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Quality of work – concept and measurement

Svenn-Åge Dahl

Torstein Nesheim

Karen M. Olsen

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About the authors

Svenn-Åge Dahl is deputy director at the Department of Research Management at the University of Bergen, Norway. He was a member of the RECWOWE strand devoted to tensions between quality and quantity of jobs. He has published numerous articles on welfare and work, health, and sickness absence. Relevant recent publications include “An empirical study of age discrimination in Norway and Germany” *Applied Economics*, 2009: 41 (with Victoria Büsch and Dennis A.V. Dittrich), “Late Careers and Career Exits in Norway” in H.P. Blossfeld, S. Buchholz and D. Hofäcker (eds.): *Globalization, Uncertainty and Late Careers in Society*. London: Routledge (2006) (with Arild Aakvik and Kjell Vaage).

Torstein Nesheim is senior researcher at The Institute for Research in Economics and Business Administration (SNF) in Bergen, Norway. He is a member of the RECWOWE strand devoted to tensions between quality and quantity of jobs. He has published numerous articles on employment relations, non-standard work arrangements, and organizational boundaries. Relevant recent publications include “Is Participation Good or Bad for Workers? Effects of Autonomy, Consultation, and Teamwork on Stress among Workers in Norway”, forthcoming 2009 in *Acta Sociologica* (with Arne L. Kalleberg and Karen M. Olsen), “Externalizing the Core: Firms’ Use of Employment Intermediaries in the Information- and Communication Technology Industries”, *Human Resource Management* (2007) (with Arne L. Kalleberg and Karen M. Olsen).

Karen M. Olsen is assistant professor at the Norwegian School of Economics and Business Administration (NHH) in Bergen, Norway. She is a member of the RECWOWE strand devoted to tensions between quality and quantity of jobs. She has published numerous articles on employment relations, non-standard work arrangements, health, and sickness absence. Relevant recent publications include “Working time: implications for sickness absence and the work–family balance” forthcoming 2009 in *International Journal of Social Welfare* (with Svenn-Åge Dahl), “Health Differences between European Countries”, *Social Science & Medicine*, (2007) (with Svenn-Åge Dahl), “Unions’ Dilemma When Firms Use Employment Intermediaries”, *European Sociological Review* (2005).

Abstract

In this paper we review some of the most essential literature on the concept and measurement of quality of work. We show that different academic fields have conceptualized quality of work in distinct ways however there has been a convergence in the positions. Although there is a lack of coherent measures or indicators, the utility a multi-dimensional approach, including both monetary and non-monetary indicators is often recommended. We propose six dimensions to be included in the measurement of quality of work: job security, pay and fringe benefits, intrinsic job rewards, work intensity, skills, and autonomy and control. The majority of the literature relies on subjective indicators of job quality. One way to improve data quality is to merge administrative data and survey data, combining both objective and subjective measures.

Keywords

Job quality, multi-dimensional concept, pay, job security, intrinsic

Introduction¹

Policies for improving the quality of working life started in the 1960s. Especially in Europe, but also in the U.S., experiments towards enhancing the quality of work were taking place (for discussion/overview see e.g. Gallie, 2003; Martel and Dupuis, 2006). The most systematic attempts for improving the quality of work took place in Sweden, and it gained momentum in the 1970s through acts such as the Co-Determination Act (1976), the Work Environment Act (1978) and other important initiatives like the Working Life Fund (AFL) in 1990.

During the 1980s and most of the 1990s, the main policy objective in the European Union was to create jobs and to reduce unemployment, and had less focus on the quality of jobs. Increasing the employment rate *per se* was seen as the key to social inclusion. However, at the meeting of the European Commission in Lisbon in the spring of 2000 improving job quality became an explicit objective as part of EU's aim to become the most advanced economy in the world by 2010. Both the ILO and the OECD have taken up similar themes. Issues concerning job quality was said to be at the heart of both the European Social Model and the European Employment Strategy. The idea was that what was needed was not only more jobs, but better jobs.² Thus, improved employment rates and quality of work may promote financial self-sufficiency, reduce poverty and social exclusion, and diminish the pressure on the welfare state and improve social cohesion. High quality of employment is also thought to boost competitiveness and economic growth to the extent that it promotes motivation, productivity and commitment.

The quality of jobs has declined along some dimensions, although positive changes can also be found (e.g. Green, 2006). Work itself is changing as there are tendencies towards polarization between high- and low-skilled jobs, the importance of knowledge work increases while the value of routine work declines, and the personal service sector expands. At the same time people have become more diverse in the needs and wants that they expect to fulfil through their work, and the workers have changed – higher female labour force participation, more dual earner families, more formal education among the workforce, more immigration, aging workforce and low birth rates (Kalleberg, 2007).

The current understanding of both objective and subjective quality of employment is far from clear and broadly shared. In this paper we will discuss the concept of job quality. First we give a short description of some theoretical approaches to the study of quality of work. Then we argue that quality of work is a multidimensional phenomenon, and describe six central dimensions of job quality. Before concluding we give some comments on data and sampling.

The concept of job quality

The concept of job quality in the social sciences dates back to the 18th and 19th century, and several well known and leading theorists have been preoccupied with quality of work. According to Marx (1967), employers' ownership and control of the means of production implied that almost all jobs were bad. He argued that in modern industrial production under capitalist conditions the workers would become alienated because they lose control over the nature of the work tasks, and over the products of their labour (Giddens, 1997). Neo-Marxist's like Braverman (1974) also had a pessimistic view of the development of job quality. He was concerned with the extent to which developments in work organization, such as closer control of the labour process by the management, destroyed the capacity for individual self-development through the simplification of tasks and the separation of conception and execution in work.

In economics, the hypothesis of compensating differentials, dating back to the 18th century (Smith [1776] 1976) holds that pay is positively associated with undesirable working conditions such as an unsafe or unhealthy work environment or undesirable working hours, because workers trade off working conditions and benefits for pay. In other words, workers who accept bad working conditions are paid better to compensate for the unpleasantness.

The dual labour market theorists (e.g. Piore, 1971; Edwards, 1979) contend that bad job characteristics tend to cluster in such a way that a job that is bad on one dimension tends to be bad on others. Consequently, one will have a primary sector where jobs are of good quality with for example high job security, good wages and working conditions and opportunities for career development, and a secondary sector with low job security, low wages and bad working conditions few possibilities for career development etc.

According to the destandardization of labour-thesis, Beck (1992) argued that new forms of work would imply a decline in job quality. Under the standardized mass-production factory regime the trade unions managed to create standards for the working conditions that are difficult to maintain in a world of individualized, flexible and non-standard working arrangements.

We find two main theoretical positions on the development of job quality – Neo-Fordist and Post-Fordist – which have very different expectations concerning trends in employee well-being (Handel, 2005). In a Neo-Fordist perspective one argues that extrinsic rewards, such as pay, job security and opportunities for advancement have declined. This argument builds on a notion that establishments organize workers according to the principle of 'lean and mean' following strategies such as cutting costs, downsizing, outsourcing and increased use of contingent employment. The growth of the service sector has created so-called 'McJobs' with job insecurity, low wages and dead-end jobs and bad jobs are a structural feature of the labour market. The relations between management and the employees have

deteriorated, and union influence is reduced. By contrast, in a Post-Fordist perspective one claims that jobs are of better quality than before with respect to both extrinsic and intrinsic rewards. Jobs have become more meaningful providing greater challenges, more autonomy, greater extent of co-operation, and better pay and working conditions. Increased focus on improved quality, customized goods, the spread of information technology and new work arrangements, such as self-directed work teams, leads to greater employee involvement and increased skill requirements, task variety, job autonomy and decreases physical effort. In this perspective, technological and organizational changes are regarded as advantageous to both organisations and workers (Handel, 2005).

In the social sciences there is no comprehensive measure of job quality, and the study of job quality is therefore approached in different ways in economy, sociology and psychology. Economists tend to focus on aspects of economic compensation such as working hours, hourly wages, annual earnings or fringe benefits, especially health insurance or retirement benefits to measure a jobs' quality or desirability. Pay is generally regarded as the single most important item of a job, and wages are in general positively correlated with other favourable working conditions. But quality of work is comprised of more than monetary awards (Clark, 2005a); job security and having an interesting job were considered most important among male as well as female participants (Clark, 2005b). Economists do not have a global measure of jobs' non-monetary benefits (or costs) (Jencks et al., 1988) and omit potentially important aspects such as job autonomy and satisfaction with certain job facets. One needs to take into consideration that the effect of non-monetary job characteristics on job ratings is more than twice that of earnings (Jencks et al., 1988). Earnings and wages are important aspects of job quality, but only one of many.

Sociologists generally study occupational prestige or status within a system of social stratification as well as the autonomy and control (Kalleberg and Vaisey, 2005). In the sociological tradition the concept of skill is also very central in the study of quality of work. Skilled work is seen as involving both complex operation and autonomy (influence and discretion over daily work tasks) for the worker. Studies that use occupational status to measure labour-market success often reach conclusions quite different from those investigations that use earnings to measure success (e.g. Sewell and Hauser, 1975; Jencks et al., 1979). This approach has among other things been criticized because occupational titles can not tell us much about specific jobs if most of the variance is within occupations as opposed to if the variance is between occupations (Jencks et al., 1988). It is also worth noting that Gallie (1996) has criticized the sociological approach for neglecting the mediating effects of employee aspirations when assessing quality of work.

Psychologists often emphasize non-economic aspects of work (such as intrinsically meaningful and challenging work) and assess the variety of psychological sources of job satisfaction (Kalleberg and Vaisey 2005). Occupational psychology (implicit theories of human need) have had focus on job satisfaction and well-being, and have pointed to the importance for workers of having discretion and trust in

their jobs. This tradition has also focused on the workplace as a social arena, and the relevance to the quality of work life of having good social relations among workers (Green, 2006). The psychological approach can for example be criticized for being too oriented towards subjective measures and for ignoring objective or extrinsic measures such as wages and fringe benefits (Rose, 2003). Quality of work is a much broader conception than job satisfaction – job satisfaction is one of many possible outcomes of quality of work (Sirgy et al., 2001). This paper does not discuss the outcomes of job quality in any detail. For relationship between work, employment and health, previous works should be consulted (e.g. Platt, Pavis, and Akram, 1999; Ferrie 2004).

Several leading researchers have pointed to the fact that to understand job quality a multi-dimensional approach is needed, and that it is important to measure both monetary and non-monetary job characteristics. The above mentioned perspectives are useful, but only partially, and an approach that takes into account economic as well as non-economic sources of variation in the goodness of jobs is necessary.

Measuring job quality

Measuring job quality is not a simple task as jobs are made up of many components. There is no agreed upon definition on the quality of work, and no consensus on what constitutes a good job (Kalleberg et al., 2000). Since important components of job quality often are measured through the reports of workers, comprehensive measures of job quality is affected by the potential limitations (e.g. social esteem bias) as well as the advantages (e.g. first-hand knowledge) of subjective data (Green, 2006). Workers also reduce a vector of the quality associated with different jobs facets to a scalar quantity (good or bad job) when deciding to quit a job (Kalleberg and Vaisey, 2005).

There are both subjective and objective indicators of job quality. On the 'objective' side for example pay and fringe benefits, autonomy and control, advancement opportunities and job security can be placed (Kalleberg and Vaisey, 2005). But typically most of the measures of job components are subjective and not objective because they are based on survey data. The subjectivity can vary as to how data are collected, and earnings can be subjective when workers are asked to give the information themselves, and objective when collected from an administrative source.

According to Kalleberg and Vaisey (2005: 432-435), which the rest of the discussion in this section is based on, there are two general approaches as to how to conceptualize and measure overall quality of jobs. The first strategy evaluates the quality of jobs along a variety of specific dimensions of work such as earnings, intrinsic rewards, promotion opportunities and security and then combines them into an overall measure of job quality. Kalleberg et al.'s (2000) and McGovern et al.'s (2004) studies of bad jobs in the United States and Britain are examples of this

approach. These two studies decide the extent to which a job has 'bad' characteristics such as low wages, no autonomy and low job security, and then sums them to obtain a count of how 'bad' a job is. Research on dual labour markets also exemplifies this approach when they distinguish between primary (mostly 'good jobs') and secondary labour markets (mostly 'bad jobs').

The second approach asks workers directly to provide a global or general assessment of their jobs. The most frequent example of this is when workers are asked about their degree of job satisfaction. This global approach does not measure all relevant job characteristics, but assumes that the workers are able to balance out the various aspects of job characteristics to come up with an overall assessment of job quality. An obvious disadvantage of this approach is that it does not tell us how good or bad a job is along various dimensions. It is therefore not possible to make an assessment of the relative importance of different job facets in determining the quality of jobs.

As to technical approaches, we find two major ways of linking global and specific measures of job quality: regression analysis and configurational approaches. Regression analysis is the most common way of relating measures of the overall goodness of jobs to the quality of specific dimensions of work. Studies of job satisfaction often attempt to explain why some workers are more satisfied with their jobs than others by regressing a global measure of satisfaction on a set of indicators of the quality of specific job facets. Jencks et al. (1988) illustrate the use of regression analysis to combine global and specific measures of job quality. They asked workers to rate the perceived desirability of their own jobs, taking everything into account (such as pay, fringe benefits, working conditions and kind of work). Then, they regressed this overall rating of 'job goodness' on 48 job characteristics. Individual differences in conceptions of the goodness of jobs were assumed to be reflected in the weights attached to the various job facets. Fourteen of the 48 variables that were most strongly related to the global measure were used to generate predicted scores of job quality (their 'index of job desirability').

Configurational approaches facilitate the analyses of jobs as bundles of characteristics of differing quality. Job facets are assumed to form job types or bundles of job characteristics rather than to compete with each other to explain variation. It is therefore not individuals or single variables that are the unit of analysis but rather all the 'types' that can be formed by the possible combinations of the components of job quality. Fuzzy-set Qualitative Comparative Analysis is an example of a configurational approach (e.g. Ragin 2000), and uses techniques of combinatorial analysis to investigate explicitly how different combinations of job characteristics produce outcomes. This approach is used by Kalleberg and Vaisey (2005) in their study of perceived work quality among machinists in the United States and Canada.

Central dimensions in the measurement of quality of work

In this section we will first give an overview of dimensions included in some influential works on job quality. Second, we will go into more detail on six dimensions of job quality.

The section is not intended to provide a complete review of the field, merely to present some of the most central contributions to the literature on job quality.

According to Gallie (2003) there has been a remarkable convergence in terms of the aspects of work that is considered crucial for well-being. For example what Gallie labels the liberal and neo-marxist perspectives, place central emphasis on the scope for initiative in carrying out the job, the variety of work, the opportunities for learning, and the ability to participate in decision-making. Green (2006: 13) also points to the convergence: ‘There is a broad convergence of the sociological position on the quality of work with application of the ideas of A. Sen (1987, 1993).’ This is the perspective Green (2006) uses in his book ‘Demanding Work. The Paradox of Job Quality in the Affluent Economy.’ High quality jobs generate capabilities that allow workers to achieve well-being and to achieve a range of personal goals. Capabilities are derived through wages and other rewards, future prospects (pensions and security), job control (the ability to choose). A high quality job is defined as: ‘. . . one that affords the worker a certain capability – the ability and the flexibility to perform a range of tasks (including the necessary sense of personal control), to draw on the comradeship of others working in cooperation, to choose from and pursue a range of agency goals and to command an income that delivers high capability for consumption’ (Green, 2006: 14-15).

The dimensions of ‘quality in work’ according to the European Commission are:

- 1) *Characteristics of the job*, which include: a) intrinsic job quality, and b) skills, lifelong learning, and career development.
- 2) *The work and the wider labour market context*, which include c) gender equality, d) health and safety at work, e) flexibility and security, f) inclusion and access to the labour market, g) work organization and work/life balance, h) social dialogue and worker involvement, i) diversity and non-discrimination, and j) overall work performance.

Green (2006: 21-22) criticize the Commission’s dimensions on several accounts. First, it is driven by pre-existing policy objectives rather than any explicit reference to social or economics theories. Secondly, indicators of work effort are not on the list even though there is evidence of work intensification in European countries. Third, wages are excluded from the list which is difficult to understand given the importance of earnings both in theoretical and empirical work.³ Fourth, measures that are business oriented are included, but potential conflicts of interests between workers and employers are underplayed.

Green (2006) examines the following aspects of job quality: 1) Skills, 2) work effort, 3) personal discretion over work tasks and participation in workplace decisions, 4) pay, 5) workers’ risks and job insecurity, and 6) job satisfaction and

affective well-being at work. Kalleberg and Vaisey (2005) use the following six job characteristics which have been central to discussions of job quality: 1) Economic benefits: satisfaction with *earnings*, *fringe benefits* (health insurance and pensions), 2) Non-economic benefits: the degree of *autonomy and control* one has over one's work and the extent to which one receives *intrinsic* rewards from the job, and 3) a measure of perceived *job security* as well as the extent to which the worker is satisfied with the *opportunities for advancement*.

McGovern et al.'s (2004) definition of bad jobs concentrates on the economic nature of the employment relationship, in particular to the level of income from employment, continuity of income from employment, continuity of income while sick or in retirement, and the prospect of increased income through promotion. More specific, they conceptualize bad jobs as those with: a) low pay, b) no sick pay, c) no pension scheme, beyond the basic state scheme; and d) are not part of a recognized career or promotion ladder. In line with Kalleberg et al. (2000) they use a summative measure of badness – the number of bad job characteristics as the dependent variable for the multivariate analysis. The advantage of such a measure is that it enables us to examine the determinants of (bad) job quality generally as well as those for individual dimensions. This conception of bad jobs implies that the characteristics are objective, manifest, and of equal importance: The presence or absence of any of the characteristics has the same implications as that of any other in the set.⁴

<i>Dimensions</i>			
Job itself	Skill	Work intensity	Autonomy and control
Job rewards	Pay and fringe benefits		Intrinsic job rewards
Labour market	Job security: Having a job or not		

Figure 1: Aspects of job quality on three dimensions

Based on the overview and discussion above we have decided to focus on six dimensions which we consider as the most important in the measurement of job quality. The dimensions refer to three different levels of job quality (figure 1). The first aspect is the strength of the employee's *connection to the labour market*, the level of job security. At the next level, we identify two dimensions of *job rewards*; pay and fringe benefits and intrinsic job rewards. The third level is *dimensions of the job itself*; which includes skill, work intensity and autonomy and control. Below we will discuss these dimensions in more detail.

Job (in)security

Along with pay, job security was early on an essential aspect of quality of work (Martel and Dupuis, 2006). Both pay and job security provide a basic source of living. 'Being employed and receiving adequate pay to make ones living is consistently ranked as important requirement for individual quality of life' (Beham et al., 2006: 20). Realising one's potential, such as growth of skill, require time, and jobs of short and uncertain duration therefore normally are of low quality, and the same are jobs where the work itself is pervaded with uncertainty (Green, 2003). Job insecurity is a major source of ill-health and job dissatisfaction, has long-lasting impact on individuals and their households and creates tensions at home (Burchell, 1994; Burchell et al., 1999; Wichert, 2002).

There is not one single measure of job security, and conceptually, job security involves more than having a job *versus* no job. As the concept of job quality itself, job security also has a multidimensional character. Job security depends on aspects of the current job as well as the possibility of alternative jobs (*employability*) (Green et al., 2000). Thus, job security involves more than the specific terms in the employment contract. Green (2006: 130) defines job insecurity as the loss of welfare that comes from the uncertainty at work, and this insecurity may derive from either economic aspects of a job or from the content of the work itself. Uncertainty about the economic aspects of the job can involve more than just losing the job, losses can also occur in the current job through wage cuts, missed promotion opportunities etc., but it also involves uncertainty about the income stream in the current or future jobs.

Objective measures of job insecurity include separation rates (the rates at which employees leave jobs), redundancy rates (the rates at which employees are forced to leave their jobs), job tenure (time spent in one job), duration of unemployment and impact of job loss on future pay (Green, 2003). Other measures are perceived job insecurity (fear of involuntary job loss, whether existing wages will be maintained), access to training, promotion opportunities and deployment of workers' labour. Green (2006) also includes the risk of workplace accidents and diseases in his study of job insecurity.

Perceived job insecurity measured by involuntary job loss varies with the unemployment rate, by industry employment growth, local labour market environment, previous unemployment experiences and type of job contract, exposure to competition and ownership of the organization (Green, 2006). For example, Maurin and Postel-Vinay (2005) found that perceived job insecurity is rising in Europe, that temporary job holders feel substantially less secure than workers holding permanent jobs, that low-skilled workers feel less secure than high-skilled workers and that the relative feeling of the former vis-à-vis the latter worsens with time.

Over time there seems to have been a shift in risks to employees on several areas, and job insecurity and uncertainty about the future have increased (Kalleberg, 2007). By contrast, other argue that changes in job insecurity are gradual and relatively modest (Green, 2003). Overall, job insecurity is found to vary between countries, with business cycles, and is in general found to be much higher for temporary workers, low-skilled workers, for young workers and for men.

Pay and fringe benefits

Pay is the core dimension in the economic perspective on quality of jobs, and commonly used in sociology. A low wage has consequences long after a person has left employment. It makes it difficult to build up savings to draw upon when there is no longer an income from employment, and with earnings related pension schemes the disadvantage continues as people enter retirement (Gallie, 2002). In defining the 'hallmark of bad jobs' low earnings and lack of access to health insurance and pension benefits are included (Kalleberg et al., 2000).

Recent studies on quality of jobs also argue that wages should be included as one of the core dimensions, and an increasing wage is considered as a sign of improving job quality and a declining as an indication of the opposite. Although a raise in wages does not proportionately increase people's happiness, a minimum level of pay is necessary to uphold a basic level of living (Green, 2006).

Pay raises questions on inequality and fairness. Maurin and Postel-Vinay (2005) found an upward trend in the wage gap across skill groups for the period 1995-2001, and that low-skilled jobs are paid significantly less than high skilled jobs (difference-20%). About 15 per cent of the employees in the EU report that they have difficulties of great difficulty making ends meet (Gallie, 2002). The incidence of low-paid work has increased in several countries (OECD, 2006), and there has been a persistent increase of the proportion of working poor in the population and in 2005 8 per cent (15.5 million workers) of the EU-25 workers could be placed in this category (Guillén et al., 2007).

The fairness of the wage is also considered an important part of the quality of jobs, but it is difficult to measure (Green, 2006). A fair wage is in general considered as reflecting a clear connection between the workers' contribution to the performance of the organisation and their pay. 'Rising wage dispersion can unambiguously be regarded as signalling declining quality of work life, if it is not 'justified' by an increasing dispersion of the productive contributions of workers' (Green, 2006: 112). After declining income inequality in most of the last century there has lately been a trend in the opposite direction in several countries (OECD, 2001, 2004, 2006; European Commission, 2003, 2004, 2005). This implies that job quality has become more unequal (Green, 2006). Another aspect of fairness is discrimination on the basis of gender and race, and especially the gender wage gap has been studied. Women in Europe were found to earn on average 15 per cent less than men (Ghaliani, 2007). The most important explanation for women receiving less

pay seems to be the segregation of men and women into different occupations, industries and workplaces (Grimshaw and Rubery, 2001).

Intrinsic job rewards

With the changing nature of work, intrinsic work orientation is likely to become an increasingly important factor for economic performance and future competitiveness in the knowledge-based economy (Gallie, 2007a). Intrinsic job rewards differ from extrinsic job rewards such as pay and promotion in that the reward is derived from the job experience in itself. In terms of motivation, intrinsic (rather than extrinsic motivation) is based on the expected pleasure of the activity in itself rather than its results; and it is based on self-administered rewards rather than rewards distributed by an external agent (Shamir, 1996). Typically, an intrinsic rewarding job is interesting and challenging, one does a number of things at the job, one is able to use skills and abilities, one is able to learn new things, work independently and being recognized for doing a good job (Kalleberg and Vaisey, 2005; Huang and Vliert, 2002).

Several intrinsic job characteristics have been found to be correlated with higher level of job satisfaction and subjective well-being. Examples are meaningfulness of work, clear and identifiable piece of work, task complexity, whether the task is recognizable, task variety, pace, opportunity for use of initiative (e.g. Warr, 1987; Judge and Watanabe, 1993; Clark, 2005a). Several studies show that intrinsic job rewards are more strongly and consistently related to overall job satisfaction than extrinsic characteristics (e.g. Kalleberg, 1977; Kalleberg and Griffin, 1978). Gallie (2007a) found that work environments providing varied work, initiative, and voice were associated with a stronger intrinsic orientation.

Intrinsic job rewards are found to vary by country, occupation, gender, and age. Gallie (2003) compares perceptions of quality of working life in Scandinavia (Denmark, Finland and Sweden) with other European Union countries, using the following indicators of intrinsic job quality: 1) there is a lot of variety in my work, 2) my job require that I keep learning new things, 3) I have a lot to say over what happens in my job, and 4) my job allows me to take part in decisions that affect my work. Employees in Denmark and Sweden were found to have higher quality of work tasks and better opportunities for involvement in decision-making, which reflected the policies for quality of working life that had been emphasized in the Scandinavian countries (Gallie 2003). Furthermore, men and persons aged 35-54 were found to be in better jobs, while lower non-manual, skilled manual, and particularly non-skilled workers had jobs of poor intrinsic job quality (Gallie 2003). Furthermore, Gallie (2007a) found that workers in the Scandinavian countries had stronger intrinsically job preferences than workers in Britain and Germany, which, in part, can be accounted for by the differences in job quality.

Using the 'Employment in Europe Survey' (1996), Gallie (2002) found that several groups are deprived in terms of the job characteristics associated with

personal development. For instance: semi- and non-skilled workers in jobs with low task complexity and few required qualifications, part-time employees with few opportunities to learn new things and little discretion.

Work intensity

Conceptually, work intensity is ambiguous, and has included elements, such as rising pressure of pace, time pressure, work overload, tight deadlines, harder work, and long and unsocial hours. The EU defines working more than 48 hours/week as undesirable. Work intensity is closely linked to skills, making the distinction between work intensity deriving from creative or negative pressures difficult (Gallie 2007b). Green (2006) defines work intensity synonymously with work effort: the intensity of labour effort during time at work, and argues that work effort should be separated from terms such as performance and productivity. 'Conceptually, work effort is the rate of physical and/or mental input to work tasks during the working day' (Green, 2006: 48).

The literature using the term work intensity is scarce. However, work intensity is closely linked to 'job demands'— a core concept within psychological perspectives. The measurements of these concepts sometimes overlap. Whereas job demands initially entailed psychological stressors (Karasek, 1979), using perceptual measures, it has become to embrace objective measures such as hours worked, overtime, etc. (e.g. Michie and Williams, 2003). Subjective indicators of work intensity include for instance workers experience of changes in work effort (Green 2006).

In the EU-25 41 percent report that their work is too demanding and stressful (Kalleberg, 2007), and 48 percent of the employees in the EU reported in 1996 that they had experienced a significant increase over the last five years in the effort they had to put into their job (Gallie, 2002, see also Burchell et al., 1999; Green and McIntosh, 2001; Burchell, 2006). Despite hours per person (often measured only for men) has decreased over the last two decades, the total amount of work done by families has increased (e.g. Ellingsæter 2007). Thus, changes in dual breadwinner models and family-work balance may enhance the perception of work intensity. Also, working time arrangements and in particular working unsocial hours, is found to have harmful implications for the family-life balance (Olsen and Dahl 2009).

To what extent High Performance Work Organization (HPWO) (Osterman 2000), such as self-directed teams and job rotation increase work intensity is debated. Some researchers have argued that for instance working in teams and giving workers greater autonomy over work tasks and input into decisions are good for workers, since they enable them to develop, share and apply their knowledge more fully than do traditional practices (e.g. Appelbaum et al. 2000). Other studies maintain that such arrangements often are obtained at the expense of employees, primarily through an intensification of work processes and increasing stress (e.g. Godard 2004). For instance, workers that are organized in teams are found to experience greater stress (Kalleberg, et al. 2009). Green (2006) mainly explained greater work intensity as a

result of technological (ex new monitoring systems) and organizational changes allows for other (ex call-centre), demanding higher effort from workers. Power of unions declined, resistance to work intensification diminished, but cannot explain the overall increase in work intensification (Green 2006).

Skills

The concept of skill is approached different in academic fields. In psychology skill refers to the competence to perform specific tasks, while for sociologists the most important indication of skill is the degree of complexity of work, and economists looks upon skills as a more general concept – a characteristic of individuals that can be acquired and that enables them to produce valued services at work (Green, 2006). According to Green (2006), skill is an aspect of quality of work because the utilization of skill is an end in itself. When an employee is engaged in complex production processes, that requires both conception and execution of tasks.

There are several ways of measuring workplace skills. In a review by Green (2006) the measures included: qualifications, length of education, occupation, scores from literacy and numeracy tests, self assessment and job requirements.

There have been different predictions of the need for skills in the modern society. Braverman (1974) had a pessimistic view arguing that the need for skilled workers would be reduced as managers' control over production increased through for example automation. This position was not uncontroversial, and economists argued that technological progress and organizational changes increased the demand for skilled labour. Empirically one has found that the level of job skills and job requirements has been rising in industrialized countries, but also that one can observe a polarization of skills. Although the overall picture shows an increase in skills, there is also growth in low paying jobs in the service industry demanding very few skills (Green, 2006).

Skills bring about issues on under- and overqualifications. Whereas, a job requires a certain skill this may not match the skill which the person holding the job has. Even though under-qualification has lead to some concern, over-qualification is most discussed in the academic literature (e.g. Dolton and Vignoles, 2000; Brynin, 2002; Green and McIntosh, 2007). Empirically, one has found that about a quarter to a third of a nation's employees tend to work in jobs for which they are overqualified, while the proportion having jobs for which they are under-qualified is somewhat lower (Green and McIntosh, 2007).

Autonomy and control

Traditionally the study of autonomy and control has been the preoccupation of sociologists and psychologists and to a lesser degree a research theme for economists, but this has been changing as it has been shown to increase job satisfaction and productivity (e.g. Huselid, 1995; Nguyen et al., 2003). Autonomy

refers to the extent to which an employee is able to exercise discretion and initiative over what happens on the job. The degree of autonomy is an outcome of the manner in which the work is organized, especially the extent of standardization of work processes and whether the execution of work tasks is controlled through rules and procedures or surveillance systems. According to Green (2006), there always remains some part of the planning to which the individual employee contributes. To make decisions about task performance, workers must be able to solve problems, make judgements, and take responsibilities, all of which require knowledge and ability (Green, 2006). There is a high correlation between discretion and skill, but possession and exercise of skill do not constitute a sufficient condition for being granted high levels of discretion.

Economists have been worried that giving workers too much discretion will lead to inefficiency and underemployment of workers (Shapiro and Stiglitz, 1984). Sociologists such as Braverman (1974) were sceptical to the development and argued that the workers would get increasingly less discretion in their work and that management would increase their control of the labour process. Other sociologists have had a more optimistic view of modern work organization with a high degree of involvement of workers through incentives, discretion and influence of their work practices and more of a say in organizational decisions (Green, 2006), following a post-fordist argument. Psychologists look upon worker discretion (and the content of the job) as being of fundamental importance for job satisfaction and job quality. The demand-control model argues that low decision latitude and high work demands interact to produce the greatest levels of stress (Karasek, 1979; Karasek and Theorell, 1990).

Findings show that part-time and semi- and non-skilled workers are groups who are found to have low job control and autonomy (Gallie, 2002). They have fewer chances to learn new things through their work and are disadvantaged in their ability to exercise discretion over their jobs, and less opportunities for self-development and control than skilled and full-time workers. Furthermore, worker discretion varies across nations, and workers in the Nordic countries have greater autonomy than American, Canadian and Australian workers (Dobbin and Boychuk, 1999; see also Gallie, 2003; Gallie 2007c). This may be explained by the Nordic countries having a skill-oriented employment system that increase job autonomy, while in the other counties the rule-oriented employment system lowers autonomy. In other words, national employment systems influence autonomy. Green (2006) found a mixed picture in Europe concerning worker discretion – in some countries it has improved, like in Austria and Germany, while it has decreased in countries like Belgium, Britain, Denmark, Ireland, Italy and Portugal. Loss of worker discretion and autonomy is found to be a major factor behind declining job satisfaction and subjective well-being in the workplace (Green, 2006).

Some comments on data and sampling

The concept job quality is complex and lacks an obvious index (Green, 2006). The components included in empirical studies differ in how they measure job quality, and central components are only possible to measure through the reports of the employees. This means one has to rely on population surveys to study the phenomenon.

A problem with some of the available survey data and the data used in some studies is that they have not been constructed with the purpose of investigating job quality. Often the data used are more general population surveys; for example both Clark (1996, 2001) and Rose (2003) use the British Household Panel Survey (BHPS), McGovern et al. (2004) the Working in Britain 2000, and Kalleberg et al. (2000) the 1995 Current Population Survey (CPS). The indicators may therefore not always be optimal for the measurement of job quality. On the other hand there are also examples of the opposite, and Kalleberg and Vaisey (2005) collected their own data through a telephone survey of members of the International Association of Machinists and Aerospace Workers (IAM).

Most measures of job components are subjective and not objective because they are based on survey data and not register data. An ideal solution would be a combination of surveys and register (administrative) data from public or company records. In this way it would be possible to get reliable and valid information on both subjective and objective indicators. Another possible solution to avoid subjective evaluations is to use an expert assessor (Beham et al., 2006). This is possible if the working environment and tasks are simple, but with more complicated tasks (e.g. conceptual rather than physical) it may be difficult.

The data used in most studies are cross-sectional, but to learn more about changes in job quality, data covering several years is necessary – repeated cross sections or panel data. An important advantage with using panel data is that it is possible to control for unobserved individual heterogeneity and to uncover causal relationships (e.g. Wooldridge, 2002, 2006). To get better knowledge about the importance of institutional setting comparative and comparable data from different countries is needed. For example welfare arrangements and health services, labour markets, labour laws and working conditions differ between countries and can lead to variation in job quality between countries. All this is done by Clark (2005a) in his analysis of some OECD countries with data from two waves of ISSP (The International Social Survey Programme) and two waves of BHPS covering the years 1991 and 1999 to study changes in job quality.

Conclusion

In this paper we have discussed the concept and measurement of quality of work. Although the discussion about job quality has a long history both in science and the practical life the discussion has been renewed in Europe because of the importance it has been given in the EC's strategy to make the economy more competitive. Our review has shown that different academic fields have conceptualized quality of work in different ways, but that there has been a convergence of the positions, and the utility of using a multi-dimensional approach has been emphasized by Kalleberg and Vaisey (2005). However, there is no agreed upon measures or indicators, but some are clearly more central than others and both monetary and non-monetary indicators must be included. Based on our review we propose six dimensions that are important to the measurement of quality of work: job security, pay and fringe benefits, intrinsic job rewards, work intensity, skill, and autonomy and control. A potential problem with previous measures of quality of work is the reliance on mainly subjective indicators. One way improve data quality is to merge administrative data and survey data, and combine objective and subjective measures.

Overall the quality of employment is highly stratified, and even though there is substantial evidence of increasing job quality, many workers are stuck in jobs with low quality. The mobility out of low quality jobs is low, and disadvantages from early life continue into the working career. In other words one can observe a cumulative employment disadvantage (Gallie, 2002). In some areas the job quality (e.g. work effort) has also been deteriorating, and income inequality has increased. The quality of jobs varies in Europe, and the groups most exposed to jobs of low quality are: women, young workers, low-skilled workers, workers in the service sector, temporary contract and part-time workers, and workers with low tenure.

We find both theoretical and empirical arguments for increased research and political attention to the issue of job quality and the tension between the quality and quantity of jobs. Important research questions are for example the trade-off between quantity and quality of jobs – is it possible to reduce unemployment without growth in low-wage employment; the trade-off among dimensions of job quality – between greater inequality in earnings and greater inequality in job security; and unresolved questions concerning polarization of job quality, and job quality differences by gender, race, age etc. (Kalleberg, 2007). Also, how job quality is linked to broader aspects of life, such as the family-life balance should be explored further.

The emphasis on job creation has lead to an increase in the number of low- or very low-quality jobs (Eyraud and Vaughan-Whitehead, 2007). With an unemployment rate of 6.9% (June 2007) in the EU-27, with a quarter of European workers in low quality jobs and 8% occupied in dead-end jobs this is a real challenge both for European policy makers and researchers as effective policies for social integration must take into account not simply the quantity of jobs, but also provide people with jobs that give them the opportunity to extend their skills and to move into better jobs (Gallie, 2003). There is for example a considerable risk that immigrants will remain in precarious employment and entry level jobs, that is,

unskilled and semi-skilled jobs in the service sector (Timonen, 2004). Such a development can create a new underclass and threaten social cohesion and stability in Europe.

¹ For author correspondence, please contact Karen M. Olsen, Norwegian School of Economics and Business Administration (NHH), Breiviksveien 40, 5045 Bergen, Norway.

Email: Karen.olsen@nhh.no

² To come to grips with what better jobs means the EC has developed its own concept of “quality in work”. This takes into account objective characteristics of the job, subjective views of workers, worker characteristics and the match between the worker and the job.

³ The reason for this is that in Article 137 §6 of the EU Treaty the issue of remuneration is excluded from EU competences and debate (Peña-Casas, 2007).

⁴ Other researchers have introduced additional aspects. For example Requena (2003, see also Lowe and Schellenberg, 2001) introduce social capital and Clark (2001) measures job quality/satisfaction as with a focus on job quits.

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