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▶ Lessons learned from employment diagnostics during the COVID-19 crisis

Kevin Hempel





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Foreword

The Covid-19 pandemic was like no other crisis we have ever witnessed. It affected every country in the world but with disproportionate consequences for some groups including women, young people and workers in vulnerable sectors.

The ILO was called upon to support workers, enterprises, governments and other institutions to not only ease the impacts of the crisis, but also to find appropriate responses that lead to recovery, a human centred recovery, based in the principles of decent work and social justice. This paper takes stock of these efforts by the ILO and other development institutions to understand the economic and labour market impacts of the pandemic, and to find new innovative methods to support decision-makers during these difficult times.

Employment diagnostics have been a central focus of our work during the crisis, but the issue is not new to us. In 2012, the ILO issued the Employment Diagnostics Assessment (EDA) guidelines “...to understand the nature of the deficiency of productive employment and the context-specific constraints, challenges and opportunities ... as a basis for ... more effective focus of policies and strategies on productive employment”. The EDA has been used to assess the economic and demographic situation as well as the policy and regulatory environment during the past decade.

In the early days of the Covid-19 crisis, the ILO issued guidance on “Rapid Diagnostics for Assessing the Country Level Impact of Covid-19” which led to the implementation of at least 30 country studies and several other regional and global studies. A new series of diagnostics to monitor the recovery from the crisis is now underway.

The focus of a rapid assessment is to identify the immediate impact of the crisis and provide recommendations for appropriate policy responses. As such, it can constitute a key input for the formulation and revision of the new generation of gender-responsive national employment policies.

This paper represents an important and necessary piece of research as it reviews the diagnostics conducted by the ILO and other development partners during the crisis with a focus on data sources and methodological approaches. It allows us to step back and evaluate the approaches taken and learn from the different experiences and innovations adopted. This will help inform the production of timely and relevant employment diagnostics in the future for ILO constituents, development partners and other stakeholders.

Sukti Dasgupta

Chief

Employment, Labour Markets and
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Key messages

- ▶ The ILO, its tripartite constituents, in collaboration with development partners and other stakeholders, responded to a strong call for diagnosing and assessing the impacts of the Covid-19 pandemic on employment. One of the main frameworks for conducting these assessments is the ILO's "Employment Diagnostic Analysis" method, which seeks to provide a holistic understanding of the (typically national) labour market, covering all its determinants in terms of labour supply, demand and matching.
- ▶ This paper reviews the successes and lessons learned in conducting such diagnostics, both within the ILO and amongst development partners, during Covid-19 by analyzing the methods employed, the data sources used and the relevance and appropriateness of the diagnostics.
- ▶ The crisis has affected severely labour markets around the world. Covid-19 is different from other crises in that the transmission channels have been more diverse, the situation on the ground changes quicker and containment measures made it initially impossible to collect data. This meant that employment diagnostics had to be conducted differently. Three important adjustments included: (1) a shift towards understanding firm and populations groups instead of structural issues; (2) a move to remote surveying; (3) the rise of alternative data and information sources.
- ▶ While there is no single way to conceptualize all the different types of diagnostics conducted during the crisis, there are several differentiating features. In terms of the analytic scope, several have looked at the overall socio-economic impacts, while others narrowed in on specific questions of interest such as transmission mechanisms (e.g., mobility or consumer demand), impact dimensions (e.g., wages or education) or on tracking policy responses. The focus of analysis also varied between firms, households, and workers. In terms of geographic scope, most studies have been concentrated on the national and regional level but often the most relevant diagnostics were at the sub-national or local level where policy responses could be tailored to local conditions.
- ▶ There has generally been high heterogeneity in terms of the types and quality of data that informed these diagnostics. Labour force surveys, the "gold standard" in terms of employment-related data sources, were largely suspended in the early phases of the pandemic. This meant that nationally-representative primary data was often not available. In many cases, this was replaced with rapid and other forms of ad-hoc surveys, however limitations emerged in terms of coverage and bias. Different types of modelling approaches were adopted and revised according to data availability. The modelling approaches focused on different leading economic indicators and made use of mobility data, purchasing data or online search data. Innovative approaches were explored in the "big data" space, including data collected through job boards and other vacancy data.
- ▶ The ILO's nowcasting model uses data that are available almost in real time, such as the Purchasing Managers Index and Google Mobility data. ILO nowcasting of working-hour losses became a leading source of evidence on the employment impacts of the crisis. The estimates reflect the impact of both job losses as well as work reductions of those who remain employed.

- ▶ Several lessons learned arose as a result of this review. These lessons are based on observations and patterns that emerged from the desk review of available diagnostic studies and are enriched with insights from development practitioners and researchers collected during an interagency workshop in December 2021, and through selected key informant interviews:
- **The importance of strong labour market information systems:** countries with regular labour force surveys and those who already used a combination of face-to-face and remote surveying prior to the pandemic suffered much fewer disruptions in data collection and were quicker to adapt to the new context. Diagnostics that were conducted in collaboration with national data producers were useful especially in building their capabilities to go beyond face-to-face modes.
 - **The appropriate approach for crisis diagnostics depends on the context:** there is no single best approach for employment and labour market analysis during a crisis, and policymakers and practitioners must make choices that will involve trade-offs. One of these is the speed at which the diagnostic can be conducted and results released. Diagnostics often need to apply “mixed methods”, including using diverse data sources to give a more complete picture. This approach will then allow for an examination of the different distributional effects of the crisis, such as sub-sector specific or sub-group specific analysis.
 - **A longer time horizon and sticking to statistical standards foster quality and usefulness:** While it is difficult to know for sure, the sheer volume of research carried out during the peak of the pandemic suggest that many efforts (both in terms of assessing crisis impacts and monitoring policy responses) were discontinued as the crisis continued. However, understanding the evolving crisis impacts and identifying appropriate policy measures is more of a marathon than a sprint, and continuous monitoring during the recovery phase is key. Adopting harmonized approaches, for example based on the ILO Covid-19 diagnostic guidelines, as well as following established statistical standards on employment, can lead to more sustainable practices.
 - **Collaborations can bring multiple benefits:** During the Covid-19 pandemic different types of partnerships have emerged that can be informative for future crisis diagnostics efforts. For instance, many of the United Nations socio-economic impact assessments were conducted as “One UN”. The keys to successful collaboration included joint data collection instruments, which were often collaboration between government, development partners and academics. This minimized the effort needed to develop one’s own measurement tools. Through partnerships, the likelihood of uptake of findings was increased. A prerequisite for this was understanding policymakers’ needs and being able to effectively inform policy dialogue. The involvement of social partners can be particularly useful in crisis times, as it can help inform and provide the enabling environment for (sometimes difficult and unpopular) policy decisions.
 - **Easy access to existing diagnostics facilitates uptake and follow-up research:** Due to the urgency and necessity of assessing the pandemic’s impacts, reports, data and findings were often not easily or consistently available. Making microdata from diagnostic work publicly available allows the broader research community to use that data for comparative and further in-depth analysis. In addition to making data

available, several agencies have also created dashboards to provide an easier overview of key statistics.

- **Increasing the likelihood that findings and recommendations are adopted by national institutions and responsible agencies:** while it is not the main intention of this paper to review the actual uptake of policy recommendations, the likelihood that findings are used in policy design can be increased by including the appropriate people and organizations in the diagnostic processes. This can be achieved through effective planning including dissemination channels, engagement with media and ensuring results are presented in “user-friendly” language. At the same time, the review has shown that evaluations on the causal effect of employment measures during Covid-19 have been limited, and more research on “what worked” is required.

Introduction

Rationale

Originating as a health crisis in early 2020, the Covid-19 pandemic quickly affected economies and labour markets across the globe. Policymakers were looking for rapid information on the impacts of the pandemic on enterprises and workers in order to inform policy decisions, including immediate crisis responses such as support schemes for heavily affected industries and social protection for workers. Some of the main policy questions included: What are the overall impacts of the crisis on firms and people? Which types of firms and workers have been most heavily affected? Which policies can best address the labour market impacts of the crisis?

Answering these questions has not been easy, especially in low- and middle-income countries (LMICs). Even before the pandemic, many LMICs lacked strong labour market information systems (LMIS) with regular (e.g., quarterly) labour force surveys or other national household surveys, enterprise surveys, and good government administrative data that could be used for a comprehensive analysis of labour market dynamics. Labour markets in LMICs are also characterized by high levels of informality, which are often not well captured in national statistics and surveys. Moreover, even where good labour market statistics were traditionally available, they have often been significantly disrupted during the pandemic, as containment measures led to delays and cancellations of data collection efforts.

Despite these challenges, due to the severe impact of the Covid-19 crisis and the heightened level of uncertainty, it was critical to provide up-to-date insights on the labour market impact to provide inputs for evidence-based policy measures. Consequently, there was a strong call for employment related diagnostics in most countries and a vast number of studies have been carried out by governments, social partners and development agencies since the onset of the crisis (see Annex 1 for selected sources). These studies varied significantly in scope, from broad labour market trends to the specific crisis impacts on selected population groups (e.g., youth, women, small firms) or very specific outcomes of interest (e.g., the impact of Covid-19 on workers' mental health). These studies also varied considerably in their methodology, making use of a wide range of different data and information sources such as labour force and ad-hoc surveys, economic modelling, and big data. Throughout the crisis, the ILO has been very active in supporting partner countries in conducting country-level employment diagnostics, while also providing guidance for conducting such diagnostics (see, for example, guidelines on "[Rapid Diagnostics for Assessing the Country Level Impact of COVID-19 on the Economy and Labour Market](#)").

Against this background, it is important to take stock of the range of different employment diagnostic approaches that have been used and identify lessons learned from conducting employment diagnostics during the Covid-19 pandemic. These lessons can be useful at different levels, including: (i) in the short-term, to inform diagnostics as the crisis continues; (ii) in the medium-term, for monitoring the pace and nature of economic recovery; and (iii) in the long-term, for future efforts to understand labour market dynamics during similar crises and beyond.

Audience

This review is mainly geared towards the following target audiences:

- Policymakers in low- and middle-income countries, including those in employment and labour ministries;
- Practitioners in development agencies (e.g., ILO employment specialists) and non-governmental organizations who seek to design or improve employment policies and programmes based on sound diagnostics;
- Social partners, i.e., employers and worker organizations, who want to better understand the impact of the crisis on their respective constituents (e.g., companies and workers in a specific industry).

Objectives

The overall objective of this document is to provide policymakers, development practitioners and social partners with a better understanding of the different types of employment diagnostic approaches that have been undertaken during the Covid-19 pandemic. By providing lessons learned from these diagnostics, the document is meant to provide guidance on applying appropriate diagnostic tools in the future. This shall be achieved by:

- Reviewing the different types of employment assessments and providing a typology of Covid-related diagnostics;
- Helping understand the range of potential data and information sources and the trade-offs to be considered;
- Synthesizing lessons learned from the diagnostics carried out and highlighting potential implications for crisis-resilient labour market information systems.

While the main goal of employment diagnostics is to inform policy responses, it is beyond the scope of this paper to either review the recommended policy responses contained in the diagnostic reports, nor to assess whether these recommendations were implemented in practice. Readers interested in policy responses, can refer to the reference available in the footnote.¹

Methodology

The analysis in this report is based on a desk review of employment related diagnostics that were carried out in LMICs during 2020 and 2021. The focus of this review is on the methodologies and data sources used, not on the findings from the respective studies. The review captures a wide range of studies carried out by governments, multilateral, and bilateral development agencies, as well as international research institutions, but does not claim to be comprehensive (no systematic meta-analysis). It follows a pragmatic approach identifying patterns and differences in terms of scope and methodologies used across the identified studies, complemented with insights from relevant stakeholders collected during an interagency workshop in December 2021 and selected key informant interviews (see Annex 2). In line with the target audience being mainly national stakeholders, the review prioritizes country-level, policy-oriented diagnostics over cross-country studies (aggregates at regional or global level) or academic research.

¹ [Youth employment in times of COVID \(ilo.org\)](https://www.ilo.org/publications/new/publications/0/0/2021/07/0720210701.pdf): A global review of COVID-19 policy responses to tackle (un)employment and disadvantage among young people

Structure

Section 1 provides an overview of the main types of employment diagnostic studies conducted during the Covid-19 pandemic. Section 2 highlights the main sources of information used in the context of these diagnostics, including their advantages and limitations, with a special focus on those data and information sources that were frequently used and/or innovative. Section 3 draws out lessons learned from conducting employment diagnostics during the crisis based on the patterns observed in reviewing the available studies as well as from stakeholder discussions. Finally, section 4 offers some concluding remarks and outlook.

1. Typology of Covid-19 diagnostics

Diagnostic studies conducted during the Covid-19 pandemic should be seen in the larger context of employment and labour market analysis. There is no single approach for employment diagnostics; instead, there is a toolbox of options which policymakers and practitioners can draw upon based on their (i) information needs / learning objectives, and (ii) feasibility of the respective assessment (in terms of resources required and availability of information).

Employment and labour market diagnostics can come in very different forms. Typically, employment analysis is conducted in the context of the following broad types of assessments:²

- Overall country-level socioeconomic analysis provides a general understanding of a country's development, including its economic, political and social situation. Such broad country diagnostics include labour market analysis and help understand general labour market dynamics in the context of broader development issues.
- Comprehensive employment diagnostics seek to provide a holistic understanding of the (typically national) labour market, covering all its determinants in terms of labour supply, demand and matching. Such assessments seek to identify major employment related challenges and underlying constraints (e.g., related to the macroeconomic environment, private sector dynamics, human capital, working conditions) and propose adequate policy solutions. See Box 1 for examples of integrated employment diagnostics.
- Analysis of selected components of the labour market: Many types of assessment do not claim to provide a holistic employment diagnostic, but rather focus on either supply, demand, or matching issues (just one of them). Examples include assessments of the education system, business environment, or labour market policies.
- Analysis of specific labour market dimensions: Employment diagnostics may also focus on very specific dimensions of interest, such as skills gaps, local market opportunities, employment barriers for specific target groups (such as youth or women), or employment opportunities and challenges (e.g., working conditions) in a sector or value chain. Such narrower diagnostics are typically particularly relevant for the design of concrete policies and programmes.

These different types of diagnostics draw on a variety of data sources, in particular national survey data (e.g., labour force survey), targeted enterprise and household surveys, qualitative research, administrative data (e.g., from the social security administration, public employment services, online job portals), as well as predictive approaches (e.g., skills foresights and forecasting).

² See GIZ and Prospera Consulting. 2020. "[Compendium of Tools for Labour Market Assessment](#)". VET Toolbox.

▶ **Box 1. Examples of integrated employment diagnostics***ILO Decent Work Country Diagnostics*

Broad diagnostic that puts a strong focus on institutional analysis and qualitative aspects of work, looking in depth at factors such as implementation of labour standards, occupational safety and health, social protection and social dialogue. For more information see:

https://www.ilo.org/wcmsp5/groups/public/---ed_mas/---program/documents/genericdocument/wcms_561044.pdf

ILO Employment Diagnostic Analysis

Provides an overview of labour market dynamics (key labour market indicators) with a particular focus on equity and inclusion. Puts conceptually a strong emphasis on labour supply, suggesting that human resources are “creators of growth”. An employment diagnostic may be self-standing or part of the broader decent work diagnostics. For more information see:

https://www.ilo.org/employment/Whatwedo/Publications/WCMS_177130/lang--en/index.htm

World Bank Jobs Diagnostics

Seeks to identify the key constraints a country faces with regard to job creation (e.g., structural transformation, firm growth), quality of jobs (e.g., productivity and earnings), and inclusiveness (e.g., access by women, youth). Jobs Diagnostics leverage a wide range of data sources and detailed statistical analysis, especially about labour demand (e.g., analysis of firm-level data on net job creation by firm size etc.). For more information see:

<https://datatopics.worldbank.org/JobsDiagnostics/>

GIZ Employment and Labour Market Analysis (ELMA)

Follows the integrated employment promotion approach of Germany’s development cooperation, analysing labour supply, demand, matching and framework conditions. It draws primarily on desk and qualitative research. As needed, the assessment can focus on the sub-national level or specific economic sectors.

For a detailed comparison, see GIZ and Prospera Consulting. 2020. “[Compendium of Tools for Labour Market Assessment](#)”. VET Toolbox. pp.74-76..

How Covid-19 has affected employment diagnostics

The Covid-19 pandemic represented a sudden and massive shock to economies affecting both the demand for and supply of goods and services, with severe implications on labour markets. Shutdowns and other containment measures have negatively affected consumption and investment especially in contact-intensive sectors. Moreover, disruptions to domestic and global supply chains (for instance due to mobility restrictions and border closures) affected inventories and led to a slowdown or stop of production in many countries and industries, hence also fuelling job losses. The nature of the crisis has also had implications for employment diagnostics:

- **Different crisis transmission channels:** Contrary to the 2008/2009 global financial crisis, for instance, the transmission channels of the Covid-19 pandemic on employment were significantly different. The global financial crisis originated in developed economies and then affected low- and middle-income countries mainly through linkages in terms of trade (lower demand for LMIC exports) and international financial flows. On the other hand, the pandemic was a health crisis, and containment measures such as global and local mobility restrictions as well as mandated closures of entire economic sectors were at the source of economic disruption and negative labour market impacts in most countries. As such, the

nature and severity of the Covid containment measures, as well as countries' policy response in terms of health and economic policies (e.g., vaccination rates, stimulus packages), significantly shaped labour market outcomes.

- **Rapidly changing situation over time:** The Covid-pandemic did not represent a one-time shock to economies and labour markets. Instead, driven by the rise and fall of infection rates and the associated tightening and relaxation of containment measures, the extent of economic and labour market impacts has been constantly changing since the onset of the crisis. This reality has put a premium on frequent and timely information on the labour market to allow for adequate and adaptive policy responses over time.
- **Interruption of traditional data sources:** Traditional survey-based data collection on the labour market has been severely affected during the pandemic as traditional in-person, face-to-face interviews were often no longer feasible. This led to delays and cancellations of data collection efforts, particularly in low- and lower middle-income countries. For instance, in the early stages of the crisis (May 2020) over 80% of National Statistical Offices (NSO) in low and lower middle-income countries reported that their ability to produce monthly and quarterly statistics as well as administrative data was affected, much higher than in upper middle-income and high-income countries.³ They also reported that household and labour market statistics were the most affected domains. Even though many statistical offices were able to adapt their data collection approach over time, these disruptions often led *"to an important loss of information on the labour market at a time when this information was desperately needed"*.⁴

Against this background, employment diagnostics in the context of Covid-19 have been subject to several important adjustments compared to traditional employment and labour market analysis:

- **Primary focus on crisis impacts:** The focus of employment diagnostics has shifted from understanding structural issues impeding more and better jobs (such as weak business environment or education system) towards understanding the immediate and evolving impacts of the crisis on hard-hit firms and population groups. Given the specific nature of the crisis, there was also particular attention to understanding employment impacts at the sectoral level (e.g., tourism, retail). In addition, analysis had to focus more strongly on the interplay of health-related indicators and policies with the labour market, which goes well beyond the analysis within traditional employment diagnostics.
- **Strong shift towards remote surveying:** Given the inability to collect data face-to-face due to Covid containment measures, and to facilitate rapid data collection and analysis, there was a widespread shift to phone-based and online surveys. This adjustment also implied the use of shorter questionnaires focused on key questions and indicators of interest as opposed to more comprehensive data collection instruments used in the past.
- **Rise of alternative data and information sources:** To compensate the lack or delay of traditional data collection, employment diagnostics witnessed the use of previously less common information sources to identify changes in economic activity and labour market dynamics. For instance, this included a more widespread use of job vacancy data from online

³ United Nations and The World Bank. 2020. "[Monitoring the State of Statistical Operations under the COVID-19 Pandemic. Highlights from the second round of a global COVID-19 survey of National Statistical Offices.](https://www.worldbank.org/en/research/brief/survey-of-national-statistical-offices-nsos-during-covid-19)" Information on all surveys can be found at: <https://www.worldbank.org/en/research/brief/survey-of-national-statistical-offices-nsos-during-covid-19>

⁴ Discenza, A. and Walsh, K. 2021. "[Global review of impacts of the COVID-19 pandemic on labour force surveys and dissemination of labour market statistics.](#)" ILO. p.5

portals, employment modelling techniques, as well as the use of real-time big data such as Google trends and mobility data.

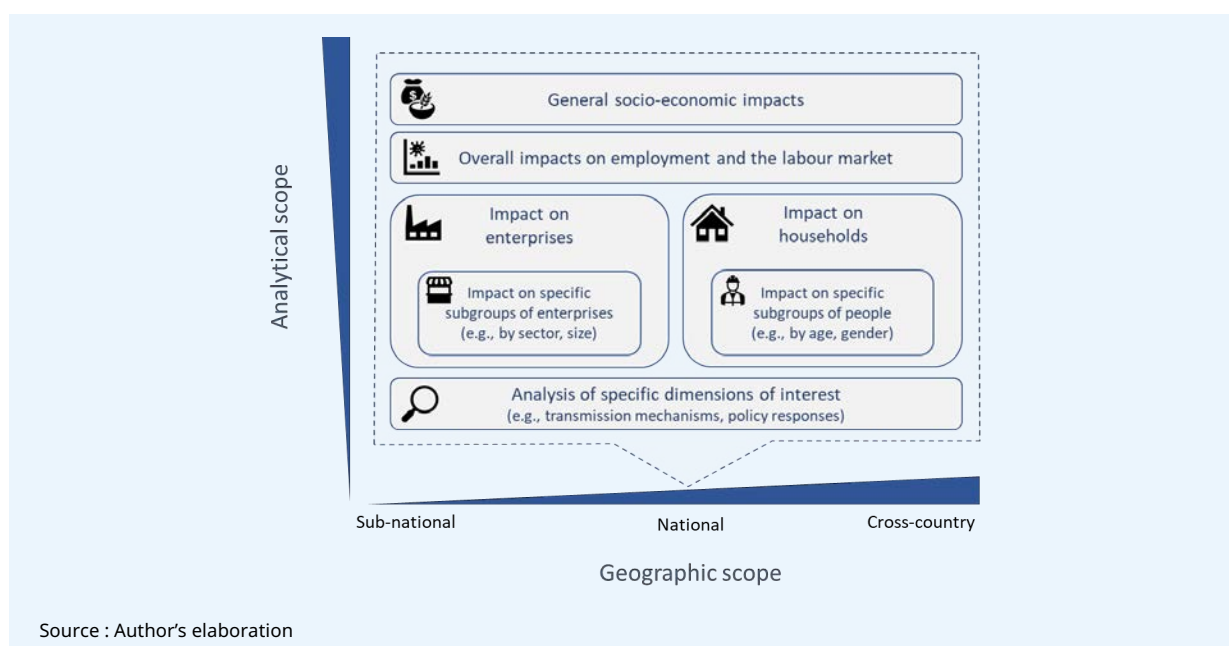
Different types of Covid-19 employment diagnostic studies

Given the magnitude of the Covid-19 pandemic and the urgency to design adequate responses, there was a substantial demand for assessments on the impacts of Covid-19 on different areas of life. Specifically, understanding the economic and labour market impacts of the crisis was of primary concern across the globe, including in low- and middle-income countries.

Against this background, there has been a plethora of studies differing widely in terms of scope and methodologies used. While there is no single way to conceptualize all these different types of diagnostics, it can be helpful to organize them according to the following differences in scope (see Figure 1):

- **Analytical scope:** A key differentiating feature across diagnostic studies is whether they have tried to be rather holistic or narrow in terms of the dimensions of analysis covered. On the one end of this continuum, there have been very broad studies on the overall socio-economic impacts of the crisis (including employment, but also other areas such as health, education, etc.). On the other end of the spectrum (narrow focus), many studies analysed very specific questions of interest, such as analysing certain transmission mechanisms of the crisis (e.g., mobility and consumer demand), selected impact dimensions (e.g., wages), or policy responses. Studies also differ in whether they focused their analysis on just firms, households/workers, or both.
- **Geographic scope:** Most studies have focused on individual countries to provide insights on country-specific impacts and necessary policy responses. That said, given large socio-economic differences within many countries, sub-national studies (e.g., on a specific governorate) can also be useful. In addition, there has also been great interest in cross-country analysis, comparing crisis impacts and identifying patterns globally or for specific world regions.

► **Figure 1: Types of employment diagnostic studies on the impact of Covid-19**



Each broad type of employment diagnostic on the impact of Covid-19 is described below in more detail. For additional detail on common dimensions of analysis and types of information collected, see Annex 3. In practice, however, there are of course no clear delineations between all these different types of diagnostics, and many studies combine elements from different diagnostic approaches. For instance, many diagnostics, including those by the ILO, have combined analysis of both firm and household level impacts, and/or combined the analysis of crisis impacts with policy analysis and recommendations.

Diagnostic of general socio-economic impacts

These studies assess the overall impacts of the Covid-19 pandemic on the economy and society. While there is no shared structure to these diagnostics, they look at the broader socio-economic impacts of the pandemic, analysing transmission channels and impacts on the economy (incl. macroeconomic effects and impacts on specific economic sectors), as well as on other areas such as health, food security, education, governance, migration, poverty, etc. – with a particular focus on people most at risk. Many of these diagnostics have been led by the United Nations and follow the [UN framework for immediate socio-economic response to COVID-19](#)⁵. These diagnostics typically rely heavily on (secondary) country data from national and international data sources, sometimes complemented with findings from household and/or business surveys as well as economic modelling.

Diagnostic of overall impacts on employment and the labour market

These diagnostics seek to assess the overall employment impacts of Covid-19 and potential policy options (typically at national level), trying to strike a balance between being rapid and comprehensive. They look at both the demand and supply side of the labour market, unpacking firm dynamics and people's employment transitions, including shifts between employment, unemployment and inactivity. Based on [ILO guidelines](#), such assessments would typically analyse the pre-crisis situation, containment measures, crisis transmission mechanisms, workers and businesses most impacted or at risk, as well as policy responses and gaps.⁶ Depending on data availability, they draw on national survey data (e.g., labour force survey), sector vulnerability analysis, ad-hoc business and/or household surveys, economic modelling and crisis simulation, as well as other available sources.

⁵ For a list of Covid-19 socio-economic impact assessments conducted by the United Nations, see <https://www.undp.org/coronavirus/socio-economic-impact-covid-19>

⁶ ILO. 2020. "[Rapid Diagnostics for Assessing the Country Level Impact of COVID-19 on the Economy and Labour Market](#)".

Study examples

ILO. 2020. "[COVID-19 and the World of Work: Rapid Assessment of the Employment Impacts and Policy Responses Serbia.](#)"

Strauss, I. et al. 2020. "[Rapid Country Assessment: South Africa - The impacts from a COVID-19 shock to South Africa's economy and labour market.](#)"

ADB. 2021. "[Covid-19 and labor markets in Southeast Asia: Impacts on Indonesia, Malaysia, The Philippines, Thailand and Viet Nam.](#)"

For a list of additional studies, see: https://www.ilo.org/emppolicy/Whatsnew/WCMS_754961/lang-en/index.htm

Diagnostic of enterprise level impacts

These diagnostics seek to provide a comprehensive assessment of the impacts of the pandemic on enterprises. The focus of these studies is typically on business outcomes, such as temporary or permanent closures as well as changes in production, sales, liquidity, etc. In addition, many studies seek to uncover firm coping mechanisms (e.g., in terms of reducing working hours, dismissals, changes in business practices) as well as firms' attitudes and perceptions, for example with regards to their main challenges, needs, and perception of government measures. Such diagnostics typically rely on firm surveys, but they may also use ex-ante vulnerability analysis of economic sectors, job portal data, and other big data.

It is important to recognize that such diagnostics may vary widely in scope. While some seek to provide (largely) representative information on all businesses in the country, other assessments may focus on specific subgroups of firms, such as SMEs or firms in specific sectors. They may also narrowly focus on current or prior beneficiaries of a specific policy or program.

Study examples

General firm level impacts

Kuriakose, S. et al. 2021. "[Impacts of COVID-19 on firms in Malaysia. Results from the 2nd round of Covid-19 Business Pulse Survey.](#)" World Bank.

Kader, A. and Pattanayak, M. 2020. "[Business Pulse Survey: Impact of Covid-19 on MSMEs in Bangladesh.](#)" IFC.

Impact on subgroups of firms

IOM, FAO, ITC. 2021. "[Panel Study IV: Impact of Covid-19 on Small- and Medium-Sized Enterprises in Iraq.](#)"

pwc. 2020. "[Impact of COVID-19 on the Philippine Tourism industry.](#)"

Diagnostic of household level impacts

These diagnostics seek to provide a detailed assessment of the economic and labour market impacts of the pandemic on people and households. The focus of these studies is typically on changes in people's employment situation due to the crisis, which can include many dimensions such as transitions between employment, unemployment and inactivity, changes in hours worked, changes in the type of employment (e.g., wage-, self-, and casual employment), income losses, or

deteriorating working conditions (e.g., less stable contracts, informality, worsening occupational safety and health). In addition, such diagnostics may also look at household coping mechanisms (e.g., use of savings, debt, migration) and general attitudes and perceptions, for example with regards to their main challenges, needs, and perception of government measures. Such diagnostics typically rely on household surveys.

Like for firm level diagnostics, there can be significant variations in scope. While some studies seek to provide (largely) representative information on all households in the country, other assessments may focus on specific subgroups of people, such as youth, women, migrants, informal workers, or workers in a specific industry. They may also narrowly focus on current or prior beneficiaries of a specific policy or program.

Study examples

General household level impacts

ILO and ERF. 2021. "[Rapid Labour Force Survey of COVID-19 Impact in Tunisia.](#)"

Lain, J. et al. 2021. "[COVID-19 in Nigeria: Frontline Data and Pathways for Policy.](#)" World Bank.

Impact on subgroups of people

WIEGO. 2021. "[COVID-19 Crisis and the Informal Economy Study.](#)" (global and city-level findings)

Meyer, C. et al. 2021. "[The market-reach of pandemics: Evidence from female workers in Ethiopia's ready-made garment industry.](#)" World Development.

Hayashi, R. et al. 2021. "[COVID-19 Impact on Technical and Vocational Education and Training in Sri Lanka.](#)" Asian Development Bank.

Diagnostic of specific dimensions of interest

In addition to the types of diagnostics illustrated above, there are many assessments which just focus on very specific questions of interest. Typically, these fall into one of the following categories:

- Analysis of specific transmission mechanism(s) of the crisis: This includes studies to understand how the pandemic is affecting different economic dynamics, such as macroeconomic indicators, consumer demand for certain products and services or mobility patterns. While these types of assessments are not directly focused on employment impacts, they help in understanding how the crisis is unfolding and affecting different industries. For instance, a study of consumer demand may reveal a drop in demand for some services (e.g., travel related) but an increase in demand for others (e.g., food delivery); while a study of mobility patterns may reveal a relocation of economic activity (e.g., from urban centres to residential areas).
- Crisis-impacts on very specific firm, household or institutional dynamics: Contrary to the analysis of firm and household level impacts discussed above, some studies do not seek to provide a comprehensive picture of crisis impacts but rather offer a deep dive on selected variables of interest. For instance, analysis can focus on firm hiring dynamics based on job vacancy data (e.g., number of vacancies by sector, occupation, or level of experience required), without offering information on actual business outcomes. Similarly, at the household level, analysis may focus on specific issues such as the crisis impact on wages or workers' mental health. Looking at firm and household dynamics jointly, studies may also

be interested in the analysis of skill and labour shortages triggered by the crisis. Finally, targeted diagnostics can also investigate institutional impacts of the crisis, including how the pandemic has affected the delivery of (technical) education or employment services (e.g., shifts to online learning, disruption of on-the-job training, etc.).

- Policy analysis: This type of analysis prioritises analysis of (potential) policy responses to mitigate the impact of the crisis, usually from a cross-country perspective. It typically consists of one (or a combination) of the following approaches: (i) retrospective analysis of what crisis-response policies governments have implemented, for instance in terms of monetary and fiscal policies, enterprise support, active labour market policies, and social protection; and/or (ii) forward-looking recommendations on necessary policy responses. The first type of analysis is typically based on national data and/or Covid-19 policy repositories (see Box 2) while the second is typically informed by pre-crisis experience and evidence with different policy instruments. While there have been many self-standing policy assessments, this type of analysis is also commonly part of other types of employment diagnostic studies, including ILO's country-level employment diagnostics (see further above).

▶ **Box 2. Selected policy repositories that track government responses to Covid-19**

- ▶ Oxford Covid-19 Government Response Tracker, including the Covid-19 stringency index <https://www.bsg.ox.ac.uk/research/research-projects/covid-19-government-response-tracker>
- ▶ ILO Covid-19 and the world of work – Country policy responses <https://www.ilo.org/global/topics/coronavirus/regional-country/country-responses/lang--en/index.htm>
- ▶ World Bank COVID-19 Social Protection and Jobs Policy Inventory <https://documents1.worldbank.org/curated/en/110221643895832724/pdf/Social-Protection-and-Jobs-Responses-to-COVID-19-A-Real-Time-Review-of-Country-Measures.pdf>
- ▶ OECD country policy tracker <https://www.oecd.org/coronavirus/country-policy-tracker/>
- ▶ OECD recovery dashboard <https://www.oecd.org/coronavirus/en/recovery-dashboard>
- ▶ Asian Development Bank Covid policy database <https://covid19policy.adb.org/>
- ▶ IFPRI Covid Policy response portal <https://www.ifpri.org/project/covid-19-policy-response-cpr-portal>
- ▶ COVID-19 Global Gender Response Tracker <https://data.undp.org/gendertracker/>

Study examples

Analysis of transmission mechanisms

World Bank. 2021. "[Jordan Economic Monitor. Uncertain and Long Trail Ahead.](#)"

Demirguc-Kunt, A.; Lokshin, M. and Torre, I. 2020. "[The Sooner, the Better: The Early Economic Impact of Non-Pharmaceutical Interventions during the COVID-19 Pandemic.](#)" World Bank.

Crisis impacts on specific firm or household dynamics

Asian Development Bank. 2020. "[COVID-19 Impact on Job Postings: Real-Time Assessment Using Bangladesh and Sri Lanka Online Job Portals.](#)"

Hill, R. and Köhler, T. 2021. "[Mind the gap: The distributional effects of South Africa's national lockdown on gender wage inequality.](#)" DPRU.

ILO. 2021. "[Rapid assessment of reskilling and upskilling needs arising from the effects of the COVID-19. South Africa.](#)"

Policy analysis

Barford, A.; Coutts, A. and Sahai, G. 2021. "[Youth Employment in Times of COVID A global review of COVID-19 policy responses to tackle \(un\)employment and disadvantage among young people.](#)" ILO.

De La Flor, L. et al. 2021. "[Taking Stock of COVID-19 Labor Policy Responses in Developing Countries. Jobs Watch COVID-19.](#)" World Bank.

ILO. 2020. "[National employment policies for an inclusive, job-rich recovery from the COVID-19 crisis.](#)"

OECD. 2021. "[Designing active labour market policies for the recovery.](#)"

2. Main data and information sources

Overview

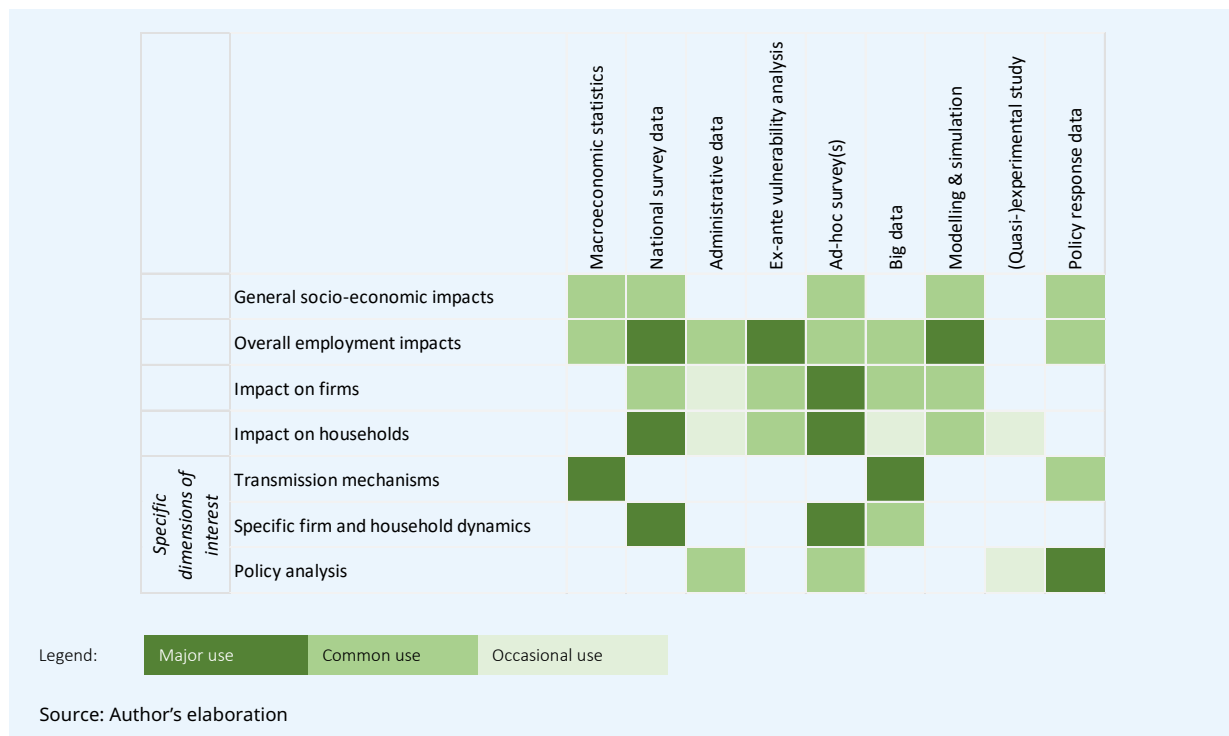
Any diagnostic can only be as good as the quality of information it is based on. Availability and reliability of data are therefore crucial. Yet, unlike previous crises, the Covid-19 pandemic significantly disrupted data collection across the globe, in particular face-to-face surveying which has traditionally been the main data source for most employment and labour market statistics.

Against this background, data availability during the pandemic varied widely across developing countries. Some countries – especially higher middle-income countries such as South Africa or Thailand – were able to adapt quickly and continue to implement regular national data collection (such as quarterly labour force surveys), providing a strong foundation for the analysis of crisis impacts throughout the pandemic. Many other countries, however, especially those with weaker labour market information systems to begin with, could not count on quality national survey data and had to rely on alternative sources of information to inform policy and programming decisions. Given these challenges, two major trends have characterized data collection and analysis during the crisis:

- Strong shift towards remote surveying (mainly phone-based, but also online)
- Rise of alternative data and information sources (leveraging online job portals, other real-time big data such as mobility data, and employment modelling techniques)

As a result, even though there are some common patterns on the data sources used for the different types of employment diagnostics highlighted in the previous section, there has generally been high heterogeneity in terms of the types and quality of data that informed these diagnostics. Figure 2 provides an indicative overview of the main sources of information used for the different types of diagnostics.

▶ **Figure 2: Mapping data and information sources to types of diagnostics**



Even prior to the Covid-19 pandemic, the choice of different data sources to inform employment related diagnostics involved tradeoffs, as each source of information comes with advantages and disadvantages. In the face of the Covid-19 pandemic, these tradeoffs have partly evolved, given the disruption of traditional data collection, the different focus of analysis (focus on crisis impacts rather than structural issues), and the emphasis on frequent and timely information on the labour market to allow for adaptive policy responses. Hence, it is important to understand the advantages and disadvantages of the different data sources in light of these new realities, including with regard to the validity and representativeness of the findings from innovative sources and data collection approaches. For instance:

- While ex-ante vulnerability analysis of different sectors to the pandemic and associated containment measures can be informative to prioritize support to specific industries and vulnerable groups, it does not provide actual information on the negative impact of the crisis on firms and people;
- While different types of crisis modelling can help provide rapid estimates of crisis impacts on different sectors and population groups, the necessary underlying data is not always readily available, and their predictive power may be unclear;
- While ad-hoc surveys with firms and households can provide direct information on crisis impacts and needs, they are costly and their validity and representativeness vary strongly according to the underlying methods used (e.g., in terms of sampling);
- While job vacancy data can provide a real-time picture of changes in hiring dynamics, they are not representative of the whole economy and do not provide information on other important business outcomes.

► **Table 1: Overview of potential data and information sources⁷**

Type	Details	Advantages	Disadvantages
Macroeconomic statistics and projections	by National Statistics Agency, Central Bank, IMF	<ul style="list-style-type: none"> • Relatively easily available (secondary data) • Useful to understand transmission mechanisms of the crisis • Can be easily combined with other data sources 	<ul style="list-style-type: none"> • Does not provide information on actual crisis impacts on firms and people • Not sufficient on its own for employment analysis
National survey data	Labour force survey National household survey National establishment survey	<ul style="list-style-type: none"> • Can provide a representative picture of broad labour market dynamics (key labour market indicators) • Allows for analysis of distributional crisis impacts on different groups (disaggregated data) • In some countries (esp. middle-income), collected relatively frequently (e.g., quarterly) • Data already available and can be used by everyone for different types of analysis: policymakers, practitioners, researchers, etc. (if publicly available) 	<ul style="list-style-type: none"> • Results are typically published with a delay of at least 3 months after data collection • May be outdated and/or poor quality already pre-crisis, or cancelled/delayed due to the crisis • Limited room for customization (only for large development agencies working with statistics authorities) • Hence may not provide all the information needed at program level (e.g., on specific target groups)
Administrative data	Public Employment Services Social security administration Tax authorities	<ul style="list-style-type: none"> • Leverages existing data (no costs for data collection) • Real data (not self-reported) • Potentially very detailed • Constitutes useful complement to other data sources 	<ul style="list-style-type: none"> • Often not publicly available • Likely not representative (focus on formal sector) • Cannot be customized to operational needs • Typically, not sufficient on its own for employment analysis
Ex-ante vulnerability (at-risk) analysis	n/a	<ul style="list-style-type: none"> • Leverages existing pre-crisis data (e.g., labour force survey) • Can be conducted quickly and with limited resources • Can help prioritize particularly vulnerable sectors and those where vulnerable populations and firms are concentrated (as entry point for deeper analysis) • Can be easily combined with other data sources 	<ul style="list-style-type: none"> • Contingent on reliable pre-crisis data (e.g., labour force survey) • Results vary according to the underlying classification of at-risk sectors used (typically based on ad-hoc assumptions) • Purely retrospective view • Does not provide information on actual crisis impacts • Not sufficient on its own for employment analysis
Modelling & Simulation	Nowcasting	<ul style="list-style-type: none"> • Provides timely estimates for key indicators of interest to inform short-term decision making (compensating for time-lag of official data) 	<ul style="list-style-type: none"> • Requires availability of other high-frequency data correlated with the indicator of interest (may not be the case in all countries) • Model must be improved over time
	Economy-wide modelling (e.g., Input-Output Model and Social Accounting Matrix multiplier model)	<ul style="list-style-type: none"> • If required data exists, model can be constructed relatively quickly and with limited resources • Goes beyond “at-risk” analysis (see above), providing quantified estimates of potential crisis impacts on a range of variables (e.g., output, employment, wages) • Can model both the impact of the crisis and of government mitigation measures 	<ul style="list-style-type: none"> • Requires very good existing national data as input for model (e.g., I-O table, SAM) and other underlying data (e.g., regular LFS); in many countries such data is missing or outdated • Sensitive to different assumptions and choice of variables (e.g., initial contraction by sector, current vs. constant prices), incl. whether the multipliers used hold during a major crisis • Less intuitive than other methods (potentially difficult to explain)

⁷ This table presents the main data and information sources used for employment diagnostics during the pandemic, recognizing that these were often complemented with other qualitative information sources (e.g., key informant interviews) which are not described here.

Type	Details	Advantages	Disadvantages
	Microsimulation	<ul style="list-style-type: none"> • Can provide disaggregated results by sector, gender, rural/urban, poverty status, skill-level, etc. • Allows for analysis of distributional impacts of (planned) policy measures on individual households and firms • Ex-ante analysis can directly influence ongoing policy debates 	<ul style="list-style-type: none"> • Requires existing microdata (e.g., from household survey) as input for model that may not be available • Less intuitive than other methods (potentially difficult to explain)
Ad-hoc surveys (mainly by phone and online) ⁸	Enterprise survey Household survey	<ul style="list-style-type: none"> • Provides information on actual crisis impacts across firms and people • Highly flexible: Can be customized to cover a wide range of topics relating to employment and livelihoods according to specific information needs (depending on profile of respondents, etc.) • Allows for analysis of distributional crisis impacts on different groups (disaggregated data) • Simple and intuitive analysis 	<ul style="list-style-type: none"> • Cost and speed vary greatly according to the mode of remote data collection (phone interviewing, SMS, interactive voice response, online) • One-off surveys only provide a static snapshot which may be quickly outdated. Must be conducted in several survey waves to provide dynamic assessment of crisis • Restricted to analysis of short-run developments; does not usually allow for identifying structural changes • Remote surveys must be significantly shorter than face-to-face surveys (less information) • Various methodological and operational challenges (e.g., coverage, sampling, response rates) • Only representative of the population with access to phone or internet (at best); low coverage amongst certain groups of people and businesses, especially in rural areas and among informal enterprises

⁸ While some face-to-face data collection continued during the pandemic, the discussion focuses on remote surveying approaches.

Type	Details	Advantages	Disadvantages
Big data	Job vacancies & service work opportunities	<ul style="list-style-type: none"> • Real time data • Often relatively easily available (through web scraping or partnerships with data provider); no new data collection needed • Granular information (e.g., sector, geography, working conditions, skills demand) • Allows for analysis of distributional crisis impacts on different groups (e.g., impact on female dominated industries and occupations, entry-level jobs) • Allows for analysing trends over time • Flexible (broad labour market dynamics or focused analysis of specific sector or occupation) 	<ul style="list-style-type: none"> • Data not directly accessible (data owned by private and public providers); it can take time to get access • Significant effort for data cleaning may be needed • Requires high internet penetration rates and common use of job portals for recruitment (otherwise small share of all open jobs) • Not representative (e.g., focus on formal, high-skill, urban, digital jobs); i.e., not well suited for analysis of impacts on vulnerable groups • Richness of analysis highly contingent on the information included in job ads (e.g., in terms of skills demand, type of contract, wages) • Reflects hiring dynamics, but not job losses • May be difficult to interpret (e.g., new jobs or employee replacement?)
	Economic activity proxy data (e.g., google search, mobility, satellite, or electricity data)	<ul style="list-style-type: none"> • Innovative source of information • To some extent publicly available (e.g., Google data) • High-frequency, real-time data • High degree of geographic granularity / spatial disaggregation • Useful to understand selected transmission mechanisms of the crisis • Can be easily combined with other data sources 	<ul style="list-style-type: none"> • Does not provide information on specific crisis impacts on firms and people (just transmission mechanisms) • Level of correlation between economic activity proxies and actual economic and employment impacts not always clear • Not sufficient on its own for employment analysis
(Quasi-) experimental studies	Of containment measures (e.g., lockdown)	<ul style="list-style-type: none"> • Provides robust evidence on the causal effect of containment measures on employment outcomes • Can be done with different underlying data sources as available (e.g., national survey data, ad-hoc survey) • Allows for analysis of distributional crisis impacts on different groups (disaggregated data) 	<ul style="list-style-type: none"> • Not always possible (requires adequate identification strategy for treatment and control groups) • Expensive if own data collection required • If based on ad-hoc surveys, then same limitations (see above)
Policy response data	Policy repositories	<ul style="list-style-type: none"> • Provides overview of containment measures and of policy responses across different areas (e.g., social protection, firm support, etc.) • Allows for gap analysis between findings on crisis impacts and measures adopted 	<ul style="list-style-type: none"> • No information on the effectiveness of the measures

Following the above general overview of advantages and disadvantages of the most important sources of information, we present selected data and information sources in further detail to highlight the main innovations in data collection and use during the Covid-19 pandemic:

- Using pre-crisis data through ex-ante vulnerability analysis and crisis modelling,
- Collecting new data through ad-hoc remote surveys,
- Leveraging non-traditional data sources such as big data.

Ex-ante vulnerability analysis

Ex-ante vulnerability assessments seek to provide an early estimate of the sectors and populations most likely to be affected by the crisis. Vulnerability analysis typically focuses on where employment losses are most likely to be concentrated but may also include occupational safety and health (OSH) risks. This type of diagnostic has been particularly useful in the early stages of the pandemic (in the absence of other sources of information) to provide a timely appraisal of potential crisis impacts thus providing initial guidance on where policy responses may need to focus. That said, it does require reliable pre-crisis data (e.g., labour force survey, occupation data) to be feasible.

The analysis typically combines three elements:

1. Classify at-risk sectors based on specific criteria, from low to high risk/vulnerability (see Box 3);
2. Determine the relative weight of the different sectors in the country, by mapping the share of overall GDP and/or the share of total employment to the different sectors (based on pre-crisis national accounts and labour force survey data);
3. Identify in which sectors particularly vulnerable workers (e.g., by age, gender, informal employment, precariousness of contracts, wage levels) and/or vulnerable firms (MSMEs, own-account workers) are concentrated.⁹

▶ Box 3. Examples of criteria used for determining the vulnerability of different sectors

- ▶ The ILO has classified vulnerable sectors based on global firm output indices, investment and trade patterns, and business expectations uses several indices.¹⁰ Adjustments are made for country level analysis for a more refined classification.
- ▶ The European Centre for the Development of Vocational Training (Cedefop) classifies jobs according to their exposure to disease, physical proximity to co-workers or contact with others, taking into consideration the ability to do remote work as a risk-mitigating factor.¹¹
- ▶ Similarly, the European Commission also identifies high-risk sectors based on high-contact and low-teleworkable occupations based on job tasks requirements of each occupation.¹²

⁹ ILO and EBRD. 2020. "[COVID-19 and the World of Work Rapid Assessment of the Employment Impacts and Policy Responses. North Macedonia.](#)" Pp. 30-33.

¹⁰ ILO. 2020. "[ILO Monitor: COVID-19 and the World of Work – Second Edition.](#)" P. 11.

¹¹ Pouliakas, K. and Branka, J. 2020. "[EU jobs at highest risk of Covid-19 social distancing: Is the pandemic exacerbating the labour market divide?](#)" Publications Office of the European Union.

¹² European Commission. 2020. "[Labour market and wage developments in Europe.](#)" Pp. 20-25.

 Study examples

ILO. 2020. "[Rapid assessment of the employment impact and policy responses of the COVID-19 pandemic on Armenia](#)." Pp. 15-19.

Rahman, A.; Jasmin, A. and Schmillen, A. 2020. "[The Vulnerability of Jobs to COVID-19: The Case of Malaysia](#)."

Modelling & simulation

Modelling and simulation approaches go a step beyond vulnerability analysis, seeking to quantify the anticipated impacts of the crisis, such as job losses by sector or changes in household income. Besides modelling crisis impacts, they may also include projections on the impact of specific crisis response policies (e.g., public investment program, firm subsidies, cash transfers to households) and the extent to which these are able to mitigate the negative crisis effects. Modelling and simulation techniques are of particular interest in the absence or delay of other labour market data that provide a more direct measurement of the crisis impacts on firms or people, such as labour force or ad-hoc surveys. Yet, they are still reliant on a wealth of data to construct their respective models, and that data may often not be available, which also explains why most modelling efforts during the pandemic have focused on middle-income countries with good data availability. Some of the main modelling techniques used during the pandemic include:

- **Nowcasting:** The goal of this kind of analysis is to forecast an economic or employment indicator in real time when the indicator itself has not yet been published. Many macroeconomic and employment indicators are made available with a lag of several months, making it difficult for policymakers and other stakeholders to inform short-term decision-making. Nowcasting exploits the availability of other variables that are correlated to the indicator of interest and that are released more often (e.g., weekly, monthly).¹³ During the Covid-19 pandemic, nowcasting has been used to forecast a variety of indicators, including GDP and working-hour losses (see Box 4).
- **Economy-wide modelling:** This analysis refers to different macroeconomic models (mainly input-output models and social accounting matrix (SAM)-based multiplier models) for assessing the economic impact of particular (positive or negative) events. In the case Covid-19, these models allow for analyzing the ripple effects of the initial economic shock throughout the economy, based on the existing interdependencies of different sectors in the country. For instance, lower demand for tourism-related services does not only directly affect hotels and restaurants and their employees, but indirectly also food and beverage producers and their suppliers, as well as other businesses who suffer from the lower spending by the workers who lost their jobs. Hence, these models seek to capture direct, indirect and induced impacts of the initial shock, while potentially also considering mitigating effects through potential policy responses. The models draw on existing databases for the economic interdependencies in the country (i.e., input-output tables, social accounting matrix) and various assumptions (e.g., GDP contraction in total and by sector).
- **Microsimulations of crisis effects and policy measures:** Microsimulations refers to a wide variety of modelling techniques to estimate the effect of a particular event and for

¹³ Barrios, J. et al. 2021. "[Nowcasting to predict economic activity in real time: the cases of Belize and El Salvador](#)." Inter-American Development Bank. P.7.

forecasting the effects of planned policy measures at the level of households or firms, with a particular focus on understanding distributional impacts (e.g., in terms of household income or poverty). As such, they allow for more disaggregated analysis than macroeconomic models. Microsimulations use micro-level data (e.g., an existing household survey) based on which the external shock and policy responses are modelled.

▶ Box 4: ILO Nowcasting of working-hour losses

The ILO's Nowcasting model uses data that are available almost in real time (such as the Purchasing Managers Index and Google Mobility data, see section on Big data below) to predict aggregate hours worked that are published with substantial delay. The "working-hours" indicator is used because it reflects both job losses as well as work reductions of those who remain employed. The nowcasting model allows to produce the following indicators:

- **Percentage of hours lost due to the Covid-19 crisis**, compared to the baseline (the latest pre-crisis quarter, i.e., the 4th quarter of 2019, seasonally adjusted).
- **Full-time equivalent employment losses** (assuming 40 or 48 workweek hours). This indicator provides an illustration of the magnitude in hours lost, by expressing them in full-time jobs.
- **Total weekly hours** worked by employed persons and weekly hours worked divided by population 15-64.

The data in the nowcasting model include a variety of indicators of economic activity and of the evolution of the labour market, such as labour force survey data, high-frequency economic data such as retail sales, administrative data on the labour market (e.g., registered unemployment), up-to-date mobile phone data from Google Mobility Reports, Oxford's COVID 19 Government Response Stringency Index, and data on the incidence of Covid-19.

Source: <https://ilostat.ilo.org/resources/concepts-and-definitions/ilo-modelled-estimates/>.

For more information, refer to the annexes of [ILO Monitor: COVID-19 and the world of work](#).

▶ Study examples

Breisinger, C. et al. 2020. "[Impact of COVID-19 on the Egyptian economy: Economic sectors, jobs, and households](#)." IFPRI and Ministry of Planning and Economic Development.

Hatayama, M. et al. 2021. "[Understanding and Predicting Job Losses Due to COVID-19: Empirical Evidence from Middle Income Countries](#)." World Bank.

ILO. 2020. "[COVID-19 and the World of Work: Rapid Assessment of the Employment Impacts and Policy Responses Serbia](#)."

Kokas, D. et al. 2020. "[Impacts of COVID-19 on Household Welfare in Tunisia](#)." IZA.

Strauss, I. et al. 2020. "[Rapid Country Assessment: South Africa. The impacts from a COVID-19 shock to South Africa's economy and labour market](#)." ILO.

Ad-hoc surveys

Ad-hoc surveys of enterprises and households/individuals have probably been the most widely used tool to understand the impacts of the pandemic in LMICs, including economic and employment effects. Ad-hoc surveys have varied widely in scope, from nationally representative surveys to targeted surveys for specific subgroups of enterprises (e.g., MSMEs, in certain sectors) or individuals (e.g., by gender, migrant status, sector). Compared to most other data sources

(except for national survey data), ad-hoc surveys have been particularly useful in measuring the real impacts of the crisis on firms and people. Moreover, they allowed for better understanding other important, more subjective, aspects of the crisis, such as respondents' coping mechanisms as well as attitudes and perceptions on a range of topics, such as perceived challenges and needs, future outlook, and awareness and perception of policy measures.

A major development during the pandemic was the widespread shift to remote surveys (mainly by phone, but also online), due to: (i) the inability to collect data face-to-face because of Covid-related containment measures; and (ii) the demand for rapid information. While most practitioners and researchers were able to adjust to these new realities, the use of remote surveys comes at a price. For one, surveys administered remotely must be significantly shorter compared to face-to-face administration, allowing to collect less information. Moreover, response rates can be low¹⁴ and certain groups (e.g., women, people with lower education, in rural areas, informal firms) may be harder to reach due to lower access to (mobile) phones and internet, thus negatively affecting the representativeness of the data. Importantly, it might be precisely those most affected by the pandemic who are harder to reach, such as firms shutting down (no longer reachable at their business phones), or people who lose their jobs and income who may not charge their mobile phone credit.¹⁵ Remote data collection therefore has to be prepared and carried out with particular scrutiny to provide reliable information (see Box 5 for selected guidance documents). Some good practices during the pandemic included:

- **Leverage existing samples** from previously conducted (ideally highly representative) face-to-face surveys. Many studies, such as an Inter-American Development Bank [study](#) on the effects of Covid-19 on livelihoods in Suriname, the [Young Lives Study](#), and the [World Bank enterprise surveys](#) used this approach. Leveraging existing samples provides quick access to a sample frame, typically generates higher response rates, and allows for ex-post adjustment of the bias stemming from non-universal phone ownership based on baseline information.¹⁶ Using existing samples also allows for trend analysis on key parameters comparing the pre-crisis situation with the situation during the pandemic. When no existing samples are available or cannot be obtained (e.g., from a telecom company), Random Digit Dialing has proven to be a feasible option (e.g., in the case of the ILO and ERF's rapid labour force surveys).
- **Increase representativeness through suitable sampling and reweighting the data afterwards.** In the case of phone surveys, one approach has been to combine calling mobile and landline phones to compensate for the different user profiles of each (mobile phone users being on average younger and more urban). One may also try to collect information on several household members besides the one owning the phone. For online surveys, one may be able to draw on existing panels of internet users, though they may not be available in most LMICs. Regardless of the sampling technique chosen, it is essential to compare the sample characteristics of the remote survey with an existing representative sample of the population of interest (households or firms) and carry out ex-post reweighting to reduce the coverage and non-response bias that is inherent in remote data collection.¹⁷

¹⁴ Reasons include invalid numbers, people not answering the phone, refusal due to lower trust by respondent.

¹⁵ See <https://blogs.worldbank.org/impactevaluations/mobile-phone-surveys-understanding-covid-19-impacts-part-i-sampling-and-mode>

¹⁶ Hence, the systematic collection of phone numbers in future face-to-face surveys to develop suitable sampling frames has emerged as an important lesson during the pandemic.

¹⁷ See for example Ambel, A. et al. 2021. "Reducing Bias in Phone Survey Samples: Effectiveness of Reweighting Techniques Using Face-to-Face Surveys as Frames in Four African Countries." World Bank. For an example of sampling and weighting when using Random Digit Dialing, see <http://www.erfdataportal.com/index.php/catalog/174>

- **Conduct multiple survey rounds.** Given the length and dynamic nature of the crisis, conducting several rounds of surveying has proven valuable to capture its evolving impacts. Some studies such as the World Bank's [national household phone surveys](#) were even able to conduct high-frequency surveys involving monthly follow-ups with over 10 rounds in several countries. Repeated survey waves also allowed for adding different focus topics to the different rounds of data collection, partly compensating for the limitations imposed by shorter survey length in remote surveys.
- **Combine different survey methods.** In some cases, especially for cross-country research, it may be useful to combine different survey administration methods (phone, online, and even face-to-face) based on country characteristics and the suitability of the respective data collection approach in the countries covered. Indeed, while phone interviewing may work well in some countries, there may be difficulties with coverage in others. Similarly, while some large online panels may exist in some higher income countries, they are likely not available in most LMICs. For instance, in the context of its "[Multi-country survey on the impacts of COVID-19 on employment, labour markets and aspirations](#)", the ILO used a mixed-method approach combining phone, face-to-face and online (panel and opt-in) surveys.¹⁸

▶ **Box 5: Selected guidance for conducting remote surveys**

- ▶ Himelein, K. et al. 2020. "Mobile Phone Surveys for Understanding COVID-19 Impacts." [Part I Sampling and Mode](#) and [Part II Response, Quality, and Questions](#). World Bank Development Impact Blog.
- ▶ ILO. 2020. "[Capturing impacts on employment and unpaid work using Rapid Surveys](#)."
- ▶ Innovations for Poverty Action. 2020. "Remote Surveying in a Pandemic." [Research Synthesis](#) and [Handbook](#).
- ▶ Jones, M. et al. 2020. "[Practical tips for implementing remote surveys in the time of the Great Lockdown](#)." Development Impact Blog.
- ▶ World Bank. DIME Wiki. "Remote Surveys."

¹⁸ ILO. 2021. "Multi-country survey on the impacts of COVID-19 on employment, labour markets and aspirations. Research Design."

Study examples

Ad-hoc labour force and household surveys

ILO and ERF. 2021. Rapid Labour Force Survey on the impact of Covid-19. Country reports: [Tunisia](#). [Morocco](#). [Egypt](#).

Lain, J. et al. 2021. "[COVID-19 in Nigeria: Frontline data and pathways for policy](#)." World Bank.

World Bank. 2021. "[Listening 2 Tadjikistan: Survey of Wellbeing](#)." Website.

Targeted surveys of households/individuals

IPA. 2021. "[The Gendered Impact of COVID-19 on Adolescents' Education and School-to-Work Transitions in Bangladesh](#)."

Koczan, Z. 2020. "[Not All in This Together? Early Estimates of the Unequal Labour Market Effects of COVID-19](#)." European Bank for Reconstruction and Development.

Meyer, C. et al. 2021. "[The market-reach of pandemics: Evidence from female workers in Ethiopia's ready-made garment industry](#)." World Development.

Business surveys

Alfonsi, L. et al. 2021. "[COVID-19 and Ugandan SMEs: Impacts and Speed of Recovery](#)." PEDL.

Kuriakose, S. et al. 2021. "[Impacts of COVID-19 on firms in Malaysia. Results from the 2nd round of Covid-19 Business Pulse Survey](#)." World Bank.

IOM, FAO, ITC. 2021. "[Panel Study IV: Impact of Covid-19 on Small- and Medium-Sized Enterprises in Iraq](#)."

Shinozaki, S. and L. N. Rao. 2021. "[COVID-19 Impact on Micro, Small, and Medium-Sized Enterprises under the Lockdown: Evidence from a Rapid Survey in the Philippines](#)." Asian Development Bank Institute.

Combined surveys (households and firms)

Kebede, T.A.; Stave, S.E. and Kattaa, M. 2020. "[Facing Multiple Crises. Rapid assessment of the impact of COVID 19 on vulnerable workers and small-scale enterprises in Lebanon](#)." ILO and Fafo.

Big data

Given the difficulties associated with data collection during the pandemic, many assessments of the economic and employment impacts of Covid-19 have used non-traditional information sources that are more readily available. Primarily, this included: (i) data from online job portals; and (ii) economic activity proxy data. A major appeal was that they consist of high-frequency, real time data that can either be used in the absence of other labour market information and/or complement other sources of information for a richer picture of economic and labour market dynamics.

Data from online job portals has become increasingly relevant for labour market analysis already prior to the pandemic. During the crisis, job vacancy analysis has become a popular tool for highlighting changes in firm hiring dynamics. Indeed, a number of studies (see study examples further below) have been able to show a sharp initial decline in job advertisements during the early stages of the crisis and a recovery as conditions improved. Importantly, depending on the quality of the vacancy information captured in a job portal, the data can be disaggregated (e.g., by sector, city, etc.) and cover a wide range of dimensions, including changes in working conditions (e.g., contract type, wages, remote work) and skills demand, thus providing a useful snapshot of various changes in the labour market. That said, an important limitation of this type of data is that it is usually not representative of the national labor market. While some platforms for freelancers and

microwork may also provide insights into changing dynamics of manual and informal labour, most job portals (including major social media sites such as LinkedIn) target mainly formal, urban, high-skill wage jobs in selected industries (which are the minority in most developing countries).

Economic activity proxy data has been another innovative source of information that has seen a major surge in popularity during the Covid pandemic. When data that directly measures economic activity such as industrial production or business sales are not available (or only available with significant delays), proxy indicators can help close that gap and provide valuable insights on current economic dynamics to policymakers and practitioners. Traditionally, the survey-based Purchasing Managers Index has been used by governments, financial institutions and companies as a proxy to forecast other economic variables, and it has also been used for economic analysis during the pandemic. However, its coverage is limited to mostly developed and selected middle income countries. In addition, various sources of big data have proven useful as additional proxy indicators. The key advantage of such data is that it is high-frequency data that allows for analysing specific geographic areas, overcoming common challenges with time-lags and the lack of geographic disaggregation of other national economic indicators. However, it remains limited to estimating economic activity and does not provide concrete insights into actual changes in employment.

The main big data proxy indicators that have been used to understand the economic impacts of the pandemic include:¹⁹

- **Google mobility data:** Based on tracking smartphones, this data illustrates how visits to different types of locations are evolving, namely: 1) Retail & recreation, 2) Grocery & pharmacy, 3) Parks, 4) Transit stations, 5) Workplaces, and 6) Residential areas. Hence, it can help identify changes in mobility patterns, such as a decline in mobility towards workplaces and other non-residential areas, thus highlighting changes in the demand for different services (e.g., restaurants, tourist-related services).
- **Google trends data:** This [data](#) allows for a better understanding of how the interest in different topics is changing over time based on the search terms used in Google. It can therefore be used to analyse changes in the demand for different types of products and services because of the pandemic. For instance, it can reveal a plummeting in consumer demand for some services (e.g., travel) and a surge in demand for others (e.g., online shopping). It has also been used to [analyse job search trends](#) during the pandemic.
- **Electricity data:** Since a lot of economic activity is heavily dependent on the use of electricity, changes in electricity use can provide insight into the economic impact of the pandemic and associated containment measures. Indeed, global analysis confirmed that total energy consumption declined during the early stages of the pandemic, especially in the context of strict government restrictions and large decreases in mobility.²⁰ For instance, analysis for Ghana found that non-residential electricity consumption dropped sharply after the lockdown as commercial activities came to a halt, while residential electricity consumption increased during the lockdown.²¹
- **Satellite / remote sensing data:** As satellite imagery (e.g., of night lights, emissions) has become more easily available in recent years, it has increasingly been used to track

¹⁹ Other potential proxy indicators include traffic data and pollution data.

²⁰ Buechler et al. 2022. "[Global changes in electricity consumption during COVID-19](#)." iScience.

²¹ Dzansi, J. et al. 2021. "[Real-time economic impacts of COVID-19 in Ghana](#)." International Growth Centre.

economic activity and assess the impact of policy measures and development interventions, including in the context of Covid-19.²² Such data can be especially useful in countries where other statistical or administrative data is not available or of poor quality.

Study examples

Job portal data

Asian Development Bank. 2020. "[COVID-19 Impact on Job Postings: Real-Time Assessment Using Bangladesh and Sri Lanka Online Job Portals.](#)"

Brodmann, S. et al. 2021. "[Monitoring real-time labor market trends through online job vacancies – Kosovo.](#)" World Bank.

Inter-American Development Bank. Covid-19 Labor Market Observatory. [Online Job Vacancies](#) and [LinkedIn data](#).

OECD. 2021. "[An assessment of the impact of COVID-19 on job and skills demand using online job vacancy data](#)".

Tas, E. et al. 2021. "[Impacts of Covid-19 on labor markets and household well-being in Pakistan. Evidence from an online job platform.](#)" World Bank.

Jones, S. and Manhique, I. 2021. "[Informal freelancers in the time of COVID-19. Insights from a digital matching platform in Mozambique.](#)" UNU-WIDER Working Paper.

Economic activity proxy data

Abay, K.; Tafere, K. and Woldemichael, A. 2020. "[Winners and Losers from COVID-19: Global Evidence from Google Search.](#)" World Bank.

Sampi, J. and Jooste, C. 2020. "[Nowcasting Economic Activity in Times of COVID-19: An Approximation from the Google Community Mobility Report.](#)" World Bank.

Beyer, R.; Franco-Bedoya, S. and Galdo, V. 2021. "[Examining the economic impact of COVID-19 in India through daily electricity consumption and nighttime light intensity.](#)" World Development.

²² See for example Game, A. 2021. "[The use of GIS in employment impact assessments](#)". ILO; Engstrom, R. 2017. "[Poverty from Space. Using High-Resolution Satellite Imagery for Estimating Economic Well-Being.](#)" World Bank; Benyishay, A. 2019. "[Roads through tough places: Using remote sensing for impact evaluations of infrastructure investments in conflict-affected settings.](#)"; Rubinyi, S. et al. 2020. "[Nighttime lights are revolutionizing the way we understand COVID-19 and our world.](#)"; Baez, J. et al. 2020. "[Tracking the economic impact of the coronavirus \(COVID-19\) from space](#)".

3. Lessons learned

This section highlights relevant lessons that have emerged from conducting employment diagnostics during the pandemic. The findings are based on observations and patterns that emerged from the desk review of available diagnostic studies on the employment impacts of Covid-19 enriched with insights from development practitioners and researchers collected during an interagency workshop in December 2021 and selected key informant interviews (see Annex 2). While most of the lessons presented here are relevant to policymakers, development practitioners and social partners alike, some lessons may be particularly useful to just one of these stakeholder groups.

Functioning labour market information systems matter in crisis times

A major lesson that emerged during the pandemic is that countries with stronger existing LMIS were better positioned to conduct timely and quality diagnostics on the crisis. This finding highlights the vulnerability of low-income countries where these structures are typically not yet in place.

- **Strong LMIS facilitate diagnostics during a crisis.** An ILO global survey shows that those countries with regular labour force surveys and those who already used a combination of face-to-face and remote surveying prior to the pandemic suffered much fewer disruptions and were quicker to adapt to the new circumstances.²³ Similarly, when the pandemic started, South Africa initiated the [Coronavirus Rapid Mobile Survey](#) which built on the existing *National Income Dynamics Study*, a national household panel study ongoing since 2008, therefore not needing to set up data collection efforts from scratch. Hence, quality labour force surveys (and other relevant surveys and administrative data) are an important foundation for labour market analysis and evidence-based policymaking and programming in non-crisis and crisis times.
- **The pandemic has highlighted gaps in capabilities and technological infrastructure** of National Statistical Offices (NSOs) to work from home²⁴ and to sustain new data collection approaches (e.g., rapid phone surveys). Even though many countries adapted their approach to data collection during the pandemic, some countries also indicated that they would return to full face-to-face surveying when possible. This underscores the need for technical and financial support to facilitate a sustainable integration of electronic and remote data collection and modernisation of related processes and infrastructure.²⁵ Capacity development efforts can also include other relevant national stakeholders (e.g., Ministry of Labour) to foster the use of other data sources, such as job vacancy analysis.

²³ Discenza, A. and Walsh, K. 2021. "[Global review of impacts of the COVID-19 pandemic on labour force surveys and dissemination of labour market statistics](#)." ILO.

²⁴ A World Bank survey of NSOs found vast differences across countries in the availability of internet and other IT infrastructure necessary for NSO staff to effectively work from home. See <https://www.worldbank.org/en/research/brief/survey-of-national-statistical-offices-nsos-during-covid-19>

²⁵ Ibid.

- **Diagnostics can be conducted in collaboration with national data producers.** Even if data collection efforts are not directly under the government's mandate, such as rapid surveys designed by development agencies or research institutions, collaboration with national authorities can still be useful. For instance, the World Bank collaborated with national statistical offices for the delivery of its [Covid-19 High-Frequency Household Monitoring Survey](#) (which also includes modules on Labour and Income). The collaboration can be fruitful for both sides: while researchers can leverage existing national structures and local knowledge for data collection, the national authorities gain exposure to new data collection instruments and modalities which can help with the integration of these new techniques into the national system. Similarly, the ILO also worked with NSOs to help them maintain data collection during the crisis.

The appropriate approach for crisis diagnostics depends on the context

As discussed in section 1, there is no single type of employment diagnostic, neither for non-crisis times nor to understand the labour market impacts of Covid-19 or similar crises. Different types of assessment vary in scope, and none can provide all the answers. Hence, there is no single best approach for employment and labour market analysis during a crisis, and policymakers and practitioners must make choices that will involve trade-offs.

- **Timeliness is paramount, but it comes at a cost.** Sudden crises like the Covid-19 pandemic trigger urgent needs by policymakers and practitioners to understand the associated economic and employment impacts to respond accordingly. The stakeholders consulted as part of this review shared a strong sense of urgency by their partners and constituents to get answers in a matter of weeks or one to two months at the most. Yet, most traditional employment diagnostics take significantly longer to carry out. Fortunately, many organizations were able to adapt quickly, making significant efforts to leverage alternative data sources (such as big data) and shift from traditional face-to-face surveying to remote forms of data collection. These new sources were found particularly useful in countries where traditional macroeconomic and labour market statistics are only available with big delays, and they have therefore gained in overall recognition as credible data sources. That said, there is also consensus that caution is needed, as these alternative sources of information and data come with their own disadvantages, such as limitations regarding the representativeness of remote surveys or job vacancy data as described in section 2. In policy and public discourse, these important nuances may sometimes be overlooked.
- **The appropriate diagnostic approach is contingent on priority information needs and context.** Anecdotal evidence suggests that many stakeholders often want to know "everything". Instead, to pick the most suitable diagnostic approach and not waste resources, it is important to think hard about the key questions the diagnostic must be able to answer (to inform programmatic or policy decisions). For instance, is it supposed to provide a holistic analysis of employment dynamics or a focused assessment of (selected) firms or population groups? Is the focus on a rapid estimate of crisis impacts or a representative assessment of the effects of the crisis? Institutional mandates may provide some guidance: While some government representatives may be most interested in broader, integrated assessments, line ministries and project level stakeholders may often find a narrower scope more useful (e.g., at sector or subnational level). Moreover, context matters, as the lack of resources (time and/or money) and limited data availability may restrict the available options. In line with the method chosen, it is then important to be clear

and transparent (both internally and with partners) about the associated advantages and limitations of that method.

- **A combination of methods and data sources can provide a more complete picture.** To offset the disadvantages of specific types of diagnostics or data sources, several stakeholders consulted found it useful to combine multiple sources of information either within the same diagnostic or by launching several complementary studies that use different approaches. For instance, the ILO's national employment diagnostics in the Western Balkans (e.g., in [Serbia](#), [Bosnia and Herzegovina](#), and [North Macedonia](#)) combined sectoral vulnerability analysis, enterprise survey data, administrative data, as well as modeling of crisis impacts and policy responses (see Box 6 for more details on the Serbia study). The World Bank has used a combination of household, enterprise, and other targeted (e.g., refugee, community) surveys in several of its partner countries (see for example [Ethiopia](#), [Indonesia](#), and [Philippines](#)) to ensure a holistic monitoring of the impacts of the crisis on people and the economy, complemented with crisis simulation modelling, job vacancy analysis, and remote sensing data for deep dive analysis in selected countries. The European Bank for Reconstruction and Development expanded the data sources used for its [Regional Economic Prospects Reports](#) beyond the traditional macroeconomic statistics, integrating findings from Google mobility reports, online household surveys and vacancy analysis in order to allow for more timely and nuanced analysis. Similarly, the [OECD's Employment Outlook](#), looking at crisis impacts as well as detailed policy analysis (e.g., of job retention schemes and active labour market policies), complemented labour force survey data with Google trends and mobility data, analysis of online job postings, and administrative and institutional survey data from Public Employment Services.

▶ **Box 6: Combining methods and data sources – Rapid employment diagnostic in Serbia**

The ILO's Rapid Assessment of the Employment Impacts and Policy Responses in Serbia leveraged a combination of data sources and analysis, including:

- **Ex-ante vulnerability analysis** of sectors and workers, estimating the share of workers exposed to the shock (incl. a focus on gender and age-related vulnerabilities) as well as the sectors most exposed to the crisis
- **Enterprise survey data** highlighting, for instance, the share of companies that (partially) stopped working and had to dismiss workers as well as the main challenges associated with the pandemic
- **Big data** such as Google mobility reports showing massive declines in visits to and time spent in places such as work, retail stores and transit stations
- **Nowcasting model** estimating working hours and full-time equivalent jobs lost
- **Modeling of policy responses**, estimating the welfare effect of an employment retention scheme and one-off cash transfer to households

This combination of different data and information sources proved useful to shed light on different sides of the policy dialogue (e.g., crisis impacts beyond the unemployment rate, firm perspectives, insights on policy proposals under discussion) and thereby helped provide tangible policy advice.

- **Different types of diagnostics can be sequenced.** Some methods are particularly well suited in the very early stages of a crisis when there is an urgent need for rapid information to identify potential impacts and gain a tentative direction on the immediate crisis response. For instance, ex-ante vulnerability analysis of sectors and population groups or economic modelling may provide some quick answers with limited resources in the absence of other

data. As this early-stage analysis is being undertaken, stakeholders can then prepare for additional data collection efforts (e.g., firm and household surveys) that can then provide more detailed and reliable information as the crisis continues. For instance, the ILO in North Africa carried out vulnerability analysis in spring 2020 when the crisis hit to provide quick insights to UN country teams and governments, while preparing for remote labour force style surveys to compensate for disruptions of data collection by national statistical offices.

- **Analysis of the distributional effects of the crisis is paramount.** More than previous crises, the Covid-19 pandemic highlighted that certain sectors and population groups were particularly hard hit (e.g., consumer-facing service industries, women, low-wage and informal workers). (Sub)sector-specific analysis as well as sub-group analysis must therefore be a priority in Covid-related employment diagnostics, as part of broader diagnostics and/or self-standing deep dive assessments. The type of employment diagnostic chosen must therefore ensure that it allows for a disaggregated look at labour market dynamics. This means that assessment methods that tend to be skewed towards the formal economy and/or high skilled workers, such as surveys of formal firms or job vacancy analysis, even though they can be highly informative, should not be used in isolation. Moreover, as the use of remote data collection methods has increased during the pandemic, conscious efforts must be made to avoid the disproportionate exclusion of women and other vulnerable populations (as they are less likely to have a mobile phone or access to the internet).

Selected guidelines for understanding distributional impacts

- ▶ ILO and UN Women. 2021. "[Assessing the gendered employment impacts of COVID-19 and supporting a gender-responsive recovery. A country-level policy tool.](#)"
- ▶ ILO. 2020. "[Rapid assessment of the impact of COVID-19 on enterprises and workers in the informal economy in developing and emerging countries.](#)"

Adopting standards and a longer time horizon foster quality and usefulness

Especially in the early stages of the crisis, there was a perception that "everyone did a study", with strong variations in terms of quality. While it is difficult to know for sure, the sheer volume of research carried out during that time may have made it difficult to stakeholders to identify the most relevant and reliable studies. Moreover, it appears that a significant part of the diagnostic work was concentrated in the first 6-9 months of the crisis, with many efforts (both in terms of assessing crisis impacts and monitoring policy responses) being discontinued as the crisis continued, potentially suggesting an underestimation of the length of the pandemic and a lack of resources to sustain analytical efforts over time.

- **Harmonized methodologies have proven useful for cross-country work.** While there has generally been a plethora of diagnostics differing widely in terms of scope and methodologies used, there have also been examples of intentional harmonization of the analytical or data collection approach used. For instance, many of the ILO's [rapid employment diagnostics](#) followed a similar structure based on [guidelines](#) developed early

on during the crisis. Similarly, the World Bank used a standardized approach for its rapid household and business pulse surveys. That said, harmonization appears to have been more common within organizations than across, which may be explained by the coordination challenges especially during a crisis.

- **The choice of indicators must be carefully considered.** While there is no single indicator that can provide a full picture of the impact of the pandemic on employment, it is important to recognize that some labour market indicators provide a more holistic picture than others and should therefore be prioritized in crisis analysis. For instance, looking at changes in unemployment is insufficient to understand employment losses as it ignores that many people have shifted from employment to inactivity during the crisis (e.g., many women with care responsibilities). Similarly, overall job losses do also not provide a full picture since they do not capture reductions in working time (e.g., due to partial company closures, shorter opening hours of small businesses, etc.). Hence, the [ILO Monitor](#) and other diagnostic studies have adopted the “loss in working hours” as the major indicator of the overall impact of the crisis, since it captures both employment losses and reduction in working hours for those who continue to be employed.
- **Following international statistical standards promotes reliability and comparability.** Against the background of a large number of rapid assessments on the impact of Covid-19, the accuracy and reliability of how employment concepts and transitions are measured in some of these studies can be a concern. While time constraints and changes in data collection administration (from face-to-face to remote) may make some adjustments in data collection inevitable, practitioners should still seek to apply international standards in collecting employment data. For instance, the ILO has published [guidelines on measuring employment and unpaid work in rapid surveys](#) as well as on [measuring remote work](#) and related concepts. Similarly, the World Bank has published updated guidelines on [measuring employment and own-use production](#) in household surveys in accordance with standards of the 19th International Conference of Labor Statisticians.
- **Continuous crisis monitoring is key.** The Covid-19 pandemic made it very clear that understanding the evolving crisis impacts and identifying appropriate policy measures is more of a marathon than a sprint. Pandemic-related crises are extremely dynamic, highlighting that employment diagnostics must also be thought of as a process rather than one-off exercises to capture the changing situation and inform policy responses over time. There have been many good examples of continuous crisis monitoring during the Covid pandemic (see below). Regular data collection also had another major benefit: Since household and firm surveys had to be relatively short due to remote data collection, the repeated survey waves allowed for adding different focus topics to the different rounds of data collection. That said, frequent data collection alone is no panacea, as findings can be ambiguous due to the complexity of labour market adjustments and because the data collected become quickly outdated in a rapidly evolving environment. Crisis monitoring efforts should therefore be connected to concrete policy questions to provide the foundation for tangible advice.

Selected examples of continuous crisis monitoring

- ▶ ILO-supported rapid labour force surveys in [Morocco](#), [Tunisia](#) and [Egypt](#) were conducted in several waves.
- ▶ [High-frequency household phone surveys](#) were implemented by the World Bank and its partners in many countries. In some cases, such as in [Nigeria](#), this involved monthly surveys with over 10 rounds. Similarly, repeated surveys have proven useful for firm surveys, such as the World Bank's Business Pulse Surveys, with three survey waves in the case of [Malaysia](#) for example.

- **Employment diagnostics still matter in the aftermath of the crisis.** The impacts from the crisis have the potential to go well beyond the immediate economic shocks such as business closures, job losses, and loss of income. Economic crises tend to have scarring effects, especially for certain groups such as youth and women, and it is therefore important to monitor the long-term effects of the crisis as well. For instance, while many gendered impacts of the crisis are immediate (e.g., decline in labour force participation, increased burden of unpaid care work), many also take some time to unfold.²⁶ This is particularly true because the Covid-19 crisis has had negative repercussions not only on employment, but also on people's education (e.g., school closures), physical and mental health, food security, social networks, etc., which can negatively affect people's employment and income potential even after the crisis has officially ended.

Collaborations can bring multiple benefits

Adequate collaboration on employment related diagnostics can both improve the quality of the research and strengthen the foundation for evidence-based policy dialogue. During the Covid-19 pandemic different types of partnerships have emerged that can be informative for future crisis diagnostics efforts.

- **Consider joint diagnostics with other stakeholders or projects** who have similar information needs. Collaboration on employment diagnostics can be fruitful for various reasons, including the pooling of resources and leveraging the comparative advantage of participating agencies, thus contributing to higher quality studies. Joint analysis can also be helpful to foster policy influence by speaking with one voice in times where policymakers must make important decisions with little time. There have been many examples of joint employment-related diagnostics during the Covid pandemic. For instance, many of the United Nations [socio-economic impact assessments](#) were conducted as "One UN" in partnership by several UN agencies; in Eastern Europe, the ILO and the EBRD worked together on evidence-based policy dialogue in the Western Balkans through a series of employment diagnostic studies; in Iraq, the International Organization for Migration (IOM), Food and Agriculture Organization (FAO), and the International Trade Center (ITC) [jointly conducted a panel study](#) following approximately 900 small- and medium-sized enterprises.
- **Joint data collection instruments foster uptake and comparability.** Employment-related research on the impacts of Covid-19 was not only initiated by governments and

²⁶ O'Donnell, M. et al. 2021. "[The Impacts of COVID-19 on Women's Social and Economic Outcomes: An Updated Review of the Evidence.](#)" Center for Global Development.

development agencies, but also through academics and other researchers. The significant amount of diagnostic work produced by the research community can be a very valuable contribution for understanding crisis impacts and informing policy dialogue. Yet, the use of multiple measurement approaches can make it difficult to compare and interpret findings across studies. Having joint data collection instruments can therefore be very useful, while minimizing the effort needed to develop one's own measurement tools. For example, the International Growth Centre (IGC) and Innovations for Poverty Action (IPA) jointly designed a [survey module to collect data on the economic impacts of COVID-19](#) in developing countries, which was then used by multiple researchers.

- **New data partnerships have emerged.** Beyond the traditional public-sector producers of labour market data, technology and social media companies have become a promising new source of information, including on business and employment dynamics. Collaboration between public sector and international development agencies with these private sector companies can therefore be useful, especially when rapid insights are needed such as in crisis times. For instance, the World Bank and OECD have been partnering with Facebook on the "[Future of Business Survey](#)" since 2016. Facebook has also initiated other online surveys, such as the "[Covid-19 Trends and Impacts Survey](#)" and the "[Survey on Gender Equality at Home](#)" that were able to provide timely insights during the crisis (while keeping in mind limitations with regard to representativeness). The Development Data Partnership (see Box 7) has emerged to facilitate the use of private sector data for public benefit.

▶ Box 7: The Development Data Partnership

Recognizing that the private sector is increasingly generating data that could be used to complement traditional public-sector data collection methods, the Development Data Partnership is a collaboration between international organizations and technology companies that seeks to facilitate the responsible use of third-party data in international development. To this end, the Partnership brings together international development agencies with technology companies and helps transform proprietary datasets into sharable insights for improving public sector services.

Source: <https://datapartnership.org/>

- **Uptake of findings requires early engagement with key stakeholders and adaptation to different forms of social dialogue.** Stakeholder discussions suggest that a lot of the research on crisis impacts was initiated without a direct request from government counterparts, contributing to sometimes limited take-up of findings and weak engagement on policy solutions. Understanding policymakers' needs and being able to effectively inform policy dialogue during a crisis requires strong pre-existing relations (there is rarely the time to build these relations during a crisis). It is also important to recognize that especially during a major crisis the key decisionmakers in government are largely outside the Ministry of Labour, in particular Ministries of Finance, Ministries of Economy or directly the Prime Minister's or President's Office. Hence, dialogue and engagement must also include those actors to have a voice in crisis times. While staff from development agencies may not always have the necessary access, there have been several examples during the pandemic showing that working with influential local research partners can bridge this gap.
- Moreover, in order to adequately feed employment diagnostics into relevant policy processes, it is important to account for the changing nature of social dialogue during a crisis. Even in countries where permanent bodies for tripartite social dialogue existed, their work was often suspended during the severe phases of the pandemic and the participation of independent private sector associations and trade unions in decision-making was often

limited, with some governments taking unilateral decisions on emergency grounds.²⁷ While social dialogue generally continued during the pandemic (especially in countries where it was already well established prior to the pandemic), it became predominantly bipartite and took place mostly outside established formal bodies, either through new ad-hoc structures or informally.²⁸ Despite these challenges, the involvement of social partners can be particularly useful in crisis times, as it can help inform and provide the enabling environment for (sometimes difficult and unpopular) policy decisions. Efforts to involve employers and workers organizations as part of the preparation and dissemination of employment diagnostics are therefore important.

Easy access to existing diagnostics facilitates uptake and follow-up research

Given the large volume of studies on the (employment) impacts of Covid-19 from across organizations, knowing what has already been done in order to adequately build on it for subsequent research and/or to identify potential areas for collaboration has been a challenge. Therefore, going forward, facilitating access to both the methods and results of the diagnostic work will remain important.

- **Easy access to key resources is needed.** Founded by several development agencies in 2017, the Country Diagnostic Working Group initiated a separate [webpage](#) to direct readers to Covid-19 related research from the different agencies, which includes economic and employment related studies. However, the information has not been kept up to date, highlighting the need to sustain such efforts.
- **Public availability of labour market data from diagnostics facilitates broader use.** Making microdata from diagnostic work publicly available allows the broader research community to use that data for comparative and further in-depth analysis. In addition to making data available, several agencies have also created dashboards to provide an easier overview of key statistics.

²⁷ See for example ILO. 2020. "[COVID-19 and the World of Work: Rapid Assessment of the Employment Impacts and Policy Responses Serbia.](#)" P.13; ILO and OECD. 2020. "[The impact of the COVID-19 pandemic on jobs and incomes in G20 economies.](#)" P.33-36.

²⁸ ILO. 2021. "[Social dialogue one year after the outbreak of the Covid-19 pandemic: Spotlight on outcomes.](#)"

Selected dashboards and datasets

- ▶ Covid-19 Business Pulse Survey Dashboard (World Bank)
<https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard>
- ▶ COVID-19 Household Monitoring Dashboard (World Bank)
<https://www.worldbank.org/en/data/interactive/2020/11/11/covid-19-high-frequency-monitoring-dashboard>
- ▶ High-Frequency Phone Surveys (World Bank)
<https://microdata.worldbank.org/index.php/catalog/hfps>
- ▶ Covid-19 Labor Market Observatory (Inter-American Development Bank)
<https://observatoriolaboral.iadb.org/en/empleo/>
- ▶ G2LM | LIC Jobs of the World Dataset (IZA, not Covid specific)
<https://datasets.iza.org/dataset/1390/g2lm-lic-jobs-of-the-world-database>
- ▶ Data Catalog (Economic Research Forum)
<http://www.erfdataportal.com/index.php/catalog>

Learning from crisis response measures has been limited

Contrary to the wealth of diagnostic work on crisis impacts, research on the effectiveness of Covid-19 mitigation measures related to employment has been extremely scarce, even in high-income countries. As a crisis like Covid-19 continues, one would expect that the initial focus on understanding crisis impacts would be partially replaced by a focus on learning about the effectiveness of policy responses to make adjustments and inform future policies and programs. This is particularly true given the massive level of fiscal resources dedicated to different policy measures during the crisis. Yet, one of the very few examples of a rigorous evaluation of a government intervention we were able to find is the evaluation of a [national cash transfer program in Colombia](#).

A few factors may explain the scarcity of rigorous policy research, for instance: First, the urgency to act when the crisis hit left policymakers with little time for lengthy decision making about policy design and implementation, and likely even less for engagement with researchers to set up an adequate (prospective) evaluation design. Second, given the urgency to dispense help to vulnerable businesses and households, a staged implementation of policy measures that can typically be exploited for policy evaluation was likely not politically feasible or desirable in many cases. Third, delays in the availability of national data sources (e.g., household survey) may have impeded the use of alternative (quasi-experimental) evaluation designs.

The lack of rigorous policy evaluation does not mean that no learning took place at all. As discussed earlier in this review, ad-hoc longitudinal or panel surveys of businesses or households were used to better understand the awareness, adoption, and perceptions of government policies. In the case where existing policies and programs were used to mitigate crisis impacts, descriptive analysis of administrative data can be informative to learn about questions such as take-up and targeting

accuracy, as was the case for India's national employment guarantee scheme. Some countries also relied on qualitative expert opinions to estimate policy effectiveness. For instance, the German Ministry of Labour and Social Affairs used a survey of 60 experts to get an assessment of the perceived effectiveness of Covid mitigation measures, using a range of criteria such as the respective policy's contribution to employment protection, firm survival, and overall cost-benefit ratio. That said, exploring ways to conduct more rigorous policy evaluations of crisis response measures in the future deserves further attention.

4. Conclusions

The Covid-19 pandemic led to a strong demand for timely employment and labour market analysis, highlighting the central importance of good labour market information for adaptive policymaking and programming. At the same time, it significantly altered the way employment diagnostics have been carried out compared to pre-crisis years, both in terms of content and methodology. The pandemic shifted attention away from structural questions on labour market failures to immediate crisis impacts and provided fertile ground for the rise of new information sources and data collection approaches, as traditional sources of labour market information were disrupted.

Having timely data became a major concern since the beginning of the crisis. The international community made significant efforts to be responsive to this demand and provide rapid diagnostics to inform countries' policy responses. There is a shared sense among different stakeholders that innovations in data collection (shift towards remote surveys) and data sources (e.g., big data) were very useful and that there is generally a greater openness to use these sources since the pandemic started. It is therefore expected that they will continue to play a role in employment diagnostics even as the crisis comes to an end and that the lessons learned on employment diagnostics during the Covid-19 pandemic can inform and broaden the employment assessment toolbox for future crises and non-crisis times.

That said, there is also a widespread recognition that these new developments such as using remote surveys and big data for economic and employment analysis come with their own limitations and that not all data collection approaches used for understanding short-term crisis impacts during the pandemic are equally relevant for structural labour market analysis in non-crisis times. They should therefore be seen more as a complement rather than a substitute to traditional data and information sources. Similarly, it is important to highlight that traditional country and employment diagnostics with a focus on structural barriers and opportunities for more and better jobs in LMICs remain essential. As the acute crisis fades, countries' policy agendas will have to refocus their attention on how to achieve an inclusive economic transformation based on sound macroeconomic fundamentals, a conducive business environment, access to markets, a healthy and educated workforce, and well-designed labour market policies that facilitate transitions to wage- and self-employment and promote decent working conditions (among other policy areas). Going forward, governments, social partners and development practitioners should therefore strive for a balanced approach that leverages the complementarity of traditional and innovative assessment methods and data sources.

Annexes

Annex 1: Selected sources of information on employment diagnostics

Organization	Description	Link(s)
Development agencies		
ILO	Country-level employment diagnostic assessments	https://www.ilo.org/emppolicy/Whatsnew/WCMS_754961/lang--en/index.htm
World Bank	COVID-19 Household Monitoring	https://www.worldbank.org/en/topic/poverty/brief/high-frequency-monitoring-surveys
	COVID-19 Business Pulse Surveys	https://www.worldbank.org/en/data/interactive/2021/01/19/covid-19-business-pulse-survey-dashboard
	Covid-19 Enterprise Surveys	https://www.enterprisesurveys.org/en/covid-19
UNDP	Assessments of the socio-economic impacts of the COVID-19 pandemic	https://www.undp.org/coronavirus/socio-economic-impact-covid-19
Inter-American Development Bank	Covid-19 Labor Market Observatory	https://observatoriolaboral.iadb.org/en/empleo/
Research institutes		
IPA	Research for Effective COVID-19 Responses (RECOVER)	https://www.poverty-action.org/recover/research-projects
IGC	COVID-19 Economic Impact Surveys	https://www.covideconsurveys.org/
IZA	COVID-19 research studies	https://g2lm-lic.iza.org/covid-19/ ; https://covid-19.iza.org/publications/
IFPRI	Country studies on the impact of Covid on the economy	https://www.ifpri.org/covid-19

Annex 2: Stakeholders consulted

Participants in interagency workshop, December 1, 2021

Name	Organization
Kevin Hempel	Expert
Stephanie Berry	GIZ
Sabine Becker	GIZ
Georg Schaefer	GIZ
Julie Baumann	Einstein Foundation
Ines Amri	Einstein Foundation
Michael Weber	World Bank
Alfonso Arpaia	European Commission
Marco Cantalupi	European Commission
Edouard Turkisch	European Commission
Anna Rudge	FCDO
Andy Hinsley	FCDO
Miguel Laric	FCDO
Claire Bell Hilton	FCDO
Benedetta Musillo	FCDO
Suman Gami	FCDO
Sameer Khatiwada	ADB
Oliver Azuara	IADB
Maria Prada	IADB
Ulf Rinne	IZA
Per Ronnas	Expert
Ragui Assad	Expert
Ramani Gunatilaka	Expert

Interviews conducted

Name	Organization
Bernd Müller	ILO
Daniela Zampini	ILO
Luca Fedi	ILO
Michael Weber	World Bank
Zsoka Koczan	EBRD
Ulf Rinne	IZA

Annex 3: Dimensions of analysis

Dimensions of analysis	Selected variables of interest
Baseline socio-economic situation	
Situation prior to the crisis	<ul style="list-style-type: none"> • Macroeconomic situation • Economic structure (key sectors, share of firms by size, etc.) • Labour market (key employment indicators, vulnerable groups)
Transmission mechanisms	
Containment measures	<ul style="list-style-type: none"> • Mobility restrictions (incl. curfews) • Shutdown of selected industries • Social distancing
Change in key macroeconomic indicators (incl. projections)	<ul style="list-style-type: none"> • GDP • Private consumption • Investment • Trade (imports, exports) • Capital flows (FDI, ODA, remittances) • Budget deficit • Foreign debt • Inflation • Interest rates
Real-time economic activity proxy indicators	<ul style="list-style-type: none"> • Purchasing Managers Index (PMI) or related indices • Mobility patterns • Consumer demand for products and services • Energy consumption • Remote sensing data
Internal and international mobility and migration	<ul style="list-style-type: none"> • Changes in internal migration • Changes in outward and inward labour migration flows • Return migration due to loss of income and employment
(Projected) impact on firms and workers	
Enterprises and workers at-risk	<ul style="list-style-type: none"> • Main sectors by employment and GDP • Degree of vulnerability of different sectors, types of firms (esp. MSMEs), and categories of workers (e.g., by age, gender, skill level) • Projected change in GDP and employment by sector
Impact on firms, by: <ul style="list-style-type: none"> • Sector • Firm size • Exporting status 	<ul style="list-style-type: none"> • Business outcomes, e.g.: <ul style="list-style-type: none"> ○ Temporary and permanent closure ○ Production ○ Sales ○ Liquidity/Cashflow ○ Debt • Firm coping mechanisms, e.g.: <ul style="list-style-type: none"> ○ Reduced working hours (incl. paid/unpaid leave, furloughs) ○ Dismissals ○ Wage cuts ○ Hiring (number of vacancies, temporary contracts, etc.) ○ Other measures (e.g., telework, changes to products/services, marketing, employee training) • Attitudes and perceptions, e.g.: <ul style="list-style-type: none"> ○ Main challenges and risks (e.g., paying rent) ○ Support needed (e.g., tax deferrals, access to finance) ○ Awareness and perceptions of government measures ○ Expectations about the future

Dimensions of analysis	Selected variables of interest
Impact on workers, by: <ul style="list-style-type: none"> • Sector • Location • Age • Gender • Skill-level / income level / occupations (e.g., low-wage workers) • Migrant status • Disability status 	<ul style="list-style-type: none"> • Key employment indicators <ul style="list-style-type: none"> ○ Hours worked ○ Labor force participation, unemployment, underemployment ○ Type of employment (wage, self, casual, etc.), incl. job changes ○ Income ○ Working conditions, incl. level of protection (e.g., type of contract, informality, occupational safety and health, telework) ○ Education and learning • Household coping mechanisms (e.g., household expenditures, food security, use of savings, debt, migration) • Attitudes and perceptions, e.g.: <ul style="list-style-type: none"> ○ Main challenges and risks ○ Support needed ○ Awareness and perceptions of government measures ○ Expectations about the future • Poverty and income inequality
Policy responses and gaps	
Mapping of existing measures	<ul style="list-style-type: none"> • Monetary and fiscal policy (e.g., fiscal stimulus packages) • Enterprise support • Active Labour Market Policies • Social protection
Economic and social impacts of mitigation measures	<ul style="list-style-type: none"> • Macro- or Micro-simulation of existing / planned policy measures • Analysis of existing measures (e.g., enrolment, targeting accuracy, etc.) • Review of quantitative and qualitative evidence
Policy recommendations	<ul style="list-style-type: none"> • Recommendations on new and existing measures targeting: <ul style="list-style-type: none"> ○ Economy as a whole ○ Most affected sectors and enterprises ○ Most affected households/groups Based on different criteria: Severity and phase of the crisis, fiscal space, existing programs, in-country or international evidence, etc.

Source: Compilation by author

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The International Labour Organization is the United Nations agency for the world of work. We bring together governments, employers and workers to drive a human-centred approach to the future of work through employment creation, rights at work, social protection and social dialogue.

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