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EUROPEAN MEASUREMENT OF WORKING CONDITIONS AND RELATED POLICIES: INVENTORY AND ASSESSMENT OF AVAILABLE DATA TOOLS

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European policy-oriented research can and must deliver useful contributions to tackle the Europe 2020 challenges of Inclusive Growth. Key tools in this social sciences research are all types of data earning statistics, administrative social data, labour market data, surveys on quality of live or working conditions, policy indicators. The project aims to integrate and optimise these existing European data infrastructures and accompanying expertise.

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1. Introduction

1.1 Overview of the chapters

This project has to be situated within the context of the inclusive growth priority of the Europe 2020 strategy, the growth strategy of the European Union. Here, the EU has set five ambitious thematic objectives to be reached by 2020; on employment, innovation, education, social inclusion and climate/energy. In addition to that, the 'EU Employment Package contributing to more and better jobs' was developed in order to complement the EU2020 strategy and the agenda for new skills and new jobs. With this Employment Package, the European Commission wants to boost job creation and focus on job-rich growth (COM 2020 final; European Commission, 2013) as well as to ensure the quality of new jobs. To evaluate this strategy and the progress, good measurement tools and indicators are necessary.

The general objective of the InGRID project is in relation to this policy strategy to integrate and innovate existing but distributed European social sciences research infrastructures on 'poverty and living conditions' and on 'working conditions and vulnerability'. InGRID as research infrastructure project wants to serve the social sciences community that aspires to make an evidence-based contribution to the European policy challenge of inclusive growth. It is a social sciences community that focuses on social in/exclusion, vulnerability-at-work and related social and labour market policies from a European comparative perspective. It is an interdisciplinary field of poverty research, labour studies, policy analysis and social statistics. Key tools in this social science research are all types of data: statistics on earnings, administrative social data, labour market data, surveys on quality of life or working conditions, and policy indicators.

In this deliverable of the project we present the data inventory and assessment work that we conducted in the field of comparative research on working conditions and vulnerability. The International Labour Organisation (ILO) defines working conditions as follows: "*Working conditions are at the core of paid work and employment relationships. Generally speaking, working conditions cover a broad range of topics and issues, from working time (hours of work, rest periods, and work schedules) to remuneration, as well as the physical conditions and mental demands that exist in the workplace*". Eurofound gives the following definition of working conditions: "*Conditions in and under which work is performed as regards the work environment and the time, place and organization of work. […] Nowadays, […] a broader definition of the term is coming to be accepted which also includes the economic dimension and its effects on living conditions and the social roles of employees.*" Van Houten, Cabrita and Vargas (Eurofound, 2014) look at working conditions as "the result of interaction between characteristics of a job, the work, the company and the individual". From a European perspective, this policy arena is defined with goals like 'sustainable work'. Eurofound defines sustainable work as 'living and working conditions are such that they support people in engaging and remaining in work'. Having a job and staying in a job is the key issue. The European Commission considers in this regard as inclusive when everyone of working age can participate in paid work, especially vulnerable and disadvantaged people.

Two policy domains can be differentiated in this regard focusing on more jobs and good jobs:

1. the first domain relates to various aspects of job quality. Green defines job quality as "the extent to which a job has work and employment-related factors that foster beneficial outcomes for the employee, particularly psychological well-being, physical well-being and positive attitudes such as

job satisfaction." (Green, 2006, in Holman 2012). It is a about modelling, designing and regulating job characteristics and the work environment;
2. the second domains has to do with labour market policies and regulations. It is about making the individual stronger to have and stay in the job and providing the right circumstances for this. This domain includes issues of skills, careers, employability and health.

Both the job (quality) characteristics and the labour market circumstances of the individual are or can be influenced by a set of policies and regulations at different levels. Relevant company (human resources) and public policies will have positive or negative short-term and long-term effects.

Key research infrastructure in this field of working life studies with a cross-national and policy-oriented focus are surveys. As already stated, social scientists employ and use a range of data and methods. However, in an analytical approach of cross-national and cross-sectoral investigating a series of job dimensions and connecting these to the policies and behaviours of a series of actors, survey material is very important.

Survey research is a commonly used method of collecting information about a population of interest. There are many different types of surveys, several ways to administer them, and many methods of sampling. Surveys are however the most valuable sources of information to assess working conditions. Surveys on working conditions aim at studying status and trends in working conditions and at identifying risk groups. These surveys allow us to obtain indicators to guide and define not only public policies but also actions carried out by the agents involved in this issue (Garcıa and Gil 1996). They provide data to analyse the situation, distribution and evolution of working and employment conditions and their health and productivity-related impacts. Surveillance of the work environment needs to include assessments being both cross-sectional – in order to point out vulnerable groups – and longitudinal – in order to allow the follow-up of trends.

1.2 Inventory of working conditions and occupational safety and health surveys (Lise Szekér & Guy Van Gyes)

A first chapter/paper focuses as a consequence on the available working conditions surveys in Europe. Seventeen active national and transnational surveys are inventoried on their scope, methodology and quality control procedures. This evaluation shows than only 10 have already a longer tradition and even less have a sort of cohort panel approach. A lot of variety reigns this landscape of national working conditions surveys in Europe. Sampling sizes range from 2500 to 80,000; duration of interviews varies between 20 minutes to one hour; response rate go from 30% up to 89%. The most common objective of the surveys are to be able to monitor or to get an up-to-date picture of the situation regarding working conditions and occupational safety and health. The scope is as a result mainly about working time, physical work environment, work organization and psychological risks. The outcome variables focus mainly on health aspects. The chapter concludes with the observation that only a small quality group of established surveys can be distinguished in Europe. This small group is situated in North-western Europe and includes Denmark, Sweden and Finland as the Nordic countries accompanied with the Netherlands, Germany and France. In other words only 6 EU-countries have a well-established and high-quality national tradition of working conditions surveys.

1.3 Measuring job quality with EWCS-data: towards an international standard for scale construction with EWCS 2010 (Anina Vercruyssen)

In the survey field of comparative research on working conditions in Europe, the European Working conditions Survey (EWCS) is – especially when taking this national landscape into account – a key resource. Since its launch in 1990 the European Working Conditions Survey has provided an overview of working conditions in Europe in order to:

- assess and quantify working conditions of both employees and the self-employed across Europe on a harmonised basis;
- analyse relationships between different aspects of working conditions;
- identify groups at risk and issues of concern as well as of progress;
- monitor trends by providing homogeneous indicators on these issues.

By providing several waves of rich survey data on a wide range of individual job characteristics and for minimal all the EU Member States, the EWCS laid the ground for progress in the development of a set of job quality indicators (Munoz et al., 2011). These provide an individual level approach, and enable to identify and observe poor working conditions for specific groups of workers. As such, it contributes as main comparative data source to European policy development in particular on quality of work and employment issues. An evaluation study of the fifth 2010 EWCS showed that from 2010 through to the end of 2013 the survey has been used in over 150 European policy reports or working documents. An additional review identified some 50 or more academic articles published during the same period (Eurofound, 2014). The value of the EWCS for the InGRID research and policy community can in other words not be underestimated. The survey is organized and provided by the European Foundation for the Improvement of Living and Working Conditions. Taking this highly valued central position of the EWCS data in the InGRID community as a starting point, the second chapter/paper of this InGRID report implies as an exercise – positive, but critical – the Total Survey Error evaluation framework to the EWCS data collection. The question whether there are (maybe) methodological elements of improvement to detect, is tackled from this methodological ideal type quality framework.

This evaluation confirms once again that the EWCS is currently the most complete source of information on working conditions and job quality in Europe. It has in this regard to be stressed that this key resource status goes without any backing by a legal statistical framework (cf. Eurostat coordination and official supervision to organize for example the sample frames) and the costs are fully covered by the European agency alone. Taken these organizational constraints into account, the following points of attention can be stressed in relation to this EWCS:

- sample sizes have their limitations to start analysis below country-level (sub-country, sector);
- the survey has a longitudinal scope, but contains no cohort method, which limits making conclusions over-time (for example within an individual job career);
- the use of the random walk sampling method makes reaching respondents in remote areas a challenge.

More cognitive pre-testing, stronger documentation of the field work and experimenting with auxiliary data from other sources to enrich the database are suggested as possible improvements. Linked to the variety of national surveys a plea is made to increase the stability of included variables and answer categories over waves and to be more than ever a driver of theory-driven harmonization of scales and indexes.

1.4 Inventory of linked employer-employee surveys on working conditions and occupational health and safety issues (Nathalie Greenan & Majda Seghir)

Linked employer-employee data can fill an important gap in the set of data used to study working conditions, shedding light on questions that cannot be addressed using firm- or individual-level data alone. From a research perspective, these kind of data provide complementary information whereby information of the one is enriched by information from the other one. For particular questions the most informed can be chosen. In a multi-level approach the organization or group can be taken into account. This kind of data gathering results in a richer set of information with more variables, better estimates and larger possibilities for causal analysis. From a policy perspective it contributes to hard

facts from different stakeholders, it enlarges the possibilities to monitor the impact of labour market policies and other interventions from government. Including the organizational perspective in working conditions research creates opportunities to investigate better the interaction with other policy areas (innovation, skills and social dialogue). Possible drivers or barriers can be detected at different levels (individual employee, organizational management). The inventory by Seghir et al. illustrates the two forms of linked surveys (linked employer-employee and linked employee-employer) and their advantages and drawbacks. Fifteen national surveys from eight countries are identified in the inventory. Half of them are only carried out once, which limits the possibilities to grasp dynamics of organizational and employment changes. In general it is difficult to obtain the data and documentation, so transnational access of the data is seriously hampered. All-in-all it is concluded that the concept of linked data is still not widespread, despite its richness as tool to survey and analyse working conditions in its organizational and managerial context.

1.5 Inventory of working conditions and occupational safety and health policy data bases (Ine Smits & Guy Van Gyes)

The development of comparative indicators on policies in the area of working conditions, can be considered as a 'black box'. The inventory of comparative policy databases – presented in the fourth chapter of this report – shows that a series of comparative text bases exit on especially OSH policies. Legal textual databases are provided in particular by the International Labour Organisation (ILO). Company surveys of European agencies complement this picture with information on company management policies in relation to training (CVTS by CEDEFOP/Eurostat), occupational health and safety management (ESENER survey from OSHA-Bilbao) and HR policies, work organisation & industrial relations (European company survey from Eurofound). However, distilling from these comparative information on government and company policies, comparative indicators on policies is largely in its infancy. Besides the recurrent employment protection legislation indicators of the OECD, and the process indicators on collective bargaining in the ICWTSS database only some ad-hoc exercises exist.

In the rest of the report, these different inventories and evaluations are presented in separate chapters. The report is concluded with an epilogue discussing the current reality of European data tools for the comparative measurement and policy-related analysis of working conditions.

2. Inventory of working conditions and occupational safety and health surveys

2.1 Introduction

2.1.1 Context of research

This working paper was written for the InGRID project[1] (Inclusive Growth Research Infrastructure Diffusion). The project can be situated within the context of the inclusive growth priority of the Europe 2020 strategy, the growth strategy of the European Union. In this strategy, the EU has set five ambitious objectives - on employment, innovation, education, social inclusion and climate/energy - to be reached by 2020. The 'EU Employment Package contributing to more and better jobs' was developed to complement the EU2020 strategy and the agenda for new skills and new jobs. With this Employment Package, the European Commission wants to boost job creation and to focus on job-rich growth (COM 2020 final, 2010; European Commission, 2013) as well as to ensure the quality of new jobs. To evaluate this strategy and the progress, good measurement tools and indicators are necessary.

This is where the InGRID project aims to contribute. The general objective is to integrate and innovate existing but distributed European social sciences research infrastructures on 'poverty and living conditions' and on 'working conditions and vulnerability. In this regards, specific attention is among others given to better measurement and indicators. In this light one of the task within Work Package 21 'Innovative tools and protocols for working conditions and vulnerability research" is to integrate existing repositories on working conditions and occupational safety and health (OSH). This working paper discusses the first of three inventories related to working conditions and OSH in Europe. The inventory bundles national and transnational surveys on working conditions and OSH in European countries, which focus on individuals (employees). In next working papers, an inventory of linked employer-employee surveys and an inventory of policy data bases on working conditions and OSH will be discussed.

2.1.2 Working conditions and occupational safety and health in short

Working conditions is a frequently used concept which covers a broad range of aspects related to work. Nevertheless, it is difficult to find a clear and straightforward definition of this concept. Van Houten, Cabrita and Vargas (Eurofound, 2014b) look at working conditions as "*the result of interaction between characteristics of a job, the work, the company and the individual.*" This includes work-related aspects such as working time and working hours, income, work-life balance, work organisation (team work, autonomy, multitasking, etc.), skills and training, employee representation, psychological and physical environment, etc. In the European industrial relations glossaries,[2] Eurofound gives the following definition of working conditions: *"Conditions in and under which work is performed as regards the work environment and the time, place and organization of work. […] Nowadays, […] a broader definition of the term is coming*

1 www.inclusivegrowth.be

2 http://eurofound.europa.eu/efemiredictionary/working-conditions

to be accepted which also includes the economic dimension and its effects on living conditions and the social roles of employees."

Working conditions are often mentioned in one go with the concept of job quality or quality of work. Green defines job quality as *"the extent to which a job has work and employment-related factors that foster beneficial outcomes for the employee, particularly psychological well-being, physical well-being and positive attitudes such as job satisfaction."* (Green, 2006, in Holman 2012). Working conditions thus can be seen as several factors determining the quality of work. Job quality and working conditions are also brought in relation with outcomes, like health aspects, (job)satisfaction and work attitudes (Holman, 2012).

The list of working conditions is long and there is a large variety amongst them. Within the job quality research tradition several attempts have been done to group all the different working conditions and work-related factors into dimensions or groups. One of these attempts is the classification of Green and Mostafa (Eurofound, 2012b) who list three areas of job quality: work quality, employment quality and empowerment quality. Another model is the JWES model which outlines four dimensions (job content, working conditions, employment conditions and social relations) covering all types of working (Vandenbrande et al., 2012) or the more limited and related WES model with three dimension: work organisation (covering job content and working conditions), employment conditions and social relations (Ramioul, Szekér, & Vandekerckhove, Forthcoming). Table 2.1 shows a list of working conditions that can be allocated to these three dimensions. However this list is not exhaustive.

Table 2.1 Working conditions and work-related aspects and the three dimensions of the WES model

Work organisation	Employment conditions	Social relations
Task autonomy Task complexity Autonomous team work Planning autonomy Repetitive tasks Emotional pressure Dealing with people Speed pressure Risks (ergonomic, ambient and bio-chemical) Fixed workplace	Wage Permanent contract Full time work Variable working time arrangements Atypical working time arrangements Career opportunities Training	Voice Say Social support Supportive management Violence and harassment

Source Ramioul, Szekér, & Vandekerckhove, 2014

These models of job quality allow us to look at working conditions from a broad perspective by taking the employment conditions and social relations into account. This broad perspective will allow us to evaluate the scope of each of the surveys and get a clear picture on which aspects they try to cover in the survey. Therefore we will also look at the outcomes related to working conditions and job quality that are assessed in the surveys.

The ILO (Alli, 2008) defines occupational safety and health(OSH) as follows: *"the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on surrounding communities and the general environment."*

OSH thus is strongly related with working conditions such as risks, emotional pressure, speed pressure, etc. However, the domain of OSH is much broader and also includes measures taken to promote health and safety. It also requires an assessment of for example the health status (and changes in it), accidents, work-related health problems, absenteeism, etc. Therefore we will also evaluate to which extent the surveys question OSH issues.

2.1.3 Scope of the working paper

In this working paper an overview will be given of currently active national surveys on working conditions and OSH. Further their methodology, data, topics and objectives, sample size, etc. will be compared. Next to this, metadata on the latest version of each of the surveys is produced and available in Nesstar format.

In the next chapter we will first go more into detail about the methodology used and give some clarification on the metadata and Nesstar tool. The third chapter is devoted to the comparison of the included national surveys on working conditions and OSH. This starts with a general description of the surveys and their organisers and funding. Secondly, the survey methodology is discussed focussing on the timing and frequency of the survey, the survey population and survey design. The third part looks at the data collection mode and the questionnaire. Afterwards the sampling method, sample size and response rates are commented. In the next part, the survey objectives are listed, as well as the topics covered in each of the surveys. Following this an overview is given of the available survey documentation. Finally the quality control procedures used are discussed.

Some preliminary remarks can be made regarding this inventory. First, in most cases only the information on the latest version of the survey is included. When substantial changes over time are made, these might also be discussed when relevant. However the focus of this working paper is to provide an overview of the current available national surveys. Therefore a focus on the latest version is relevant. Second, no references are included in the tables to enhance the readability of the tables. Otherwise the tables would be covered with references and the actual content and purpose (overview, comparability, etc.) might be lost. In appendix 1 (see original document), the used references for each of the surveys are listed. A third remark is that the tables often only use the abbreviations of the surveys. In the first overview table of the surveys both the whole name and the abbreviation of the survey are given. Most of the used abbreviations are the official abbreviations. In some cases, when no abbreviation exists, an abbreviation was made for sake of simplicity.

2.2 Methodology and inventory

2.2.1 Selection of the surveys and search criteria

For this inventory, 17 surveys were selected based on a set of criteria. The first criterion is topical. Surveys with a focus on working conditions and on occupational safety and health (OSH) are selected. Secondly, only national or transnational surveys in European countries are included, which focus on the national level and cover (almost) all groups of employees and sectors. Only recent surveys, which have taken place in the last five years, are selected. Another criterion is that there is more than one wave done or planned in the near future.

The surveys were selected by consulting the three Eurofound studies (Eurofound, 2003, 2007f, 2014a) on working conditions surveys and other Eurofound reports which discuss findings from these national surveys. Other studies on working conditions were consulted to identify national surveys and collect documentation on these surveys. National and transnational data archives (such as CESSDA) were also used. Besides this, only the surveys for which some documentation in English, French, German or Dutch could be found were included.

2.2.2 Metadata and Nesstar inventory

2.2.2.1 Metadata

Metadata are data about data. It is a set of data that provides (descriptive) information on for example the application of data, content of data, data producers, etc. *"Metadata is structured information that describes, explains, locates, or otherwise makes it easier to retrieve, use or manage an information resource."* (National Information Standards Organization (U.S.), 2004).

Creating descriptive metadata for an inventory starts with deciding which information will be listed and which template will be used. Since the InGRID project among others wants to harmonise the existing European data infrastructures and enhance comparability, it seems appropriate to look for international used standards for metadata and ensure the alignment of the created metadata with existing metadata in European archives (ICPSR, 2012).

Web search and consultation of major and prominent European data archives in social sciences, show a widespread use of the DDI (Data Documentation Initiative) standards as well as the Nesstar tool to produce and publish metadata, and make it available online. Therefore, it seems appropriate to follow this trend and develop the metadata of the InGRID inventories according to DDI standards, using the Nesstar publisher software.

2.2.2.2 Data Documentation Initiative (DDI)

Within the social sciences research field, the Data Documentation Initiative (DDI) provides metadata specifications for creating metadata for datasets (www.ddialliance.org). Together with many other initiatives, the DDI aims to create an international standard for describing data from social, behavioural and economic sciences. The DDI is used by many social science data archives in the world, and provides an international XML-based (eXtenisble Mark-up Language) descriptive metadata standard. The use of XML-code enables easy internet access of the data and metadata, and makes them machine readable and processable. It allows creating a single document, including all information and key data documentation, creating a richer and more comprehensive content about data. The data and metadata can be viewed online, used for sub setting and online analysis or downloaded. The standard and codebooks allow for metadata and data to be exchanged, as well as precision in searching through the tagging system in the code. The DDI aims to support the entire research data life cycle.

Backside of the XML-code, is the complexity of the language, which makes it less easy and accessible to read and write. However, several tools are developed to facilitate this, such as codebooks, software, etc.

2.2.2.3 Nesstar

Nesstar is a software system for data publishing and online analysis (www.nesstar.com). It exists of three linked software tools: Nesstar Publisher, Nesstar Server and Nesstar Web View. Nesstar is owned by Norwegian Social Science Data Services (NSD)
(http://www.nsd.uib.no/nsd/english/index.html).

Nesstar Publisher is freeware and allows importing, preparing and publishing data, including metadata (using DDI standards). It is a complete metadata authoring tool. Files can also again be exported or pdf documents can be created, summarizing the content of the Nesstar file. Using the Nesstar Server, these data and documentation files can be provided online, using a web server. With Nesstar Web view users can search for data, browse datasets, analyse and download data online.

Examples of data archives using Nesstar are:
- CESSDA (http://www.cessda.net/catalogue/);
- UK Data Services (http://nesstar.ukdataservice.ac.uk/webview/);
- NSD (http://nsddata.nsd.uib.no/webview);

- GESIS (http://zacat.gesis.org/webview/);
- ESS (http://nesstar.ess.nsd.uib.no/webview/);
- and many others.

For the creation of the inventory and metadata, Nesstar Publisher will be used. No knowledge of XML is needed, and DDI documented datasets can be easily imported, created and edited.

2.2.2.4 Nesstar Publisher

Nesstar Publisher can be downloaded and is freeware. Once installed on the computer, it is easy useable and accessible. Metadata files retrieved from other data archives can be imported easily and adjusted if necessary. It is easy to organise all documentations in folders. New datasets and documentations can be created easily. Table a1.1 in the appendix (see original document) gives an overview of the topics and information that can be included.

2.2.2.5 Inventory of national surveys on working conditions and occupational safety and health issues

Next to this working paper, an inventory is created using Nesstar. This inventory includes the metadata of the last edition of each of the discussed surveys. Where already available, the metadata of earlier editions are already included. With time, this inventory might be expanded with the metadata of all the earlier editions of the surveys.

2.3 Comparison and overview of the surveys

2.3.1 The surveys

2.3.1.1 Selection of national surveys on working conditions and OSH

The scope of this inventory is on national or transnational working conditions surveys in European countries, which focus on the national level and cover (almost) all groups of employees and sectors. Further, the survey must have taken place within the last five years and more than one wave has to be done or planned in the near future. With this in mind 17 recent surveys were selected, covering 11 European countries.

In some countries more than one survey was selected (Austria, Finland, France, Italy and Spain). Further, some surveys changed names over time - sometimes linked with changes in the survey scope or methodology. However, because these surveys and the results are to some extent comparable over time, previous versions of the surveys are included in this overview. Since methodology, sample, questionnaires in some cases changed over different versions, they are discussed separately when necessary.

- the Working Environment and Health in Denmark (WEHD) study is a continuation of the Danish Employee study (WEC), later called the Danish Work Environment Cohort Study (DWECS). Differences between the WEC and DWECS are very limited and therefore they will be discussed together. The WEHD differs more from its predecessors and will be discussed separately;
- the Swedish Longitudinal Occupational Survey of Health (SLOSH) is a continuation of the Swedish Work Environment Surveys (SWES). Since the SLOSH is a distinct project from the SWES, it is also useful to discuss this survey separately;
- the Germany BIBB/IAB survey changed name due to a change in the funding and organisers of this survey, and is now called the Germany BIBB/BAuA survey. The changes are mainly directed

towards the change in name and funding, and there was only a limited impact on the survey itself. Therefore they will not be discussed individually;
- the Netherlands Working Conditions Survey (NEA) has a subset which follows a cohort between 2007 and 2009, the NEA-cohort study. However, since this cohort is incorporated in the NEA itself, it is not necessary to discuss it separately.

Table 2.1 gives an overview of the selected surveys (and their predecessors), with their original name in the language of the country and an abbreviation.[3] These abbreviations will be used throughout the report.

The table and figure 2.1 show the countries in which working conditions are regularly questioned using a national survey. Not surprisingly, the Scandinavian countries with a long tradition in research and surveys on working conditions (Finland, Denmark, Sweden and Norway) are all represented with one or several surveys. Also in continental Europe, these surveys are rather widespread (France, Austria, Germany, the Netherlands). In the Southern European countries, except Spain and Italy, and Eastern European countries, except Bulgaria, surveys on working conditions are much less prevalent. This can however partly be related to problems in identifying the surveys due to language issues. Only those surveys for which at least some information was available in English, French, German or Dutch are included in this report.

3 Where available the (English version of the) official abbreviation of the survey name is used. When there was no abbreviation available or used in related documents, the survey name was abbreviated using the first letter of the words included in the English version of the survey name. These abbreviations are indicated in the table.

Figure 2.1 Countries for which a national survey is included

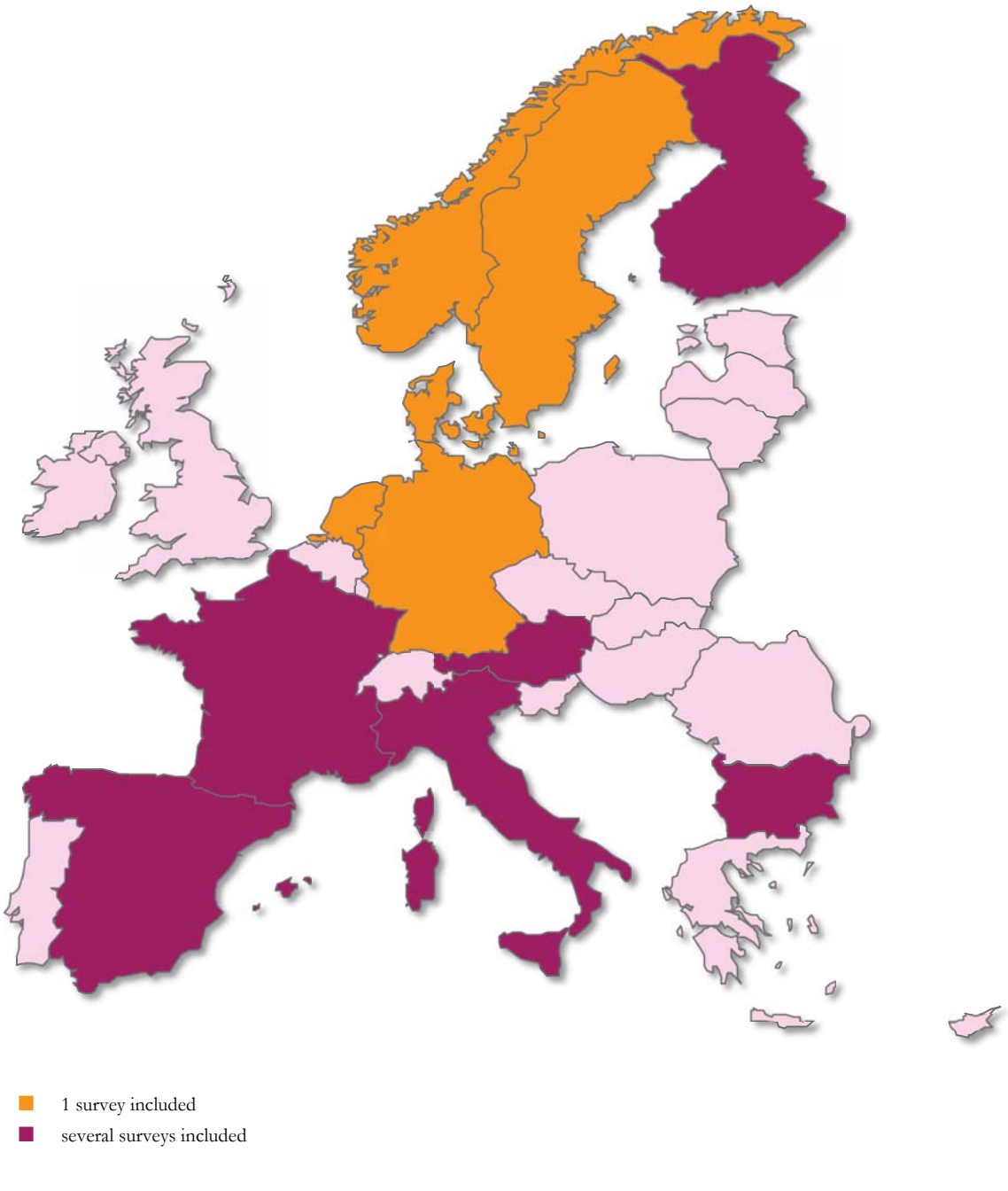


Table 2.2 Overview of the selected surveys

N°	Survey	Original name	Abbreviation	Country
1	Austrian Occupational health monitor	Österreichische Arbeitsgesund-heitsmonitor	AOHM [1]	Austria (AT)
2	Austrian Work Climate Index	Österreichische Arbeitsklima Index	AI	Austria (AT)
3	National Working Conditions Survey in Bulgaria	Национално изследване на условията на труд в България	NWCS BG*	Bulgaria (BG)
4	Working Environment and Health in Denmark	Arbejdsmiljø	WEHD	Denmark (DK)
4b	*Previously: Danish Employee Study and later the Danish Work Environment Co-hort Study* [2]	*Den Nationale Arbejdsmiljøkohorte (NAK)*	*WEC/DWECS*	*Denmark (DK)*
5	Finnish National Work and health survey	Työ ja Terveys – Haastattelututkimus	FNWHS*	Finland (FI)
6	Finnish Quality of work life surveys°		FQWLS	Finland (FI)
7	Finnish Working Life Barometer		WLB	Finland (FI)
8	The Medical Monitoring Survey of Professional Risks	Surveillance Médicale des Expositions aux Risques Professionnels	SUMER	France (FR)
9	L'enquête Conditions de travail	L'enquête Conditions de Travail	CT	France (FR)
10	Germany BIBB/BAuA Survey *Previously BIBB/IAB Survey*	Erwerbstätigenbefragung - Arbeit und Beruf im Wandel, Erwerb und Ver-wertung beruflicher Qualifikationen	BIBB/BAuA survey	Germany (DE)
11	PLUS - Participation, labour, unemployment survey		ISFOL PLUS*	Italy (IT)
12	Quality of work survey	La qualità del lavoro	ISFOL QWS*	Italy (IT)
13	Netherlands working conditions sur-vey, *including the NEA-cohort study*	Nationale Enquête Arbeidsomstan-digheden *(- cohort)*	NEA	The Netherlands (NL)
14	Level of Living Survey, Working Con-ditions		LKU	Norway (NO)
15	National Survey on Working Condi-tions	Encuesta Nacional de Condiciones de Trabajo	ENCT	Spain (ES)
16	Quality of working life survey	Encuesta de Calidad de Vida en Eltra-bajo	ECVT	Spain (ES)
17	Swedish Longitudinal occupational survey of Health	Riksrepresentativ longitudinell ar-betsmiljöundersökning	SLOSH	Sweden (SE)
17b	*Previously: Swedish work environment sur-veys* [3]	*Arbetsmiljöundersökningen (AMU)*	*SWES*	*Sweden (SE)*

1 = non official abbreviation.
2 These previous editions/precessors of the WEHD will be included in the discussion since some changes and evolutions in the survey can be of relevance.
3 This precessor of the SLOSH will be included in the discussion since some changes and evolutions in the survey can be of relevance.
° Used to be called the Working Conditions Survey (1977-1984)
Source see appendix 1 in original document

2.3.1.2 Organisation and funding

Table 2.2 gives an overview of the organisers and funders of the surveys. This information was not always easy to find and sources contradict each other frequently (which can often also be linked to translation errors for the original language to English). In addition, funders or organisers sometimes change throughout the life cycle of a survey. Some cofounders for example are only involved in one specific edition of a survey.

The majority of the surveys are funded by a governmental institution (department, ministry, etc.). The studies are often carried out and/or organised by (national) research institutes. Also governmental-funded institutes and statistical offices are also often involved in organising these surveys. In some cases, EU (co)funding is provided for the survey.

Further we can also notice that the organisation of a survey is more often done by only one institute than as cooperation between different instances. The funding of the survey, however, is more often a cooperation of different governmental instances and other institutions. In addition we see that it is very rare that the same institution organises and executes the survey as well as fully funds the survey (3 surveys). In most surveys, the funding institutions are not involved in the organisation and execution of the survey (10 surveys). In four of the surveys, the organiser of the survey is also one of the funders, but not the only funder.

Table 2.3 Organising institute/organisation and type of funding of survey

Country	Survey	Organised by/carried out by	Type	Funded by	Type
AT	AOHM	Institute for Empirical Social Research (IFES)	R	Upper Austrian Chamber of Labour/AK (arbeitkammer)	G
AT	AI	IFES Institute for social research and analysis (SORA)	R	AK (arbeitkammer)	G
BG	NWCS BG	Balkan institute for labour and social policy (BAD) Gesundheitsvorsorge und sicherheitstechnik (GmbH) Scientific and research centre at Sofia University, St Kliment Ohridski	R Ra	General Labour Inspectorate of Bulgaria support of Operational Programme 'Human Resources Development' cofinanced by the European Social Fund of the EU	G EU
DK	WEHD	National Research Centre for the Working Environment (NRCWE)	Rg	NRCWE	Rg
DK	WEC/DWECS	*NRCWE, formerly the National Institute of Occupational Health*	*Rg*	*NRCWE*	*Rg*
FI	FNWHS	Finnish Institute of Occupational Health (FIOH)	Gf	Ministry of social affairs and health FIOH	G Gf
FI	FQWLS	Statistics Finland	S	Ministry of Employment and Economy (MEE) Ministry of Social Affairs and Health Finnish Work Environment Fund State Treasury Finnish Institute of Occupational Health Finnish Centre for Pensions Local Government Pensions Institution Centre for Occupational Safety Social Insurance Institution Finnish rehabilitation Foundation	G Gf
FI	WLB	MEE	G	MEE	G
FR	SUMER	Directorate for Research, Studies and Statistics (Dares) General Directorate of labour (DGT)	G	DGT General Directorate of Administration and the Public Sector (DGAFP)	G Gf
FR	CT	Dares INSEE	G	DGT Dares (Ministry of Work, Employment, Vocational Training and Social Dialogue) DGAFP	G Gf

Country	Survey	Organised by/carried out by	Type	Funded by	Type
DE	BIBB/ BAuA	1998/99-2011/12: BIBB & Federal Institute for Occupational Safety and Health (BAuA) 2006 & 2012: data collection by TNS Infratest Sozialforschung *1979-1991/92: Federal Institute for Vocational Training Affairs (BIBB) & Institute for Employment Research (IAB)*	G Gf R	Federal ministry of education and research	G
IT	ISFOL PLUS	The institute for the Development of vocational Training of Workers (ISFOL)	G	Ministry of labour European social fund (ESF)	G EU
IT	ISFOL QWS	ISFOL	G	ESF	EU
NL	NEA	TNO Work and employment and Statistics Netherlands CBS (central statistical office)	R S	Ministry of social affairs and employment (SZW)	G
NO	LKU	Statistics Norway (SSB)	S	Arbeids – og inkluderingsdepartementet (AID) Statens institutet for arbeidsmiljøforskning (STAMI)	G Rg
ES	ENCT	INSHT under the auspices of the Ministry of Employment and social security	G	Spanish Ministry of employment and Social Security	G
ES	ECVT	Spanish Ministry of Labour and Social security	G	Spanish Ministry of Labour and Social security	G
SE	SLOSH	Stress Research Institute (Stressforskningsinstitutet) part of Stockholm University	Ra	Swedish Council for Working Life and Social Research (FAS) Swedish Research Council (VR)	G Gf
SE	SWES	*Swedish Work Environment Authority (AV)*	*G*	*AV* *Statistics Sweden (SCB)* *Ministry of employment of the Swedish government*	S Gf G

* G = Governmental
Gf = Governmental funded institute/organisation
S = Statistical office
R= research institute
Rg = Governmental funded Research Institute/organisation
Ra = Academic/Independent Research institute/organisation
EU = funded by the EU

Source see appendix 1 in original document

2.3.2 Survey methodology

2.3.2.1 Timing and frequency

Table 2.3 gives an overview of the editions of each survey, whether and when next editions are planned and the frequency of the surveys.

The frequency of the surveys varies between quarterly (two Austrian surveys) and every seven years (4 surveys). Other survey frequencies are organised annually (3 surveys), biennial (3 surveys), every 3 to 4 years (4 survey) and every 4 years (2 surveys). One survey is done on a variable frequency (between 2 and 5 years). Of the NCWS BG the frequency is still unknown since a next edition is not yet planned. A long timespan between two subsequent surveys (up to 7 years) is not problematic for working conditions surveys. Working conditions appear to change slowly, so a longer time period is useful to be able to capture changes in these working conditions.

From the surveys, one (the EVCT) has ended and no next edition will be done. Some others are continued in a new version of the survey. From four of the surveys it is unknown whether a next

edition of the survey will take place and when this will be. For the other twelve surveys a next edition is already planned or while most probably be done.

Table 2.4 Timing, frequency and periodicity of the surveys

Country	Survey	First edition	Editions	Latest edition	Next edition	Frequency
AT	AOHM	2006	Every 4 months	2014/1	2014/2	Quarterly
AT	AI	1997/1	Every 4 moths	2014/3	2014/4	Quarterly
BG	NWCS BG	2010-2011			Unknown	
DK	WEHD	2012			2014 (until 2020)	every 2 years
DK	*WEC*	*1990*		*1995*	*Ended – name changed to DWECS*	*every 5 years*
FI	*DWECS*	*2000*	*2005*	*2010*	*Ended – followed by WEHD*	*every 5 years*
FI	FNWHS	1990	1997, 2000, 2003, 2006, 2009	2012	likely in 2015	every 3 years
FI	FQWLS	1977	1984, 1990, 1997, 2003, 2008	2013	Unknown	1977-2003: every 7 years 2003 - every 5 years
FR	WLB	1992 (October)	1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007,2008, 2009, 2010, 2011, 2012	2013	2014	Annual
FR	SUMER	1987	1994, 2003	2010	2017	More or less every 7 years
DE	CT	1978	1984, 1991, 1998, 2005	2013	Probably 2020	Every 7 years complementing l'enquête Emploi (de l'Insee)
IT	BIBB/BAuA	1979	1985/86, 1991/92, 1998/99, 2005/06	2011/12	2017/2018	Variable: every 6/7 years
IT	ISFOL PLUS	2004 (pre-test survey without a section on quality of work, with almost 10 000 interviews)	2005, 2006, 2008, 2010, 2011	2013		Every 1 to 2 years
NL	ISFOL QWS	2002	2006	2010	2014	Every 4 years
NO	NEA	2003	2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012	2013	2014	Annual
ES	*NEA-cohort*	*2007*	*2008*	*2009*	*ended*	*Annual*
ES	LKU	1989	1993, 1997, 2000, 2003, 2006	2009		Module included every 3/4 years
SE	ENCT	1987	1993, 1997, 1999, 2004, 2007	2011	2015	Variable: more or less every 4 years
SE	ECVT	1999	2000, 2001, 2002, 2003, 2004, 2006, 2007, 2008, 2009	2010	Ended	Annual – not in 2005
SE	SLOSH	2006	2008, 2010	2012	2014	Every 2 years

Country	Survey	First edition	Editions	Latest edition	Next edition	Frequency
SE	*SWES*	*1989*	*1991, 1993, 1995, 1997, 1999, 2001, 2003, 2004, 2005, 2007*	*2007*	*Ended – replaced by SLOSH*	*Every 2 years*

Source see appendix 1 in original document

Some surveys have a very long tradition, with three surveys going back into the Seventies. Three other surveys started in the '80 and four in the '90. Only five of the surveys here discussed started after 2000 (and have no predecessor). Further, two surveys which started after 2000 are continuations of surveys started in 1989 or 1990.

This long tradition that exists in most of the surveys provides us with rich and large data sets over a long period of time and enables researchers to monitor changes in working conditions over time. However, this might also impact the surveys for example in terms of methodology, items included, topics addressed, etc. Once a survey is running, it is a difficult exercises to balance between adding new items and changing items in your survey to improve the survey and keep it up to date on the on hand, and keeping items stable in the survey to ensure comparability over time on the other hand.

2.3.2.2 Survey population

The vast majority of the surveys (11) focus on people in employment. The exact definition of this group sometimes differs. Self-employed are in some cases excluded out of the survey, as well as other a-typical, hard-to-cover groups (such as public sector, temporary workers, foreign workers, unemployed, family workers, students, apprentices, etc.). In some surveys, specific questions for either employees or self-employed are included. The base population of regular wage earners, however, is always included.

Table 2.4 gives a detailed overview of the target population of each survey as well as specific exclusion criteria. In some surveys the people 'in employment' are defined as someone who has worked (in a paid job) more than 10 hours in that week. Other definitions are also used.

Table 2.5 Survey population

Country	Survey	Territorial scope	Economic activities	Population	Age	Excluded	Population size
AT	AOHM	national		Employees	older than 16		
AT	AI	national	all	Employed persons	15 and older	self-employed	
BG	NWCS BG	national	all sectors according to NACE 2008	employees working in companies with 6 or more employees			2279565 employees working in 63335 companies
DK *DK*	WEHD *WEC/DWECS*	national *national*	all *all*	Danish active population who are employed or self-employed *employment status: employees, self-employed and unemployed + residence in Denmark*	18-64 *18-59*		
FI	FNWHS	national	all	employees and self-employed who were working at the time of the study- Finnish speaking	20-68		2800861
FI	FQWLS	national	all	employment status: employees who normally work at least 10 hours per week	15-64	not include workers with summer jobs (selected in March/April already)	2 million
FI	WLB	national	all	employees who work at least 10 hours a week	18-64		2146000
FR	SUMER	metropolitan France + overseas department of Reunion (since 2010)	companies covered by the general scheme of French occupational medicine regulation (whole private sector + most public hospital + state-owned company + large parts of public administration	wage earners monitored by the occupational physician			22 million
FR	CT	national + four overseas departments (since 2013)	private and public sector	employees		Excluded are some temporary construction workers, youth, foreigners in unemployment, workers in hospitality, schools and hotels	21,7 million/90% of workforce
DE	BIBB-BAuA	national	all	employees working in a paid job for at least 9 hours a week) (including working family members, parental leave, ...)	15 years and older	apprentices in vocational training, students, people with internships - changes in region included over time	34 million

Country	Survey	Territorial scope	Economic activities	Population	Age	Excluded	Population size
IT	ISFOL PLUS	national	all		18-75		44 million
IT	ISFOL QWS	national	all	employed population	older than 16		23 million
NL	NEA	national		employees (including self-employed as second occupation)	15-64	self-employed	
NO	LKU	national	all	individuals-persons in Norway	16 and older		
ES	ENCT	Spain except for Ceuta, Melilla, Spanish territories in Northern Africa)	all	working population: employees and self-employed	16 and older	cities of Ceuta and Melilla	
ES	ECVT	Spain except for Ceuta, Melilla, Spanish territories in Northern Africa)	all	working population: employees and self-employed	16 and older	cities of Ceuta and Melilla	
SE	SLOSH	national	all		19-74		
SE	*SWES*	*national*	*all*	*employed population*	*16-64*		*4,6 million*

Source see appendix 1 in original document

The upper age limit of the target population in general is 64 or 65 years, with exception of cohort studies which keep participants in the sample after they have passed the age limit (e.g. the sample of the SLOSH contains participants up to age 74). Often the age limit of 64 years is not strictly treated, meaning that older employees, who participate in the survey, are not removed from the data. However, these people older than 64 years are not targeted within the survey. Regarding the lower age limit of the target population less consensus can be found. Rather often the age of either 15 or 16 years is treated as lower limit. The differences in the preference for age 15 or 16 are country linked and can also be found in the EWCS, for which the lower age limit varies across countries between 15 and 16 years. The variance in these age limit might be linked to the country specific age on which people might enter the labour market. In a few surveys, a higher limit is used. For the two Spanish surveys the lower limit is 17 years. One Finnish survey (WLB) uses the limit of 18 years and another even 25 years (Finnish National Work and Health Survey). In general, however, it can be concluded that all the surveys aim to target the working population, which in general is between the age of 15 and 64.

2.3.2.3 Survey design

Two very common methods of survey design in social sciences are cross-sectional studies and longitudinal surveys. A cross-sectional survey collects data of a sample of the population at one specific moment in time. Various waves of a survey always include a new sample of the population. This implies that it is less evident to investigate causal relations and that the focus is more on the prevalence of specific concepts at a specific moment in time. In a longitudinal survey, the same subset or sample of the population is followed and surveyed over time. This enables researchers to investigate trends and look better for causal relations. A cohort study is a specific type of a longitudinal study, in which ah subsample of the population, which is homogeneous for example in terms of age, is studied over time. With a cohort study, subsets of the population can be followed and some characteristics can be studied as the cohort ages over time (Levin, 2005, 2006a, 2006b; Mann, 2003).

Twelve of the surveys have a cross-sectional design (Table 2.5). The other five surveys combine a cross-sectional design with one or more cohorts or panels included in the sample. The WEHD is a continuation of the DWECS, which followed several cohorts. These cohorts are included in the WEDH and complemented with new subsamples. In the NEA, a cohort was followed between 2007 and 2009 as a part of the total sample. Besides this, the design is cross-sectional.

This leads to the conclusion that only two Nordic countries have a large scale panel survey on working conditions (e.g. Denmark and Sweden). The Italian ISFOL PLUS survey has also a cohort approach, but is rather limited in its scope (see infra).

Table 2.6 Survey design

Country	Survey	CS/LT/CO	Methodology remarks
AT	AOHM	CS	
AT	AI	CS	Online interface available since 2006.
BG	NWCS BG	CS	
DK *DK*	WEHD *WEC/DWECS*	CS & CO *CS & CO*	Cohort included *The WEC baseline cohort of 1990 was followed in 1995 and 2000 and the sample was in each round supplemented with 18-22 year old persons and immigrants. The DWECS is an extension of the WEC. DWECS was a split panel survey and comprised a follow-up study of a sample of employees interviewed in 1990 and again in 1995. Partially overlapping this panel was a panel of employees interviewed in 1995 and again in 2000. At the same time, the study comprised three cross-sectional surveys from 1990, 1995 and 2000, of comparable samples of employees in Denmark. Thus the study had a design that enabled both surveillance of the overall work environment and follow-up studies of occupational exposures and subsequent health outcomes.*
FI	FNWHS	CS	
FI	FQWLS	CS	Since 2000 connections to EWCS have been strengthened
FI	WLB	CS	Trend/repeated cross-section
FR	SUMER	CS	Since 2003: next to interview with physician, an auto questionnaire filled in before visit to physician. Due to limited voluntary participation of physicians in 2010 a set of involuntary physicians were explicitly requested to participate.
FR	CT	CS	Addition to LFS: continuous data collection: every week
DE	BIBB/BAuA	LT (trends)	Retrospective information on individuals achievement process Involvement of BAuA resulted in a stronger focus on working conditions and their outcomes.
IT	ISFOL PLUS	CS & CO	
IT	ISFOL QWS	CS	The questionnaire has been enlarged compared to the 2006 wave
NL	NEA	CS& CO	NEA-Cohort within cross-sectional design
NO	LKU	CS & panel	In 1996 a new system for surveys related to level of living was introduced, with a cross-sectional survey and a panel survey focused on health, residence and work. In the panel study it is desirable to keep the cross-sectional qualities in the sample in order to make sure that the sample is representative for the population that the survey is supposed to cover.
ES	ENCT	CS	2007 = turning point
ES	ECVT	CS	Occasional survey
SE *SE*	SLOSH *SWES*	CO *CS*	Items of the questionnaire consist partly of questions from the SWES. *Long-term study of random or different samples* *Survey in addition of the LFS for a subsample (10-15 000): after completing the LFS, the interview of the SWES follows.*

Source see appendix 1 in original document

2.3.3 Data collection and survey questionnaire

2.3.3.1 Mode of data collection

Several data collection methods can be used when a survey is done (Couper, 2011; Groves et al., 2004; Roberts, 2007):

- *CAPI/PAPI:* computer assisted personal interview/paper assisted personal interview: this is a face-to-face interview between the participant and interviewer;
- *CATI/PATI:* computer assisted telephone interview/paper assisted telephone interview: the participant is contacted by telephone and the survey/interview is done by telephone. There is no face to face contact between the participant and interviewer;
- *CAWI:* computer assisted web interview: this is the typical web survey, which can be done by the participant either at his/her own computer at home, or at a specific pc-lab provided by the researchers. There is no direct contact or interaction between the participant and researcher;

- *Self-Administered Questionnaire (SAQ):* in this case the participant receives the questionnaire and has to complete the questionnaire him/herself. There is no interviewer coding the answers of the participant immediately. Auto questionnaires can be given to participants in specific setting, send to the participants' home (by mail) with an envelope to return the questionnaire, or a web link sent by email (or mail) to the participants;
- *Mixed method:* in this case participants are offered several possibilities to complete the survey. For example in the NEA the participant can complete the paper questionnaire and return it by mail, or follow a link and fill in a web survey, or contact a helpdesk and fill in the questionnaire through a telephone interview.

There is much variety regarding to the data collection methods used. Recently, all computer assisted methods (CATI, CAPI and CAWI) are becoming the most popular survey methods. We can see that the surveys often change methods throughout time, following technology, time preference, etc. Surveys with a longer tradition (starting in the '70 and '80) often started off as face-to-face (PAPI) interviews, now turning more and more to telephone interviews (CATI) or web surveys (CAWI). Postal questionnaires nowadays are mostly sent with a link to the web survey, offering participant both options to choose from. Further, several surveys use a mix of different methods (e.g. CATI as primary method, CAPI when the person cannot be reached by telephone and SAQ in addition to the interview) to be able to cover the target population as well as possible and limit selection bias. Table 2.6 gives an overview of all the data collection methods used for the surveys as well as changes over time in these methods.

The interviews (CATI/CAPI) are mostly done at the home of the respondent (or a location of choice). Only one survey, the NWCS BG is done at the enterprise of the respondent. The SUMER is done during a visit to an occupational physician, at his/her office. The preference is often given to administering the survey outside of the workplace to avoid interference of the workplace situation and to ensure that respondents can answer the questions freely.

In a few methodological reports of surveys, information is provided about the duration of the interview or time needed for participants to complete the questionnaire. There are large differences in this time use, varying between 22 minutes and more than 1 hour.

Table 2.7 Data collection method

Country	Survey	Mode of data collection	Method	Location	Average duration
AT	AOHM	Face to face interviews	CAPI, PAPI		
AT	AI	Face-to-face interviews	CAPI, PAPI		
BG	NWCS BG	Face-to-face interviews, online surveys, mail questionnaires, focus groups, data from enterprises, administrative data	Mixed method	At the enterprise	30-60 minutes
DK	WEHD	Web survey	SAQ (web + postal)	Postal invitation with link to web survey	
DK	*WEC/DWECS*	*Postal questionnaires (telephone interviews as second alternative for initial non responders) + possibility to fill in questionnaire on the web*	*SAQ*	*At home*	*45 minutes*
FI	FNWHS	By telephone (personal interviewing as second alternative)	CATI (and CAPI)	At home	31 minutes
FI	FQWLS	Face-to-face interviews	PAPI, CAPI	Mostly at respondents home, sometimes at place of work, or at library or cafeteria	66 minutes
FI	WLB	By telephone	CATI	At home	22 minutes
FR	SUMER	Auto questionnaire (paper & pen) + face to face questionnaire filled in by occupational physician	Mixed method: PAPI/CAPI & SAQ	At practice of physician	
FR	CT	2 CAPI and 4 CATI	CAPI & CATI		1 hour for 1 person, 1 hour 45 minutes for 2 persons
DE	BIBB-BAuA	CAPI until 1998/1999, since 2005/2006 CATI	CATI	At home	40 minutes
IT	ISFOL PLUS		CATI	At home	Average 22 minutes
IT	ISFOL QWS		CATI	At home	No information, but duration of 25 minutes has been planned
NL	NEA	Mixed-mode: PAPI, CAWI + possibility of telephone interview	Mixed method= PAPI & CAWI (+CATI)		Around 20 minutes
NO	LKU	Telephone interview	CATI	By telephone	
ES	ENCT	Face-to-face interviews	CAPI, PAPI, TAWI	At home	27,1 minutes
ES	ECVT	By phone, CAPI when not possible to contact by phone	CATI (CAPI)	By telephone	
SE	SLOSH	Registries + SAQ	Registry + SAQ		
SE	*SWES*	*Telephone interview + questionnaire*	*Mixed: CATI + SAQ*	*By telephone*	

Source see appendix 1 in original document

2.3.3.2 Survey questionnaire

It is more difficult to find details on the questionnaires of the surveys. Only some (10) of the questionnaires are publicly available and often only in the language of the country (and not in English) which makes it difficult to consult the questionnaires. We can notice that there is no consistent trend in the length of the surveys or the number of questions included. This varies between 25 questions and more than 280 questions. Table 2.7 gives an overview of the available information about the questionnaires of the surveys.

Table 2.8 Survey questionnaire

Country	Survey	Number of questions	Language	Available	Remarks
AT	AOHM				
AT	AI	26 + 30 questions on working conditions + background information		Not publicly	Expanded and revised several times
BG	NWCS BG	> 200		Not publicly	Three questionnaires: show cars for face-to-face interviews, online and paper (postal)
DK *DK*	WEHD *WEC/DWECS*	55 *+/- 220*	Danish *Danish*	Yes	
FI	FNWHS	200	Finnish, Swedish	Yes (Finnish version)	
FI	FQWLS	>160	Finnish, English	Yes (version 2003)	Similar questions have been used over all waves resulting in large comparability over time
FI	WLB		Finnish	Yes	Updated in 2012 (technical and content)
FR	SUMER	153 in questionnaire for medical officers + 70 in questionnaire for respondents	French	Yes	
FR	CT	80 + some sub-questions	French	Yes	Employee and employers questionnaire some differences across waves
DE	BIBB-BAuA	600	German	Yes	No English version available for participants. Some translations available for certain topics.
IT	ISFOL PLUS	280 questions, in 4 sections	Italian	Yes	Extended with section on competences
IT	ISFOL QWS	108 questions and 27 sub-questions	Italian		Enlarged since 2006 Limited differences for employees and self-employed
NL	NEA	130	Dutch	Yes	
NO	LKU				
ES	ENCT	62	Spanish	Yes	Adaptations each year
ES	ECVT	101	Spanish	Yes	
SE *SE*	SLOSH *SWES*	*25*		*Yes*	

Source see appendix 1 in original document

2.3.4 Survey sample and response

2.3.4.1 Survey sample

Survey samples can be designed and extracted in several ways, which can impact the sampling error. Therefore it is important to know what the sampling frame, sampling method and sample size of a survey was before using its data.

Across the 17 examined surveys, four common sampling methods are used (Table 2.8). The first and most used sampling method is simple random sampling (SRS). With this method, each element (and subset) is assigned an equal probability to be selected (Groves et al., 2004). This method is used by seven of the surveys. A second method that is commonly used is stratified random sampling. Here, the population is divided into separate and exclusive sup groups or strata, which are treated as independent sub-populations. From each of these subgroups, a separate sample is randomly drawn (e.g. using SRS) (Groves et al., 2004). This method meets the most important criticism to SRS, namely that it might not represent the makeup of the population. Using stratified random sampling one can assure the different subgroups in the population are all represented in the sample. From the selected surveys, five surveys use the stratified random sampling method. The third method, which is used in four of the selected surveys, is multistage clustered sampling. In clustered sampling, the elements are not selected separately, but groups of elements are selected. This method is mostly uses in a multistage method, in which different steps are taken to identify clusters and select elements in these clusters. Finally, one of the surveys, the NEA, uses the systematic probability proportional to size method. With this method, the probability of an element being selected varies across items and is proportional to the size measure which is included (Groves et al., 2004).

Table 2.9 Sampling method

Simple Random Sampling	Stratified Random Sampling	Multistage Clustered Sampling	Systematic Probability Proportional to Size
FNWHS	WEHD *(WEC, DWECS)*	AOHM	NEA *(NEA-cohort)*
FQWLS	CT	AI	
WLB	ENCT	NWCS BG (2-stage)	
SUMER	ECVT	ISFOL QWS (3-stage)	
BIBB-BAuA	SLOSH *(SWES)*		
LKU	ISFOL PLUS		

Source see appendix 1 in original document

Table 2.9 gives more detailed information about the sampling method, sampling frame and the sample size of the last edition of the survey. It was not possible to collect information about the sampling frame and sample size of each of the surveys. However, some interesting aspects should be highlighted here.

In most cases, the sampling frame of the surveys is a central or population registry. Other surveys take the national Labour Force Survey (LFS) sample as sampling frame, or a population census. Others again use a more specific sampling frame (e.g. ADM-master sample, sample extracted from telephone data files, etc.).

The size of the sample of the last editions of the surveys varies widely between 2500 and 80000. Also across editions, there are often differences in the sample size. Further we should also note that the sample size is only the starting point of the survey and that the final net response not only depends on the sample size.

Table 2.10 Sampling method, sampling frame and sample size

Country	Survey	Sampling frame	Sampling method	Sample size last edition
AT	AOHM		Stratified multi-stage clustered random sample	1,000/quarter
AT	AI	Central registry	Stratified multi-stage clustered random sampling	900/quarter = 3,600/year
BG	NWCS BG		Two-stage cluster sampling with probability proportional to the size of	2,500
DK	WEHD	Each year a new sample	2 subsamples: 1 randomly selected, 1 selected to represent 1000 workplaces	35,000+15,000
DK	*DWECS*	*Central population registry: follow-up sample + additional samples (age, migration, industry, job specific)*	*Stratified Simple random sampling design with proportional allocation + follow up respondents in cohort*	*30,000*
FI	FNWHS	Finnish population census	Simple random sample	5,000
FI	FQWLS	Sample taken from monthly LFS sample	Simple random sample	6,499 (3,000 to 6,500 in each round)
FI	WLB	Register of statistics Finland	Simple random sample	
FR	SUMER	Those visiting the physician + in selected group (not excluded) + willing to participate	Random sample of chartered medical officers -examined employees	53,940
FR	CT	Taken from the LFS sample: whole population except those living in institutions, based on list of dwellings from fiscal data	Stratified samples: mainland France +overseas departments + public service and healthcare establishments	27,000+4,000+6,000
DE	BIBB/BAuA	Register used: ADM-master sample of precincts (Micro census for controlling and weighting)	Random sample	317,980
IT	ISFOL PLUS	Extracted from telephone data files	Stratified random sampling - complex survey - 9 sub-samples	
IT	ISFOL QWS		Three stage sampling	5,000
NL	NEA	Municipality population register	Systematic Probability Proportional to Size - sample	80,000
NO	LKU	Bereg1	Random sample + cohort	20,460
ES	ENCT	Taken from municipality register	Stratified sample	8,892
ES	ECVT	Taken from municipality register	Stratified sampling	
SE	SLOSH	Sample consists of all participants of SWES 2003 and 2005 + part of SWES 2007	Cohort	21,489
SE	*SWES*	*Population register*	*Stratified random sampling*	*14,000*

Source see appendix 1 in original document

2.3.4.2 Response

For most surveys either the gross response or net response is reported. The response differs largely across the surveys and is dependent on the initial sample size. Therefore the response rate is more useful to compare across surveys (Table 2.10).

The response rates (when reported) vary between 30% and 89%, which is a large difference. The differences can partially be linked to the method of data collection. For example in the SUMER, which has a response rate of 89%, the respondents are requested to participate to the survey during their obligatory visit to the occupational physician. The interview is done by the physician during the visit. This set up is more likely to enhance people to participate in a survey than when they receive a

questionnaire at home by mail and have to fill it in and return it themselves (which is the case e.g. in the NEA).

However, in several surveys specific actions are taken to enhance the people to participate and limit the response rate. Reminders are frequently sent when people have not yet responded after a certain time. In some cases non-responders are contacted by telephone to request participation, copies of the survey are sent to the participant, telephone interviews are conducted, etc.

Table 2.11 Gross and net response and response rate

Country	Survey	Gross response	Net response	Response rate
AT	AOHM		8,954	
AT	AI		900/quarter	
BG	NWCS BG			85.50%
DK	WEHD		16,300+15,000	51%
DK	*WEC/DWECS*		*14,453*	*53%*
FI	FNWHS		8,363	40%
FI	FQWLS		4,392	68%
FI	WLB		2,004	77.40%
FR	SUMER	53,940	47,983	89% (of which 97% also filled in questionnaire)
FR	CT	>30,000		
DE	BIBB-BAuA	54,152	20,036	44.30% of sample
IT	ISFOL PLUS		55,000	
IT	ISFOL QWS	5,000		
NL	NEA	24,480	23,303	Brut: 32.6%, net: 30.6%
NO	LKU		12,255	59.90%
ES	ENCT		8,892	39.9%
ES	ECVT		9,240	
SE	SLOSH		17,409	56.80% (proportion of sample employed in 2012 = 74%)
SE	*SWES*	*16,000*		

Source see appendix 1 in original document

2.3.5 Scope of survey

2.3.5.1 Objectives of the survey

The main themes of these surveys are all related to working conditions, occupational health issues and work-related health, job satisfaction and other work-related attitudes. However, the surveys each have their own focus. Some surveys cover on a broad range of issues, while other focus on particular issues. Survey such as the FNWHS, SLOSH or NEA have a broad scope, including all aspect related to working conditions, health and work-related health issues, job satisfaction and other work-related attitudes. On the other hand, the SUMER for example strongly focusses on mapping the exposure of workers to occupational risks. The AOHM is also clearly directed towards the monitoring of work-related health. The main themes addressed in the surveys are summarised in Table 2.11.

Next to these dominant themes, Table 3.12 gives an overview of the purposes of the surveys. The main and most prevalent purpose of the surveys is to map the up-to-date state of affairs on these topics, often combined with monitoring the changes over time (using the different waves of the survey) and looking for trends. For example the SUMER aims to give an up-to-date view of workers exposition to pressures and harmful health conditions at work. The ECVT documents the current life quality at work in Spain. Other surveys clearly focus on monitoring changes. The WLB measures changes in the quality of Finnish working life, the WEHD is developed to assess whether the working environment improves as expected over time. The AI wants to diagnose changes in the working environment and long-term developments. The FQWLS at last aims to monitor both working conditions at that point in time and the changes in them over time.

Table 2.12 Overview of themes addressed by surveys

Country	Survey	Working conditions	Changes in working conditions	Health, health care, lifestyle habits	Work-related health - aetiology - relationship work and health	Job satisfaction & job attitudes
AT	AOHM				*	
AT	AI	*	*		*	*
BG	NWCS BG	*				
DK	WEHD	*	*	*	*	
DK	*WEC/DWECS*	*	*	*	*	
FI	FNWHS	*		*	*	*
FI	FQWLS	*	*			
FI	WLB	*				*
FR	SUMER	*		*	*	
FR	CT	*				
DE	BIBB-BAuA	*	*			*
IT	ISFOL PLUS	*				
IT	ISFOL QWS	*				
NL	NEA	*	*		*	
NO	LKU	*				
ES	ENCT	*				*
ES	ECVT	*			*	*
SE	SLOSH	*		*	*	
SE	*SWES*	*		*	*	

Source see appendix 1 in original document

In addition to this monitoring, some surveys - such as the WEHD (and WEC/DWECS in earlier waves), BIBB-BAuA, NEA, SLOSH - also aim to gain insight in the aetiology of changes in health and/or labour market status, related to working conditions, occupational risk factors, etc.

Further, some of the surveys have the purpose to provide input to policy makers or serve as input for policy decisions. This input either can be related to a specific policy decision or programme (WEHD: evaluate improvements in light of national working environment strategy2020; ISFOL PLUS: support proposal of classification of occupations related to occupational risks) or can provide input to related policy activities and decisions in general (FNWHS: input for public debate; SUMER: confront current situation with regulations; NEA: provide reference data for the purpose of occupational health and safety covenants).

In addition, two of the surveys also explicitly aim to provide input to research. FQWLS want to provide input or research related to working conditions. The SUMER aims to serve as a reference point for researcher to determine future research priorities. Table 2.13 bundles the brief objectives (themes covered, purpose/goal of survey) of each of the surveys.

Table 2.13 Overview of main purposes of surveys

Country	Survey	Monitoring	Up-to-data picture	Picture of changes and evolution, trends	Understanding aetiology health problems	Input for policy	Input for research related to working conditions
AT	AOHM	*	*				
AT	AI	*	*	*			
BG	NWCS BG					*	
DK	WEHD	*			*	*	
DK	*WEC/DWECS*	*			*		
FI	FNWHS	*					
FI	FQWLS	*	*			*	*
FI	WLB	*	*	*			
FR	SUMER	*	*			*	*
FR	CT	*	*	*			
DE	BIBB-BAuA				*		
IT	ISFOL PLUS						
IT	ISFOL QWS	*					
NL	NEA				*	*	
NO	LKU	*	*				
ES	ENCT		*				
ES	ECVT		*				
SE	SLOSH	*	*	*	*		
SE	*SWES*	*	*	*	*		

Source see appendix 1 in original document

Table 2.14 Objectives of surveys

Country	Survey	Objectives
AT	AOHM	The objective is to be a representative quantitative survey focusing on the work-related health of employees.
AT	AI	The objective of the Austrian Work Climate Index is to diagnose changes in the working environment and long-term developments before they can be detected in 'hard' economic indicators. The consequences of economic changes and developments on the subjective experience of employees can be summarised in a measured value that is an addition to established indicators. Due to its frequent waves, the AI allows for the observation of long-term structural developments in employment structure and work organisation, such as an increase in precarious employment, bogus self-employment and changes in working time.
BG	NWCS BG	The objectives are: To collect and analyse data about working conditions in enterprises in all economic sectors in Bulgaria. To support a proposal for a classification of the economic sectors according to the degree of risk for each of the following topics: nature of work, working environment, work organisation, working hours, work and health, pay, information and consultations, discrimination and violence, and work and non-working life. This will serve to determine the most hazardous sectors in the economy. To provide general conclusions and recommendations for policies on working conditions.
DK	WEHD	The objectives are: Surveillance: surveillance of the working population to monitor the prevalence of occupational risk factors and the prevalence and incidence of health symptoms. Aetiology: estimating changes in health and labour market status as possible consequences of occupational risk factors. The results will be used to assess whether the working environment improves as expected according to the National Working Environment Strategy 2020.
DK	WEC	*Set up as surveillance programme.* *The objectives of WEC are: Surveillance of the working population, monitoring:* *prevalence of occupational risk factors* *prevalence and incidence of health symptoms* *lifestyle and habits* *Aim is to estimate changes of health and labour market status as possible consequences of occupational risk factors.*

Country	Survey	Objectives
FI	DWECS	*The objectives are:* *Surveillance: surveillance of the working population to monitor the prevalence of occupational risk factors and the prevalence and incidence of health symptoms.* *Aetiology: estimating changes in health and labour market status as possible consequences of occupational risk factors.* *The results will be used to assess whether the working environment improves as expected according to the National Working Environment Strategy 2020.* *The objective is to describe working conditions, health and lifestyle in a cohort consisting of Danish workers (1 to 400 workers). DWECS makes it possible to:* *1) Carry out cross-sectional analyses of the prevalence of work environmental exposures and health effects among various groups* *2) Carry out follow-up studies of the association between work environmental exposures and health and labour market effects.*
FI	FNWHS	The survey serves as a national surveillance system on perceived working conditions (physical work environment, physical and mental workload), organisational factors at work, work climate, gender and age equality, vocational skills, job satisfaction, perceived health and work ability, health-related behaviour, reconciliation of work and family life, and the functioning of occupational health services. The survey aims to collect information on: Working conditions and other work related factors Health, well-being and work ability of working population Health related lifestyle factors Use of health care services Functioning of occupational health services
FI	FQWLS	The objective of the Quality of Work Life Surveys (FQWLS) has been to produce data on the state of working life to support labour policy decisions and the development of work organisation, to monitor employees' working conditions and changes in them. The surveys aim to provide information for public debate about Finnish people's views on their working conditions and about how these conditions have changed. The surveys also supply material for the research, training and communication activities related to working conditions that take place in diverse quarters of society.
FR	WLB	The objective of the WLB is to monitor changes in the quality of Finnish working life from the perspective of employees. For the purposes of the survey, the quality of working life encompasses multiple issues, ranging from job security to intra-staff relationships. The survey provides an up-to-date picture of the quality of work for employees as well information on trends. The annual survey studies employee opinion on the quality of working life in Finland. Main themes are psychosocial working environment, job characteristics, pay systems, satisfaction with the job, employment security, training and development, capacity to work, and bullying and discrimination at work. This survey is planned to complement the FQWLS, but the WLB investigates more the experiences of short-term changes in working conditions.
FR	SUMER	The main objective is to map the exposure of employees to occupational risks in France in order to assess the overall situation and to develop preventive measures for all actors involved in occupational health and safety. Thus the objectives are: Better view on current state in terms of exposition to pressures and working in harmful health conditions for prevention workers. Possibility to confront current situation with regulations (hygiene, safety, …). A reference point for researchers to determine research priorities
DE	CT	The objectives of this survey are to permit detailed analyses of employees' working conditions by socio-professional category and sector of activity. The survey's depth in terms of time also allows trends to be recognised. The survey consists of two sections: the 'In employment' and 'Employers' division allows complementary information to be obtained from employers alongside that gathered from employees.
IT	BIBB-BAuA	The objectives of this survey are to assess work tasks, working conditions, occupation in transition, vocational and further training, acquisition and utilization of vocational qualifications, job satisfaction and the health impact of working conditions on a continuous basis. It focuses on two types of research: Qualification research: the association between respondents' (vocational) education and employment. Research on occupations and their change: job activity, skill and task requirements, working conditions and health in the current job.
IT	ISFOL PLUS	The survey aims to integrate the LFS by identifying both formal and substantive characteristics of employment contracts (such as 'bogus' self-employed), including wages and quality of work and employment, and to investigate in detail the labour search process by focusing on the complexity of search chains.
NL	ISFOL QWS	The objectives is to monitor the main indicators in job quality by taking into account the increasing relevance of both nonstandard employment and the service sectors by developing a set of indicators according to several Italian studies on the quality of work. The survey aims to fill a gap on labour market knowledge left uncovered by both Istat LFS and Isfol PLUS.

Country	Survey	Objectives
NO	NEA	The aim of the NWCS is to investigate the quality of work and employment in the Netherlands. The NWCS tracks trends in work risks, the effects of those risks and the measures taken by employers. The NWCS data are also used to analyse the relationship between work and health. We provide employers' organizations, unions and the Ministry of Social affairs and Employment with national reference data for the purpose of occupational health and safety covenants.
ES	NEA-cohort	*This longitudinal database (2007-2009) of the NEA is used to give more insight into cause and effect relations.*
ES	LKU	The LKU has as its primary objective to, over time, cover all important issues concerning the level of living, including rotating topics, such as working conditions (1996, 2000, 2003, 2006 and 2008).
SE	ENCT	The objective is to research the quality of life of employees in the workplace from two perspectives: by obtaining information about the situations and activities in employees' work and family environments; and by obtaining subjective information about the personal perceptions that workers have about their labour relations and conditions. Thus, this research combines both objective and subjective information.
SE	ECVT	The objective is to provide statistical information on life quality at work in Spain and how Spanish workers perceive their own working conditions. Main goals: Finding out about life quality in the work place for workers (employees and self-employed): situations and activities at work, subjective perception of worker of own working conditions and relationships, and degree of satisfaction in the workplace. Information on labour situations of workers (regarding job, professional career, integration at work and promotion procedures, family structure and situation) since all these factors play a key role in assessing life quality in the workplace. Obtaining socio-economic data of workers in order to relate results to their labour situation.
	SLOSH (SWES)	SLOSH study is a cohort survey with a focus on the association between work organization, work environment and health. SLOSH makes it possible to investigate how work environment factors affect health and wellbeing over time. Primary focus: wide range of prospective longitudinal research questions about relationships between labour market participation, working life, social environment, personal agency, and health. Better understand aetiology of illnesses and functional limitations of public health relevance, - increase understanding of 'causes behind the causes'.

Source see appendix 1 in original document; main source: cited from Eurofound (2014a)

2.3.5.2 Topics covered in the survey

The surveys are selected because they focus on working conditions and occupational health and safety issues. Consequently, these are topics that are covered in the surveys. Table 2.14 gives a general overview of the (subgroups of) topics that are covered in each of the surveys. In Table a1.2 in the appendix (see original document) a more detailed overview can be found of the topics and aspects covered by the surveys.

Most of the surveys include some questions to cover background information, such as socio-demographic information (age, education, gender, etc.), information about the company (size, sector, characteristics, etc.) or career path of the interviewee (occupational changes, work experience, etc.). In some surveys, these aspects are very detailed document. In other cases, only a few aspects are questioned.

In all surveys, the main core of the survey is devoted to one or several aspects of working conditions. Four surveys clearly focus on occupational safety and health issues (AOHM, SUMER, SLOSH *(SWES)* and WEHD *(WEC/DWECS)*). Aspects of the physical and psychosocial work environment are questioned at a detailed level. Further much attention is given to the health of the person, health-related aspects and the work-health relation and in some cases life style habits (such as smoking, alcohol consumption, etc.).

The other thirteen surveys focus more on working conditions in general. With exception of the CT, they all cover the three sub dimensions related to job quality (work organisation, employment conditions and social relations). These surveys tend to cover more different aspects of working conditions and also include questions on job satisfaction or work-related attitudes in the survey.

For work organisation, the most frequently addressed aspects are working time (working hours, unusual working hours, ...), the psychosocial work environment and the physical work environment. The employment conditions are on the on hand covered by looking at wage, contract, etc. and on the other hand by questions about training and development. Not all surveys include both these

aspects in their questionnaire. Social relations are in some cases measured by focussing on participation, representation and voice of the employees. Other surveys devote more attention to relations with managers and colleagues (support, bullying, violence, etc.). Further we notice that most surveys are extended to cover more aspects related to working conditions and the outcomes throughout time and across different waves (and versions of the survey).

Table 2.15 Overview of main topics covered

Country	Survey	Background information	Working conditions	Work organisation	*Working time*	*Work organisation*	*Autonomy*	*Work organisation in general*	*Working life*	*Team work*	*Dealing with clients*	*Work life balance*	*Psychological work environment*	*Physical work environment*	Employment conditions	*Employment conditions*	*Training and development*	Social relations	Outcomes	*Job satisfaction and work-related*	*Health*	*Life style and habits*
AT	AOHM	*	*	*			*				*		*	*	*			*	*		*	
AT	AI	*	*	*	*	*						*	*	*	*	*	*	*	*	*	*	
BG	NWCS BG		*	*	*					*		*		*	*	*	*	*				
DK	WEHD	*	*	*	*	*	*					*	*	*	*	*		*	*	*	*	*
DK	*DWECS*	*	*	*	*	*	*					*	*	*	*			*	*		*	
FI	FNWHS	*	*	*		*						*	*	*	*	*	*	*	*	*	*	
FI	FQWLS	*	*	*	*	*		*	*	*		*	*	*	*	*	*	*	*	*	*	
FI	WLB	*	*	*	*	*	*							*	*	*	*	*	*		*	
FR	SUMER	*	*	*	*	*	*			*	*			*				*	*		*	*
FR	CT		*	*	*	*	*				*		*	*				*	*		*	
DE	BIBB/BAuA	*	*	*	*	*	*						*	*	*	*	*	*	*	*	*	
IT	ISFOL PLUS	*	*	*	*	*		*	*			*	*	*	*	*	*	*	*	*		
IT	ISFOL QWS	*	*	*	*	*	*	*				*	*	*	*	*	*	*	*	*		
NL	NEA	*	*	*	*		*						*	*	*	*	*	*	*	*	*	
NO	LKU	*	*	*	*	*	*	*		*	*		*	*	*	*	*	*	*	*	*	*
ES	ENCT	*	*	*	*	*							*	*	*	*	*	*	*		*	
ES	ECVT	*	*	*	*	*		*	*	*		*		*	*	*	*	*	*	*	*	
SE	SLOSH	*	*	*	*		*	*				*	*	*	*	*		*	*	*	*	*
SE	*SWES*	*	*	*									*	*	*		*	*	*		*	

Source see appendix 1 in original document

Table 2.16 Documentation of surveys

Country	Survey	Website	Publications or reports (methodological, technical, ...)	Questionnaire	Data available?
AT	AOHM	http://ooe.arbeiterkammer.at/beratung/arbeitundgesundheit/arbeitsklima/Warum_Arbeitsklima_Index_.html			
AT	AI	http://ooe.arbeiterkammer.at/beratung/arbeitundgesundheit/arbeitsklima/index.html	http://www.db.arbeitsklima.at/	www.arbeitsklima.at	www.arbeitsklima.at
BG	NWCS BG	http://projects.gli.government.bg/index.php?mod=content&show=51	http://www.gli.government.bg/upload/docs/2013-01/doklad_Nacionalno_izsledvane.pdf		
DK	WEHD	http://www.arbejdsmiljoforskning.dk/da/arbejdsmiljoedata/arbejdsmiljoe-og-helbred-20	http://www.arbejdsmiljoforskning.dk/da/arbejdsmiljoedata/arbejdsmiljoe-og-helbred-20/arbejdsmiljo-og-helbred-2012/resume		
DK	*WEC/DWECS*	*http://www.arbejdsmiljoforskning.dk/da/arbejdsmiljoedata/nak2005*	*http://www.arbejdsmiljoforskning.dk/da/nyheder/arkiv/2011/~/media/Forside/Arbejdsmiljoedata/Arbejdsmiljo-og-helbred-2010/Samlet-rapport-Arbejdsmiljoe-og-helbred-i-DK-2010.pdf*		
FI	FNWHS	http://www.ttl.fi/tyojaterveys	http://www.ttl.fi/fi/verkkokirjat/tyo_ja_terveys_suomessa/Documents/Tyo_ja_terveys_2009.pdf http://www.ttl.fi/fi/verkkokirjat/tyo_ja_terveys_suomessa/Documents/Tyo_ja_Terveys_2012.pdf	http://www.ttl.fi/fi/verkkokirjat/tyo_ja_terveys_suomessa/Documents/Ty%C3%B6%20ja%20terveys%20-haastattelututkimus%202012_haastattelulomake.pdf	FIOH intranet: www.occuphealth.fi/e/
FI	FQWLS	http://www.stat.fi/til/tyoolot/	http://www.stat.fi/tup/julkaisut/tiedostot/isbn_978-952-244-101-0.html http://www.stat.fi/tup/julkaisut/tiedostot/isbn_978-952-244-101-0.html	Lehto & Sutela, 2009 – English version of the questionnaire of 2008 in appendix 2 (see original document)	
FI	WBL	http://www.tem.fi/?s=3893	http://www.tem.fi/files/35605/TEMrap_6_2013.pdf http://www.tem.fi/files/33535/TEMjul_29_2012_web.pdf	http://www.fsd.uta.fi/en/	http://www.fsd.uta.fi/en/ http://www.fsd.uta.fi/fi/aineistot/luettelo/FSD2824/quF2824_fin.pdf

Country	Survey	Website	Publications or reports (methodological, technical, ...)	Questionnaire	Data available?
FR	SUMER	http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/conditions-de-travail-et-sante,80/les-enquetes-surveillance-medicale,1999/	http://travail-emploi.gouv.fr/IMG/pdf/Methodologie_de_redressement_des_donnees_Sumer_2010.pdf http://travail-emploi.gouv.fr/IMG/pdf/Presentation_detaillee_de_Sumer_2010.pdf http://travail-emploi.gouv.fr/IMG/xls/Les_donnees_sur_les_risques_professionnels_par_sexe_en_2010-2.xls http://travail-emploi.gouv.fr/IMG/pdf/Methodologie_de_redressement_des_donnees_Sumer_2010.pdf	http://travail-emploi.gouv.fr/IMG/pdf/Questionnaire_Sumer_2010.pdf http://travail-emploi.gouv.fr/IMG/pdf/Auto-questionnaire_Sumer_2010.pdf	on request - few tables on website
FR	CT	http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/conditions-de-travail-et-sante,80/les-enquetes-conditions-de-travail,2000/	http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/conditions-de-travail-et-sante,80/les-enquetes-conditions-de-travail,2000/	http://travail-emploi.gouv.fr/IMG/pdf/Questionnaire_personnes_en_emploi.pdf http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/conditions-de-travail-et-sante,80/les-enquetes-conditions-de-travail,2000/les-enquetes-conditions-de-travail,189/questionnaires,1736.html	Online tool
DE	BIBB/BAUA	http://www.bibb.de/de/62622.htm http://www.baua.de/de/Informationen-fuer-die-Praxis/Statistiken/Arbeitsbedingungen/Erwerbstaetigenbefragung-2011-2012.html	http://www.baua.de/de/Informationen-fuer-die-Praxis/Statistiken/Arbeitsbedingungen/Erwerbstaetigenbefragung-2011-2012.html Data collection field report 2012: www.bibb.de/de/63182.htm	In methodological documents www.bibb.de/forum/projekte/bibb_iab/start.htm	All waves: GWA, DFV, SUF www.gesis.org/ZA
IT	ISFOL PLUS	http://www.isfol.it/temi/Lavoro_professioni/mercato-del-lavoro/plus	http://archivio.isfol.it/DocEditor/test/File/2009/Studi%20Isfol/Studio%20Giammatteo%20impaginato_new.pdf http://sbnlo2.cilea.it/bw5ne2/opac.aspx?WEB=ISFL&IDS=19149	http://archivio.isfol.it/DocEditor/test/File/2012/Bandi/Bando%20122PLUS/Allegato%202_Questionario_PLUS%202011.pdf http://isfoloa.isfol.it/bitstream/123456789/240/1/Mandrone%20PLUS%26MACAD.ppt	
IT	ISFOL QWS	http://www.isfol.it/temi/Lavoro_professioni/mercato-del-lavoro/indagine-sulla-qualita-del-lavoro-in-italia			

Country	Survey	Website	Publications or reports (methodological, technical, ...)	Questionnaire	Data available?
NL	NEA	http://www.monitorarbeid.tno.nl/databronnen/nea	http://www.monitorarbeid.tno.nl/databronnen/nea	http://www.monitorarbeid.tno.nl/dynamics/modules/SFIL0100/view.php?fil_Id=70	http://www.monitorarbeid.tno.nl/cijfers/visualisaties/interactieve-visualisaties1
NO	LKU	http://www.ssb.no/en/arbeid-og-lonn/statistikker/arbmiljo/hvert-3-aar/2010-06-01?fane=om#content		Online tool	Online tool
ES	ENCT	http://encuestasnacionales.oect.es/	http://encuestasnacionales.oect.es/	http://encuestasnacionales.oect.es/enge/EngeCuestionarios.jsp	http://encuestasnacionales.oect.es/
ES	ECVT	http://www.empleo.gob.es/		http://www.empleo.gob.es/estadisticas/ecvt/Ecvt2010/ANE/Cuestionario.htm	http://www.empleo.gob.es/estadisticas/ecvt/Ecvt2010/index.htm
SE	SLOSH	http://www.stressforskning.su.se/english/slosh		In document: (Kinsten, Stockholms universitet, & Stressforskningsinstitutet, 2007)	Available in English and Swedish – no fee agreement with external researcher – data available for the scientific community.
SE	*SWES*	*http://www.av.se/statistik/officiellt/arbetsmiljon_2011.aspx*	http://www.av.se/dokument/statistik/officiell_stat/ARBMIL2011.pdf	http://www.av.se/dokument/statistik/officiell_stat/ARBMIL2011.pdf	

Source see appendix 1 in original document

2.3.6 Survey documentation and data

In Table 2.15 the main web links are provided to the website of each of the surveys and when available, links to documentation, questionnaires, publications and the data are included. For most surveys, some kind of related publication can be found, varying from a discussion on the survey in the appendix to extensive methodological and technical reports on the survey. The questionnaires are less often available and can often be found in appendices of publications or methodological reports. Data availability is even less documented. In some cases, an online tool allows the user to do some explorative analysis on the main variables of the survey. For other surveys information is provided on the procedure and requirements to request access to the data.

2.3.7 Quality control procedures

Quality control procedures are a very broad concept. It includes all the efforts and procedures that researchers put in place throughout the survey life cycle to ensure the quality of the survey, and the accuracy, validity and reliability of the collected data (Gallup Europe, n.d.; Groves et al., 2004; Koch, Blom, Stoop, & Kappelhof, 2009; Lyberg, 2009). At different points throughout the survey lifecycle, specific standards and procedures can help to ensure the quality. During the sampling phase for example, a sound and transparent sampling methodology, attention for the sampling bias and representative, etc. are topics to be addressed. Documentation on the surveys discussed here reports only in some cases about quality control procedures. However, not for all surveys, detailed information is provided.[4] The overviews given here therefore only indicate which information is available about the used quality control procedures in the surveys, while other procedures might also be used, but not reported on. Despite this, we however also want to note that transparent and profound reporting on quality control procedures is also an important part of the quality control for a survey.

Throughout the survey life cycle, we can identify four phases in which specific attention should be devoted to quality control: during the sampling phase, the design phase, the field work phase and during the data processing phase.

Since the sampling phase is already discussed earlier, we will not go into detail on it here. For each of the surveys, it seems at the least a sound basic sampling strategy was developed. In some survey, the sampling strategy is more extensive and includes several explicit steps to enhance the survey quality and ensure representativeness of the survey.

During the design phase, activities such as pre-testing the questionnaire, or organising a meeting with experts to discuss the questionnaire design, can strengthen the survey quality. Table 2.16 gives an overview of the quality control procedures used in the surveys during the design phase. Most surveys implement one or several quality control activities during the design phase. For two surveys (LKU and ECVT) there is no information about the used quality control procedures during the design phase. Most common practices are organising a pre-test of the questionnaire and giving general attention to quality issues during the design of the questionnaire.

4 There is no information on the quality control procedures for the Austrian Occupational Health Monitor (AOHM). Information is also very limited for the LKU and ECVT.

Table 2.17 Quality control procedures during the design phase

Country	Survey	Test phase	Design	Control included in design	Experts involved in development	Approvement of questionnaire by experts	Translation	Review and update of questionnaire
AT	AOHM°							
AT	AI	*						
BG	NWCS BG	*	*	*				
DK	WEHD	*			*			
DK	*WEC/DWECS*	*			*			
FI	FNWHS	*	*				*	
FI	FQWLS	*	*				*	
FI	WLB				*			*
FR	SUMER					*		
FR	CT					*		
DE	BIBB-BAuA	*	*	*				
IT	ISFOL PLUS							
IT	ISFOL QWS	*						
NL	NEA		*					*
NO	LKU °°							
ES	ENCT		*					
ES	ECVT °°							
SE	SLOSH			*				
SE	*SWES*			*				

° no information available
°° no quality control activities during the design phase reported
Source see appendix 1 in original document

During the fieldwork phase, quality control activities are for example supervision of the interviews, follow up calls after interviews, etc. For three of the surveys, no quality control activities are reported during this phase (AI, CT and LKU). For the AOHM there is no information available. Fieldwork monitoring is a very common practice, as well as efforts to increase the response rate (e.g. reminders, telephone contact, repeated visits when person is not at home, etc.). Table 2.17 provides an overview of all the quality control procedures used during the fieldwork phase in the surveys.

Table 2.18 Quality control procedures during the fieldwork phase

Country	Survey	Training interviewers	Field work monitoring	Possibility for interviewer to launch further investigations when necessary	Follow up interviews	Check quality	Subcontracting quality control	Supervision of interviews	Subcontracting interviews	Efforts to increase response rate (reminders, several methods)	Follow up calls	Review related to methodological issues arising from interviews
AT	AOHM°											
AT	AI °°											
BG	NWCS BG		*			*				*		
DK	WEHD									*		
DK	*WEC/DWECS*									*		
FI	FNWHS		*		*							
FI	FQWLS		*		*							
FI	WLB											*
FR	SUMER			*								
FR	CT °°											
DE	BIBB-BAuA	*	*									
IT	ISFOL PLUS		*						*	*		
IT	ISFOL QWS		*			*				*		
NL	NEA		*							*		
NO	LKU °°											
ES	ENCT		*			*	*	*			*	
ES	ECVT		*									
SE	SLOSH		*									
SE	*SWES*		*			*						

° no information available
°° no quality control activities during the fieldwork phase reported
Source see appendix 1 in original document

Also during the last phase of data processing, attention is given to quality control procedures (Table 2.18). For most of the surveys, weights are developed and in some cases also documented. Other practices focus on the data input (monitoring, software, etc.), codification process and evaluation of the survey quality by looking at for example the validity, reliability, homogeneity of indices, etc. and non-response analysis.

Table 2.19 Quality control procedures during the data processing phase

Country	Survey	Monitoring data input	Software for digitalisation of data	Guidelines for data of incomplete questionnaires	Data processing	Supervision codification	Weighting	Non-response analysis	Survey evaluation#	Survey documentation publicly available
AT	AOHM°									
AT	AI						*		*	
BG	NWCS BG	*	*				*			
DK	WEHD			*			*		*	*
DK	*WEC/DWECS*			*			*		*	*
FI	FNWHS				*					
FI	FQWLS				*		*			*
FI	WLB				*					
FR	SUMER				*		*	*		*
FR	CT °°									
DE	BIBB-BAuA °°									
IT	ISFOL PLUS			*			*	*		
IT	ISFOL QWS						*			
NL	NEA		*			*	*	*	*	*
NO	LKU						*			*
ES	ENCT					*				
ES	ECVT				*	*			*	
SE	SLOSH									*
SE	*SWES*				*			*		

validity, discriminatory power, homogeneity of sub-indices, indices, item non-response, effects of data collection mode, ...
° no information available
°° no quality control activities during the fieldwork phase reported
Source see appendix 1 in original document

2.4 Conclusions

This working paper is part of Work Package 21 'Innovative tools and protocols for working conditions and vulnerability research' of the InGRID project. One objective of this infrastructure project is to integrate, harmonise and optimize existing tools and methods, and to create new tools to fill existing data gaps. Within the frame of the InGRID project, this working paper aimed to discuss an inventory of (national) working conditions and occupational safety and health surveys in Europe which focus on employees (individuals), looking at different aspects of the survey organisation, design, execution and quality control procedures. Together with the inventories on linked employer-employee surveys and on policy data bases on working conditions and OSH that will be made, this inventory wants to provide researchers across Europe with an overview of existing surveys, and the quality of these surveys as a starting point for further integration and optimisation of the existing tools for working conditions research.

From the discussion of the inventory, two important conclusions can be made.

The first observation is that systematic national surveys on working conditions and OSH are not omnipresent in Europe. Not even half of the EU member states have a systematic national survey running at this moment. What is more, some of these surveys have ended, without a prospect of follow-up. Thus it seems that the number of countries systematically monitoring working conditions at a national level is diminishing. This is an alarming trend, since no new national or cross-national surveys are taking their places, creating a great void of data on working conditions and OSH which needs to be addressed.

Secondly it is hard to properly assess the quality and usability of the currently existing surveys. Surveys are - logically - developed for specific purposes and with specific objectives. This will strongly influence all aspects related to the survey design, methodology, etc. Therefore it is hard to make straightforward statements on the quality of surveys, since this would be comparing apples with oranges. This report tried to give a comprehensive overview of information available on the selected surveys, to allow potential users to properly assess the usability of the surveys for his or her research objectives.

In addition we made a quick assessment of the broad usability of the selected surveys with the question in mind: which surveys are most easy to access and directly to use for a broad range of research goals (from a European, comparative perspective)? We chose for this evaluation of the surveys because we think reuse of surveys and broad use of survey data is important, since surveys and data collection is always very costly. Ensuring that a survey is used in a good way by as many researchers and for as many research questions as possible should therefore be a priority for all data collectors. In conducting this assessment we scored each of the selected surveys on six aspects which we think are important for easy access and direct and broad use of the survey (between 0 and 1) (Table 3.1):

- *continuation of the survey:* when certainty is given about the continuation of the survey, this increases to our opinion its usability for future research projects. Having access to recent data is always important and useful;
- *design (cohort or not):* although the relevance of a cohort design depends on the research objectives, we decided to give a preference to cohort designs in our evaluation. The possibility to follow up on evolutions of among others working conditions over time is still rather scarce in Europe, despite the fact that this will allow for more clear, causal findings on the impact of working conditions, policy changes, etc. on employees;
- *large response rate:* with a large response rate - and given a proper sampling design - both the representativity and the sample size are more likely to be good. Next to that we also think information on these elements are as important as the height of the response rate itself. Researchers using the survey need this information to properly assess the survey in terms of representativity and deal with possible limitations related to this.
- coverage of the survey:
- *available documentation:* the availability of information on the survey is to our opinion another crucial element in ensuring the usability of a survey for secondary analysis;
- *reported quality control procedures*: despite of the quality procedures which are used, reporting on them properly is to our opinion as important or even more important for future use of a survey.

Table 2.20 Evaluation of the surveys on working conditions and OSH

Country	Survey	Frequency: continued*	Design: cohort/longitudinal *	Response rate >50% *	Topics covered: working conditions & outcomes *	Documentation *	Quality control procedures *	TOTAL (0-6) *
AT	AOHM	1	0	0	0.5	0	0	1.5
AT	AI	1	0	0	1	1	0.6	3.6
BG	NWCS BG	0	0	1	0.5	0.5	1	3.0
DK	WEHD	1	1	1	1	0.5	1	5.5
DK	*WEC/DWECS*	*1*	*1*	*1*	*1*	*0.5*	*1*	*5.5*
FI	FNWHS	1	0	0.5	1	1	1	4.5
FI	FQWLS	0	0	1	1	0.5	1	3.5
FI	WLB	1	0	1	1	1	1	5.0
FR	SUMER	1	0	1	0.5	1	1	4.5
FR	CT	1	0	0	0.5	1	0.3	2.8
DE	BIBB-BAuA	1	0.5	0.5	1	1	0.6	4.6
IT	ISFOL PLUS	0	1	0	1	0.5	0.6	3.1
IT	ISFOL QWS	1	0	1	1	0	1	4.0
NL	NEA	1	0.5	0.5	1	1	1	5.0
NO	LKU	0	1	1	1	0.5	0.3	3.8
ES	ENCT	1	0	0.5	1	1	1	4.5
ES	ECVT	0	0	0	1	0.5	0.6	2.1
SE	SLOSH	1	1	1	1	0.5	1	5.5
SE	*SWES*	*1*	*1*	*0*	*1*	*1*	*1*	*5.0*

* Frequency: score 0 if survey ended or if it is unknown whether it will be continued, 1 if survey will be continued.
Design: score 0 if cross-sectional design, 1 if cohort/longitudinal design, 0.5 if a part of the survey is a cohort.
Response rate: score 0 if no response rate is reported, 0.5 if the response rate is reported but below 50%, 1 if the response rate is higher than 50%.
Topics covered: score 0 of almost no topics are covered, 0.5 if some topics related to working conditions are covered, but not all dimensions, 1 if all dimensions of working conditions, and the outcomes are covered.
Documentation: score 0 if no documentation is available (next to a website); 0.5 if some documentation is available, but not much; 1 if much documentation is available: methodological reports, questionnaire, data, etc.
Quality control procedures: 0 if no quality control procedures are reported on; 0.3 if there are only quality control procedures from 1 phase reported; 0.6 if there are only quality control procedures from 2 phases reported; 1 if quality control procedures from all phases are reported.

These scores can be summed up to a total survey score, which varies between 0 and 6. From this evaluation, four current surveys score 5/6 or more: the WEHD (and its predecessors WEC and DWECS), the WLB, the NEA and the SLOSH (and its predecessor SWES). These are not surprisingly surveys from the Scandinavian countries (Denmark, Sweden and Finland) - which are known for their long and continuous traditions in surveying working conditions - and the Netherlands. Four other surveys scoring rather good in this evaluation are the Finnish FNWHS, the French SUMER, the German BIBB-BAuA and the Spanish ENCT.

Lower scores of the surveys are above all often related to the lack of a cohort design of the survey. This is of course not for all research questions a necessity. Hence again the fact that the quality and usability of a survey needs to be assessed from the perspective of the research objectives. Further, the response rate (or absence of information on the response rate) is also often an important problem which led to lower scores in our 'evaluation'. It is furthermore hopeful that also for the lower scoring surveys, they often are organized in a country where also a higher scoring survey exist. In other words: they are sometimes used as an additional data collection.

From this inventory it is hard to make clear conclusion about the quality of individual surveys, but we can conclude that systematic and profound surveys on working conditions and OSH in Europe are scarce, despite the importance of these topics for the European society today and in the future.

Next to the general conclusions and options for the future, this inventory of course has several limitations as well. It is not exhaustive, since only the surveys on which online information in English, German, French or Dutch could be found, are included. Therefore some working conditions surveys may be left out. The information summarized in this inventory is only based on available documentation on the surveys. The survey organisers are not contacted personally to provide additional information, check information or fill in gaps. Therefore there might be some inaccuracies and missings in the overview tables.

3. Evaluation of the EWCS 2010 and the measurement of job quality with the Total Survey Approach

Prepared by Anina Vercruyssen & Guy Gyes

The general objective of the InGRID project is to integrate and innovate existing but distributed European social sciences research infrastructures on 'poverty and living conditions' and on 'working conditions and vulnerability'. InGRID as research infrastructure project serves the social sciences community that aspires to make an evidence-based contribution to the European policy challenge of inclusive growth. It is a social sciences community that focuses on social in/exclusion, vulnerability-at-work and related social and labour market policies from a European comparative perspective. It is an interdisciplinary field of poverty research, labour studies, policy analysis and social statistics. Key tools in this social science research are all types of data: statistics on earnings, administrative social data, labour market data, surveys on quality of life or working conditions, and policy indicators. In the field of comparative research on working conditions in Europe, the European Working conditions Survey (EWCS) is a key resource. Since its launch in 1990 the European Working Conditions Survey has provided an overview of working conditions in Europe in order to:

- assess and quantify working conditions of both employees and the self-employed across Europe on a harmonised basis;
- analyse relationships between different aspects of working conditions;
- identify groups at risk and issues of concern as well as of progress;
- monitor trends by providing homogeneous indicators on these issues.

As such, it contributes as main comparative data source to European policy development in particular on quality of work and employment issues. An evaluation study of the fifth 2010 EWCS showed that from 2010 through to the end of 2013, the survey has been used in over 150 European policy reports or working documents. An additional review identified some 50 or more academic articles published during the same period (Eurofound, 2014). The value from the perspective of the InGRID research and policy community can in others words not be underestimated.

The survey is organised and provided by the European Foundation for the Improvement of Living and Working Conditions. This European agency – short name Eurofound – is based in Dublin and is one of the oldest agencies set up by the European Union. It exists for more than 40 years and is governed by a tripartite structure, involving governments and social partners (employers' organisations and trade unions).

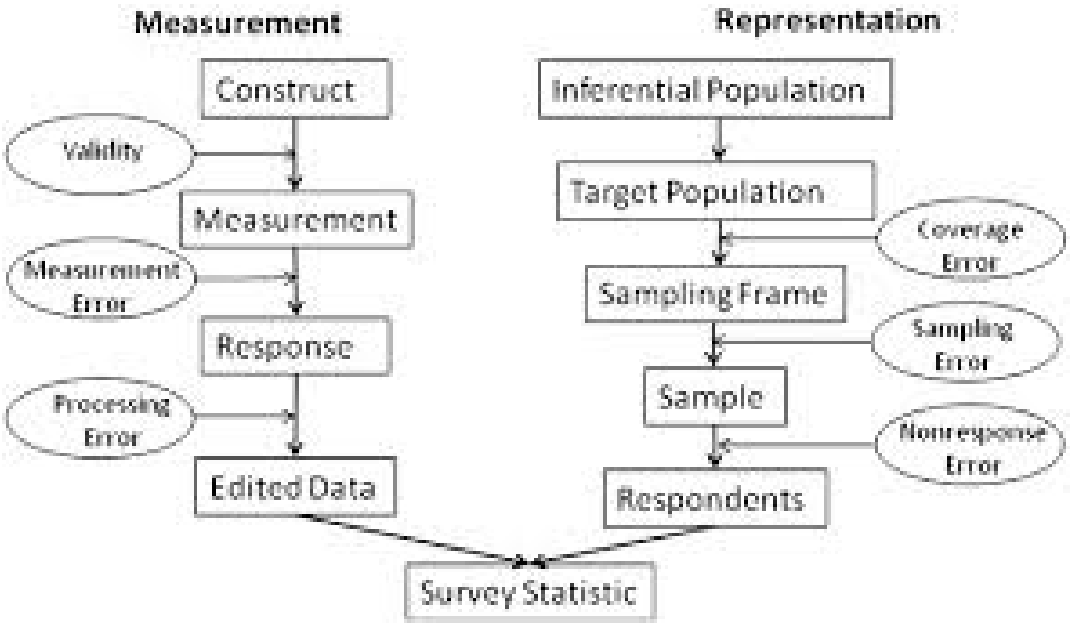
Due to the high importance for the policy-oriented research community that InGRID as infrastructure wants to serve, the InGRID partner HIVA-KU Leuven works closely together with the EWCS organiser and data provider to provide transnational access to the data and to guide, coach and train people to use this data in the best/better way.

Taking this highly valued central position of the EWCS data in the InGRID community as a starting point, the current paper implies as an exercise - positive, but critical - the Total Survey Error evalua-

tion framework to the EWCS data collection. The question whether there are (maybe) methodological elements of improvement to detect is tackled from this methodological ideal type quality framework. It is about showing a 'loved' one, where its beauties lies or not, by holding a 'strong' mirror up.

The total survey error (TSE) approach is a strong guideline for evaluating the quality of survey data and measurement instruments. Key works on TSE distinguish two major components: representation error and measurement error (Bautista, 2012; Groves *et al.*, 2004; Groves & Lyberg, 2010, see Figure 3.1). The former refers to how well the target population or target groups are represented in the survey data, the latter concentrates on how well the research questions obtain accurate answers.

Figure 3.1 **TSE components by**



Source Groves and Lyberg (2010)

3.1 Evaluation of the representativity in EWCS 2010

3.1.1 Inferential population

The inferential population is the population about which the survey wants to be able to draw conclusions and discuss implications. In the case of EWCS, the survey wants to investigate the working conditions of employees and the self-employed across Europe. In the 2010 edition of the survey, face-to-face interviews were organised by Gallup Europe in the EU-27, Norway, Croatia, the former Yugoslav Republic of Macedonia, Turkey, Albania, Montenegro and Kosovo (EWCS, 2013). EWCS 2010 did not only include all Member States of the European Union in its inferential population, the delimitation of the geographical area also already included (potential) future Member States. Each country has a national fieldwork partner of Gallup Europe (list available in the technical report, see Gallup Europe, 2013) to organise the interviews in each (potential future) member state. The inferential population is clearly delimited.

3.1.2 Target population

The inferential population usually gets reduced to a target population, mostly because of practical considerations. The target population of EWCS 2010 has been defined as people living in the 34 aforementioned countries, aged 15 or older (16 or older in Spain, the UK and Norway) that were in employment at the time of the survey (minimum 1 hour of work for pay or profit). People (temporarily) living in institutions, such as prison or medical institutions, tend to be excluded from the population of interest for surveys because they are not living in regular households and cannot easily be interviewed. This was also the case for EWCS 2010 (see Gallup Europe, 2013a, p. 12-13). However, prisoners can also have small jobs within the institution and temporarily hospitalised people can still belong to the working population. This could form a first, though extremely small, source of systematic error or bias.

For the ease of conducting a face-to-face survey such as EWCS, it can also be opted to exclude remote parts of a country or region to limit the travel time and expenses of the interviewers sent out to collect the data. This forms another reduction of the inferential population to a target population. For EWCS 2010, some overseas parts and remote islands, such as the Canaries belonging to Spain, were excluded (Gallup Europe, 2013d). As such, these islanders are not represented in the target population nor in the survey. Sweden and Norway, however, resorted to first contact by telephone to reduce the drain on their resources to contact people at more remote locations. Extrapolating from this particular case, EWCS seems to exclude (quicker) European people with a paid job when they live in more remote locations. Given that these areas are chronically under-surveyed, it might actually be even more necessary to investigate the working conditions and implementation of (job-related) policies in such remote areas as they escape scrutiny too often. Although using mixed survey modes come with its own specific set of implications for representativity, using CATI (telephone interview) or self-administered surveys instead of CAPI would allow eligible sample units to be included in the target population.

3.1.3 Sample frame and potential coverage errors

Once the target population has been delimited, an instrument is needed to identify all persons in this target population: a sample frame. For EWCS 2010, this sample frame preferably needed to be 'an updated, good quality sampling frame (register) with addresses/persons' (Gallup Europe, 2013a, p. 11). EWCS 2010 considers list-based samples of individuals as the best approach, followed by lists-based sampled of addresses or households (Gallup Europe, 2013b). An official population register with individual or household level information is the most optimal sample frame as it should only have minimal coverage error. A typical coverage error to arise in official registry data is due to the timeliness of the updates of this register: the registration of demographical changes, such as deaths and address changes can take a while and will lead to a small proportion of misinformation. Deaths, for example, will lead to over-coverage as these persons are still part of the lists but are no longer available for an interview. An example of potential under-coverage in official registry lists is persons who have immigrated to the country but whose registration documents are still being processed.

When such registers are not available, a random route method was implemented for EWCS. A random route or random walk procedure implies that before the interviewers are sent into the field, enumerators are on the road to create a sample of addresses by starting at (randomly chosen) locations and take a walk in the area. Such a walk is sometimes regulated by strict instructions, *e.g.* take every second street to the right on your path. The intention of this process with strict instructions is to create equal selection probabilities, but unfortunately, this procedure does not always lead to uniformly distributed probabilities for samples of households (Bauer, 2014). For the sample of the 5th edition of EWCS, 'theoretically all members of the statistical population had a known non-zero probability' (Gallup Europe, 2013c, p. 11). Sampling sources per country can be found in the technical

reports (*e.g.* Gallup Europe, 2013a, p. 13), showing the majority of the countries (20 out of 34) relied on random walk sampling.

Why the need to know the inclusion probabilities so precisely? This is because we need to know that everybody has a similar or calculable chance to be selected for the interview in order to let the stochastic processes enable inference of survey data to the bigger population. In other words, if some people are (systematically) missing from the sample frames, we cannot achieve perfect representation of the inferential population because certain types of people's opinions will never be heard in the survey. Under-coverage may arise *e.g.* for small streets that are easily overlooked or new streets that are not included on the maps yet. Mistakes or manipulation by enumerators could also lead to biased address lists; deviations from the systematic walk can lead to over-coverage by including streets that should not have been included according to the walking instructions. In cases in which the enumerator had doubts about the eligibility of the household on his random walking route, the address was listed anyway and the interviewers were sent out to attempt gaining contact. 10% of the enumerated addresses were checked (Gallup Europe, 2013d). When non-compliance to the random walk rules was discovered, the primary (geographic) sampling units were replaced. The number of times this occurred within the 10%-subsample was not specified, making it impossible to estimate the size of coverage error.

As a summary of potential coverage error in EWCS 2010, we can say that we see potential over-coverage and under-coverage in all three types of sample frames. Both registers on individual and household levels can be prone to administration issues that can lead to people being wrongfully included or excluded in the sample frame, such as deceased persons and people who have just moved. For the enumeration, mistakes can happen and simulations show that random walk methods often fail to create equal selection probabilities (Bauer, 2014), leaving the door wide open for over-coverage and under-coverage of streets and addresses. All types of sampling will also have significant portions of over-coverage with regard to the employment status of people belonging to the secondary sampling units (the households). With only the information from the address-based sampling frames, it is hard to pre-select only those with households containing individuals with a paid job. There will be quite a few households only harbouring individuals without a paid job, leading to plenty of listings of people who do not belong to the target group of the survey. According to the technical report (Gallup Europe, 2013c), 36,402 people/households over all participating countries were identified as covering only non-workers, implying that 19% of the total sample size is actually over-coverage. Additionally, 25583 households were classified as 'unknown eligibility', which means that for 13.3% of the total sample of households it is not known if they had at least one individual belonging to the target population that could have participated.

3.1.4 Sample and potential sampling error

Questioning a whole population would take a tremendous amount of resources - it would actually be almost impossible to achieve such a thing (Bethlehem, 2009). Therefore, a representative selection is taken from each sample frame to 'speak for' the inferential population. When this selected group is interviewed and when their selection probabilities are known, which is the case for EWCS according to the technical report (Gallup Europe, 2013, p. 13), their results can be inferred to make statements about the whole inferential population. Mind, the inferential population is not necessarily the total population of a nation state, as can be seen in the description of the inferential population for EWCS2010 as well.

For EWCS, the selection of 'representative' people was achieved by a multi-stage, stratified, random sample when population registers were available (Gallup Europe, 2013; EWCS, 2013). Multi-stage and stratified implies that first bigger geographical areas were randomly chosen. In the case of EWCS, these were NUTS-regions or local statistical regions, also taking into account the level of urbanisation. In the second stage, households are drawn at random within these regions. Given that EWCS 2010

worked with households as secondary sample units, official registries that do not go beyond the household level and do not contain individual level data were equally useful. When interviewers found multiple eligible households at an address, the selection of the household was based on alphabetically ordering the surnames (of the heads of the household). When a household consists of multiple eligible persons, the instruction was to interview the individual who was the next one in the household to have a birthday (EWCS, 2013). For the latter method to work as a form of random sampling, we actually need to assume that the distribution of birthdays throughout the year equal in every participating country. However, the fieldwork periods are not spread over the whole year, meaning that mainly spring or summer-born individuals were surveyed. This is only problematic for the representativity of EWCS if there is a correlation between birthdays or birthday seasons and the type of job (quality) and/or survey participation. However, to the best of our knowledge no studies have been conducted on this matter.

EWCS 2010 sets a target number of 1000 completed interviews per country. Some countries, such as France, were allowed to expand the 1000 interview target to better enable national comparisons (see Gallup Europe, 2013b). To achieve those 1,000 interviews per country, the total sample size per country was, on average, set at 6.4 times as many useable addresses, meaning that on average about 6400 addresses needed to be collected or ordered per country in order to achieve 1,000 interviews. All countries managed to achieve their pre-set target, except for Spain (planned 1,500, realised 1,008). The 34 countries collected or ordered a combined number of 278,456 addresses, which can be considered as the total sample size, even though it is not clear whether all addresses were actually used.

This big ratio of useable addresses (gross sample) versus target interviews (realised sample) makes sense when taking into account all the coverage error that is generated by the sampling frames, such as the large proportion of sampled households with only non-working individuals. Additionally, not every selected sampled person will want to cooperate, leading to a large proportion of nonresponse that will prove challenging for reaching the targets if the samples are too small. Hence, it looks like a very large margin was necessary to obtain 1,000 interviews per country. Implications of nonresponse error are discussed in Section 4.1.5.

When working with samples, sampling errors can occur as well. Such errors represent the differences between the population as a whole and the sample. Drawing at random does not guarantee a perfect proportional representation of people in the sample in comparison to the whole population. Corrective weights were applied based on *e.g.* census data in EWCS 2010. However, given that the de facto population was targeted rather than the de jure population (see Gallup Europe, 2013b, p. 10) and given that census data is often based on the de jure population, the choice to weigh the sample from the de factor population with information from the de jure population will lead to small differences, as *e.g.* inclusion of asylum seekers in the calculations.

Another potential source of sampling error is exchanges between primary sampling units, being between selected geographical areas. Because some of these geographical areas were less successful in terms of being able to reach the desired number of interviews, the interviewers in some regions were instructed to focus their efforts on geographical areas that had already proven to be more successful for obtaining interviews. Whereas this is a good strategy to get closer to the interview quota, it is, however, rather risky with regard to the representativity of the realised sample in comparison to the whole population. Areas where it is easier to obtain interviews may be so for reasons related to the topic of the survey, *e.g.* response rates may be lower in areas with lower socio-economic status (SES), areas that may also look less inviting to interviewers. If this leads to withdrawing focus from the lower SES-areas in favour of areas with a better SES, the realised sample may under-represent people with lower SES-jobs. This, in turn, would also reflect on the estimates for job quality in the survey as well, a topic for which correct estimates are important as they can be used to inform policy and policy makers. More attention should be paid to this in the next rounds of the survey.

3.1.5 Respondents and potential non-response error

The next level of error, which is strongly related to the sample and sometimes intertwined with sampling error, is nonresponse error. Of all the reports on the 5th EWCS-survey, only the technical report (Gallup Europe, 2013c) contains the response and nonresponse rates calculated according to the AAPOR (2009) standards for this survey. The average response rate over all countries is 44.2% and ranges from 31.3% to 73.5%. While measuring a survey's success and quality using response rates is common practice in social sciences, it needs to be stressed that response rates are not the best indicators of representativity as the correlation between nonresponse rates and nonresponse bias is actually not that strong (see *e.g.* Groves, 2006). This means that a survey with a low response rate can theoretically be more representative than a survey with a medium/high response rate. What matters is whether nonresponse is systematic or random.

Nonresponse does not pose a big problem for the representativity of the realised sample if it is completely random. Missing completely At Random-situations will normally not harm the survey in terms of representativity of the sampled individuals in comparison to the inferential population (see *e.g.* Bethlehem, 2009; Groves & Couper, 1998). When nonresponse is not (completely) random, however, the representativity comes under pressure. It is especially problematic when there is a correlation between the nonresponse and key survey variables - a situation called Not Missing At Random (NMAR). In the case of EWCS, systematically missing persons with *e.g.* a lower SES-job or with low job quality would be a NMAR-situation. It would imply a misrepresentation of this lower SES-group as well as biased estimates for scores on job quality. When certain geographical areas (the primary sample units) were abandoned in EWCS2010, as described in section 1.4., it is plausible that lower SES-areas and individuals with lower SES were systematically missed in the survey. This is also where sampling errors and nonresponse errors get intertwined in this survey.

To be able to investigate whether a nonresponse bias exists, we would need information on the job and job quality of the non-participants of EWCS. With the two-stage sampling, we would need information on area level and on individual/household level. However, information on non-respondents is by definition missing in surveys, as is also the case with the EWCS-data. Therefore, we are unable to determine whether and to what degree nonresponse bias occurs in the EWCS-survey of 2010. What is known for the response processes in EWCS 2010 is that three recalls were required after the initial visit before the address could be considered as a non-contact (Gallup Europe 2013c, p11). Some countries also had records of telephone numbers they could use, but there always needed to be a face-to-face contact attempt as well. A small follow-up survey, such as a basic questionnaire approaches (see *e.g.* Bethlehem & Kerstens, 1985), can help to gather data on non-respondents to facilitate investigating whether the survey suffers from nonresponse bias. A basic questionnaire is a short version of the survey, containing a minimum of relevant socio-demographic and on-topic questions. A pre-emptive basic questionnaire during the fieldwork, such as the PEDASKI-approach (Lynn, 2002), is even more recommendable as it does not require much extra resources and efforts because they interviewers have their back-up mini-survey during the original fieldwork whereas follow-up surveys imply extra fieldwork time and effort.

Although implementing these methods actually implies introducing a different mode of the survey with potential mode effects, it is still better to have some information on the non-respondents than none. Alternative sources of information on all sample units including non-respondents are sample frame data (to be made available as paradata -data about the survey data collection process) and auxiliary data that come from external sources. The latter should be unambiguously linkable to all areas and/or all individuals in the sample. Then we can compare whether respondents and non-respondents differ for *e.g.* socio-demographic characteristics on area or individual level. Knowing about such differences allows to correct the survey estimates to some degree. But the most effective weighting corrections are only possible when there is a correlation between survey non-participation

and the key survey variables (Kreuter & Olson, 2011). In conclusion, more data on the non-respondents and the non-response process should be gathered and used to improve the representativity of this survey (like many others).

3.2 Evaluation of the measurement of job quality in EWCS 2010

The second pillar of quality in surveys and survey data is measurement quality (see Figure a8.1, Groves & Lyberg, 2010). In EWCS, measuring job quality well is essential. But in any survey and for any concept, differences between the 'true' value and the measured value can arise – the measurement errors. Good measurement instruments are needed to minimise this type of error. This starts with a good conceptualisation that needs to be turned into questions with good wording that can be understood properly by the respondents. Respondents also need to want to give a 'true' answer on the question, of course. Furthermore, after the questionnaires have been completed, the resulting survey variables need to be treated correctly. Six aspects of measurement quality in EWCS2010 will be evaluated and discussed in this section.

3.2.1 Instrument development for EWCS 2010

We start with evaluating how the measurement of job quality was envisioned when the survey questions were designed. In line with the recommendations for quality control in social science research (Quality Standards Working Group, 2015), a pre-test and a thorough translation process preceded the fielding of the questionnaire for EWCS 2010 (Gallup Europe, 2013c). However, the pre-tests could not be carried out in the Candidate countries for the EU due to lack of time but were partially compensated with a bigger pilot group. Cognitive post-tests were, however, executed in the three prospective Candidate countries. Cognitive pre-testing was only done in the UK and France, with each 50 test interviews. This lead to the fine-tuning of the formulation of a few questions as well as to the exclusion of questions that was too difficult to understand or explain (see Gallup Europe, 2015f, p. 2-5).

The translation from the English base questionnaire was a multi-phased process in which research professionals were involved in each country. After the translation phase, a back-translation was ordered and reviewed by Gallup. On top of this, experts of Eurofound's European Working Conditions Observatory (EWCO) evaluated the translated questionnaires for the EU-27 countries and made the final approval. This was followed by pilot testing of all the fieldwork materials. The described procedure ascertains the quality of the instrument with regard to the wording of the questions, although the absence of pre-testing in some countries is an easy critique to make.

Whereas the reports on the 5th EWCS survey are rather detailed for the technical aspects of the questionnaire, the mechanisms behind the choice of all the included concepts, however, is less transparent. What can be deduced from the technical documents, is that experts were invited to contribute to the conceptualisation and operationalisation, namely the Advisory Committee on the European Working Conditions Survey (Gallup Europe, 2013e) but there are no details available on the decision making process for delimiting the content of the survey in the available technical documents. How and why the content of the survey has altered to a rather big degree in every edition is also hard to uncover with the publically available data. These changes lead to a multitude of differences that hamper comparison of the surveys over time.

3.2.2 Validity

The conceptualisation, operationalisation and scaling of core job-related concepts in EWCS2010, such as job quality, is addressed in reports by Eurofound partners (see Eurofound, 2012; Holman, 2015; Munoz de Bustillo *et al.*, 2015; Vandenbrande *et al.*, 2013). The composition of the content of

these suggested scales for job quality is theory-driven, although strongly accustomed to the available variables and items in the survey data. This clearly hints at (partial) a posteriori reasoning for the operationalisation of core concepts. Surprisingly, validity tests of the scales are mostly absent. The reports could be considered as a form of expert judgements, but concrete statistical testing of scale validity is hardly available. Only Eurofound (2012) explicitly mentions validity testing of their job quality scale, based on criterion validity. This means the operationalisation was tested and approved by its relationship with outcomes of job quality, making it a form of predictive validity testing only.

The absence of more proper validity tests for scales is rather surprising. No convergent or discriminant validity tests can be found for the scales nor do we find tests of the comparability of the dimensional structures of the scales meant for international comparative research. Some hints of differential validity can be found when studies compare sub-groups, but all in all validation of job quality scales is meagre. There is also still a clear need to develop a (gold) standard for measuring job quality in EWCS specifically and for measuring it in general as well. Theory-driven and data-driven approaches should be extensively utilised in order to come to such a highly needed standard for the scale construction of job quality for international comparisons – the main aspiration of the EWCS-surveys. This would allow better cross-sectional international comparisons of job quality in Europe. Comparison over time with EWCS-survey data is seriously hampered given that the content as well as the answer options of the questions have changed in each and every edition of EWCS. More stability in that regard is highly recommended for the survey.

3.2.3 Minimising method effects

Obtaining correct answers from respondents to the survey questions are what surveys hope for. However, deviations from the 'true' scores of survey variables are always present. People are not always consistent in the way they answer, which can remain within some regular variations. But confusion or memory effects can also play a roll, and sometimes social desirability bias, the desire to answer questions in a way that they show norm-abiding, takes control (see *e.g.* Groves, 1998). The latter two phenomena will create more systematic measurement errors, leading to a bias in the answers, a systematic deviation from the 'true' values.

To avoid method effects, cognitive pre-test is a minimum standard (Quality Standards Working Group RatSWD, 2015), which is mostly adhered to in EWCS 2010 (Gallup Europe, 2013c). However, in the Candidate countries this could not be done due to practical reasons, making them resort to post-tests. Another pre-emptive practice to reduce method effects is sticking with one and the same survey mode for all participating countries as different modes of data collection also lead to different kinds of measurement error (see *e.g.* Bautista, 2012). This already starts with preventing differences in the contact procedures between countries. Some countries participating in EWCS2010 sent advance letters by postal mail, most did not (Gallup Europe, 2013d). In countries without address-based listings, the introduction letter was 'used by the interviewers' (Gallup Europe, 2013c; p. 9). The use, styling and even timing of advance letters has significant effects on the (non)response processes, which can lead to a first difference between the countries participating in EWCS with regard to method effects. For example, sending the letters in advance tends to lead to better response rates in comparison to not using any at the first contact moment (*e.g.* Dillman *et al.*, 2009).

EWCS2010 also allowed different data collection modes, CAPI and PAPI, probably mostly because of practical considerations such as availability of mobile computers. Both options are face-to-face surveys, interviewer-effects come into play (Bautista, 2012). Proper interviewer training should reduce such effects (Gallup Europe, 2013d, p. 31), but social desirability and satisficing answering styles of the respondents are not always easy to detect or mediate in the survey situation itself. The workload per interviewer was limited to 20 interviews maximum, extra verification measures were taken when this number was exceeded (Gallup Europe, 2013c p. 14). About 10% of the interviews were back-

checked by the local agencies. Although the report mentions amendments in case of incorrectly recorded key demographic variables, it fails to mention the incidence rate of problems and their nature in the document. As a consequence of working with interviewer-assisted data collection, the sample units and respondents are nested within interviewers, a structural element that should be taken into account with multilevel analyses to tease out the interviewer variance in the data when doing substantive studies.

3.2.4 Reliability

Reliability refers to the correlation between the true value and the observed value. In a perfect world, this correlation would be 1 and so would be the correlation between all the repeated measures of the instrument. In other words, the instrument would then exactly measure the same on any new occasion. As addressed in the previous sections, the survey instrument has been submitted to cognitive pre-tests and in some cases post-tests. The technical documents do not mention any issues with reliability. With regard to the reliability of the scales, the end-users should obviously include reliability coefficients when constructing composite measures.

3.2.5 Processing errors

Data collection and processing can be prone to human error and technical issues. Processing errors can arise while cleaning and weighting the data (Groves *et al.*, 2004). Honest mistakes can be made when programming the software and cleaning the data. In computer assisted surveys, routing problems can occur, leading to questions to be skipped or not while they should not have been. Wrong outcome codes could accidentally be assigned to variables as well. The available technical and methodological documents mention imputation and verification rules for EWCS2010, but they are not publically available. Hence, we cannot assess whether or to what degree processing errors occurred.

3.2.6 Other quality characteristics

In this category, the Quality Standards Working Group (2015) emphasises efficiency, reasonableness, and up-to-dateness of the instrument. With regard to the former two quality elements, we see modest interview burden with interviews taking on average 42 minutes (Gallup Europe 2013e). The efficiency within the 2010-survey seems rather good, the efficiency over the consecutive EWCS editions, however, has room for improvement. As we already mentioned earlier, the content of EWCS has often altered over the editions. As a consequence, the comparability of the content over time is problematic. In a sense, this is a not so efficient use of a repeated survey. The use of PAPI also seems like a suboptimal in the digital age.

3.3 Conclusions

We assessed the fifth EWCS-survey with the TSE-approach, distinguishing two major building blocks of survey quality, namely the degree of representation and measurement error. With regard to the representation, we find that the following risks and recommendations should be taken into account when designing next rounds of EWCS:

1. the target population excludes people living in institutions and in remote areas. Among both types there can be people who do fall under the definition of the inferential population. Especially the under-representation of Europeans with a paid job living in remote areas seems relevant to address given that they are chronically under-surveyed in many regards. Moreover, with current technological possibilities, alternative survey methods can be used to include these people more strongly;

2. three different types of sample frames were allowed, each with its own typical risk of over and under-coverage, as can be seen above. The random walks are the most prone to errors and misrepresentation. Only double-checking about 10% seems rather low, especially in times of Google Maps, Google Street View and other geo-spatial software being freely accessible to attempt to validate observations;
3. sampling errors will occur to some degree in any sample, deviations from the inferential population in terms of representation of certain subgroups can (partially) be mediated by weighting the data. Mediating the sampling errors does not automatically fix nonresponse errors, however (see next point). Moreover, the replacement of geographical areas (the primary sampling units) in which the interview targets were hard to achieve in favour of 'easier' areas could clearly bias the realised sample. Information on neighbourhood and/or individual SES should be gathered in order to check and correct for possible SES-misrepresentations in comparison to the inferential population;
4. more paradata or auxiliary data should be included to allow detecting nonresponse errors and nonresponse bias. Better information also allows for better corrective weights.

With regard to measurement errors, there are also some issues that should be addressed in next rounds of EWCS.

1. more transparency about the decision making process for inclusion and exclusion of variables and items is needed in the technical documents;
2. based on the available technical documents and post hoc-reports on how to measure job quality in EWCS 2010, it seems that there should be more theory-driven conceptual development of the core survey variables. It seems mostly left to the end-users to cherry-pick items to fit a scale;
3. the amount changes that is made to the content and to the answering options in each round is very problematic for the comparability over time - which, of course, should be addressed carefully anyway as these are cross-sectional surveys and not panel surveys;
4. the operationalisation of the core survey variables is also underdeveloped as no thorough validity tests of core scales, such as a job quality scale, can be found. At maximum, there is an occasional criterion validity test and the reporting of reliability coefficients. More profound validity testing, especially with regard to international comparability, should be performed and included in the reports;
5. the absence of cognitive pre-tests in some countries is an obvious remark to make;
6. the differences with regard to the use and spread of the introduction letter and the survey mode differences should be assessed and addressed;
7. there are not many details available about potential processing errors nor do the technical documents shed much light on the imputation and verification rules;
8. a more strict methodological protocol that is exactly the same for all participating countries will improve the data quality and the comparability.

All in all, the methodology behind EWCS 2010 does show a high degree of professionalism but, when assessing the survey from the ideal type TSE-perspective, there is (still) room for improvements. Because as already stated in the introduction, from the InGRID research infrastructure perspective, the EWCS data are a very important source to keep and to expand. Part of the rooms for improvement, mentioned in the paper, can only be solved by more cost-consuming procedures. Financial support from other policy stakeholders to the survey could certainly help in this regard. In recent times, Eurofound has secured some national co-financing to enlarge particular national sample sizes. Other players - international science funds, European policy makers, national administrations - should also maybe step-in more.

4. Inventory of linked employer-employee surveys on working conditions and occupational health and safety issues

4.1 Introduction

As part of the European 2020 growth strategy, the InGRID project (Inclusive growth Research Infrastructure Diffusion)[5] aims to integrate and to innovate existing European Social sciences research infrastructures on "Poverty and Living Condition" and on "Working conditions and Vulnerability". The project runs from February 2013 to January 2017 and involves 17 European research institutes. The objective is *(i)* to provide transnational data access, *(ii)* to organize mutual knowledge as well as *(iii)* to improve methods and tools for comparative research. As part of the Work Package 21 "Innovative tools and protocols for working conditions and vulnerability", this paper is put forth to provide an overview of existing linked survey on working condition and on occupational safety and health across European countries. This paper is part of a series of survey inventories tied to working conditions: the first inventory focuses on individual (employee or employer) surveys while the second is devoted to policy data bases. This work focus is hence on linked surveys that connect the employer interview with the interview of his or her employees. Such surveys are considered as the richest framework to assess working conditions and more precisely to figure out how these conditions evolve with organisational changes.

The starting point of this inventory is the Meadow[6] (Measuring the Dynamics of Organisations and Work) project guidelines. This project was a European initiative to collect and harmonise data at the European level on organisational change and its economic and social impacts. The Meadow guidelines offer thus an overview of linked surveys as well as of the inherent methodological issues related to such surveys. The most valuable outcome of this project was to provide norms for the construction of linked surveys on organisational changes and work restructuring that may allow comparability at the European level. Relying on the linked surveys already identified in the Meadow guidelines; this inventory extends the search to more recent linked surveys and updates the work of the Meadow project.

4.1.1 Why a linked survey?

In the nineties we have witnessed the emergence of a consensus among policy makers regarding the importance of knowledge for wealth creation and the importance of innovation as an economic growth engine. The move is towards a knowledge-based economy where intense competition is the key for growth stimulus. In such an environment, firms should be adaptive and this may be possible by embracing new-technologies, re-organising their workforces, or resorting to downsizing, outsourcing or other elements of flexibility. These changes in the overall organisation must be accompanied by changes in management practices and also by adequate policy responses regarding education and training. From the employee side, this pressure may have negative effects on several aspects related to the quality of work or to the quality of working life. In fact, changes in the areas of technology

5 www.inclusivegrowth.be

6 http://meadow-project.eu/

adoption, organisational change, training patterns, business strategies and the overall pressure induced by a competitive environment have direct impacts on the organisation and quality of work. Indeed, typical outcomes at the employee' level are changes in job creation and security, in wage and wage inequality and in training to meet the new technological standards. More importantly, changes in the working environment may induce changes in the scope of occupational safety and health and consequently in workers' well-being and productivity.

In such a context, a unified work that takes into account the multidimensional aspects of work is necessary to address the connection between economic changes, how these changes translate into business strategies and into the labour market structure. From this perspective, linked surveys provide relevant information that can encompass the effects of organisational changes at the employer level as well as at the employee level. Hence, the first advantage of linked surveys is to supply data on the two levels. For example, employer-level information provides useful contextualisation to the description of work provided by employees, while employee-level information is relevant on topics that cannot be easily observed by an employer such as the nature of intrinsic reward or work-related stress. The second advantage is to allow a general understanding of labour market changes. Linked surveys develop a better setting to disentangle questions such as "How do companies implement new information technologies?", "What are the kinds of training associated with these changes?" or "What are the resulting types of organisational changes?" Such questions can hardly be addressed with surveys implemented at the individual level since a labour market change is an interconnection between the economic and institutional context, the employer and the employee. The final advantage is the policy relevance of the information gathered from such surveys. Indeed, a linked survey may be used to evaluate the policies and management practices of private and public employers. To sum up, linked surveys are an efficient and an adequate tool that allow a multidimensional analysis of the working conditions and occupational safety and health.

4.1.2 Aim and structure of the paper

The aim of this paper is to provide an overview of the existing linked surveys on working conditions and occupational health and safety. Using the examples of a number of linked surveys with different topics covered and different designs, the objective is to discuss the conceptual, methodological and analytical difficulties and options inherent to this kind of surveys.

The text begins with general background information on linked surveys. This section includes the definition of a linked framework, methodological issues in administrating linked surveys as well as an advantages/drawbacks analysis of each type of linked survey. This is followed by a review of existing surveys linking employers and employees with the constraint that the selected surveys should satisfy two conditions: *(i)* one or several components related to working conditions and occupational health and safety should be covered, *(ii)* sufficient information on the survey should be available. As a result of this review, a summary of linked surveys is presented and analysed throughout of the rest of the paper.

The next section comprises a detailed methodological analysis of each survey which covers the sampling methods, the sample design, the survey administration as well as the final size of each survey. Following this section is a presentation of the main purposes assigned to each survey and the different topics covered. The final section draws conclusions regarding the value of linked surveys in the assessment of working conditions.

4.2 Concept and definition of linked surveys

There are two possible methods for administrating linked surveys. The employer can be sampled first, while the employee is sampled later in a second stage (linked employer-employee survey). Conversely, in the linked employee-employer survey, the employee is sampled and interviewed first and

the interviewed sample of employers is derived from this employee sample. These two different ways of linking are not equivalent in terms of advantages and drawbacks.

4.2.1 Linked employer-employee survey

4.2.1.1 Advantages

First, taking the employer as the primary sampling unit makes it easier to survey the various employees who are linked to it. A clustered sample is obtained, which is both easier and cheaper to administer than a simple random sample as fewer contacts are needed overall.

Second, in the absence of linked employer/employee registers, the unit which is sampled first will be easier to follow-up in the case of a longitudinal survey. Consequently, if employees are the primary sampling unit (PSU) it will be more difficult to obtain a panel of employer units.

Third, the representativeness of the sample of employers should be easier to guarantee in a setting where the employer is the PSU. As a matter of fact, in linked employer-employee surveys, the dispersion of sampling rates is always higher within the sample of the second-stage. There are also two sources of non-response bias in the second-stage sample. Both effects result in estimates with a higher variance (Ernst *et al.*, 1989). Moreover, at the employee-level there are already a number of longstanding employee surveys which are harmonised at the European level. Two well-known examples are the Community Labour Force Surveys (LFS) and the EWCS. Background statistics from such surveys would allow one to check the validity of estimates at the employee-level. At the employer-level, the knowledge base around harmonised surveys is not as solid as it is more recently, making the control of the sampling frame more critical.

Fourth, it seems obvious to explore the employer-level first in a survey focusing on organisational change, as it can be assumed that changes are more often initiated at the employer level than the employee level. Further, it is reasonable to begin by interviewing persons both in a position to have an understanding of the organisation as a whole and to impart this information. A more pragmatic argument is that in the field of work and organisation, most existing linked surveys at national level begin by surveying the employer.

4.2.1.2 Drawbacks

Taking the employer level as the focus of the first stage of sampling may lead to several practical difficulties. Currently the main difficulty is the absence of a European harmonised employer register. At the European level, no exhaustive and up-to-date database is available which includes: addresses of employer units (headquarters, subsidiaries, etc.); a classification of industries such as the NACE; and more generally the information that is required to stratify and optimise sampling rates. At the national level, business registers are used most of the time, but they do not always cover all sectors (the public sector for example). Moreover, the question of access rights to national employer databases (e.g. Official Statistical Registers and Chamber of Commerce) requires further examination.

Choosing the employer as the first interviewee can also result in a bias in the employee sample towards employees who are more satisfied with their employer or their work (social climate bias), if they are selected from a list given by the employer. Thus, even if employees are randomly selected from this list, it will be practically much more difficult to obtain a random sample of employees because the employers provide the sampling frame for the employee survey within their units. Three national level surveys, COI, LIAB and REPONSE obtain their second-stage samples of employees from linked employer/employee registers rather than from lists of employees given by participating employers. This is one solution to the potential problem of social climate bias, but it will not be easily applied at the European level or to other European countries due to the lack of this type of register in many countries as well as to privacy rules to consult the existing data.

4.2.2 Linked employee-employer survey

4.2.2.1 Advantages

First, in contrast to the situation in respect of employer databases, good quality household databases can be obtained in most European countries through the National Statistical Offices or other national institutions.

Second, there are fewer problems in guaranteeing the anonymity of surveyed employees with respect to their employer. Thus, two potential sources of sample non-randomness at the employer and at the employee level are removed.

Third, an employee-first approach allows to cover a very large field of employers (all kind of establishments, in all sectors, as well as the self-employed) in a way that does not depend upon the availability of a business register and the extent to which it is up-to-date.

Fourth, the sample of employers derived from a random sample of employees will be automatically proportionate to the size of employer units. The sample will reflect the employer unit's share in total employment and can be easily weighted to make it representative of the population of organisations (Leombruni, 2003). The US National Organizations Survey (NOS) carried out in 1991, which is to our knowledge the first nationwide linked survey of organisations, used a linked employee/employer method grounded in the General Social Survey (Smith et al., 2004). More recently the French DIFES and EFE surveys also used a linked employee/employer approach.

Fifth, when countries hold a business register, interviewed employees in the labour force survey are often asked the name and address of their employer. This information is then translated into a firm or business identifier which is used to enrich the survey with accurate indicators of the industry and size of the firm/establishment/workplace. Thus, in these countries, the basic infrastructure for a linked employee/employer survey is already in place. General access to these data is likely to be restricted. Therefore, it is important to investigate the conditions under which wider access could be obtained. To conduct such a survey would clearly require more extensive field testing to make certain that this type of linkage could feasibly provide nationally and cross-nationally representative samples of employers and of employees.

4.2.2.2 Drawbacks

Nevertheless, the employee-first option may lead to some specific difficulties. It is not necessary to review those difficulties which are simply the counterpart of the advantages of an employer-first approach, namely: the representativeness of the employer sample; difficulties in following up employers over time; and budget optimisation. Instead, we highlight the risk of attrition and bias because of the refusal or inability of some employees to provide good contact information about their employer. There is also the fact that the distribution of businesses in terms of size is skewed and thus it is difficult to reach very large employer units for which a census is generally conducted in employer level surveys. One possibility is to have a split frame, with a number of employer units reached through employees and other employer units targeted directly in order to capture important policy areas, such as multinationals or firms in the high tech or biotech sectors. A final disadvantage of the employee-first approach is that there will be only one worker interviewed in most of the employer units.

4.3 Comparison and overview of the surveys

4.3.1 Identification of surveys

Building on the linked surveys covered by the Meadow project, a search was performed to include other recent and planned linked surveys conducted in European countries. A total of 16 national

surveys from 8 countries are included in this inventory along with one European survey (ESES) and one international survey (TALIS). The ESES is the first and unique initiative to conduct a European linked survey. The TALIS is an international survey that is concerned with a specific workplace, namely schools. Even if the country coverage of this inventory was initially planned to be the European countries, we allow for two exceptions: the Canadian Workplace and Employee Survey (WES) and the American National Organization study (NOS). It is important to keep in mind that this list of surveys is far from being exhaustive. Indeed, this inventory coverage is limited to linked surveys for which some French or English documentation is available.

Overall, we can notice that linked survey is not a widespread survey concept and few countries at both the European and the international level have carried out such surveys. This scarcity is probably due to the costs associated with the complexity of data collection that linked surveys entail. Table 4.1 lists the set of linked employer-employee surveys whereas Table 4.2 presents the set of linked employee-employer surveys. There are 18 linked surveys reported with one half being linked employer-employee surveys and the other half being linked employee-employer surveys. For each survey, the original name and the English translation are given as well as the acronym which will be used throughout this paper.

Table 4.1 Employer-employee surveys

N°	Survey	Original name	Abbreviation	Country
1	The Organisational Change and ICT use survey	Changements Organisationnels et Informatisation	COI	France (FR)
2	The European Union Structure Of Earnings Survey	The European Union Structure Of Earnings Survey	ESES	European (EU)
3	Linked Employer-Employee Data from the IAB	Die Linked-Employer-Employee-Daten des IAB	LIAB	Germany (DE)
4	Survey on Professional relationships and business negotiations	Enquête Relations Professionnelles et Négociations d'Entreprise	REPONSE	France (FR)
5	Workplace Employee Relations survey	Workplace Employee Relations Survey	WERS	Great Britain (GB)
6	Teaching and learning international survey	Teaching and learning international survey	TALIS	International * (INT)
7	The Finnish MEADOW survey	The Finnish MEADOW survey	FMS	Finland (FI)
8	The Danish MEADOW survey	The Danish MEADOW survey	DMS	Denmark (DK)
9	Workplace and Employee Survey	Workplace and Employee Survey	WES	Canada (CA)
10	Linked personnel panel	Linked personnel panel	LPP	Germany (DE)
11	Technology use at Work and Innovative work practices	Technology use at Work and Innovative work practices	TWAIN	Luxembourg (LU)
12	Training and employee's trajectory survey	Dispositif d'enquêtes sur les formations et les itinéraires des salariés	DEFIS	France (FR)

* TALIS 2013, which is the last edition considered throughout this paper covers 34 countries of which 24 are OECD members.
The TALIS 2013 countries included: Abu Dhabi (United Arab Emirates), Alberta (Canada), Australia, Belgium (Flanders), Brazil, Bulgaria, Chile, Croatia, Cyprus, 2 Czech Republic, Denmark, England (United Kingdom), Estonia, Finland, France, Iceland, Israel, Italy, Japan, Republic of Korea, Latvia, Malaysia, Mexico, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Singapore, Slovak Republic, Spain, Sweden and the United States.

Table 4.2 Employee-employer surveys

N°	Survey	Original name	Abbreviation	Country
1	Linked employer/employee Survey device on continuing vocational training	Dispositif d'information sur la formation employeur-salarié	DIFES	France (FR)
2	British Skills Survey/Employer Perspectives Survey	British Skills Survey/Employer Perspectives Survey	BSS/EPS	United Kingdom (UK)
3	Family Employers Survey	Enquête famille employeurs	EFE	France (FR)
4	National Organization Study	National Organization Study	NOS	United States (US)
5	Working conditions survey	L'enquête conditions de travail	CT	France (FR)
6	Psychosocial Risk Survey	Enquête Risques psycho-sociaux	RPS	France(FR)

4.3.2 Organisation and funding

Regarding the cost associated with linked survey realisation, each survey is funded by different sources but mainly by governmental institutions. The details about the organisation and the funding of each survey are provided in Table 4.3. For instance, most of the French linked surveys have benefited from grants of governmental institutions (such as DARES, DGAFP, ...). The British survey WERS have benefited from the support of a panel of sponsors which includes both government and independent institutions. The funding of the remaining surveys is a mix of grants from the national Statistical office in the case of the WES and ESES surveys or of subventions from private foundation in the case of the American NOS survey.

The cost related to linked surveys implementation could be seriously diminished in countries where linked employer-employee registers exist. In fact such registers allow for a better optimization of the existing surveys. For instance, the DIFES survey is the outcome of the coordination of two compulsory European surveys: the Adult Education Survey and the Continuing Vocational Training Survey. These two surveys are independent but were both used to create a linked survey.

The funding institutions may also be involved in the implementation of the surveys as illustrated by the COI and the WES surveys. However, the surveys are usually carried out with the support of the national statistical office as illustrated by the DMS, the FMS and almost all the French surveys. The independent research organisations as well as the research institute are also involved in the surveys execution. For instance the LIAB survey was carried out by two independent research institutes namely the TNS Infratest Munich and the German Institute for Socio-economic Structural Analysis while the BSS/EPS survey was implemented by the British research institute of Skills, Knowledge and Organisational Performance (SKOPE) centre which is a research institute.

Table 4.3 Surveys organisation and funding

Country	Survey	Organised by/carried out by	Type [1]
FR	COI	-CEE -DARES -INSEE -DRESS -DGAFP	Rg G S G G
EU	ESES	National statistical offices in European countries	S
DE	LIAB	-TNS Infratest Munich -SÖSTRA Institute Berlin (Institute for Socio-economic Structural Analysis) -IAB	Ra Ra Gf
FR	REPONSE	DARES	G
UK	WERS	-Department for Business, Innovation and Skills -Economic and Social Research Council -UK Commission for Employment and Skills -Advisory, Conciliation and Arbitration Service - NIESR	G Rg Rg Rg Ra
INT	TALIS	-Organisation for Economic Cooperation and Development -The participants' government authorities, typically education ministries	Rg
FI	FMS	-Work research center -University of Tampere -Statistics Finland -Tekes	R Ra S Rg
DK	DMS	-Denmark's Statistics	S
CA	WES	-Statistics Canada	S
DE	LPP	-IAB -The university of Cologne -ZEW -BMAS	Gf Ra Ra G
LU	TWAIN	-Luxembourg Institute of Socio-Economic Research -Ministry of Social Security of Luxembourg	R G
FR	DEFIS	-Céreq	Gf
FR	DIFES	-INSEE -DARES -Céreq	S G Gf
UK	BSS/EPS	-SKOPE -DfEE	R G
FR	EFE	-INED -INSEE -DARES	 S G
USA	NOS	-Henne Group -National Science Foundation -Alfred P. Sloan Foundation	Ra Ra Ra
FR	CT	-DARES -DRESS -DGAFP -INSEE	G G G S
FR	RPS	-DARES -DRESS -DGAFP -INSEE	G G G S

1 G=Governmental
Gf=Governmental funded institute/organisation
S=Statistical Office
R=Research institute
Rg=Governmental funded research institute/organisation
Ra=Academic/Independent research institute/organisation
2 G=Governmental
Gf=Governmental funded institute/organisation
S=Statistical Office
R=Research institute
Rg=Governmental funded research institute/organisation
Ra=Academic/Independent research institute/organisation

4.3.3 Time frequency

The various survey editions as well as their frequency are given in Table 4.4. The American NOS survey is the first linked survey and dates back to the early of 1990's. The NOS has been collecting data on organisational changes and their impact on working conditions, however the topics covered in each edition vary according to the specific objective assigned to each one. The WES has been collecting data on working life inside Canadian workplaces on a regular basis, and there are some other European countries with long-running and well established surveys such as France and Germany. The British survey WERS is another example of regular survey with 3 editions from its first inception in 1998. It is also the first survey with dual voice.[7] Considering the linked employee-employer surveys, the American NOS is the first initiative to collect data at the employee level and to link it to the corresponding employer. The survey has been organised already 4 times since the first edition of 1991. Contrary to the NOS survey, the others linked employee-employer surveys were conducted only once.

Table 4.4 Survey editions

Country	Survey	1st edition	Editions	Latest edition	Frequency
FR	COI	1997	1997 2006	2006	
EU	ESES	1995	1995 2002 2006 2010	2010	Every 4 years
DE	LIAB	2008	2008 2010	2010	
FR	REPONSE	1992-1993	1992-1993 1998-1999 2004-2005 2010-2011	2011	Every 6 years
UK	WERS	1998	1998 2004 2011	2011	
INT	TALIS	2008	2008 2013	2013	
FI	FMS	2012-2014	2012-2014	2012-2014	
DK	DMS	2012	2012	2012	
CA	WES	1999	1999 2000 2001 2002 2003 2004 2005 2006	2006	Annual
DE	LPP	2012/2013	2012/2013	2012/2013	
LU	TWAIN	2013	2013	2013	

7 Dual voice refers to the fact that an employee representative is interviewed along with the employee and the employer.

Country	Survey	1st edition	Editions	Latest edition	Frequency
FR	DIFES	2006	2006	2006	Next edition 2012
UK	BSS/EPS	2002		2002	
FR	EFE	2007	2007	2007	
USA	NOS	1991	1991 1996 2002 2010	2010	
FR	CT	2013	2013	2013	
FR	RPS	2015-2016	2015-2016	2015-2016	
FR	DEFIS	2015			

4.3.4 Population coverage

As already mentioned in the second section of this paper, the primary sampling unit in the linked employer-employee surveys, is the employer while it is the employee in the linked employee-employer survey. Table 4.5 and Table 4.6 provide a detailed presentation of the population coverage in each survey.

A typical linked employer-employee survey collects data on a national sample of representative employers of the whole economy (including the public sector) whilst the employees are reached through the surveyed employers. The sampling unit could be the workplace, the establishment or the firm depending on the legal definition attributed to each sampling unit. In fact, at the exception of the workplace definition which is uniform across countries, the definition of the establishment or the firm vary according to the legal environment and the corporate governance system. The coverage of employer units is often restricted to workplaces with at least 10 employees. However some surveys, such as the LIAB, extend the coverage to all establishments with at least one employee covered by social security. Considering the employee coverage, we can notice some differences between the surveys. For example, the WERS and RESPONSE comprise an interview with the employee representatives in addition to the employee interview. The Finish MEADOW survey excludes employees who have worked less than 1.5 years in the employer unit in question. Therefore, a vast majority of temporary employees would not be interviewed. Conversely, the ESES covers all the employees that receive remuneration regardless of the duration of the contract and of the number of worked hours.

Table 4.5 Survey coverage (employer-employee surveys)

Country	Survey	Territorial Scope	Economic activities	Sampled unit	Population COVERAGE	
					Employer	Employee
FR	COI	National	Private sector	Enterprises	Enterprises with at least 10 employees	Employees with at least one year of tenure
			Public sector	Establishments	Establishments with at least 9 employees	All employees
			Hospital sector	Establishments		All employees
EU	ESES	European	All defined in NACE Rev. 2 sections B to S. NACE Section O (Public administration and defence; compulsory social security) is optional, however covered by most countries.	Enterprises	Enterprises with at least 10 employees	All persons who have a direct employment contract with the enterprise or local unit and receive remuneration, irrespective of the type of work performed, the number of hours worked (full or part-time) and the duration of the contract (fixed or indefinite)
DE	LIAB	National	Private and public sectors	Establishments	Establishments with at least one employee covered by social security	-Employees covered by social security
FR	REPONSE	National	Private (excluding administrations and the agricultural sector)	Workplace	-Workplace with at least 11 employees -Dual voice	All employees
GB	WERS	National	All (excluding workplaces in agriculture, forestry, fishing, and mining and quarrying)	Workplaces	-Workplaces with 5 or more employees -Dual voice	-All employees
Int	TALIS	International	Education	School	Lower secondary schools	Teachers

Country	Survey	Territorial Scope	Economic activities	Sampled unit	Population COVERAGE	
					Employer	Employee
FI	FMS	National	Public and Private sector	Employer units	Employer units with at least 10 employee	The sample excludes employees who have worked less than 1.5 years in the unit in question
DK	DMS	National	Private and public sectors	Workplace	Workplaces with more than 25 employees	Employees with at least 3 years of tenure
CA	WES	National	Public and Private sector	Workplaces	Workplaces with more than 1 employee	Employees working or on paid leave in March in the selected workplaces who receive a Canada Customs and Revenue Agency T-4 Supplementary form.
DE	LPP	National		Establishments	Establishments with more than 50 employees subject to social insurance contributions *	Employees subject to social insurance contributions
LU	TWAIN	National	Private sector	Enterprises	Enterprises with at least 15 employees	Employees with at least 6 months of tenure (excluding temporary employees)
FR	DEFIS	National	Private sector	Enterprises		All employees

* Exempted were establishments from the business sectors of agriculture, forestry and fishery, as well as civil service and charity organisations.

Now turning to the population coverage in employee-employer surveys, Table 4.6 provides details about the employee and the employer features. The basic sampling unit at the employee-level could be the household. For example: *(i)* in the EFE survey, which is concerned with work-life balance and has employees with young children as the target population, all employees aged 20 to 49 are interviewed; *(ii)* in the DIFES survey, only one employee aged between 18 and 64 per household is interviewed.

Table 4.6 Survey coverage (employee-employer surveys)

Country	Survey	Territorial Scope	Economic activities	Sampling unit	Population coverage	
					Employee	**Employer**
FR	DIFES	National	Private sector	Household	Employees from the households interviewed for the LFS* survey in 2006	Firms with 10 employees and more
UK	BSS/EPS	National		Household		Establishments where the working individuals were employed
FR	EFE	National	Private and public sectors	Household	Employees aged between 20 to 49 in households from the population census	Establishments with at least 20 employees of the employees surveyed in the first degree
US	NOS	National	For-profit, non-profit, and public sector organizations	Organisations		Workplaces of full-time employed respondents to the 2008 General Social Survey (GSS)
FR	CT	National	Private and public sectors	Household		Establishments with at least 10 employees of the employees surveyed in the first degree
FR	RPS	National	Private and public sectors	Household		Establishment with at least 20 employees of the employees surveyed in the first degree

* Labour Force Survey (LFS).

4.4 Survey sample

The sampling strategy is a step by step procedure which begins by the identification of the target population and the sampling frame specification. After identification, the next step is the choice of adequate sampling method. The sample design is the final step.

4.4.1 Sampling frames

A prerequisite for any survey is a sampling frame that is defined as the list from which the potential respondents are drawn. The sampling frame must be representative of the target population to avoid potential error into survey statistics. Regarding the specific case of linked survey, a reliable sampling frame should contain sufficient information to identify each unit (employer or employee).

4.4.1.1 Linked employer-employee sampling frame

In the most straightforward case, the sampling frame is a linked employer-employee register. Some countries, such as France or some Scandinavian countries, have national registers that allow coordinating the employer and employee sampling. For instance, the French register, DADS (Déclarations annuelles de Données Sociales), contains the annual employer reports with the names and the earnings of all their employees. This register may be linked to the French business register, SIRENE (Système Informatique pour le Répertoire des Entreprises et des Etablissements), which facilitates a linked framework as experienced by the COI and REPONSE surveys. The LIAB and LPP surveys in Germany are also illustrative of the use of linked employer-employee register. Relying on such sampling frames allows the initiation of linked surveys in which the respondents from the primary

sampling unit (*e.g.* the employer) are independent from the secondary sampling unit (in this case their employee). If such a register does not exist, an alternative approach is to rely on the national business register for the employer sampling and to ask for the employees list which will be used as a basis for employees sampling. This method is used by the WERS and WES surveys.

4.4.1.2 Linked employee-employer sampling frame

If the primary sampling unit is the employee, the sampling frame varies according to the employee register availability, or to the existence of a national register (census). The French DIFES[8] survey uses the Labour Force Survey as sampling frame for the employees' selection while the BSS/EPS rely on a postcode address file to draw the sampled households. The employer section of the linked employee-employer surveys is mainly obtained by asking the interviewed employees the exact information about their employer. In another vein, although similar to the sampling frame of linked employer-employees surveys, the American NOS survey relies on a social security register which provides information both on the employees and on their employers. The value of linked employer-employee national registers is thus as important when the employee is first sampled as when the employer is first sampled. In both cases, such registers facilitate the linkage.

4.4.2 Sampling method and sample design

Once the sampling frame has been chosen, the following step is to select the sampling method. Two approaches are usually used: *(i)* probability-based versus *(ii)* non-probability-based selections. In the probability-based samplings, all elements in the population have some opportunity to be included in the sample. Conversely, in the non-probability-based sampling, population elements are selected on the basis of their availability. The probability-based method is the most widely used sampling method in linked surveys. As a matter of fact, all the surveys reviewed in this paper rely on such a method.

The probability sample can be drawn from a population in several ways. The methods that are the most commonly used in linked surveys are simple random sampling or stratified random sampling. The simple random sampling results in an equal probability of selection for all elements in the population whereas the stratified random sample can be obtained by dividing the population into subpopulations, or strata and then drawing simple random samples from each stratum. Overall, the sample design depends on the PSU: if the employer is the PSU, the common sampling design is a stratified random sample; if the employee is the PSU, a simple random sample is the obvious design. Each case will be discussed separately.

4.4.2.1 Employer first approach:

The technique of stratification is useful when the employer is first sampled as it avoids having some underrepresented groups in the population. Variables used to stratify, usually describe:

- economic activity: the COI, LIAB and WES use and industry stratification while REPONSE use a sectoral activity stratification;
- size: almost all the employer first sampled surveys use a size stratification to avoid the underrepresentation of large employer units.

The employees that constitute the second-stage sample in an employer first approach are usually selected in a random fashion from the list of employees provided by the employer (see Table 4.7).

8 The sampling frame of the DIFES survey is particular. In fact this survey is the result of the coordination of two surveys, namely the AES (Adult Education Survey) which represents the employee section of the DIFES survey and the CVTS (Continuing Vocational Training Survey) that is the employer section. The sampling frame of the employee section is the employees' household extracted from the Labour Force Survey. The sampling frame of the CVTS survey is also the Labour Force Survey in addition to the SIRENE register

4.4.2.2 Employee first approach:

The sample design is somewhat more straightforward under the employee-first approach and is often represented by a simple random sample. A multi-stage sampling is another possibility as demonstrated by the sampling strategy in the BSS and EFE. This technique is essentially the process of taking random samples of preceding random samples. The BSS provides an illustration of this method: in the first stage, a random sample of residential address is chosen throughout Britain. In each selected household one randomly-determined eligible individual was interviewed in the second stage.

Obtaining a linked sample under the employee-first approach is feasible in two ways. First, the interviewed employees can be asked at the end of the interview to provide contact information for their place of employment including business name, and telephone number as occurred in the BSS, EFE or NOS. Then, the corresponding employers are interviewed in a second stage. Second, the employer section is obtained by matching the employee survey with an employer survey as illustrated by the DIFES survey. In this case, the sample design of the employer design may be a random sample or a multi-stage sample.

Table 4.7 Sample design (employer-employee surveys)

Country	Survey		Sampling Frame	Sampling method
FR	COI	Employer	Official business register (SIRENE)	Stratified sample by size and industry from a business register
		Employee	Official Employee Register (DADS)	Random sample
EU	ESES	Employer		Random sample of enterprises
		Employee		Random sample within the selected enterprise
DE	LIAB	Employer	Social security register	Random sample, stratified according to establishment size, industry and federal state
		Employee	Social security register	All observations on employment and benefit receipt on the reference date June 30th
FR	RE-PONSE	Employer	Official business register (SIRENE)	Random sample, stratified according to establishment size and sectoral activity
		Employee	Official employee Register (DADS)	Random sample of employees within the interviewed firms
GB	WERS	Employer	Inter-Departmental Business Register (IDBR)	Stratified sample
		Employee	Workplace employees list	Random sample
INT	TALIS	Employer		Random sample of schools
		Employee		Random sample from the selected schools
FI	FMS	Employer		Stratified sample
		Employee		Random sample from the selected units

DK	DMS	Employer		Stratified random sample
		Employee		Random sample
CA	WES	Employer	Official business register (CBR)	Stratified sample by industry, region and size from a business register
		Employee	Workplace employees list	Random sample from a list given by the employer
DE	LPP	Employer	IAB establishment panel	Stratified according to establishment size, industry and region.
		Employee	Employee history of the IAB (BeH*)	Stratified according to establishment size
LU	TWAIN	Employer		
		Employee		
FR	DEFIS	Employer	Official business register (SIRENE)	Random sample, stratified according to the enterprise size and the sectoral activity
		Employee	Official employee register DADS	Random sample, stratified according to the social group, the enterprise size and the sectoral activity

* The BeH is part of the IEB (Integrated Employment Biographies).

Table 4.8 Sample design (employee-employer surveys)

Country	Survey		Sampling Frame	Sampling method
FR	DIFES	Employer	Labour Force Survey + Official business register (SIRENE)	Stratified random sample
		Employee	Households from the Labour Force survey	Random sample
UK	BSS/EPS	Employer	Employer identified by individuals	
		Employee	UK Postcode Address File	Multi-stage stratified random sample
FR	EFE	Employer	Establishments where the interviewed employees work	All the establishment with at least 20 employees of the employees surveyed in the first degree
		Employee	la population des ménages dits « ordinaires », c'est-à-dire non collectifs (dans l'échantillon maître de l'INSEE).	Random sample
USA	NOS	Employer	General Social Survey	
		Employee	General Social Survey	
FR	CT	Employer	Establishments where the interviewed employees work + DADS*	
		Employee	Households from the population census	Random sample
FR	RPS	Employer	Establishments where the interviewed employees work	
		Employee	Households from the population census	Random sample

* The DADS register was used to identify the employers of the employees surveyed in the first stage and who did not provide sufficient information to identify their employer.

4.4.3 Data collection

As the data collection methods are common to all surveys, this section surveys briefly these methods and Table 4.9 and Table 4.10 present the method adopted respectively in linked employer-employee surveys and in linked employee-employer surveys.

The data collection method in almost all of the surveys presented in the table use the face-to-face interviewing which is considered as the gold standard of survey interviewing even if it is the most expensive method. A cheaper alternative to this method is the telephone data collection under the time constraint that the questionnaire cannot last more than half an hour. Mail surveys or postal questionnaires which are filled in by respondents and then sent back to the investigator organism are a relatively cheap method of surveying a large sample with a wide dispersion. The response rate with such method is often low and this is a major disadvantage. Another alternative of data collection methods is web surveys or e-mail data collection. With a growing population having access to the Internet, this method has the advantage to be cheap and fast. However, there are still two major problems with this method. First, for broad population coverage, the sampling email addresses may be difficult to achieve and second, the response rate may be also low with this method. Additionally to these standard methods of data collection, combining different methods is an alternative option

as illustrated by the employer-level data collection in the WERS survey. Table 4.9 and Table 4.10 present the method of data collection for each survey with a distinction between the data collection for the employer and data collection for the employee. The Tables also provide the average duration of each questionnaire as well as the number of questions when the information is available.

Table 4.9 Data collection (employer-employee surveys)

Country	Survey		Mode of data collection	Average duration	Number of questions
FR	COI	Employer	Mail questionnaire at the enterprise		44 questions for the companies 40 questions for the public sector 37 question for the hospital sector
		employee	Face to face interview at the enterprise or telephone	40 min for the main questionnaire* and 15 min for secondary questionnaire	98 questions for main questionnaire and 37 for the secondary questionnaire
EU	ESES	Employer	Tailored questionnaires, existing surveys, administrative sources or a combination of such sources, which provide the equivalent information.		
		Employee			
DE	LIAB	Employer	Face to face		90 questions
		Employee			
FR	RE-PONSE	Employer	Face to face interview at the establishment	90 min	
		Employee	-Employee representative: face to face interview at the establishment -Employee: Mail questionnaires to the employee home address	1h for the employee representatives	
GB	WERS	Employer	Face to face at the establishment	90 min	
		Employee	-Employee representative: by telephone or face to face interview at the workplace -Employee: self-completion questionnaire that was distributed to the employees by a nominated person at the establishment	30min	
INT	TALIS	Employer	Self-administered paper and pencil or on-line completion	45-60 min	39 questions
		Employee	Self-administered paper and pencil or on-line completion	45-60 min	49 questions
FI	FMS	Employer	Telephone interviews		
		Employee			
DK	DMS	Employer	Mail questionnaire		
		Employee	Email questionnaire or telephone interview		

CA	WES	Em-ployer	Face to face interview		
		Em-ployee	Face to face interview at work or tele-phone		
DE	LPP	Em-ployer	Face to face		82 questions
		Em-ployee	Telephone interviews		
LU	TWAIN	Em-ployer	Mail questionnaires at the enterprise		
		Em-ployee	On-line completion		
FR	DEFIS	Em-ployer	Telephone interviews	25 min	
		Em-ployee	Telephone interviews	30 min	

* There are two employee questionnaires: *(i)* the main questionnaire involves employees still present in the company for which they were selected at the time of data collection; *(ii)* the secondary questionnaire is for employees who have left the company when they are interviewed.

Table 4.10 Data collection (employee-employer surveys)

Coun-try	Survey		Mode of data collection	Average dura-tion	Number of ques-tions
FR	DIFES	Em-ployer	Telephone interviews or self-completion ques-tionnaire	30 min	
		Em-ployee	Face to face at the employee house		
UK	BSS/EPS	Em-ployer	Mail questionnaire before telephone interview	27 min	
		Em-ployee	Face-to-face interview	50 min	
FR	EFE	Em-ployer	Mail questionnaire at the enterprise or on-line completion	8 pages	
		Em-ployee	Face to face interview at the employee house	40 min	
USA	NOS	Em-ployer	Telephone interview or mail questionnaire		
		Em-ployee			
FR	CT	Em-ployer	Mail questionnaire		60 questions
		Em-ployee	Face to face interview at the employee house	45-60 min	
FR	RPS	Em-ployer	Mail questionnaire		60 questions
		Em-ployee	Face to face interview at the employee house	45-60 min	

4.4.4 Response rate and sample size

The response rate for a linked survey is the proportion of eligible employer and employees with whom interviews are completed. This rate is a function of how the respondents are contacted and to what extent the interviewer succeeded in gaining their cooperation. The response rate may also depend on the institutional setting. Table 4.11 gives the range of response rates corresponding to each survey as well as the net sample, at least when the information is available. The net sample and the response rate are not available for international surveys such as the ESES and the TALIS since these

details are country specific. The response rate reported for the TALIS survey is the target rate for the sampled schools (75%) and the sampled teachers (75%). The response rate ranges from an upper level reached in the COI and WES surveys to a lower level obtained in the WERS survey. Regarding, the final net sample obtained, the wider coverage is achieved with the LIAB survey which succeeds at interviewing around 49844 employers and more than 10 million employees. Conversely, the smallest sample corresponds to the Danish MEADOW Survey (DMS) with a net sample of 617 employers and 3362 employees.

Table 4.11 Net sample size (employer-employee surveys)

Country	Survey		Net sample size	Response rate
FR	COI	Employer	7,700	85%
		Employee	15,000	72%
EU	ESES	Employer		
		Employee		
DE	LIAB	Employer	49,844	
		Employee	10,314,524	
FR	REPONSE	Employer	4,023	61.7%
		Employee	-Employee representatives: 2,433 -Employees: 11,350	-Employee representatives: 76.6% -Employees: 33.9%
GB	WERS	Employer	2,680	46.5%
		Employee	-Employee representatives: 1,002 -Employees: 21,981	-Employee representatives: 63.9% -Employees: 54.3%
INT	TALIS	Employer	200 schools per country	75%
		Employee	2,250 teachers per country	75%
FI	FMS	Employer	1,531	76%
		Employee	1,711	
DK	DMS	Employer	617	31%
		Employee	3,362	37.2%
CA	WES	Employer	6,693	78%
		Employee	24,197	81%
DE	**LPP**	Employer	1,219	55%
		Employee	17,508	34.1%
LU	TWAIN	Employer	2,800	
		Employee	60,000	
FR	DEFIS	Employer	6,600 [1]	
		Employee	37,000 [2]	

1 Targeted sample of enterprises.
2 Targeted sample of employees.

Table 4.12 Net sample size (employee-employer surveys)

Country	Survey		Net sample size	Response rate
FR	DIFES	Employer	18,000	
		Employee	18,000	
UK	BSS/EPS	Employer	1,114	
		Employee	4,470	
FR	EFE	Employer	2,673	75%
		Employee	3,050	67%
USA	NOS	Employer		
		Employee		
FR	CT	Employer	10,600	59.3%
		Employee	13,800	
FR	RPS	Employer	2,800	
		Employee	60,000	

4.5 Purpose of linked surveys

4.5.1 Purpose of linked surveys

The overall aim of linked surveys is to explore all the issues concerning interactions between employer and employees. The mains questions tackled in these surveys are: how much does organisation matter for working condition? How has technological change shaped the work organisation and the working conditions? How are important human resource development activities and strategies, or are they largely ignored by establishment? Finally, how the work organisation and job quality impact the employee's wellbeing? Most of these questions deal with the relationship between organisational conditions and changes on the one hand and with working conditions on the other hand. The surveys analysed throughout this paper deal with one or more of these questions as illustrated in Table 4.13.

For example, REPONSE and WERS surveys are designed to assess the employment relationship in France and United Kingdom respectively. However, both surveys comprise components related to organisational changes and to working conditions that may be used to reach others objectives. The COI survey focuses on the impact of organisational changes and their impact on the ICTs diffusion but the survey can also be used for an analysis of skills development as well as for management practices in firms. Therefore the objectives assigned to each survey may be somehow restrictive regarding the extended use that can be made with the data collected.

In another vein, the objective of some surveys is to allow for data comparability across countries regarding a specific topic. For example, ESES and TALIS are transnational surveys: the first one is a European survey while the second is an international one. ESES aims at collecting data on earnings and to link it to the characteristics of both the employer and the employee while TALIS offers a comparability of teachers working conditions across a broad range of countries. Next to these specific cases, the remaining surveys reported in Table 4.13 serve objectives such as assessing skills development and skills mismatch in the case of DIFES and BSS/EPS surveys, understanding the interaction between the family organisation and professional context in the EFE survey or exploring the psychosocial risk at the workplace in the CT survey.

Table 4.13 The survey purpose

Country	Survey	Objectives
FR	COI	The survey aims at deepening the understanding of the way skills evolve when private firms and public administrations change their organisations or their equipment in Information and Communication Technologies. More precisely, the aim is to assess jointly the role of training, hiring and firing and outside contracting in the processes of skill development, taking into account interactions between employers and employees.
EU	ESES	The objective of this survey is to provide accurate and harmonised data on earnings in EU Member States, EFTA countries and Candidate Countries for policy-making and research purposes. The ESES gives detailed and comparable information on relationships between the level of remuneration, individual characteristics of employees (sex, age, occupation, length of service, highest educational level attained, etc.) and their employer (economic activity, size and location).
DE	LIAB	The objective is to allow for an analysis of the supply and demand sides of the German labour market. Among other things, the LIAB data have already been used in studies in gender-specific wage inequality, on individual-specific and company-specific determinants of failure to complete company vocational training, and on the effects of technological and organisational change on mobility.
FR	REPONSE	The aim of this survey is to provide photography of the French firm's social situation and working conditions. More precisely, the survey focuses on the labour management policy, the wage policies, and the nature of employee representatives, bargaining, collective agreements, conflicts and the social climate perception.
GB	WERS	The objective is to map British employment relations over time; to inform policy and practice, and stimulate debate; and to provide a comprehensive and statistically robust dataset on British workplace employment relations for public use.
INT	TALIS	The objective of this survey is to shed light on the conditions of teaching and on the learning environments of schools in participating countries. More precisely, the survey aims at collecting information on teachers' professional development needs and on their pedagogical practices. Another objective is to assess the role of schools in fostering an effective teaching and learning environment as well as to explore the teachers' feeling of job satisfaction and self-efficacy.
FI	FMS	The first objective of this survey is to find out how developed the forms of organisations are, their management practices and ways of labour usage in various industries and sectors. The second objective is to evaluate how these practices are connected to the success of organization and to the well-being of employees.
DK	DMS	The objective of this survey is to unveil how employees from different positions experience their work and how work has changed in Denmark. A special focus is in the management relations, team relations, work relations well-being relation and competence relation.
CA	WES	The goal of this survey is to shed light on the relationships among competitiveness, innovation, technology use and human resource management on the employer side and technology use, training, job stability and earnings on the employee side.
DE	LPP	One of the objectives of this survey is to describe dissemination of modern human resource (HR) management instruments in Germany. The survey aims also to investigate causal relationships between the implementation of HR management approaches, the quality of work and the success of an establishment.
LU	TWAIN	The Luxembourg linked employer-employee survey is dedicated to the analysis of the relationships between the work environment offered by firms and the quality of work life perceived by employees.
FR	DEFIS	This surveys aims at collecting information on the employees' training practices and their effect on career development. More precisely, the survey objective is to link training practices both from the demand (employee) and supply (employer) sides, to work organisation and human resources. This linkage will allow an analysis of employment opportunities, external mobility or changes in the employee's professional activities at the light of the training practices in the enterprise.
FR	DIFES	The objective of this survey is to link on the characteristics of the employees and their training practices with the business strategy of the company, the organizational changes and with both the human resource and training policies. The survey aims to compare and to analyse the gap between the employees and employers statements about the 2004 law on continuing training. Topics in perspective concern in particular the employee's information, the organization of professional interviews and devices to collect training needs.
UK	BSS/EPS	The aim of this survey is to investigate the relationship between the characteristics of the establishments where people work and the skills needed in jobs as well as to increase understanding about the factors underlying employers' demand for skill in Britain. Other factors of interest concerned the roles of technology, of competition, and of several modern management practices, in influencing the skills requirements and skills gaps.
FR	EFE	The aim of this survey is to assess the work/life balance in France from the perspective of individuals and employers. The objective is to increase understanding about the interaction of the family organization and professional context and more precisely how the family commitment and personnel life are shaped by the workplace characteristics.

Country	Survey	Objectives
USA	NOS	This survey aimed to quantify domestic and international sourcing of United States private and public sector organizations.
FR	CT	This surveys aims at exploring two issues: *(i)* the link between psychosocial risks, work organisation and economic crisis, *(ii)* the employer evaluation of job strain
FR	RPS	

4.5.2 Topics covered

Although the initial focus of this paper is on surveys related to working conditions as well as on occupational health and safety, the topics covered by each survey expand these two concepts to encompass a broad range of topics related to employer-employee relationship. In fact, this is one of the advantages of linked surveys in comparison with individual surveys. Table 4.14 summarises the issues investigated in each survey with a distinction between themes covered at the employer level and the employee level.

Background information is systematically included in linked surveys with details about the employer and the employee. Regarding the employer level information, details concerning the establishment are also integrated – such as size or sector. Turning to the others topics covered, work organisation is an issue that can be covered at both the employer and employee levels, allowing for a comparison of work perception between employers and employees. This concept refers to how work is divided into job tasks, bundling of tasks into jobs and assignments, interaction between workers and how work is coordinated and evaluated. COI, CT and TALIS are examples of surveys where work organisation is covered from the employer side as well from the employee side.

At the employer level, the most surveyed concept is management practices which is covered in all the linked surveys. Collecting data on these practices provide information on how organisational changes are implemented and thus allow for a better understanding of changes in working conditions. Additionally to these recurrent topics in the employer's questionnaire, other themes are considered such as *(i)* the use of ICT in the COI, TALIS and WES surveys, *(ii)* training in almost all the surveys *(iii)* employment relations[9] in the WERS and RESPONSE surveys.

At the employee level four major topics are usually included in the questionnaire: work organisation, employment security, wage and working conditions. With the exception of working conditions related topics, the remaining themes are covered unequally in the reported surveys. Indeed, employment security is included in 4 out of 17 surveys whilst wages are considered in half of the considered surveys. Concerning the working conditions, the employee section from Table 4.14 presents six indicators related to this topic. The common indicators of working condition that are widely covered in linked surveys are: *(i)* working-time and work-life balance *(ii)* skills utilisation and development, and *(iii)* employee wellbeing.

4.5.3 Survey documentation

Table 4.15 summarise the survey documentation available for each survey covered in this paper. In order to acquire and to make use of the presented linked surveys, web links to the official website of each survey as well as links to the methodological report and the questionnaires are provided. Unfortunately, most of the documentation is available in the national language at the exception of the German Surveys where detailed methodological reports and questionnaire are available in English. This is also the case for the French COI survey where a short description of the survey is available and for the DMS survey where an English version of the survey questionnaire is available on the MEADOW website.

9 The Employment relations topic covers the following indicators: *(i)* employment security approximated by the nature of the employment contract, *(ii)* human resources management which includes recruitment policies

Table 4.14 Topics covered

Country	Survey	Employer section									Employee section								
		Background information	Governance	Organisational changes	Work organisation	Management practices	Use of ICTs	Training	Work and employment relations	Others human resources	Background information	Work organisation	Employment security	Wage	Working conditions	Participation and control	Skills utilisation and development	Working-time and Work-life balance	Employment security	Employee wellbeing	Physical and psychosocial risk
FR	COI	+		+	+	+	+	+			+	+		+	+		+	+			
EU	ESES	+				+					+		+	+	+				+		
DE	LIAB	+				+					+		+	+				+	+		
FR	REPONSE	+		+	+	+		+	+		+				+			+		+	+
GB	WERS	+		+	+	+		+	+		+			+	+			+		+	
INT	TALIS	+			+	+	+				+	+		+		+	+	+		+	
FI	FMS	+		+	+	+					+									+	
DK	DMS	+		+	+	+		+			+	+	+			+	+		+	+	
CA	WES	+			+	+	+	+	+	+	+			+		+	+	+			
DE	LPP	+				+				+	+				+						
LU	TWAIN	+		+		+	+				+	+			+			+			
FR	DEFIS	+		+	+	+		+		+	+	+	+				+		+		
FR	DIFES	+		+		+		+			+						+				
UK	BSS/EPS	+			+	+		+			+	+		+			+				
FR	EFE	+		+		+				+	+	+	+		+	+		+	+	+	+
USA	NOS	+	+	+	+	+					+										
FR	CT	+			+	+	+		+		+	+			+			+			+
FR	RPS	+			+	+	+		+		+	+			+			+			+

Table 4.15 Documentation of surveys

Country	Survey	Website	Publications and report	Questionnaire	Data availability
FR	COI	http://enquetecoi.net/index.php?option=com_content&view=article&id=101&Itemid=119	http://enquetecoi.net/index.php?option=com_wrapper&view=wrapper&Itemid=113	http://enquetecoi.net/index.php?option=com_content&view=article&id=74&Itemid=111	
EU	ESES	http://ec.europa.eu/eurostat/cache/metadata/en/earn_ses2010_esms.htm#stat_process1418758198784	https://circabc.europa.eu/sd/a/d3d067c9-49b5-40b7-8556-b2f23b952add/SES2010%20Implementation%20arrangements-final%2024.11.2010.pdf		Available via Eurostat website
DE	LIAB	http://fdz.iab.de/en/Integrated_Establishment_and_Individual_Data/LIAB/Outline/Cross-sectional_Model2.aspx	http://doku.iab.de/fdz/reporte/2013/DR_02-13_EN.pdf	http://fdz.iab.de/en/FDZ_Establishment_Data/IAB_Establishment_Panel/IAB_Establishment_Panel_Working_Tools.aspx	Submit an application to the Research Data Centre (FDZ).
FR	REPONSE	http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/relations-professionnelles,85/les-enquetes-relations,280/	http://travail-emploi.gouv.fr/IMG/pdf/Presentation_detaillee_de_REPONSE_2010-2011.pdf	http://travail-emploi.gouv.fr/IMG/pdf/REPONSE20102011_direction.pdf http://travail-emploi.gouv.fr/IMG/pdf/REPONSE20102011_representant_personnel.pdf http://travail-emploi.gouv.fr/IMG/pdf/REPONSE20102011_salaries.pdf	
GB	WERS	http://www.wers2011.info/	http://doc.ukdataservice.ac.uk/doc/7226/mrdoc/pdf/7226_the_design_and_administration_of_the_2011_wers_5_august_2013.pdf	http://doc.ukdataservice.ac.uk/doc/7226/mrdoc/pdf/7226_wers6_employee_profile_questionnaire_december_2010.pdf http://doc.ukdataservice.ac.uk/doc/7226/mrdoc/pdf/7226_wers6_management_questionnaire_2011_4_december_2012.pdf http://doc.ukdataservice.ac.uk/doc/7226/mrdoc/pdf/7226_wers6_worker_representative_questionnaire_2011.pdf	
INT	TALIS	http://www.oecd.org/edu/school/talis.htm	http://www.oecd.org/edu/school/TALIS-technical-report-2013.pdf http://www.oecd.org/edu/school/talis-publications-and-documents.htm	http://www.oecd.org/edu/school/Questionnaires%20TALIS%202013.pdf	Available via Eurostat website

Country	Survey	Website	Publications and report	Questionnaire	Data availability
FI	FMS	http://meadow-project.eu/project-follow-ups/finnish-survey.html	http://www.tekes.fi/globalassets/julkaisut/innovativeness_in_finnish_workplaces.pdf		Not available
DK	DMS	http://meadow-project.eu/project-follow-ups/danish-survey.html	http://meadow-project.eu/images/pdf-25-11-2014/organizational-dynamics-and-innovation-capabilities-in-denmark.pdf	http://meadow-project.eu/images/pdf-25-11-2014/danish-meadow-employer-survey-questionnaire-2012.pdf	Not available
CA	WES	http://www23.statcan.gc.ca/imdb/p2SV.pl?Function=getSurvey&SDDS=2615	http://www23.statcan.gc.ca/imdb-bmdi/document/2615_D2_T9_V1-eng.pdf	http://www23.statcan.gc.ca/imdb-bmdi/instrument/2615_Q2_V7-eng.pdf http://www23.statcan.gc.ca/imdb-bmdi/instrument/2615_Q1_V7-eng.pdf	Available
DE	LPP	http://fdz.iab.de/en/Integrated_Establishment_and_Individual_Data/lpp/outline.aspx	http://fdz.iab.de/en/Integrated_Establishment_and_Individual_Data/lpp/Working_Tools.aspx	http://fdz.iab.de/en/Integrated_Establishment_and_Individual_Data/lpp/Working_Tools.aspx	Upon request
LU	TWAIN				Not available
FR	DEFIS	http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?enquete=OPE-CEREQ-DEFIS-15-W&critere=serviceProducteur&valeur=ORG-CEREQ-15-W			Not yet performed
FR	DIFES	http://www.cereq.fr/index.php/sous-themes/Enquetes-FC/Le-Dispositif-d-information-sur-la-formation-employeur-salarie-DIFES			
UK	BSS/EPS	http://discover.ukdataservice.ac.uk/catalogue?sn=4972	http://www.voced.edu.au/content/ngv22282	http://doc.ukdataservice.ac.uk/doc/7467/mrdoc/pdf/7467_skills_survey_2001_questionnaire.pdf	
FR	EFE	https://efe.web.ined.fr/	http://www.ined.fr/fichier/s_rubrique/19495/143.fr.pdf	https://efe.web.ined.fr/questionnaires.htm	
USA	NOS	http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/35011	http://www.irle.berkeley.edu/workingpapers/156-13.pdf	http://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/35011	Available
FR	CT	http://travail-emploi.gouv.fr/etudes-recherches-statistiques-de,76/statistiques,78/conditions-de-travail-et-sante,80/les-enquetes-conditions-de-travail,2000/l-enquete-conditions-de-travail,2222/l-enquete-conditions-de-travail,15724.html	http://travail-emploi.gouv.fr/IMG/pdf/Presentation_detaillee_de_l_enquete_CT_2013.pdf	http://travail-emploi.gouv.fr/IMG/pdf/Questionnaire_personnes_en_emploi.pdf http://travail-emploi.gouv.fr/IMG/pdf/Questionnaire_Fonction_publique.pdf	

Country	Survey	Website	Publications and report	Questionnaire	Data availability
FR	RPS	http://www.cnis.fr/cms/Accueil/enquetes/Outil_de_recherche_des_enquetes?numeroVisa=2015X073TV			Not yet performed

4.6 Conclusions

This paper has set out the findings of a review of linked surveys within the frame of the InGRID Project. The general objective of this project is to integrate, harmonize and optimize existing tools and methods on 'Poverty and living conditions' and 'Working conditions and vulnerability'. The starting task in the Work Package 21 is to do, on the one hand, inventories of both individual and linked surveys and inventory of policy data bases on the other hand. This paper focus was on linked surveys that cover topics related to working conditions as well as occupational health and safety issues.

As already mentioned, this inventory is far from being exhaustive[10] and a number of general points emerge that are worth highlighting. Firstly, while linked surveys are considered as the richest framework to study interaction between employer and employees, the concept is not widespread. In fact, even though some countries have a long tradition in performing such surveys, few surveys are carried out on a regular basis at the European level. Regarding the European ambition of data comparability across countries, this is possible only with one survey, namely the ESES surveys which is conducted in all the European countries. However, we should notice the MEADOW project contribution to overcome the scarcity of such surveys by setting out guidelines to collect and interpret information from linked surveys. The DMS and FMS are examples of linked surveys based on these guidelines.

Secondly, the time frequency of mostly all the performed linked survey does not allow for comparability over time. In fact, more than half of the reported surveys in this paper were performed only one time. The information gathered is thus close to photography of the relationship between employer and employee but it is far from taking account the change dynamics as well as their impact on job interaction. More importantly and considering the major topics considered in this paper; namely working conditions and occupational health and safety issues; regular surveys can be regarded as the best follow up of changes in working conditions.

Finally and with respect to the InGRID project objectives, the enhancement of data comparability across European countries as well as the optimization of existing surveys require a better visibility and access to data. The first requirement is the availability of an English version of the survey description to allow a better dissemination. In fact, and as experienced with data collection for this inventory, the survey documentation in many countries is available only in the national language. The benefit from such surveys may be thus restricted to the national level.

10 Reminder: this inventory coverage is limited to linked surveys for which some French or English documentation is available.

5. Inventory of working conditions and occupational safety and health policy data bases

5.1 Introduction

5.1.1 Rationale of the inventory

This working paper presents the last of three inventories related to data sources on working conditions and occupational safety and health (OSH) in Europe as part of the InGRID project (Inclusive Growth Research Infrastructure Diffusion).

This project has to be situated within the context of the inclusive growth priority of the Europe 2020 strategy, the growth strategy of the European Union. Here, the EU has set five ambitious thematic objectives to be reached by 2020; on employment, innovation, education, social inclusion and climate/energy. In addition to that, the 'EU Employment Package contributing to more and better jobs' was developed in order to complement the EU2020 strategy and the agenda for new skills and new jobs. With this Employment Package, the European Commission wants to boost job creation and focus on job-rich growth (COM 2020 final; European Commission, 2013) as well as to ensure the quality of new jobs. To evaluate this strategy and the progress, good measurement tools and indicators are necessary.

The general objective of the InGRID project is in relation to this policy strategy to integrate and innovate existing but distributed European social sciences research infrastructures on 'poverty and living conditions' and on 'working conditions and vulnerability'. InGRID as research infrastructure project serves the social sciences community that aspires to make an evidence-based contribution to the European policy challenge of inclusive growth. It is a social sciences community that focuses on social in/exclusion, vulnerability-at-work and related social and labour market policies from a European comparative perspective. It is an interdisciplinary field of poverty research, labour studies, policy analysis and social statistics. Key tools in this social science research are all types of data: statistics on earnings, administrative social data, labour market data, surveys on quality of life or working conditions, and policy indicators.

Therefore, the main objective of this paper is to facilitate this kind of research by providing a concise overview and brief assessment of the existing comparative policy databases in the field of working conditions and OSH. In the previous working papers an inventory of national and transnational surveys on working conditions and OSH in Europe (Szekér & Van Gyes, 2015) and an inventory of linked employer-employee surveys (Greenan & Seghir, 2015) were discussed. All of these inventories attempt to provide research communities a clear overview of the existing data sources in this field in order to facilitate European comparative research. While composing these inventories it is important to acknowledge the current gaps in the information provided, to mark and stimulate possible elaborations in the future. The concluding remarks of the paper will focus on these identified gaps and problems.

5.1.2 Scope of the inventory

5.1.2.1 Policy domains

The International Labour Organisation (ILO) defines working conditions as follows: *'Working conditions are at the core of paid work and employment relationships. Generally speaking, working conditions cover a broad range of topics and issues, from working time (hours of work, rest periods, and work schedules) to remuneration, as well as the physical conditions and mental demands that exist in the workplace'. Eurofound gives the following definition of working conditions: 'Conditions in and under which work is performed as regards the work environment and the time, place and organization of work. […] Nowadays, […] a broader definition of the term is coming to be accepted which also includes the economic dimension and its effects on living conditions and the social roles of employees.'*

Van Houten, Cabrita and Vargas (Eurofound, 2014) look at working conditions as '*the result of interaction between characteristics of a job, the work, the company and the individual*'. From a European perspective, this policy arena is defined with goals like 'sustainable work'. Eurofound defines sustainable work as '*living and working conditions are such that they support people in engaging and remaining in work*'. Having a job and staying in a job is the key issue. The European Commission considers in this regard as inclusive when everyone of working age can participate in paid work, especially vulnerable and disadvantaged people.

Two policy domains can be differentiated in this regard focusing on more jobs and good jobs:

1. the first domain relates to various aspects of job quality. Green defines job quality as *'the extent to which a job has work and employment-related factors that foster beneficial outcomes for the employee, particularly psychological well-being, physical well-being and positive attitudes such as job satisfaction.'* (Green, 2006, in Holman 2012). It is a about modelling, designing and regulating job characteristics and the work environment;
2. the second domains has to do with labour market policies and regulations. It is about making the individual stronger to have and stay in the job and providing the right circumstances for this. This domain includes issues of skills, careers, employability and health.

Both the job (quality) characteristics and the labour market circumstances of the individual are or can be influenced by a set of policies and regulations at different levels. Relevant company (human resources) and public policies will have positive or negative short-term and long-term effects.

Although the workplace and the labour market are the main place of action, individual choices and company policies have the most direct effect, regulations and policies by public authorities and social partners can make a significant contribution to fostering sustainable work. Law, but also collective agreements form the 'hard' core of these kind of polices, can be complemented with all types of 'soft' policy instruments. In the Member States of the EU, organisations representing employers and workers together play an important role, influencing developments at the workplace and participating in the wider social and economic governance. Although the nature and extent of this role varies considerably from country to country, social dialogue forms part of the *acquis communautaire*. These policies can be situated at different levels of policy-making (international, national and local/regional) and can be different in coverage: pertaining to a specific profession, sector or covering the whole economy.

A good example of the first type of policies is occupational safety and health management (OSH). The ILO (Alli, 2008) defines it as follows: '*the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on surrounding communities and the general environment.*' Driven among others by international ILO conventions and European framework directives, it has been an evolving policy field in which especially since the 70s a systemic policy approach has been promoted. This systematic approach included also a 'participatory' perspective in which social partners were dedicated a primary role in policy

development and implementation. As the following Chapter will show, OSH is one of the few domains of job quality policies, where elaborated comparative database exist in Europe.

A strong example of the other domain are lifelong learning policies. Today the notion of a learning economy is increasingly being used (Lundvall, 1997). This concept makes it clear that due to the speed of contemporary business innovation, economic performance depends strongly on the ability to learn continuously rather than on the acquired stock of knowledge or qualifications. For the training system, this means that employees must be equipped with the necessary learning competencies. It also results in emphasis being put on the element of lifelong learning: people need ready access to learning throughout their working lives. Policy attention to the subject of vocational training has risen sharply since the 1990s (Descy & Tessaring, 2001). The topic of vocational training has been fully developed as an instrument of employment policy. Throughout the European Union, therefore, efforts are being made to raise the skill level of the workforce and to improve its capacity to adapt to changes in job content and working methods. Vocational training is seen as a means by which the 'employability' (the chance of getting and keeping a job) of workers and the competitiveness of companies can be enhanced together. Because of these converging interests and the stronger policy focus, the issue of vocational training has become a major field of bargaining and co-operation between the industrial relations actors in recent years.

5.1.2.2 Selection of the databases and search criteria

The selection of databases in this inventory is based on three criteria:

- format of the database;
- policy maker or level of the data included in the database;
- content covered by the database.

Concerning the format of the database, both textual databases and databases containing policy related indicators have been included. Despite the fact that they are more uncommon, preference is given to indicator databases with the exception of *ad hoc* academic indicators. A second selection criteria of databases is the policy maker or the level of the data covered by the database. This inventory includes data sources of all levels: public policies formed by governments, as well as regulation made by social partners or in social dialogue are presented. Thirdly, a distinction is made between databases on sustainable work (Chapter 2), databases on inclusive labour market policies (Chapter 3) and company surveys (Chapter 4). Since there is an important overlay between these themes, a summary is provided in the conclusion which will present the 'best available' as well as the 'gaps' in the databases included in this inventory.

In order to define clear search criteria, a framework was developed to relate the theoretical conditions and terminology on inclusive labour market policies and sustainable work to actual policymaking activities and to scan if available comparative policy database include relevant indicators and/or information on relevant policies.

Table 5.1 Translating policy interests into more concrete policymaking activities

Policy interests	Policy making activities
Job level: working conditions (& OSH)	
Work organisation: job content, risks, etc.	For example job quality improvement policies
Employment conditions: wages, training, etc.	For example wage policies, contract regulations, working time regulations, lifelong learning policies
Social relations: social support, etc.	For example policies on bullying, violence, harassment
Labour market level	
Job sustainability	For example policies on sustainable work, pensions
Employment vs unemployment and inactivity	For example policies on social security, job transition

For classifying the available databases in Chapter 2, 3 and 4, the WES model is used to identify three major subjects in policy interests, which are then translated into possible policy making activities: work (W), employment (E), and social relations (S). The concept of *Work* includes aspects related to the actual course and executing of the job, such as task autonomy, task complexity, teamwork, repetitiveness, speed pressure, exposure to risks, emotional pressure, etc. Secondly, the *Employment* as defined in the WES model cover legal and contract-related regulations and stipulations on earnings, type of contract, working hours, training and career opportunities. Finally, the social framework of the job is describing in the dimension of *Social relations* at work, implying regulations on violence and harassment, social support from colleagues and management, participation, and having a voice or a say at work. Table 5.2 presents the distribution of different job quality aspects over these three dimensions.

Table 5.2 Working conditions and work-related aspects and the three dimensions of the WES model

Work	Employment	Social relations
Task autonomy	Wage	Participation
Task complexity	Permanent contract	Co-determination
Autonomous team work	Full time work	Representation
Planning autonomy	Variable working time arrangements	Social support
Repetitive tasks	Atypical working time arrangements	Supportive management
Emotional pressure	Career opportunities	Violence and harassment
Dealing with people	Training	
Speed pressure		
Risks (ergonomic, ambient and bio-chemical)		
Fixed workplace		
Traditional job content, work organisation and employment conditions job characteristics.	Traditional job characteristics that include a direct transfer to the private life.	Traditional social relations job characteristics.

Source: Vandekerckhove, Szekér & Lamberts (2016)

5.2 Databases on job quality policies

5.2.1 The structure of the database inventory sheet

The inventory scope of this Chapter 2 are comparative policy databases on job quality in Europe, aiming to provide an overview of the existing data sources for comparative research. Therefore, an information sheet is made for each database containing an abstract, key words, a specification of the unit and level of analysis, the geographic coverage, the time range, the producer and sponsor of the data, the data collection methodology, and information on the type of documents available.

Further, a paragraph is written on the usability of the data, including information on accessibility and available documentation of the data, aiming at helping the user to discover the database. Another paragraph is dedicated to the completeness of the data with regard to policies. This section is based on the theoretical fundaments of the WES model on job quality, as describes earlier.

Finally, the information sheet of each database is completed by a summarising table on the advantages and disadvantages of the database and a graph visualising the general validation of the data when researching information on job quality related policies in Europe. In this graph, the database is evaluated on five concepts:

- coverage: this takes into account the paragraph comparing the database to the WES model. The score is based on the extensiveness of which these topics are available in the database;
- completeness: apart from the separate topics discussed in the database, this score represents the extent to which the available subjects are treated profoundly;
- accessibility: this score is derived from the following criteria: the convenience with which the user can search and select the data of his interest (search tool available), the cost of consulting the database, the conditions of access, the languages in which the database is available, the clarity to which the data are disseminated to both less sophisticated and more advanced users, whether it is possible consult the database in its whole;
- punctuality: this is based on elements such as the regularity of updates, the time in-between the action and the moment this information is available in the database, whether the database is currently still updated, etc.;
- usability: this score is based on the user friendliness of the database and its format.

The databases are scored on these criteria between 0 and 10. These scores serve only to provide a general indicative overview of the main strong and weak points of the database involved and are not meant to be compared to averages. A list of the scores of all databases is presented in an overview in the conclusion, in order to summarise the inventory.

For each database relevant sources are mentioned.

5.2.1.1 ICTWSS: database on institutional characteristics of trade unions, wage setting, state intervention and social pacts

Overview

Abstract

The ICTWSS database is an industrial relations indicators database made available by Jelle Visser of AIAS. This data source contains annual quantitative and quantified qualitative data for all OECD and EU Member States, plus some emerging economies, covering four key elements of modern political economies: trade unionism, wage setting, state intervention and social pacts. The reason for this database is academic.

The main topics discussed are:

- trade unionism: e.g., trade union density, existence and characteristics of work councils and trade union (confederations), union concentration and centralisation;
- wage setting: e.g., bargaining level, coverage, minimum wage settings;
- state intervention: e.g., in bargaining and social pacts;

- social pacts: e.g., characteristics, content, involvement of actors.

Key words
Trade unionism, wage setting, state intervention and social pacts, employer organization, union centralisation, work councils, employee representation, union authority, bargaining coverage, sectoral bargaining, minimum wage setting, union density, union membership.

Unit of analysis
Enterprises; aggregated macro level data and meso level data.

Format of the database
Indicators (downloadable in Excel file).

Scope & coverage

Geographic coverage
- 51 countries.
- All OECD and EU Member States, plus some emerging economies.
- Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Germany, Greece, Finland, France, Hungary, Iceland, India, Indonesia, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Malaysia, Malta, Mexico, the Netherlands, New Zealand, Norway, the Philippines, Poland, Portugal, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States.

Time span
- The period covered by the data differs greatly per topic and country.
- The overall time span covered contains 55 years.
- 1960-2014 (until the most recent version 5.0).

Producers & sponsors
Jelle Visser, AIAS, University of Amsterdam.

Data creation

Data collection
For all subjects the data is combined from various sources, which are mentioned in the codebook.

Type of information available

Text documents available
Yes, codebook downloadable in PDF format.

Indicators available
Yes, dataset downloadable in Excel format.

Guidelines for use available
No.

Search or browse function available online
No.

Link: http://archive.uva-aias.net/208

Content of the database

The ICTWSS database contains indicators trying to capture the actual level of bargaining over wages and working hours, the current state of affairs with regard to trade unionism, state intervention and social pacts. The data are not directly linked to concrete policy decisions, but since they are longitudinal, it could be possible to analyse the impact of implemented JQP measures.

Usability of this data: accessibility, consultation and documentation of/on the data

At first sight, the dataset is very easy to access and to consult. All related documents (codebook and dataset) are downloadable on the website of the University of Amsterdam - as mentioned above. This download is free-of-charge and without any need for registration. Further, everything is clearly structured and available in English.

However, after downloading the dataset and codebook it becomes more complex. The codebook explains very clearly the names of all indicators, but the Excel file is large and because of the structuring of the data in different sheets, it can be difficult to transfer these data into a statistical tool. Availability of the database in the format of regularly used statistical packages (STATA, SAS, R, etc.) is missing. Moreover, there are no browse functions or internal references available, which could offer some guidance in this broad dataset.

Completeness of the data with regard to JQP

The main themes covered in these database are the following: rights, wage setting, social pacts and agreements, works councils and employee representation in the enterprise, union authority, employer organization, number and membership of unions and confederations, union density and bargaining coverage, union concentration and centralisation.

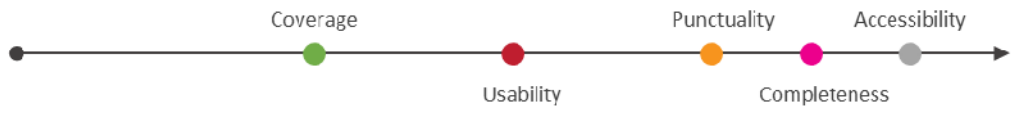
Based on the WES model the ICTWSS database can be considered very complete regarding the Social relations component. Within this component, especially collective representation aspects are profoundly verified. Apart from wage setting, the elements of Work organisation and Employment conditions are not treated at all. Overall, the database mainly focuses on procedural aspects or arrangements of social dialogue and - with the exception of wages - on substantial issues of JQP.

Therefore, the JQP subjects treated by the ICTWSS database are rather limited.

Table 5.3 Summary of advantages and disadvantages of ICTWSS

Advantages	Disadvantages
- Regularly updated (last version contains data until 2014) - Free of charge, no registration needed, facilitates usage - Broad scope thematically (almost 200 indicators) - Broad scope geographically (more than 50 countries) - Combination of different data sources (only the best data in a certain area are mentioned/used; this broadens the possibilities regarding comparative studies) - Codebook is very complete and clear - Codebook contains many references to the original datasets	- Combination of various data sources (different sample procedures, sample sizes, units of analysis, ... higher risk on methodological errors; possibly difficult to combine the data for actual analysis, sufficient for a quick overview or state of affairs, but certainly not for more profound studies; the dataset may seem more appealing than it is, a lot of indicators, countries and years are involved, but there is no data available for all these categories) - The structuring of the data makes it impractical to open them in a statistical tool (different excel sheet for each country) - A lot of missing values if you look at the dataset as a whole - When searching for the original data sources, it is not always clear which data comes from which sources - Not all references are reachable, so it is difficult to find the original data when looking for more details (sometimes the pages referred to are no longer in use, sometimes you might need more permissions)

Figure 5.1 General validation of the ICTWSS data from the perspective of JQP in Europe



References

http://archive.uva-aias.net/208

http://www.edac.eu/indicators_desc.cfm?v_id=215

5.2.1.2 NORMLEX: Information System on International Labour Standards

Overview

Abstract

'NORMLEX is a new information system which brings together information on International Labour Standards (such as ratification information, reporting requirements, comments of the ILO's supervisory bodies, etc.) as well as national labour and social security laws.' (ILO, 2016a) 'It contains data on ILO conventions and recommendations, ratification information, comments of the Committee of Experts and the Committee on Freedom of Association, representations, complaints, interpretations, General Surveys, and numerous related documents.' (EDAC, 2016b)

The main topics discussed are:

- labour standards, work and employment;
- social security, migration, health and safety, education and family;
- human rights.

The aim of the database is to provide information on the state of affairs of countries' legislation. 'NORMLEX has been designed to provide comprehensive and user friendly information on these topics and includes the NATLEX database as well as the information which was previously contained in the former APPLIS, ILOLEX and Libsynd databases.' (ILO, 2016a)

Key words

Freedom of association, collective bargaining, industrial relations, forced labour, child labour, protection of children and young persons, equality of opportunity, equality of treatment, tripartite consultations, labour administration, employment policy, education, vocational guidance, on-the-job training, employment security, termination of employment, cooperatives, conditions of employment, conditions of work, occupational safety and health, social security, maternity protection, migrant workers, seafarers, fishers, dock workers, indigenous workers, tribal workers, domestic workers, national labour policy, social security, human rights, promotion, labour administration, labour inspection, working time.

Unit of analysis

Country policies, macro level, national data.

Format of the database

Legislation (downloadable in PDF file).

Scope & coverage

Geographic coverage

Over 170 countries and regions worldwide, for full list consult the link below.

Time span

- Periods covered differ per country.
- The overall time span covered is 1919-present.

Universe

Conventions, protocols, recommendations. Titles and texts of legislations.

Producers & sponsors

International Labour Organization - International Labour Standards Department.

The technical development was realised with funding provided by the United States Department of Labour.

Data creation

Data collection

Data are formed by the combination of different sources.

Type of information available

Text documents available

Yes, when possible, the full text of the legislation is made available in PDF format (for NATLEX).

Indicators available

No.

Guidelines for use available

Yes, NORMLEX User Guide online (at http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:71:0::::)

Search or browse function available online
Yes, free search tool, glossary and multiple ordering possibilities available. Display of the data can be chosen by type, number, subject or status for conventions, protocols and recommendations separately.

Link: http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:1:0::NO:::

Content of the database

The NORMLEX database contains ILO conventions, protocols and recommendations, which can be consulted by subject, status and country (for specific implementation and ratification). Therefore, this database is strongly related to the topic of JQP in Europe, but it does not provide any statistics on the actual state of affairs with regard to those subjects, not on the impact of the implementation of the legislation.

Usability of this data: accessibility, consultation and documentation of/on the data

The NORMLEX database can be used for two types of research questions: (1) regarding national legislation on labour, working conditions and OSH and (2) regarding the implementation and ratification of ILO conventions.

All data available are very easy to access. There are no links to the original sources and no downloads possible, but everything is clearly available on the webpages of NORMLEX or NATLEX. Therefore, the NORMLEX database is a very useful source of information. Users can retrieve country profiles on their national legislation and on their use of international legislation. In addition, comparisons between all countries included can be made with regard to the instruments used and the ratifications of fundamental conventions and governance conventions. Ordering for the display of countries can be chosen according to region, number of ratifications and alphabet. The biggest difficulty in using these comparisons is that nothing is downloadable from the website. Moreover, a more detailed selection of countries is not possible. Users receive information on all countries included and cannot delete countries which are not part of their field of interest. Next to that, comparisons between national legislations are not possible.

A lot of jargon is used in presenting and ordering the data, which makes it less accessible at first sight. Therefore, NORMLEX provides a document containing explanations of this jargon and information on how to search in the database.

Overall, this database can be useful as informative tool on the state of affairs in labour legislation.

Completeness of the data with regard to JQP

The NORMLEX database contains legislation in all three categories of the WES model.

Regarding Work organisation, the following themes are available: vocational guidance and training, occupational health and safety. For the section on Employment conditions in the WES model the NORMLEX database is more detailed. Legislation on forced labour, the elimination of child labour, tripartite consultation, employment policy and promotion, employment security, social security, wages, working time, social policy and maternity protection is included. According to the WES model, this covers almost all components of the Employment conditions.

Legislation on freedom of association and on equality of treatment is the only information available on Social relations. The addition of legislation on for example violence and harassment at work would increase the completeness of the database with regard to JQP.

Overall, the database is quite compete, especially as to the part on Employment conditions. Much interesting legislation is available, but it is not linked to the state of affairs in these topics, nor is this database formed in order to investigate the current situation of JQP.

Table 5.4 Summary of advantages and disadvantages of NORMLEX

Advantages	Disadvantages
- User guide, glossary, free search tool and multiple ordering possibilities available - Separate country profiles are accessible, as well as comparative tools for fundamental and governance conventions - Large geographical coverage - Large thematic coverage - Most pages are available in multiple languages - NORMLEX brings together information of different databases (NATLEX, APPLIS, ILOLEX and Libsynd databases). When searching for national labour legislation, NORMLEX redirects the user to the original database NATLEX. This website is very clearly organised - When redirected to NATLEX, browsing by country, subject and recent important additions is possible - Recent additions are organised by month, which allows an easy way to follow up adjustments - Per country, a report is available discussing their reporting obligations - Comparisons also possible for different regions - Document available containing information on the jargon used	- No PDF format available (for NORMLEX) - No link to the country's website for original data (for NORMLEX) - A lot of specific jargon, for example to create different search or ordering categories, which makes it harder to find required data without prior knowledge - No possibility to compare national legislation between countries - No downloads of texts possible (for NORMLEX)

Figure 5.2 General validation of the NORMLEX data from the perspective of JQP in Europe

References

http://www.edac.eu/policies_desc.cfm?v_id=89
http://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:1:0::NO:::

5.2.1.3 DICE: Database for Institutional Comparisons in Europe

Overview

Abstract

The Database for Institutional Comparison in Europe (DICE) is run by the German economic research institute Information and Forschung (ifo). The website provides cross-country policy information and statistics on economic institutions and regulatory systems as well as their economic effects. 'A wide range of institutional fields is covered, including education, the public sector, social policy, the labour market, migration and values. Most of the data cover the EU-28 countries.' (EDAC, 2016c) It also provides information on other major industrial economies, as well as the BRIC countries. Taking into account the scope of work package 21 in this InGRID project, this inventory only discusses the Labour Market section and the section 'Work' under the category (Economic) Values.

The main topics discussed in the general DICE database are:

- business and financial markets;
- education and innovation;
- energy, resources, natural environment;
- infrastructure;
- labour market;
- migration;

- public sector;
- social policy;
- values.

The aim of the database is to offer countries the possibility of comparing their institutions to others' in both a small and broad circle. The DICE database is an answer to a growing demand of internationally comparable data on policies and institutions in a time of globalisation.

Key words in the Labour Market section in DICE

Active labour market policies, anti-discrimination, gender, employment, employment protection, labour standards, labour force participation, taxation of labour, wage subsidies, training, unemployment, unemployment benefit schemes, unions, wage bargaining, labour relations, wages and earnings dispersion, working time.

Key words in the Work section in Economic Values in DICE

Humiliation at work, job security, leisure time, responsibility in a job, usefulness to society in a job, importance of work, job attitudes, job characteristics, willingness to work, unemployment, work as a duty to society.

Unit of analysis

Countries, macro level data.

Format of the database

Search engine, contains: indicators (downloadable in Excel and PDF file) & reports (downloadable in PDF file).

Scope & coverage

Geographic coverage

- EU28;
- It also includes information on other major industrial economies, as well as the BRIC countries;
- The countries covered differ per topic.

Time span

- The time spans covered differ greatly per topic;
- The overall period covered is from 1975 until present.

Producers & sponsors

CESifo Group: consisting of the Center for Economic Studies (CES), the ifo Institute (institute Information and Forschung), and the CESifo GmbH (Munich Society for the Promotion of Economic Research).

Data creation

Data collection

Data are combined from various sources.

Type of information available

Text documents available

Yes, DICE reports on certain subjects available.

Indicators available

Yes, prefabricated tables downloadable in Excel and PDF format from DICE Labour Market and DICE Values - Work.

Guidelines for use available

No.

Search or browse function available online

Yes, there is a general search function. However, once the user has chosen a thematic category there are no browse or search tools.

Link: http://www.cesifo-group.de/ifoHome/facts/DICE/DICE-About.html

Content of the database

The DICE database is one of the few databases containing textual information on JQP that is not purely legislation. Next to tables and charts presenting indicators on very precisely defined topics, which can easily be related to JQP (especially since they are longitudinal), reports are available describing the state of affairs, evolution, theoretical principles and/or research within the subjects covered.

Usability of this data: accessibility, consultation and documentation of/on the data

The DICE database includes text documents and Excel files on a broad range of institutional fields. While this inventory discusses only the subcategories of Labour Market and Values (Economic Values - Work), other subcategories may contain subjects which are less directly related to working conditions but still interesting in this research field. Examples can be found under the subcategories Social Policy - Work-Family-Balance and Social Policy - Pensions.

Furthermore, all data is freely accessible and downloadable without any registration required. For every document first details are available, such as the last reference year, the date of publication and the countries involved. Guidelines for use are not available, but since the clear structure of the website, the workable formats of the documents and the prefabricated information these are not necessary.

Overall, the DICE database can be helpful in the gathering of descriptive statistics. However, the database does not directly provide a large set of indicators in order to compare countries using a more profound statistical analysis.

Completeness of the data with regard to JQP

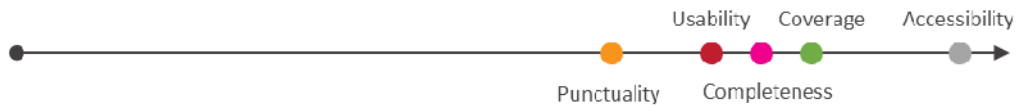
According to the WES model on job quality, the DICE database does not contain data on the aspect of Work organisation. Nevertheless, the elements of Employment conditions and Social relations are well elaborated. For example, employment protection, labour standards, wages and earnings dispersion, working time and training are subjects on Employment conditions included in DICE. For the Social relations component, multiple elements are included. Among them is information on anti-discrimination, gender, labour force participation, unions, wage bargaining, labour relations.

A broad scope of subjects is treated and since these are very detailed defined; this can be used to measure the impact and state of affairs on JQP in Europe.

Table 5.5 Summary of advantages and disadvantages of the DICE data

Advantages	Disadvantages
- Ask for feedback - General search tool available, multiple filters can be set (institutional field, publish year, visuals, etc.) - For each document, it is possible first to have some more details (last reference year, date of publication in DICE, countries covered, citation, and related documents) - The proposal of related documents makes it easy to keep on browsing within one theme - The database is a combination of textual information and indicators - Data access is free-of-charge, no registration required	- Within one subcategory, there is no search tool available - The database is a combination of textual information and indicators, but they are not separately presented and users cannot select the type of data they are looking for - Data is collected from different sources, but these are not always specified - No information on updates, however overall more or less recent - Most information sources are in PDF format, which makes it more difficult to work with or to adjust them to another research project

Figure 5.3 General validation of the DICE data from the perspective of JQP in Europe



References

http://www.cesifo-group.de/ifoHome/facts/DICE/DICE-About.html
http://www.edac.eu/indicators_desc.cfm?v_id=170
http://www.edac.eu/policies_desc.cfm?V_id=101

5.2.1.4 LABREF: LABour market REForm database

Overview

Abstract

'The LABREF database is managed by the European Commission in cooperation with the Employment Committee (EMCO). The aim of the project, started in December 2005, is to support the work carried out in the framework of the Europe 2020 Strategy and to improve the understanding of labour market institutions as part of the general economic policy surveillance of Member States.

The measures reported in LABREF refer to enacted legislation, as well as other public acts of general scope, including measures entailing changes in the implementation framework of a previously adopted measure. In addition, they also encompass relevant collective agreements and tripartite agreements. The database does not record information on planned reforms or draft bills.' (EC, 2016a) 'The database allows for cross-country analysis on the pace and type of measures enacted in a particular year, as well as for tracking measures over time.' (EC, 2016a)

The main topics discussed are:

- labour taxation;
- unemployment benefits;
- other welfare-related benefits;
- active labour market policies;
- job protection legislation;
- disability and early retirement schemes;
- wage bargaining;
- working time organisation;
- immigration and mobility.

Key words

Labour taxation, unemployment benefits, other welfare-related benefits, active labour market policies, job protection legislation, disability and early retirement schemes, wage bargaining, working time organisation,

immigration and mobility, public employment services, training, job creation, employment subsidies, income benefits, in-work benefits, means-tested benefits, permanent contract, temporary contract, social security contribution, income tax, government intervention, participation.

Unit of analysis
Countries, reforms of policies, macro level data.

Format of the database
Textual information (overview of legislation, collective agreements, intersectoral agreements, etc.) (downloadable in Excel file).

Scope & coverage

Geographic coverage
Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom

Time span
- The time span covered is 2000-2013, except for Bulgaria and Romania (from 2003) and for Croatia (from 2012);
- The year 2014 is currently in the process of being updated;
- Extension to earlier years is planned for EU-15 Member States.

Producers & sponsors
European Commission in cooperation with the Employment Committee (EMCO).

Data creation

Data collection
Information is collected by DG ECFIN and verified by the Member States. A variety of sources is used to compile the database, which are mentioned in the user guide explaining the coverage and structure of the LABREF database.

Type of information available

Text documents available
Yes, related documents are online, papers based on the LABREF database.

Indicators available
Yes, after selection in the browse function online tables are presented which can be exported to Excel. These tables contain textual information on labour market reforms in the EU Member States. In addition, general information is available in prefabricated graphs.

Guidelines for use available
Yes, recent user guide (2015) on the coverage and structure of LABREF downloadable in PDF format.

Search or browse function available online
Yes, filters are possible on country, years of entry into force of the measures, policy domain - policy field.

Link: http://ec.europa.eu/social/main.jsp?catId=1143&intPageId=3193&langId=en

Content of the database

The LABREF database provides an overview of the policy measures in the field of job quality in the European Union or in the Eurozone. An online search tool makes it possible to select information by different topics, etc. The full database containing the title, a short description and meta-information on each policy measure, can be downloaded in an Excel file.

The scope of the database implies labour market policies. It was built to examine and evaluate the impact of these JQP on the labour market performance in the European Union Member States. The database is formed in a neo-classical economic perspective that has a high interest in flexibility of labour market structures.

Usability of this data: accessibility, consultation and documentation of/on the data

All data access is free-of-charge, and no registration is required. The database is formed through an online search tool facilitating the selection of the countries, policy fields and years needed. Within this tool, the following information is automatically retrieved: country, year, policy domain, policy field, title and a general description. At any time, the user can add more fields of interest. Under 'Related Documents' on the LABREF website, the user has access to several reports and a user guide. The full database is downloadable in Excel format, containing an overview of the policy measures with regard to job quality per country.

Overall, the LABREF database contains very useful textual information on labour market reforms but since the search tool does not allow a direct comparison between countries or over time and no data, indicators are provided, the database remains merely informative.

Completeness of the data with regard to JQP

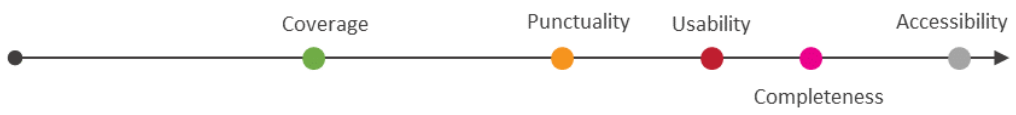
According to the WES model, policy domains in Work organisation and Social relations are not treated within this database. Only information on Employment conditions is provided through the following subjects: training, social security contributions, short-time work schemes, employment subsidies, job protection for permanent and temporary contracts, collective dismissals, early withdrawal, social pacts, framework agreements on wage setting, public wages, working time (working hours' management, part-time work, family-related working-time organisation, sabbatical and other special leave schemes).

This means that the LABREF database is very useful in the theme of Employment conditions since it contains all subjects specified in the WES model. However, for the categories of Work organisation and Social relations the database provides no information.

Table 5.6 Summary of advantages and disadvantages of the LABREF data

Advantages	Disadvantages
- Free of charge, no registration required to access - The online database/search tool is very workable. Selection of multiple countries and subjects is possible, exportation to Excel possible, basic information is automatically retrieved and more information categories can be chosen. When interested in just one reform clicking on the line in the search tool offers a structured presentation of this information and is downloadable - Related documents are available - Graphs on general information on the data are available and downloadable - Usage of several information sources which makes it assumable that the database is rather complete - Link to the LAF database, providing data indicators on the evolution of labour markets - Everything is available in English	- No direct comparisons between countries possible - Time span goes only until 2013

Figure 2.4 General validation of the LABREF data from the perspective of JQP in Europe



References

http://ec.europa.eu/social/main.jsp?catId=1143&intPageId=3193&langId=en
http://www.edac.eu/policies_desc.cfm?v_id=53

5.2.1.5 EEPO: European Employment Policy Observatory - Library

Overview

Abstract

The European Employment Policy Observatory (EEPO) is managed by ICF (data analysis consultancy) on behalf of the European Commission. 'It aims to improve European and national policy-making by providing information, analysis and insights on the design, implementation, monitoring and evaluation of policies. The main purpose of the EEPO is to produce high-quality research papers on the labour market and employment, which can be accessed through the EEPO's library. In developing its research, the EEPO brings together a network of experts from across the EU. They specialise in a range of topics relating to the labour market and employment.' (EC, 2016b)

The main topics discussed are:

- unemployment;
- work-life balance;
- education systems;
- skills supply;
- wages.

Key words

Active labour market policies, benefits, economic crisis, EU employment strategies, Europe 2020, flexicurity, green jobs, labour market policies, long-term unemployment, sectoral employment, self-employment, skills and jobs, undeclared work, wages, youth employment.

Unit of analysis

Countries, macro level data.

Format of the database

Search engine, textual information (reviews, employment policy updates, and thematic papers) (downloadable in PDF file).

Scope & coverage

Geographic coverage

All countries involved in the European employment strategy and/or the Europe 2020 strategy.

Time span

2001 until now.

Producers & sponsors

European Commission.

Data creation

Data collection

Data comes from different sources. Within the country-specific research EEPO, EEO, MISEP and country-specific reports are available; within the thematic research, documents are retrieved from EEPO, EEO and EERD; and for analysis of employment services input comes from PES, PARES and EEPO.

Type of information available

Text documents available
Yes, documents on the analysis of employment services, event reports, MISEP meetings, regular reports, thematic papers, thematic review - country articles and thematic reviews are available.

Indicators available
No.

Guidelines for use available
Yes, a user guide on the document types in the EEPO Library is available.

Search or browse function available online
Yes, this browse function allows navigation through research of the EEPO in different policy areas, document types, years of publication and countries.

Link: http://ec.europa.eu/social/main.jsp?catId=1086&langId=en

Content of the database

Since no general overview of all content of the library is available, the EEPO Library is merely considered as a search tool than as a database. The collection of EEPO reviews, focussing on an important topic in the field of employment policy and comparing what different countries have purchased or achieved in this area, thematic papers, and employment policy updates in the form of EEPO reports provides interesting textual information in order to study JQP in Europe. Rather than a compilation of legislation, this EEPO Library offers meta-information. However, the library only contains reports, no directly applicable data in research.

Usability of this data: accessibility, consultation and documentation of/on the data

The EEPO Library is easily accessible and usable. The online search tool allows selecting on one or several policy areas, countries, years, document types and/or keywords. By this selection, the user receives documents that are downloadable in PDF format. Besides the direct search results, some related documents are also presented.

Overall, the EEPO Library offers practical search tool that can help exploring reports in a broad thematic field but it is not directly usable in research.

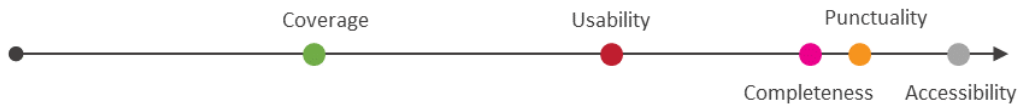
Completeness of the data with regard to JQP

The sections on Work organisation and Social relations in the WES model are not treated by the EEPO Library. As regards the Employment conditions category, documents on wages, skills and jobs (training) and flexicurity can be retrieved using the search tool. This leaves many fields in job quality untreated.

Table 5.7 Summary of advantages and disadvantages of the EEPO Library data

Advantages	Disadvantages
- Data access is free of charge and no registration is required - Everything is available in English - All documents can be downloaded in PDF format - The library contains recent data and reports (until 2016)	- The library contains only reports, no directly applicable data in research - No indication of last update

Figure 2.5 General validation of the EEPO Library data from the perspective of JQP in Europe



References

http://ec.europa.eu/social/main.jsp?catId=1086&langId=en

5.2.1.6 EurWORK: European Observatory of Working Life

Overview

Abstract

'Eurofound's long-established observatories on industrial relations (EIRO) and working conditions (EWCO) have now been combined to form EurWORK: the European Observatory of Working Life. EurWORK gathers all Eurofound's resources on working conditions and industrial relations, and is supported by a network of European correspondents across all EU Member States and Norway. Eurofound runs two regular surveys on working life issues: the European Working Conditions Survey (EWCS) and the European Company Survey (ECS), which are a further major resource for the observatory.' (Eurofound, 2016a).

The main topics discussed are:

- actors and institutions;
- collective employment relations;
- individual employment relations;
- skills, learning and employability;
- pay;
- health and well-being at work;
- work organisation;
- working time and work-life balance;
- developments at EU level.

'EurWORK aims to serve the main Eurofound stakeholders, i.e. European social partners, EU institutions and Member State governments, as well as policy-makers and practitioners in the employment and restructuring fields.' (Eurofound, 2016) On that account, quarterly reports, comparative reports, representativeness studies, other EurWORK products and other research on working conditions and industrial relations are available online.

Key words

Actors and institutions, collective employment relations, individual employment relations, skills, learning, employability, pay, health, well-being at work, work organisation, working time, work-life balance, developments at EU-level, health and safety at work, absenteeism, physical work hazards, psychosocial work hazards, stress, workplace health promotion, work organisation, workplace innovation, access to employment, contract of employment, maternity leave, parental leave, posted workers, termination of employment, undeclared work, part-time employment, temporary employment, equal pay, minimum wage, variable pay, annual leave, flexible working hours, night work, overtime, shift work, time off, work-life balance, working time, apprenticeship, informal training, skills and competences, trainees, training and skills development, education, lifelong learning, representativeness, social partners, trade unions, work councils, collective bargaining, employee representation, participation, social dialogue, collective agreements, violence and harassment at work.

Unit of analysis

Countries, however this can vary across publications.

Format of the database

Search engine, indicators and textual information (reports, studies, etc.) (downloadable in PDF file).

Scope & coverage

Geographic coverage

- EU28;
- Geographic coverage differs per topic or per type of information.

Time span

The time span covered varies per topic and type of information.

Producers & sponsors

Eurofound.

Data creation

Data collection

Data from observatories on industrial relations (EIRO) and working conditions (EWCO) have been combined. The original sources of the information provided are always mentioned.

Type of information available

Text document available

Yes, quarterly reports, comparative reports, representativeness studies, other EurWORK products and other research on working conditions and industrial relations are structured according to topic and type of information.

Indicators available

Yes, within the sections on collective wage bargaining and on working life country profiles prefabricated data, graphs and maps are presented. These cannot always be downloaded.

Guidelines for use available

No.

Search or browse function available online

Yes, within every section a search tool is available. Filters can be set on country, topic, sector and year of publication.

Link: https://www.eurofound.europa.eu/observatories/eurwork

Content of the database

The EurWORK Observatory contains a large amount of information, but this is merely ad hoc documentation; no regular reporting is organised. The database offers textual information as well as indicators per country and when possible in chronological order.

Usability of this data: accessibility, consultation and documentation of/on the data

EurWORK contains a large amount of documents and information, which may make it hard to gain some overview. Nevertheless, the website is well structured and all information is freely accessible without registration required. Information within the user's field of interest can be found through the online search tool or by selecting the topic of type of information required. All documents can be downloaded in PDF format, which is convenient for text documents but makes it redundant to work with the data, tables and/or graphs included. A user guide is not available, but since the data provided are so diverse, general instruction would not be helpful.

Overall, the EurWORK database contains a lot of information on a broad range of topics and countries. This can be country-specific or comparative and can be very useful in the collection of descriptive data. However, EurWORK does not provide data sources that allow direct comparative or statistical analysis.

Completeness of the data with regard to JQP

According to the WES model on job quality, the EurWORK database contains information on all three categories. The section on working conditions within this Work organisation is rather completely described, as it contains for example information on health and safety at work, absenteeism,

physical work hazards, psychosocial work hazards, stress, etc. Additions could be made in the subjects on the job or task level and on the organisational level.

The subject of Employment conditions is widely discussed in the database. Access to employment, contract of employment, maternity leave, parental leave, posted workers, termination of employment, undeclared work, part-time employment, temporary employment, equal pay, minimum wage, variable pay, annual leave, flexible working hours, night work, overtime, shift work, time off, work-life balance, working time, apprenticeship, informal training, skills and competences, trainees, training and skills development, education, lifelong learning are all elements in this category.

The component of Social relations in the WES model is also represented in the database. For example, information can be found on representativeness, social partners, trade unions, work councils, collective bargaining, employee representation, participation, social dialogue, collective agreements, violence and harassment at work. External feedback and social climate are two important elements missing in this database.

Overall, this means that the EurWORK database contains all elements on Employment conditions as stated in the WES model, as for the categories on Work organisation and Social relations some additions could be made. In sum, this database is rather complete.

Table 5.8 Summary of advantages and disadvantages of the EurWORK data

Advantages	Disadvantages
- Different types of information available on a broad and complete thematic and geographical scope - All documents are downloadable in PDF format - Before downloading the full document, some short information on the paper is provided - Information can be gathered through selection of the topic or the type of information and by using the search tool within every subtitle. For information on collective wage bargaining and for working life country profiles, however, a direct link is provided - Original sources of the information provided are always mentioned - Regularly updated	- Everything is downloadable in PDF format, which makes it redundant to work with these data and tables - No data available for direct comparative analysis

Figure 2.6 General validation of the EurWORK data from the perspective of JQP in Europe

References

https://www.eurofound.europa.eu/observatories/eurwork

5.2.1.7 EUSI Labour Market and Working Conditions

Overview

Abstract

The EUSI Labour Market and Working Conditions indicators database is part of the wider European System of Social Indicators. 'It is an instrument to be used to continuously monitor and analyse the individual and societal well-being of European citizens in terms of quality of life, social cohesion and sustainability as well as changes in the social structure of European societies. The European System of Social Indicators covers the EU-27 Member States, Norway and Switzerland as well as Japan and the United States as two major reference societies. At present there are time series data available for roughly 650 indicators from 10 out of the projected 13 life-domains.' (GESIS, 2016a) The website gives access to prefabricated tables of time series indicators in the field of labour market and working conditions. The data cover 31 mainly EU countries and the period 1980-2013.
The main topics discussed in the European System of Social Indicators are:

- population, households and families;
- housing;
- transport and mobility;
- leisure, media and culture;
- social and political participation and integration;
- education and vocational training;
- labour market and working conditions;
- income, standard of living and consumption patterns;
- health;
- environment;
- crime and public safety;
- social security;
- total life situation.

Key words in the Labour Market and Working Conditions section

Objective living conditions, subjective well-being, disparities, inequalities and social exclusion, social relation and ties, human capital, natural capital, demographic and socio-economic structures, values and attitudes, employment potential, employment level, employment growth, employment rate, reemployment rate, subjective assessment of labour market opportunities, temporary employment, rate of job loss, perceived job security, working conditions, working time, weekly hours of work, rate of marginally employed, part-time employment, Sunday work, work at night, annual holiday entitlement, earnings, work environment, job characteristics, mobility, occupational mobility and advancement, geographic mobility, unemployment, underemployment, evaluation, disparities of employment opportunities and risks, gender, generations, nationality, participation in the area of working life, quality of social relations, quality of societal institutions, human capital, job-related health impairments, promotion of vocational qualification, natural capital, natural resources, labour force status, structure of employment, values and attitudes.

Unit of analysis

Countries, macro level data (macrodata and aggregated micro-level data).

Format of the database

Indicators (downloadable in PDF file).

Scope & coverage

Geographic coverage

- EU27, plus Norway, Switzerland, Japan, United States.
- Within the section on Labour Market and Working Conditions country-specific information available can vary per topic.

Time span

- The period covered differs per indicator and per country.
- The overall time range is 1980-2013.

Producers & sponsors

Gesis, Leibniz-Institut für Sozialwissenschaften.

Data creation

Data collection
The database contains information from different sources. The data sources used include international aggregate official statistics as well as microdata from various official as well as science based cross-national surveys.

Type of information available

Text document available
Yes, publications are downloadable in PDF format.

Indicators available
Yes, all information available is presented in prefabricated tables, which can be downloaded per topic in one document in PDF format.
In addition, an extensive web tabulator SIMon is available for creating graphs, tables, cartographic maps. This tool allows basic analysis too.

Guidelines for use available
No, but there is a webpage on the conceptual framework of the EUSI database.

Search or browse function available online
No.

Link: http://www.gesis.org/en/services/data-analysis/social-indicators/european-system-of-social-indicators/labour/

Content of the database

The EUSI Labour Market and Working Conditions database contains data indicators for a large scope of countries, subjects and time span. The data are not directly linked to concrete policy decisions, but since they are longitudinal, it could be possible to analyse the impact of implemented JQP measures.

Usability of this data: accessibility, consultation and documentation of/on the data

The data on the EUSI database and the use of the web tabulator SIMon are easily accessible. Data access is free of charge, but registration is needed for some functions. Since the website is very clearly structured, the user easily finds his topic of interest. The documents available are downloadable in PDF format. There is no search or browse tool available but this is no shortcoming in the current structure.

However, since all data available are formatted as prefabricated tables in PDF format, it is very redundant to use them in new research analysis. The SIMon tool allows some visualisation and analysis but only on a basic level.

The EUSI database is based on several data sources, which are clearly mentioned in each document available. In addition to that, there is a webpage on the conceptual framework of the EUSI database.

Overall, the EUSI database contains a lot of information on a broad range of topics, countries and years, but usage will remain mostly informative because of the format.

Completeness of the data with regard to JQP

According to the WES model, all three categories are treated in the EUSI database.

With regard to Work organisation the EUSI database contains interesting elements such as absenteeism due to working conditions, dangerous working conditions, job-related health impairments, occupational structure, size of enterprises, size of sectors, job and environment conditions. Especially the information on job and environment conditions are rather seldom available in international policy databases. However, many additions can still be made.

Job loss levels, employment opportunities, unemployment risks, wage differences, vocational qualifications, vocational training and expenditure on training, social job mobility, earnings, working time and shifts are included for data on Employment conditions. This covers all elements mentioned in the WES model.

Finally, the EUSI database contains some information on inequalities, social exclusion, social relations, equal opportunities for gender, generations, regions, disables and non-nationals in the field of

Social relations. Here possible additions could treat the important elements of representation and participation, collective as well as in an individual manner.

Overall, many job quality aspects are discussed and the EUSI database is rather complete. Information is available on each component, even though important additions can be made with regard to Work organisation and Social relations.

Table 5.9 Summary of advantages and disadvantages of the EUSI data

Advantages	Disadvantages
- A lot of information on a wide range of topics available - Broad time scope - Extensive web tabulator SIMon available for creating graphs, tables, cartographic maps. This tool allows basic analysis too - SIMon analysis tool is easy to work with for basic visualisation of the data and retrieving basic output - Everything is available in English - Data is freely accessible, but registration is necessary for certain functions - Data sources for the tables are always mentioned in the documents	- It is no longer updated. However, the existing time series data will be included in Historical Statistics (histat) of GESIS in the near future - Since all prefabricated tables can only be downloaded in PDF format, it is difficult to use them directly in research

Figure 2.7 General validation of the EUSI data from the perspective of JQP in Europe

References

http://www.gesis.org/en/services/data-analysis/social-indicators/european-system-of-social-indicators/conceptual-frameworks/
http://www.edac.eu/indicators_desc.cfm?v_id=23
http://gesis-simon.de/simon_eusi/index.php?PHPSESSID=1099ffdff164d0dbd653af58390f2e1e#

5.2.1.8 LEGOSH: Global Database on Occupational Safety and Health Legislation

Overview

Abstract

'The ILO Global Database on Occupational Safety and Health Legislation (LEGOSH) provides a picture of the regulatory framework of the main elements of OSH legislation, including OSH management and administration, employers' duties and obligations, workers' rights and duties, OSH inspection and enforcement, among others. LEGOSH classification structure is based on a comprehensive set of 11 themes which follows and captures the main part of the key ILO standards such as the ILO Convention No.155 on Occupational Safety and Health (1981) and the Recommendation N°164, Convention No.187 on the Promotional framework for occupational safety and health (2006), the Labour Inspection Convention C081 and other technical Conventions as benchmarks.' (ILO, 2016b)

The main topics discussed are:
- national OSH regulatory framework;
- scope, coverage and exclusions of legislation;
- institutions and programmes relating to ISH administration and/or enforcement;
- employers' duties and responsibilities to protect the safety and health of workers and others;
- employers' duty to organise prevention formally along generally accepted OSH management principles and practices;
- employers' duty to ensure availability of expertise and competence in health and safety;
- workers' rights and duties;
- consultation, collaboration and co-operation with workers and their representatives;
- specific hazards or risks;
- recording, notification and investigation of accidents/incidents and diseases;
- OSH inspection and enforcement of OSH legislation.

Key words

Legislation, occupational safety and health, national OSH regulatory framework, institutions relating to OSH, OSH programmes, protection, prevention, expertise and competence in health and safety, workers' rights, workers' duties, representation, specific hazards, specific risks, work-related accident, near miss incidents at work, occupational disease, OSH inspection, enforcement of OSH legislation, health and safety provisions, physical health, psychological health, periodic health surveillance, protective equipment, welfare facilities, risk assessment, training, biochemical hazard, chemical hazards, ergonomic hazards, physical hazard, psychosocial hazards, vulnerability.

Unit of analysis

Countries, macro level data.

Format of the database:

Textual information (legislation and other JQP tools).

Scope & coverage

Geographic coverage

- Almost all ILO Member States;
- Specific countries: Algeria, Angola, Antigua and Barbuda, Argentina, Armenia, Australia, Azerbaijan, Bahamas, Bahrain, Barbados, Belarus, Belize, Benin, Plurinational State of Bolivia, Botswana, Bulgaria, Burkina Faso, Burundi, Cameroon, Canada, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Costa Rica, Cuba, Côte d'Ivoire, Democratic Republic of the Congo, Denmark, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, France, Gabon, Georgia, Ghana, Grenada, Guatemala, Guinea, Guyana, Haiti, Honduras, India, Italy, Jamaica, Jordan, Kazakhstan, Kenya, Republic of Korea, Kuwait, Kyrgyzstan, Lebanon, Lesotho, Libya, Madagascar, Malawi, Malaysia, Mali, Mauritania, Mauritius, Mexico, Republic of Moldova, Morocco, Mozambique, Namibia, New Zealand, Nicaragua, Niger, Oman, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Qatar, Romania, Russian Federation, Rwanda, Saint Lucia, Saint Vincent and the Grenadines, Saudi Arabia, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Spain, Sudan, Suriname, Swaziland, Sweden, Switzerland, Tajikistan, United Republic of Tanzania, Thailand, The former Yugoslav Republic of Macedonia, Togo, Trinidad and Tobago, Tunisia, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Uzbekistan, Bolivarian Republic of Venezuela, Viet Nam, Yemen, Zambia, Zimbabwe.

Time span

- The time span covered can differ per country and per topic.
- Generally, the database is updated regularly and for each country the last update is indicated.

Producers & sponsors

ILO, International Labour Organisation. The database has been implemented with the financial assistance of the Republic of Korea under the Korea/ILO Partnership Programme.

Data creation

Data collection

In order to collect the necessary information, researchers first reviewed existing laws that have been submitted to the ILO by Member States (e.g. by using NATLEX) and browsed official government web sites, mainly pertaining to public institutions involved in the administration of OSH, academic institutions and legal databases in order to check for updated pieces of legislation. Partly, special requests for information about the national legislation were sent by researchers to Ministries of Labour and/or Health or other relevant national authorities to seek information on any recent legislative developments and amendments.

Type of information available

Text document available

Yes, all legislation is available and freely downloadable.
Information on the methodology is also provided online and can be downloaded in PDF format.

Indicators available

No.

Guidelines for use available

Yes, information on the content and on how to use the database is downloadable in PDF format or can be read online.

Search or browse function available online

Yes, a browse function is available by country to generate a country profile. A general search function is available too, in which the user can enter some key words and set filters on country and topic.

Link: http://www.ilo.org/dyn/legosh/en/f?p=14100:1:8972587666487::NO:

Content of the database

The LEGOSH database contains textual information in the form of legislation, agreements and other JQP tools (the existence of a website, etc.) for all ILO Member States. Documents can be retrieved as a list per country or in comparison with other (selected) countries. However, no information is available on the impact or results of a specific policy, nor is there data on the current state of affairs in these topics.

Usability of this data: accessibility, consultation and documentation of/on the data

LEGOSH contains comprehensive legal information, which allows you to:

- access synthesis of OSH legislation in English and authentic legal texts in original language;
- compare the legislation of several countries or regions on a particular subject;
- conduct customised searches;
- link to national and regional OSH institutions websites, OSH databases and other relevant sources of OSH legislation, policies and information;
- relate to the relevant comments of the ILO Committee of Experts on the Application of Conventions and Recommendations (CEACR).

All documents and information are freely accessible and no registration is required. However, all documents are available in English, in one of the official European languages and/or in the original language. This is inconvenient for comparative research. The structure of the comparative tool and of the country profile are made very useful and accessible. The general search tool, in which the user can enter some key words and set filters on country and topic, is convenient too. The date of the most recent update is indicated for each country.

Overall, the LEGOSH database is well structured and therefore very informative - this counts for the documents in a language the user understands. The disposal of a user guide and more information on the used methodology contributes to the usefulness and accessibility of the database.

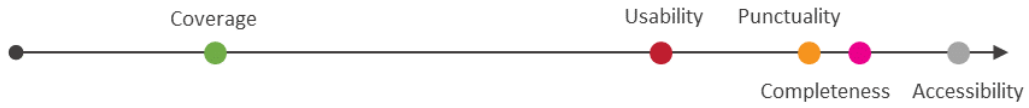
Completeness of the data with regard to JQP

The LEGOSH database is very detailed on the part of OSH. Regarding the other components of the WES model on job quality, however, the database is not at all complete.

Table 5.10 Summary of advantages and disadvantages of the LEGOSH data

Advantages	Disadvantages
- Clear structuring of the information - Detailed information available, including the data source - Ask for feedback and help: 'Legal experts from OSH agencies, institutions, universities, research centres and other organizations from around the world are highly encouraged to become partners, content contributors or key sources of information on OSH legislation development to ensure this database is reliable and up-to-date.' - The full country profile, as well as the separate legislation documents, are downloadable in PDF format - Direct links to the NATLEX or NORMLEX website for some articles, which are very well structured and very informative - Everything is available in one of the official European languages. Most of the documents are also available in English and/or the original language - The comparative tool for multiple countries is very easy and useful - Data access is free of charge and no registration is required - The validation of the information is planned to take place in the coming year - The data is regularly updated and for each country, the date of the most recent update is mentioned	- The download for the Excel file within the country profile does not work, it can be detected as harmful or corrupted - Without the Excel file on the country profiles, it is hard to use this textual information in research - Not everything is available in English, which makes it hard for users to understand all legislation

Figure 5.8 General validation of the LEGOSH data from the perspective of JQP in Europe



References

http://www.ilo.org/dyn/legosh/en/f?p=14100:1:8972587666487::NO

5.2.1.9 Working Conditions Laws Database

Overview

Abstract

'The ILO Working Conditions Laws Database provides a picture of the regulatory environment of working time, minimum wages and maternity protection in more than 100 countries around the world. It contains comprehensive legal information, which allows you to conduct customised research on a specific country, to compare the legislation of several countries or regions on a particular subject or to perform searches by text. For selected issues, a historical comparison is possible.' (ILO, 2016c)

The main topics discussed are:

- minimum wages;

- working time;
- maternity protection.

Key words
Working conditions, legislation, maternity protection, maternity leave, cash benefits, medical benefits, health protection, non-discrimination employment security, minimum wages, collective agreement, disabled, working time, limits to normal working hours, overtime work, schedules, rest periods, annual leave and public holidays, part-time work, night work, shift work, casual work, on-call work, flexitime, right to change working hours.

Unit of analysis
Countries, macro level data.

Format of the database
Textual information (summary of legislation and agreements) (downloadable in Excel file).

Scope & coverage

Geographic coverage
Over 100 ILO Member States worldwide.

Time span
- The database was last updated from early 2011 through mid-2012.
- The exact date of the most recent update is indicated for each country.

Producers & sponsors
International Labour Organization.

Data creation

Data collection
The main legislative sources used for the database are national laws (which include different kinds of legislative provisions such as acts, decrees and regulations). Information for the database was gathered through different methods, which are explained on the webpage on methodology and sources.

Type of information available

Text document available
Yes, Working Conditions Laws 2012 Report available. Furthermore, when generating a country profile some original legal texts are available in PDF format.

Indicators available
No.

Guidelines for use available
Yes, a webpage is available with information on 'How to use this database', content and the methodology and sources.

Search or browse function available online
Yes, an open search tool is available. In addition, browsing by category is possible with filters on the sections of interest and browsing by country is possible to create a country profile.

Link: http://www.ilo.org/dyn/travail/travmain.home

Content of the database

The Working Conditions Laws Database provides a summary of the existing legislation on multiple subjects in multiple countries. The information explains and summarises the legislation concerned. Since there is no longitudinal data, the data are useful to examine the legal situation but cannot analyse the impact of JQP.

Usability of this data: accessibility, consultation and documentation of/on the data

At first sight, the database seems very complete, accessible and useful. However, a few difficulties appear when browsing the website. First, the open search tool does not work. Fortunately, this should not cause real problems since the browse tools by category and by country are very clearly structured. For browsing by category, users are asked to indicate their field of interest and to select the countries of their research. After showing the results, it is still possible to add another country or category. This

facilitates comparative research. When browsing by country, users receive a country profile containing information on the chosen subjects.

Nevertheless, there are some disadvantages making it a real inconvenience working with this database. Within the browse tool by category, no reference is made to the original legislation and information sources. On top of that, it is impossible to download the information on the website. A printable version of the webpage is available, but processing this data into other research projects it difficult.

Overall, the Working Conditions Laws Database can be used for informative means, but it is hard to practise the information available. The best way to research legislation on this website is to use the browse tool by country. Other countries can be added in case of comparative research and information is provided on the sources consulted.

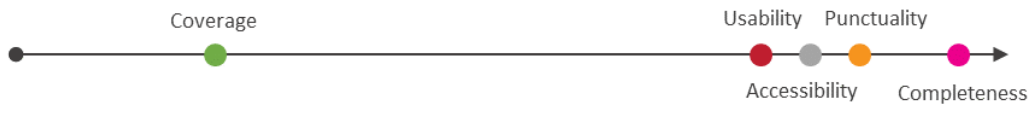
Completeness of the data with regard to JQP

The Working Conditions Laws Database contains information and legislation on working time, minimum wages and maternity protection. These subjects are part of the Employment conditions component in the WES model. However, the Employment conditions section is not completely treated in this database and no information is available on the other sections on Work organisation and Social relations.

Table 5.11 Summary of advantages and disadvantages of the Working Conditions Laws Database

Advantages	Disadvantages
- Clear summary of legislation, easy to find the information needed - Country profiles are very well structures: clear indication of sources and their links, then interpretation and summary of the legislation and reference to the sources mentioned above - Sometimes remarks are added with more information or an interpretation - Data access is free of charge and no registration is required - Database is updated regularly and was last updated in 2011 - Broad geographical scope - Information is available for almost all countries involved. - When consulting a country profile or a thematic selection it is always possible to add a country or another category. This facilitates comparative research	- The open search tool does not work - A printable version of the webpage is available, but no PDF format or other download possibilities for text documents - Excel download possibility does not work - No link to the original documents or sources when browsing by category

Figure 2.9 General validation of the Working Conditions Laws Database from the perspective of JQP in Europe



References

http://www.edac.eu/policies_desc.cfm?v_id=85

http://www.ilo.org/dyn/travail/travmain.home

5.2.1.10 Social dialogue texts database

Overview

Abstract

'European social dialogue refers to discussions, consultations, negotiations and joint actions involving organisations representing the two sides of industry (employers and workers). It takes two main forms:
- a tripartite dialogue involving the public authorities;
- a bipartite dialogue between the European employers and trade union organisations. This takes place at cross-industry level and within sectoral social dialogue committees.' (EC, 2016c).

The Social dialogue texts database is created by the European Commission for information purposes only. The online search tool offers access to documents of different types such as Agreement Council decisions, declarations, follow-up reports, guidelines, joint opinions, procedural texts and tools. These documents can be found by selection on date, sector, theme, type, addressee and by the insertion of keywords.

The main topics discussed are:
- ageing workforce;
- corporate social responsibility;
- disability;
- economic and/or sectoral policies;
- employment;
- enlargement;
- gender equality;
- harassment;
- health and safety;
- mobility;
- public procurement;
- racism;
- restructuring;
- social aspects of Community policies;
- social dialogue;
- sustainable development;
- telework;
- training, lifelong learning;
- undeclared work;
- working conditions;
- working time;
- young people.

Key words

Legislation, ageing workforce, corporate social responsibility, disability, economic and/or sectoral policies, employment, enlargement, gender equality, harassment, health and safety, mobility, public procurement, racism, restructuring, social aspects of community policies, social dialogue, sustainable development, telework, training, lifelong learning, undeclared work, working conditions, working time, young people.

Unit of analysis

European legislation and documentation, macro level data.

Format of the database

Search engine, textual information (legislation, declarations, agreements, guidelines, etc.) (downloadable in PDF file).

Scope & coverage

Geographic coverage

EU28.

Time span

- 1978-2016.
- The database is regularly updated.

Producers & sponsors

European Commission.

Type of information available

Text document available
Yes, documents of several types are available. All are downloadable in PDF format.

Indicators available
No.

Guidelines for use available
No.

Search or browse function available online
Yes, the database is organised by means of an online search tool. Users can enter filters on date, sector, theme, type and addressee, and can insert keywords.

Link: http://ec.europa.eu/social/main.jsp?catId=521&langId=en

Content of the database

The Social dialogue texts database is a search tool providing several types of textual information on social dialogue. It is a collection of existing text documents, but does not contain a tradition of regular reporting, nor does it facilitate comparative research on the impact of JQP in Europe in a direct manner. The database is limited to the transnational level of social dialogue. As a result, for comparison between EU Member States, the database has only limited use.

Usability of this data: accessibility, consultation and documentation of/on the data

The Social dialogue texts database contains documents of different types and on several topics. The search tool is well organised, making it easy to select documents in a certain field of interest. In addition, all documents are available in English, and freely accessible and downloadable. Some documents are also available in the languages of the countries involved. However, since the data is a combination of different types of document - and no separate legislation - it may be hard to use these documents in a specific research. The database seems merely informative than useful.

Overall, the data is easily accessible but cannot directly be used for research.

Completeness of the data with regard to JQP

According to the WES model on job quality, the Social dialogue texts database contains documents on all three aspects. Regarding Work organisation, documentation is available on health and safety, telework, and working conditions. Employment conditions are presented through employment, mobility, economic and/or sectoral policies, training, lifelong learning, and working time in this database. This leaves two major components uncovered: wages and employment security.

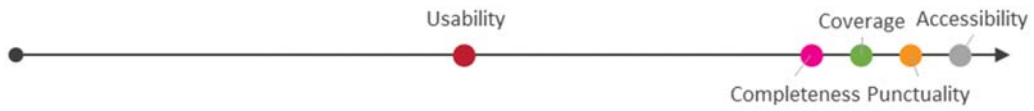
Finally, documents on gender equality, harassment, social aspects of community policies, social dialogue are included with regard to the section on Social relations in the WES model.

Overall, even though some topics remain uncovered, the Social dialogue texts database is rather complete according to the WES model on job quality. Besides the subjects treated in the WES model, the database contains other subjects too.

Table 5.12 Summary of advantages and disadvantages of the Social dialogue texts database

Advantages	Disadvantages
- The website generates the research results very quickly - Very up to date, regularly updated - Everything is available in English - Before downloading the full document, users receive meta-data on the full title, date, sector, addressee, theme, type, and the employers' and workers' organisations involved - All texts are downloadable in PDF format - After setting filters on the research results, the users can still choose to structure the results by English title, French title or date - Broad thematic and geographic scope - Data access is free of charge and no registration is required	- Difficult to use in comparative research

Figure 2.10 General validation of the Social dialogue texts database from the perspective of JQP in Europe



References

http://ec.europa.eu/social/main.jsp?catId=521&langId=en

5.2.1.11 EUR-Lex

Overview

Abstract

The EUR-Lex database is an online search tool created by the Publications Office of the European Union. The tool provides free access in the 24 official EU languages to all European Union legislation. The database covers many types of texts produced mostly by the institutions of the European Union, but also by Member States, EFTA, etc. The content is divided into sectors: treaties, international agreements, legislation, complementary legislation, preparatory acts, case-law, national implementing measures, references to national case-law concerning EU law, parliamentary questions, consolidated legislation, other documents published in the Official Journal C series, and EFTA documents.

The main topics discussed are:

- politics;
- international relations;
- European law;
- law;
- economics;
- trade;
- finance;
- social questions;
- education and communications;
- science;
- business and competition;
- employment and working conditions;
- transport;
- environment;
- agriculture, forestry and fisheries;

- agri-foodstuffs;
- production, technology and research;
- energy;
- industry;
- geography;
- international relationships.

Key words in the section on employment and working conditions
Employment, working conditions, legislation, vocational training, employment policy, termination of employment, employment structure, unemployment, labour market, labour force, occupational status, socioprofessional category, organisation of work, work, personnel management, staff remuneration, personnel administration, pay policy, remuneration of work, labour relations, labour law, organisation of professions.

Unit of analysis:
European legislation, macro level data.

Format of the database:
Search engine, legislation (downloadable in PDF file).

Scope & coverage

Geographic coverage
- The geographical coverage differs per legislation.
- The general coverage contains the EU28.

Time span
- 1951-2016.
- EUR-Lex is updated on a daily basis.

Producers & sponsors
The Publications Office of the European Union.

Data creation

Data collection
The Official Journal of the European Union (OJ) is the main source of EUR-Lex content.

Type of information available

Text document available
Yes, all legislation can be downloaded in PDF format in several languages. In addition, a link to summaries of EU legislation is available.

Indicators available
Statistics are available on the number of publications and texts.

Guidelines for use available
Yes, a video with a guided tour and a webpage on frequently asked questions facilitate working with the online search tool. This webpage can also be downloaded in PDF format.

Search or browse function available online
Yes, the database is organised by means of an online search tool.

Link: http://eur-lex.europa.eu/homepage.html

Content of the database

The EUR-Lex database is a search engine or library containing European policy measures of different types: treaties, international agreements, legislation, acts, national case law, jurisprudence, and parliamentary questions. These are very well documented and cover a large thematic and geographical scope, but do not provide information on the impact or state of affairs regarding the JQP involved. The EUR-Lex database does not contain customary national legislation; this information is to be consulted in the N-Lex database.

Usability of this data: accessibility, consultation and documentation of/on the data

The EUR-Lex database is organised through an online search tool and is freely accessible. A quick search can be executed by the insertion of one or more keywords. A more advanced search allows selecting a document type, to enter multiple keywords and their combination, information on the document reference, the author of the document, the Celex number, a date, information on the publication in the Official Journal, the legal basis, the theme, and to search for any documents related to a legislative procedure. Registration is possible, but not necessary. Registered users (registration is free of charge) can also:

- use the expert search;
- create personalised RSS feeds;
- save documents and queries in My EUR-Lex;
- change their display, export and print preferences;
- export a larger number of documents.

In addition, the website is available in all 24 official European Union languages and the documents available can be consulted and downloaded in several languages. The linguistic coverage is larger for the four official languages of the founding Member States, Dutch, French, German and Italian. For the other languages, users will find translations of the legislation in force at the time of the accession of the country in question and the texts adopted after this date. Some of the texts, particularly the oldest, are therefore not available in the languages that were added during the later accessions. Users can export up to 100 items with metadata from your results list in CSV, TSV, Excel, xml or PDF format. Registered users can export up to 5 MB of documents.

An example can be described through the Working Time Directive. This can be achieved by using the advanced search (see before) and when selecting the purchased document, it is presented in the language the user selected at the EUR-Lex website and the PDF file can be downloaded in a language of choice.

Overall, the EUR-Lex database is very easy to access and to consult. Since all documents are downloadable in PDF format and summaries are available, this documentation on the EU legislation is very informative and useful in research.

Completeness of the data with regard to JQP

According to the WES model on job quality, the EUR-Lex database contains information and legislation on all three components. For Work organisation, one of the search possibilities is on the subject of 'organisation of work'. This item links to multiple documents on various topics. The component of Employment conditions contains more search items: vocational training, employment policy, termination of employment, employment structure, unemployment, occupational status, staff remuneration, pay policy, remuneration of work, and organisation of professions. This provides information on wages, employment security and training, but not on working time organisation and career opportunities. Legislation on personnel management, personnel administration, and labour relations are included with regard to Social relations.

Table 5.13 Summary of advantages and disadvantages of the EUR-Lex data

Advantages	Disadvantages
- Registration is nog required, however freely possible for a more profound usage - A survey is available to indicate preferences and suggest improvements - Website is available in almost all national languages of EU Member States - All documents are available in several languages and can be downloaded in PDF format - Link to N-Lex available - Link to summaries of EU legislation available - Updated on a daily basis - A video provides a guided tour and answers on the FAQ are very clearly formulated - Metadata are available before downloading the full document - Documents can be selected and exported all in once	- Within the EUR-Lex database a lot of jargon is used, which might make it more difficult for non-experts to find the exact text of their interest. The link to summaries of EU legislation make is more accessible and convenient

Figure 2.11 General validation of the EUR-Lex data from the perspective of JQP in Europe

References

http://eur-lex.europa.eu/homepage.html

5.2.1.12 N-Lex

Overview

Abstract

As EUR-Lex provides a gateway to all EU legislation, the N-Lex database meets the same goals on a national level. The database offers:

- an interface between users and databases on national legislation;
- a common search form enabling users to make searches in their own language;
- search results coming directly from national databases;
- descriptions of database contents and search options for each country (search fields and different types of national law);
- EuroVoc (the EU's multilingual thesaurus) which helps users to find the corresponding term in a foreign language;
- context-sensitive help;
- machine translation tool to translate search results into all official languages of the European Union.

Key words

National legislation.

Unit of analysis:

Country specific legislation, macro level data.

Format of the database:

Search engine, legislation (downloadable in PDF file).

Scope & coverage

Geographic coverage
EU27.

Time span
- The database was launched in 2006.
- It contains all national legislation until now.

Producers & sponsors
The Publications Office of the European Union and EU governments.

Data creation

Data collection
Data is provided by the different EU governments.

Type of information available

Text document available
Yes, all legislation is available online; however, the documents are not downloadable.

Indicators available
No.

Guidelines for use available
No, but the 'help' page provides information on how to use the website.

Search or browse function available online
Yes, in every database users can search legislation using multiple filters.

Link: http://eur-lex.europa.eu/n-lex/index_en.htm

Content of the database

The N-Lex database is based on the same principle as the EUR-Lex database but only contains national legislation. This is very well documented and cover a large thematic and geographical scope, but do not provide information on the impact or state of affairs regarding the JQP involved.

Usability of this data: accessibility, consultation and documentation of/on the data

The database is freely accessible and registration is not required. After selecting a country, information is available on the national database containing a general description section and an explanation on the different types of legal acts. This section is always available in multiple languages, including English and the original official language for every case. In order to consult the national legislation, a search tool is implied within the webpage of every country. In this tool filters can be set on words in the title, words in the text, document type, document number, data of when the document was signed, where it was published, publication date, acts in force on that date, section in an act. To facilitate this search, users are offered the translate tool EuroVoc, designed to translate jargon into all official European languages. In addition, a link to the original website is available. This makes it very convenient to find national legislation on a certain field of interest.

However, most legislation can only be consulted online and cannot be downloaded. Moreover, the legislation is only available in the original language. For some countries, a translation tool is available to translate the search results. In this case, the degree to which the translation is accurate is indicated.

Overall, the database is easily accessible and consultable. The greatest inconvenience is that the legislation itself is only available in the original language, which might make it hard for researchers to comprehend and compare all European legislation.

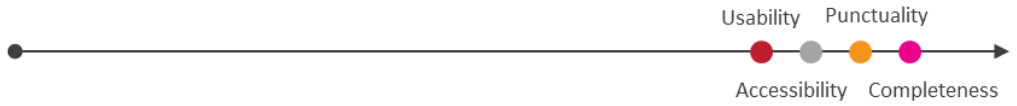
Completeness of the data with regard to JQP

The completeness of the national legislation with regard to job quality varies per county.

Table 5.14 Summary of advantages and disadvantages of the N-Lex data

Advantages	Disadvantages
- Sources are always indicated in the metadata of the document - Link to the national databases are included - General information on the national database is usually available in all 24 official European languages - The help of EuroVoc to correctly translate jargon in the search tool - Well-structured search tool - Frequently updated, very up-to-date - Broad thematic and geographical range	- Documents are not downloadable - When referred to the national database users have to re-enter their search terms and start all over - The legislation itself is only available in the original language, which makes it difficult to comprehend and compare

Figure 2.12 General validation of the N-Lex data from the perspective of JQP in Europe



* Since the thematic coverage with regard to JQP is strongly dependant of the country discussed, this indication is not included in this graph.

References

http://eur-lex.europa.eu/n-lex/index_en.htm

5.2.1.13 Database on transnational company agreements

Overview

Abstract

'The Database on transnational company agreements is the result of the cooperation between the International Labour Organisation and the European Commission. The database contains all transnational company agreements and texts identified and catalogued by the ILO and the European Commission. It contains European and international agreements, as well as sheets with details on every company and agreement. Users can only download texts and agreements for which an authorization to publish is obtained.' (EC, 2016d)

The main topics discussed are:

- career and skills development;
- equal opportunities, diversity and antidiscrimination;
- fundamental rights and trade unions;
- occupational health and safety, work environment;
- mobility;
- protection of personal data and internet policy;
- recruitment and hiring policy;
- restructuring and impact on the workforce;
- social dialogue, employee involvement and governance;
- sustainability, governance and ethics;
- transfer, subcontracting and outsourcing;
- wages and benefits.

Key words
Transnational agreements, transnational company agreements, legislation, career, skills development, equal opportunities, diversity, antidiscrimination, fundamental rights, trade unions, occupational health and safety, work environment, mobility, protection of personal data, internet policy, recruitment, hiring policy, restructuring, impact on the workforce, social dialogue, employee involvement, sustainability, governance, ethics, transfer, subcontracting, outsourcing, wages, benefits.

Unit of analysis
Companies, macro level data.

Format of the database
Textual information (transnational company agreements) (downloadable in PDF file).

Scope & coverage

Geographic coverage
Australia, Austria, Belgium, Brazil, Canada, Denmark, France, Germany, Greece, Indonesia, Italy, Japan, Luxembourg, Malaysia, Netherlands, New Zealand, Norway, Portugal, Russia, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States of America.

Time span
1988-2015.

Producers & sponsors
This database is the result of the cooperation between the International Labour Organisation and the European Commission.

Type of information available

Text document available
Yes, the agreements for which authorization had been obtained by the ILO and the EC can be downloaded in PDF format.

Indicators available
No.

Guidelines for use available
Yes, this document is downloadable in PDF format and provides information on the search tool.

Search or browse function available online
Yes, the database is structured by means of a well-equipped search tool.

Link: http://ec.europa.eu/social/main.jsp?catId=978&langId=en

Content of the database

This database contains all European and international transnational company agreements and texts identified and catalogued by the ILO and the European Commission. These are very well documented and cover a large thematic and geographical scope, but do not provide information on the impact or state of affairs regarding the JQP involved. The database is organised through a search tool, but since the full list of all documents in the database can be downloaded too, it is not categorised as 'search engine', but as 'database'.

Usability of this data: accessibility, consultation and documentation of/on the data

The database is freely accessible and without need for registration. A full list of all identified agreements is downloadable in PDF format, which might give some overview of the content of the database. In addition, a user guide - also downloadable in PDF format - provides information on the use of the search tool by which the database is structured.

Search results can be obtained through the selection of one or some of the following filters: company name, headquarter company, size of the company, sector, year of signature of the agreement, employee signature parties, geographical scope, reference standards, topics addressed. Furthermore, users can enter keywords to finalise their selection of criteria. After this query, search results can be

organised alphabetically by company name, headquarter of the company, title of the agreement or year of signature.

Before downloading the full agreement in PDF format, an elaborated list of metadata is provided. Downloads are sometimes possible in multiple languages. Even though there is no tool to directly compare the agreements of different companies in one sector or in one country, the clear structuring of the website and the availability of the documents make the database very useful for comparative research regarding transnational company agreements in Europe and in the world.

Completeness of the data with regard to JQP

In the field of Work organisation within the WES model on job quality, the Database on transnational company agreements contains two search options: health and safety, and work environment. With regard to the Employment conditions component in the model, the database offers the following search options: career and skills development, mobility, recruitment, hiring policy, transfer, subcontracting, outsourcing, wages and benefits. Equal opportunities, diversity, antidiscrimination, fundamental rights, trade unions, social dialogue, employee involvement and governance are the search options in the field of the Social relations component in the model.

Overall, the database contains agreements on multiple subjects determined by the WES model but additions are still possible and interesting.

Table 5.15 Summary of advantages and disadvantages of the Database on transnational company agreements

Advantages	Disadvantages
- Data access is free of charge and without registration - All documents are downloadable in PDF format and in English - Some documents are available in multiple languages - The search tool is very well structured which makes it convenient finding agreements within the user's fields of interest - The metadata provided before downloading the full document are very complete and informative - Broad geographical scope - A list of all agreements is available and provides an overview of the content of the database	- Within one subcategory, there is no search tool available - The database is a combination of textual information and indicators, but they are not separately presented and users cannot select the type of data they are looking for - Data is collected from different sources, but these are not always specified - No information on updates, however overall more or less recent - Most information sources are in PDF format, which makes it more difficult to work with or to adjust them to another research project

Figure 2.13 General validation of the Database on transnational company agreements from the perspective of JQP in Europe

References

http://ec.europa.eu/social/main.jsp?catId=978&langId=en

5.2.1.14 WSI: Minimum Wage Database

Overview

Abstract

The WSI Minimum Wage Database is constructed by WSI, an institute from the Hans-Böckler-Stiftung, and focusses on minimum wages across Europe and in some non-European countries. The database provides an interactive map on which the user can select a country and view its history of minimum wages. Users can also download a static map containing the most recent data and the complete WSI Minimum Wage Database in Excel of PDF format.

The main topics discussed are:

- minimum wages across Europe.

The aim of the database is to provide a structured overview of minimum wages 'at a glance'. From this overview, users can go more in depth and verify the history of minimum wages in the countries involved.

Key words

Minimum wage.

Unit of analysis

Countries, macro level data.

Format of the database

Indicators (downloadable in PDF and Excel file).

Scope & coverage

Geographic coverage

34 countries included: Albania, Argentina, Australia, Belgium, Brazil, Bulgaria, Canada, Croatia, Czech Republic, Estonia, France, Greece, Hungary, Ireland, Japan, Luxemburg, Netherlands, United Kingdom, Germany, Slovenia, Malta, Spain, Portugal, Poland, Slovakia, Latvia, Lithuania, Macedonia, Romania, Serbia, Albania, Moldavia, Russia, Ukraine.

Time span

- The time span covered differs by country;
- The overall time span covered is 1981-2016.

Producers & sponsors

WSI, an institute from the Hans-Böckler-Stiftung.

Type of information available

Text document available

No.

Indicators available

Yes, Excel files can be downloaded, interactive maps of Europe and graphs of all countries involved can be consulted online or downloaded in PDF format.

Guidelines for use available

No.

Search or browse function available online

No.

Link: http://www.boeckler.de/wsi-tarifarchiv_44064.htm

Content of the database

The WSI database contains data indicators on minimum wages in Europe and some other countries. The data provide an overview of the state of affairs in this domain, but are not formed in order to examine the impact and evolution of JQP in Europe. Since the data are longitudinal, they could however be used to analyse JQP, in combination with another data source.

Usability of this data: accessibility, consultation and documentation of/on the data

The WSI database is very easy to access and to consult. An interactive map of Europe is the home page of the database website. From there on, users can click any European country to consult its

current minimum wage, the latest update of this data and by clicking on 'further information', the history of minimum wages per year. The non-European countries can be consulted by opening the global comparison.

By switching from the map of Europe to the section 'at a glance', users are presented a bar graph containing the European countries sorted by minimum wage in Euro per hour. Here too, the non-European countries are added when opening the global comparison. The option 'further information' leads the user to a country overview, where he has the possibility to select and download the documentation on one or more countries of choice, or to download the full WSI Minimum Wages Database as Excel or PDF.

Overall, the database is very well structured and easy in use. However, the website does not allow online comparisons, which might make it more inconvenient for comparative research. The database is useful to acquire an overview and general information, but needs more detailed information from other data sources.

Completeness of the data with regard to JQP

The WSI Minimum Wages database only contains information on minimum wages, which makes it very incomplete to measure JQP in general.

Table 5.16 Summary of advantages and disadvantages of the WSI data from the perspective of JQP in Europe

Advantages	Disadvantages
- Very quick and easy overview - Very easy in use, users can easily find the current data as well as the history of minimum wages in the countries involved - Website is very well structured - Database is available in English - For each country the latest update is indicated - Broad geographical scope - Database is freely accessible	- No information on data collection - No links to the original data sources or possibilities to gain more information - Only one type of information is included in the database, this implies that it is merely useful for descriptive information

Figure 5.14 General validation of the WSI data

References

http://www.boeckler.de/wsi-tarifarchiv_44064.htm

5.2.1.15 LMI Database

Overview

Abstract

The LMI Database is a panel database containing labour market regulations in low-, middle- and high-income countries. The database contains information on minimum wage regulations, unemployment insurance systems and employment protection legislation.
The main topics discussed are:
- minimum wages;
- unemployment benefits;
- employment protection.

The aim of this database is to fill part of the gap in data coverage facilitating consistent comparative analysis of labour market institutions in developing countries.

Key words

Minimum wages, unemployment benefits, employment protection, gross replacement rate, benefit coverage, advance notice, severance payment.

Unit of analysis

OECD as well as non-OECD countries.

Format of the database

Indicators (downloadable in Excel file).

Scope & coverage

Geographic coverage

- OECD as well as non-OECD countries are included.
- In total 91 countries are included.
- A list of the countries can be found in table 1 in the paper documenting the database.

Time span

- The time span covered varies per country.
- The overall time span covered is 1980-2005.

Producers & sponsors

IMF in cooperation with the Fondazione Rodolfo DeBenedetti.

Data creation

Data collection

Multiple data sources are used. These can be consulted per country and per topic in the paper documenting the LMI database.

Type of information available

Text document available

Yes, a paper documenting this database is available online and in PDF format. This paper provides details regarding the data, methodology and sources, as well as descriptive statistics.

Indicators available

Yes, the database can freely be downloaded in Excel format.

Guidelines for use available

No. However, the paper describes the structure of the database and the Excel file contains a 'Read me' section with explanations on the coding and contents.

Search or browse function available online

No.

Link: https://www.imf.org/external/pubs/cat/longres.aspx?sk=25015.0

Content of the database

The panel data of the LMI database follows the evolution of minimum wage regulations, unemployment insurance systems and employment protection legislation. The indicators provide a clear state of affairs with regard to these subjects, but are not linked to specific policy information. This implies

the data can be used for comparative analyses of JQP in Europe but only in combination with another data source.

Usability of this data: accessibility, consultation and documentation of/on the data

The database is freely downloadable in Excel format, which implies that it is easily accessible. The excel file can be imported in several statistical programmes which makes it convenient for research. Since a broad range of countries (91) is included, the data facilitates comparative research. The panel data covers a broad time span, which is useful for longitudinal studies. Moreover, the availability of a paper documenting the panel database facilitates the use of the database in research.

Overall, the data is easy to access and to use, but even though a broad geographical scope has been covered, the data might seem more useful than they are, because not all indicators are available for all countries.

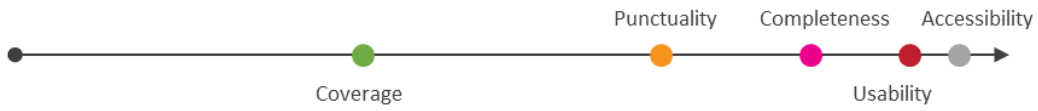
Completeness of the data with regard to JQP

The LMI Database only covers three topics related to job quality: minimum wages, unemployment benefits and employment protection. In the WES model, these are part of the section on Employment conditions.

Table 5.17 Summary of advantages and disadvantages of the LMI data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical scope - Sufficient information on the collection and coding of the data - Everything is freely available in English - The database is available in Excel format and can be imported in multiple statistical programmes - Panel data facilitate longitudinal research	- Even though a broad geographical scope has been covered, the data might seem more useful than they are, because not all indicators are available for all countries - The time span covers runs only until 2005, which means it is no longer updated

Figure 2.15 General validation of the LMI data



References

https://www.imf.org/external/pubs/cat/longres.aspx?sk=25015.0

5.2.1.16 CBR Leximetric Datasets

Overview

Abstract

'The CBR Leximetric Datasets are the product of work carried out at the Centre for Business Research (CBR) in Cambridge, beginning in 2005. Taken together, the datasets provide a unique time series, which enables researchers and other research users to track changes in labour, company and insolvency law over long periods for many countries. A distinguishing feature of these datasets is that all legal sources for the data coding are fully described in the relevant codebooks, thereby assisting transparency, external validity and replicability of results' (Deakin & Siems, 2016).

The main topics discussed are:

- labour laws.

Key words

Labour legislation, forms of employment, part-time work, full-time work, fixed-term contract, agency work, regulation of working time, annual leave, public holiday, overtime, weekend working, maximum daily working time, regulation of dismissal, notice period, redundancy compensation, employee representation, unionisation, collective bargaining, collective agreements, lockouts.

Unit of analysis

Countries, macro level data.

Format of the database

Indicators (downloadable in Excel file).

Scope & coverage

Geographic coverage

117 countries: Afghanistan, Algeria, Angola, Argentina, Armenia, Australia, Austria, Azerbaijan, Bangladesh, Belarus, Belgium, Bolivia, Botswana, Brazil, Bulgaria, Cambodia, Cameroon, Canada, Chile, China, Colombia, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Democratic Republic of Congo, Denmark, Dominican Republic, Ecuador, Egypt, Estonia, Ethiopia, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Honduras, Hungary, Iceland, India, Indonesia, Iran, Ireland, Israel, Italy, Ivory Coast, Japan, Jordan, Kazakhstan, Kenya, Korea, Kyrgyzstan, Latvia, Lesotho, Lithuania, Luxembourg, Macedonia, Malaysia, Mali, Malta, Mexico, Moldova, Mongolia, Montenegro, Morocco, Myanmar, Namibia, Netherlands, New Zealand, Nicaragua, Nigeria, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Rwanda, Saudi Arabia, Senegal, Serbia, Singapore, Slovakia, Slovenia, South Africa, Spain, Sri Lanka, St. Lucia, Sudan, Sweden, Switzerland, Syria, Taiwan, Tanzania, Thailand, Tunisia, Turkey, Uganda, Ukraine, United Arad Emirates, United Kingdom, United States of America, Uruguay, Venezuela, Vietnam, Yemen, Zambia, Zimbabwe.

Time span

- The time span covered varies per country.
- The overall time span covered is 1970-2015 (*present*).

Producers & sponsors

Centre for Business Research (CBR) in Cambridge, with Simon Deakin and Mathias Siems.

Sponsored by ESRC, the European Union's FP5 programme, the European Union's FP6 programme, Isaac Newton Trust, Cambridge Political Economy Society, International Labour Organization.

Data creation

Data collection

Multiple data sources are used.

Type of information available

Text document available

No.

Indicators available

Yes, the database can freely be downloaded in Excel format.

Guidelines for use available

No. However, a document explaining the applied coding methodology is available and downloadable in PDF format.

Search or browse function available online
No.

Link: https://www.repository.cam.ac.uk/handle/1810/256566

Content of the database

This database is one of the only attempts to code labour legislation into quantitative data. This quantification of textual information facilitates comparative statistical analysis of JQP in Europe. However, no information is provided on the state of affairs on the labour market of the consulted topics.

Usability of this data: accessibility, consultation and documentation of/on the data

The database is freely available in English and is downloadable in Excel format. For the version with 30 countries, the Excel files are easily structured and can be imported in most frequently used statistical analysis packages. For the version with 117 countries, however, the Excel files contains one sheet per country, which makes it difficult to directly use these data for statistical analysis.

No guidelines for use are available, but a clear codebook is available, as well as well-structured information on the applied coding methodology while creating the database.

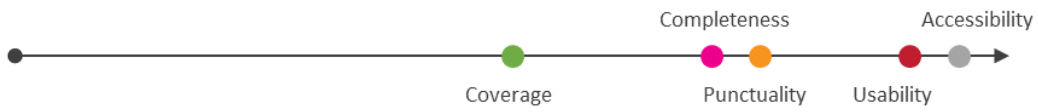
Completeness of the data with regard to JQP

Following the WES model, the CBR Leximetric Datasets fill in the section on Working conditions by information on the regulation of working time. Employment conditions are covered by the coding of legislation on the forms of employment and the regulation of dismissal. Finally, the Social relations part of the WES model is present in the coding of legislation on employee representation. This implies that all three components of the model are represented in the CBR Leximetric Datasets.

Table 5.18 Summary of advantages and disadvantages of the CBR Leximetric data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical scope - Sufficient information on the coding of the legislation - Everything is freely available in English - The database is available in Excel format and can be imported in multiple statistical programmes - Quantification of legislation is not often done but facilitates comparative statistical research	- The Excel file with the version of 117 countries is not logically structured; with a separate sheet per country it is difficult to import these data into a statistical programme

Figure 2.16 General validation of the CBR Leximetric data



References

https://www.repository.cam.ac.uk/handle/1810/256566

5.3 Databases on inclusive labour market policies, skills and training

This chapter presents the three main databases on inclusive labour market policies, skills and training and relevant from the perspective of JQP:
- PIAAC: Programme for the International Assessment of Adult Competencies;
- WISE: World Indicators of Skills for Employment;
- ESJS: European Skills and Jobs Survey.

Each database is described according to the same outline and provides the same type of information. A first table contains an overview, the scope and coverage, the producers and sponsors, the data creation and the type of information available. This table thus provides key information on the database.

A second paragraph is dedicated to the content of the database specifying the domains questioned by the database. The following paragraph discusses the usability of data by indicating their accessibility, consultation and documentation. Next to that, the completeness of the data with regard to JQP is noted. Finally, a summarising table on the advantages and disadvantages of the database from the perspective of JQP in Europe is proposed. For each database, relevant sources are mentioned.

We chose to include databases on skills and training because we consider this as an important axis to understand some ways of vulnerability at work. The databases can give some keys to understand the skills mismatch between employers and employees, and on how some categories of workers could evolve into borderline to work because of a lack or skills. Both issues are essential to create a training that is appropriate to all employers' and employees' needs.

5.3.1 PIAAC: Programme for the International Assessment of Adult Competences

Overview

Abstract

The Programme for the International Assessment of Adult Competences (PIAAC) is an international survey initiated by the Organisation for Economic Cooperation and Development and conducted in over 40 countries. It measures the key cognitive and workplace skills needed for individuals to participate in society and for economies to prosper. The evidence from this Survey will help countries better understand how education and training systems can nurture these skills. The Survey of Adult Skills (PIAAC) aims to provide valid and reliable estimates of the competency of the adult population in key information-processing skills, to identify differences in proficiency between population sub-groups, to better understand how such skills are developed, maintained and used, and to determine the impact of different levels of proficiency on life chances.
The main topics discussed are:
- cognitive and workplace skills needed for individuals to participate in society and for economies to prosper;
- development and maintenance of skills.

Key words

Education and training, Literacy, numeracy and ICTs, language, problem solving in technology-rich environments;

Unit of analysis

Individuals, employees.

Format of the database

Numeric data, on individual, micro-level.

Scope & coverage

Geographic coverage
- Round 1 (2008-2013): Australia, Austria, Belgium (Flanders), Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Japan, Korea, Netherlands, Norway, Poland, *Russian Federation, Slovak Republic, Spain, Sweden, United Kingdom (England and Northern Ireland), United States.
- Round 2 (2012-2016): Previous countries + Chile, Greece, Indonesia, Israel, Lithuania, New Zealand, Singapore, Slovenia, Turkey.

Time span
Repeated cross-sectional surveys.

Producers & sponsors
OECD.

Data creation

Data collection
National Statistical institutes.

Type of information available

Text document available
Yes.

Indicators available
Yes.

Guidelines for use available
Yes.

Search or browse function available online
Yes.

Link: http://www.oecd.org/skills/piaac/aboutpiaac.htm

Content of the database

The PIAAC database contains information on the adult's proficiency in three domains: literacy, numeracy and problem solving in a technology-rich environment. Along with these core domains, the dataset encompasses topics related to employment situation and work organisation as well as detailed background information.

Usability of this data: accessibility, consultation and documentation of/on the data

Both individual and aggregated data of the PIAAC survey are easily accessible. The individual data containing both responses to the background and to the cognitive assessment are available for downloading in different format (SAS, SPSS and Excel format) *via* the following link (http://vs-web-fs-1.oecd.org/piaac/puf-data). Regarding the country aggregates, the PIAAC Data Explore allows an easy exploration and comparison of national data. Methodological reports as well as background questionnaires are also available.

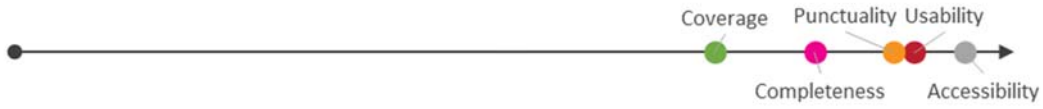
Completeness of the data with regard to JQP

The PIAAC database includes a rich battery of questions related to JQP and more precisely to skill use at work, skill development and workers' skill proficiency. According to the WES model and additionally to the background elements, the survey contains information on employment conditions such as wage, training, type of contract or career opportunities. Further, the survey covers some issues related to work organisation such as the nature of job tasks and task complexity.

Table 5.19 Summary of advantages and disadvantages of the PIAAC data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical coverage - Everything is freely available in English - The database is available in Excel format and can be imported in multiple statistical programmes	- The Social relations dimension is not covered in the survey

Figure 3.1 General validation of the PIAAC data



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http://www.oecd.org/skills/piaac/aboutpiaac.htm
http://nsddata.nsd.uib.no/webview/index/en/Individdata/Thematic-classifications.d.140/Education.d.17/Survey-of-Adult-Skills-PIAAC-2012/fStudy/NSD2135

5.3.2 WISE: World Indicators of Skills for Employment

Overview

Abstract

World Indicators of Skills for Employment (WISE) provide a comprehensive system of information relating to skills development. WISE presents countries with data upon which they can design skills policies and programs and monitor their impact on key outcomes, including responsiveness to current and emerging patterns of labour market demand, employability, productivity, health status, gender equity and lifelong learning. The database covers more than 200 countries and includes around 60 internationally comparable indicators designed to examine the skills challenges and performance of each country from a comparative perspective.
The main topics discussed are:
- skill acquisition;
- skill requirements;
- skill mismatch;
- contextual factors;
- economic and social outcomes.

Key words

Skill acquisition**,** skill requirements, skill mismatch.

Unit of analysis

Countries.

Format of the database

Macro-data, national data.

Scope & coverage

Geographic coverage

Global.

Time span

- Periods covered differ per country;
- The overall time span covered is 1990-present.

Producers & sponsors
OECD.

Data creation

Data collection
Data are formed by the OECD building upon the contribution of World Bank, ETF, ILO and UNESCO.

Type of information available

Text document available
No.

Indicators available
Yes.

Guidelines for use available
No.

Search or browse function available online
Yes.

Link: https://oecdskillsandwork.wordpress.com/2015/10/08/wise-database/

Content of the database

The database contains five inter-related domains of indicators: *(i)* contextual factors which drive both the supply of and demand for skills; *(ii)* skill acquisition which covers investments in skills, the stock of human capital and its distribution; *(iii)* skill requirements which measure the demand for skills arising in the labour market; *(iv)* the degree of matching which captures how well skills obtained through education and training correspond to the skills required in the labour market; and *(v)* outcomes which reflect the impact of skills on economic performance and employment and social outcomes.

Usability of this data: accessibility, consultation and documentation of/on the data

The database is freely available in English and is downloadable in different formats through OECD. Stat, the online statistical platform of the OECD, under the Labour theme. Two ready-made table layouts are available: Comparative tables, allowing for direct comparison of selected indicators over time and across countries; and Country tables, displaying individual country profiles using all of the available skills indicators. Other options are available to select data, build user-defined tables, customise and save layouts and dynamically graph selected indicators.

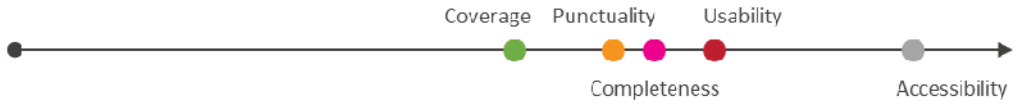
Completeness of the data with regard to JQP

The WISE database offers rich information on where skills developments are most needed, how well the skills of individuals match those required in the labour market, and the returns to investments in skills in terms of economic and social outcomes. According to the WES model, employment conditions and work organisation are the main topics covered in the WISE database.

Table 5.20 Summary of advantages and disadvantages of the WISE data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical and time coverage - Data freely downloadable	- Data are not available for all indicators for all countries - The social relations dimension is not covered in the survey

Figure 3.2 General validation of the WISE data



References
https://oecdskillsandwork.wordpress.com/2015/10/08/wise-database/

5.3.3 ESJS: European Skills and Jobs Survey

Overview

Abstract
The Cedefop European Skills and Jobs Survey (ESJS) is the first European survey dedicated to collecting information on the match between employees' skills and the skills needed for their jobs. The aim of the survey is to shed light on the development of European policies on initial and continuing vocational education and training and employment policies. More precisely, the survey looks at how employees' qualifications and skills are matched (or not) to the changing skill, demands and complexity of their jobs as well as at the extent to which employees' skills are developed and used at the workplace. It also investigates the capacity of initial (e.g. work-based learning) and continuing vocational training to mitigate skill mismatch.
The main topics discussed are:
- skill needs;
- skill development;
- skill mismatch;
- dynamic changes in skill mismatch.

Key words
Previous and current labour market status, methods of skill improvement, tasks in job and changing tasks, work method, technical and generic skills, wages, skill mismatch, training, dynamic.

Unit of analysis
Individuals.

Format of the database
Micro level data.

Scope & coverage

Geographic coverage
EU28.

Time span
2014.

Producers & sponsors
Cedefop.

Data creation

Data collection
Ipsos MORI (Survey Company).

Type of information available

Text document available
Yes.

Indicators available
Yes.

Guidelines for use available
Yes.

Search or browse function available online
No.

Link: http://www.cedefop.europa.eu/fr/publications-and-resources/publications/3072

Content of the database

The survey examines skills development drivers and mismatch in relation to the changing complexity of people's jobs. For each interviewer, the database provides information on the previous and the current labour market status of the employee, skill development (*e.g.* motives and financing of training; methods of skills development), skill needs (*e.g.* foundation; tasks in job; changing tasks; technologies/work methods), dynamic change in skill mismatch and labour market outcome (*e.g.* wages; job security; job satisfaction).

Usability of this data: accessibility, consultation and documentation of/on the data

After filling a preregistration form, the ESJS data is freely accessible through an automatic link that allows downloading the micro dataset (in SPSS or Microsoft Excel format). The questionnaire of the surveys as well as a report describing the rational of the survey and the methodology are also available and freely downloadable.

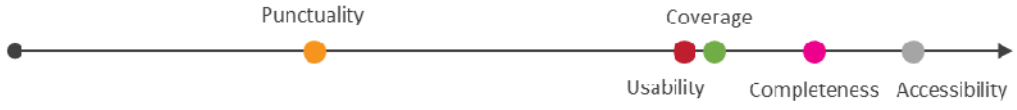
Completeness of the data with regard to JQP

The ESJS data tackles the issue of skills mismatch, providing thus rich information on both employment conditions and work organisation. However, the social relations dimension is missing in this survey.

Table 5.21 Summary of advantages and disadvantages of the ESJS data from the perspective of JQP in Europe

Advantages	Disadvantages
- Data and relative documents are freely downloadable and available in English	- The questionnaire is only available in English - The social relations dimension is not covered in the survey

Figure 3.3 General validation of the ESJS data



References

http://www.cedefop.europa.eu/fr/publications-and-resources/publications/3072

5.4 Company surveys

Chapter 4 is devoted to five main company surveys:
- ECS: European Company Survey;
- CIS: Community Innovation Statistics;
- EIS: European Innovation Scoreboard;
- ESENER: European Survey of Enterprises on New and Emerging Risks;
- CVTS: Continuing Vocational Training in Enterprises.

Each database is described according to the framework plan used in the previous chapters. The same standard information is therefore given for all the databases mentioned. The first table shows the main information concerning this different survey: overview, scope and coverage, producers and sponsors, data creation and type of information available. Then, more precise information is provided on the content of the database and the topics covered by the database. Another paragraph is dedicated to the usability of data, namely their accessibility, consultation and documentation. The latest information is connected to the relevance of these databases from the perspective of JQP with a paragraph on the completeness of the data with regard to JQP and a table summarising advantages and disadvantages of the database from this perspective. For each database references are proposed.

Knowing employers' needs is important to understand why some categories of workers could become vulnerable on the labour market. Therefore, it seems important to know and investigate employers' surveys to establish employers' indicators.

5.4.1 ECS: European Company Survey

Overview

Abstract

The European Company Surveys (ECS) are conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound). The ECS survey has been carried out every four years since its inception in 2004-2005 as the European Establishment Survey on Working Time and Work-Life Balance (ESWT). The second survey (performed under the new title European Company Survey) was completed in 2009 and the third survey in 2013. The survey aims to quantify information on company policies and practices across Europe on a harmonised basis; to analyse relationships between company practices and their impact as well to look at practices from the point of view of structures at company level, focusing in particular on social dialogue.

The main topics discussed are:
- first wave: working time arrangements and work-life balance;
- second wave: different forms of flexibility, including working-time flexibility, contractual flexibility, variable pay and financial participation, as well as accompanying human resource measures, and the nature and quality of workplace social dialogue;
- third wave: workplace organisation, workplace innovation, employee participation and social dialogue in European workplaces.

Key words

Work organisation, workplace innovation, direct participation, social dialogue, working time flexibility, variable pay, working time arrangements.

Unit of analysis

Establishments, companies.

Format of the database

Numeric data, on individual, micro-level.

Scope & coverage

Geographic coverage
- ECS (2013): EU27, plus Croatia, Former Yugoslav Republic of Macedonia, Iceland, Montenegro and Turkey;
- ECS (2009): EU27, plus Croatia, Turkey and the Former Yugoslav Republic of Macedonia;

- ECS (2004): former EU15 Member States and six of the new: Cyprus, the Czech Republic, Hungary, Latvia, Poland and Slovenia.

Time span
- Repeated cross-sectional surveys;
- The ECS survey is implemented once every 4-5 years.

Producers & sponsors
European Foundation for the Improvement of Living and Working Conditions.

Data creation

Data collection
Gallup Europe.

Type of information available

Text document available
Yes.

Indicators available
Yes, the database is freely downloadable in Excel format.

Guidelines for use available
Yes.

Search or browse function available online
No.

Link: http://www.eurofound.europa.eu/surveys/european-company-surveys

Content of the database

The ECS editions cover several topics with direct incidence on employment quality and job quality. Although the survey focus may vary from one edition to the other, the central question in these surveys is to apprehend human resources practices as well as the company policies.

Usability of this data: accessibility, consultation and documentation of/on the data

The database is freely available in English and is downloadable in different formats via the UK Data Service. Documentation regarding the survey methodology and the used questionnaire are available via the Eurofound website for each survey edition. Considering the database *per she*, a very detailed data Dictionary file is provided with each survey allowing an easy exploitation of the database.

Completeness of the data with regard to JQP

The ECS data covers all the dimensions of the WES model, namely work organisation, employment conditions and social relations. However, the topics inherent to each dimension are more or less well covered depending on the focus of each survey edition.

Table 5.22 Summary of advantages and disadvantages of the ECS data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical coverage; - Survey documentation, including methodological reports, surveys' questionnaire and research reports are freely available via the Eurofound website; - A short description of the survey as well as the survey questionnaire are available in all the European Union languages via the Eurofound website	- Getting access to the ECS data requires a registration via the UK Data Service

Figure 4.1 General validation of the ECS data

References

http://www.eurofound.europa.eu/surveys/european-company-surveys

5.4.2 CIS: Community Innovation Statistics

Overview

Abstract

The Community Innovation Survey (CIS) is a survey of innovation activity in enterprises. The aim of the survey is to provide information on the innovativeness of sectors by type of enterprises, on the different types of innovation and on various aspects of the development of an innovation, such as the objectives, the sources of information, the public funding or the expenditures. The CIS provides statistics broken down by countries, type of innovators, economic activities and size classes.

The main topics discussed are:

- product innovation;
- process innovation;
- innovation activities and expenditures;
- sources of information and co-operation for innovation activities;
- effects of innovation;
- factors hampering innovation activities;
- intellectual property rights;
- organisational and marketing innovations.

Key words

Business, commercial innovation, industries, information sources and use, innovation behaviour, knowledge, research and development, product development, innovation, knowledge management.

Unit of analysis

Enterprise.

Format of the database

Numeric data, on individual, micro-level.

Scope & coverage

Geographic coverage

EU27, plus Norway and Iceland, and many of the candidate states to the EU, such as Croatia and Turkey.

Time span

- Repeated cross-sectional surveys;
- Every two years since 1992.

Producers & sponsors
Eurostat & OECD.

Data creation
Data collection
National Statistical institutes.

Type of information available
Text document available
Yes.
Indicators available
Yes but only national aggregates are freely available.
Guidelines for use available
No.
Search or browse function available online
Yes via Eurostat.

Link: http://www.gesis.org/en/missy/metadata/CIS/
Link: http://ec.europa.eu/eurostat/web/microdata/community-innovation-survey

Content of the database

The CIS database contains a wide range of innovation indicators fully comparable across European countries at the micro-level through a harmonised questionnaire. Comparison over time is allowed via national aggregates of these indicators. To assess the impact of technological and non-technological innovation on relevant aspects of JQP such as training and skills development.

Usability of this data: accessibility, consultation and documentation of/on the data

The CIS microdata access is granted for research purpose only according to contracts established between Eurostat and the corresponding research institution. The CIS data access is twofold: to the anonymised microdata (disseminated on CD-ROM) or to the non-anonymised microdata at the Eurostat Safe Centre in Luxembourg (Further information available at: http://ec.europa.eu/eurostat/web/microdata/overview). Both accesses require an explicit agreement, project by project of each country that submits its microdata to Eurostat. Methodological notes and questionnaires are available via the Eurostat website.

Completeness of the data with regard to JQP

Technological innovation, *i.e.* the introduction of new products and new process has a direct impact on both job creation/destruction and on job quality. Information gathered from the CIS microdata provides an overview of organisational and technical changes inside firms. Regarding the WES model, the CIS data provide key elements related to work organisation and to employment conditions.

Table 5.23 Summary of advantages and disadvantages of the CIS data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical coverage - Comparability between countries - The CIS data is used to construct a range of aggregate innovation indicators	- The full micro-level data is authorised only within the Eurostat safe centre of Luxembourg once the research project is validated by Eurostat - Anonymised data (disseminated via CD-ROM) is available only for a set of countries - The social relations dimension is not covered in the survey

Figure 4.2 General validation of the CIS data

References

http://www.gesis.org/en/missy/metadata/CIS/
http://ec.europa.eu/eurostat/web/microdata/community-innovation-survey

5.4.3 EIS: European innovation scoreboard

Overview

Abstract

The European Innovation Scoreboard provides a comparative analysis of the research and innovation performance of the EU Member States, other European countries, and regional neighbours. It assesses relative strengths and weaknesses of national innovation systems and helps countries identify areas they need to address. It covers the EU Member States as well as Iceland, Israel, the Former Yugoslav Republic of Macedonia, Norway, Serbia, Switzerland, Turkey, and Ukraine. It helps them assess areas in which they need to concentrate their efforts to boost their innovation performance. On a more limited number of indicators, available internationally, it also covers Australia, Brazil, Canada, China, India, Japan, the Russian Federation, South Africa, South Korea, and the United States. The EIS includes 25 different indicators that capture eight innovation dimensions, grouped into three main categories of indicators.

The main topics discussed are:

- enablers - are the basic building blocks, which allow innovation to take place - human resources, open, excellent and attractive research systems, and finance and support;
- firm activities - capture innovation efforts in European companies - company investments, linkages and entrepreneurship, and intellectual assets;
- outputs - show how this translates into benefits for the economy as a whole - innovators and economic effects.

Key words

Human resources, research system, finance and support to innovation, firm investments, networking and entrepreneurship, intellectual assets, innovation types, economic effects.

Unit of analysis

Countries.

Format of the database

Numeric data on macro level.

Scope & coverage

Geographic coverage
EU27, plus Norway and Iceland, and many of the candidate states to the EU, such as Croatia and Turkey.

Time span
1998 to 2016.

Producers & sponsors
European Commission.

Data creation

Data collection
European Commission.

Type of information available

Text document available
Yes.

Indicators available
Yes.

Guidelines for use available
Yes.

Search or browse function available online
Yes via an interactive tool that allows for comparing the performance scores, visualising country profiles, as well as measuring correlations between these scores.

Link: http://ec.europa.eu/growth/industry/innovation/facts-figures/scoreboards_en

Content of the database

The dataset contains 25 indicators of human resources, the efficiency and attractiveness of the research systems, firms' investment in research and development, intellectual assets, employment in fast-growing and knowledge-intensive activities. Relying on these indicators, a composite indicator (the Summary Innovation Index, SII) is computed to allow a comparative assessment of research and innovation performance and the relative strengths and weaknesses of national research and innovation systems.

Usability of this data: accessibility, consultation and documentation of/on the data

The EIS indicators are freely downloadable from the European Commission website (http://ec.europa.eu/DocsRoom/documents/17823) in excel or pdf format. Details regarding the different components of the EIS indicator as well as the methodology used are available in the methodological report in the European Commission website.

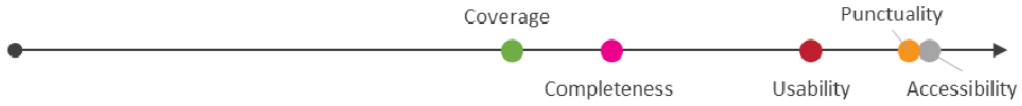
Completeness of the data with regard to JQP

The EIS dataset is relevant with regard to job quality policies as innovation usually yields changes in skills' demand, work organisation and career opportunities. Regarding the WES model, it contains indicators relatives to work organisation such and employment conditions.

Table 5.24 Summary of advantages and disadvantages of the EIS data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical and time coverage - Comparability between European and non-European countries is possible	- The social relations dimension is not covered in the survey

Figure 4.3 General validation of the EIS data



References

http://ec.europa.eu/growth/industry/innovation/facts-figures_en
http://ec.europa.eu/DocsRoom/documents/17884

5.4.4 ESENER: European Survey of Enterprises on New and Emerging Risks

Overview

Abstract

EU-OSHA's European Survey of Enterprises on New and Emerging Risks (ESENER) is an extensive survey that looks at how European workplaces manage safety and health risks in practice. Thousands of businesses and organisations across Europe are asked to respond to a questionnaire that focuses on:

- general safety and health risks in the workplace and how they are managed;
- psychosocial risks, such as stress, bullying and harassment;
- drivers of and barriers to OSH management;
- worker participation in safety and health practices.

The results from these interviews are complemented by secondary analyses involving a series of in-depth studies that focus on specific topics. Quantitative and qualitative research methodologies are applied in these studies to help better understand the main findings from the survey.

The second edition of EU-OSHA's Europe-wide survey of enterprises, ESENER-2, collected responses from almost 50,000 enterprises on OSH management and workplace risks, with a particular focus on psychosocial risks, worker participation, and drivers and barriers to action. The aim is to provide nationally comparable data to help in policy-making and assist workplaces to deal with risks more effectively. The fieldwork for this second wave was carried out in the summer-autumn of 2014. The survey provides an invaluable up-to-date snapshot of how workplace risks, and especially new and emerging risks, are being managed across Europe.

The focus on new and emerging risks means that the responses shed light on underexplored and increasingly important areas of OSH, such as psychosocial risks, which are a growing area of concern in European workplaces.

The 2014 survey is even more detailed and extensive than the first one, with the sample sizes increased by half, and in three countries the national samples have been additionally boosted. ESENER-2 includes micro enterprises of 5 to 10 employees and agricultural businesses for the first time. Five new countries - Albania, Iceland, the Former Yugoslav Republic of Macedonia, Montenegro and Serbia - have been added to the 31 that were included in 2009.

Some of the topics covered are:

- musculoskeletal disorders;
- the organisation of OSH management;
- approaches to worker participation in OSH.

Key words
Safety and health at work, accidents at work, work organisation, OSH management, worker participation in OSH, psychosocial risks (work-relates stress, violence and harassment).

Unit of analysis
Establishments employing at least 5 employees in all sectors of activities.

Format of the database
Numeric data, meso level.

Scope & coverage

Geographic coverage
EU28, plus Albania, Iceland, Montenegro, Macedonia, Serbia, Turkey, Norway and Switzerland.

Time period
Two waves in 2009 and in 2014.

Producers & sponsors
European Agency for Safety and Health at Work (OSHA).

Data creation

Data collection
European Agency for Safety and Health at Work (OSHA).

Type of information available

Text document available
Yes.

Indicators available
Yes.

Guidelines for use available
Yes.

Search or browse function available online
Yes via an interactive tool. The interactive survey dashboard allows you to visualise and share ESENER data and helps you to explore the responses to a selection of questions of ESENER in detail, by country, sector type and establishment size.

Link: https://osha.europa.eu/en/surveys-and-statistics-osh/esener

Content of the database

ESENER provides much-needed data to policy-makers and researchers at national and European level. There is no other EU-level information source on how OSH is managed in businesses. ESENER plays a key role in helping EU-OSHA to provide cross-nationally comparable information that can contribute to OSH policy-making.

Usability of this data: accessibility, consultation and documentation of/on the data

The ESENER 2014 dataset (SPSS) can be accessed be accessed via the UK Data Archive (UKDA) of the University of Essex. Details regarding the use of datasets as well as the methodology used are available on the OSHA website.

Completeness of the data with regard to JQP

The ESENER dataset is relevant with regard to job quality policies. The survey's aims is to assist workplaces to deal more effectively with health and safety and to, promote the health and well-being of employees. It provides cross-nationally comparable information relevant for the design and implementation of new policies in this field.

Table 5.25 Summary of advantages and disadvantages of the ESENER data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical coverage - Comparability between European countries (in a large sense) - All types of establishments (even small) in all sectors of activities	- Problems of sampling and non-response

Figure 5.4 General validation of the ESENER data

References

https://osha.europa.eu/en/surveys-and-statistics-osh/esener

5.4.5 CVTS: Continuing Vocational Training in Enterprises

Overview

Abstract

The Continuing Vocational Training Survey, abbreviated as CVTS, was the first European Union-wide survey on continuing vocational training carried out by Eurostat in a co-ordinated form (outline questionnaire, common definitions, and common recommendations with respect to the fieldwork).
CVTS concerns training measures or activities which have as their primary objective the acquisition of new competences or the development and improvement of existing ones; such CVT in enterprises must be financed at least partly by the enterprise and should concern persons employed by the enterprise (either those with a work contract or those who work directly for the enterprise such as unpaid family workers). Persons employed holding an apprenticeship or training contract should not be taken into consideration for CVT. The training measures or activities must be planned in advance and must be organised or supported with the special goal of learning. Random learning and initial vocational training (IVT) are explicitly excluded.
- CVTS1 was of pioneering nature, and is not any longer disseminated;
- CVTS2 and CVTS3 data were collected with reference year 1999 and 2005 and published by Eurostat in order to: provide the European Commission with harmonised, reliable and relevant statistical information needed to define, implement, monitor and evaluate Commission policies in the continuing vocational training in enterprises sector; and provide the EU institutions, national administrations, enterprises, professional associations and EU citizens with high quality statistical services and products in the field of training;
- CVTS2 provides comparable statistical results on training and non-training enterprises, the supply of and the demand for vocational skills, the need for continuing vocational training and its forms, content and volume, the use of enterprises' own training resources and of external providers, and the cost of continuing vocational training courses;
- CVTS3 provides comparable statistics on training enterprises, the participation to training, the volume of continuing vocational training courses and its costs, and moreover information on initial vocational training courses.

Key words
Vocational education, vocational training, participation in education and training, learning mobility, education personnel, education finance, education and training outcomes, languages.

Unit of analysis
Enterprises employing at least 10 employees.

Format of the database

Numeric data, meso level.

Scope & coverage

Geographic coverage and time period

- Wave of 1993: EU12.
- Wave of 1999: EU28, excluding Croatia, Cyprus, Malta and Slovakia. For Poland, only the Pomorskie region is included.
- Wave of 2005: EU28, excluding Croatia and Norway.
- Wave of 2010: EU28, excluding Ireland, including Norway.
- Wave of 2015: currently unknown, the data will be available mid-2017.

Producers & sponsors

EUROSTAT.

Data creation

Data collection

EUROSTAT.

Type of information available

Text document available

Yes.

Indicators available

Yes.

Guidelines for use available

Yes.

Search or browse function available online

Yes.

Link: http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Continuing_vocational_training_survey_(CVTS)

Content of the database

CVTS provides much-needed data to policy-makers and researchers at national and European level about the topic of vocational and adult training. It allows comparisons between countries and over time.

Usability of this data: accessibility, consultation and documentation of/on the data

- 2005 and 2010 data Education and training (edtr), see:
  - participation in education and training (educ_part);
  - continuing vocational training in enterprises (trng_cvts).
- 1999 and 2005 data Education and training (edtr), see:
  - past series (trng_h);
  - continuing vocational training in enterprises - reference year 2005 (trng_cvts3);
  - continuing vocational training in enterprises - reference year 1999 (trng_cvts2).

Completeness of the data with regard to JQP

The CVTS datasets are relevant with regard to job quality policies for the training dimension and the development of skills. It allows analyses about skills mismatch. The survey's aims is to analyse adult and vocational training available in enterprises through Europe. It provides cross-nationally comparable information relevant for the design and implementation of new policies in this field.

Table 5.26 Summary of advantages and disadvantages of the CVTS data from the perspective of JQP in Europe

Advantages	Disadvantages
- Broad geographical coverage - Comparability between European countries (in a large sense) - All types of enterprises over 9 employees in all private sectors of activities	- No information for small enterprises - Focus on vocational training so no more information about work organisation for example

Figure 4.5 General validation of the CVTS data

References

http://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Continuing_vocational_training_survey_(CVTS)

5.5 Conclusions

5.5.1 Best available

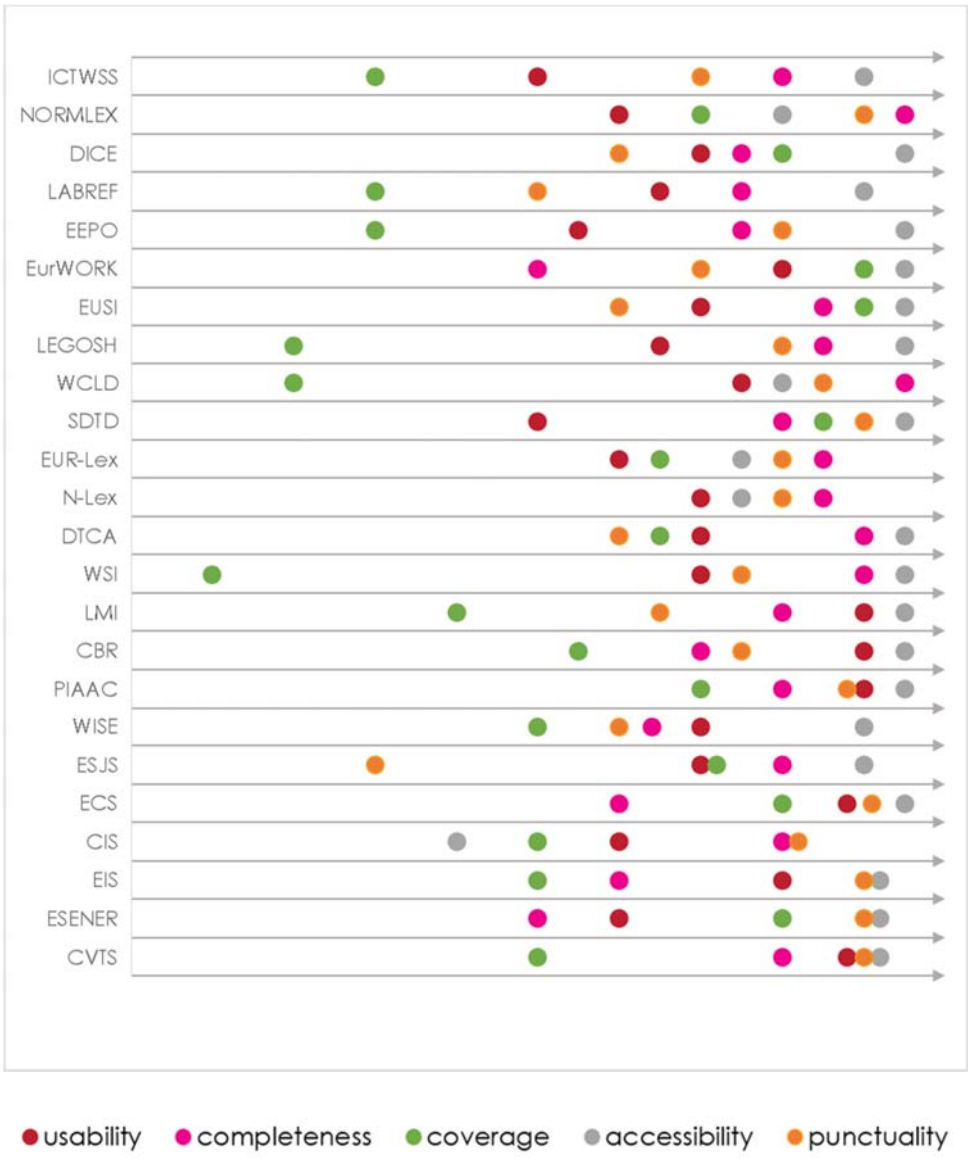
The table below provides a summary of the graphs containing a general validation of each of the databases discussed in this inventory. Each database has received a score between 0 and 10 on five criteria. First, a score has been given with regard to the *usability* of the database, based on its user-friendliness. Secondly, a score on *completeness* contains the extent to which the subjects available in the database are treated in a profound manner. Thirdly, a score on *coverage* shows the extensiveness to which the JQ topics as defined by the WES-model are available in the database. Fourthly, the *accessibility* of the database is presented by looking at the convenience with which the user can search and select the data of his interest (search tool available), the cost of consulting the database, the conditions of access, the languages in which the database is available, the clarity to which the data are disseminated to both less sophisticated and more advanced users, whether it is possible consult the database in its whole. Finally, elements such as the regularity of updates, the time in-between the action and the moment this information is available in the database, whether the database is currently still updated, are summarised in a score on *punctuality*.

Even though it is tried to base these scores on well-defined criteria, they remain an estimation and therefore merely a general indication of the factors facilitating and prohibiting the use of the databases. In the end, the validity and usefulness of a database is greatly depending on the specific needs of the research. Nevertheless, these scores provide a summary of the database information and without comparing the scores of the databases, this allows to describe some general conclusions.

First, most databases score best on 'availability'. This implies that - not looking at the content of the databases - it is rather easy to access the data available on JQP. The second greatest observation, however, is that the lowest scores almost always go to 'coverage', showing that even though it is easy to access data, the databases available only contain a rather small scope of information on the topic

of JQP. Given that most research combines more than one topic or subject, this necessity to use multiple data sources may complicate the research and lead to problems of comparability or difficulties of integration in one analysis. Related to this observation is that most databases included in this inventory score generally high on 'completeness', especially when the coverage is low. Only few databases score higher on coverage than on completeness. The majority of the databases is thus specialised in a limited amount of topics, while a minority covers a rather broad spectrum but this is merely in a less detailed manner. This could indicate a trade-off between broadness and detail.

Figure 5.1 Overview: general validation of the discussed databases



5.5.2 Gaps in the data

Topic-wise, the databases included in this inventory are assessed on the basis of the WES-model on job quality. This model defines elements of job quality by separating three main components: work organisation, employment conditions, and social relations. A significant difference in the coverage of

these components is noted. Employment conditions are treated in most databases and in the most elaborated manner. Secondly, social relations are often present in the databases, especially the subjects of participation and representation. The component which is the least often treated in the databases, is work organisation. Since this contains merely elements of the individual organisation of daily parts of the work, it may be difficult to find general policy or legislation on this field of interest.

In general, three conclusions need to be formulated about the main gaps in the data available.

First, it is observed that the data available on the subject of job quality are strongly limited in each database. In other words, the data currently available are fragmented. An integration of the available information of different databases containing several subjects in a profound manner would improve and facilitate comparative analyses.

Secondly, it became clear that many of the databases on public policies (legislation, etc.) are only text resources. Translation of this kind of qualitative information into quantitative indicators happens only exceptional and stands as a result in its infancy. Policy benchmarking and evaluation at the European level is strongly indicator-based or -driven (Vanhercke, 2016). A major area of improvement and innovation can thus be distinguished.

In conclusion, the main issues identified are fragmentation, a lack of integration, and a shortage of indicator databases and especially textual databases. In relation to company policies, some recent, new initiatives have been developed mainly by agencies of the EU (Eurofound, OSHA and CEDEFOP). However, also here the surveys lead to fragmented material (work organization and HR, health and safety policies and training initiatives). Stronger collaboration and integration would probably lead to better data. In addition, the sometimes low sample sizes for subcountry-level analysis could be solved and the surveys could be expanded to linked employer-employee surveys, which would increase the analytical power of the data (see *Inventory of linked employer-employee surveys on working conditions and occupational health and safety issues* by Greenan & Seghir, 2015).

5.5.3 Limitations of this paper

This paper only contains the results of research on this matter that were available in 2016. Also, only information that is available online is inserted in the paper. No additional information was acquired via questions and other contact with the owner or producer of the database.

6. Epilogue

Inclusive growth is economic growth that creates opportunity to all segments of the population and distributes the dividends of increased prosperity, both in monetary and non-monetary term, fairly across society (OECD, 2015). Improved well-being and less inequality are key factors in this regard. Having a job is of course an important determinant of somebodies well-being, while, on the contrary, unemployment is strongly recognized as a source of distress. However, as a recent OECD report (Cazes et al., 2016, p. 6) rightly confirms: focusing exclusively on how many jobs an economy generates provides only a partial perspective on the work challenge confronting policy makers, since people's well-being depends crucially on how good their jobs are. In a policy perspective of inclusive growth the debate is not only about employment and job creation, but also about working conditions and job (ine)quality. Discussing job quality is debating about win-win strategies to increase well-being at work and enhance productivity.

In the current period, this policy arena is confronted with major challenges. Organisations, and employees are challenged with important trends like globalization, digitalization and ageing/migration. These developments generate processes of adaptation and selection and have implications on productivity, employment and workers' well-being. The economic crisis of which Europe still is not recovered has been an extra-accelerator in this regard. In addition or maybe better in reaction to these trends, the (international) policy recognition of the inequalities problem is growing, where one looks also more and more to the pre-distribution agenda of employment conditions and not only the fiscal and welfare state re-distribution agenda.

Employment growth in Europe has been a policy aim since the establishment of the European Employment Strategy (EES) at the Luxemburg Employment Council 1997. The aim of improving the quality of jobs was introduced into the EES at the Lisbon summit in 2000, summarised in the widely cited objectives of 'more and better jobs'. In the Europe 2020 agenda these objectives of job quality were less prominent on the agenda. Quantity of jobs got again most of the attention. However, in recent years, the focus is again changing linked to the growing citizens' dissatisfaction with the EU crisis management. In the proposed revision of the European Employment Strategy of 2015, titled 'moving towards more inclusive labour markets', it is stated: "Job quality has a particularly important role to play, encompassing adequate earnings, training opportunities and access to lifelong learning, the possibility for career progression, measures to improve work-life balance, the quality of the work environment and safe transitions between jobs and back into work for those losing their job." The ongoing initiative on the 'Pillar of social rights' talks as second goal about "fair working conditions, to set an adequate and reliable balance of rights and obligations between workers and employers, as well as between flexibility and security elements, to facilitate job creation, job take-up and the adaptability of firms, and promoting social dialogue." Meanwhile the European Parliament voted in their evaluation of the European macro-economic governance and semester approach a motion that makes a plea for a decent work index as part of the indicators used in the annual growth survey to monitor the economic and social situation.

This growing interest and recognition necessitates more international comparisons and benchmarking of workers' experiences, workplace practices, employers' policies and national institutions. This kind of evidence-based comparison, analysis and evaluation is key to increase and improve policy learning and transnational policy transfer across firms and countries. The need for a common theoretical and empirical 'ground' is the basis of this kind of policy learning. Comparability the key word.

The InGRID research infrastructure wants to help and serve research communities that want to make an evidence-based contribution to the policy challenges of inclusive growth. As argued, the issue of decent and good jobs is an important issue in this policy strategy. The helping hands of InGRID should be available the whole research cycle from data to policy input. Integration of comparative data on situations and policies is one of the focus areas.

When looking to the field of comparative data to measure working conditions and related policies in Europe, this report inventoried the available resources. It stressed the advantages of linked employer-employee data; the need of large, longitudinal, cohort samples; and the required construction of comparative policy indicator databases. The conducted inventories and assessments learned in this regard that the current reality is one of a 'worrying' patchwork of (national) data sources. Harmonisation is very low and comparability between countries and over time is seriously hampered. A majority of the EU Member States have no organized and structured high-quality survey tradition in relation to working conditions, job quality and vulnerability-at-work. Existing initiatives struggle to continue. The current, first and only stronghold is especially the European Working Conditions Survey, organized by the European Foundation for the Improvement of Living and Working Conditions. Other interesting base resources are the text databases of ILO and others on regulations and policies and academic efforts to harmonise classification schemes and to compile indicators on social dialogue.

Nevertheless, the conducted inventories learn that there is an urgent need for a coordinated, transnational initiative on 'modernisation' of European working conditions data'. Promising signs are in this regard the increasing collaboration between the relevant European agencies (Eurofound, Cedefop and OSHA-Bilbao). The exploration/integration of new types of auxiliary data (e.g. administrative data, web data) and piggy-backing existing international data efforts (from Eurostat and OECD) seem key factors in this modernization strategy. However, first and foremost more harmonization of variables and international standards of measurement, supported by a broad coalition of data providers and users, is needed. Very interesting in this regard are still the Meadow Guidelines for collecting and interpreting harmonized data at the European level on organizational change and its economic and social impact (www.meadow-project.eu) and which have been promoted in the InGRID infrastructure by Centre d'études de l'emploi (Paris, France).

The key question remains however "who will take up the political challenge to promote and organize this 'modernization' of European working conditions data?"

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InGRID
Inclusive Growth Research Infrastructure Diffusion

Referring to the EU2020-ambition of Inclusive Growth, the general objectives of InGRID – Inclusive Growth Research Infrastructure Diffusion – are to integrate and to innovate existing, but distributed European social sciences research infrastructures on 'Poverty and Living Conditions' and 'Working Conditions and Vulnerability' by providing transnational data access, organising mutual knowledge exchange activities and improving methods and tools for comparative research. This integration will provide the related European scientific community with new and better opportunities to fulfil its key role in the development of evidence-based European policies for Inclusive Growth. In this regard specific attention is paid to a better measurement of related state policies, to high-performance statistical quality management, and to dissemination/outreach activities with the broader stakeholder community-of-interest, including European politics, civil society and statistical system.

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More detailed information is available on the website: www.inclusivegrowth.be

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