

→ Measuring the dynamics of social risks and social protection coverage over time with EU longitudinal microdata

27 November 2024

'Mutual learning workshop on access to social protection: data,
indicators and monitoring systems'

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Introduction

Context

This presentation builds on the work done under the **Statistical support Task of the Social Situation Monitor**, where we are exploring the possibility to create dynamic indicators of effective coverage and adequacy of social protection using longitudinal data (request by DG EMPL to support the Monitoring framework on access to S.P.).

Research question

How can we effectively measure the occurrence of social risks and the adequacy and effective coverage of social protection over time using EU longitudinal microdata?

Objectives

- Showcase the value of longitudinal microdata in analysing how social risks and social protection coverage evolve over time.
- Demonstrate how longitudinal insights can improve monitoring of coverage, take-up, and adequacy to inform responsive, inclusive policies.
- Support better EU-level and national frameworks for tracking and addressing protection gaps.

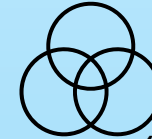
Overview of our explorations



FOCUS

Benefit Effective Coverage: As per the Recommendation (7(c)), “‘effective coverage’ of a group means a situation in a specific social protection branch where the individuals in a group have an opportunity to accrue benefits and the ability, in the event that the corresponding risk materialises, to access a given level of benefits”. This refers to the actual ability of individuals to accrue entitlements and access benefits when the corresponding risk materializes. Even if individuals are formally members of a scheme, they may not be effectively covered if they cannot build up entitlements or access benefits due to various barriers such as qualifying periods, minimum working periods, or other restrictive rules.

Benefit Adequacy: This refers to the level of benefits provided by social protection schemes, emphasizing their two primary functions: poverty reduction and income smoothing. Adequate benefits should be sufficient to reduce poverty and stabilize income levels, ensuring that individuals receive timely and proportionate support relative to their contributions.



SCOPE

- (a) unemployment benefits;
- (b) sickness benefits;
- (c) maternity and equivalent paternity benefits;
- (d) invalidity benefits;
- (e) benefits in respect of accidents at work and occupational diseases.



DATA CONSIDERED

EU-SILC

EU-LFS

Why longitudinal data and dynamic indicators?

- **Lag Between Risk and Protection:** Social protection often doesn't activate immediately;
- **Effects of previous situation:** eligibility and adequacy depend on prior employment or contribution histories. Past statuses (e.g., precarious jobs, career interruptions) often shape long-term access to and adequacy of benefits.
- **Policy Gaps Over Time:** A static view misses how support systems fail to adapt to prolonged or evolving risks, leaving individuals vulnerable..

What are the methodological challenges?

1. ATTRITION

In the EU-SILC, retention rates, which represent the proportion of individuals from the Wave 1 sample who continue to participate in subsequent waves, show stark differences. In accordance with Eurostat's former analyses, some countries, like Romania and Bulgaria, retain around 90% of their Wave 1 participants, while others, such as the UK, experience much higher attrition rates, with retention dropping to 50%.

2. CENSORING

Left censoring presents a significant challenge when studying life transitions and the effective coverage of social protection. Left censoring occurs when the beginning of an individual's employment history or a critical event (such as job loss or the start of social protection coverage) is not observed because the data collection starts after the event has already occurred. In longitudinal datasets like EU-SILC, this means that if individuals were already unemployed or receiving benefits at the start of the observation period, researchers cannot accurately determine when these transitions began or what conditions led to them.

3. MISMATCH BETWEEN OBSERVATION PERIODS

While income data typically refer to the preceding calendar year (or a different twelve-month period, depending on the country), most other variables reflect the respondents' situation at the time of the interview. This can lead to discrepancies when analysing the relationship between income and other socio-economic factors.

Possible solutions: (1) using attrition-adjusted weights (2) limiting the analysis to transitions observed during the panel to avoid left censoring, and (3) aligning the income reference period (t) with the timing of observation of other variables ($t-1$) and (4) focusing on one-year transitions (from $t-2$ to $t-1$) to maintain representativeness.

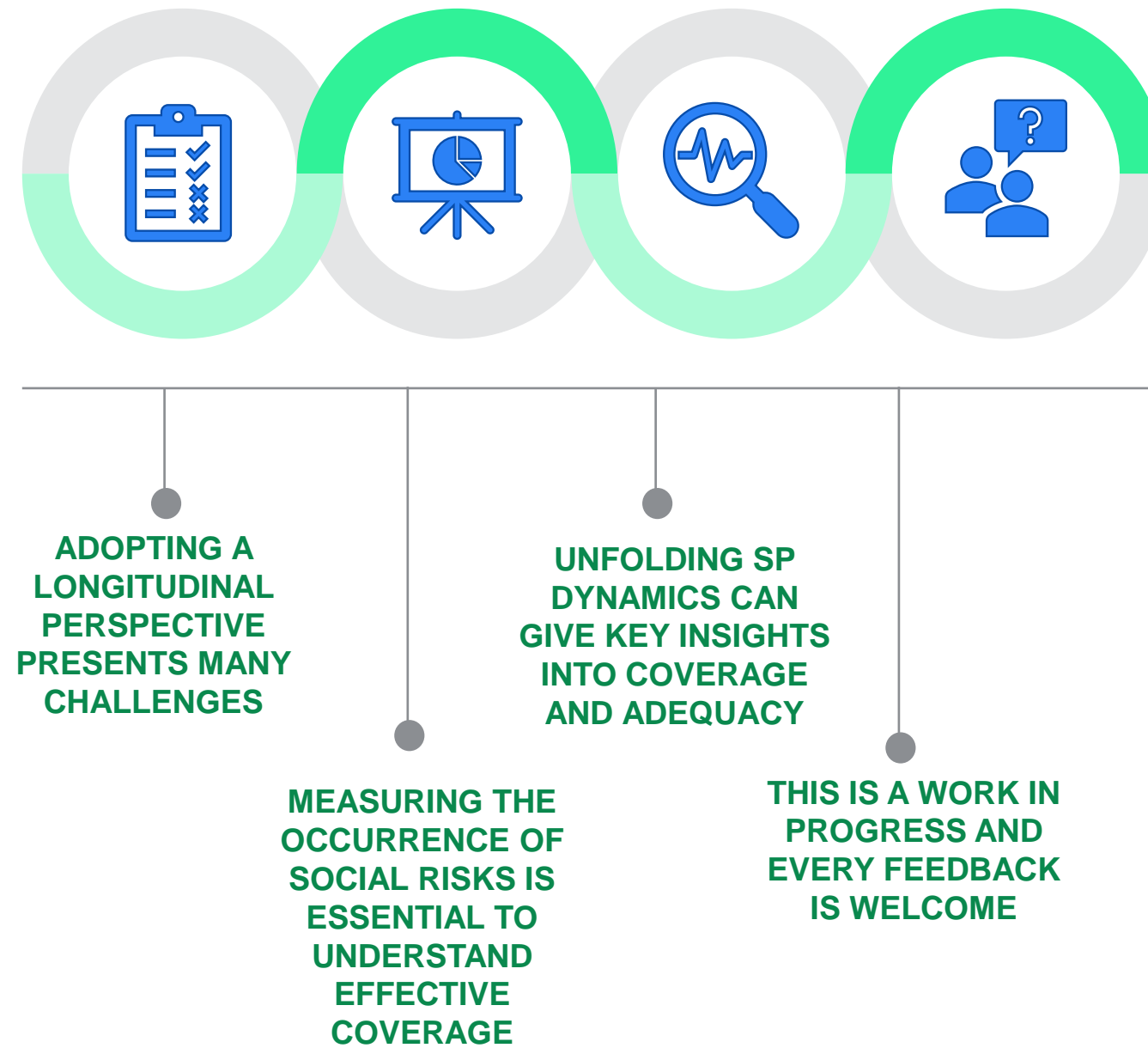
Measuring occurrence of risks

Social risk	Measuring with EU-SILC data	Measuring with EU-LFS data
Unemployment	With the longitudinal component, it is possible to observe proportion of individuals who transitioned into unemployment in the previous year (t-1)	Thanks to variables on the past year situation, it is possible to observe transition into unemployment, as well as to the duration of unemployment.
Sickness	<i>Not possible:</i> there is not a specific variable on sickness, it is only possible to create proxies based on self-perceived health and extent of limitations	It is only possible to look into who took up sick leave (variable ABSREAS)
Maternity and equivalent paternity	With the longitudinal component, it is possible to observe proportion of household who had a child (age≤1) (t-1) , which in welfare state studies constitutes a social risk	It is only possible to look into who took up maternity or paternity leave (variable ABSREAS)
Invalidity	With the longitudinal component, it is possible to observe the proportion of individuals who transitioned into invalidity in the previous year (t-1) . However, the self-reported nature of disability in EU-SILC, particularly through the perceived extent of limitations, introduces variation in how individuals perceive and report their health limitations, potentially leading to under- or over-reporting	<i>Not possible:</i> the EU-LFS includes some information on employment limitations due to health problems, it does not consistently measure disability in the same way as EU-SILC's GALI (only since 2023).
Accidents at work	<i>Not possible</i>	<i>Not possible: only some ad hoc modules exist</i>

Linking the occurrence of risk to benefit receipt, dynamically

Social risk	Measuring with EU-SILC data	Measuring with EU-LFS data
Unemployment	The EU-SILC survey measures both unemployment status and benefits received but provides only yearly income data without accounting for the duration of unemployment spells. These limitations make it difficult to establish a reliable link between unemployment spells and benefit receipt, complicating efforts to measure both the extent of coverage and the adequacy of benefits in addressing the needs of the unemployed. It is possible to categorise recipients based on how long they have been unemployed and their former employment status	The EU-LFS provides the best estimate of the target population using the ILO definition of unemployment, but its data on benefit reciprocity is partial. It categorizes recipients based on how long they have been unemployed (e.g., short-term, medium-term, or long-term unemployment) and their employment status prior to becoming unemployed (e.g., self-employed, employee, family worker).
Sickness	It is only possible to measure the self-reported coverage, based on limitations in activities or self-perceived health. It is possible to categorize recipients based on their employment status. EU-SILC does not provide a direct or specific variable capturing whether individuals were absent from work due to illness.	It is only possible to look into who took up sick leave (variable ABSREAS), based on their activity status and employment situation
Maternity and equivalent paternity	It focuses more on household income and living conditions rather than parental leave specifically, meaning data on leave benefits are indirect and not prioritized (they are joint with maternity and family benefits).	It collects regular data on parental leave but it provides only a limited snapshot of time, such as whether someone is currently on leave, without detailed information on leave duration, eligibility, or comprehensive income coverage.
Invalidity	With the caveat on self-reported status, it is possible to link transitions into invalidity and receipt of invalidity benefits, also by previous employment status.	Not possible
Accidents at work	Not possible	Not possible

Key takeaways



Q&A

