Mapping the Quality of Working Life

RESEARCH BRIEF 1

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- Since job quality is multidimensional, key to mapping disparities in it is developing a metric that meaningfully and transparently summarises the overall hierarchy in the quality of work. To do this, we developed the Good Work Index (GWI).
- The GWI is a summary indicator based on nine indicators of job quality (wages, job security, continuous learning requirements, skill-use opportunities, task variety, task discretion, job demands, control over working time, and participation opportunities)—with each component weighted according to how much it influences job satisfaction for the average worker. In line with decades of prior research, we find factors related to the nature of work weigh more heavily in determining the wellbeing potential of jobs relative to more extrinsic factors like pay.
- Using the GWI as a proxy for overall job quality, we find that managerial and professional occupations have the best job quality on average, with manual and routine occupations having the worst, and intermediate occupations in the middle.
- There are no noticeable differences across categories of workplace size nor between unionized and non-unionized workplaces.
- Perhaps surprisingly, there is little difference between the genders on average. However, worryingly, we find a large ethnic job quality penalty.
- Perhaps unsurprisingly, graduates enjoy better jobs and there is an age gradient with younger workers tending to work in lower quality jobs.
- Overall job quality is associated with more positive affect, lower negative affect, more positive job attitudes, and higher life satisfaction. Importantly, these effects tend to be non-linear. The negative effects of very low quality work is bigger than the positive effects of high quality work.
- Clearly, moving people out of lower quality jobs and into higher quality ones remains an important goal for increasing positive job attitudes and national wellbeing.

Identifying the ingredients of Good Work

The purpose of our ESRC project 'Mapping the Quality of Working Life: An Occupational Approach' is to develop new ways of conceptualising, presenting, and identifying disparities in the quality of work, focusing on the occupational dimension—using existing secondary data. Key to this is to develop a metric to obtain an overall hierarchy in the quality of work. To do this, we developed what we term the Good Work Index (GWI). As well as eliminating low-paid and precarious work, we believe a key aim of government and workplace policy should be to increase the wellbeing potential of work. We therefore chose to include several indicators relating to more intrinsic features of work (e.g., job control, job demands, etc.) since occupational disparities in more extrinsic features of work (e.g., pay, insecurity) are well-known. Moreover, evidence suggests intrinsic features of work are most critical to wellbeing, as well as what workers themselves report them as being important. For these reasons and item availability in the Skills and Employment Surveys (SES), the main data source the first phase of our research draws upon, we identified the following nine indicators to be included into our multidimensional definition of job quality:

1. Wages
2. Job security
3. Continuous learning
4. Skill-use opportunities
5. Task variety
6. Task discretion
7. Job demands
8. Control over working time
9. Participation opportunities

More information on the measurement of these and how they relate to those identified in Taylor Review can be found in the Appendix. All analyses in this brief come from the pooled 2006, 2012, and 2017 waves of the SES with sampling weights applied.

Why index?

A debate exists in how best to present job quality summary statistics. Some argue for a 'dashboard' approach—that is considering the multiple dimensions simultaneously. The advantage of analysing different dimensions separately is that it provides a more nuanced picture. This is especially useful if one's goal is mapping changes over time as different indicators may move in different directions. Given our main goal is to explore stratification in the wellbeing potential of occupations, it is helpful for our purposes to have a single summary indicator to define an overall hierarchy along a theoretically meaningful metric that denotes wellbeing potential. Clearly, the solution to the debate about whether or not to index is to follow the one most appropriate to the research goal.

How to weight?

One perennial challenge to creating any index is how to weight the constituent components. A simple approach is to weight the constituent components equally. The disadvantage of this approach is that some components clearly matter more than others for wellbeing. Another solution is to decide *a priori* what the unequal weights are based upon prior knowledge and evidence. A disadvantage of this approach is the arbitrariness in deciding the precise weights—an important consideration given that any resultant metric will be sensitive to weighting choices. For our purposes, we weight according to how each dimension is associated with overall job satisfaction because we argue that wellbeing potential should be ultimately what underlies any definition of Good Work. In this way, dimensions that have the potential to affect job-related wellbeing more (whether positively or negatively) are more important to the index than those that have a more marginal effect. Specifically, we use the following equation:

$$job\ satisfaction_i = \beta_1 job\ quality_{i1} + \beta_2 controls_{i2}$$

Where $job\ quality_{i1}$ refers to a vector of the nine job quality indicators (standardised using z-scores) and $controls_{i2}$ refer to a range of controls (survey year, gender, age, whether non-white ethnic group, whether have children, 11 UK regions, holding a degree-level qualification, whether part-time or full-time, whether self-employed or an employee, whether on a temporary or permanent contract, whether their workplace is unionised,

three workplace size dummies, four industrial sector indicators, and 205 detailed occupational dummies).[1] Including the controls in this stage is important given that job quality and socio-demographic and work/workplace factors are all likely correlated. Not including them could lead to spurious correlations between job quality and job satisfaction. For instance, suppose that those with children are more likely to seek out jobs with a higher degree of control over working time but that people more satisfied with their job are also more likely to have children. Not considering whether someone has children or not would inflate the role of control over working time in predicting job satisfaction.

The nine job quality coefficients from this regression are then used as weights to calculate scores for each job quality indicator which is then summed for each respondent to calculate their overall Good Work Index score. The table below illustrates how these scores are calculated for two example jobs. The weights (the job quality βs from the regression) are assumed to be the same for everyone, based on further analysis (not shown) which shows there is not a great deal of difference in how job quality indicators relate to overall job satisfaction across groups. As can be seen, job 1 is higher-paid and more secure than job 2. However, it scores less well in all other dimensions apart from job demands and participation opportunities. Since job 2 scores better in other dimensions especially the critical (weightier) dimensions of skill-use, task variety, and task discretion, it scores better overall. That is, job 2 has a greater potential to for higher job satisfaction relative to job 1—irrespective of whether the specific holders of these jobs are actually satisfied with their jobs or not.

Table 1. Decomposing differences in overall job quality between two example jobs

	β	$job\ quality_{job\ 1}$	$job\ quality_{job\ 2}$	β × job 1	β × job 2
Log hourly pay	0.002	3.458	2.700	0.007	0.005
Job security	0.143	6	4	0.858	0.572
Continuous learning	0.040	2	3	0.080	0.120
Skill-use	0.383	2	3	0.766	1.149
Task variety	0.194	3	4	0.582	0.776
Task discretion	0.226	2	3	0.452	0.678
Job demands	-0.027	2	1	-0.054	-0.027
Work time control	0.048	2	3	0.096	0.144
Participation opportunities	0.241	1	0	0.241	0.000
Good Work Index score				3.028	3.417

The advantage of using the job quality coefficients as weights means there are no arbitrary decisions in deciding how important different job quality indicators are in constructing the index. Variants of this have been done before in prior research but are the exception rather than the norm. Given that the resulting GWI scores have no readily interpretable metric, we convert them into percentiles since our ultimate aim is to chart the hierarchy in occupational quality (see Research Brief 2).

We liken our approach to measures of inflation. Whereas inflation measures changes in the prices of a basket of goods and services weighted by how much the typical consumer spends across different categories, the GWI is based upon a common basket of job qualities, weighted by how much they potentially influence job-related wellbeing for the typical worker. In this way, it may plausibly be used to monitor job-level changes in overall job quality over time, much in the same way inflation measures changes in the cost of living. Furthermore, changes in average GWI scores can be decomposed into changes in the underlying quantities in the nine specific job quality indicators—much in the same way changes in inflation can be attributed to changes in prices of specific goods and services.

Where does Good Work happen and who does it?

Having created the GWI, we briefly explore its correlates through OLS regressions. Taking what predicts GWI scores and work/workplace characteristics first, two main predictors of Good Work Index scores stand out. First, occupational class. There are large differences in the average scores between managerial and professional occupations and manual and routine occupations, while jobs in intermediate occupations (largely clerical and technical support occupations) are around the median on average. This quite clearly demonstrates occupational

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[1] These are recodes of SOC2000 4-digit occupations – recoded to ensure samples sizes of >10 in each occupation cell in the pooled 2006, 2012, and 2017 SES waves.

position is a big determinant of Good Work disparities. Second, employment status. Having a temporary contract is associated with much poorer job quality. Being self-employed, is associated with much higher job quality. Part-time jobs are generally poorer than full-time ones, while those in the public sector are on average better than those in other sectors, whose job quality in turn is about average. Perhaps surprisingly, there are no noticeable differences across categories of workplace size nor between unionized and non-unionized workplaces net of the other factors. Turing to socio-demographic predictors, unsurprisingly, graduates enjoy better jobs and there is an age gradient with younger workers tending to work in lower quality jobs and graduates tend to have better job quality jobs. Perhaps surprisingly, there is little differences between the genders on average. However, there is a large ethnic penalty. Those identifying as belonging to non-white ethnic groups tend to occupy jobs with quality below the median on average. Interestingly, job quality in London is significantly below other regions, while in Wales is highest. Further analysis reveals this is because Londoners report lowest task variety and job security on average, while workers in Wales report the highest levels of skill-use.

Figure 1. Predictors of overall job quality (GWI percentiles)

Work/workplace factors | Socio-demographic factors
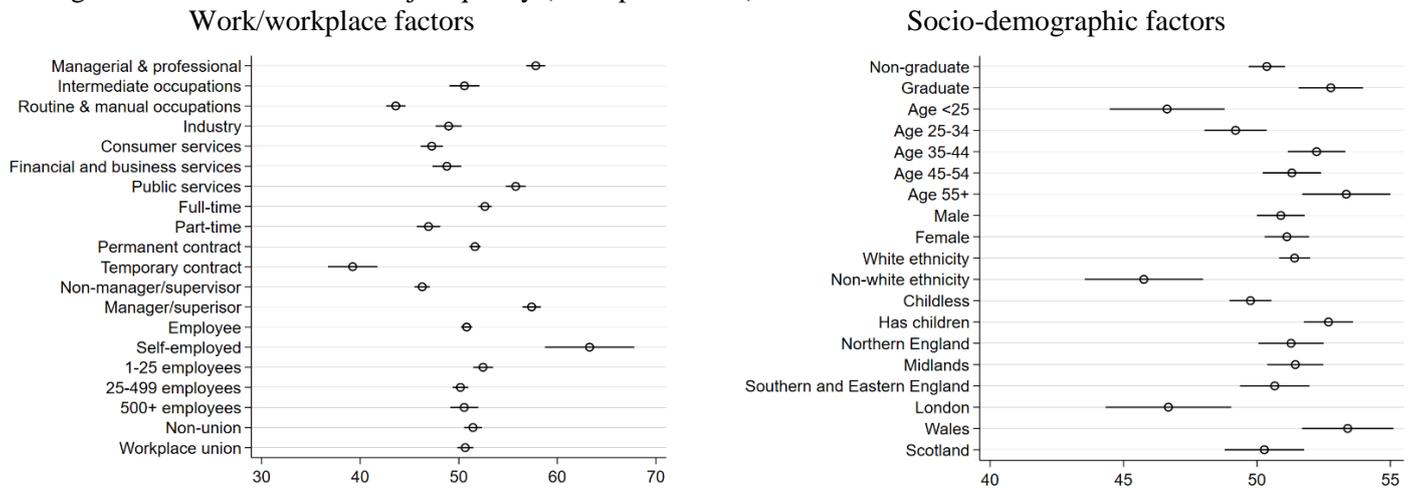
Is Good Work good for you?

Finally, we can use GWI scores as independent variables to predict various wellbeing outcomes net of the controls used above. Here we explore three outcomes and examine their relationship with GWI by using GWI decile (to explore non-linearities). These demonstrate that scoring higher on the GWI is associated with lower negative affect, higher positive affect, higher organisational commitment, greater discretionary effort, and higher life satisfaction. Overall, then, job quality as measured by the GWI is associated with better wellbeing measured in a few ways. What is especially revealing by both these figures is the effect is not linear. Those in the lowest decile (the poorest quality jobs) fare particularly worse even when compared to those in the decile just above, especially with respect to job attitudes and life satisfaction. Moving workers out of such jobs is clearly important for raising national wellbeing.

Figure 2. Overall job quality (GWI deciles) and wellbeing

Affect | Job attitudes | Life satisfaction
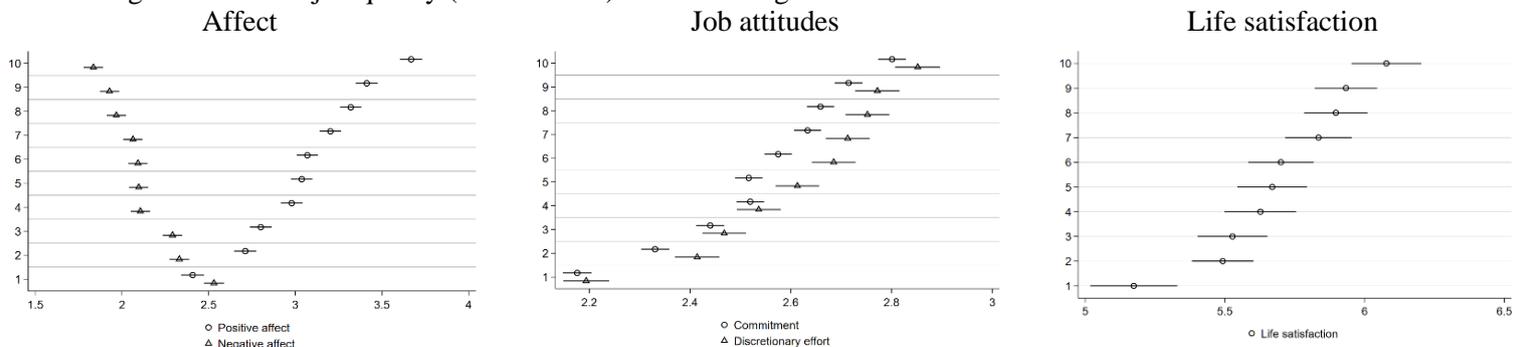
APPENDIX
Table A1. The Good Work Index ingredients

Taylor Review domains	Good Work indicators	Question wording	Coding scheme	Years available
Wages	Hourly pay	What is your usual gross pay before deductions for tax, national insurance and before any tax credits which you may receive? How many hours (per week) do you work for that pay?	Gross pay converted to weekly pay (deflated by the CPI) then divided by usual number of hours per week. Then logarithm is taken.	1986, 1992, 1997, 2001, 2006, 2012, 2017
Employment quality	Job security	Do you think there is any chance at all of you losing your job and becoming unemployed in the next twelve months? 1. Yes 2. No From this card, how would you rate the likelihood of this happening? 1. Very likely 2. Quite likely 3. Evens 4. Quite unlikely 5. Very unlikely	Coded ranging from 0 (very likely) to 4 (no chance).	1986, 1997, 2001, 2006, 2012, 2017
Education and training	Continuous learning	I am now going to read out a number of statements about your job. For each one, please tell me how much you agree or disagree with the statement: "My job requires that I keep learning new things" 1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree	Coded ranging from 0 (strongly disagree) to 3 (strongly agree).	1992, 2001, 2006, 2012, 2017
Working conditions	Skill-use opportunities	How much do you agree or disagree with the following statement: "In my current job I have enough opportunity to use the knowledge and skills that I have" 1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree	Coded ranging from 0 (strongly disagree) to 3 (strongly agree).	2001, 2006, 2012, 2017
	Task variety	How much variety is there in your job? Is there... 1. A great deal 2. Quite a lot 3. Some 4. A little 5. None at all	Coded ranging from 0 (none at all) to 3 (a great deal).	1997, 2001, 2006, 2012, 2017

	Task discretion	How much influence do you personally have on… 'how hard you work?' 'deciding what tasks you are to do?' 'deciding how you are to do the task?' 'deciding the quality standards to which you work?' 1. A great deal 2. A fair amount 3. Not much 4. None at all	The four items reverse coded ranging from 0 (not at all) to 3 (a great deal) and the respondent-specific mean from them is taken as an index.	1992, 1997, 2001, 2006, 2012, 2017
	Job demands	I am now going to read out a number of statements about your job. For each one, please tell me how much you agree or disagree with the statement: "My job requires that I work very hard" 1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree	Coded ranging from 0 (strongly disagree) to 3 (strongly agree).	1992, 1997, 2001, 2006, 2012, 2017
Work life balance	Control over work time	How much do you agree or disagree with the following statement? "I can decide the time I start and finish work" 1. Strongly agree 2. Agree 3. Disagree 4. Strongly disagree	Coded ranging from 0 (strongly disagree) to 3 (strongly agree.	2006, 2012, 2017
Consultative participation and collective representation	Participation opportunities	At your workplace, does management hold meetings in which you can express your views about what is happening in the organisation? 1. Yes 2. No	Coded 1 (yes) and 0 (no).	1992, 1997, 2001, 2006, 2012, 2017

All in all, how satisfied are you with your job?

Possible answers:
1. Completely dissatisfied
2. Very dissatisfied
3. Fairly dissatisfied
4. Neither satisfied nor dissatisfied
5. Fairly satisfied
6. Very satisfied
7. Completely satisfied

Source: Skills and Employment Surveys questionnaire
(http://doc.ukdataservice.ac.uk/doc/7467/mrdoc/pdf/7467_ses_2012_questionnaire.pdf).