
   Either using the same set of questions or simpler ones, e.g., only size criterion

Cover seasonal activities
   Especially if agriculture is included

Lower minimum age limit to include child labour

Adequate sample design

Definition criteria - use more than 1 but not necessarily all
   Product destination may not be relevant if subsistence work is not important in the country
   Registration of the enterprise may not always reflect that the enterprise is in the formal sector
   Not keeping accounts may not imply that the unit is not formal
Labour force surveys

Requirements: adequate sample design

Sample design cannot be the same as in a general household survey

Because informal sector workers are unevenly distributed in space
Because they are less stable

Sample needs to take into consideration the patterns of concentration of various kinds of informal sector workers

e.g., by size of unit and type of premise (fixed, household-based, itinerant)

These patterns should be taken into account when selecting PSUs
Labour force surveys
Questionnaire design: general considerations

Simplicity
Questions must be simple - take account of proxy-response
Avoid skip patterns when replies are “don’t know”
So not to lose information
These cases can be classified at the processing stage using other (contextual) variables

Special probes to target all employment activities
Activities likely to go unreported, e.g., unpaid work in small family enterprises, activities undertaken by women on own-account at or from home, undeclared activities

Important to pilot test questions
Labour force surveys

Questionnaire design: type of questions

Core questions *:
  Employment, unemployment, occupation, status in employment, industry, hours of work, etc.

Contextual questions * (to filter out-of-scope cases)
  Place of work (home-based, itinerant, fixed); employment contract (oral, written)

Key questions *:
  Registration; Legal organization/ownership; Type of accounts; Product destination (for sale, for own final use); Size of enterprise; Social security coverage; Deduction of income tax

Descriptive:
  To identify outsourcing, multi-establishment enterprises
Labour force surveys

Questionnaire design: Core questions

To capture all employed persons irrespective of their status in employment

Special probes* for activities that might go unreported (e.g. unpaid work in small family enterprises, home-based work, undeclared work, casual jobs, informal activities done as secondary jobs, etc.)

Importance of classifying persons correctly by status in employment (e.g. outworkers, subcontractors, free-lancers) whose activity is at the borderline between self-employment and paid employment - good interviewer training

Cover all jobs held by persons (main and secondary)
Labour force surveys

Questionnaire design: Special probes to capture all activities (South Africa)

In the last week,....

(a) Did you work for a wage, salary, commission or any payment in kind (including paid domestic work), even if it was for only one hour?

Examples: a regular job, contract, casual or piece work for pay, work in exchange for food or housing, paid domestic work.

(b) Did you run or do any kind of business, big or small, for yourself or with one or more partners, even if it was for only one hour?

Examples: Commercial farming, selling things, making things for sale, construction, repairing things, guarding cars, brewing beer, collecting wood or water for sale, hairdressing, crèche businesses, taxi or other transport business, having a legal or medical practice, performing in public, having a public phone shop, etc.

(c) Did you help without being paid in any kind of business run by your household, even if it was for only one hour?

Examples: Commercial farming, help to sell things, make things for sale or exchange, doing the accounts, cleaning up for the business, etc.
Labour force surveys
Questionnaire design: informal sector - contextual questions

Place of work

Enterprises without fixed location, fixed on the street, fixed at home/ someone else's home, attached structure to home, independent establishment (separate from home), agricultural farm, construction site, etc.

Identifies persons working at home, in the streets, in open markets, etc.

Kind of activity (industry) identifies persons

Working in agriculture and related activities (if excluded from the informal sector)

Employed as domestic employees by households

Engaged exclusively in the production of goods for own final use by their household
Labour force surveys

Questionnaire design: informal sector - key questions

Legal organization (institutional sector)/ ownership
  Government, public enterprise, NPISH, privately owned enterprise
  If private: owned by one or more persons, incorporated enterprise

Registration of enterprise
  Under specific forms of national legislation (question needs to specify the registration type)
  Identifies unregistered enterprises

Bookkeeping
  Keeps complete accounts/does not keep complete accounts
  Can be considered a good proxy to registration

Tax/social security contributions deducted from pay
  As a proxy of registration of employees

Size of enterprise *
Labour force surveys

Questionnaire design: informal sector - size of enterprise

Number of persons working on a regular basis

For large enterprises, size in categories
For small enterprises, exact numbers
  Questions should be about the minimum and maximum workforce engaged in the unit
  Otherwise, the unit will be considered as informal during the low season, but formal during the high season

Can be considered a proxy criterion to registration/bookkeeping

Definition of informal sector should not depend solely on this criterion, except when other criteria are not applicable (e.g., agricultural units, secondary jobs)
Labour force surveys
Questionnaire design: informal sector - different questions to different workers

Because paid employees may not know characteristics of the economic unit

Questions for them should be about employee registration

Income tax deducted from salary

Social security coverage

To self-employed persons (employees may not be able to respond)

Bookkeeping

Registration of the enterprise

Legal organization and ownership

Questions that all workers can answer:

Size of enterprise

Place of work

When the informal sector is defined using different criteria for paid employees and self-employed, it is known as the “two track approach”
Labour force surveys
Questionnaire design: informal sector - registration of enterprise

Q19. Was your business/farm (or the business/farm where you worked) registered at the Ministry of Justice?

- Yes ................................................................. 1
- Is in the process of being registered .................................................. 2
- No ................................................................. 3
- Do not know ................................................................. 4

Recommendations for treatment of response options to Q19:
Q19=1 (registered, formal sector)
Q19=2 or 3 (not-registered, informal sector)
Q19=4 and self employed (informal sector)
Q19=4 and employee (formal sector)
Labour force surveys
Questionnaire design: informal sector - Size of enterprise

Q23. How many persons including yourself work at your place of work?
- 1-4
- 5-9
- 10-19
- 20-49
- 50-99
- 100 or more
- more than 9 persons
- Do not know

Q24. Please specify the exact number of workers
- Number of workers:
Labour force surveys

Questionnaire design: informal sector - Place of work

Q20. Where do you usually work?

- In your home .......................................................... 1
- Structure attached to your home .................................. 2
- At the client’s or employer’s home ................................. 3
- Enterprise, plant, factory, office, shop, workshop etc. (separate from the house) ........................................ 4
- On a farm or agricultural plot ...................................... 5
- Construction site ..................................................... 6
- Fixed stall in the market or on the street ......................... 7
- Without fixed location/mobile .................................... 8
- Other (specify): ...................................................... 9
Labour force surveys

Questionnaire design: informal sector - Legal organization and ownership

Q18. In which sector were you employed?

Read

- Government
- State-owned enterprise (e.g. TVTL, EDTL)
- Privately-owned business or farm
- Non-governmental/non-profit organization
- Private household
- Embassies and bilateral institutions (e.g. USAID, CIDA)
- United Nations and other international org.
- Other (specify): ____________________________

1 □  Q20
2 □  Q20
3 □  Q20
4 □  Q20
5 □  Q20
6 □  Q20
7 □  Q20
8 □  Q20
**Labour force surveys**

Questionnaire design: informal sector - Income tax deduction from wage

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Yes</td>
</tr>
<tr>
<td>2</td>
<td>No</td>
</tr>
<tr>
<td>3</td>
<td>Don’t Know</td>
</tr>
</tbody>
</table>
Labour force surveys

Questionnaire design: informal sector - Payment of sales tax, income tax

4.13 Is your business (or household business where you work) registered for VAT?
1 = YES
2 = NO
3 = DON'T KNOW

4.14 Is the business (or household business where you work) registered for income tax?
1 = YES
2 = NO
3 = DON'T KNOW
### National definition:
Informal sector enterprises are defined as unincorporated enterprises (i.e. enterprises lacking the status of a legal person), which are not registered. Persons engaged in the production of agricultural goods exclusively for own consumption by their household, as well as households employing paid domestic employees, are excluded.

Q24=(3 or 4) & Q25=(2 or 3) & Q25=(4, if self-employed)
Labour force surveys
Questionnaire design: informal sector - two track approach (South Africa)

(a) All self-employed workers who work in units that are not registered for sales tax or income tax; and
(b) All employees whose wages do not get deductions for income tax payments and work in units of less than 5 employees.

Employed

Employers: own-account; working unpaid in household business

4.10. Income tax deducted by employer

Employees

4.13. Registered for VAT or income tax

4.16. Size of establishment: fewer than 5 employees?

Informal sector

No

Yes
Labour force surveys

Questionnaire design: informal sector - Two track approach (Model questionnaire)

(a) All self-employed persons who work in unincorporated enterprises other than those registered and do not have a complete set of accounts; (b) All paid employees in unincorporated enterprises who know that they are either not registered or in the process of being registered with no complete set of accounts; and, if they do not know whether they are registered or not, those whose wages do not get deductions for income tax payments.

Employment in households

Formal sector employment

Informal sector employment
Labour force surveys
Questionnaire design: informal employment

- Questions to identify employment in the informal sector
- Questions to identify informal employment outside the informal sector
  - Informal employees, including paid domestic informal workers
  - Persons engaged in unpaid production of goods exclusively for own final use (if employed)
  - Volunteer workers (if employed)
  - Contributing family workers in the formal sector
  - If the informal sector excludes agriculture, informal jobs of own account workers, employers and members of producers’ cooperatives in agriculture
Labour force surveys
Questionnaire design: informal employment - core questions to identify informal employees

- Payment of social security (including pension fund) contributions for the employee by the employer
  - Insofar as it is related to employment (and not universal)
- Possibility to benefit from
  - Paid annual leave or compensation for it
  - Paid sick leave
  - Paid maternity leave
- Risk of arbitrary dismissal without advance notice by the employer
- Possibility to receive legal benefits and compensation in case of dismissal
Labour force surveys
Questionnaire design: informal employment - contextual questions

**Type of work contract**

- Written, oral contract
- Not having a written contract ≈ informal employment,
- But having a written contract ≠ formal employment

---

**Example: Moldova LFS**

13. Have you been employed on the basis of:
   - a contract ...........................................
   - an agreement ........................................

14. Is your contract or agreement of:
   - a limited duration?............... 
   - a unlimited duration?.............
Labour force surveys

Questionnaire design: informal employment - Moldova LFS

<table>
<thead>
<tr>
<th>Question</th>
<th>Options</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>18. Does your employer pay contributions to the pension fund, health insurance and unemployment fund for you?</td>
<td>Yes, sure.</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Possibly.</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>No.</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>I don’t know.</td>
<td>4</td>
</tr>
</tbody>
</table>

Employees are considered to have informal jobs if the answer to any of the questions Q18, Q19 or Q20 is ‘ no ’.
Labour force surveys

Questionnaire design: informal employment - Model questionnaire

<table>
<thead>
<tr>
<th>Employees, other</th>
<th>Status in employment</th>
<th>Employers, members of producers’ cooperatives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>yes</strong></td>
<td><strong>yes</strong></td>
<td></td>
</tr>
<tr>
<td>Job-related employer contributions to social security</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td><strong>yes</strong></td>
<td><strong>yes</strong></td>
<td></td>
</tr>
<tr>
<td>Benefit from paid annual leave</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td><strong>yes</strong></td>
<td><strong>yes</strong></td>
<td></td>
</tr>
<tr>
<td>Benefit from paid sick leave</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td><strong>yes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informal sector enterprise or cooperative</td>
<td>no</td>
<td></td>
</tr>
<tr>
<td>Formal employment</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

International Labour Office
Department of Statistics
Establishment-based surveys
Establishment surveys

Overview

Introduction
Coverage
Dual frames: sample design and frequency
Observation unit: the establishment
Reference period
Data collection approaches
Data items
Questionnaire design
Sample frames and sample design
  List-based
  Area-based

Establishment Censuses