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Measuring skills mismatches revisited - introducing sectoral approach
Extended Abstract

Abstract

The aim of the paper is to present the development of survey-based assessment of skills mismatch. In recent years, several international and national studies are conducted to measure the level of skills and educational mismatches. We review the up-to-date advancement, in particular in large scale international surveys: Survey of Skills (PIAAC) co-ordinated by the OECD and European Skills Survey organised by the CEDEFOP.

We support our analysis and approach with quantitative assessment using the European Skills Survey data, including the assessment of skills needs by sector of employment and occupation and the self-reported skill match to the identified needs. We find out that skills needs are different across sectors, which affects the assessment of skills mismatch. Skill mismatch is most frequently reported in the case of basic literacy, communication and teamwork skills.

We identify potential methodological advancement in measuring skills based on defining core knowledge, skills and competencies at the sectoral level. This is done, for example with the development of sectoral qualifications framework or through skills definitions in the ESCO portal. We assess the usefulness of this approach in measuring the level of skills mismatch.

Key words: skills mismatch, skills needs, sectoral qualifications frameworks

Measuring skills, skills needs and skills mismatch becomes one of the important topics of labour market and educational research (Quintini, 2011). Population ageing that leads to declines in the working age population means that there is a need to improve labour market efficiency, increase employment levels through reducing labour market mismatches as well as improve productivity levels.

Most commonly, skills mismatch is defined in terms of excess or shortage of skills and/or qualifications held by the individual in relation to the job requirements (CEDEFOP, 2012). The skills mismatch is an imperfect match between the required level or the range of skills in relation to the job requirements. Effective skills-jobs matching is primarily affected by problems of incomplete information and transaction costs on both of employers and employees side.

In literature there are three main approaches to measuring skills (or educational) mismatches: self-assessment of employees, (formal) job requirements and realized matches (Leuven, Oosterbeek 2011). The latter is the measure, created by a comparison of individual's level of skills with the mode on the same job. In practice, the majority of publications follow the first path. The datasets on skills and competences usually lack information on formal job requirements, as well as, they are not exact enough to measure realized matches, since it is usually hard to tell, if the job is indeed the same.

In recent years two large-scale international surveys: Surveys of skills (PIAAC) and European skills and jobs (ESJ) survey include items that allow assessing skills mismatch. Both show skills mismatches in terms of self-assessment of employees.

In the paper we use the results of the ESJ survey to first assess, what is the level of skills needs in different sectors and occupations and what is the level of skills mismatch in these sectors and occupations. The results indicate that the self-reported skills match differs by sector. The lowest share of skill match combined with the largest share of (self-reported) overskilled workers is seen in accommodation, catering and food services; retail, sales shop work or wholesale as well as transportation or storage. The best skills match is reported by workers in construction or building; supply, management or treatment of water or steam, supply of gas or electricity, mining or quarrying.

We also see that in some sectors, workers indicate that they are overskilled when the need for skills seems to be less essential, in other sectors overskilling is reported in the high level of skills needs. The highest level of overskilling is reported in the case of jobs with the following skills needs: basic literacy, advanced ICT, teamwork, problem solving and communication. The latter three types of skills are typical soft skills that are ranking among those that are mostly sought by employers. Sectors in which workers tend to report higher than average overskilling are retail and sales, accommodation, catering and food services and information technologies and communication.

When we compare the assessment of skills needs and the level of overskilling reported by workers, we see that these two dimensions need to be put together to understand the level of skills that are possessed by workers

In the case of literacy, the overskilling in **basic literacy** is reported in sectors, where such level of literacy is most frequently required (accommodation, retail, transportation), but also construction, where we see more demand for advanced literacy. **ICT skills at advanced level** are expected mainly in ICT as well as professional serviced. Overskilling in advanced IT skills is seen in sectors with lower need for such skills (cultural, construction, education or health). Similarly, **communication skills** are important and essential in financial services and ICT, retail, cultural services with overskilling reported frequently. On the other hand, higher than required level of these skills is observed in accommodation and catering, where they are less required. **Teamwork skills** are reported at higher than required level in sectors with high demand for such skills: financial services and ICT, but also where the demand is lower: accommodation, catering and retail and sales. Table 2 shows that these conclusions also hold and are even stronger when we control for different individual characteristics.

Results of the ESJ survey show that measuring skills match is subjective and depends on sector and occupation. The skills mismatch is a concept based on relative assessment. The benchmark in such assessment differs across sectors and occupation. Therefore, the incidence of overskilling cannot be easily compared. For example, those that indicate higher than required problem solving skills in transportation may have skills below expectations if we use the benchmark of the ICT services.

From the perspective of developing response to the skills needs of employers, it is important to think about measuring skills that would be based on less subjective benchmark. We propose to use the descriptors of knowledge, skills and competences on sectoral level, which are developed within the scope of European and national qualifications frameworks. Level descriptors at relevant levels of EQF/NQFs can be assigned to selected skills or competences that are needed in sectors and In some countries there are also examples of sectoral qualifications frameworks, that would make such assignment even more clear. This would allow for better measurement of skills supply against comparable across sectors benchmarks.

Such approach is close to "job requirements" method of measuring skills mismatches. However, it allows much more common understanding. The qualifications frameworks aim at covering wide range of qualifications, therefore they allow convenient generalizations, that will help to fill blanks generated by "typical" occupational standards.