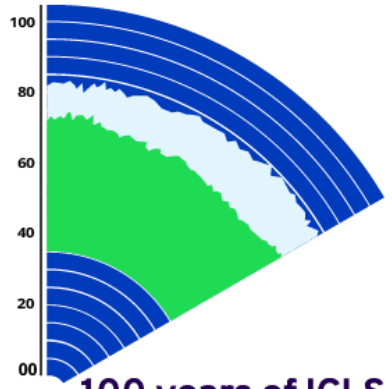
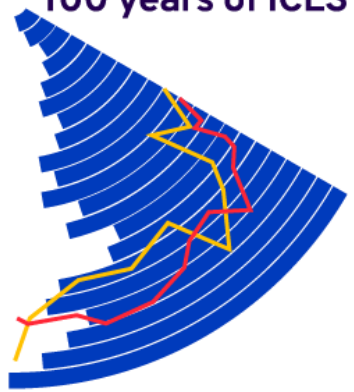
International Labour Organization

21st International Conference of Labour Statisticians

11–20 October 2023



100 years of ICLS



Labour market modelling

Agenda items

Econometric modelling of estimates (para. 214-218)

Nowcasting techniques and ILO Monitor in COVID-19 times (para. 219-221)

The ILO modelled estimates collection

- Established program, active for more than two decades
- Econometric models to produce global and regional estimates of key indicators, annually updated
- Provide insights of labour market trends for the ILO
- Widely used by other international organizations, researchers and other institutions
- Interdepartmental collaboration: RESEARCH and other ILO departments for selected indicators

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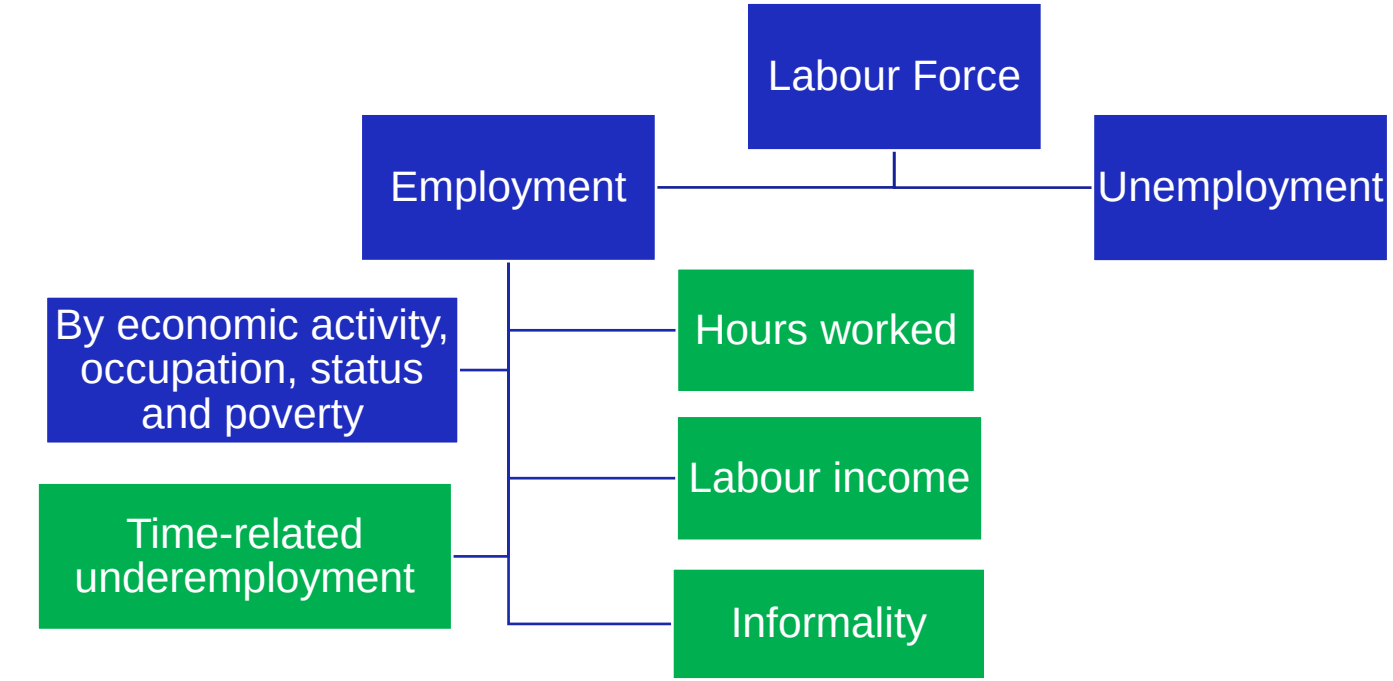
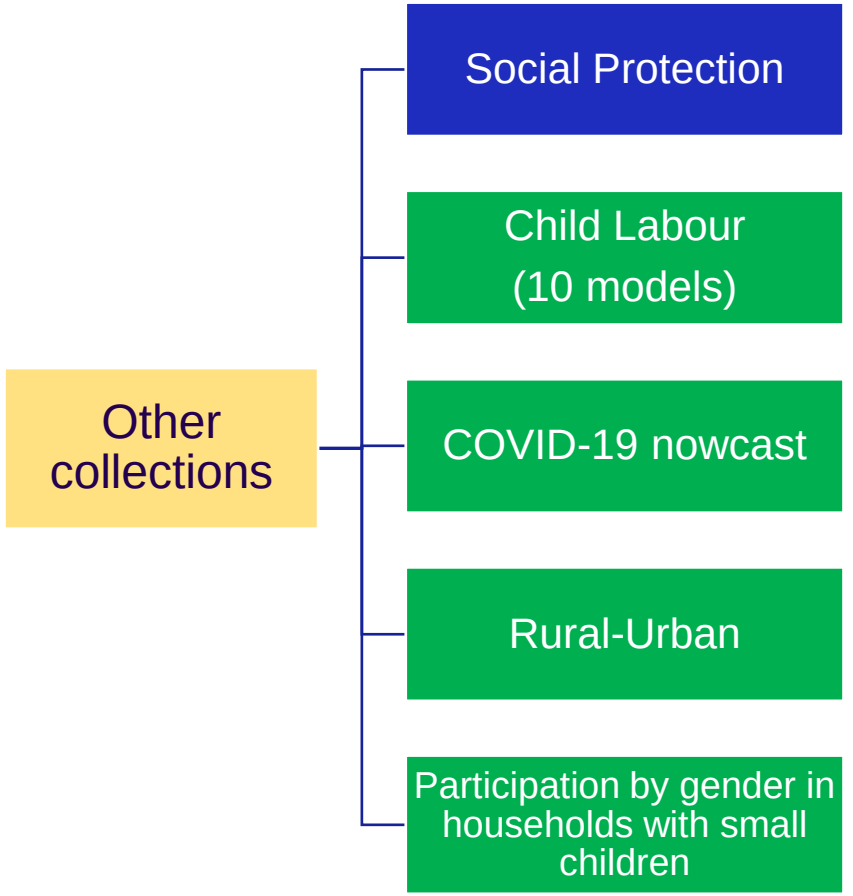
Legend | Pre-existing | Developed since 20th ICLS

In 2022 alone 30+ indicators were updated; roughly 5 million observations

Key labour market indicators

(with age and gender breakdowns for selected indicators)





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Growth of the collection

Demand factors

- 19th ICLS: underutilization
- SDGs
- Integration of topical collections (child labour)

Supply factors

- ILO harmonized microdata collection
- Development cooperation project: BMGF

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Leveraging microdata, examples

- Case 1: Dynamic granularity
- Rural urban breakdown for key indicators
- Case 2: Ease of introduction «new» concepts
- Youth not in employment education or training
- Case 3: Beyond averages & totals
- Using individual wage data for labour income estimations

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Why are econometric models needed?

Approximately 40% of data missing in a typical year

Not missing at random: raw data is biased

Solution: impute missing values to compute global and regional aggregates

Advantages: mitigates bias	Disadvantages: high staff-time cost and uncertainty

Core elements of imputation methodology

Cross-validation

- Pseudo-out of sample error assessment to select best performing models.

Panel and time series models

- Class of models to which the search is restricted

Judgmental analysis

- Additional quality control

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Key challenges

Methodological and definitional changes

- Time-series comparability

Lack of timely access to data/microdata

- Partial gaps or full «blackout»

Data revisions

- Communication challenges

Dissemination: ILOSTAT & SDG database

- 1.1.1 Proportion of population below the international poverty line, by sex, age, employment status
- 1.3.1 Proportion of population covered by social protection floors/systems
- 5.5.2 Proportion of women in managerial positions
- 8.2.1 Annual growth rate of real GDP per employed person
- 8.3.1 Proportion of informal employment in non-agricultural employment, by sex
- 8.5.2 Unemployment rate, by sex, age
- 8.6.1 Proportion of youth (aged 15-24 years) not in education, employment or training
- 8.7.1 Proportion and number of children aged 5-17 years engaged in child labour, by sex and age
- 9.2.2 - Manufacturing employment as a proportion of total employment
- 10.4.1 Labour share of GDP, comprising wages and social protection transfers

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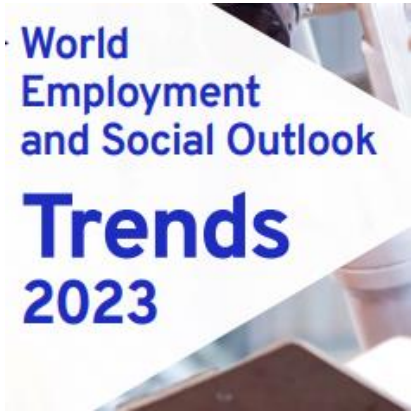
The leading source of labour statistics.

Results: widely used in ILO and UN publications



World Social Protection Report 2020–22

International Labour Organization

2023

The Sustainable Development Goals Report

Special edition

United Nations

PROGRESS ON THE SUSTAINABLE DEVELOPMENT GOALS
THE GENDER SNAPSHOT 2023

UN WOMEN | WOMEN COUNT

United Nations | Department of Economic and Social Affairs

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Results: examples

Figure 1.7. Youth aged 15–24 not in employment, education, or training, 2022, by sex, world and by subregion (percentages)

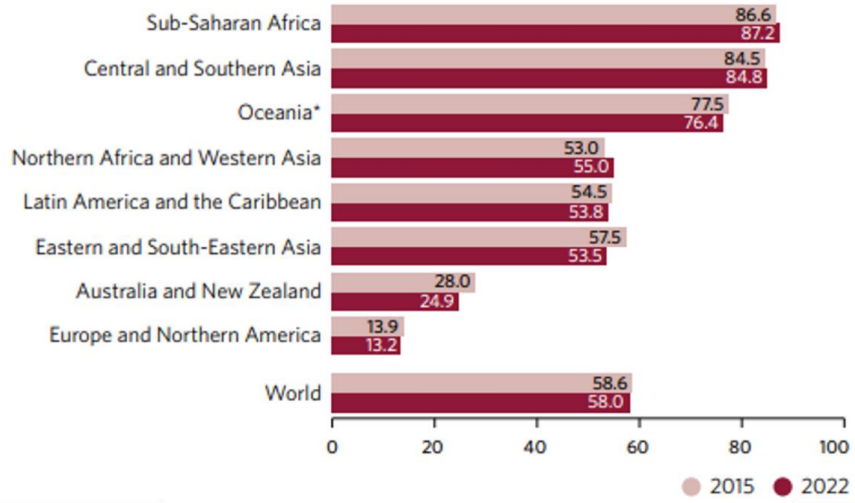
	Women	Total	Men
World	32.1	23.5	15.4
North Africa	39.0	28.0	17.3
Sub-Saharan Africa	31.4	25.7	20.1
Latin America and the Caribbean	26.9	20.3	13.9
North America	11.6	11.3	11.0
Arab States	47.2	32.9	19.5
East Asia	18.5	15.6	13.1
South-East Asia	21.8	18.3	14.9
South Asia	49.5	31.7	15.3
Pacific	19.0	17.4	16.0
Northern, Southern and Western Europe	9.7	9.8	9.9
Eastern Europe	14.3	12.4	10.5
Central and Western Asia	27.5	22.0	16.8

Source: ILOSTAT, ILO modelled estimates, November 2022.

World Employment and Social Outlook: Trends 2023.

In 2022, more than one in five of young people aged 15 to 24 were NEET. This amounts to 289 million young people who were deprived of opportunity to obtain valuable skills through early work experience or some form of training or education (ILO 2022f). Young women are twice as likely as young men to be NEET, which means

Proportion of informal employment, 2015-2022 (percentage)



The Sustainable Development Goals Report 2023

The situation was most alarming in LDCs, where informal employment stood at 89.7 per cent in 2022, with no improvement since 2015. Sub-Saharan Africa and Central and Southern Asia also continued to have high informality

Monitoring the labour market effects of the pandemic

The challenges

Rapidly changing situation

Scarce timely economic data at the global level

Limitations in comparability across country and time

Our approach

Nowcasting + quarterly frequency

Direct + indirect nowcasting approach

Target variable: hours worked

COVID-19 Nowcasting: the results

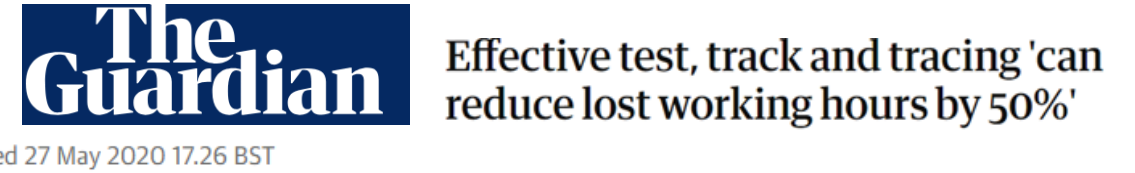
Monitoring labour market disruption

Backbone of the 'ILO Monitor' series

Key take-aways:

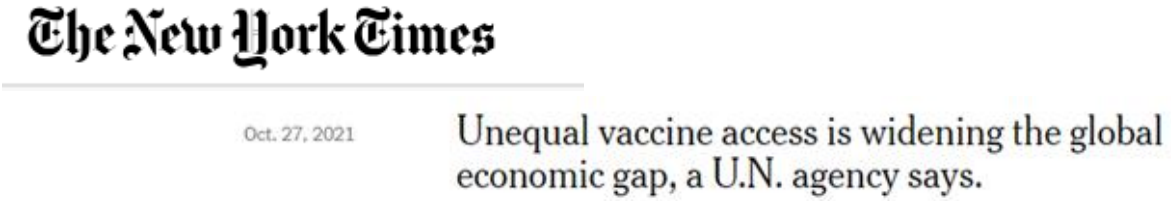
- Large losses of hours worked at an unprecedented speed
- Fast (in stark contrast to financial crisis) but uneven rebound

Timely and policy relevant analysis:


The Guardian

Effective test, track and tracing 'can reduce lost working hours by 50%'

Wed 27 May 2020 17.26 BST


The New York Times

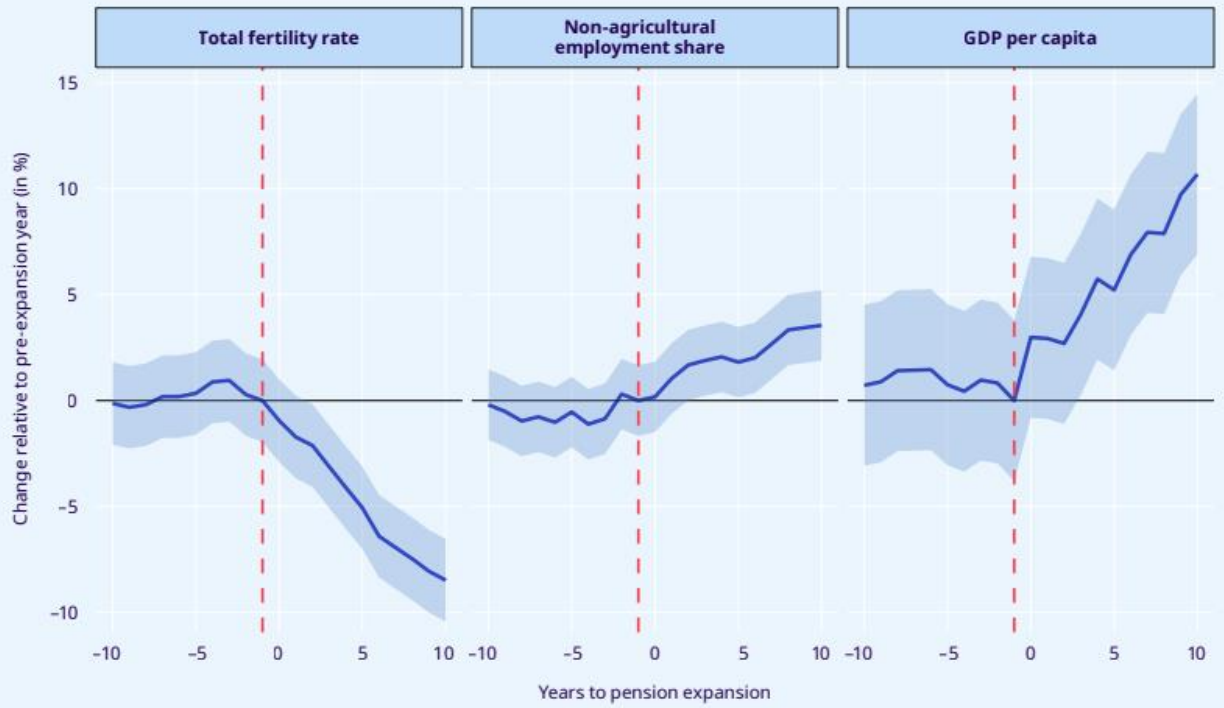
Oct. 27, 2021

Unequal vaccine access is widening the global economic gap, a U.N. agency says.

Policy simulations: in-depth topical analysis

- New area of work
- Using causal inference tools
- “Pilot” test: old age pensions (R202)

Figure 6. Average effects of historical social pension expansions, available countries



Note: The figure shows the average effect of a pension coverage expansion. The red dotted line indicates the year before the expansion of pension coverage took place. For more details on the estimates, see technical annex 3.

Source: ILO estimates.

11th ILO Monitor: basic pensions simulation

Future work

- Policy simulation: new topics and methodological refinement
- Machine Learning: automation of data processing and less labour-intensive quality control
- Communication: reaching key stakeholders and policy makers
- Assess possibilities in skills, productivity, job quality, forced labour and 19th ICLS employment