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**Article**

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Majda Seghir

## The Evidence Gap in Labour Shortage Assessments

In November 2023, the European Commission unveiled a set of initiatives to address severe labour shortages. These included the creation of the European Union Talent Pool,<sup>1</sup> an online platform designed to facilitate connections between employers in the EU and jobseekers from non-EU countries. This platform provides a repository of skills and facilitates international recruitment and legal migration procedures. These measures are intended to complement other efforts at the EU and national levels, including initiatives to re-skill and up-skill the existing workforce to meet the changing needs of employers. These efforts also include activating the inactive population and increasing intra-EU mobility. The formulation and implementation of such policies underscore a major concern of policymakers regarding the phenomenon of labour shortage within the EU. Concurrently, they raise crucial questions about the extent of evidence available to substantiate claims of labour shortages, the circumstances under which such shortages arise and the mechanisms that drive them.

### Labour shortage: A multifaceted concept

The conceptualisation and measurement of labour shortages remain the subject of ongoing debate in academic and policy circles. While there is no consensus on a single framework, previous research – particularly studies focusing on wage determination and shortages in engineering and science – mainly in the United States, provides theoretical insight into the conditions conducive to shortages. Accordingly, a shortage occurs when the growth rate of labour supply lags behind that of labour demand at prevailing wage levels. This perspective emphasises the importance of the relative dynamics between supply and demand in shaping the occurrence of shortages. In

particular, dynamic shortages are associated with a pronounced and persistent increase in demand for some occupations and limited supply adjustment.<sup>2</sup> Several key factors may therefore contribute to the occurrence of shortages, including a pronounced and persistent increase in demand for certain occupations, limited elasticity of supply, sluggish market adjustment and wage rigidities. For example, occupations such as medical doctors, which have restricted entry or certification requirements create barriers to entry, are particularly vulnerable to shortages when faced with a surge in demand. The limited supply resulting from regulatory constraints exacerbates the mismatch between labour supply and demand, thereby increasing the likelihood of shortages.

Another approach that is largely agreed upon, considers shortages to be a market disequilibrium between supply and demand, i.e. the quantity of workers demanded exceeds the available supply and will to work at a particular wage and set working conditions at a particular place and point in time (Barnow et al., 2013; Dustmann et al., 2010). This emphasises the importance of delimiting the geographical scope of the shortage, as it may manifest either locally within specific regions or extend to a national scale. Furthermore, defining the duration of the shortage allows for the assessment of its severity. Temporary shortages indicate the necessary time for supply-side adjustments. For example, temporal shortages may arise due to the lag between the emergence of heightened labour demand and the subsequent dissemination of relevant information to potential workers regarding areas with high labour demand.

### Measuring labour shortage: A complex task

Labour shortage is often operationalised in practice through the use of indicators such as hard-to-fill vacancies or recruitment difficulties reported by employers in surveys. Indeed, most evidence on labour shortages comes from surveys in which employers are asked about the difficulties they face in finding and recruiting staff with the required skills. However, employers may face recruitment difficulties for a number of reasons, such as offering inadequate remuneration, unfavourable working conditions or being located in geographically unattractive areas. These factors contribute to recruitment difficulties even in the absence of a genuine labour shortage.

<sup>1</sup> [https://eures.europa.eu/eu-talent-pool-pilot\\_en](https://eures.europa.eu/eu-talent-pool-pilot_en).

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<sup>2</sup> See the Blank-Stigler (1957) and Arrow-Capron (1959) models.

In some cases, despite a large pool of available workers willing to take up the job, employers may express concerns about labour shortages. This scenario arises when the available labour force has the necessary formal qualifications but lacks the essential generic skills required to meet employers' needs. Such a mismatch highlights a nuanced aspect of labour market dynamics, where the focus shifts from mere availability to the matching of skills to job requirements. Consequently, the manifestation of perceived shortages goes beyond the mere availability of workers to the adequacy of their skills to meet the multiple demands of the labour market.

Labour market shortages arise from the combination of challenges related to the quantity and quality of the available workforce in a given geographical area, as well as employment conditions. Relying on recruitment difficulties as reported solely by employers is thus a limited indicator of shortages. It does not indicate whether the problem is one of the quantity or quality of the workforce, or of unattractive employment conditions. Conclusions drawn solely from ad hoc employer surveys or the vacancy rate can be misleading. For a more comprehensive understanding, it is essential to complement such measures with additional indicators that take into account both the availability of the labour force and its quality in terms of the skills demanded by the labour market and employment conditions.

The Organisation for Economic Co-operation and Development (OECD, 2017) framework for measuring skill shortages provides an alternative departing from a definition of skill shortages as the inability of employers to recruit skilled workers from the local labour market at prevailing wage rates and working conditions. This definition is operationalised by creating a multidimensional indicator of skill shortages at the occupational level. This indicator combines measures of employment pressure (total employment, unemployment rate and hours worked), wage pressure and talent pressure (under-skilling). The rationale behind this approach is that occupations experiencing real shortages should show faster wage growth, high employment and low unemployment rates, an increase in the hours worked by available workers and an increase in the proportion of underqualified workers. This indicates that there is a limited pool of candidates with the required skills. Skill requirements are then mapped to each occupation to identify skill mismatches.

Although this multidimensional approach seems more promising for identifying labour shortages, the indicator lacks the ability to determine which dimension is driving the shortage situation and, consequently, which policy measures are more effective in alleviating this shortage.

Furthermore, this indicator has the limitation of relying on components that are highly sensitive to cyclical factors, making it difficult to identify structural skill shortages. The optimal measure of skill shortages must match the skills demanded by employers with the skills available in a given labour market. In this case, the main obstacle is the availability of reliable disaggregated data collected from employers, including job vacancies and terms and conditions of employment offered, complemented by data on the available supply of skills.

### Exploring the causes of labour shortages

As highlighted above, empirical evidence on causal factors of labour shortages remains scarce. The causes of labour shortages are often presented as a mere list of potential determinants, lacking both in-depth examination and empirical investigation. On the demand side, structural changes such as shifts in consumer preferences, changes in production processes and technological advances have a significant impact on the skill composition of labour demand. Such changes often lead to an increased demand for specific skills, requiring a corresponding adjustment of the available labour force to meet the evolving needs of the industry.

Conversely, supply-side factors, such as an ageing population or a limited labour reserve due to high employment rates or low participation rates, can lead to shortages by limiting the pool of available workers. In addition, mismatches between the skills and qualifications available in the labour market and those required by employers exacerbate shortages, highlighting the need to adapt education and training programmes to the evolving needs of industry and to improve the quality match between workers and their jobs. In addition, limited mobility of workers between regions or within the EU can exacerbate shortages in certain geographical areas, thereby limiting employers' access to skilled labour.

### What are the potential solutions to address the labour shortage?

A commonly advocated solution to labour shortages is the recruitment of foreign workers. This is a relatively straightforward solution for employers to find workers with the required skills. However, it can pose challenges if the occupations or sectors experiencing shortages are unattractive. In such cases, foreign workers may temporarily fill these positions, potentially re-creating the shortage problem when they eventually seek more attractive employment opportunities. Furthermore, the reliance on foreign workers is a matter of contention in public opinion due to its impact on social integration and potential com-

petition with native workers, which affects employment outcomes. The effectiveness of migration policies in addressing labour shortages in European countries (Seghir and Nezhyvenko, 2024) remains an underdeveloped area of research, and further investigation is needed to assess its reliability.

In the meantime, employers facing difficulties in filling vacancies have various solutions staff. Nevertheless, including increasing the hourly workload of existing staff. Nevertheless, while this approach may provide a short-term solution, its long-term viability is questionable due to its potential negative impact on employee well-being, satisfaction and productivity. Another straightforward approach is to increase wages and improve working conditions to attract highly skilled workers, provided there is a sufficient pool of suitable candidates. Despite the effectiveness of this strategy in theory, employers are often reluctant to implement it due to concerns about increased labour costs and potential perceptions of unfairness among incumbent workers. An alternative approach is to hire lower-skilled workers and provide on-the-job training, which is a more sustainable solution. Furthermore, whenever possible, restructuring job roles to delegate certain tasks to workers in shortage occupations can be part of the solution to shortages.

The successful implementation of solutions designed to alleviate labour shortages is contingent upon an understanding of the structural factors that drive these shortages. Structural changes, such as shifts in skills demand driven by technological advancements, necessitate a multifaceted approach. This includes reforming education systems to integrate new qualifications demanded by employers, upskilling and reskilling the existing workforce, and potentially relying on foreign labour as a short-term solution to meet immediate needs.

## Conclusion

The lack of a robust measurement framework for identifying shortages poses a significant challenge to the effectiveness of any policy initiative aimed at addressing the issue. The development of such a framework requires not only the identification and definition of shortage indicators, but also a nuanced understanding of the contextual factors that contribute to their emergence and persistence. It also requires the collection of detailed data on various aspects, including job vacancies, working conditions and the skills demanded and available in different occupations and geographical areas. High-quality data is essential to ensure the reliability and validity of measurement results in relation to the different circumstances that give rise to shortages.

Improving the measurement of shortages by providing more accurate data not only facilitates the identification of shortages, but also allows for a comprehensive examination of the structural factors underlying these shortages. This in turn allows for the formulation of targeted and effective interventions to address them effectively. With regard to policy solutions, post-implementation evaluation is essential to assess the impact and effectiveness of policies. Such evaluations enable policymakers to identify successful strategies, refine approaches where necessary and inform future policy decisions.

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