

CIPD

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work and working lives

Research report Part 2 - Indicators of Job Quality

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Understanding
and *measuring*
job quality



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Understanding and measuring job quality

Research report

Part 2 – Indicators of Job Quality

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Foreword

Gross domestic product and related factors, such as growth and productivity, remain standard measures of an economy. Yet it is not contentious to state that, in themselves, they are inadequate gauges of a truly healthy economy. Indeed, even if we include more socially oriented measures, such as the Gini coefficient of inequality, unemployment rates and real wage growth, we get a picture that is fuller, but still not wholly adequate.

To fully understand the interrelationships between our economies and societies, we need to include a broader conception of good quality work and employment. The raw figures of how many jobs there are and what financial value they produce are quite simply not enough.

An obvious starting point to expanding this view is well-being at work, considering not only objective aspects, such as rates of accidents or absence, but also subjective aspects like pressure and stress that vary from person to person. We can also look at employees' opportunities to progress and develop as professionals, job complexity and skills used, as well as employee voice. All these factors and more can be hugely influential in our working lives and must not be ignored.

There is a strong imperative to comprehensively and consistently describe job quality and to measure it robustly. First, it's necessary to develop our understanding of work and employment, building a cohesive body of knowledge.

This is especially important in a world of clamour, fads, fake news and competing views, in which clear thinking can be a challenge. Second, it is necessary to galvanise action. As the old adage goes, what gets measured gets attention, and hopefully gets done.

The CIPD summarises its purpose as championing better work and working lives. In Part 1 of this research the authors review the academic literature on job quality, to both flesh out what we can understand by this strapline and propose a usable and meaningful approach to measuring job quality. In this report, Part 2, the authors review existing measures of job quality, highlighting strengths and weaknesses. Together, these two reports build on the 2017 Taylor Review commissioned by the UK Government and make an important contribution in thought leadership for a fundamental aspect of working life.

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Executive summary

Introduction

This report maps indicators which, alongside other measures, might be used to inform an index of job quality. Current and potential future measures and indicators of job quality are investigated and evaluated. The report identifies a number of appropriate international and UK datasets which might help to map trends in job quality longitudinally, assesses the quality and availability of this data for comparative purposes and makes suggestions for the development of an index of job quality.

Development of an index of job quality raises a number of challenges. At a practical level, the development of indexes tends to be driven by pragmatism, most notably the availability of data. What is conceived as job quality is therefore based on what can be feasibly measured, and any measure of job quality is limited to operationalisation via the set of available indicators.

Data sources

Eight cross-national data sources and four UK-specific data sources are reviewed. For each data source, a brief outline is provided, indicating their origin, purpose, periodicity, access/availability, country coverage, contents, level or unit of analysis, and respective strengths and weaknesses. None of the data sources were solely or specifically designed to measure job quality and none alone cover the full range of aspects of work and employment that comprise jobs which would enable the construction of a desirable measure of job quality.

Methodological issues

Additionally, there are at least six methodological issues to consider when aiming to operationalise a conceptually sound measure of job quality: (1) focusing on what is to be measured; (2) deciding on the approach to take; (3) choosing whether to develop a set of indicators or a composite index; (4) deciding whether to construct a measure of job quality at either a macro or micro level; (5) deciding whether any set of indicators or index of job quality needs to include a dynamic dimension; and (6) choosing whether, and if so, how, to assign weights to the dimensions and indicators.

International indexes to measure job quality comparatively

There have been a number of efforts to measure job quality at the international level and using indicators that, in principle, could allow cross-national comparisons. Most of the existing indexes tend to rely on numerous indicators of a different nature. There is an issue about the comparability of these indicators across countries, socio-demographic groups and time, as well as their adequacy for policy purposes.

Two job quality indexes are of particular relevance, both created using European data but differing in terms of the data and weightings used, the number of dimensions captured, and whether a single index or set of sub-indexes were constructed. The first is Leschke et al's ETUI-REHS Job Quality Index; the second is Muñoz de Bustillo et al's Job

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Quality Index. The construction of both indexes, it should be noted, is driven – and limited – by reliance on the availability of existing data.

Indicators mapped to key dimensions of job quality

Part 1 of this review (Warhurst et al 2017) identified six key dimensions of job quality from the literature that are relevant to the construction of a job quality index for the UK: pay and other rewards; intrinsic characteristics of work; terms of employment; health and safety; work–life balance; and representation and voice. An overall assessment is made in this report of the quality and availability of indicators found in 11 existing cross-national comparative data sources against these six key dimensions of job quality. None of the data sources is perfect but some provide better opportunities than others. We suggest that the best dataset is provided by the European Working Conditions Survey (EWCS), although the EWCS is not without its limitations.

Concluding remarks

There is no dataset dedicated to measuring job quality, either in the UK or internationally. Nonetheless, there are a number of data sources which can be drawn upon to create an index (or set of indicators). Efforts to operationalise indexes of job quality have all, to a greater or lesser degree, been hampered by the availability and content of suitable data. Important methodological insights are

gained by evaluating existing indicators and indexes. Although we show how the recommended multi-dimensional measure of job quality might be supported by a range of international and UK data sources, turning this data into an index will require further methodological work.

A window of opportunity currently exists to develop a new index of job quality. We suggest a bespoke set of indicators which draws from the best existing indicators found in other surveys, combined with the introduction of new measures/indicators to plug gaps in measurement coverage. The resulting multi-dimensional index will generate important new insights and will have genuine policy utility that will impact the shaping of better working lives in the UK.

Introduction

The CIPD is committed to supporting better working lives. Work and employment can be transformative for individuals, their families, their employers and for society as a whole. A number of recent changes to work and employment, and concerns about sustainable economic growth in the UK, have triggered debate about job quality in the UK and possible interventions to improve it. Indeed, in signing the Ankara Declaration in 2015, the UK is now formally committed to improving job quality (see Warhurst 2017).

As yet, however, there is no consensus amongst academics or policy-makers about the definition, operationalisation and measurement of job quality either in the UK or internationally (Wright 2015). The aim of the CIPD's feasibility study on job quality is twofold: first, and undertaken in Part 1 of this review (Warhurst et al 2017), to increase understanding and inform the CIPD's position about what good job quality looks like; in turn, to inform media discussion, policy-making, research and actual people management in organisations; and second, to map indicators which, alongside other measures, can be used to inform an index of job quality.

This report furthers the CIPD's second aim and builds on the dimensions of job quality outlined in Part 1 (ibid). It investigates measures or indicators of job quality, evaluating current indicators and considering future potential indicators. It also identifies appropriate UK and international datasets which might

help map trends in job quality longitudinally. It also assesses the quality and availability of this data for comparative purposes. Drawing on this information, the report makes suggestions for the development of an index of job quality.

Development of an index of job quality raises both conceptual and practical challenges. Part 1 (ibid) outlined the conceptual dynamism and outlined the family of concepts associated with job quality. Given that the UK and other leading economies have committed to improving job quality while no concept agreement exists, it is hard to then develop indexes with models of measurement. There is a need to address this problem.

A useful step would be the organisation of a national or international workshop or even summit of policy-makers, practitioners and academics committed to developing agreement of the definition, operationalisation and measurement of job quality. This task is one for the future. In the meantime, on a practical level, the development of indexes that involve the definition, operationalisation and measurement of job quality tend to be driven by pragmatism, most notably the availability of data (Muñoz de Bustillo et al 2011). What is conceived as job quality is therefore based on what can be feasibly measured. The logic driving the modelling and measurement of job quality is first determined by the contents of

existing datasets. From the scope of the contents of those datasets, indicators are selected and information pertaining to those indicators input into the model through the dimensions.

This report follows this logic. The next section identifies and evaluates appropriate sources of international and UK datasets which could be used to map trends in job quality and related factors in the UK. The following section sets out a number of methodological issues in developing an index. The third provides examples of international indexes that attempt to measure job quality comparatively. Evaluating the key available datasets, the final section maps indicators to the six dimensions of job quality recommended in Part 1 of this review (Warhurst et al 2017). The concluding section outlines a number of options for the CIPD in its deliberations about further work on developing an index of job quality.

1 Data sources

Nationally representative social surveys offer a potentially insightful way of capturing the empirical aspects of job quality. A number of data sources exist which include variables or indicators of various aspects of job quality. In this section, the main data sources are reviewed, with commentary on their relative strengths and weaknesses.

Following Hauff and Kirchner (2014) and the OECD (www.stats.oecd.org), there are a number of key data sources that have been drawn upon to model and measure aspects of job quality internationally: the European Working Conditions Surveys (EWCS), the European Quality of Life Surveys (EQLS) and the International Social Survey Programme (ISSP). In addition, a useful European comparative data source has been provided recently by the EU QulnnE project. There are also a number of other EU data sources which also have useful, if again partial, data, such as the European Social Surveys (ESS), the European Union Statistics on Income and Living Conditions (EU-SILC), the European Union

Labour Force Survey (EU LFS) and the European Structure of Earnings Survey (EU SES). There are also UK-specific data sources that might be considered, if again lacking comprehensive cover: the Workplace Employment Relations Survey (WERS), the Skills and Employment Surveys (UK SES), the Employer Skills Survey (UKCES ESS) and the Understanding Society dataset, also known as the UK Household Longitudinal Study (UKHLS).

These datasets, which are reviewed below, all contain at least some indicators that can be used to construct a job quality index for the UK. A brief outline of each is provided, indicating their origin, purpose, periodicity, access/availability, country coverage, contents, level or unit of analysis, and respective strengths and weaknesses (see Table 1).

Table 1: Review of data sources

Source: European Working Conditions Survey (EWCS)	
Origin	Conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound), an agency of the European Commission.
Purpose	A cross-sectional survey which focuses on working conditions and the quality of work of employees and the self-employed.
Periodicity	Administered every five years; the sixth and latest wave conducted in 2015 (with 5th in 2010; 4th in 2005; 3rd in 2000; 2nd in 1995/96; and 1st in 1990/91).
Access/availability	All six waves of data are publicly available.
Country coverage	Number and type of countries covered has expanded with each wave. Latest survey covers workers in the EU28, Norway, Switzerland, Albania, the former Yugoslav Republic of Macedonia, Montenegro, Serbia and Turkey.
Contents	Scope of the questionnaire has widened substantially since its first edition. Themes now include employment status, working time duration and organisation, work organisation, learning and training, physical and psychosocial risk factors, health and safety, work-life balance, worker participation, earnings and financial security, as well as work and health.
Level or unit of analysis	Micro-level (that is, individual worker) which can be aggregated to national level and disaggregated by groups of workers (that is, gender, industry, and so on).
Strengths/weaknesses	The strength of the EWCS is that it offers detailed indicators to measure job quality at the micro level. Its main weaknesses are that it is only conducted every five years, some questions are not held constant in successive surveys, there are small sample sizes for individual countries, and there are incomplete indicators for some dimensions (that is, voice and representation). In addition, wages are not adequately covered (data are missing for many countries or the sample counts are too small for meaningful analysis). Importantly, it is not clear at this time if ongoing UK participation will occur post-Brexit.
Source: European Quality of Life Survey (EQLS)	
Origin	Conducted by the European Foundation for the Improvement of Living and Working Conditions (Eurofound), an agency of the European Commission.
Purpose	Aims to examine both the objective and subjective circumstances of European citizens' lives and how they feel about those circumstances and their lives in general.
Periodicity	Every four years, 2003, 2007, 2011-12, 2017 (forthcoming). In addition, a number of questions from 2nd EQLS were asked as part of Eurobarometer survey in 2009 (study of trends in quality of life in the EU: 2003-09).
Access/availability	Questionnaires and datasets freely available to the public. Survey datasets are made available not later than two years after fieldwork completion. Online and available through UK Data Service.
Country coverage	28 EU member countries plus all five candidate countries (that is, Albania, former Yugoslav Republic of Macedonia, Montenegro, Serbia and Turkey).
Contents	The survey examines a range of issues including employment, income, education, housing, family, health, work-life balance. It also looks at subjective topics such as people's levels of happiness, how satisfied they are with their lives, and how they perceive the quality of their societies. Includes sets of indicators to complement traditional indicators of economic growth and living standards, such as GDP and income.
Level or unit of analysis	Micro-level individual (worker) data.
Strengths/weaknesses	High-quality cross-national comparative data for European countries, multiple waves enabling trend analysis, online data visualisation tools. Importantly, it is not clear at this time if ongoing UK participation will occur post-Brexit.

Table 1: Review of data sources (continued)

Source: International Social Survey Programme (ISSP)	
Origin	Run by a self-funded association established in 1984. Institutional members, each representing one nation, consist of academic organisations, universities or survey agencies. The National Centre for Social Research (NatCen) is a founding member of the ISSP and the UK's investigator. The UK survey that feeds into the ISSP is the British Social Attitudes Survey.
Purpose	An annual programme of cross-national collaboration on surveys with rotating thematic modules on a range of topics related to social sciences. The topics covered are: role of government, social networks, social inequality, family and changing gender roles, religion, environment, national identity, citizenship, health care and work orientations.
Periodicity	Established in 1984. Since 1985, an ISSP module has been included in the British Social Attitudes Survey. The Work Orientation Module is only conducted every ten years (I- 1989, II- 1997, III- 2005 (BSA 33), IV- 2015, due for release in July 2017). In 2012, Family, Work and Gender Roles (BSA 30, Qs 1a-33) was chosen as an ad hoc topic.
Access/availability	Archived in the Leibniz Institute for the Social Sciences (GEISS) data archive. GEISS provides the data, its documentation and support for external users. Datasets are also available at various national archives. The UK Data Service holds data for the UK.
Country coverage	Currently 47 countries are members of the ISSP, including the UK.
Contents	The work orientations module has four topic areas: working conditions, labour relations/conflict, unemployment and employment.
Level or unit of analysis	Micro-level (that is, individual worker) which can be aggregated to national level and disaggregated by groups of workers (that is, gender, industry, and so on).
Strengths/weaknesses	Work Orientation Module is only conducted every 10 years (I- 1989, II- 1997, III- 2005, IV- 2015).
Source: EU QulnnE (Quality of Jobs and Innovation Generated Employment Outcomes)	
Origin	Quality of Jobs and Innovation Generated Employment Outcomes (QulnnE) is a pan-European project funded by the EU's Horizon 2020 programme. Six countries are represented: Germany, Hungary, the Netherlands, Spain, Sweden and the UK. The UK team is led by the Institute for Employment Research at Warwick University.
Purpose	Using EWCS and EU LFS data, with additional data from the EU Structure of Earnings Survey and the European Statistics on Accidents at Work, QulnnE has produced an online map of job quality (as well as innovation and employment outcomes) for 22 EU countries.
Periodicity	The QulnnE map draws on various data sources (EWCS 2010; Structure of Earnings Survey 2012; EU LFS 2012, 2013; OECD 2012; European Statistics on Accidents at Work 2012). No plan yet for regular updating of data.
Access/availability	There is open access to the map.
Country coverage	22 EU countries, including the UK.
Contents	Brings together data from various sources into a synthetic index of job quality. Nested structure of 19 indicators of job quality across 6 dimensions: wages, employment quality, education and training, working conditions, work-life balance and gender equality, and collective interest representation. Job quality is measured through objective and subjective indicators (relying on workers' perceptions). Wages are expressed in euros for cross-national comparability. Three classifications (or clusters) of job quality have been developed and applied to data for the 22 countries.
Level or unit of analysis	Macro-level. Possible to graphically chart individual indicators for a selected country and visually compare them with other EU countries as well as EU maxima/minima/averages.
Strengths/weaknesses	Underpinned by new data analysis, the online mapping tool allows classification of job quality (as well as innovation and employment outcomes) into 'job quality clusters' based on a country's relative position in their cluster. Useful data source with analysis based on a definition of job quality aligning with existing literature and with job quality measured through objective as well as subjective indicators. Easy-to-use mixture of online visual and textual data. Sample limited to 22 EU countries for two reasons: first, missing data within country datasets; and, second, to aid comparability. It is also aggregate-level data so not possible to compare job quality among different groups of workers. It is also a static, single snapshot analysis, with no plan yet for regular updating of data.

Table 1: Review of data sources (continued)

Source: European Social Surveys (EU ESS)	
Origin	Directed by a Core Scientific Team led by City University, London, alongside six other partner institutions.
Purpose	A cross-national survey measuring a wide range of attitudes, beliefs and behaviours consisting of a collection of questions that can be classified into two main parts: a core section and a rotating section.
Periodicity	Every two years since 2001.
Access/availability	NSD (Norwegian Centre for Research Data, Norway) manages the data archive and distribution of ESS data. The data are available without restrictions for not-for-profit purposes.
Country coverage	36 countries across Europe, including the UK.
Contents	Measures a wide range of attitudes, beliefs and behaviours of respondents. Of particular relevance to job quality is rotating module on Family, work and well-being (ESS2 in 2004 & ESS5 in 2010). This module aims to contribute to measurement of both the quality of jobs and social inclusion. It includes objective indicators for measuring job characteristics, family structure and welfare with indicators of attitudes and life satisfaction in order to measure how European citizens experience their jobs, families, and lives in the context of their values and preferences.
Level or unit of analysis	Household and individual-level micro data.
Strengths/weaknesses	High-quality cross-national comparative data for European countries; separate study of working life and family and how these areas interact (that is, work-life balance). Includes indicators for atypical work and skill upgrading. The main weakness is infrequency of data collection.
Source: European Union Statistics on Income and Living Conditions (EU-SILC)	
Origin	Eurostat
Purpose	The EU-SILC is the main source for the EU statistics on income, social inclusion and living conditions. It also collects micro data on income, poverty, social exclusion, housing, labour market, education and training, and health.
Periodicity	Annual harmonised cross-sectional micro-data from 2004 – latest release 2014. Harmonised longitudinal datasets released 2013. Special module on well-being in 2013.
Access/availability	Access to Eurostat microdata (including EU-SILC) is restricted and granted for scientific purposes only to recognised research entities such as universities, research institutions or research departments in a public administration, bank or statistical institute. Cross-sectional data for the UK is available.
Country coverage	EU countries plus Norway, Iceland, Bulgaria, Romania, Switzerland and Turkey.
Contents	Cross-sectional data for variables on income, poverty, social inclusion and other living conditions, and longitudinal data on individual-level changes observed over a four-year period.
Level or unit of analysis	Micro data where the sampling design varies, depending on the participating countries (dwelling, address, household or individuals used as sampling units).
Strengths/weaknesses	Contains data for monthly earnings for men and women. Contains cross-sectional and longitudinal micro data. Sampling unit varies between countries. Not as timely as EU-LFS data and currently a number of EU countries only provide net (not gross) figures on monthly earnings.

Table 1: Review of data sources (continued)

Source: European Union Labour Force Survey (EU LFS)	
Origin	LFS surveys collected by national statistics institutes across Europe, centrally processed by Eurostat.
Purpose	The EU LFS is a large household sample survey that is the main source for statistics on employment and unemployment.
Periodicity	Quarterly with yearly data for many indicators, 1983 onwards.
Access/availability	Access to Eurostat micro data (including EU-SILC) is restricted and granted for scientific purposes only to recognised research entities such as universities, research institutions or research departments in a public administration, bank or statistical institute.
Country coverage	33 countries including EU 28 countries (plus 3 EFTA countries of Iceland, Norway and Switzerland, and 2 EU candidate countries of the Former Yugoslav Republic of Macedonia and Turkey).
Contents	Includes data on population, employment, working time, permanency of the job, professional status, and the data is broken down by age, sex, education level, economic activity and occupation (where applicable).
Level or unit of analysis	Micro data (available for 1983–2015).
Strengths/weaknesses	Timely release; results are harmonised, making comparability between EU countries easier; data are disaggregated by gender, covers all industries and occupations.
Source: European Structure of Earnings Survey (EU SES)	
Origin	Eurostat
Purpose	To provide accurate and harmonised data on earnings in EU member states, candidate countries and EFTA countries for policy-making and research purposes.
Periodicity	Four-yearly (2002, 2006 and 2010; 1995 micro data for 6 countries, not including the UK).
Access/availability	Access to Eurostat micro data is restricted and granted for scientific purposes only to recognised research entities such as universities, research institutions or research departments in a public administration, bank or statistical institute.
Country coverage	33 countries including EU 28 countries (plus 3 EFTA countries of Iceland, Norway and Switzerland, and 2 EU candidate countries of the Former Yugoslav Republic of Macedonia and Turkey).
Contents	Indicators for occupation, type of pay agreement, tenure, working time arrangements, type of employment contract, earnings, overtime, bonus arrangements, payment-in-kind, shift penalties, social contribution by employer, taxes and average gross earnings.
Level or unit of analysis	Micro data at establishment level for enterprises with at least 10 employees. Excludes public administration.
Strengths/weaknesses	Timely release; results are harmonised, making comparability between EU countries easier; data are disaggregated by gender, covers all industries and occupations. Excludes enterprises with fewer than 10 employees and public administration.

Table 1: Review of data sources (continued)

Source: Workplace Employment Relations Survey (WERS)	
Origin	Jointly run by Department for Business, Innovation and Skills (BIS), the Economic and Social Research Council (ESRC), the Advisory, Conciliation and Arbitration Service (Acas) and the UK Commission for Employment and Skills (UKCES).
Purpose	Nationally representative survey of British workplaces with at least 5 employees. Aims to map workplace employment relations in Britain and examine changes over time for a broad range of employment practices across most sectors of the UK economy; inform policy development and practice and provide a comprehensive dataset on British workplace employment relations.
Periodicity	No set periodicity. Frequent but not regular starting from 1980 (1980, 1984, 1990, 1998, 2004 and 2011). Cross-section data (1990–98), panel data (1990–98) and time series data (1980–2011). High-involvement management, employee well-being and organisational performance data (2004).
Access/availability	Data have been made publicly available. Six rounds of datasets available: 1980, 1984, 1990, 1998, 2004 and 2011.
Country coverage	Britain
Contents	Includes an employer survey but of most interest is the Survey of Employees Questionnaire (SEQ) which is administered to up to 25 staff at each workplace on topics including intrinsic characteristics, terms of employment, work-life balance and voice/representation. The Employee Profile Questionnaire (EPQ) contains a total of 16 questions which collect key information about the size and structure of the workforce. The Worker Representative Questionnaire (WRQ) covers representation at the workplace and employee involvement.
Level or unit of analysis	Linked employer–employee representative–employee micro data. Up to 25 randomly selected employees are administered the SEQ at each workplace.
Strengths/weaknesses	Data are available for several years from 1980 in cross-sectional, panel and linked formats but sampling does not include workplaces with fewer than 5 employees and excludes agriculture, the hunting and fishing industry, and mining and quarrying industries. Regardless of organisation’s size, a maximum of up to 25 employees are surveyed at each establishment. Number of other countries emulated variant of survey but WERS only covers Britain. Given its single-country focus, cross-national comparisons are limited. There is no set periodicity. Moreover, responsibility for skills has now shifted from BIS into the Department for Education, and UKCES closed in March 2017. At this time, it is not clear if (and if so, when) there will be further waves of the survey.
Source: Skills and Employment Survey (UK SES)	
Origin	School of Social Sciences, Cardiff University.
Purpose	The primary objective is to provide information on skills and measure 10 generic skills in addition to computing skills along with issues such as quality of work, training and skills development, and terms and conditions of employment.
Periodicity	Every 4–6 years (1986, 1992, 1997, 2001, 2006 and 2012).
Access/availability	The six surveys are all available separately from the UK Data Archive. A special licence access version of the study may become available in the future.
Country coverage	Great Britain (except 2006, which covers the UK).
Contents	The main topics include skills at work, quality of work, training and skills development, and terms and conditions of employment.
Level or unit of analysis	Individual level (job-holder) micro-level data.
Strengths/weaknesses	Good coverage of indicators for several key dimensions of job quality. Although not originally planned as part of a series and had different funding sources, continuity in questionnaire design has meant the surveys provide a nationally representative picture of change in British workplaces as reported by individual job-holders. Whether, and if so when, the next wave of the survey might be run is not known.

Table 1: Review of data sources (continued)

Source: Employer Skills Survey (UKCES ESS)	
Origin	Closure of the UK Commission for Employment and Skills (UKCES) in March 2017 saw responsibility for running the survey shift to the Department for Education (DfE).
Purpose	To provide a comprehensive picture of skills needs and training investment including vacancies and skill shortages, employee skill gaps and the recruitment of education leavers and young people.
Periodicity	Every two years since 2011 (1st ESS 2011; 2nd ESS 2013; 3rd ESS 2015; 4th 2017 – due for release in 2018).
Access/availability	Data available with special licence access under the Open Government Licence via the UK Data Service.
Country coverage	UK (prior to 2010, each nation in the UK gathered their own labour market intelligence; now aligned into one UK-wide survey).
Contents	Topics covered include establishment characteristics; recruitment vacancies; demand for skills and skills gaps; hard-to-fill vacancies; workforce development and training; skills utilisation and high-performance working; and business strategy and structure.
Level or unit of analysis	Establishment-level micro data (that is, employer survey).
Strengths/weaknesses	Provides an employer perspective on several aspects of job quality and includes indicators aimed at measuring high-performance working by sector, size and geography and related to training activity, skill deficiencies and product market strategies. Does not include establishments with fewer than 2 employees.
Source: Understanding Society dataset, or UK Household Longitudinal Study (UKHLS)	
Origin	Conducted by the Institute for Social and Economic Research (ISER), Essex University.
Purpose	Multi-topic panel study of UK households aimed at understanding twenty-first-century UK life and how it is changing at the individual and household level. Primarily, data collected are used to produce research to inform social, economic and health policy and practice in the UK and abroad.
Periodicity	Annual, beginning 1991 (in 2009 it replaced British Household Panel Study).
Access/availability	Waves 1–6 (2009–15) available.
Country coverage	UK
Contents	The survey covers a wide range of themes including employment status, income, job satisfaction, employment history, health, well-being, family, education and finance.
Level or unit of analysis	Individual- and household-level micro data.
Strengths/weaknesses	Timely annual survey, although not specifically designed to measure job quality. Britain's ethnic and immigrant groups are fully represented in the study.

It needs to be emphasised that none of the large-scale surveys cited in Table 1 were designed to measure job quality. They were created for other and/or general purposes. None alone covers the full range of aspects of work and employment that comprise jobs and hence would enable construction of a desirable measure of job quality. Instead, any analysis of job quality will necessarily be limited to the contents of the datasets. Gaps in necessary data therefore exist both within and across the sources.

In this respect, as Cazes et al (2015) have noted about existing datasets, they have a number of challenges that affect their utility, including:

- partial or missing indicators for important dimensions of job quality
- low data availability
- problems with comparability
- irregular frequency of data collection
- fragmentation of existing information among various sources (and ad hoc modules)
- difficulty in bringing together the information at the level of the individual worker in a consistent manner.

No single dataset therefore exists for a comprehensive and consistent measure of job quality in the UK that is also guaranteed to exist in the coming years post-Brexit.

2 Methodological issues

Putting aside practical constraints with the existing datasets, there are, in addition, a number of methodological issues to consider when aiming to operationalise a conceptually sound measure of job quality. These include:

- 1 focusing on what is to be measured
- 2 deciding on the approach to take
- 3 the use of objective or subjective indicators
- 4 whether to use a set of indicators or a composite index
- 5 deciding whether to construct a measure of job quality at either a macro or micro level
- 6 deciding whether any set of indicators or index of job quality needs to include a dynamic dimension
- 7 whether, and if so how, to assign weights to the dimensions and indicators.

Each of these issues is briefly discussed in turn below.

Focus

As we noted in Part 1 of this review (Warhurst et al 2017), the measurement of job quality by some researchers has included dimensions and indicators that are not strictly properties of the job. For example, certain dimensions are concerned with labour market conditions, organisational context and with outcomes at the individual level (for example job satisfaction, engagement, life satisfaction) and at the organisational level (for example economic performance, productivity). Muñoz de Bustillo et al (2009, p25) call for a 'purging' of variables that do not directly affect job quality: *'the practice of "anything goes" in constructing*

job quality indicators has proven to be extremely detrimental to the relevance and usefulness of indicators,' they state.

To this end, Muñoz de Bustillo et al (2011) argue strongly for strictly limiting indicators to those aspects of the job that have a clear and direct impact on the well-being of workers. Their concept of job quality includes the characteristics of the work performed and its environment (which they call the 'work' dimension, including among other things the level of autonomy at work, as well as its social and physical environment). It also includes the characteristics of the contractual conditions under which the work is undertaken (which they call the 'employment' dimension, and includes pay, contractual stability and development opportunities, among other things).

Approaches

There are three main approaches to measuring job quality.

- 1 The first is described by Muñoz de Bustillo et al (2009) as a 'shortcut' approach that focuses on an overall indicator of job quality. Instead of focusing on the characteristics of the job to assess job quality, attention is paid to measuring the output – the well-being of the worker in the job. With this approach, job satisfaction is used as an overall indicator or proxy for job quality. While it is a simple approach, job satisfaction serves as a *'very unsatisfactory indicator of job quality'* (p12) because there are many other variables not related to job quality that can affect the level of job satisfaction.

- 2 The second is described as 'an intermediate option' in which workers are asked what they consider as being important for job quality, and then using their answers to model job quality. An advantage to this approach is that most surveys include questions about the desirability of specific job attributes. As a consequence, there is a significant volume of data drawn from workers that is available for analysis. While this approach gives workers a voice in the definition of what makes a good job, it requires presenting workers with a predefined set of options (attributes to be ranked). However, the identification of the elements to be included in the list is almost as tricky as the model of job quality itself, and leaving out important elements can have a *'disastrous effect on the modelling of job quality'* (Muñoz de Bustillo et al 2009, p13).

- 3 The third approach, and the one advocated by Muñoz de Bustillo et al, draws on the many different perspectives and approaches in the social sciences' literature on how work and employment affects the well-being of workers. This literature is then used as the initial driver for developing the model, with this model then being used as the background for any indicator/s of job quality (p13). In other words, it is an evidence- and conceptually-based approach. Because it offers evidential and conceptual legitimacy, it is this approach that we recommend.

Objective versus subjective indicators

Indicators (or measures) of job quality can be either objective or subjective. A composite index can be constructed by using objective indicators, subjective indicators or a combination of both objective and subjective indicators. If the main aim of the index is to report on the quality of aspects of ‘jobs’ rather than perceptions of these aspects held by the job-holder, it is preferable to restrict the index to objective indicators. In reality, however, most indexes incorporate a combination of both objective and subjective indicators. The main reason is that a full set of objective indicators is not always available. In particular, it is difficult to objectively capture via survey instruments some aspects of job quality (such as autonomy and work intensification). Typically, surveys ask workers to self-report on the perceived level of autonomy or work intensity. While largely unavoidable, these types of questions introduce blurring between the ‘job’ and the opinions, attitudes and individual circumstances of the ‘job-holder’.

If it is not possible to restrict the index to a set of objective indicators, attention needs to be given to how the mixture of objective and subjective indicators are combined or aggregated. If there is a sufficient number of objective indicators to measure one dimension, we recommend dropping any subjective indicators from the index. That is, less is more in this instance. However, if some gaps in the conceptual model appear if the index is restricted to the available set of objective indicators, and potentially relative subjective indicators are found in the dataset, we offer a number of recommendations. In the first instance, we recommend careful interrogation of the statistical

properties of the variables to make sure they are measuring the same underlying concepts. Once it is reasonably established that the subjective indicators load onto the objective indicators for the relevant dimension, a decision can be made to attach higher weights to the objective indicators. In addition, within each dimension it may prove useful to combine the two types of indicators at the highest possible stage in the aggregation process. Combination at this point will make it easier to see the respective contribution of both types of variables on the eventual score within each dimension (and overall).

Set of indicators or composite indexes

From their analysis of the literature, Muñoz de Bustillo et al (2009) recommend a multi-dimensional concept of job quality – an approach that has gained much traction amongst researchers of job quality, particularly in Europe (for example Davoine et al 2008, Erhel et al 2012). A multi-dimensional concept of job quality can be operationalised by either a set of separate indicators or via a composite index. In both cases, the goal is the same: to simplify a complex and multi-dimensional construct in order to better understand.

With separate indicators, a coherent and inter-related set of measures of the different attributes of job quality is developed. Three examples of sets of indicators for job quality have been produced at the supra-national level: the Laeken indicators at the European level (European Commission 2008); the ILO’s indicators of decent work (Anker et al 2003, Bescond et al 2003, Bonnet et al 2003) and the OECD’s indicators of the quality of jobs (Cazes et al 2015). Both the European Commission’s Laeken

‘If the main aim of the index is to report on the quality of aspects of “jobs” rather than perceptions of these aspects held by the job-holder, it is preferable to restrict the index to objective indicators.’

indicators and the ILO's indicators of decent work are relatively broad. Each of these supra-national indicators of job quality was developed in the context of a particular policy agenda and designed to monitor progress towards specific targets. For this reason, their utility for the UK is limited unless similar targets are adopted and pursued.

Of greater potential utility is the OECD's (2016) framework to measure and assess the quality of jobs. The OECD's framework considers three objective dimensions of job quality: earnings quality, labour market security, and quality of the working environment. The framework includes 13 indicators that are used to provide data on these three dimensions of job quality. Earnings quality is measured by combining two indicators that account for both the level of earnings and their distribution across the workforce into an index. Labour market security is measured by three indicators. The first measures labour market insecurity and is defined in terms of expected loss of earnings associated with unemployment. The second measures unemployment risk by estimating the risk of unemployment multiplied by an estimated average duration of unemployment in order to show the proportion of time a working person can expect to spend, on average, in unemployment. The third measures unemployment insurance by calculating coverage and replacement rate of public transfers received by the unemployed. Quality of the working environment is measured by seven indicators for the incidence of job strain, which is a combination of high job demands and limited job resources. Where available, indicators for each OECD country are available in an online database

(www.stats.oecd.org). However, not every indicator is available for every country and there are large gaps because of differences in the periodicity of underlying data collection.

With the second approach – constructing a composite index – a single aggregate measure is devised to synthesise all the different attributes. When a set of indicators is used, the process ends once there are scores for each of the indicators. When sub-indexes are used, the process ends when there is an aggregated score for each sub-index. When a composite index is developed, all the dimensions are aggregated to give one overall index with a single measure (Muñoz de Bustillo et al 2009).

Level of construction

Depending on the intended use of the indicator, it is possible to construct a measure of job quality at either the macro level or micro level. Macro-level indicators that select macro-economic measures for the set of dimensions for characterising job quality have been developed at the international, European and national levels (for example Erhel and Guergoat-Larivière 2016).

Micro-level indicators are based on definitions of job quality that are worker focused and consider the characteristics of the job (that is, objective dimensions) as well as dimensions related to the job-worker relationship (that is, subjective dimensions) (Crespo et al 2013). While some research using micro-level indicators also aims to provide a macro-level measurement, the motivations behind creating micro-level indicators are more comprehensive, including evaluating how the dimensional indices influence the overall assessment that workers

make in their jobs and identification of the determinant factors of some job quality dimensions. For this reason, a multi-dimensional approach is often used when considering job quality from the micro perspective. Indexes can be used to compare changes in job quality across countries (at one or more points in time) as well as within countries (at more than one point in time) (for example Muñoz de Bustillo et al 2011).

The feasibility of operationalising either a macro- or micro-level index is dependent upon the availability of suitable data. First, the sample size of the data needs to be large enough to be able to construct a valid index. Second, the data needs to include the right set of indicators of job quality. Furthermore, if the aim is to track changes in job quality over time, periodicity becomes an important consideration. In this respect, job quality can be measured at one point in time, that is, static, or at more than one point in time, that is, dynamic. Using a dynamic approach to measuring job quality requires a suitable micro-level longitudinal dataset (Wright forthcoming).

Static or dynamic

Labour market transitions have received increasing attention over the past few decades, with the dynamic a potential key ingredient of job quality. This inclusion arises because the implications and consequences of a particular employment status – for example temporary work – might vary if such a state persists over time. Certainly it has been argued that there is a continuing 'bad jobs trap' in the UK, as workers enter and become trapped in insecure or poor quality work (Booth and Snower 1996, Warhurst 2016). However, if the focus of research is on job quality, analysis should be

restricted to the 'job' rather than the 'job-holder' (that is, person). If a worker moves from a low-quality job to a high-quality job but both jobs already exist in the economy, nothing changes from the point of view of the existing quality in the stock of jobs in the economy. Based on this reasoning, a set of indicators or index of job quality does not require consideration of any dynamic dimension as such.

It may be useful, however, to include variables that sit outside the index and which capture data on such factors as spells of unemployment, job change, job tenure and/or occupational tenure. If this additional information is to be gathered, we suggest ensuring that the key function of the index is retained – measuring the quality of the job and its constituent work and employment.

Weighting and aggregation

The aggregation of different indicators within a composite index involves two steps: first, aggregating the indicators within each dimension and, second, summing all of the dimensions together into a total (in this case, an overall total score for job quality). Weights can be built into the index at both steps in the aggregation process. Deciding on how to weight the different dimensions in an index is important because it builds in trade-offs (substitutability) among the various dimensions. Weights also implicitly imply a specific view on what 'good' job quality should look like (Decancq and Lugo 2010, Billaut et al 2010, Munda and Nardo 2009, Paruolo et al 2013).

When aggregating into a single score the sub-totals from each of the different dimensions, simple arithmetic means are often used. This approach of using arithmetic means for aggregation into an

overall score has been criticised. By using this method, a high score on one dimension will compensate for a low score on one or more other dimensions. For example, if a worker's pay is extremely high yet their work-life balance is very poor, using an arithmetic mean to add together the scores from the two dimensions may result in a high overall score for an unbalanced job. To partly address this problem of substitutability, a weighted geometric average – typically at the final stage of aggregation (that is, the overall score) – is favoured because it rewards a more balanced combination of job attributes.

Regardless of which weighting method is used, weights are essentially value judgements and should be used to make explicit the underlying objectives of the construction of a composite (COIN, Composite Indicators Research Group). Regardless of what choices are made for weighting and aggregation, it is crucial to be transparent, explaining and justifying the decisions made (Anand and Sen 1997).

3 International indexes to measure job quality comparatively

There have been a number of efforts to measure job quality at the international level and to collect indicators that, in principle, could allow cross-national comparisons (Cazes et al 2015). However, further efforts are still needed to design an operational framework to assess and monitor job quality which is flexible enough to be applied in various contexts, while maintaining the fundamental principles and key dimensions and allow disaggregation to take account of distributional issues, as many of the existing international efforts only provide aggregate measures (for example ILO, UNECE, ETUI and so on).

In addition, most of the existing indexes tend to rely on numerous indicators of different nature (for example Leschke and Watt 2008). A question then arises about the comparability of these indicators across countries, socio-demographic groups and time, as well as their adequacy for policy purposes. In the case of the ILO and UNECE frameworks, both have very wide scope and combine measures of both outcomes of job quality (such as earnings) and drivers of job quality (such as characteristics of the industrial relations system). At the same time, some important attributes of job quality, such as lack of autonomy at work and representation/voice, are either not covered or not fully covered, often because of a lack of data availability or a lack of comparative information (Cazes et al 2015).

A number of job quality indexes have been developed that enable comparisons between countries

and sometimes over time. At the international level, macro-level indexes have been produced (for example Standing 2002, Bonnet et al 2003, Ghai 2003). Similarly, there are indexes that have used data from EU27 countries (for example Curatarelli et al 2014, Hurley et al 2012, Leschke and Watt 2008, Leschke et al 2008, Erhel et al 2012). In addition, indexes have been developed using data from one country (for example Berglund 2014, Gallie 2013, Vidal 2013, Osterman and Shulman 2011, Kalleberg 2011, Holzer et al 2011) or several countries (for example Cloutier-Villeneuve 2012, Olsen et al 2010, Gallie 2007, Clark 2005).

Two job quality indexes are of particular relevance. Both are created using European data but they differ in terms of the data used (that is, macro- or micro-level data), the number of dimensions captured, the use of a single index or set of sub-indexes and the importance placed on the different dimensions (that is, weights). The construction and merits of each index are discussed below.

The European Trade Union Institute for Research, Education and Health and Safety (ETUI-REHS) Job Quality Index

The ETUI-REHS Job Quality Index is a macro-level index created to compare job quality between countries. The underlying model captures six dimensions of job quality: wages, non-standard forms of employment, work-life balance and working time, working conditions and job security, access to training and career advancement,

and collective interest representation and participation (Leschke and Watt 2008).

It was developed for the 27 EU countries and was operationalised using 2005 and 2006 data from multiple sources. This method of coupling together various sources of data is known as a synthetic index. The index is compiled on the basis of six sub-indices. In terms of weights, Leschke et al (2008) assigned their own normative weights to items with equal weighting applied to each of the six dimensions when aggregated into an overall index of job quality. The ETUI-REHS JQI was updated in 2010, allowing for a comparison of job quality before and after the global financial crisis (GFC) (Leschke et al 2012).

While separate results are produced for women, men and overall, because this index uses macro-level data, it does not allow for a detailed analysis of the distribution of job quality within each country (Muñoz de Bustillo et al 2009).

Muñoz de Bustillo et al's Job Quality Index

Stating that none of the existing indexes had been accepted as standard measures of job quality, Muñoz de Bustillo et al (2011) used the EWCS to construct their Job Quality Index. The construction of the index is based on selecting dimensions according to a theoretical model based on empirical research. The model is restricted to information about the attributes of jobs, not of the workers who hold these jobs, and it does not include any contextual information. The dimensions

and indicators of job quality are organised using a transparent, logical structure. There are five dimensions: pay and amenities; intrinsic characteristics of work; terms of employment; health and safety; and work-life balance.

The five main dimensions of job quality are split into two categories: pay and amenities. This split is, in part, derived from the theory of compensating wage differentials which was originally proposed by Adam Smith and which remains important in orthodox economics (Rafferty and Bryan 2015). Based on this approach, pay is given a special function in the determination of job quality as the

main compensating mechanism for the ‘disagreeableness of work’ (that is, the four dimensions). The index is calculated at the level of the individual worker in order to allow analysis of the situation of specific groups of workers. The indicators within the dimensions are – wherever possible – restricted to objective measures.

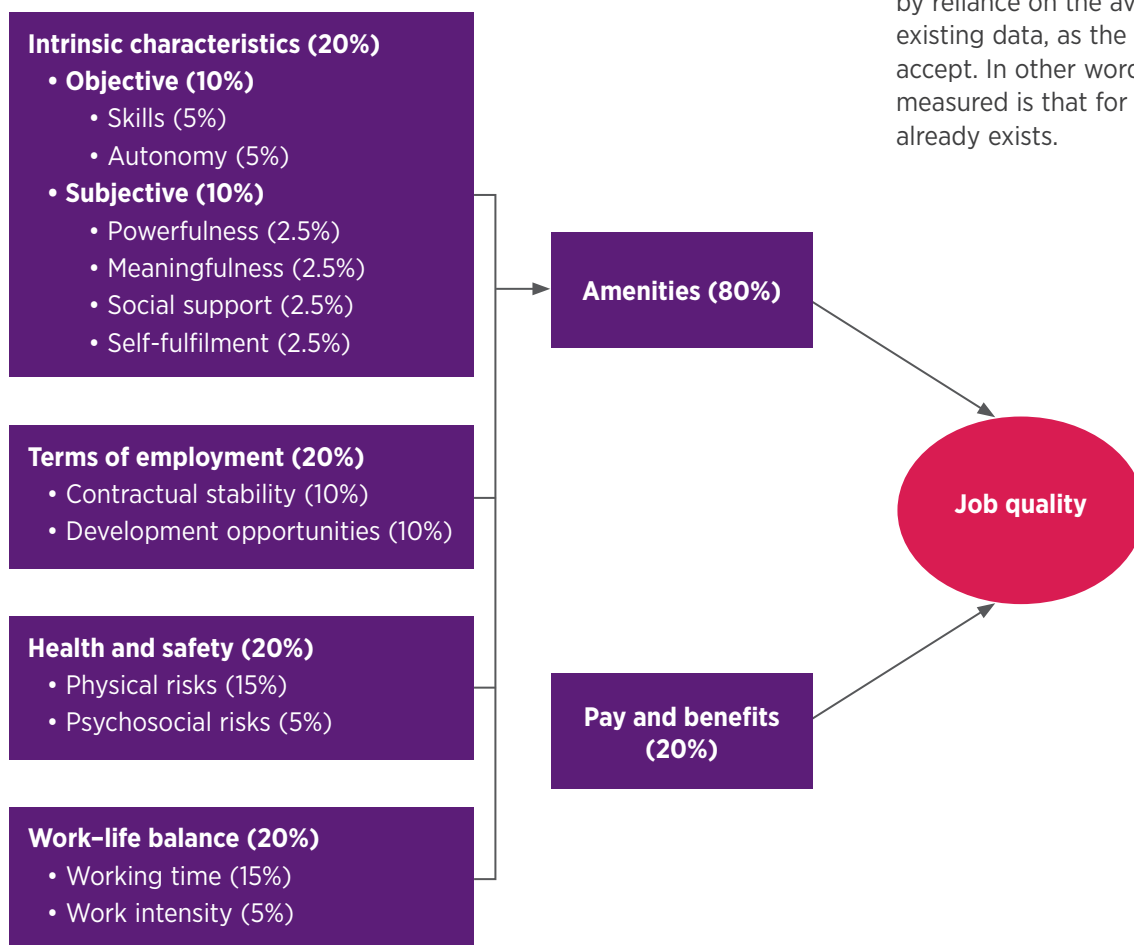
The nested structure of the Job Quality Index is set out in Figure 1. Aggregation of the information within each dimension is done by arithmetically averaging the scores of the individual variables, while aggregation of information at the highest level is carried out by geometrically

averaging the five dimensions into the overall index score. This approach means that the Index assumes decreasing returns for the different dimensions and imperfect substitutability among the different dimensions with penalisation for significant imbalances between them. The weights are shown in Figure 1 in brackets next to each dimension and indicator.

Sitting outside the JQI are additional job features including those for well-being, gender and socio-economic variables such as level of education, age, occupation, industry, sector, ownership type, establishment size and type of employment.

The construction of both of these job quality indexes, it should be noted, are driven – and limited – by reliance on the availability of existing data, as the authors readily accept. In other words, what is measured is that for which data already exists.

Figure 1: Muñoz de Bustillo et al’s Job Quality Index



Source: Antón et al (2012, p28)

4 Indicators mapped to key dimensions of job quality

The multi-dimensional nature of job quality makes the development of a set of indicators or single index or system of indicators difficult because it is necessary to define what aspects should be taken into consideration and their overall impact on job quality. Ideally, the selection of dimensions and indicators should be guided by evidence.

Reviewing the literature (see Part 1 of this review; Warhurst et al 2017), it is apparent that while there is no agreed measure, once extraneous characteristics are removed, six key dimensions of job quality emerge that are relevant to the construction of a job quality index for the UK:

- **pay and other rewards:** including objective aspects such as wage level, type of payment (for example, fixed salary, performance pay) and non-wage fringe benefits (such as employer-provided pension and health cover) and subjective aspects (such as satisfaction with pay)
- **intrinsic characteristics of work:** including objective aspects (such as skills, autonomy, control, variety, work effort) and subjective aspects (such as meaningfulness, fulfilment, social support and powerfulness)

- **terms of employment:** including objective aspects (such as contractual stability and opportunities for training, development and progression) and subjective aspects (such as perception of job security)
- **health and safety:** including physical and psycho-social risks
- **work-life balance:** including working time arrangements such as duration, scheduling and flexibility, as well as work intensity
- **representation and voice:** including employee consultation, trade union representation and employee involvement in decision-making.

In Table 2 is an assessment of the quality and availability of indicators found in existing cross-national comparative data against the six key dimensions of job quality set out above.

Table 2: Mapping of indicators in key data sources to the six key dimensions of job quality

Dimensions	EWCS (2015, 6th wave)	EQLS (2016, 4th wave)	ISSP Work Orientation (2015)	QuInnE	EES5 (2010)	EU-SILC	EU-LFS	Structure of Earnings Survey	WERS (2011)	UK SES (2015)	Understanding Society (UKHLS)
Pay and other rewards											
Objective	✓	✗	✗	✓	✓	✓	✗	✓	(✓)	✓	✓
Subjective (for example pay satisfaction)	✓	✗	✓	✗	✗	✗	✗	✗	✓	✓	✗
Non-wage rewards	✓	✗	✗	✗	✗	✓	✗	✓	✓	✓	✗
Intrinsic characteristics of work											
Objective (for example skills, autonomy, control, variety, work effort)	✓	(✓)	✓	(✓)	✓	✓	✓	(✓)	✓	✓	(✓)
Subjective (for example meaningfulness, social support)	✓	(✓)	✓	✗	✓	✗	✗	✗	✓	✓	✗
Terms of employment											
Contract stability	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Opportunities for training and development, progression	✓	(✓)	✓	✓	✓	✗	✗	✗	✓	✓	✗
Perception of job security	✓		✓	✗	✓	✗	✗	✗	✓	✓	✗
Health and safety											
Physical risk	✓	✗	✓	✓	(✓)	✗	✗	✗	✗	✓	✗
Psycho-social risk	✓	✗	✓	✗		✗	✗	✗	✓		✗
Work-life balance											
Scheduling	✓	✗	✓	✓	(✓)	✗	✓	✗	✓	✓	✗
Working time arrangements	✓	✓	✓	✓	(✓)	✓	✓	✓	✓	✓	✓
Flexibility	✓	✓	✓	✓	(✓)	✓	2004, 2010 and forthcoming	✗	✓	✓	✗
Work intensity	✓	✗	(✓)	✓	(✓)	✗	✗	✗	✓	✓	✗
Representation and voice											
Representation	✓	✗	(✓)	✓	✓	✗	✗	✗	✗	✓	✗
Involvement in decision-making	✓	✓	✗	✓	✓	✗	✗	✗	✗	✓	✗

Key 1: EWCS: European Working Conditions Surveys; EQLS: European Quality of Working Life Surveys; ISSP: International Social Survey Programme; QuInnE: Quality of Jobs and Innovation Generated Employment Outcomes; EU ESS: European Social Survey; EU-SILC: European Union Statistics on Income and Living Conditions; EU LFS: European Union Labour Force Survey; WERS: Workplace Employment Relations Survey; UK SES: Survey of Employment & Skills; UKHLS: UK Household Longitudinal Study (Understanding Society).

Key 2: ✓ = relevant indicator/s; ✗ = no indicators; (✓) = some indicators/partial coverage of dimension.

Note 1: Most recent version of survey questionnaire mapped above. Certain indicators may be available in one country but not in another or may only be available in particular waves of the respective survey.

Note 2: The UK ESS (Employer Skills Survey) is not included in this table because it is an employer survey. It does have some indicators for high-performance work systems that could be reworded for employees.

Table 3 provides an overall assessment of the feasibility of using each data source to support the development of the proposed multi-dimensional index of job quality.

Each of the data sources outlined in Table 3 has been rated for its feasible use. None is perfect but some provide better opportunities than others. We suggest that the best dataset is provided by the EWCS. Note, however, that the EWCS is not without its limitations (see Table 1).

Table 3: Overview of the feasibility of using the key existing data sources

Dimensions	EWCS (2015, 6th wave)	EQLS (2016, 4th wave)	ISSP Work Orientation (2015)	QuinnE	EES5 (2010)	EU-SILC	EU-LFS	Structure of Earnings Survey	WERS (2011)	UK SES (2015)	Understanding Society (UKHLS)
Micro or macro data	micro	micro	micro	micro	micro	micro	micro	micro	micro	micro	micro
Sample unit of analysis	individual worker	individual worker	individual worker	national	household and worker	individual worker	household and worker	firm	individual worker	individual worker	household and individual worker
Periodicity	5 years	5 years	every 10 years	n/a	2 years	1 year after survey year	quarterly and annual	annual	4-5 years but unknown if ongoing	2 years Funding ends soon. Unknown if ongoing	annual
Adequate coverage of set of indicators for all dimensions	✓	partial	✓	✓	✓	partial	partial	partial	✓	✓	✗
Trend analysis over time	✓	✓	✓	?	✓	✓	✓	✓	?	?	✓
International comparability	✓	✓	✓	✓	✓	✓	✓	✓	✗	✗	✗
Overall rating of feasibility	8/10	6/10	7/10	7/10	Feasible	Suitable for macro synthetic index only – index only if combine data from multiple sources			6/10	7/10	3/10

Concluding remarks

As part of a broader feasibility study undertaken by the CIPD, this report has examined the conceptual challenges, international and UK data sources, and measurement issues in developing an index of job quality. It has indicated potential data sources to support the multi-dimensional measure of job quality proposed in Part 1 of this review (Warhurst et al 2017) and further outlined in this report. The report has also provided examples of indexes that attempt to compare job quality within and/or across countries. A clear message to come out of this report is that, in seeking to develop an index of job quality for the UK, it is important to learn from the experiences and challenges of previous attempts to measure job quality.

In operationalising any measure, other challenges exist. It needs to be appreciated that there is no dataset dedicated to measuring job quality either in the UK or internationally. Nonetheless, there are a number of data sources that can be drawn on to create an index (Hauff and Kirchner 2014; www.stats.oecd.org). There are reasonably good UK data sources, though, for some surveys, there is uncertainty about their future continuation. Although still not currently sufficient in themselves, there are good EU data sources but for which periodicity is an issue. Moreover, there is a reasonable possibility that Brexit will impact negatively on the UK's participation in collecting the data underpinning these EU data sources.

Not surprisingly, efforts to operationalise indexes of job quality have all, to a greater or lesser degree, been hampered by the availability and content of suitable existing data. The two examples of job quality indexes that are highlighted in this report – the ETUI-REHS Job Quality Index (Leschke and Watt 2008) and Muñoz de Bustillo et al's (2011) Job Quality Index – are both limited by data availability. Both initiatives do, however, recognise the importance of drawing on other contextual factors for the worker (such as gender, socio-economic variables such as level of education, age and occupation) and organisation (such as industry, sector, ownership type, establishment size and location). These contextual factors are necessary but should sit outside any indices of job quality. Inclusion in any dataset of these additional variables enables comparison of results among and between different groups – and is an approach that should be adopted in developing a job quality index. Such an approach ensures that *indicators* of job quality are not confused with *outcomes* of job quality.

There are a number of other methodological issues to be considered (Wright 2015). There has to be clarity on what is to be measured and the measurement approach. Decisions have to be made about: whether to include objective and/or subjective indicators; whether to use a set of indicators or a composite index; at what level to pitch the analysis – macro or micro; and whether the analysis should be

'...efforts to operationalise indexes of job quality have all, to a greater or lesser degree, been hampered by the availability and content of suitable existing data.'

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static or needs to be dynamic. Finally, a practical but important decision has to be made about how to weight any dimensions and indicators. Again, important methodological insights can be gained from evaluating existing indicators and indexes. Although we show how the recommended multi-dimensional model of job quality might be supported by a range of international and UK data sources, turning this data into an index will require further methodological work.

One task will be to establish the validity and reliability of any indicators that will be used to construct an index. The contents of 11 data sources were reviewed in this report to identify the presence (or absence) of indicators for the six main dimensions of job quality for the proposed measure. While all of these data sources are highly reputable, it is beyond the scope of this report to provide an assessment of the validity and reliability of individual indicators. Once a decision has been made about whether to construct an index that draws on an existing data source or based on data generated from an in-house bespoke survey, it will be necessary to carefully consider the validity and reliability of all of the indicators selected for inclusion in the index, as well as the robustness of the method used to combine the indicators into a composite measure of job quality.

Going forward, any approach to measuring and reporting job quality is well advised to keep its approach simple and fit for purpose. Clarity is always needed on terms such as ‘better working lives’, both in how they align and/or differ from other concepts and perhaps, more importantly, by consciously avoiding any ambiguities that may render their

use ineffective. It should be kept in mind that the overall goal should be to simplify a complex and multi-dimensional construct to better understand and be able to improve job quality. In this respect, we recommend adopting a conceptual framework that focuses on a robust yet manageable number of key dimensions, each with a number of possible indicators.

Significantly, with the information in this report and the policy space for debate about job quality and interventions to improve it being widened even further in the UK by the recent Taylor Review (2017) and its recommendations, a window of opportunity currently exists to develop a new index of job quality with which to influence public policy. To do so, we suggest a bespoke set of indicators that draws from the best existing indicators found in other surveys combined with the introduction of new measures/indicators to plug gaps in model coverage. The resulting multi-dimensional index will generate important new insights into working lives in the UK and will have genuine policy utility that will impact the shaping of better working lives in the UK.

On the basis of this report, and in part drawing on the overview presented in Table 3, three options exist for developing this new multi-dimensional index of job quality:

- 1 To complement the new six-dimension measure, there could be the generation of a new UK data source using a new job-quality-specific survey for the UK. This option gives some insurance against Brexit should the UK no longer contribute to relevant EU surveys and datasets. Its use in comparative studies, though, would be

limited, it would take longer to deliver and would also be the more expensive option, with considerable funding needing to be sourced.

2 The six dimensions can be supported by indicators and data drawn from existing UK-specific surveys. Again, this option gives some insurance against Brexit should the UK no longer contribute to relevant EU surveys and datasets. Its weaknesses rest on the periodicity of existing UK surveys and the current uncertainty about the status of some of these surveys would need to be considered. Moreover, once again, it would have limited utility for comparative purposes. Compared with option 1 its cost would be less.

3 To support the six-dimension model, indicators and data can be drawn from existing international data sources. This option has the merits of being able to draw on good data that also offers trend analysis and international comparability. That comparability would disappear if the data sources used were EU-only and if Brexit resulted in the UK no longer contributing to relevant EU surveys. Potentially there are other reasonably good non-EU international data sources. Compared with option 1 its cost would be less.

Option 3 would be the most expedient if international comparisons are required. Development of the index would enable the measurement and reporting of job quality in the UK. This map would be able to highlight where better jobs exist and, with that information, identify the conditions under which better work occurs in UK workplaces. Appropriate ideas for policy interventions for improving job

quality could then be developed. With a number of very different trajectories of job quality possible (see Carré et al 2012), job quality in the UK could be monitored using a regularly updated index to enable trend analysis and the identification of any necessary further interventions. Too often debate about job quality centres on taking remedial action (cf. Toynbee 2003, Taylor Review 2017). The aspiration should be to shift from remedial to developmental interventions to create workplaces that offer better working and take the benefits of good job quality seriously. This report lays the groundwork for this future research and policy development.

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International Social Survey Programme (ISSP)

www.issp.org/menu-top/home/

www.bsa.natcen.ac.uk

<https://discover.ukdataservice.ac.uk/?q=ISSP&sf=Data+catalogue&searchType=data#7259>

European Quality of Working Life Surveys (EQWL)

www.eurofound.europa.eu/surveys/european-quality-of-life-surveys

<https://discover.ukdataservice.ac.uk/series/?sn=200013>

Quality of Jobs and Innovation Generated Employment Outcomes (QuInnE)

<http://tools.quinne.eu/quinne-map>

http://tools.quinne.eu/static/quant_app/WP5_2_25112016_final.pdf

European Social Surveys (ESS)

www.europeansocialsurvey.org

www.europeansocialsurvey.org/data/download.html?r=5

www.europeansocialsurvey.org/data/download.html?r=2

European Community Household Panel (ECHP)

<http://ec.europa.eu/eurostat/web/microdata/european-community-household-panel>

European Union Statistics on Income and Living Conditions (EU-SILC)

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European Union Labour Force Survey (EU LFS)

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