quality of working life.

Mapping the Quality of Working Life: An Occupational Approach

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

What is the structure of occupational quality and what has been happening to it?

RESEARCH BRIEF 2

Mark Williams
Ying Zhou
Min Zou

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- In general, the more an occupation pays, the better its overall job quality. However, there are many interesting exceptions to this. For instance, we identify a group of 'artisan occupations' that are some of the lowest-paid but have modest overall job quality (such as beauticians, clergy, hairdressers, pub landlords, and bakers).
- Conversely, we also identify a group of 'routine professionals' that are some of the highest-paid but have only modest overall job quality (mainly related to finance, law, IT, and various other licensed professions).
- When defining the occupational quality structure in terms of overall job quality and not just pay, we find no evidence the labour market has polarized in the last three decades.
- In general, the occupational quality structure has been upgrading through an expansion in the highest quality occupations and decline in lower quality occupations. However, the pace of upgrading has stalled in the last 15 years.
- In general, the lowest quality occupations are most at risk of automation, with the highest quality occupations having the lowest risk, implying a potentially positive evolution in the occupational structure with respect to overall job quality.
- However, job quality has been getting worse in three critical respects across the occupational spectrum. Work has been getting more routine, more controlled, and more intense for all workers.
- Depending on the extent to which displaced workers can smoothly transition into growing higher-quality occupations, a potentially more urgent issue is the declining intrinsic job quality of all workers.

Why map by occupation?

Having developed the Good Work Index (GWI) (see Research Brief 1), we can use it to map how overall job quality is distributed across the occupational structure. It is worth noting why an occupational approach is useful. There are at least three reasons:

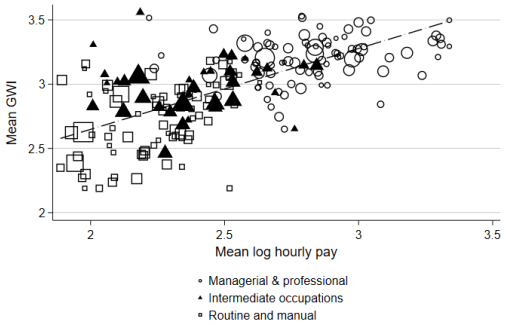
1. Occupational mobility is very low (we tend to stay in the same job for many years), thus the occupational quality structure pertain to the quality of working life over many years within careers;
2. Occupations are an easy to understand and readily relatable unit of analysis, making disparities in the quality of working life more visible and transparent for policy and the general public;
3. Occupations are measured in many existing datasets meaning we can make inferences about the changing structure of job quality in datasets that collected occupation information but not job quality.

The occupational quality structure

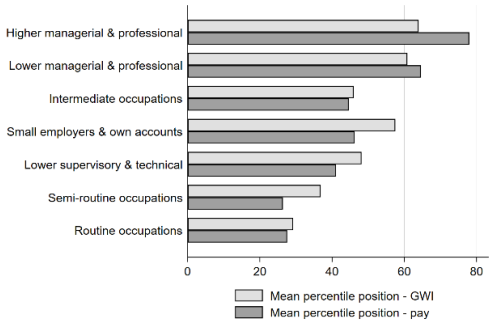
We once again turn to the Skills and Employment Surveys 2006 to 2017. One way to get a handle on how the quality of work is distributed across the occupational structure is by looking at the correlation between average occupational GWI scores (occupational quality) and average occupational pay. In general, higher-paying occupations are better overall. However, the correlation is fairly modest (r = 0.64). The correlation is weaker among the lowest paying occupations, where a greater dispersion in overall job quality is observed. The GWI also broadly corresponds to occupational class, with managerial and professional occupations generally enjoying higher overall job quality than intermediate and manual and routine occupations. Nonetheless, intermediate and routine and manual occupations generally have better job quality overall than their pay would suggest, while the opposite is the case for managerial and professional occupations. As with the occupational pay hierarchy, the class hierarchy is closely related to the overall quality of work, but it is far from perfect.

Figure 1. Overall job quality across the occupational structure

Occupational quality by occupational pay



Job quality by occupational class



What are the exceptional occupations?

One advantage of taking an occupational approach is that we can drill down to the level of specific occupations. In particular, we can also identify interesting 'exceptional' occupations. The table below lists the top 20 occupations with the largest difference between their average pay rank and average GWI rank (i.e., the occupations with the largest positive discrepancy between their job quality and pay). In general, these are some of the most highly-paid occupations—in a sense giving them more scope for their average GWI position to be lower than their pay—while the reverse is true for the other group—they are very low-paid.

Table 1. Top 20 occupations where average GWI percentile position is > average pay percentile position

Detailed occupation (* merged occupations)	Mean GWI percentile	Mean hourly pay percentile	Difference
Beauticians and related occupations	66.9	11.9	-55.1
Hotel and accommodation managers	75.1	25.7	-49.4
Clergy	78.2	32.4	-45.8
Leisure and theme park attendants	57.0	11.7	-45.3
Hairdressers, barbers	58.7	14.1	-44.7
Playgroup leaders/assistants	55.2	19.3	-35.8
Publicans and managers of licensed premises	61.3	29.2	-32.1
Nursery nurses	52.4	21.4	-31.0

Bakers, flour confectioners	47.9	20.1	-27.9
Product, clothing and related designers	82.1	54.8	-27.3
Educational assistants	55.3	29.4	-26.0
Restaurant and catering managers	57.2	31.8	-25.4
School secretaries	57.2	32.6	-24.5
Chefs, cooks	51.8	28.1	-23.7
Care assistants and home carers	46.9	25.3	-21.6
Kitchen and catering assistants	34.1	14.0	-20.1
Dispensing opticians	55.2	37.4	-17.8
Receptionists	44.2	26.4	-17.8
Sales and retail assistants	34.3	16.6	-17.7
Leisure and travel service occupations n.e.c.	45.5	28.2	-17.3

Table 2. Top 20 occupations where average GWI percentile position is < average pay percentile position

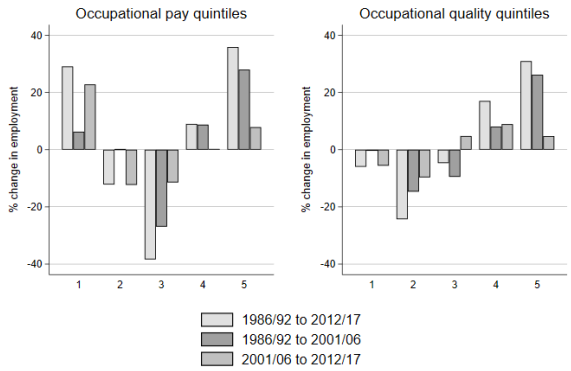
Detailed occupation (* merged occupations)	Mean GWI percentile	Mean hourly pay percentile	Diff.
Aircraft pilots and flight engineers / Air traffic controllers / Ship and hovercraft officers / Train drivers*	41.2	84.1	42.9
Solicitors and lawyers, judges and coroners / Legal professionals n.e.c.*	53.7	83.6	30.0
Computer engineers, installation and maintenance	40.3	69.6	29.9
Financial and accounting technicians	47.9	73.6	25.7
Software professionals	56.0	79.4	23.4
Non-commissioned officers and other ranks	42.8	64.8	22.0
Financial institution managers	61.8	83.5	21.7
Information and communication technology managers	61.8	83.5	21.1
Architectural technologists and town planning technicians / Building and civil engineering technicians*	48.7	70.0	21.0
Engineering professionals n.e.c.	50.8	71.7	20.9
Estimators, valuers and assessors	36.0	56.3	20.4
Registrars and senior administrators of educational establishments / Education officers, school inspectors*	50.0	69.4	19.3
Taxation experts	66.2	85.6	19.3
Chartered and certified accountants / Management accountants*	55.0	74.3	19.2
Architects	65.8	84.7	18.9
Psychologists	66.2	84.6	18.4
Medical practitioners	66.2	84.6	18.4
Directors and chief executives of major organisations / Senior officials in national government*	78.1	96.2	18.1
Financial managers and chartered secretaries	69.1	87.0	17.9
IT strategy and planning professionals	68.3	85.6	17.3

What is interesting about these two clusters of occupations is that even though they are at polar opposites of the pay spectrum (the average percentile position of what we term 'artisan occupations' is 25.5, while it is 78.6 for what we term 'routine professional occupations'), their relative GWI scores are more or less the same overall. Routine professional occupations have an average GWI score of 55.8, while for artisan occupations it is 56.3. This illustrates that even though higher-paying occupations are generally the highest quality overall, there are interesting cases of exceptional lower-paying occupations that actually have modest overall quality, while there are interesting cases of higher-paying occupations (mainly related to finance, IT, and the licensed profession) that have only modest overall quality. The top, middle, and bottom 20 occupations are listed in the Appendix.

What has been happening to the occupational quality structure?

Using the occupation quality scores, we can chart the evolution in the occupational quality structure. The figure below classifies occupations into occupational pay quintiles according to mean pay and occupational quality quintiles according to mean GWI scores to explore the percentage change in employment shares in each category. We find a general decline in the low to moderate occupational quality categories and a general rise in the higher quality categories. This is in contrast to the occupational pay perspective, where we can broadly replicate the patterns of a polarizing labour market found in previous research. Although when consider just the most recent period, the growth in the highest quality quintiles and the decline in the lowest quality quintiles has stalled. Nonetheless, overall, the trends from the entire period imply a somewhat rosy evolution in the occupational structure from this more balanced multidimensional occupational quality perspective.

Figure 2. The changing occupational structure

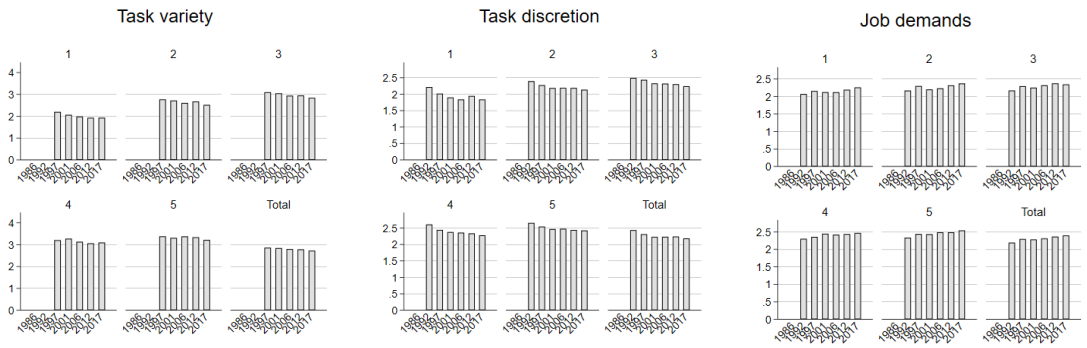


A natural next question is will technology likely continue to have a benign effect on the occupational structure? Such an exercise is reported in the figure below using the Office for National Statistics automation potential scores. Whether we defined the occupational quality structure in terms of pay or the GWI, we find that it is the lowest-paid and lowest overall quality occupations that have the highest automation potential, whereas the highest-paid and highest quality occupations have the lowest automation potential. Overall, this figure, with the obvious caveat about it is hard to predict the future, demonstrates that the occupational quality structure will continue to evolve in favourable ways. Whether displaced workers will end up benefiting from these trends by transitioning to higher quality occupations, though, is another question entirely.

Figure 3. Automation potential across the occupational structure

However, the quality attached to occupational categories has not been constant. The figure below illustrates trends in three of the nine indicators within occupational quality quintiles. They show the quality of work has changed *within* occupations in certain respects. The other indicators showed broad stability over time so we do not report them. The figure shows work across all occupational quality quintiles has become more routine, more controlled, and more intense. While the quality of work is highly differentiated by occupation, and the occupational structure is changing in generally favourable ways, the quality of work attached to occupations is getting worse across the occupational spectrum in these three, critical, respects.

Figure 4. Changes in job quality across the occupational quality structure



APPENDIX

Table A1. Top 20 occupations by mean GWI

Detailed occupation	Mean GWI percentile	Mean hourly pay percentile
Product, clothing and related designers	82.1	54.8
Chartered surveyors (not quantity surveyors)	79.5	75.9
Occupational therapists	79.2	73.8
Clergy	78.8	84.6
Officers in armed forces / Police officers (inspectors and above)*	78.2	32.4
Directors and chief executives of major organisations / Senior officials in national government*	78.1	96.2
Higher education teaching professionals	77.4	81.7
Physiotherapists / Chiropodists*	76.1	70.4
Hotel and accommodation managers	75.1	25.7
Managers in construction / Managers in mining and energy*	74.9	79.8
Personnel, training and industrial relations managers	73.0	78.6
Residential and day care managers	72.8	56.8
Civil engineers / Mechanical engineers / Electrical engineers / Electronics engineers / Chemical engineers*	71.6	77.0
Medical practitioners	71.1	70.6
Purchasing managers	71.0	82.6
Scientific researchers / Social science researchers / Researchers n.e.c.*	70.8	89.1
Management consultants, actuaries, economists and statisticians	70.4	85.9
Social services managers	70.2	71.6
Farm managers / Natural environment and conservation managers / Managers in animal husbandry, forestry and fishing n.e.c.*	69.8	58.1
Financial managers and chartered secretaries	69.1	87.0

Notes: *Denotes occupational unit group has been merged with another or multiple unit groups to increase cell size.

Table A2. Bottom 20 occupations by mean GWI

Detailed occupation	Mean GWI percentile	Mean hourly pay percentile
Elementary personal services occupations n.e.c. / Hospital porters / Hotel porters*	31.8	21.4
Food, drink and tobacco process operatives	31.3	36.7
Elementary sales occupations n.e.c.	29.6	31.6
Other goods handling and storage occupations n.e.c. / Stevedores, dockers and slingers*	29.4	29.6
Call centre agents/operators	28.9	24.8
Bus and coach drivers	28.1	32.1
Assemblers (vehicles and metal goods) / Assemblers (electrical products) / Tyre, exhaust and windscreen fitters*	28.0	39.7
Traffic wardens	25.7	24.5
Cleaners, domestics	24.5	15.7
Postal workers, mail sorters, messengers, couriers	24.1	40.7
Telephonists / Market research interviewers*	23.5	15.6
Waiters, waitresses	22.9	19.3
Retail cashiers and check-out operators	22.6	12.0
Shelf fillers	22.4	39.1
Bar staff	22.1	37.0
Van drivers	22.1	27.0
Packers, bottlers, canners, fillers	21.6	10.2
Launderers, dry cleaners, pressers	21.3	19.6
Textiles, garments and related trades n.e.c. / Weavers and knitters / Upholsterers / Leather and related trades / Tailors and dressmakers*	21.1	18.0
Driving instructors	13.1	42.0

Notes: *Denotes occupational unit group has been merged with another or multiple unit groups to increase cell size.

Table A3. Middling 20 occupations by mean GWI

Detailed occupation	Mean GWI percentile	Mean hourly pay percentile
Educational assistants	55.3	29.4
Chartered and certified accountants	55.0	74.3
Retail and wholesale managers	54.6	42.2
Tool makers, tool fitters and markers-out	54.2	58.9
Solicitors and lawyers, judges and coroners / Legal professionals n.e.c.*	53.7	83.6
Nursery nurses	52.4	21.4
Metal working production and maintenance fitters	52.4	57.7
Library assistants/clerks	52.3	45.3
Caretakers	52.3	39.7
Chefs, cooks	51.8	28.1
Journalists, newspaper and periodical editors	51.6	58.8
Ambulance staff (excluding paramedics)	51.1	48.6
Vehicle body builders and repairers	51.1	53.2
Local government clerical officers and assistants	50.9	59.1
Engineering professionals n.e.c.	50.8	71.7
Registrars and senior administrators of educational establishments / Education officers, school inspectors*	50.0	69.4
Production and process engineers / Planning and quality control engineers*	49.9	67.1
Carpenters and joiners	49.6	46.3
Transport operatives n.e.c. / Rail transport operatives/ Seafarers (merchant navy); barge, lighter and boat operatives / Air transport operatives*	49.0	49.7
Window cleaners	49.0	33.4

Notes: *Denotes occupational unit group has been merged with another or multiple unit groups to increase cell size.