

**Regional Course on SDG Indicators:  
Measuring decent work using microdata  
from labour force surveys**

03 October 2019  
UN SIAP, Chiba, Japan

**Sharing ADB's Experience in  
*Measuring the Informal Economy***

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## **Order of Presentation**

- Introduction
- Existing Data Collection Practices
- Scope of ADB's Previous Project on Measurement of Informal Economy
- Key Findings from ADB Project
- Lessons Learned from ADB Project
- Institutionalizing Expanded LFS
- Policy Uses



# Introduction

Some countries have not institutionalized the compilation of statistics on informal economy.

## Why?

- Data collection may be 'expensive'
  - Construction of sampling frame may be costly
  - Informal production units are difficult to locate because of their characteristics
- Not much demand for the statistics?
- Standard definitions of informal employment and informal sector need to be operationalized carefully



# Data Collection Practices

- **Special surveys**
  - Most appropriate but difficult and very costly
  - A separate listing operation is needed to form the sampling frame of the survey
- **Household surveys**
  - LFS* -- may not correctly capture the characteristics of the enterprise that are not known by the respondents who are just workers
  - HIES* -- can help identify informal sector activity through the sources of income data items but the standard HIES questionnaire gathers very little information on the type of enterprise and other characteristics of the informal sector unit
- **Establishment / enterprise surveys**
  - Traditional approach
  - Usual sampling frame does not include the informal production units because of employment size thresholds
- **Mixed surveys – household and enterprise survey**
  - Sampling frame for informal sector production units survey (phase 2) is constructed from a household survey (phase 1)
  - Makes it possible to link informal sector activities/business owner characteristics with household characteristics





# ADB's Previous Project on Measuring the Informal Economy

Contribute to the increase in evidence-based policy making for poverty reduction

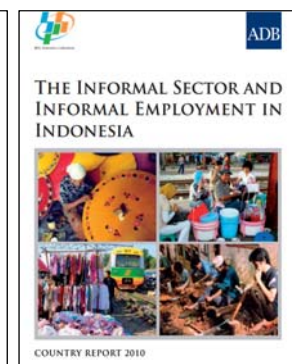
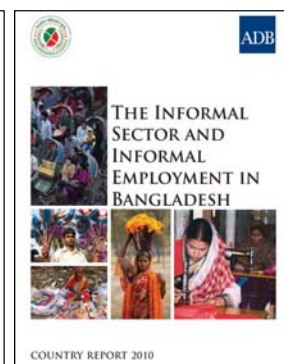
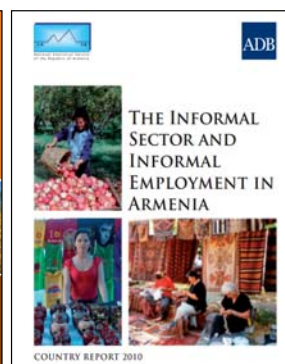
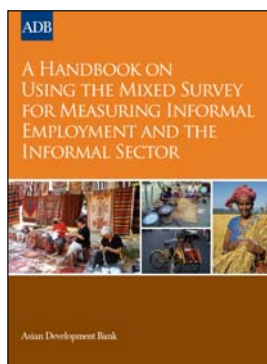
- By helping NSOs acquire a sound strategy for collecting data on the informal economy
- By exploring the processes to integrate data on informal economy into national accounts data compilation framework
- By studying the links between poverty and the informal sector



## Scope of the Project

### Methodological and Economic Research

- Estimating the prevalence of informal employment
- Estimating the contribution of informal enterprises to GDP



#### Project Team

Lead: Dalisay Maligalig

Members: Sining Cuevas Estrella Domingo Pamela Lapitan Arturo Martinez Jr.





## Similar Study -- ICMISIE

- UN Development Account Project – *Interregional Cooperation on Measurement of the Informal Sector and Informal Employment*
- Six countries from 3 regions (ECLAC, ESCWA, ESCAP)
- For Asia – Mongolia, the Philippines, and Sri Lanka were assisted by ESCAP
- **Data collection and estimation in 2007- 2009**
- **Regional Conference: December 2009**



## Implementation Arrangements

- The three pilot countries were identified and ADB implemented the mixed survey approach for collecting data on the informal sector and informal employment

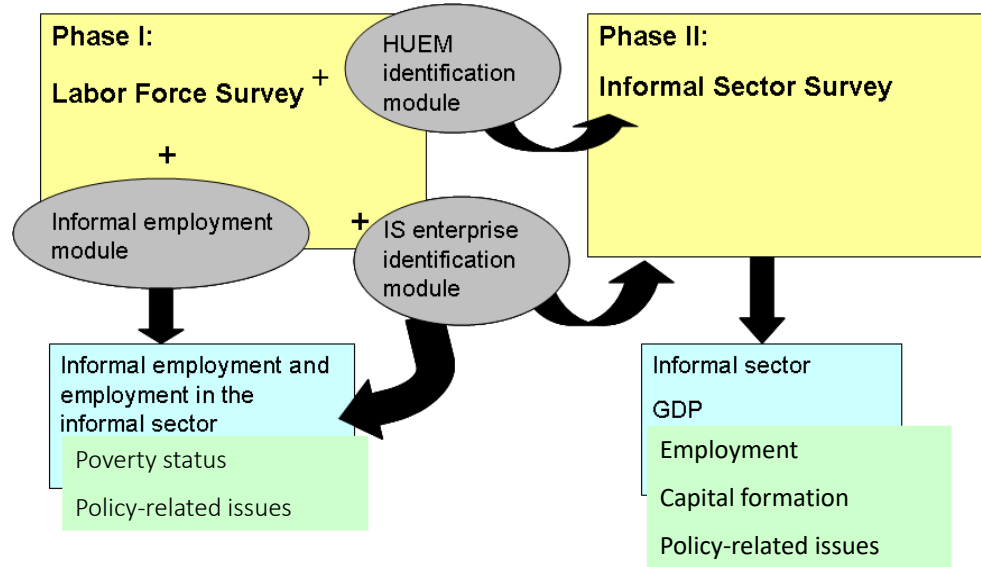
**Countries covered:** Armenia, Bangladesh, Indonesia

**Criteria:** (i) Regular LFS with sufficiently large sample;  
(ii) informal sector that is perceived to be growing; and  
(iii) not covered by UN ESCAP's project

- For each participating country, country team was formed: units handling national accounts, labor and industry, and household surveys were represented
- Project Team collaborated with country teams; undertook research; wrote handbook
- **Period: December 2007 – March 2011**



# Cost-Effective Data Collection Strategy



## Methodology

- The methodology entails identification of variables and conditions to apply in distinguishing formal and informal jobs and in classifying the production units these jobs are engaged at → generation of **decision matrices**





## Things we may need to capture to (i) distinguish between formal and informal jobs & (ii) examine whether a person works for formal / informal enterprise...

- Bookkeeping practices
- Market Production
- Legal Status
- Business registration
- Contracts
- Pay slips
- Type of enterprise
- Place of work
- Benefits / social protection



## Distinguishing between formal and informal jobs...

**Table 3.5 Decision Matrix for Determining Formal and Informal Employment: Employees and Unpaid Family Workers**

Criteria	Employment Status	Contract
Informal employment	Employee	Verbal contract
	Casual employee in agriculture	& No contract
	Casual employee not in agriculture	
Formal employment	Unpaid workers	Written contract
	Employee	
	Casual employee in agriculture	
	Casual employee not in agriculture	

**Notes:**

*The process of developing decision matrices entail iterative procedures, in combination with the knowledge of labor concepts and consideration of local or country specific practices.*

*One could also look at social protection coverage too when distinguishing formal vs. informal jobs.*

**Table 3.7 Decision Matrix for Classifying Production Units: Own-Account Workers, Employers, and Unpaid Family Workers**

Production Unit	Employment Status	Bookkeeping	Sell Good or Service
Formal enterprise	Own-account worker	& With detailed formal accounts	& 1 Yes
	Employer assisted by temporary workers		
Informal enterprise	Employer assisted by permanent workers	& Simplified accounting format for tax purposes	& 1 Yes
	Unpaid workers		
	Own-account worker		
	Employer assisted by temporary workers		
Household	Employer assisted by permanent workers	& Simplified accounting format for tax purposes	& 1 No
	Unpaid workers		
	Own-account worker	& Simplified accounting format for tax purposes	& 1 No
	Employer assisted by permanent workers		





## Examining whether a person works for formal / informal enterprise...

**Table 3.7 Decision Matrix for Classifying Production Units: Own-Account Workers, Employers, and Unpaid Family Workers**

Production Unit	Employment Status	Bookkeeping	Sell Good or Service		
Formal enterprise	Own-account worker	With detailed formal accounts	&	1	Yes
	Employer assisted by temporary workers				
Informal enterprise	Employer assisted by permanent workers	No written accounts Informal records for personal use & Simplified accounting format for tax purposes Others	&	1	Yes
	Own-account worker				
	Employer assisted by temporary workers				
	Employer assisted by permanent workers				
Household	Unpaid workers	No written accounts Informal records for personal use & Simplified accounting format for tax purposes Others	&	1	No
	Own-account worker				

**Table 3.8 Decision Matrix for Classifying Production Units: Employees (Regular and Casual)**

Production Unit	Employment Status	Place of Work	Pay Slip	Sell Good or Service	
Formal enterprise	Employee		& Yes, with complete information		
	Casual employee in agriculture				
	Casual employee not in agriculture				
Informal enterprise	Employee		& Yes, with simple pay slip		
	Casual employee in agriculture				
	Casual employee not in agriculture				
Household	Employee	& Employer's home	& Yes, with simple pay slip	&	2
	Casual employee not in agriculture				

Source: ADB. 2011. *A Handbook on Using the Mixed Survey Approach for Measuring Informal Employment and the Informal Sector*. Manila. <https://www.adb.org/sites/default/files/publication/28294/measuring-informal-sector.pdf>



## Things we may need to capture to estimate gross value added of informal enterprises...

- Expenditures on raw materials and stock
- Operational expenses
- Capital expenditures
- Inventory
- Value of production for own consumption
- Value of products / services sold / offered







# Implication of Adding Survey Questions

Phase 1

Phase 2

## LFS + Addt'l Modules + Informal Sector Survey

Formal vs. Informal Jobs

GVA of informal enterprises

Formal vs. Informal Enterprise

(approx.) 10 mins extension of interview / respondent to identify formal vs. informal jobs and enterprise

(approx.) 30 mins for conducting ISS to measure economic contribution of informal enterprises

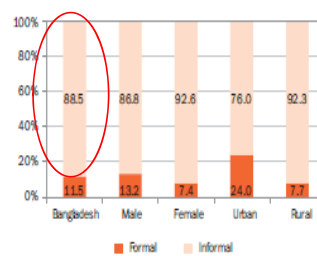


## Nature of Employment

Armenia



Bangladesh



- In Armenia, informal employment (in primary and/or in secondary job) was estimated at 52% of the total employment and comprised 621,700 of the total jobs.

- In Bangladesh, majority of workers with one job (88%) depended on an informal job, while only 12% held one formal job.

Indonesia

Industry	Yogyakarta		Banten	
	Formal	Informal	Formal	Informal
Agriculture	0.22	99.78	1.55	98.45
Fishing	...	100.00	6.64	93.36
Mining and quarrying	7.24	92.76	15.67	84.33
Manufacturing	13.49	86.51	53.68	46.32
Electricity, gas, and water	48.15	51.85	41.02	58.98
Construction	5.61	94.39	9.91	90.09
Wholesale and retail trade	9.35	90.65	7.90	92.10
Hotels	7.33	92.67	12.43	87.57
Transport, storage, and communications	13.79	86.21	22.36	77.64
Financial intermediation	62.82	37.18	65.27	34.73
Real estate	21.92	78.08	29.70	70.30
Public administration	72.03	27.97	69.90	30.10
Education	69.48	30.52	36.76	63.24
Health and social work	79.47	20.53	55.77	44.23
Other comm	8.82	91.18	14.12	85.88
Private households	4.89	95.11	2.56	97.44
Others	...	100.00	...	100.00
Total	10.86	89.14	24.10	75.9

Notes: ... = no observation/no data available, Other comm = Other community, social, and personal services.

- In Indonesia, informal enterprises engaged 87% of the total employment in Yogyakarta; while the jobs supplied by informal enterprises were relatively less at 71% of the total in Banten.





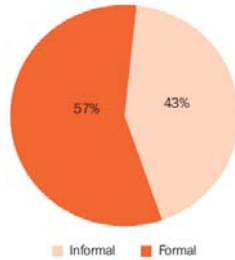


## Contribution of Informal Enterprises to GDP

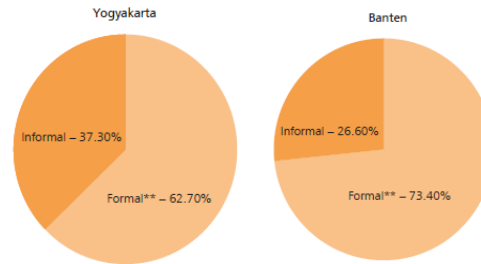
### Armenia

Sector	Contribution to GDP (AMD million)			Percentage		
	Total	Formal**	Informal	Total	Formal**	Informal
Agriculture	514,583.1	399,556.7	115,026.4	100.0	77.6	22.4
Non-agriculture*	2,312,760.2	2,110,117.4	202,642.8	100.0	91.2	8.8
Total*	2,827,343.3	2,509,674.1	317,669.2	100.0	88.8	11.2

### Bangladesh



### Indonesia



GDP = gross domestic product.

Formal\*\* = formal sector + households.

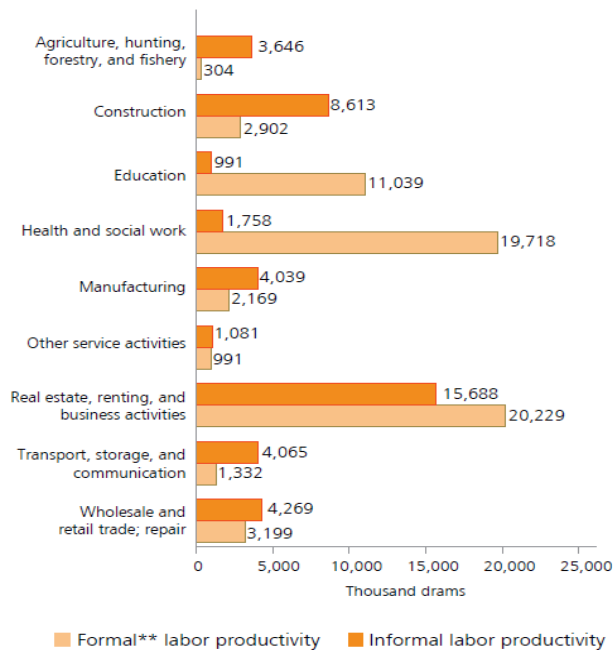
Note: \*Without financial intermediation services indirectly measured (FISIM).

Source: Computations using 2010 ISS Phase 2 data.



## Labor Productivity of Informal Enterprises

### Armenia



- According to the survey results, the highest labor productivity among informal enterprises was recorded in real estate, renting, and business activities (AMD20,229,000); health and social work (AMD19,718,000); and education (AMD11,039,000).
- The lowest labor productivity among informal enterprises was recorded in agriculture, hunting, and forestry (AMD304,000); other community, social, and personal service activities (AMD991,000); and manufacturing (AMD2,169,000).

Formal\*\* = formal sector + households.

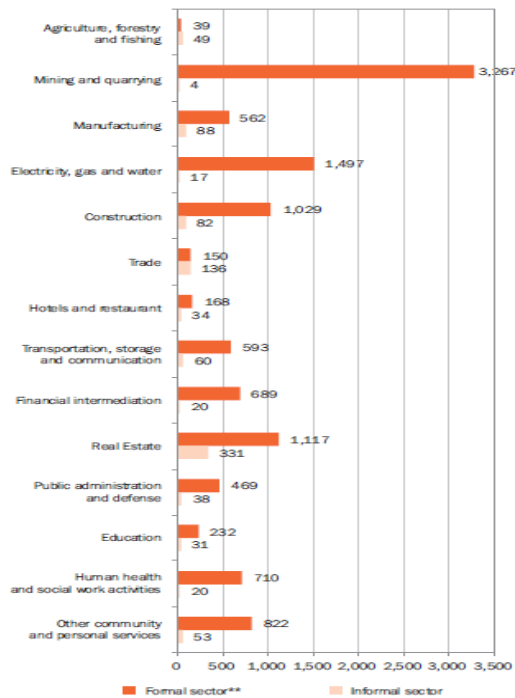
Source: Computations using 2010 ISS Phase 2 data.





## Labor Productivity of Informal Enterprises

### Bangladesh



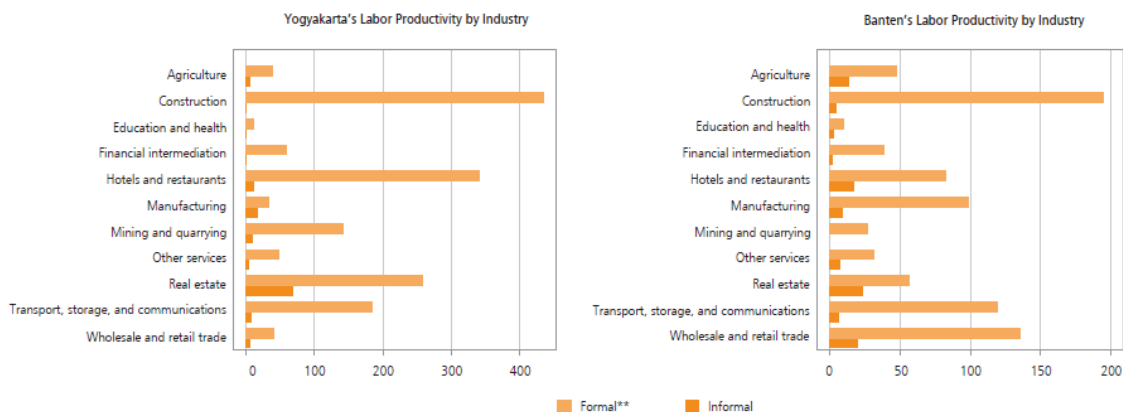
Source: Computations using 2010 ISS Phase 2 data.

- Among informal enterprises, the highest labor productivity was recorded in real estate sector; the lowest labor productivity was estimated in the mining and quarrying sector.
- In the industry sector, labor productivity in the formal\*\* sector was 33 times higher than the labor productivity among informal enterprises. Similarly, in the services sector, labor productivity in the formal\*\* sector was seven times higher than the labor productivity among informal enterprises.
- On the other hand, in agriculture, the labor productivity among informal enterprises was 25% higher than that in the formal\*\* sector.



## Labor Productivity of Informal Enterprises

### Indonesia



Note: Formal\*\* = formal sector + households, RP = rupiah.  
Source: Computations using 2010 ISS Phase 2 data.

- Labor productivity among informal enterprises in real estate, renting, and business activities in Yogyakarta showed the highest figure of Rp68.46 million; the lowest labor productivity is in finance, which recorded a figure of Rp0.07 million.
- The informal sector industry, such as real estate and other business activities, had the highest labor productivity in Banten at Rp23.7 million. The lowest labor productivity, at Rp1.7 million, occurred in finance.



## Lessons Learned

- Mixed survey, or the '1-2' survey, is **cost effective and reliable** for measuring informal employment and economic contribution of informal enterprises.
- To cut survey operations costs & minimize discrepancies between phases 1 and 2 surveys, the questionnaires for the **two phases can be administered simultaneously**.
- If not all identified HUEMs will be interviewed for phase 2, **sub-sampling must be carefully planned** so that all industry sectors can be adequately represented in the phase 2 survey.



## Lessons Learned

- **Phase 1** or the expanded LFS should be **administered regularly** (annually, if possible). It will provide comparative analysis of employment characteristics (informal vs. formal) such as extent of social protection, industry sector, wage differentials, gender, etc.
- To cut the costs, **phase 2** may be administered **every two to three years**. Annual estimates of informal sector contribution to GDP can be derived on the basis of indicators from phase 1.
- There is a need to carefully **examine sampling designs for phase 2** (use of master sample, spread survey over 12 months); for improving questionnaires for both phases; for moving forward the estimates of the contribution of the informal sector to GDP using phase 1 indicators.





## Lessons Learned

- While the HUEM survey was able to attain its objectives and generate useful datasets, data quality can still benefit significantly from improvements in the questionnaire design, field operations, interview process, and data processing.
  - Questionnaire Design
    - Issues on the questionnaire design do not only involve the ISS (or HUEM) form itself but also include the framework of the expanded Labor Force Survey (eLFS).
    - Because of the 1-2 approach of the survey, the eLFS plays a critical role in screening the respondents for the HUEM survey.
    - It also determines the number of respondents to be interviewed for ISS, as well as classifying enterprises to the industries to which they belong.



## Lessons Learned

- Questionnaire Design
  - All three countries **experienced difficulty** in using the data collected in the module on capital expenditures in estimating the GVA either using production or income estimation approach.
  - It should be noted that while the **survey enumerators** may be knowledgeable in carrying out household and/or establishment surveys, their understanding of the **national accounts estimation process may be limited**. Hence, conducting training on national accounts estimation process is essential for enumerators / interviewers to better understand how the concepts of national accounts are operationalized in the survey data collection instrument.





# Institutionalizing Expanded LFS

- A good way to move forward is to conduct an **expanded LFS regularly**.
- However, the ISS (or HUEM survey) may not be feasible (and practical) to conduct as frequently as an eLFS.
- ISS may be conducted in **longer year intervals** than the eLFS.



# Institutionalizing Expanded LFS

For years when we conduct, eLFS and ISS, we can provide benchmark estimates on the following:

## Expanded LFS

INFORMAL EMPLOYMENT  
EMPLOYMENT IN  
INFORMAL ENTERPRISES  
INCOME / WAGES  
*etc.*

## ISS / HUEM Survey

GVA of INFORMAL  
ENTERPRISES  
PRODUCTIVITY OF INFORMAL  
ENTERPRISES  
*etc.*

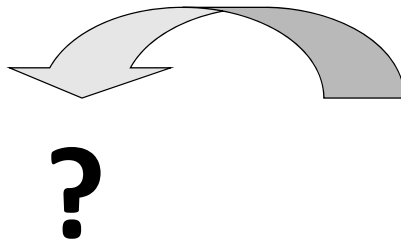




# Institutionalizing Expanded LFS

For years when we conduct eLFS but not ISS, we can impute economic contribution of informal enterprises:

## Expanded LFS



INFORMAL EMPLOYMENT  
EMPLOYMENT IN  
INFORMAL ENTERPRISES  
INCOME / WAGES  
*etc.*

GVA of INFORMAL  
ENTERPRISES  
PRODUCTIVITY OF INFORMAL  
ENTERPRISES  
*etc.*

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## Policy Uses

To induce an environment that is **conducive for formalization**, we need to understand what drives informality.

- Should we reduce registration costs?
- Multidimensional -> investments in infrastructure, health, education, etc.

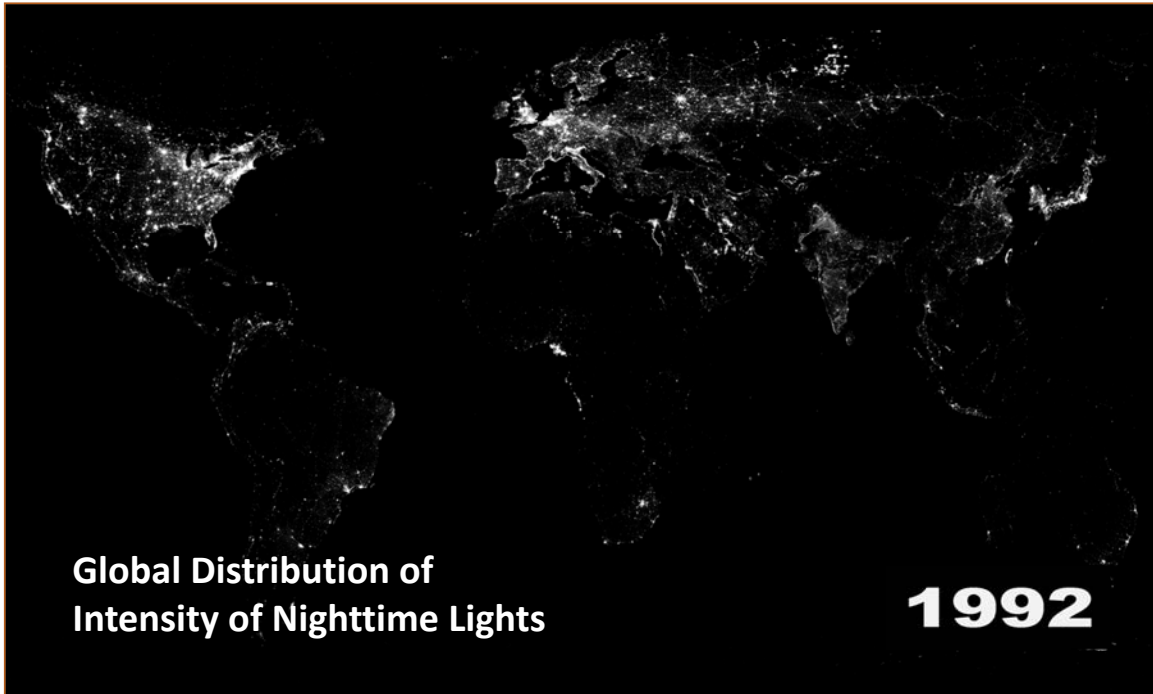
As an economy develops, informal sector outputs and prevalence of informal employment tend to decrease as economy develops. However, it can be stalled during episodes of economic uncertainty and stagnation -> need to **develop sound business environment** to facilitate uninterrupted transition from informal to formal sector activities

- Training on firm management
- Increased access to market (find a niche) so they can compete with larger firms
- Increased access to financing

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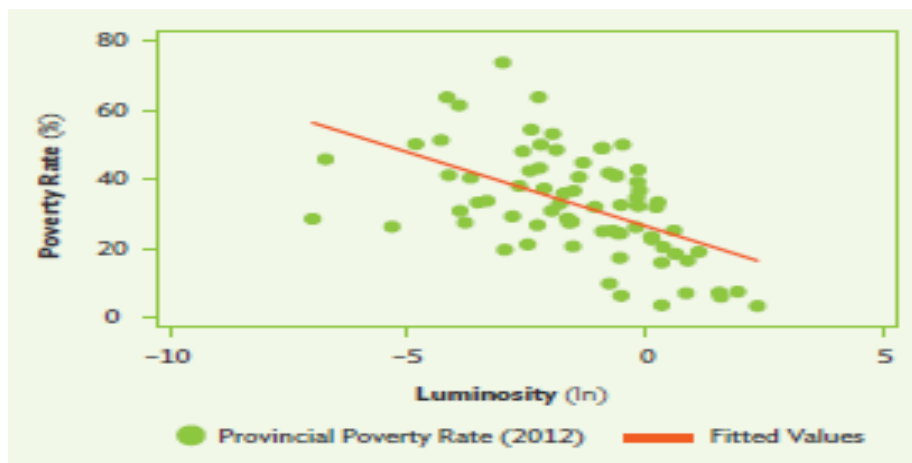


## Moving Forward: Using Innovative Data Sources



## Moving Forward: Using Innovative Data Sources

Correlation between Provincial Poverty Rates and Nighttime Lights Index Values







# Moving Forward: Using Innovative Data Sources

Can we use nighttime lights data to capture informal economy and better estimate economic output and economic growth?

What other types of innovative data sources can be used?



## Thank you.

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