

**UNECE**

# **New forms of employment and quality of employment: implications for official statistics**

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**New forms of employment and quality of employment: implications for official statistics**

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**Abstract**

*This paper provided the basis for an in-depth review on new forms of employment and quality of employment and their implications for official statistics, conducted by the Bureau of the Conference of European Statisticians (CES) in February 2021. It examines the way forward in coherently measuring new, or newly prevalent, forms of employment. The document presents a detailed overview of conceptual and statistical frameworks currently being used to understand and measure new forms of employment, and provides a review of international statistical activities in this area. In particular, the review offers an analysis of key issues and challenges related to measuring new forms of employment, in line with the most recent update of the International Classification of Status in Employment.*

The UNECE Working Paper Series on Statistics consists of studies prepared by leading experts in official statistics from the UNECE region. The series presents and analyzes timely topics in statistics and aims to identify emerging issues and share innovations. The studies often serve as a basis for launching new work to develop new statistics and guidelines. The views expressed are those of the authors and do not necessarily reflect the official positions of the secretariat or of the governments of UNECE member States.

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## I. BACKGROUND

1. In many countries, the labour market is undergoing structural changes, and new ways of organizing work and employment now coexist alongside traditional forms of employment. While new forms of employment (NFE) first appeared in high-income countries, they have now spread to developing economies. NFE often feature very short contracts, mediation through digital platforms, and shifts in how work is organized and where it is performed. Some of these changes also involve a redefinition of work relationships, particularly in terms of forms of employment at the boundary of employment and self-employment. More recently, the COVID-19 pandemic has highlighted the increasing ability of firms and workers to engage in economic activities remotely. As the global community looks ahead to the post-COVID recovery, new questions are being asked regarding the long-term effects of the pandemic on quality of employment and on the prevalence of different forms of employment.

2. The emergence and growth of NFE is linked with two long-term economic trends; digitalisation and the globalization of value chains. Both have benefitted businesses and workers to a degree. By strategically distributing their operations across different jurisdictions, firms can optimize production processes and access local pools of specialized knowledge and skills. Algorithms and digital platforms can also improve the ability of businesses to predict demand and optimize the matching of workers and tasks over time and space. Some firms that invest in digital technology have been shown to pay higher wages (Shi *et al.*, 2020), and digital platforms create cross-border employment opportunities. In addition, many NFE are conducted remotely, and may generate opportunities for groups who have limited mobility as a result of health conditions or care responsibilities.

3. NFE also have implications for quality of employment. While some new forms offer improved opportunities to balance work and family life, others involve work schedules dictated by fluctuations in demand. Such working conditions may have negative impacts on well-being due to irregular and unsocial hours (Wood *et al.*, 2019) and uncertainty in the level of earnings (Berg *et al.*, 2018).

4. A 2018 survey jointly conducted by the European Commission (EC) and the Organisation for Economic Cooperation and Development (OECD) among Ministries of Labour in European, OECD and G20 countries points to key areas of emerging policy concern in relation to NFE. The survey found that, among new forms of employment, digital platform work attracted the most policy attention. However, self-employment, fixed-term and temporary work, as well as variable-hours contracts were also identified as important areas of interest. Furthermore, the EU-OECD survey identified a broad overarching concern with the (mis)classification of self-employed workers and employees, and “the challenge of classifying workers that fall in between the traditional definitions of employment and self-employment,” (OECD, 2019a, p. 9). The identification of the work relationships associated with NFE was flagged as an issue with significant implications for social protection systems.

5. For the international statistical community, NFE raise both conceptual and measurement issues. Overall, the organization of forms of employment is continuously changing, which makes it difficult and costly to obtain data through surveys. There is also a lack of consensus around how to classify emerging employment phenomena – for instance, whether digital platform workers should be classified as self-employed or employees. The International Classification of Status in Employment of 1993 (ISCE-93), which continues to be used in most countries, does not cover all emerging work relationships. Furthermore, many national statistical offices (NSOs) do not regularly collect information on key topics, such as multi-party work relationships or dependent self-employment, or do so without being aligned

with a clear international standard. Finally, existing quality of employment frameworks involve additional data collection requirements which may be difficult to implement in the context of funding constraints and an important burden on survey respondents.

6. The present review is organized as follows: section II introduces the purpose of the review; section III describes the concepts used by the statistical community when referring to NFE and quality of employment, and identifies the key dimensions underlying this discussion; section IV presents the activities of international organizations broadly related to NFE, the digital economy and quality of employment; section V describes notable initiatives and research conducted by NSOs in relation to NFE, focusing on contrasting experiences and innovative practices; section VI identifies the key conceptual and measurement challenges faced by the international statistical community in relation to NFE and quality of employment; and section VII presents conclusions and recommendations.

## II. INTRODUCTION

7. The Bureau of the Conference of European Statisticians (CES) regularly reviews selected statistical areas in depth. The aim of the reviews is to improve coordination of statistical activities in the UNECE region, identify gaps or duplication of work and address emerging issues. The review focuses on strategic issues, and highlights concerns of statistical offices of both a conceptual and a coordinating nature. The current paper provides the basis for the review by summarizing the international statistical activities in the selected area, identifying issues and problems and making recommendations on possible follow-up actions.

8. The CES Bureau selected the topic of *new forms of employment*, with *quality of employment* as a secondary theme, for an in-depth review for its February 2021 meeting. Statistics Canada was requested to prepare the paper providing the main basis for the review.

9. The paper was prepared at a time when countries were starting to plan the implementation of the 2018 revision of the International Classification of Status in Employment (ICSE-18) and in some cases, had already tested possible questionnaire modules. Given that ICSE-18 was designed to address many challenges associated with measuring NFE, it was essential to consider the progress made by NSOs in their implementation of the expanded framework, and to clarify how it fit with other efforts to measure NFE and quality of employment.

10. Indeed, many NSOs and international organizations, as well as academic institutions and private sector organizations, have conducted case studies, pilot studies, questionnaire tests and *ad hoc* surveys to gather information on emerging forms of employment in recent years. Most efforts adopt varying definitions, concepts and measurement tools, pointing to the need for improved international coordination. This paper focuses particularly on statistical activities and challenges related to the collection of data on NFE by NSOs and international organizations. Data collection efforts and conceptual work undertaken in academia and in the private sector were only reviewed to the extent that they shed light on the issues and challenges experienced by NSOs.

11. Several international organizations were consulted as part of the review, including OECD, the International Labour Office Statistics Department (ILOSTAT), the ILO Inclusive Labour Markets, Labour Relations and Working Conditions Branch (INWORK), as well as Eurostat and Eurofound. Many NSOs also provided input through bilateral exchanges or in

response to a short email questionnaire shared with members of the UNECE Group of Experts on Measuring Quality of Employment and through the CES mailing list<sup>1</sup>.

### III. SCOPE/DEFINITION OF THE STATISTICAL AREA COVERED

12. In a broad sense, NFE are work relationships, work arrangements, or work patterns which have either emerged for the first time in one or more jurisdictions, or have seen strong, recent growth. NFE therefore include both, completely new forms of employment, and existing forms which have experienced a resurgence in response to macro-economic, legislative, regulatory and technological change. Based on a mapping exercise conducted in 2013 across the European Union (EU), the United Kingdom and Norway, Eurofound (2015) identified nine NFE that had emerged since the early 2000s:

- Employee sharing
- Job sharing
- Interim management
- Casual work
- ICT-based mobile work
- Voucher-based work
- Portfolio work
- Crowd employment<sup>2</sup>
- Collaborative employment

13. In the same publication, Eurofound also noted that these NFE fell into two groups:

- New models representing the employment relationship between employer and employee, or client and worker.
- New work patterns, or new ways in which work is conducted

14. Without offering an exhaustive definition, OECD suggests in its 2019 Employment Outlook that NFE typically refer to, “situations in which workers are less well covered than standard employees by existing labour market regulations and social protection programmes,” (OECD, 2019b, p. 52). According to OECD, these include:

- Digital platform work
- Temporary contracts of very short duration
- Contracts with no guaranteed and/or unpredictable hours, such as on-call and zero-hours work
- Own-account work more generally.

15. The OECD approach points to the fact that NFE represent an ongoing measurement and policy challenge, as new ways of organizing and conducting work will continue to emerge and challenge existing institutional and regulatory arrangements.

16. Despite the contrasting focus of the two definitions, both suggest that a key feature of ‘new’ forms of employment is the achievement of greater flexibility, as compared to ‘standard’ employment arrangements. Eurofound notes that “flexibility is the key concept

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<sup>1</sup> A copy of the e-mail questionnaire can be found in the appendix to this document

<sup>2</sup> In its 2020 update to the *New Forms of Employment* report, Eurofound (2020) adopts the term “platform work” to replace “crowd employment”; the nine NFEs remain otherwise unchanged and are found to be continuously relevant, with no ‘newer’ forms of employment arising between the original 2015 report and the 2020 update.

inherent in all [the new employment forms],” (Eurofound, 2015, p. 135). Moreover, one of the aims of the ISCE-18 revision was to develop a standard better adapted to capturing arrangements “that aim to increase flexibility in the labour market (ILO, 2018a, p. 1).

17. There is, however, some overlap between the term ‘new forms of employment’ and the related concepts of ‘non-standard employment’, ‘precarious employment’, ‘informal work’, ‘gig work’ and, to a lesser extent, ‘quality of employment’.

18. The clearest overlap concerns the concepts of NFE and ‘non-standard employment’. Non-standard employment is defined as any employment that differs from the ‘standard’ employment relationship characterised by full-time, permanent employment. In this sense, many NFE are non-standard. The conclusions of the February 2015 ILO Meeting of Experts on Non-Standard Forms of Employment, suggest that there are four broad types of non-standard employment:

- (a) Temporary employment
- (b) Part-time work
- (c) Temporary agency work and other forms of employment involving multiple parties
- (d) Disguised employment relationships and dependent self-employment.

19. Yet, not all NFE are non-standard, and some involve legitimate self-employment, as well as full-time work.

20. Precarious work is an additional concept featured in discussions around NFE. A 2016 ILO publication suggests that precarious work has the following characteristics: it is low paid, insecure, involves minimal worker control, and is unprotected. The ILO also points out that precariousness can be found in standard employment contracts and is distinct from non-standard employment. In other words: “non-standard work is about a contractual form, whereas precariousness refers to the attributes of the job,” (ILO, 2016, p. 18).

21. Similarly, informality often represents a significant aspect of labour markets in developing countries, and can be a prominent feature of new, non-standard and standard forms of employment across economies. There is growing concern about the effects of informality on social protection for workers, most notably due to dependent – or ‘false’ self-employment. In Section I, paragraph 2(a) of 2015 ILO *Recommendation no. 204*, informality is defined as “all economic activities by workers and economic units that are – in law or in practice – not covered or insufficiently covered by formal arrangements”.

22. ‘Gig work’ is also a concept used when discussing NFE. International organizations do not offer a clear definition and the term is inconsistently applied by researchers and policy makers. A definition proposed by researchers in North America refers to gig workers as own-account workers who are not wage employees, do not have a long-term contract with an employer, do not have a predictable work schedule nor earnings, and are generally unincorporated (Jeon *et al.*, 2019; Abraham *et al.*, 2018).

23. The interest in gig work is largely related to the growing presence of digital platforms as intermediaries that match workers with clients – often through algorithms. Digital platform work represents one component of the wider phenomenon of gig work, albeit potentially one of the most prominent ones. Work conducted through platforms mainly exists in two forms:



(1) where platforms serve as the medium through which a series of tasks are accomplished, a phenomenon typically referred to as ‘crowd-work’; and (2) “work on-demand via apps” where “the execution of traditional working activities [...] is channelled through apps managed by firms that also intervene in setting minimum quality standards of service and in the selection and management of the workforce,” (De Stefano, 2016, p. 1).

24. Overall, most discussions about NFE appear to suggest that the forms of employment which have recently emerged in the labour market are not fully captured by the concepts of non-standard employment, precariousness, informality or gig work. Rather, NFE involve all four, as well as the physical location where work takes place, new ways of dividing tasks, collaborative arrangements between self-employed workers and the use of digital technology. Based on the work and definitions proposed by the OECD and Eurofound, NFE appear to involve at least one of the following elements:

- (a) Work relationships that differ from traditional employer-employee relationships and self-employment arrangements.
- (b) Work relationships involving a third party.
- (c) New work patterns, namely how tasks are divided and where they are conducted; including the important sub-dimension of the extent to which labour is organized around short paid ‘tasks’ versus longer-term ‘jobs’.
- (d) Weaker or non-existent coverage by the social protection system.

25. The 2018 revisions to the International Classification of Status in Employment, adopted by the 20th International Conference of Labour Statisticians (ICLS), offer guidance on the measurement of many NFE. The initial motivation of the revision was to address the need for:

“more clarity about the treatment of specific groups, to provide more detailed categories for the purposes of international comparison, and to deal more appropriately with the emergence over the last several decades of a variety of new forms of employment and contract types that are blurring the boundary between paid and self-employment,”

(ILO, 2013, p. 7).

26. One of the key changes to the classification was the introduction of the non-standard employment dimension, which recognizes and integrates status in employment categories for *Dependent contractors*, *Fixed-term employees*, *Short-term employees* and *Casual employees*.

Dependent contractors are defined as:

“workers who have contractual arrangements of a commercial nature to provide goods or services for or on behalf of another economic unit, are not employees of that economic unit, but are dependent on that unit for organization and execution of the work or for access to the market,” (ILO, 2018a, p. 10).

27. The 20<sup>th</sup> ICLS Resolution includes an additional set of cross-cutting variables and categories which are highly relevant for the identification of non-standard forms of employment, including: the *duration of the work agreement*, capturing the temporal stability of the work relationship; *full-time*, *part-time* and *zero-hours* contracts; and *multi-party work relationships* typical of digital platform work, temporary agency or outsourced work, where a third party is involved between the dependent worker and the enterprise or client.

28. Finally, NFE are also discussed in parallel with changes in the quality of employment. While theorisation and analysis around NFE are rooted in the employment relationship between workers and economic units, the concept of quality of employment is concerned with uncovering the relationship between work and well-being more broadly. The UNECE *Handbook on Measuring the Quality of Employment*, for example, defines quality of employment as, “the entirety of aspects of employment that may affect the well-being of employed persons,” (UNECE, 2015, p. 6). Similarly, the OECD job quality framework focuses on “aspects of a job that have been shown to be particularly important for workers’ well-being,” (Cazes *et al.*, 2015, p. 7). However, NFE may have important implications for the quality of employment, and in certain cases – such as own-account work in the UNECE framework – are treated themselves as an indicator of quality of employment.

#### **IV. OVERVIEW OF INTERNATIONAL ACTIVITIES IN THE AREA**

29. This section describes the key activities of international organizations and includes both statistical and conceptual contributions which have steered efforts to define and measure NFE to date.

30. As there has been frequent inter-organizational collaboration on this topic, this section presents organization-specific activities first, followed by collaborative contributions.

##### **A. International Labour Organization (ILO)**

31. In addition to its mission to set labour standards, develop policies and devise programmes promoting decent work, ILO also coordinates the International Conference of Labour Statisticians (ICLS) which meets every five years to make recommendations in the form of resolutions and guidelines on selected topics of labour statistics. Resolutions from the 19th and 20th ICLS have important implications for the measurement of NFE, most notably through the ICSE-18 classification. Further, the International Labour Office publishes conceptual and empirical research through dedicated thematic web pages<sup>3</sup>.

32. Since its adoption in 1999, the ILO “Decent Work Agenda” has led to the development of 60 statistical and 21 legal framework indicators for measuring decent work according to ten substantive elements. ILO is also the official custodian of Sustainable Development Goal 8 and is responsible for measuring the progress toward inclusive and sustainable economic growth, employment and decent work for all through seven indicators. Decent work is now a nested theme within the ILO approach to the future of work, and commonalities exist between decent work indicators and salient aspects of new and non-standard forms of employment, such as working time, work environment, social security and minimum wage – among others<sup>4</sup>.

33. In 2015, ILO launched its “Future of Work” initiative, which includes the Network on the Future of Work and, as of 2017, the independent Global Commission on the Future of Work. Both contribute to a growing global knowledge centre whose featured work pivots around four key issues: (1) work and society; (2) decent jobs for all; (3) the organization of work and production; and (4) the governance of work<sup>5</sup>.

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<sup>3</sup> See [www.ilo.org/global/topics/non-standard-employment/lang--en/index.htm](http://www.ilo.org/global/topics/non-standard-employment/lang--en/index.htm);  
[www.ilo.org/global/topics/non-standard-employment/crowd-work/lang--en/index.htm](http://www.ilo.org/global/topics/non-standard-employment/crowd-work/lang--en/index.htm)

<sup>4</sup> See [www.ilo.org/global/topics/future-of-work/publications/lang--en/index.htm](http://www.ilo.org/global/topics/future-of-work/publications/lang--en/index.htm)

<sup>5</sup> See [www.ilo.org/global/topics/future-of-work/network/lang--en/index.htm](http://www.ilo.org/global/topics/future-of-work/network/lang--en/index.htm)

34. As part of the Future of Work Initiative, *Research Paper 3*, “The Architecture of Digital Labour Platforms: Policy Recommendation on Platform Design for Worker Well-Being”, advances a framework for *evaluating the distribution of power* in internet-mediated employment relationships with the view to illuminate how a platform’s business model design can exploit (or empower) workers. The framework incorporates five dimensions: (1) worker agency; (2) bargaining power; (3) domination; (4) dependence; and (5) fairness, and evaluates salient aspects within each, such as the impact of algorithms on agency.

35. Issue Brief 5 – *Job Quality in the Platform Economy* – published in 2018, discusses policy concerns related to social protection for workers, and considers how minimum conditions of employment can be enforced in this novel marketplace; it asks whether legal definitions of employment status ought to be expanded, or if new categories should be created.

36. In 2015 and 2017, INWORK and the ILO Research Department administered online surveys among crowd workers to better understand the working conditions of microtask workers in several countries around the world. The questionnaires employed comparable questions and expanded from two platforms in 2015 to five in 2017. The 2017 survey was supplemented by 21 qualitative interviews to better understand the nature of the work performed, workers’ motivations, their level of job satisfaction and the effect of platform work on their lives. The analysis of the 2017 survey also explored the implications of algorithmic management typical – though not exclusive to – platform work (Berg *et al.*, 2018).

37. Alongside the ICSE-18 resolution, and in the lead-up to the 20th ICLS, ILOSTAT produced a series of background documents and room documents, including *Data Collection Guidelines for ICSE-18* and a *Conceptual Framework for Statistics on Work Relationships*.

38. Since the 20th ICLS, ILOSTAT has updated the Conceptual Framework with several additions, including: (a) additional supporting concepts defining the variables used in the framework; (b) the addition of *outworkers* to the typology of dependent self-employed workers, reflecting their prevalence in developing economies; and (c) a more detailed treatment of multi-party or triangular employment arrangements typical of agency or outsourced work, and possible measurement approaches – though more work is underway to clarify concepts and methodologies for measuring internet-mediated platform and crowd work. The update also includes the addition of a chapter dedicated to indicators, suggesting that data be at the very least disaggregated by sex, age, geography and educational attainment. It includes a flexible approach wherein NSOs can select contextually-relevant indicators from the proposed list, while ensuring the ability “to monitor labour market performance, the stability of employment relationships, exposure of the employed population to economic risk, and participation in non-standard forms of employment and new and emerging forms of work,” (ILO, 2020a, p. 79).

39. Recently, ILOSTAT updated its work on informality and the measurement of dependent contractors based on field testing of a two-track approach to classify dependent contractors into two groups: (1) those who identify as self-employed; and (2) those who provide labour as input and thus identify as employees. The update describes techniques for delineating dependent contractors from own-account workers, including the price control criteria, main client criteria and upstream dependency criteria. It also proposes statistical criteria for determining informality in, both, dependent self-employment and employee arrangements, and includes the questionnaire from a field test in Sri Lanka (ILO, 2020b).

40. ILOSTAT has also compiled the results of pilot surveys and questionnaire tests on its e-forum, where countries are invited to share results. The forum facilitates access to key documents, including the *Conceptual Framework*, and offers countries the opportunity to exchange and ask questions<sup>6</sup>.

41. Against the background of the COVID-19 pandemic, ILO published a technical note which differentiates ‘remote work’, ‘telework’, ‘work at home’ and ‘home-based work’ from a conceptual and statistical perspective. The note includes survey question examples for identifying these often conflated, though distinct work arrangements (ILO, 2020c).

## **B. Organisation for Economic Cooperation and Development (OECD)**

42. OECD is uniquely placed as a knowledge hub and forum of exchange for international, evidence-based benchmarking across policy sectors. It has contributed to – and facilitated – a number of co-operative initiatives related to the future of work, including a focus on ‘non-standard work’ and ‘new forms of work’ emerging in the digital age. Through its interactive “Future of Work” web page, OECD showcases its latest publications and describes broad issues related to the future of work in an accessible format<sup>7</sup>.

43. In 2017, OECD launched its “Going Digital” project, and in 2019, published *Measuring the Digital Transformation: A Roadmap for the Future*. Chapter 6 outlines the opportunities and challenges presented by the flexibility of platform work and its role in blurring the employer-employee relationship. The lack of a standardized definition for platform work, and how to classify workers and operators within it, was flagged as a barrier to the production of cross-nationally comparable data. OECD suggests the co-development of harmonized taxonomies and standardized questions that could be included in ICT- and time-use surveys, as well as in labour force surveys. In addition, it recommends creating inter-agency partnerships within countries to facilitate the collection of taxes and, in turn, produce administrative data that could shed light on the breadth of the digital platform workforce. Lastly, it highlights the potential of alternative data sources, such as anonymized banking records, as well as digitally-relevant methods, such as web-scraping<sup>8</sup>.

44. In 2019, OECD also published *An Introduction to Online Platforms and their Role in the Digital Transformation* as part of the *Going Digital* initiative. The guide provides a working definition of ‘online platform’ on page five: “a digital service that facilitates interactions between two or more distinct but interdependent sets of users...who interact through the service via the internet”. The report offers an assessment of economic and social impacts related to the proliferation of online platforms and includes a selection of platform company profiles derived from a questionnaire that OECD collected among operators.

45. The Committee on Statistics and Statistical Policy published *Statistics Working Paper No. 2016/07*, “Measuring GDP in a Digitised Economy”, which highlights the relationship between measuring non-standard work and measuring the digital economy. While discussing the potential for digitally-inclusive GDP calculation models is beyond the scope of this Review, the OECD publication highlights alternative pathways to labour force data; namely, through satellite initiatives that can glean from administrative transaction data, taxation

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<sup>6</sup> <https://ilostat.atlassian.net/wiki/spaces/ICSE18/overview>

<sup>7</sup> See [www.oecd.org/future-of-work/](http://www.oecd.org/future-of-work/)

<sup>8</sup> See OECD, 2019c and OECD Digital Economy Paper No. 260: “New Forms of Work in the Digital Economy” (<https://doi.org/10.1787/5jlwnklt820x-en>)

records, tourism statistics and a reimagined LFS. One such example of new data sources is the “Future of Business Survey”, a collaborative initiative of OECD, World Bank and Facebook which tracks the e-commerce of businesses with a Facebook page across 42 countries on a monthly basis<sup>9</sup>.

46. In *Digital Economy Paper No. 282*, “Measuring Platform Mediated Workers”, OECD highlights the importance of standardised question phraseology and provides advice on questionnaire design to better capture platform-mediated work. Even minor differences in question phrasing from survey to survey can have a major impact on estimates of platform work and their comparability. For example, the paper highlights the ambiguity of wording between questions used in the Canadian LFS (which asked whether respondents *offered* an intermediated service), the 2017 Computer and Internet Use Supplement to the American Current Population Survey (CPS) (which asked whether a service was *offered for sale* via the Internet) and the Danish LFS (which asked if respondents earned money by performing work done through a platform).

47. Between June and August 2018, OECD and the European Commission undertook a joint initiative to survey 44 labour ministries in EU, OECD and G20 countries regarding their policy responses to, and related concerns with NFE and, specifically, non-standard work<sup>10</sup>. The final report, *Policy Responses to New Forms of Work*, was published in March 2019. In addition to describing the results of the survey, the OECD report focuses on addressing ambiguity in the classification of workers as employees or self-employed, a situation particularly true of platform workers who are described as occupying a *grey zone* as a result of sharing characteristics of, both, self-employed workers and dependent employees. Estimating the number of grey zone workers is particularly difficult to capture for two reasons: (1) categorical ambiguity leading to misclassification; and (2) false-classification. From a policy and legislative perspective, there has been increasing proliferation of the term ‘dependent self-employment’ to classify some non-standard and new forms of work – namely platform work – which hybridize status-determining criteria. This, too, is complicated by the fact that many countries do not have working definitions for dependent self-employment and, where they do, there is variation. OECD elaborates on the implications of employment status ambiguity, and makes a number of policy-oriented recommendations in a dedicated chapter of their *Employment Outlook 2019: The Future of Work* publication.

48. In 2016, OECD proposed a job quality framework which assesses job quality through three criteria: (1) earnings quality, through a composite index that accounts for, both, “the level of earnings and their distribution across the workforce”; (2) labour market security, including the risk of and duration of unemployment, as well as the related economic cost as a function of the generosity of unemployment protections; and (3) the quality of the working environment, as a function of job demands versus job resources<sup>11</sup>.

49. In 2017, OECD published *Guidelines on Measuring the Quality of the Working Environment*. The Guidelines provide an in-depth review of existing survey questions and *ad hoc* modules that capture some components of working environment quality. It regroups a selection of questions, reformulated, and arranged into three potential modules that could be used to measure this multi-dimensional determinant of job quality going forward.

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<sup>9</sup> See *Unpacking E-commerce: Business Models, Trends and Policies* (<https://doi.org/10.1787/23561431-en>)

<sup>10</sup> See <https://ec.europa.eu/social/main.jsp?catId=89&furtherNews=yes&langId=en&newsId=9325>

<sup>11</sup> <http://www.oecd.org/sdd/labour-stats/Job-quality-OECD.pdf>

50. The impact of non-standard work arrangements on job quality, and the measurability of this relationship, is highlighted as a key area to be explored in the statistical agenda ahead (OECD, 2020). A thematic edition *How's Life in the Digital Age?* published in 2019, examines the implications of new forms of work, such as telework, for job quality. Teleworking can increase efficiency while also potentially disrupting work-life balance; it may also exacerbate inequalities via the *digital divide*. This thematic edition offers suggested indicators to measure work-life balance in this context: no. 18 measures the opportunity presented by digitalisation through the penetration of telework; and no. 19 measures a possible risk by determining whether tele-workers worry about work when they are not working.

### C. European Commission

51. The European Commission (EC) is the executive branch of the European Union, and makes strategic decisions that steer the EU through budgetary management, and the development, implementation and monitoring of laws and policies, such as formal labour laws and legal frameworks around worker health and safety, work-life balance, working time and working conditions. Through the Joint Research Centre (JRC), as well as through Eurostat, EC has coordinated research on well-being, labour and forms of employment, including on aspects of the digital economy and platform work. JRC functions as the EC science and knowledge service, whereas Eurostat is the official statistical office of the European Union, and acts as the coordinating body working alongside national statistical offices of EU member states to form a partnership known as the European Statistical System (ESS).

52. In 2016, EC released a Communication entitled “A European Agenda for the Collaborative Economy”, wherein the collaborative economy is defined as a “business model where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals. The collaborative economy involves three categories of actors...and can be carried out for profit or not-for-profit,” (EC, 2016, p. 3). It recommends that member states revise and potentially update current labour regulations, as well as develop monitoring frameworks that include survey mechanisms, in an effort to address “*ex ante* the potential market failures of the new collaborative economy business models”<sup>12</sup>. The Communication also discusses self-employment in the context of the collaborative economy, reiterating the need to evaluate the nature of the work, the presence of remuneration and the existence of a subordination link on a case-by-case basis to properly determine employment status.

53. To support the aforementioned Agenda, in 2017 EC launched the Collaborative Economy and Employment Research Project (COLLEEM). COLLEEM is focused on the on-demand service sector of the collaborative economy, including platform mediated transport services like Uber. Coordinated by JRC, its mandate is to take stock of existing platforms across member states, and to provide an overview of their business models, the nature of the services on offer, the platform’s size and its reach (including cross-national activities). COLLEEM aims to produce data, through a combination of desk work and surveys, in order to shed light on the socio-economic profile of platform workers, their motivations, earnings, and the frequency at which they perform this work, as well as the legal, economic and social challenges they face<sup>13</sup>.

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<sup>12</sup> See <https://ec.europa.eu/jrc/en/colleem>

<sup>13</sup> *Ibid.*

54. In 2018, the first results of the COLLEEM online panel survey were published. In the accompanying report, the status in employment of platform workers was identified as the most important policy issue related to this new form of work. In addition, the report distinguishes between workers who provide services remotely or on-location, and describes ‘main platform workers’ as those who earn more than 50% of their income and/or work more than 20 hours per week via platforms (Pesole *et al.*, 2018).

55. In 2020, the second round of the COLLEEM survey provides new prevalence estimates and updated socio-demographic profiles for platform workers in the EU. This second wave adopts the same definition of platform work, but introduces a tasked-based approach wherein respondents who accomplish platform work on at least a monthly basis are asked, “which task took most of their time, how long it usually took to complete the task, how much they earn and which platform they used to carry out the task,” (Urzi Brancati *et al.*, 2020, p. 33). This approach revealed that the majority of platform workers within the sample were paid by task, and not according to time worked. The COLLEEM survey, and its added task-based framework, is a promising step toward a more accurate understanding of platform work, though the approach is not without pitfalls: the voluntary, online nature of the survey panel does not reflect the population at large as it over-represents high frequency internet users.

56. JRC also published a working paper in 2019 entitled “How to Quantify What is Not Seen? Two Proposals for Measuring Platform Work”. The first proposal details how to measure platform work as a form of employment via the EU-LFS. The second suggests measuring platform work as labour input using three indicators gleaned from the Eurostat Short-term Business Statistics (STS): (1) number of people employed by the platform; (2) number of hours of work performed by the workers; and (3) gross wages and salaries.

57. In October 2019, EC established a framework delineating the topics that must be included in the EU-LFS as of January 2021<sup>14</sup>. An accompanying regulation with technical specifications for the framework was published, including variables to identify ‘dependent self-employment’ among the self-employed: (1) number and importance of clients in the 12 months ending with the reference week; and (2) ability to decide the start and end of working time<sup>15</sup>.

58. EC publishes reports biannually based on its public opinion survey – the Eurobarometer – which conducts in-person interviews with 1000+ citizens from each member country. In 2016, *Special Eurobarometer 447* included questions about the frequency with which respondents use online platforms, including online market places. In 2018, *Flash Eurobarometer 469* collected an *ad hoc* module to measure, among other things, the use of collaborative economy platforms.

59. The Technical Expert Group on Labour Market Statistics (LAMAS) established a temporary Task Force on Gig Economy and Gig Works in 2018, comprised of 13 member countries and five member organizations. The task force – now known as the Task Force for Digital Platform Employment – is housed within Eurostat and will develop a questionnaire for measuring digital work intermediated by internet platforms, with the goal of piloting data collection through the EU-LFS in 2022. The questionnaire will collect data on internet-mediated goods-based transactions, and transportation, delivery, accommodation and other professional services, as well as determine the degree of flexibility or autonomy experienced

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<sup>14</sup> See Regulation (EU) 2019/1700 of the European Parliament and of the Council

<sup>15</sup> See Commission Implementing Regulation (EU) 2019/2240

by workers. It will also uncover features of digital platform employment through questions about social security and worker protection. The immediate goal is to establish a stronger evidence base for policy makers seeking to improve working conditions for their populations, while the long-term goal is to incorporate an *ad hoc* module on platform work by 2026, with the possibility of including it more permanently among the rotation of EU-LFS *ad hoc* modules in the future.

60. In 2017, the EU-LFS administered an *ad hoc* module on self-employment with the goal of identifying the prevalence of workers of “ambivalent professional status” or those occupying a position that borders employment and self-employment (e.g., dependent self-employed persons) (Eurostat, 2018, p. 4). Questions about economic and organizational dependency, and job satisfaction, were included in reference to the main job. Additionally, the module enquired about respondents’ preferred employment status, rationale for becoming self-employed and resulting challenges – if any – related to income security and access to financing, among others<sup>16</sup>.

61. In 2019, another *ad hoc* module on work organization and working time arrangements was added to the EU-LFS and will be repeated every eight years to allow for comparison over time. The module captured flexibility and autonomy in determining working times and taking leave, expectations of availability in off-time, as well as commuting times and place of work (including telework), through 11 variables.

62. Eurostat will launch a Task Force in 2021 that will be responsible for planning the implementation of ICSE-18. Eurostat projects that ICSE-18 will be streamlined into the EU-LFS by 2025.

63. In addition, LAMAS explored the issue of atypical contracts and their inclusion in business-based labour market statistics, including the Structure of Earnings Survey. The Group suggests that atypical contracts should be included in data collection under the broad EC definition of ‘employee’, with the exception of: (a) unpaid voluntary workers; (b) own-account workers; (c) sales reps and similar workers who are wholly compensated through commission; (d) self-employed owners, or others who are wholly compensated through profits; and (e) family workers<sup>17</sup>.

#### **D. European Foundation for the Improvement of Living and Working Conditions (Eurofound)**

64. Eurofound is a tripartite body of the European Union whose mandate is to contribute to social and employment policies through rigorous cross-national monitoring, data collection and knowledge. Three regular, pan-European surveys are an important aspect of this work, and include the European Working Conditions Survey (EWCS) which assesses and quantifies the working conditions of employees and self-employed persons across Europe<sup>18</sup>.

65. As previously noted, in 2015 Eurofound published *New Forms of Employment*, advancing a typology of nine new or increasingly significant forms of employment across the

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<sup>16</sup> See <https://ec.europa.eu/eurostat/documents/1978984/6037334/Explanatory-notes-AHM-2017.pdf>

<sup>17</sup> See *Eurostat/F3/LAMAS/19b/19*; document for item 3.2 of the meeting agenda for the LAMAS: (<https://circabc.europa.eu/sd/a/6e071043-bb14-420a-bb71-8bc17e8b568f/Doc%2019b%20-%20Item%203.2%20-%20Structure%20of%20Earnings%20Survey%20-%20atypical%20work%20contracts.pdf>)

<sup>18</sup> See [www.eurofound.europa.eu/surveys/european-working-conditions-surveys-ewcs](http://www.eurofound.europa.eu/surveys/european-working-conditions-surveys-ewcs)



EU, Norway and the United Kingdom. The typology drew on a mapping exercise conducted by Eurofound in 2013, which involved a survey fielded among its Network of Correspondents about NFE in their countries, as well as case studies and an in-house literature review. The survey offered the opportunity for Correspondents to provide information regarding the effect of NFE on working conditions and the labour market, as well as any relevant data being collected at the national level. Drawing particularly on the case studies, the report examines the characteristics of each of these forms of employment, their implications for the labour market and for working conditions, as well as the drivers of, and barriers to their proliferation. In the 2020 update to this publication, the Eurofound Network of Correspondents confirmed that nearly all nine NFE exist to varying degrees in the majority of member states, and that platform work is prevalent in almost all countries. In addition, no new forms of employment were identified beyond the nine described in the 2015 report. Prevalence rates were determined, by proxy, predominantly through the combination of independent, academic or private sector data sources, with some NSO-led exceptions. However, due to diverging definitions and methodologies, as well as a lack of coverage in existing administrative data and standardized surveys, prevalence rates for Eurofound's nine NFE have yet to be determined with any certainty or comparability.

66. Eurofound has mobilized data from EWCS to develop indicators of job quality. In their 2018 publication, *Working Conditions: Employment Status and Job Quality*, Eurofound analyzes data from the 2015 EWCS to examine differences in terms of both 'job quality' (13 indicators) and the 'quality of working life' (10 indicators) across different employment statuses<sup>19</sup>. The study found that permanent employees, as well as the self-employed with employees, generally had better job quality than workers in other types of employment statuses, including short fixed-term contracts and dependent self-employment.

67. Given the sample size limitations of EWCS, and the relatively small number of platform workers found in most European countries, the 2020 EWCS deployed the concept of 'workers at the margin'. 'Workers at the margin' represent a broad conceptual category of people without strong occupational identity or labour market attachment. The goal in operationalising this concept was to assess whether a person-centred approach, based on a broad evaluation of work relations along dimensions such as financial security, predictability, or work-life balance would be better suited to capture workers who work short hours, short contracts, or work on demand than the more traditional job-based exploration of the quality of working conditions<sup>20</sup>.

68. In 2018, Eurofound published a report entitled *Employment and Working Conditions of Selected Types of Platform Work*, based on 41 interviews with active platform workers and 43 interviews with experts from eight different EU countries. In this report, and the subsequent policy brief entitled *Platform Work: Maximizing the Potential While Safeguarding Standards?* Eurofound proposed a typology of 10 types of platform work and explored quality of employment implications for five of them. In addition, Eurofound put forth a definition of platform work based on six characteristics: (1) paid work is organized through an online platform; (2) three parties are involved (the platform, the client, the provider); (3) platform work centres around a specific task or to solve specific problems; (4) the work is outsourced or contracted out; (5) jobs are broken down into tasks; and (6) services

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<sup>19</sup> For additional research informing these indicators, see also *Trends in Job Quality in Europe* ([https://www.eurofound.europa.eu/sites/default/files/ef\\_publication/field\\_ef\\_document/ef1228en\\_0.pdf](https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1228en_0.pdf))

<sup>20</sup> Data collection for the 2020 EWCS was disrupted by the COVID-19 pandemic and, thus, results of a 'full survey' will not be available. The survey will be taken up again in 2021, using CATI instead of face-to-face interviews, and employing an abridged, modular questionnaire to reflect the new approach.

are provided on demand (see Eurofound, 2018). Eurofound is considering the addition of a seventh characteristic, that of ‘algorithmic management’, to their definition of platform work.

69. Relatedly, Eurofound published research reports about *on demand work*, *casual work* and *strategic employee sharing*. Work on demand is not only a criterion in the Eurofound typology of platform work, but also represents a prominent characteristic of other forms of non-standard, atypical or precarious employment, such as casual work, domestic work, zero-hours contracts and voucher-based work.

70. Eurofound launched its *Platform Economy Repository* in 2018, which presents the typology of ‘platform work’ versus ‘platform economy’, and includes a selection of expert *dossiers* that assess these through the lens of job and work-life quality indicators such as earnings, representation, or autonomy<sup>21</sup>. The Repository also includes a “Platform Economy Database” which assembles related case studies, court rulings, policy documents, research and secondary data. It also features a section on *Initiatives*, which includes measures taken by governments, social partners, grassroots organisations, operators and workers to tackle emerging issues in the platform economy. The section also covers information provision activities, where Eurofound is planning to eventually track NSO initiatives that involve the regular collection of data on platform work.

## **E. Inter-organizational initiatives**

### **1. Working Conditions in a Global Perspective (Eurofound x ILO)**

71. In line with a policy commitment to ‘decent work’ and ‘improved job quality’, ILO and Eurofound co-authored a comparative report which shares the results of surveys on job quality and working conditions from 27 EU member countries, the United Kingdom, China, the Republic of Korea, Turkey, the U.S., Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Argentina, Chile and Uruguay, encompassing roughly 1.2 billion of the world’s workers (Eurofound & ILO, 2019). The report assesses differences and similarities in approaches to measuring seven dimensions of job quality: (1) physical environment; (2) work intensity; (3) working time quality; (4) social environment; (5) skills and development; (6) job prospects; and (7) earnings. The analysis highlights sectoral and demographic trends, such as differences in working conditions associated with gender and educational attainment, and sheds light on global outlooks for job insecurity, working time and working environment-associated risks, among others. The Annexes to the report include the scope and methodology of the study, as well as a detailed comparison of questions across surveys.

### **2. Group of Experts on Measuring Quality of Employment; UNECE**

72. Established by the Conference of European Statisticians in 2012, the Group was mandated to (1) review the conceptual framework for measuring quality of employment; (2) revise a set of statistical indicators, coherent with the ILO *Decent Work Indicators*; and (3) develop an analytical framework for operationalizing the indicators, including computation guidelines. The Group is made up of six international organizations (the UNECE secretariat, the ILO, OECD, Eurofound, Eurostat and WIEGO), as well as fifteen NSOs (Azerbaijan, Australia, Canada, Finland, France, Germany, Israel, Italy, Luxembourg, Mexico, Republic of Moldova, Netherlands, Poland, Switzerland, the United Kingdom).

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<sup>21</sup> See [www.eurofound.europa.eu/data/platform-economy](http://www.eurofound.europa.eu/data/platform-economy)

73. In 2015, CES endorsed the Group of Experts' *Handbook on Measuring Quality of Employment: A Statistical Framework*; it advances a seven-dimensional framework with 67 indicators for analysing quality of employment. The Handbook acknowledges the ever-evolving world of work and proposes that the framework be regularly revised to keep relevant in light of technological change and emerging forms of employment. To this end, the Steering Group on Measuring Quality of Employment was appointed to maintain the framework, promote its uptake at the national level, and oversee the agenda for future work outlined in Chapter 5 of the Handbook.

74. In 2019, the first addendum to the Handbook was proposed, suggesting the addition of an indicator to measure workplace discrimination, and well as to improve existing indicators to better capture job satisfaction and work-life balance<sup>22</sup>.

### **3. *Inter-Agency Task Force on International Trade Statistics; OECD x World Bank x IMF***

75. Established in 2017, the first version of the *Handbook on Measuring Digital Trade* was published in 2020 and includes a chapter which focuses specifically on 'digital intermediation platforms'. The overarching statistical motivation is to make these visible in economic data, and to account for them in GDP calculations. While not explicitly related to labour statistics, the Handbook suggests alternate routes to this end – namely through mobilizing national household expenditure surveys or the LFS – shedding light on innovative ways to exploit the relationship between data. Suggested questions include whether or not respondents have used digital platforms to find work, and whether or not this constituted their principle source of income. The Handbook also suggests exploring the possibility of targeted language in questions – for example, naming platform companies – in order to better estimate the use of local versus foreign digital platforms<sup>23</sup>.

### **4. *Technical Expert Group on Measuring Platform Form (ILO x EU x OECD)***

76. Aligning with the European Commission's LAMAS Task Force, OECD is coordinating a technical expert group of statisticians and analysts in view of producing a Handbook on measuring platform work. The Group held its first meeting in September 2019 to determine the structure of the Handbook and the type of field-testing to be conducted. The Group aims to complete a first draft in 2021.

## **V. COUNTRY PRACTICES**

77. NSO responses to a short email questionnaire point to a widespread demand among policy makers and researchers in the UNECE region for data on digital platform work, gig work and short contracts. Informal work, zero-hours contracts and casual work were also forms of employment which attracted considerable policy interest in several countries. While some NSOs reported that policy makers had not recently expressed a need for data in relation to NFE, others described being directly involved in collaborative initiatives with policy departments or tax agencies to this end.

78. Partly as a result of EU regulations, most countries who answered the questionnaire, which can be consulted in the appendix to this document, indicated that they regularly

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<sup>22</sup> See *Handbook on Measuring Digital Trade* (<https://www.oecd.org/sdd/its/Handbook-on-Measuring-Digital-Trade-Version-1.pdf>)

<sup>23</sup> *Ibid.*

collected and published statistics on permanent and temporary employment among employees. Yet, the level of detail in both data collection and reporting varies considerably.

79. In the questionnaire, and as part of other exchanges with Statistics Canada, NSOs were also asked to describe the challenges they faced in relation to measuring NFE. The main challenges cited include lack of coverage in administrative data and establishment surveys, difficulties with the development of survey questions to capture NFE, and digital platform work in particular, and recently, survey collection challenges related to the COVID-19 pandemic. Other NSOs indicated that they faced funding constraints which, in some cases, had been exacerbated by the pandemic. A few NSOs also mentioned that they experienced limitations related to the use of traditional survey methods (e.g., paper, telephone) and that they were prioritizing a transition to electronic survey collection rather than introducing new content in the short term. From an analytical perspective, one NSO also pointed to sample size limitations when examining small groups in survey data, and the challenge of classifying workers whose employment contract may involve multiple non-standard forms of employment (e.g., both fixed-term and zero-hours). Finally, another NSO mentioned that any changes to its LFS or to the collection of new survey data required legislative approval. The challenge of minimizing the amount of time elapsed between recognition and fulfilment of user needs is made harder in the context of a rapidly changing environment.

80. While only a few countries did not have a plan to implement ICSE-18, several NSOs reported a general intention to eventually adopt ICSE-18, rather than provide a substantive timeline. Yet, many other NSOs specified a timeframe for implementation, often reflecting the timeline proposed by the Eurostat Task Force on the implementation of ICSE-18. Some NSOs have tested survey questions that aim to capture dependent contractors in their LFS, and a few were already collecting data on the dependency of self-employed workers prior to the 20<sup>th</sup> ICLS. For example, in Poland, a question on whether self-employed workers *mostly* or *only* work for one “permanent” client has been included in the LFS since 2008.

81. The remainder of the country practices section describes the activities of selected NSOs which draw attention to key conceptual and measurement challenges, as well as possible solutions.

#### **A. Canada and the United States of America**

82. Efforts to measure NFE in Canada and the United States have mostly focused on digital platform employment and gig work. A key concern is the discrepancy between the rate of self-employment recorded in the LFS (or equivalent) and other data sources.

83. In the United States, research completed in collaboration with the Census Bureau found that while the Current Population Survey (CPS) detected a downward trend in the proportion of self-employed workers between 1996 and 2012, the share of persons reporting self-employment earnings to the Internal Revenue Service grew over the same period (Abraham *et al.*, 2018). A linking exercise between the Annual Social and Economic Supplement (ASEC) to the CPS and administrative records, show that the growth in self-employment income recorded in administrative data is largely attributable to people who did not report being self-employed in the ASEC. The authors attribute this discrepancy to issues with existing survey questions, including respondents mistakenly identifying as employees, and *failure to report informal work as a job* (p. 15).

84. Additional research in collaboration with the Internal Revenue Service (IRS) using IRS-tax records found that much of the increase in missed self-employment in the US was secondary work, that is, work that was not people’s primary employment or job<sup>24</sup>.

85. A similar exercise conducted by researchers at Statistics Canada found that the proportion of unincorporated self-employed workers was 5 percentage points higher in tax records than in the Canadian LFS (Jeon *et al.*, 2019). The study provided an overall estimate of the share of Canadians who were self-employed gig workers and identified differences in the trend for workers who engage in self-employed gig work as a secondary activity compared to those for whom gig work is a primary activity. Notably, the latter appeared to be more sensitive to contextual factors, such as the 2008-2009 recession and the emergence of online platforms, highlighting the different ways in which workers engage in digital platform and other forms of gig work.

86. The Bureau of Labour Statistics (BLS) has also analysed the potential underestimation of employment in CPS by examining results from the American Time Use Survey (ATUS)<sup>25</sup>. The analysis found that between 2012 and 2016, 1% of the employed, 2% of the unemployed and 1% of those not in the labour force reported engaging in “income generating activities” outside the context of a job. Further analysis suggests that the underestimation of employment is more significant among youth aged 15 to 24, women and workers with less than a high school diploma. The study also found that the multiple jobholder rate was underestimated by the standard CPS employment status questions. However, the size of the effect on the multiple job holding rate is influenced by the small number of people initially classified as multiple job holders.

87. The approach taken by NSOs in Canada and the United States diverges with regards to the collection of data on non-standard employment. The Canadian LFS collects data on non-standard employment every month, but uses relatively broad categories, namely; “seasonal job”, “temporary, term or contract job”, “casual job” and “other non-permanent job”. In contrast, data on non-standard employment are collected on an irregular basis by the BLS and the Census Bureau through the Contingent Worker Supplement (CWS), a supplement to the CPS. The CWS includes more detailed categories such as ‘on-call work’ and ‘work through a temporary help agency’.

88. BLS has also attempted to collect data on digital platform work (“electronically-mediated employment”) through the 2017 CWS. The pilot study encountered significant measurement challenges, particularly around respondent confusion between simply using a website or app as part of their job and actually engaging in platform work. In addition, the limited number of questions allocated to this topic meant that complex questions with examples had to be used, which in turn caused many respondents to focus unduly on the examples. For its part, Statistics Canada has used both a supplement to LFS, as well as the biennial Canadian Internet Use Survey (CIUS) to collect data on income-generating activities performed online. CIUS includes questions on the income earned in the last 12 months by *platform-based peer-to-peer ride and delivery services and online freelancing*.

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<sup>24</sup> Collins, B., A. Garin, E. Jackson, D Koustas and M. Payne. (2019). “*Is Gig Work Replacing Traditional Employment? Evidence from Two Decades of Tax Returns*”. (<https://www.irs.gov/pub/irs-soi/19rpgigworkreplacingtraditionalemployment.pdf>)

<sup>25</sup> See *Measuring Labor Market Activity Today: Are the Words ‘Work’ and ‘Job’ too Limiting for Surveys* (<https://www.bls.gov/opub/mlr/2018/article/measuring-labor-market-activity-today.htm>)

## **B. Australia**

89. As part of the Australian LFS, the Australian Bureau of Statistics (ABS) deploys the *Characteristics of Employment* survey every August. The supplementary module captures data on multiple job holding, on-call and casual working arrangements, and employment contracts. Some content, such as trade union membership and employment procured through an employment agency, is included every two years or on an alternating basis. The ABS is planning to change when this supplementary survey is run, and adopt a model where the survey is administered to the outgoing survey rotation group each month, rather than a large sample in a single month. This will enable the production of rolling estimates of detailed forms of employment.

90. In 2018, the State of Victoria launched an independent Inquiry to ascertain the extent and nature of the on-demand workforce, as well as to assess how current labour laws were being applied (or avoided) in this context. The Inquiry included a survey component to determine the prevalence and nature of platform work in Australia, and produced evidence comparable to the COLLEEM survey in Europe (McDonald *et al.*, 2019).

## **C. France**

91. In France, a specific concern with the measurement of NFE led to a broad review of the French system of employment measurement by the Conseil national de l'information statistique (CNIS). In its 2016 report, the CNIS identified a number of gaps and issued a series of recommendations, including updates to the LFS questionnaire and the publication of additional indicators. Some recommendations have been implemented, while others are the subject of ongoing work. Another recommendation highlights the need to adopt a clear conceptual framework, rooted in the distinction between 'forms' and 'modalities' of employment.

92. 'Modalities of employment' refer to the ways in which work is performed, including types of workplaces and work hours. 'Forms of employment' are defined by three dimensions: (1) "autonomy" – similar to the first-level ICSE-18 classification based on type of authority; (2) "third parties" – the presence of a third party different from the user of the labour force, including governments; and (3) "employer commitment" – similar to the subcategories of employees in ICSE-18 based on permanence and stability. A fourth, person-centred dimension is proposed to illuminate the relationship between contextual, individual-level circumstances and employment; as indicated for example, by involuntary part-time work (CNIS, 2016).

93. A key innovation implemented by the French National Institute of Statistics & Economic Studies (INSEE) is the collection of data on the economic dependence of self-employed workers mediated by a third party – including online platforms – as part of the collection of the 2017 EU-LFS *ad hoc* module on self-employment. In addition to the content required by Eurostat, the *ad hoc* module included questions about the method used to reach clients (e.g., digital platforms), the presence of "upstream" dependency (e.g., franchise, producers group, etc. as opposed to clients) and the consequences of losing a main client. The latter resulted in the development of an alternative definition of dependence, based on self-employed workers who anticipated serious difficulties if they lost their relationship with a specific economic entity.

94. While the *ad hoc* module questions do not provide a distinction between platforms and other third parties which “redirect” clients to self-employed workers, the 2021 French LFS will include a specific response category for digital platforms. In addition, a survey of newly created businesses – the *Système d’information sur les nouvelles entreprises* – also includes a question on whether these use digital platforms to reach their clients.

95. Another notable development in France is the reform of the social protection reporting system – the *Déclaration Sociale Nominative* – which simplifies the way employers report employment and social contributions. This new system creates opportunities for more comprehensive collection and compilation of data, notably through improved reporting on very short employment contracts and by collecting more detailed information on types of employment contracts. A linkage performed between the French LFS and administrative data in 2012 had previously identified an underreporting of short contracts, particularly among youth, in LFS.

96. Finally, since 2019, the French government requires that digital platforms operating in the country report the annual gross income earned by individuals to tax authorities. Discussions to access this data for the purpose of statistical analysis and reporting are ongoing.

#### **D. United Kingdom**

97. In 2018, the United Kingdom (UK) government published its *Good Work Plan*, which outlines a broad legislative and policy strategy to address changes in the world of work, including recent growth in less stable employment contracts. The plan outlines six determinants of job quality and makes a number of commitments, including the introduction of rights to request more predictable and stable contracts. It also encourages digital platform operators to allow gig workers to transfer their verified approval ratings between platforms.

98. In response to the Plan, the Office for National Statistics (ONS) undertook a review of its data collection practices related to quality of employment, and is currently implementing the resulting recommendations. The *Measuring Good Work* report identifies seven dimensions of job quality requiring regular data collection: (1) ‘terms of employment’; (2) ‘pay and benefits’; (3) ‘health, safety and psychosocial wellbeing’; (4) ‘job design and nature of work’; (5) ‘social support and cohesion’; (6) ‘voice and representation’; and (7) ‘work-life balance’. These dimensions are populated by 18 variables, a third of which are already measured in the UK-LFS. In addition, the report includes a review of possible survey vehicles and proposed questionnaire items. The report identifies LFS as the recommended data collection instrument in the context of its transition and incorporation into the “Labour Market System” – a modernization strategy for labour-related statistics at ONS. ONS is working with the Industrial Strategy Council – an independent body tasked with monitoring the broad Industrial Policy across the United Kingdom – to identify priority areas for measurement.

99. In 2020, as a result of inter-departmental consultations, two new questions on job quality were added to the LFS: the first asks whether the respondent’s job ‘offers good opportunities for career progression’; and the second assesses the degree to which managers involve employees – or their representatives – in decision making.

100. ONS also collects data on “zero-hours contracts” – contracts where workers are not guaranteed any hours and are paid by the hour. Starting in 2014, an LFS question was modified to collect more precise information on zero-hours contracts, and additional information was collected through a business survey from 2014 to 2017. The larger estimates

from the business survey highlight the important conceptual difference between the number of single contracts created by businesses and the number of workers who complete at least one hour of paid work through such an arrangement during any given week.

101. Finally, ONS is in the process of transitioning to an electronic questionnaire for its LFS as part of the broader “Labour Market System” project. In this context, ONS is examining the possibility of developing a modular LFS, with rotating sets of questions asked to different respondents or at different times of the year. This approach would allow for the addition of more questions on job quality, while reducing response burden. A greater use of administrative data is also being considered.

## **E. Finland**

102. Statistics Finland plays an important role in the Finnish policy cycle and has participated in several initiatives related to NFE. On an *ad hoc* basis, Statistics Finland contributes to policy working groups and collaborative research projects regarding specific employment and labour market issues. In addition, an Expert Group on labour market statistics, comprised of key stakeholders such as government departments and social partners, meets biannually to discuss emerging trends and data needs.

103. In 2011, the Ministry of Economic Affairs and Employment invited Statistics Finland to participate in a tri-partite working group on non-standard employment. The working group identified important information gaps related to self-employed workers without employees and “combi-workers”; persons alternating between employment for pay and employment for profit. In response, Statistics Finland was granted funding in 2013 to conduct a survey of the self-employed without employees. A need for data on zero-hours contracts expressed by the Ministry of Economic Affairs and Employment also prompted Statistics Finland to collect data on this form of employment through LFS in 2014. This initiative was repeated in 2018, with added questions to capture on-call workers. Starting in 2021, data on zero-hours contracts will be collected through LFS following EU Commission Implementing Regulation 2019/2240.

104. The 2017 Finnish LFS included two questions to estimate the number of people earning income through ‘platform jobs’. Respondents were asked if they, “during the past 12 months worked or otherwise earned income through the following platforms: 1. Airbnb, 2. Uber, 3. Tori.fi/Huuto.net, 4. Solved, 5. Some other, 6. None of the above”; and to report the proportion of their earnings that had been earned through the platforms. Statistics Finland has described the challenge of developing a short and unambiguous definition of digital platforms, and provided insights on its question development process prior to the 2017 LFS; they suggest a mixed method approach, where qualitative interviews with platform workers are used to inform subsequent quantitative measurement<sup>26</sup>.

105. Statistics Finland has collected the Finnish Quality of Working Life Survey (FQWLS) – one of the oldest and longest-running quality of employment surveys in the world – every five years, since 1977. The survey uses LFS as its sampling frame, targeting either employed persons or wage and salary earners, and collects data through face-to-face interviews. In addition to describing the physical, mental and social aspects of work environments, data is also collected on work content, conditions of employment, organizational characteristics, and values and valuations of work. The longevity of FQWLS has equipped Statistics Finland with

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<sup>26</sup> See <http://www.stat.fi/tietotrendit/blogit/2018/platform-jobs-are-here-to-stay-how-to-measure-them/>



unique expertise; they played a key role in the collaborative development of EWCS and have been long-standing contributors to the UNECE Quality of Employment initiatives, recently participating in the Eurostat task force for the 2019 EU-LFS *ad hoc* module.

106. Finally, along with several other countries in the UNECE region, such as Denmark and Italy, Statistics Finland has tested questions for the measurement of the ICSE-18 *dependent contractor* category through their implementation of the 2017 EU-LFS *ad hoc* module. The Finnish tests and subsequent analysis showed that estimates of dependent contractors vary depending on the criteria applied. Moreover, the groups identified with the different measurement criteria do not always overlap, suggesting that there may be distinct types of dependence.

## **F. The measurement of platform and gig work elsewhere in Europe**

107. As described in a publication for the OECD (2019c), a few other NSOs in Europe have collected data on digital platform work through LFS modules.

108. In Switzerland, a survey module administered through the LFS in 2019 included four yes/no questions asking respondents if they had rented out a room, apartment or a house; provided taxi services; sold goods; or provided other services such as cleaning, handiwork, delivery services or online programming, via an internet platform or app in the last 12 months. A subsequent question asked if the respondent had done so in the last week. Additional questions collected information on hours worked for a variety of reference periods; whether the activities had been performed as part of a main job, second or additional job; and motivations for engaging in this type of work. The experience in Switzerland revealed a key data collection challenge related to the confusion between *using* and *offering* services through platforms among respondents and the importance of validating responses to check their plausibility.

109. In Denmark, a shorter question asked respondents if they had, “earned money in the past 12 months by performing work done through websites or apps – for example, via Uber”. As O’Farrell and Montagnier point out, this definition of digital platforms is broader, and not restricted to a specific type of platform (OECD, 2019c, p. 18).

110. Some NSOs have begun to examine the coverage of digital platform work in administrative data as well as establishment surveys. In Sweden, a growing number of platform companies have started treating platform workers as employees, paying income tax and offering sick leave. Other platform workers are employees of “self-employment companies” which “lend” their tax bill to platform workers who are responsible for acquiring customers and setting their own prices. This has meant that some digital platform workers now appear in establishment surveys and administrative registers. Statistics Sweden reports that it has tried to adapt its reporting form for the “Wages and salary structures, private sector” establishment survey in order to cover well-known platform enterprises and improve measures of pay and hours. Challenges remain, however, particularly in terms of ensuring that companies provide the requested information. The administration of more targeted surveys would also require a dedicated industry code (NACE classification) to identify platform companies. At the same time, there are significant challenges with collecting data on platform workers who are self-employed, namely because administrative registers only include information on individuals who receive a paid salary registered at the tax authority. Further, payments between individuals that are below the rate of taxation are excluded.

## G. Labour force survey data collection on informality and dependence

111. While the emergence of some forms of employment has drawn attention to the possibility that there is an increasing number of employees who are not covered by social insurance programs and labour protections, or self-employed workers who operate a business without appropriate permits or registration, this is not a new phenomenon for a large part of the world. Indeed, in many developing countries, informal work represents a common form of employment, and data collection practices in these countries may prove insightful for the measurement of emerging forms of employment in high-income regions.

112. For example, LFS in North Macedonia asks whether the respondent has completed 1h of paid work in the last week – in accordance with the definition of the 19th ICLS – but also asks if the respondent did “any kind of occasional, incidental, or irregular work during the previous week, even if they did not receive income or payment”. A number of follow-up questions probe further, and the respondent is asked if they completed “any kind of activity for pay for at least one hour”, and whether they performed any informal activities from a list read out by the interviewer. The North Macedonian survey also includes a question on whether the respondent is registered in private or public insurance funds through their work.

113. In Costa Rica, LFS follows a similar approach by first asking the respondent whether they were employed the previous week. A negative response leads the interviewer to list other activities, asking respondents whether they engaged in any of them “for at least one hour in exchange for money or anything in return”. The list includes activities such as: “selling products such as foods, jewellery, raffle tickets or catalogue products” as well as “other jobs or gigs”.

114. Some NSOs have adopted alternative approaches for the classification of work relationships in response to the prevalence of informal work arrangements involving relatively high levels of dependency. This is the case in Mexico, for example, where the *Instituto Nacional de Estadística y Geografía* (INEGI) uses a series of questions – rather than a single questionnaire item – in LFS to determine whether workers are dependent or independent. A first criterion is whether a person is accountable to a boss or superior, in which case the respondent is immediately classified as a *dependent* worker. Additional questions subsequently evaluate whether other forms of dependency exist, such as having a single client or the presence of employees. A questionnaire structure of this type may be helpful in jurisdictions where the legal status of certain forms of employment is unclear or in flux.

115. Mexico has also moved forward with testing a pilot questionnaire that fully implements the ICSE-18 framework and the concepts of the 19<sup>th</sup> ICLS Resolution. The new questionnaire retains the indirect filtering of independent and dependent workers, but integrates additional questions on dependency among independent workers, and on the expected continuity of jobs over the next 12 months for both independent and dependent workers. Further, the topic of digital platforms is addressed in two ways; first, independent workers who report receiving their clients through an intermediary are asked if they are provided with an “online application or app”. Second, all workers are asked if they *usually use an app or a website to*: (1) promote or sell products or services; (2) attend service requests; (3) follow-up with clients; or (4) for any other work-related purpose.

116. Finally, from the job quality perspective, Mexico has also tested the basic questionnaire module of the OECD *Quality of the Working Environment* framework. INEGI

is currently assessing different options for collection, including as a supplement to LFS, a module in another household survey, or a stand-alone survey.

## **H. Telework and working from home**

117. In the context of COVID-19, the topic of telework and working from home has attracted significant attention. While many NSOs were collecting data on the work location of respondents through LFS prior to the pandemic, in other cases, like in Canada, the United States, Latvia, Belarus, Poland and Austria, questions on work location and telework were quickly added in response to the crisis. In a supplement to LFS, Statistics Canada added questions on both current and usual work location, in order to estimate the number of people who started working from home in response to the pandemic. Questions added to the Austrian LFS in Q2 2020 allowed Statistics Austria to identify the proportion of respondents working from home, the proportion who did so because of the COVID-19 crisis, and the proportion who carried out their work through telework (by using a personal computer or smartphone).

118. In their responses, several NSOs referred to the distinction between telework and working from home, indicating on occasion that they were collecting information on only one of the two phenomena. In the Swiss LFS, however, the categories of telework and working from home are clearly distinguished; among teleworkers, an additional breakdown is possible between occasional teleworkers, workers who telework regularly but for less than 50% of their work activities and workers who telework for more than 50% of their activities.

## **VI. ISSUES AND CHALLENGES**

119. Issues and challenges related to the definition and measurement of NFE can be broadly classified into four groups: (a) the lack of a clear overarching framework for monitoring and reporting; (b) measurement challenges; (c) a statistical area – specifically digital platform work and gig work – where there are both conceptual and measurement challenges; and (d) balancing breadth and depth of data collection.

### **A. Lack of a clear overarching framework for monitoring and reporting**

120. Conceptual discussions and statistical reporting on NFE usually cover both new ‘work relationships’ and new ‘work patterns or modalities’, and refer to phenomena at both the job and person level. As there is presently no internationally agreed framework on the dimensions which characterize recent changes in the nature of work, there is a risk of inconsistency and confusion when describing new or emerging phenomena. Indeed, NSOs and international organizations use a variety of terms and concepts when referring to NFE, such as ‘non-standard’ or ‘atypical’ employment and ‘gig’ work.

121. A first challenge to address in this respect is the distinction between new ‘forms’ of employment and new ‘employment modalities or work patterns’. As previously noted, the 2016 CNIS report in France put forth the distinction between ‘forms’ and ‘modalities’ as a starting point for statistical classification. While ‘forms of employment’ largely correspond to the ICSE-18 classification of work relationships, the term ‘modality’ refers to the way in which work is performed<sup>27</sup>. This distinction is similar to the Eurofound description of NFE as involving either new types of employment relationships or new types of *work patterns*. The CNIS goes even further in suggesting that ‘part-time work’ should be treated as an employment ‘modality’ present across multiple types of work relationships, rather than as a

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<sup>27</sup> *modalité d'exercice de l'emploi*

non-standard ‘form’ of employment. As noted in the previous section, the ICSE-18 conceptual framework adopts this logic to an extent by describing types of workplaces and work hours as cross-cutting variables rather than sub-dimensions of the classification of work relationships. However, work modalities are not described or defined as such within the framework.

122. Other cross-cutting variables in the ICSE-18 framework, such as the preference for non-permanent employment, relate to personal circumstances or to the interaction between the labour market environment and personal circumstances. The need for a greater focus on outcomes at the level of the person appears to be clear in the context of understanding the impact of NFE on quality of life and well-being. For example, Eurofound is exploring the concept of “worker at the margin” as a possible solution to this challenge, by grouping workers characterized by marginal attachment to the labour market, rather than focusing on a specific employment status or type of job. Another example is multiple jobholding, where a worker’s situation is not defined by their status in employment, but by the circumstances leading to the need or decision to hold more than one job. Yet more work is needed to circumscribe person-level and job-level phenomena and to clarify their interrelationship.

## **B. Measurement challenges**

123. The second group of issues and challenges concern employment phenomena for which well-established and clear definitions exist, but where significant measurement challenges remain. The main issues relate to (1) job and employment quality; (2) dependent self-employment; and (3) multi-party work relationships.

### **1. Job and employment quality**

124. Several well-established quality of employment frameworks have been developed in the last 20 years, including the UNECE *Handbook on Measuring Quality of Employment*, the OECD *Job Quality Framework*, the ILO/Eurofound *Working Conditions Monitoring Framework*, and the ILO *Decent Work* concept. Each framework has contributed to an enhanced understanding of quality of employment, and has played an important role in identifying trends and differences between countries. Moreover, the OECD and the UNECE frameworks include specific measurement guidance in the form of indicators, proposed questionnaire instruments, and – in the case of OECD – general recommendations as to the frequency of measurement. Nonetheless, taken together, the frameworks involve a large number of indicators which often rely on questionnaire items not regularly collected in LFS. NSOs may face funding constraints in terms of establishing stand-alone surveys, and must contend with competing priorities for inclusion in LFS, response burden obstacles, and methodological limitations related to the use of proxy respondents<sup>28</sup>. Moreover, it may be challenging to choose between frameworks and set an appropriate data collection frequency. The United Kingdom’s experience also shows that researchers and policy makers may require a larger sample size to conduct breakdowns by region or subpopulation group. While some NSOs regularly collect and publish data on quality of employment indicators, and the European Working Conditions Survey provides highly detailed information for many European countries every five years, there is currently no clear agreement as to best practices at the NSO level.

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<sup>28</sup> For this last point, see *OECD Guidelines on Measuring the Quality of the Working Environment* (<https://doi.org/10.1787/9789264278240-en>)

125. The frameworks also approach the topic from slightly different angles. The OECD Framework is restricted to measuring job quality *outcomes*, whereas the UNECE Handbook includes indicators that cover both job quality outcomes and job quality *determinants* (Cazes *et al.*, 2015). Moreover, as part of a broader focus on *employment*, the Handbook is explicit in referring to the importance of integrating information on all jobs in situations of multiple jobholding (UNECE, 2015, p. 11). In both cases, however, indicators of quality are not restricted to phenomena at the job level. For example, the OECD Framework includes the risk of unemployment and the accessibility and generosity of unemployment benefits as indicators. The ILO/Eurofound Framework, on the other hand, is largely focused on risks and resources, most of which are measured at the level of the main job.

## **2. *Dependent self-employment***

126. Forms of employment that fall between the categories of self-employed workers and employees have received policy attention given that they may leave workers unprotected yet involve significant economic dependence. The emergence of such forms may be hard to track, as they are occasionally associated with strategies to avoid social charges or to take advantage of gaps in existing labour and tax legislation. Most of the conceptual challenges associated with the difference between false and real self-employment are addressed by, both, the ICSE-18 concept of *dependent contractor* and the 17<sup>th</sup> ICLS definition of informality, though NSOs remain at a relatively early stage of implementation and measurement challenges remain.

127. Results from the EU-LFS *ad hoc* module show, for example, that estimates of the number of dependent contractors varies considerably on the basis of the measurement criteria applied. For example, based on the criteria of dependence on a single client, 18% of the self-employed in the EU-27 and the UK could be considered dependent contractors, but this number falls to 3% when the additional criterion of work hours being determined by a single client is applied. The ICSE-18 measurement guidelines do not currently provide a unique set of criteria to define dependent contractors.

## **3. *Multi-party work relationships***

128. Multi-party work relationships, “exist where a third party is involved between a dependent worker and the enterprise for which the work is performed” (ILO 2020a, p. 64). Although they are not necessarily new, multi-party work relationships are associated with significant measurement challenges which have implications for the measurement of emerging forms of employment. Other than digital platform work, which is discussed in greater detail in the next section, multi-party work relationships include agency workers, employees providing outsourced services, and workers in employment promotion schemes (ILO, 2020a). A review of 111 labour force surveys around the world revealed that outside Europe, few NSOs regularly collect information on multi-party work relationships (ILO, 2018b). In several countries that do, estimates also differ considerably depending on the methodology applied. ILO (2018b) has reviewed possible measurement strategies, identifying challenges with each. For example, in household surveys, the direct approach – which involves asking a question about the worker’s type of employment contract or arrangement – requires a context where there are clear and well-known contractual forms involving multiple parties. Conversely, the indirect approach – where workers are asked if they are paid by the economic unit for which they perform their work – requires a question on place of work to exclude workers directly employed by a temporary work agency. Moreover, workers may not always be able to accurately identify the economic unit that pays them. Administrative data and establishment surveys also have drawbacks, as industry codes occasionally reflect the

industry of the unit for which work is performed rather than the industry of the employer (e.g. the temporary work agency).

129. While the broad types of multi-party work relationships are well-understood and clearly laid-out in the updated *Conceptual Framework for Statistics on Work Relationships* with suggested measurement strategies, ICSE-18 and its associated guidelines do not include specific guidance for measurement and data collection on multi-party work relationships. The *Conceptual Framework* notes that: “Since the concept of multi-party work relationships is broad and complex, often changing depending on national laws, it is not possible, however, to provide advice on a single approach to data collection or a single data source,” (ILO, 2020a, p. 66). As such, countries are advised to adopt practices that best fit their national context. While this approach allows for flexibility in ensuring that statistics reflect national differences, some NSOs may welcome reporting guidance, as well as general advice on where to situate third-party mediation in relation to the main ICSE-18 categories (as a cross-cutting variable or subcategory, for example).

### **C. Digital platforms and gig workers: A conceptual and measurement challenge**

130. A third group of issues – involving both conceptual and measurement challenges – is broadly related to the emergence of the ‘gig’ or ‘sharing’ economy. Both phenomena are associated with the development of digital platforms which “facilitate transactions that occur outside of traditional business structures by individual (including self-employed) sellers of goods and services to consumers,” (OECD, 2019d, p. 15). As OECD (2019d) points out, the sharing economy generally involves assets, while the gig economy involves services. At a conceptual level, there are ongoing debates as to whether activities on both capital platforms and labour platforms should be counted as employment, and as to what defines a digital platform. For example, the COLLEEM survey restricted its scope to focus on platforms which “coordinate labour service transactions in an algorithmic way,” (Pesole *et al.*, 2018, p. 7).

131. There is also no existing agreement as to the appropriate statistical classification of digital platform work in terms of work relationships. De Stefano (2016) points out that many digital platforms include terms and conditions which explicitly define workers paid through the platform as independent contractors. In the United Kingdom, a 2021 supreme court decision classified platform workers in the transportation sector as “workers” – an intermediate legal category between employees and independent contractors covered by some rights such as the minimum wage, but not others, such as protection against unfair dismissal (De Stefano, 2016, p. 20). Further, Law No. 45/2018 in Portugal stipulates that digital platforms in the transportation sector cannot have a direct relationship with workers but must rather have a contract with a third party for which the driver may be an employee<sup>29</sup>. Another recent example is Assembly Bill 5 in California, signed into law in September 2019, which explicitly defined the status of digital platform workers in the transportation sector as employees, only to be overturned by the Proposition 22 referendum in November 2020<sup>30</sup>. From a statistical perspective, a rapidly changing legal and regulatory environment creates measurement challenges. While NSOs may be committed to the measurement of platform workers on the basis of statistical, rather than legal criteria, two key challenges will remain in practice:

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<sup>29</sup> See <https://dre.pt/home/-/dre/115991688/details/maximized>

<sup>30</sup> See <https://legiscan.com/CA/bill/AB5/2019> and, subsequently, <https://vig.cdn.sos.ca.gov/2020/general/pdf/top1-prop22.pdf>

- The influence of the local legal context on responses to household surveys, particularly in the case of survey designs where the respondent is asked directly if they are self-employed or an employee;
- Inconsistent coverage in administrative data and establishment surveys.

132. In addition, other challenges related to the collection and analysis of data on digital platform work in surveys have been identified, including the difficulty for respondents to understand the concept of online platforms, the limitations associated with the 1-week reference period used in LFS, and the small number of platform workers (OECD, 2019c).

133. Another feature of the *gig economy* that is strongly related, but distinct from the phenomena of digital platforms, is the growing ability of firms to break up jobs into smaller sets of tasks (Pesole *et al.*, 2018). According to Pesole *et al.* (p. 8), traditional employment arrangements are based on “jobs”, that is, “bundles of tasks with higher or lower degrees of complementarities”. While a further division of labour has been restricted historically by the existence of significant transaction costs, digital platforms “facilitate the unbundling of tasks” through “an efficient distribution of resources and a consistent reduction of transaction costs”. This new development has the potential to challenge existing systems of statistical reporting based on the unit of a “job”.

134. In paragraph 12(b) of the 1<sup>st</sup> Resolution on work statistics of the 19th ICLS, *job* is defined as “a set of tasks and duties performed, or meant to be performed, by one person for a single economic unit”. This definition is sufficiently wide to cover self-employed gig work at a conceptual level, since, in the same paragraph, a provision deems the self-employed to have “as many jobs as economic units they own or co-own, irrespective of the number of clients served”. In addition, paragraph 8(d) of the 1<sup>st</sup> Resolution on work relationships of the 20<sup>th</sup> ICLS states that, for dependent contractors, “the set of tasks should be considered to be performed for the economic unit on which the worker is dependent”. However, some paid activities may not meet the threshold for employment. This is because the 13th ICLS – a view reiterated by the 14th ICLS – defines individuals as employed if: they either worked for at least one hour during a given reference week; or if they were absent but had a formal attachment to their job. Administrative data may also leave gaps, as many countries only require payments to be declared to the tax authorities above a certain threshold. There is therefore a possibility that current definitions of employment – and their operationalization in statistical programs – undercount some economic activity.

135. Moreover, paid activities performed online, as well as off-line ‘gigs’, may not be considered to represent work by the parties involved, even when the 1-hour threshold is met. As noted earlier in the report, several NSOs have identified a potential undercount of the number of people engaged in paid activities through the LFS, with a modest impact on employment and participation rates, and a larger effect on the multiple jobholder rate. NSOs in low and middle-income countries are less likely to encounter this challenge, as the LFS often deploys one or more follow-up questions to ensure informal work is included. However, such measurement instruments are not always designed to identify gig workers as a distinct category.

136. In addition, paid work conducted through platforms also challenges the definition of unemployment. The ILO survey of crowd workers and the COLLEEM surveys show, for example, that a significant proportion of the time workers spend on digital platforms is dedicated to looking for – as opposed to executing – short tasks. This feature of the digital platform economy also has implications for the appropriate estimation of hours and hourly rates of pay.

## D. Depth and breadth of data needs

137. A final set of issues relates to the need to measure NFE in terms of, both, breadth and depth. While many emerging forms of employment are captured by the ICSE-18 framework, less common forms found in specific jurisdictions may require additional data collection if there is demand from policy makers or researchers. For instance, Eurofound (2020) observes that voucher-based work is present in only a third of European countries. This form of employment may not exist in many countries in the UNECE region outside Europe either. The diversity of NFE across countries requires statisticians to balance the need for reporting on forms of employment specific to their national contexts, against the need for comparability across jurisdictions. Moreover, in cases where subpopulations are too small to allow for reporting, and where international organizations engage in comparative exercises, broader categories which capture the diversity of forms of employment may be required. The concept of non-standard employment has been effectively deployed in the past (ILO, 2016), but there are ongoing debates regarding its precision and appropriateness<sup>31</sup>.

138. In addition, data needs related to NFE not only involve measuring prevalence, but also demographic characteristics and quality of employment. The initiatives coordinated by the ILO and the European Commission Joint Research Centre show that targeted online surveys help collect essential information on the broader life circumstances of platform workers. The surveys have also highlighted how platform workers struggle with high levels of uncertainty in their earnings and hours. Response burden issues related to the LFS may, however, limit the possibility of adding a wide range of measures as part of efforts to estimate the prevalence of emerging forms of employment.

## VII. CONCLUSIONS AND RECOMMENDATIONS

### A. Development of a general framework

139. While the review finds that the ICSE-18 revisions address a large number of challenges related to the measurement of NFE, the relationship between ICSE-18 and other statistical concepts and frameworks require further coordination and clarity. As new work modalities and types of work relationships continue to emerge in the future, agreement on a clear conceptual framework and corresponding reporting mechanism would help ensure that new work phenomena are consistently captured, described and classified. In addition, a clear conceptual framework would help NSOs more rapidly identify emerging forms of employment and devise appropriate measurement strategies. **To address these issues, a UNECE ‘Forms of Employment’ Task Force should be established to create the foundation for this ongoing work. The Task Force would develop a conceptual framework, centred on ICSE-18, that identifies and maps the interrelationship of concepts related to work relationships, work modalities, person-level circumstances, social protection and quality of employment<sup>32</sup>.**

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<sup>31</sup> Discussions at the International Labour Conference leading up to the ILO’s *Centenary Declaration for the Future of Work, 2019* highlighted disagreement related to the use of the concept of ‘non-standard employment’. See para. 1139, 1140 and 1145. Provisional Record 6B, International Labour Conference 108th Session, 19 July 2019. ([https://www.ilo.org/wcmsp5/groups/public/---ed\\_norm/---relconf/documents/meetingdocument/wcms\\_711582.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---relconf/documents/meetingdocument/wcms_711582.pdf)).

<sup>32</sup> See Figure 1 in the Appendix to this document for one possible point of departure for such a framework as proposed by Canada.



140. Several international organizations have developed frameworks to measure the quality of employment. While these frameworks each offer a valuable perspective, they collectively pose a challenge for NSOs in terms of managing the variety of possible indicators. An opportunity exists to identify their common elements and to map quality of employment and quality of life indicators onto the aforementioned forms of employment framework. For example, it may be possible to delineate between quality of employment indicators capturing job-level phenomena, from those describing person-level circumstances. **The Task Force should collaborate with the UNECE Group of Experts on Measuring Quality of Employment, and other international organizations, to link the broad ‘forms of employment’ framework with existing quality of employment indicators, creating a coherent system of measures and indicators.**

141. In parallel to longer-term conceptual work, the Task Force should prioritize short-term deliverables. The Task Force could potentially:

- (a) Identify opportunities where statistical leadership would immediately inform policy debates, academic research and the current measurement efforts of NSOs; for example, by developing a definition of gig work.
- (b) Evaluate whether the nine new forms of employment identified by Eurofound in Europe would be helpful for the development of the framework. The Task Force could collaborate with Eurofound to prepare a report using a similar methodology and identify the forms of employment that are currently emerging in UNECE countries outside Europe.
- (c) Develop recommendations on the frequency of data collection and reporting for key indicators to help NSOs manage response burden and costs.

142. After the Task Force completes its work, a subgroup of the UNECE Steering Group on Measuring Quality of Employment could be established to regularly map emerging forms of employment onto the framework and ensure ongoing cross-fertilization between the framework and quality of employment indicators.

## **B. Data collection and measurement**

143. While the addition of the *dependent contractor* category to the ICSE framework offers a clear conceptual solution to the classification of work relationships at the boundary of employment and self-employment, measurement challenges remain. The Review recognizes the work of the ILO Statistics Department in tracking and compiling the results of cognitive tests and pilot surveys in its e-forum. **CES members should continue to contribute to this work and monitor progress as ILO develops more precise guidelines related to the measurement of dependent contractors.**

144. The Review finds that LFS continues to play a central role in the data collection efforts of NSOs with respect to new and non-standard employment. Key advantages include a large sample size, a well-organized infrastructure and a high response rate. Yet, collecting data on diverse forms of employment, as well as on quality of employment, through the main LFS questionnaire involves important costs. In addition, collecting this breadth of information in LFS involves a high response burden. **NSOs could make greater use of regular supplements and *ad hoc* modules to their LFS as part of efforts to collect data on a wider range of employment topics, while minimizing response burden. Establishing an**

**infrastructure for the collection of ad-hoc modules would allow NSOs to efficiently add new questions and rapidly collect information on emerging labour market phenomena.**

145. NSOs that do not have the flexibility of adding questions to their LFS or to adopt a modular structure could make greater use of administrative data and fill any remaining data gaps with other household surveys. Alternatively, a dedicated quality of employment survey following the model of the Finnish Quality of Working Life Survey could be developed. **Regardless of the approach adopted, additional data collection should be aligned with key LFS concepts and international standards, such as ICSE-18.**

146. Given the risk that new forms of employment such as platform work or other paid activities performed online are not understood as work by respondents **NSOs in higher-income countries could test their LFS questionnaire to evaluate the extent to which all employment is captured. In addition, NSOs could occasionally measure irregular paid activities that do not meet the minimum threshold of employment, that is 1h worked in a given week or being formally attached to a job but absent, as defined by the 13<sup>th</sup> and 19<sup>th</sup> ICLS.**

147. The EU-LFS *ad hoc* modules show the value of horizontal data collection initiatives as a strategic response to emerging policy issues of common concern. **The UNECE Group of Experts on Measuring Quality of Employment, in collaboration with other international organizations, should select annual job quality themes for statistical reporting, and encourage NSOs in the wider UNECE region to participate, on a voluntary basis, through targeted data collection and analysis.**

### **C. Consultations with stakeholders**

148. The review notes successful collaborations between policy departments and NSOs in countries such as Finland and the UK. **Whenever possible, NSOs should seek to collaborate with key stakeholders to identify emerging data needs related to NFE and quality of employment.**

### **D. Mediation and digital platform employment**

149. Variation in legislative and regulatory approaches across countries complicate efforts to streamline measurement strategies related to multi-party work relationships. NSOs seeking to initiate or update data collection on this topic may nonetheless benefit from having access to questionnaire examples and best practices. **The ILO Statistics Department, which presently shares documentation related to the implementation of ICSE-18 through its e-forum, should support NSOs by expanding the scope of the e-forum to cover promising measurement and data collection approaches related to multi-party employment.**

150. Finally, the review finds that digital platform work poses a unique challenge for NSOs as it involves both conceptual and measurement issues in a rapidly changing legislative and regulatory environment. The development of partnerships with platform companies for enhanced data collection through establishment surveys and other data sharing initiatives is warranted. Targeted online surveys and qualitative research would also help gather information about the work modalities associated with platform work, the person-level circumstances of platform workers, and the implications of platform work for quality of employment. However, to ensure that data collection and reporting on digital platform work is consistent with existing classifications and comparable across countries, **CES members**

**are encouraged to monitor the outcome of the ILO-EU-OECD collaboration on measuring digital platform work as well as the results of the Eurostat Task Force for Digital Platform Employment.**

## **VIII. DISCUSSION AND CONCLUSIONS BY THE CES BUREAU**

151. The Bureau made an in-depth review of new forms of employment in February 2021 based on a paper by Canada. The thorough and comprehensive review document by Canada was highly appreciated. The following comments were made in the discussion:

(a) The survey carried out as part of the in-depth review showed that interest from policy makers in statistics on new forms of employment is increasing, there are challenges with data collection and response burden, and concepts and definitions need to be clarified.

(b) The in-depth review recommends establishing a task force to develop a conceptual framework that identifies and maps the relationships between the 2018 International Classification of Status in Employment (ICSE-18) and other statistical concepts and frameworks. The changeover to ICSE-18 will be a major challenge for statistical offices. It will have effects beyond employment statistics, e.g., on entrepreneurship statistics and national accounts. It will be important for statistical offices to implement ICSE-18 in a coordinated and efficient way to ensure consistency across statistical domains.

(c) There is big interest in the changing labour market and the effects of the Covid-19 pandemic on new forms of employment. Standards and agreed definitions are needed for national purposes and for improving international comparability. ILO is mandated to develop definitions of platform work and can help contact countries from outside the region to share experiences. There is a need for more work on ICSE-18 and for a conceptual framework related to new forms of employment.

(d) New forms of employment have different social and economic implications in countries. In the EU member countries there is debate of how the pandemic has impacted different groups (e.g. employers, employees) and inequality more generally. Therefore, the task force should also consider relationships with social security schemes.

(e) Several initiatives on platform work and new forms of employment are ongoing, involving Eurostat, OECD, ILO and other organizations. The task force should take into account these initiatives, and ensure close coordination and consistency in the recommendations.

152. Canada, Ireland, Mexico, Poland, Eurostat, ILO and OECD would like to join the task force. Canada will be chairing. From the Steering Group on Quality of Employment, Finland, Germany, Israel, Singapore, Switzerland and WIEGO (Women in Informal Employment: Globalization and Organizing) have indicated an interest in participating in the task force.

### **Conclusion**

153. The CES Bureau decided to establish a task force on new forms of employment with the aim to develop a conceptual framework that identifies and maps the relationships between ICSE-18 and other statistical concepts and frameworks, as outlined in the in-depth review paper by Statistics Canada.

154. The terms of reference of the task force should be prepared as soon as possible by the countries/organisations that expressed interest in joining the work, in consultation with the

Steering Group on Quality of Employment and taking into account the above comments. The draft terms of reference should be circulated to the Bureau members for written consultation.

155. CIS-Stat translated the in-depth review paper into Russian and Statistics Canada into French. The paper will be published on the web in the UNECE statistical working papers series.

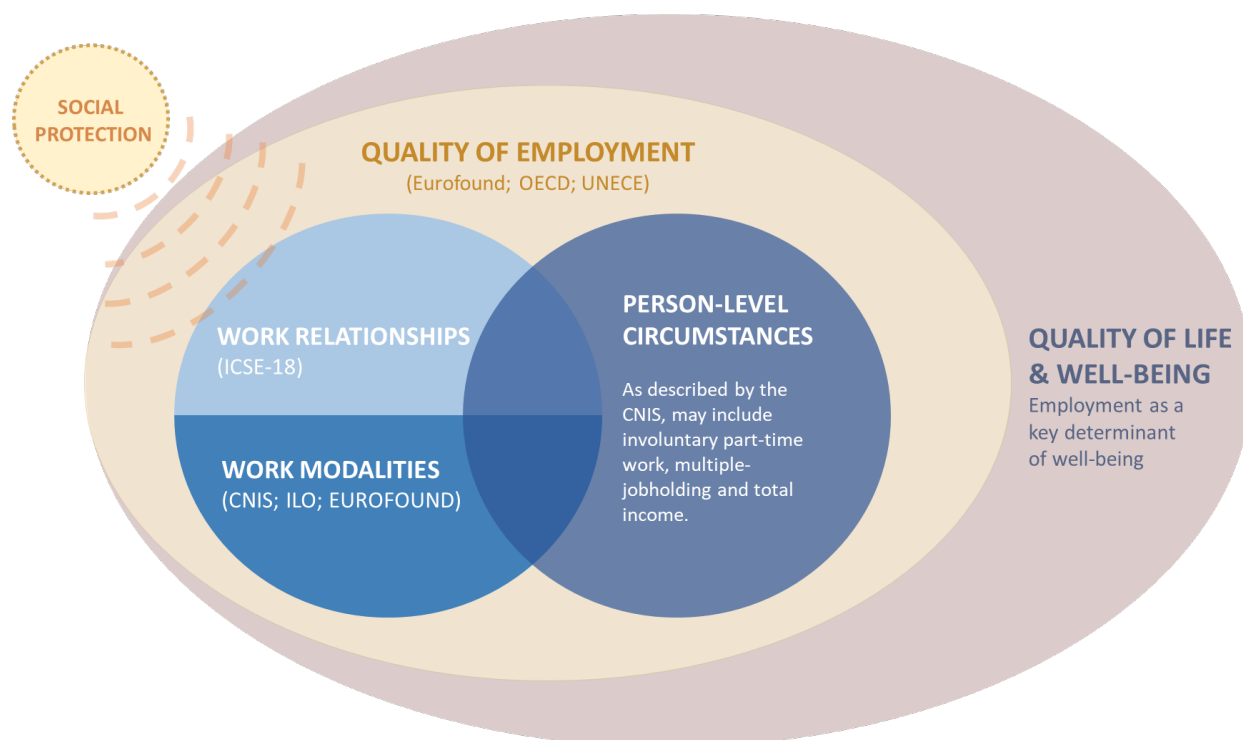
## **IX. ACKNOWLEDGEMENTS**

**Canada would like to thank all NSOs and international organizations who contributed to the report.**

156. Information on the activities of international organizations was collected through bilateral meetings held in November 2020. In parallel, an email questionnaire was distributed among member countries of the UNECE Group of Experts on Measuring Quality of Employment and the CES mailing list in November and December 2020. Additional exchanges and bilateral meetings were also held with a few NSOs. Overall, 29 NSOs provided feedback, of which 23 are UNECE member countries. A copy of the email questionnaire can be found in the appendix that follows.

## APPENDIX

### A. Proposed conceptual framework on forms of employment



In Figure 1, Statistics Canada proposes a possible framework as a point of departure for the work of the recommended Task Force. This version centres around ICSE-18 and the distinction between work relationships and work modalities. Drawing on the work of Eurofound and the CNIS in France, work modalities refer to the ways in which work is performed, including types of workplaces and work hours.

### B. Email questionnaire

Dear colleagues,

The Bureau of the Conference of European Statisticians (CES) will carry out an in-depth review of “New forms of employment” that will be discussed at the February 2021 meeting of the Bureau. The aim of in-depth reviews is to improve coordination of statistical activities within the UNECE region, identify gaps or duplication of work, and address emerging issues. All CES countries will be informed about the outcome of the review.

**Canada** is leading preparation of a paper to provide basis for the review.

For this purpose, we are reaching out to ask if you would be able to share information on the recent activities of your organization with regards to data collection or research on “new” or “non-standard” forms of employment. “New” and “non-standard” employment are concepts which refer to employment arrangements that differ from the standard employment relationship of permanent, full-time work and that have recently emerged or gained in importance. Recent key examples include casual work contracts and digital platform employment.

**We are particularly interested in the following questions:**

1. What kinds of questions are policy-makers asking in relation to new forms of employment in your country and what are the main data gaps?
2. What are your organization's current plans regarding the implementation of the International Classification of Status in Employment 2018 (ICSE-18)?
3. The non-standard or new forms of employment for which your organization is currently collecting data, or planning to collect data in the near future. This may include digital platform work, but also dependent self-employment, temporary contracts, the gig economy, telework and casual work.
4. What challenges is your organization facing in terms of collecting data on, and measuring new forms of employment?
5. In addition, please send us if you have any reports, questionnaire examples, and survey results relating to this topic (in English or French).

## REFERENCES

- Abraham, K. G., J. C. Haltiwanger, K. Sandusky, and J. R. Spletzer. (2018). “Measuring the Gig Economy: Current Knowledge and Open Issues”. *NBER Working Paper No 24950*. National Bureau of Economic Research, Cambridge. [https://www.nber.org/system/files/working\\_papers/w24950/w24950.pdf](https://www.nber.org/system/files/working_papers/w24950/w24950.pdf)
- Berg, J. (2016). “Income security in the on-demand economy: Findings and policy lessons from a survey of crowdworkers”. *Conditions of Work and Employment Series No. 74*. International Labour Organization, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---travail/documents/publication/wcms\\_479693.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_479693.pdf)
- Berg, J., M. Furrer, E. Harmon, U. Rani and M. S. Silberman. (2018). *Digital Labour Platforms and the Future of Work: Toward Decent Work in the Online World*. International Labour Organization, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_645337.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_645337.pdf)
- Cazes, S., A. Hijzen and A. Saint-Martin. (2015). “Measuring and Assessing Job Quality: The OECD Job Quality Framework”. *OECD Social, Employment and Migration Working Paper No. 174*. OECD, Paris, <https://doi.org/10.1787/5jrp02kjlmr-en>
- Conseil national de l’information statistique (CNIS). (2016). *La diversité des formes d’emploi*, No. 142.
- De Stefano, V. (2016). “The rise of the «just-in-time workforce»: On-demand work, crowdwork and labour protection in the «gig-economy»”. *Conditions of Work and Employment Series No. 71*. International Labour Organization, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---travail/documents/publication/wcms\\_443267.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---travail/documents/publication/wcms_443267.pdf)
- European Commission (EC). (2016). “A European Agenda for the Collaborative Economy”. *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions*. European Commission, Brussels. Accessed 25 November 2020. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016DC0356&from=EN>
- Eurofound (2015). *New Forms of Employment*. Publications Office of the European Union, Luxembourg. [https://www.eurofound.europa.eu/sites/default/files/ef\\_publication/field\\_ef\\_document/ef1461en.pdf](https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1461en.pdf)
- Eurofound. (2018). *Employment and Working Conditions of Selected Types of Platform Work*. Publications Office of the European Union, Luxembourg. [https://www.eurofound.europa.eu/sites/default/files/ef\\_publication/field\\_ef\\_document/ef18001en.pdf](https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef18001en.pdf)
- Eurofound. (2020). “New forms of employment: 2020 update”. *New Forms of Employment Series*. Publications Office of the European Union, Luxembourg. [https://www.eurofound.europa.eu/sites/default/files/ef\\_publication/field\\_ef\\_document/ef20027en.pdf](https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef20027en.pdf)
- Eurofound & ILO. (2019). “Working conditions in a global perspective”. Publications Office of the European Union and International Labour Organization. doi:10.2806/870542.

- Eurostat. (2018). “Labour Force Survey (LFS) ad-hoc Module 2017 on the Self-Employed Persons: Assessment Report”. European Union. doi:10.2785/284
- International Labour Office (ILO). (2013). “Room Document 8: Revision of the International Classification of Status in Employment (ICSE-93)”. *19th International Conference of Labour Statisticians 2-11 October 2013, Geneva*. International Labour Office, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms\\_222232.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_222232.pdf)
- ILO (2016). *Non-Standard Employment Around the World: Understanding Challenges, Shaping Prospects*. International Labour Office, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms\\_534326.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_534326.pdf)
- ILO (2018a). “Report II: Statistics on Work Relationships”. *20th International Conference of Labour Statisticians, 10-19 October 2020, Geneva*. International Labour Office, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_644596.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_644596.pdf)
- ILO. (2018b). “Room Document 9: Multi-party work relationships; concepts, definitions and statistics”. *20th International Conference of Labour Statisticians, 10-19 October 2020, Geneva*. International Labour Office, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms\\_636045.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/meetingdocument/wcms_636045.pdf)
- ILO. (2020a). *Update: Conceptual Framework for Statistics on Work Relationships*. International Labour Office, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_746768.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_746768.pdf)
- ILO. (2020b). “Discussion Paper: Informality and the measurement of dependent contractors”. *Second Meeting of the Working Group for the Revision of the Standards for Statistics on Informality*. International Labour Organization, Geneva.
- ILO. (2020c). “ILO Technical Note: Defining and measuring remote work, telework, work at home and home-based work”. *COVID-19: Guidance for labour statistics data collection*. International Labour Organization, Geneva. [https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms\\_747075.pdf](https://www.ilo.org/wcmsp5/groups/public/---dgreports/---stat/documents/publication/wcms_747075.pdf)
- Jeon, S.-H., H. Liu, and Y. Ostrovsky. (2019). “Measuring the Gig Economy in Canada using Administrative Data”. *Analytical Studies Branch Research Paper No. 437*. Statistics Canada, Ottawa. [https://dosm.gov.my/v1/uploads/files/7\\_Publication/Technical\\_Paper/Occasional\\_Paper/Social\\_Demography/27-Measuring-GIG-eco-in-Canada-using-admin-data.pdf](https://dosm.gov.my/v1/uploads/files/7_Publication/Technical_Paper/Occasional_Paper/Social_Demography/27-Measuring-GIG-eco-in-Canada-using-admin-data.pdf)
- McDonald, P., P. Williams, A. Stewart, D. Oliver, and R. Mayes. (2019). *Digital Platform Work in Australia Preliminary findings from a national survey*. Victorian Department of Premier and Cabinet. <https://apo.org.au/sites/default/files/resource-files/2019-06/apo-nid242706.pdf>
- Organisation for Economic Cooperation & Development (OECD). (2019a). *Policy Responses to New Forms of Work*. OECD Publishing, Paris. <https://doi.org/10.1787/0763f1b7-en>
- OECD (2019b). *OECD Employment Outlook 2019: The Future of Work*. OECD Publishing, Paris. <https://doi.org/10.1787/9ee00155-en>



- OECD. (2019c). “Measuring platform mediated workers”. OECD Digital Economy Paper No. 282. OECD Publishing, Paris. <https://doi.org/10.1787/170a14d9-en>
- OECD. (2019d). *The Sharing and Gig Economy: Effective Taxation of Platform Sellers: Forum on Tax Administration*. OECD Publishing, Paris, <https://doi.org/10.1787/574b61f8-en>
- OECD. (2020). *How's Life? 2020: Measuring Well-being*. OECD Publishing, Paris. <https://doi.org/10.1787/9870c393-en>
- Pesole, A., M. C. Urzì Brancati, E. Fernández-Macías, F. Biagi, and I. González Vázquez (2018). *Platform Workers in Europe*. Publications Office of the European Union, Luxembourg. doi:10.2760/742789, JRC112157.
- Shi, L., S. Li and X. Fu. (2020). “The Fourth Industrial Revolution, Technological Innovation and Firm Wages: Firm-level Evidence from OECD Economies.” *Revue d'économie industrielle*, Vol. 1, No. 69, pp. 89-125.
- UNECE (2015). *Handbook on Measuring Quality of Employment: A Statistical Framework, prepared by the Expert Group on Measuring Quality of Employment*. United Nations, New York & Geneva. [https://unece.org/fileadmin/DAM/stats/publications/2015/ECE\\_CES\\_40.pdf](https://unece.org/fileadmin/DAM/stats/publications/2015/ECE_CES_40.pdf)
- Urzì Brancati, C., A. Pesole and E. Fernández-Macías. (2020). “New evidence on platform workers in Europe: Results from the second COLLEEM survey”, *JRC Science for Policy Report EUR 29958 EN*. Publications Office of the European Union. doi:10.2760/459278
- Wood, A.J., M. Graham, V. Lehdonvirta and I. Hjorth. (2019). “Good Gig, Bad Gig: Autonomy and Algorithmic Control in the Global Gig Economy”, *Work, Employment and Society*. Vol. 33, No. 1, pp. 56-75.

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