

How (can) we measure skills?

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It is not uncommon to read newspaper reports of skill shortages, or a demand for more people with skills in this, that, or the other. But what is meant by skill? The Oxford Dictionary definition of skill [i](#) is the *ability to do something well* and in the context of the labour market that *something* refers to a job or an aspect of it. In the Skills Panorama a multi-faceted approach to measuring of skills is taken [ii](#).

Different approaches to measuring skills

Typically, information about skill levels is collected through various surveys of individuals and employers. These surveys tend to use one or more of the six following measures or proxies of skill:

1. occupation;
2. qualification;
3. duration of education;
4. skill tests;
5. self-assessment;
6. job requirements.

All of these approaches have their advantages and disadvantages:

Occupation provides an indication of the types of job undertaken by those in employment. Building on this approach, the International Standard Classification of Occupations (ISCO-08) allocates jobs to occupations, based on a description that takes into account the level of qualification and the type of tasks to be carried out – which makes ISCO-08 occupations a good proxy measure for skill levels. ISCO-08, however, is not a strict hierarchical structure: one set of jobs is not necessarily considered to be more skilled than another. That said the percentage of people employed over time in, for instance, managerial, professional and associate professional occupations – i.e. higher level occupations – provides an indication of the extent to which skill demand is rising or falling.

The highest level of **qualification** held by an individual may also offer a proxy for skill level. By using a standard classification system, such as the International Standard Classification of Education (ISCED), it

is possible to estimate the extent to which people are qualified at different levels. If, over time, more people in employment are qualified at a higher level, then this might reflect the increasing skill intensity of employment. Similarly, the **duration of education** provides a measure of skill analogous to that of qualification. The assumption is that there is a positive relation between an individual's time spent in education and their skill levels. The disadvantage of using qualification and duration of education as measures of skills is that they cannot fully depict the several skill levels and abilities that can be observed within a given qualification level. Such heterogeneity can be observed across and within countries, as highlighted by the OECD PIAAC results on information-processing skills [iii](#). The field of study can also be used as proxy for the type of skills an individual has acquired.

Skill levels can be determined by **testing skills** directly. These tests involve assessments in which respondents are asked to complete assignments that are standardised and allow comparing skills levels across a particular population. Internationally, the most regularly tested are literacy and numeracy [iv](#). Perhaps the most well-known use of skills testing is the OECD's Programme for International Student Assessment (PISA) that first ran in 2000 and continues to this day. While the use of skills tests provides objective measures of skills, in practice standardised skills testing are complex and time-consuming exercises that provide information on a relatively narrow range of specific skills.

Individuals may also self-report the skills they possess or the skills they use in their day-to-day jobs. **Self-assessment** approaches tend to cover a wide range of skills, but as with many self-reported surveys, there are concerns about the accuracy with which people self-assess their skills. For reasons of self-esteem, for instance, people may be tempted to report that they are more (or less) skilled than they really are.

Instead of asking individuals to self-assess their skills levels, the **job requirement** approach asks then about the skills they use in their jobs. This provides both a proxy measure of skill levels (individuals are assumed to possess these skills as they exercise their jobs) and of skill demand (the skills needed in a particular job). This approach can focus on a range of basic and generic skills (e.g. literacy, communication, influencing skills, etc.), and whether the importance of a particular skill is increasing or decreasing.

A panoramic approach

Notwithstanding their limitations, skills data based on occupation, qualification, and duration of education are widely available. The European Labour Force Survey (EU-LFS) provide a statistically representative and comparative picture of skills in the workforce by occupations and qualification. Skills tests, self-assessment, and job requirements are carried out via ad hoc surveys. All types of skill measurements currently available have their limitations. In combination, however, the various measures provide a basis for assessing skills demand and supply in the European Union.

As the Skills Panorama continues to develop, indicators and analysis will be provided using the various measures discussed above to offer a more comprehensive picture of European skills demand, supply and the gap between the two.

[i] "skill." Def.1. OxfordDictionaries.com. Oxford Dictionaries, Web. 12 Jan. 2016.

[ii] For further reading on the different perspectives on and typologies of the concept of skill, see for example Green (2011) [What is Skill? An Inter-Disciplinary Synthesis](#) Centre for Learning and Life Chances in Knowledge Economies and Societies.

[iii] OECD (2013) Skilled for Life? Key findings from the survey of adult skills

[iv] Other skills that are also tested on an international level are mathematics (TIMMS), civic competencies (CIVED) and problem solving (in IALS and PIAAC).

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