



Consultation on revising the Standard Occupational Classification 2010 (SOC2010)

Submission to the ONS consultation

14 April 2016

Recommendations

- The number of occupations included within SOC should be increased through the introduction of 5-digit unit groups.
- The indexing term 'technician' should be used more widely in unit groups and the indexing term 'engineer' should not be used in Major Group 5: Skilled Trades Occupations.
- Any revisions to SOC should be accompanied by a communication campaign to engage more stakeholders in understanding SOC and how it is relevant to them.

Introduction

- 1 Gatsby is a foundation set up in 1967 by David Sainsbury (now Lord Sainsbury of Turville) to realise his charitable objectives. We focus our support on a limited number of areas:
 - Plant science research
 - Neuroscience research
 - Science and engineering education
 - Economic development in Africa
 - Public policy research and advice
 - The Arts
- 2 As part of our support for science and engineering education, Gatsby has a strong interest in the growth and promotion of the technician workforce. Technicians are the lynchpins of the UK economy, delivering integral support for productivity in many of our country's high-growth industries.
- 3 This response reflects our experience of using SOC as part of our work in technical education and training. As such, our response concentrates on the use of SOC as a classification system rather than the statistics that are derived from it. We believe that SOC and the labour market information (LMI) that it enables can and should play a

much bigger role in conversations about work and education, but this necessitates a shared understanding of what SOC describes.

SOC index terms: technician and engineer

- 4 Based on three different reports analysing the labour force using SOC codes, Gatsby believes that over 1.5 million technicians are employed in the UK. The majority of these technicians are employed in engineering roles, but there are also significant numbers working in science, health and technology. In line with government thinking and the practice of STEM professional bodies, Gatsby describes technician roles as those requiring the practical application of knowledge in of science, engineering or technology at NQF levels 3 to 5.
- 5 'Technician' is a helpful indexing term for describing STEM-based occupations that require intermediate skills rather than a degree. In SOC terms, technician occurs most frequently in Major Group 3: Associate Professional & Technical Occupations, but we believe it would be helpful to make more use of technician as an index word within the unit groups of Major Group 5: Skilled Trades Occupations. This would align usage more closely to the professional recognition of technician used within Science, IT and Engineering. We would be happy to discuss our research on technicians¹ and the implications that this has for use of technician as an indexing term.
- 6 Generally, the title 'engineer' is associated with Major Group 2: Professional Occupations. This is consistent with the way that professional bodies use the term, indicating the possession of a least a first degree or equivalent. However, a number of unit groups within Major Group 5 also use the term engineer (e.g. 5225 Air-conditioning and refrigeration engineers, 5242 Telecommunications engineers, 5244 TV, video and audio engineers, 5245 IT engineers, and 5314 Plumbers and heating and ventilating engineers). From our work with employers, we do not believe that this confusion reflects common usage and it is not apparent in the International Standard Classification of Occupations (ISCO) or the US Occupational Classification systems. We also note that the guidance for apprenticeship trailblazers is clear that only higher apprenticeships at level 6 and above should use have the word engineer in the title. We recommend that the use of engineer should be restricted to unit codes in Major Group 1: Managers, Directors & Senior Officials and Major Group 2: Professional Occupations.

Labour market information

- 7 The work² that Sir John Holman has done for Gatsby looking at careers education emphasises the critical role of LMI in helping young people and their influencers understand careers and how to access them. However, UK LMI is limited compared to what is available in other countries, for example, through the US occupational database O*NET.

¹ <http://www.gatsby.org.uk/education/programmes/the-technician-workforce>

² <http://www.gatsby.org.uk/uploads/education/reports/pdf/gatsbygoodcareerguidance8pagea5.pdf>

- 8 O*NET provides more information about the characteristics of occupations across a greater number of occupations than the UK. UK SOC2010 has 369 unit groups whereas US SOC2009 has 821 (Germany has 1,286 5-digit code Occupational Types).
- 9 In 2015 Gatsby funded a workshop looking at the potential for using O*NET in the UK context.³ At the workshop, it was agreed that rather than attempting to replicate investment level required to develop an alternative to O*NET, work should be carried out to see how much of O*NET could be translated into the UK context.
- 10 The UKCES data portal LMI4All⁴ has made some use of O*NET, but we think more could be done. One possibility would be to use O*NET data to provide more nuanced descriptions of the unit groups within SOC. O*NET could also be used as a starting point for developing 5-digit unit groups within the UK SOC hierarchy.
- 11 Another area of careers where SOC codes, informed by O*NET, could play a significant role in the outcome data that will be produced when learner records are linked HMRC data. Income will always be a significant factor for helping young people to decide the value of qualifications, but if HMRC data could be linked to SOC codes, then there is the potential to help learners understand what sorts of work they would do based on the qualifications that they choose.
- 12 Gatsby has been supporting some LEPs to use LMI to inform their skills strategies. Our experience is that LEPs, like many other users, will always ask for more data at the most granular level possible. In practice, more data is not always the answer, but it is clear from our work that the data that they can access is not fit for purpose, particularly in some of the technical occupations which are critical to their growth strategies. LEPs want to understand more about the skills requirements of these occupations and how to support the development and better utilization of these skills. We hope that any revisions to SOC will help to address this issue.

Technical Education

- 13 One thing that almost all commentators agree on is that the UK's system for vocational education is complex and fragmented. In part we believe that this is because vocational education lacks a reference framework to inform the amount and type of provision that should exist.
- 14 Recently, there has been a shift in vocational education towards using occupation as an organising principle. However, in the UK there is not a consensus about how occupation is defined, so there is no mechanism for determining what is and what is not an occupation. SOC should have provided this mechanism.
- 15 The recent reforms to apprenticeship have attempted to put occupation at the heart of the reforms by stating that there should now only be one apprenticeship per occupation. However, rather than using SOC to determine occupations, employers have been allowed

³ <http://www.gatsby.org.uk/uploads/education/reports/pdf/onet-workshop-report.pdf>

⁴ <http://www.lmiforall.org.uk/>

to identify and define what they mean by an occupation with no reference to SOC. This has resulted in large numbers of apprenticeship standards being developed often with significant amounts of overlap between them.

- 16 The fact that the SOC classification was not used in this process is in part due to a lack of familiarity, by employers and civil servants, with the classification, but it also seems clear that the 4-digit unit groups are not sufficiently granular to describe occupations in a way that employers understand.
- 17 The difficulty in using SOC to describe occupations in a way that can inform education has also surfaced in the recent work that we have been doing on behalf of the independent panel, chaired by Lord Sainsbury, which was asked to simplify the currently over-complex system for technical education. The panel are likely to suggest that technical education should be organised around a number of routes which are derived from clusters of occupations with similar education requirements. Their recommendations will be based on an analysis of SOC unit groups to identify which occupations should be included within TPE routes. Again, when testing this analysis with employers, it is clear that 4 digit-SOC is not sufficiently granular to describe occupation as they understand it.
- 18 As part of the analysis of the routes, Gatsby commissioned the Institute for Employment Studies (IES) to map SOC codes to the O*NET database in order to explore some of the knowledge and skills requirements (not attributes) of occupations in greater detail than is possible with the available UK data. It was striking that the educational requirements for occupations at SOC level (e.g. a single UK SOC unit group which generally contains multiple US SOC unit groups), were spread across a significant range (e.g. from high school diploma to associate degree). We believe this may suggest that, in terms of education, UK SOC unit groups are too heterogeneous.
- 19 Overall, our work on technical education suggests that the current 4-digit unit groups are frequently too broad to help inform technical education.

Looking Forward

- 20 When UKCES looked at the issue of 5-digit SOC, they came to the conclusion that the benefits of collecting data at this level would not be significant enough to justify the increase in the amount of data collection that would be needed in order to produce reliable statistics at this level.
- 21 We would argue that SOC could and should be more than the basis upon which national statistics are collected. They have a function in helping people to understand the occupational labour market in ways that will inform curriculum design and individual choice. We believe that this function can only be delivered at 5-digit level, but this function does not necessitate collecting data.
- 22 Any reforms to SOC codes need to look at not only what is likely to happen to occupations in the future but also how occupational data is collected. Advances in technology are likely to make it possible to collect more granular labour market information than is collected

currently. For example, we are aware of a number of initiatives to start 'scraping' occupational data from online job advertisements. The risk is that if there is no agreed system for coding the collected information, then it will not be possible to link different datasets together. Any revision to SOC needs to consider how the system can facilitate the use of these new data sources by providing an more extensive taxonomy based on an expanded version of SOC.

23 Occupations change. We cannot predict what new occupations will emerge in the next 10 years nor which will disappear. Our research on technicians, working in industries critical to our future growth such as biotechnology, composites and space, shows that these occupations are evolving rapidly in response to technological change. A more granular SOC system is essential in identifying, understanding and communicating the skills requirements of these new occupations and ensuring that the skills system prepares young people for these new roles.

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