



International
Conference of
Labour Statisticians
11-20 October 2023

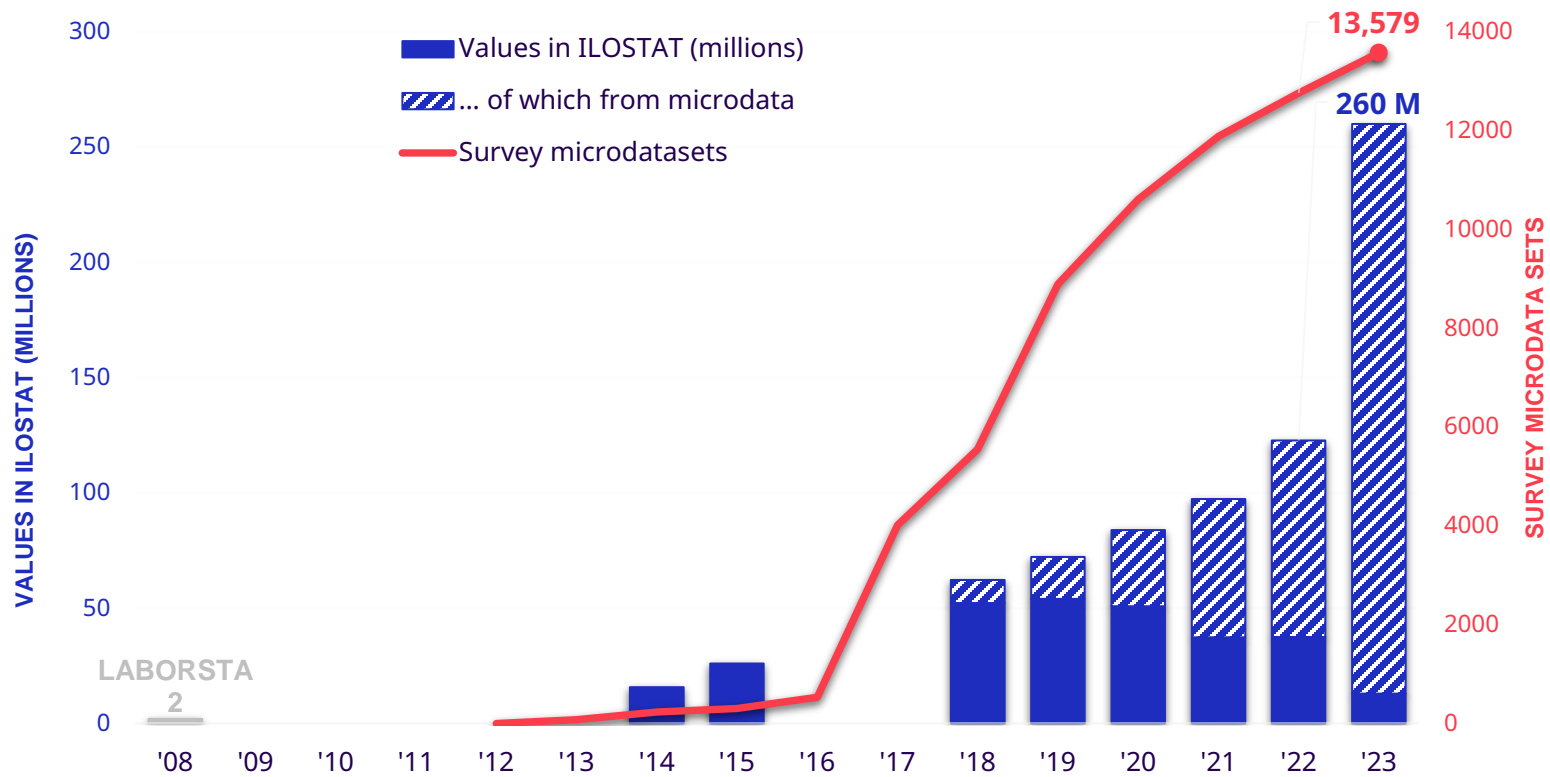


**Unlocking the power of microdata:
Enhancing international comparability
and data availability in ILOSTAT and
beyond**

Introduction

- ▶ For decades, the primary method for compiling ILO labour statistics was through an Excel-based questionnaire
- ▶ During the financial crisis of 2008-09, DPAU introduced web scraping as an additional approach to capture short-term indicators in a timelier fashion
- ▶ In 2016, a transformative data revolution started when the ILO began systematically collecting and processing national survey microdata
- ▶ This would not have been feasible without NSOs starting to publicly release their microdata (open data initiatives)
- ▶ DPAU has now collected more than 13'000 sets of microdata from 177 countries and territories, including 160 ILO Member States !

Enhancing data availability on ILOSTAT through microdata processing



How sharing microdata for ILO processing supports the world of work

Data openness and its significance

- ▶ Promotes transparency, collaboration, and informed decision-making
- ▶ Ensures that data is widely available, transparently presented, and effectively utilized to drive positive change for the SDGs

Unveils new insights into the world of work

- ▶ Vast expansion in number of indicators available on [ILOSTAT](https://ilostat.ilo.org/)
- ▶ Provides researchers and data users the opportunity to study subgroups within the labour force, such as youth, women, the elderly, migrants, working parents, and persons with disabilities

900

Indicators on ILOSTAT

260 million

Data values on ILOSTAT

95%

Of these data values are solely generated from microdata processing

▶ How sharing microdata for ILO processing supports the world of work

Boosts efficiency in international reporting

- ▶ Significant reduction in reporting burden for NSSs: 34 data tables to complete instead of 65
- ▶ Increases efficiency in data processing and publishing

Improves data quality and international comparability

- ▶ Substantially reduces inaccuracies caused by manual data entry in Excel questionnaires
- ▶ Enhances data comparability by generating harmonized indicators that adhere to international statistical standards

▶ How sharing microdata for ILO processing supports the world of work

Shapes best practices in standard-setting and enables support to countries

- ▶ Creates opportunities for the exchange of knowledge and expertise between NSSs and the ILO
- ▶ Facilitates relevant development of guidelines and recommendations that are adaptable to the diverse practices across countries

► Use of data from ILO microdata processing

ILO reports and guidance

- World Employment and Social Outlook (WESO)
- Global Employment Trends for Youth
- Care work and care jobs for the future of decent work
- Generative AI and Jobs: A global analysis of potential effects on job quantity and quality
- Women and men in the informal economy: A statistical update

Well-known international indices and reports

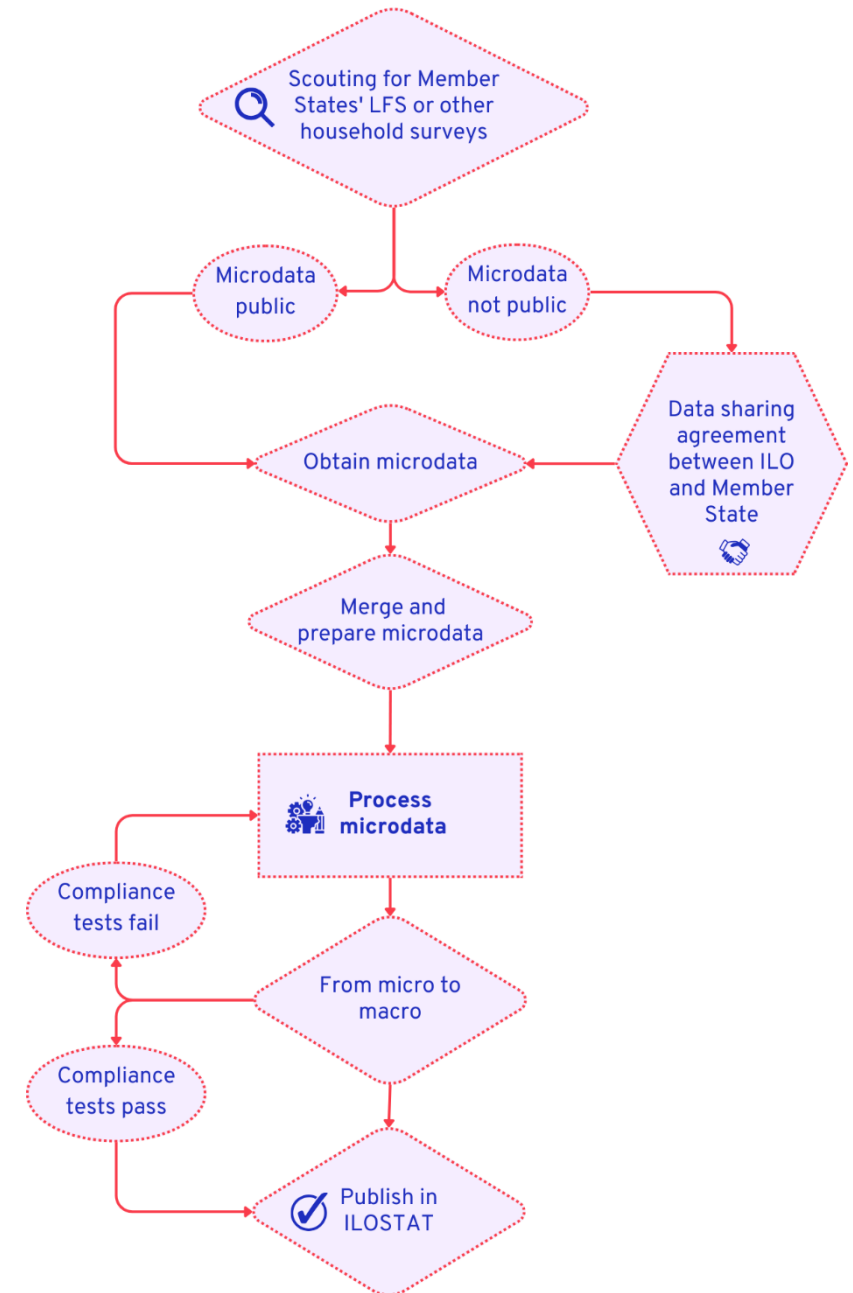
- Human Development Index (HDI)
- Global Innovation Index (GII)
- Global Competitiveness Index (GCI)
- World Bank's World Development Indicators (WDI)
- Global Gender Gap Report
- OECD Better Life Index

From micro-level records to macro indicators: How is it done accurately and efficiently?

ILOSTAT: A vital part of the ILO's statistical efforts thanks to our rigorous microdata processing standards and continuous collaboration with Member States.

How do we do it?

- ▶ Gain access to anonymised microdata from Member States' household surveys
- ▶ Merging, preparing, and harmonising microdata
- ▶ Quality assurance and dissemination of macro indicators



▶ Microdata access

Gain access to Member States' household surveys

- ▶ Identify relevant household surveys within each Member State (labour force, household expenditure, child labour surveys, etc)
- ▶ Data access:
 - ❑ Online for 40 Member States (open data policies)
 - ❑ via Memorandum of Understanding (MOU) with the NSO
- ▶ Secure storage and access restricted to authorized ILO staff

▶ Since 2016, the ILO has entered into MOUs with NSOs from more than 100 Member States.

► Harmonization of variables

Transforming and standardizing data

- Merging and preparing data
- Create harmonized variables using Stata (statistical software):
 - ❑ Based on internationally agreed concepts and ILO definitions
- Align national classifications to international standards (i.e. ISCED, ISCO, ISIC, etc.):
 - ❑ ILO's own standardized categories wherever no international classifications
- Accuracy cross-checked with official national statistics
- Harmonized variables as input files to produce pre-coded labour market indicators via R

► ILO currently produces up to 154 variables for each micro dataset, a significant increase from around 50 variables initially produced in 2016.

► Quality assurance and dissemination

Ensuring data integrity & periodically updating indicators

- Rigorous checks for data consistency and completeness
 - ❑ Scope fulfilment
 - ❑ Sample size requirements
- Running R scripts on the final input
 - ❑ Extensive cross-tabulations for each survey
 - ❑ Indicator calculations including annual averages based on monthly and quarterly values
 - ❑ Automated procedures for streamlined updates and processing
 - ❑ Regular revisions with new population censuses
- ❑ Publishing country level (macro) indicators from anonymised microdata processing aligns with recommendations by the ILO and published on [ILOSTAT](https://www.ilo.org/lost).

► The entire process involves close collaboration between the ILO Department of Statistics, regional ILO field colleagues, and NSOs.

► Risks and consequences of not sharing microdata

Impact on international reporting and global assessments

- Labour statistics from Member States may not appear in the UN's global SDG database for indicators that fall under ILO custodianship
- Member States are excluded from global assessments like HDI, GII, GCI, and WDI
- Countries not sharing microdata are not included in the ILO data inputs supplied to other UN agencies to fulfil their specific labour statistics needs

► The most evident risk to withholding microdata lies in the **absence** or **obsolescence** of a country's labour statistics in **ILOSTAT data outputs**

► Risks and consequences of not sharing microdata

Impact on ILO's outputs

- Lack of data may limit ILO's ability to capture labour market nuances globally when producing data outputs, reports, analyses and forecasts
- ILOSTAT updates are delayed, affecting users' ability to analyse trends and shape effective policies for decent work

Reduced efficiency

- Traditional methods for data reporting (such as the ILO Excel questionnaire) are more time-consuming for both the NSS and the ILO
- Results in far fewer data tables produced than if generated through microdata processing

► Risks and consequences of not sharing microdata

Potential reputational damage

- May raise transparency and credibility concerns for an NSS, affecting the perception of the accuracy and reliability of their official data

The use of unofficial statistics to fill data gaps

- Data gaps could be filled by unofficial statistics from private firms and research organization conducting their own surveys

▶ Concluding remarks

160 ILO Member States share microdata with the ILO

- ▶ The ILO extends its gratitude to the 160 Member States who have made this possible
- ▶ Special acknowledgment to the 40 countries who have made their microdata available publicly and freely

Possible improvements

- ▶ The ILO would encourage all countries to share the original variables rather than derived by the NSO
- ▶ 3 Member States continue to charge fees for providing access to their microdata. As public goods, all microdata should be free of charge !

Member States sharing microdata with the ILO – Thank you !

ILO region	Member States with publicly and freely available microdata	Member States with whom an MOU is in place (or microdata shared directly with the ILO Department of Statistics)
Africa	Egypt, Ghana, Kenya, Rwanda, South Africa, Zimbabwe	Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Chad, Comoros, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Eswatini, Ethiopia, Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Senegal, Seychelles, Sierra Leone, Somalia, Sudan, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia
Americas	Argentina, Bolivia (Plurinational State of), Brazil, Canada, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Guyana, Mexico, Paraguay, Peru, United States of America, Uruguay	Antigua and Barbuda, Barbados, Belize, Dominican Republic, Grenada, Haiti, Honduras, Jamaica, Nicaragua, Panama, Saint Lucia, Suriname, Trinidad and Tobago, Venezuela (Bolivarian Rep. of)
Arab States	Lebanon	Iraq, Jordan, Saudi Arabia, United Arab Emirates, Yemen
Asia and the Pacific	India, Iran (Islamic Republic of), Mongolia, Pakistan, Philippines	Afghanistan, Bangladesh, Brunei Darussalam, Cambodia, Cook Islands, Fiji, Indonesia, Japan, Kiribati, Lao People's Democratic Republic, Maldives, Marshall Islands, Myanmar, Nepal, Palau, Papua New Guinea, Republic of Korea, Samoa, Singapore, Solomon Islands, Sri Lanka, Thailand, Timor-Leste, Tonga, Tuvalu, Vanuatu, Viet Nam
Europe and Central Asia	Armenia, France, Georgia, Greece, Ireland, Italy, Latvia, Lithuania, Russian Federation, Spain, Ukraine, United Kingdom	Albania (until 2019), Austria, Belarus, Bosnia and Herzegovina, Cyprus, Czechia, Estonia, Hungary, Israel, Kyrgyzstan, Malta, Montenegro, North Macedonia, Poland, Portugal, Republic of Moldova, Romania, Serbia, Slovakia, Slovenia, Switzerland, Tajikistan, Türkiye, Uzbekistan. Eurostat countries only for the standardized EU-LFS and EU-SILC: Belgium, Bulgaria, Croatia, Denmark, Finland, Germany, Iceland, Luxembourg, Netherlands, Norway, Sweden

► Overcoming obstacles to accessing microdata for the remaining 27 Member States

ILO practices

- The ILO only needs fully anonymized microdata
- Stored on drive with highest level of security

Addressing technical barriers

- If the NSO is unfamiliar with this process, the ILO can assist to anonymize microdata
- Microdata can be shared in any format and through any type of transfer protocol. The ILO is ready to adapt to obtain data through the system the NSO is the most comfortable with
- If any other concerns, the ILO is happy to discuss and try to find a solution to any possible bottleneck

▶ Member States not sharing microdata with the ILO: How can we work together ?

ILO region	Member States with a recent (2015+) household survey	Member States without a known household survey in recent years
Africa	Algeria, Eritrea, Equatorial Guinea, Gabon, Libya, Morocco, Sao Tome and Principe	Central African Republic,, South Sudan
Americas	Cuba, Dominica	Bahamas, Saint Kitts and Nevis, Saint Vincent and the Grenadines
Arab States	Bahrain, Kuwait, Qatar	Oman, Syrian Arab Republic
Asia and the Pacific	Australia, China, Malaysia, New Zealand	
Europe and Central Asia	Azerbaijan, Kazakhstan	San Marino, Turkmenistan

► For any questions, feel free to contact us

Generic ILOSTAT e-mail

► ilostat@ilo.org

Direct contact

► perardel@ilo.org