SKILLS MISMATCH IN EU NEIGHBOURHOOD

MEASUREMENT, DETERMINANTS AND POLICY IMPLICATIONS

MIRCEA BADESCU & CRISTINA MEREUTA (ETF)
SUMMARY

Measuring skills mismatch in the EU neighbourhood
What is the ETF evidence on skills mismatch?
How adequate/relevant is it today?
Which determinants for skills mismatch?
Who can be mismatched? What are the consequences?
Skills mismatch: the alternative policy lens
Employing a combination of methods/metrics
And using qualifications as proxies for skills
Looking at vertical/horizontal mismatch
Based on Labour Force Surveys - LFS data
By trading off (inter)national taxonomies
And aggregating data into broad categories
Aiming at harmonisation and comparability
Splitting indicators: core/optional/desired

Framing the skills mismatch: What?/Why?/How?
What kind of *indicators* do we use? Why? How long?

*No indicator can solely capture the mismatch!*

**Core**
- Occupational (aka vertical)
- Field of study (aka horizontal)
- Over/Under-education
- NEETs (contextual)
- Unemployment rates (contextual)
- Ratios (contextual)

Results available by age/sex/broad educational level/vet

**Optional**
- Coefficient of variation
- Variance of (un)employment rates
- Duration of unemployment by educational attainment
- Relative wages
- Beveridge curve
## MEASURING THE **HORIZONTAL / VERTICAL** SKILLS MISMATCH

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>TYPE</th>
<th>DEFINITION</th>
<th>METHOD</th>
</tr>
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<tbody>
<tr>
<td><strong>Vertical</strong></td>
<td></td>
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</table>
|           | Overeducation (overqualification) | Worker’s level of education (qualification) exceeds the required level for the job (occupation) | Subjective  
Normative (refers to the level of skills (education) required to work in a specific occupation category  
Empirical (the statistical or realized matches method) using either the mean or the mode of education within a occupation category ; Job evaluation method |
|           | Undereducation (underqualification) | Worker’s level of education (qualification) is lower than the required level for the job (occupation) | As above |
|           | Overskilled | Worker’s level of education (qualification) exceeds the required level for the job (requirements) | Subjective (but rare to find datasets including questions such as “to what extent are your skills utilized in this work?”) |
|           | Underskilled | Worker’s level of education (qualification) is below the required level for the job (requirements) | As above |
| **Horizontal** | Field of study to occupation mismatch | The field of study does not match the occupational area of the job | Subjective (e.g. is your job matching your field of education?)  
Objective (using ISCO and ISCED-F codes) |
**SKILLS MISMATCH: WHAT DO WE KNOW SO FAR?**

**Overqualified VET graduates**

Up to one in three adults

Mismatch by fields of studies

Up to 40% of youths are overskilled

Mismatches by fields of studies:

- At least half of adults in most countries
- Up to one in three adults
- At least 1/3 are mismatched

Countries included:

- Albania, Armenia, Belarus, Bosnia-Herzegovina, Egypt, Georgia, Jordan, Kosovo*, Kyrgyzstan, Moldova, Montenegro, North Macedonia, Palestine*, Serbia, Tunisia, Turkey, Ukraine
ETF data showing a high incidence of mismatch in all partner countries...

The overskilled individuals are those holding jobs requiring lower levels of their formal qualifications. Example for overskilled value in Serbia: one in four (26%) tertiary graduates (ISCED levels 5-8) were employed in semi-skilled occupations (ISCO-08 groups 4-8), usually requiring lower levels of formal qualifications. Overeducated individuals are those having a formal educational (ISCED) level which is above an identified value for a job/occupation in the country. The ETF estimations are based on a modal educational level in each occupational group in a country (i.e., the one identified most frequently), using the most detailed level information available (i.e. ISCO-08 1/2/3 digit-level data). Also known as the ‘empirical method’, the ETF definition is fully harmonised with ILO recommendations.
The overskilled individuals are those holding jobs requiring lower levels of their formal qualifications. Example for overskilled value in Türkiye: one in three (33%) tertiary graduates (ISCED levels 5-8) were employed in semi-skilled occupations (ISCO-08 groups 4-8), usually requiring lower levels of formal qualifications. Likewise, one in ten (10%) upper/post-secondary graduates (ISCED levels 3-4) were employed in elementary occupations (ISCO-08 group 9), usually requiring lower levels of formal qualifications. The ETF definition is fully harmonised with ILO recommendations.
Overeducated individuals are those having a formal educational (ISCED) level which is above an identified value for a job/occupation in the country. Likewise, the undereducated are usually holding jobs for which the modal value in a job/occupation distribution in their country, is typically above their (ISCED) level of education. The ETF estimations are based on a modal educational level in each occupational group in a country (i.e. the one identified most frequently), using the most detailed level information available (i.e., ISCO-08 1/2/3 digit-level data). Also known as the ‘empirical method’, the ETF definition is fully harmonised with ILO recommendations.
Starting work-life mismatched: a *sad reality* in ETF PCs

Source: ETF KIESE, Eurostat (2021 or latest)

*Note: As a % of youth aged 15-24. Totals don't add up to 100 due to the various metrics used*
The overskilled youth are those holding jobs requiring lower levels of their formal qualifications. Example for overskilled value in Serbia: half of recent tertiary graduates (ISCED levels 5-8) were employed in semi-skilled occupations (ISCO-08 groups 4-8), usually requiring lower levels of formal qualifications. Likewise, one in ten (13%) upper/post-secondary graduates (ISCED levels 3-4) were employed in elementary occupations (ISCO-08 group 9), usually requiring lower levels of formal qualifications. The ETF definition is fully harmonised with ILO recommendations.
### WHAT DETERMINANTS FOR SKILLS MISMATCH?

<table>
<thead>
<tr>
<th>MISMATCH TYPE</th>
<th>OCCUPATIONAL</th>
<th>OVER-EDUCATION</th>
<th>UNDER-EDUCATION</th>
<th>HORIZONTAL</th>
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<tbody>
<tr>
<td><strong>COVARIATES</strong>*</td>
<td><strong>AGE</strong></td>
<td>Mixed evidence with older workers less likely mismatched</td>
<td>Decrease with age in most countries but GEO/PSE</td>
<td>Mixed findings, no clear patterns</td>
</tr>
<tr>
<td><strong>GENDER</strong></td>
<td>Mixed evidence with men more likely to be mismatched</td>
<td>Men are more likely over-educated in all cases but EGY/PSE</td>
<td>Men more likely to be under-educated in all cases but GEO/TUR</td>
<td><strong>Women more likely in SRB/PSE, men likely elsewhere but EGY</strong></td>
</tr>
<tr>
<td><strong>FULL-TIME JOB</strong></td>
<td>Workers holding full-time jobs less likely to be mismatched</td>
<td>Less likely in EGY/TUR not significant in all other countries</td>
<td>Less likely in all cases but for PSE/GEO</td>
<td>More likely in all cases but ARM/PSE</td>
</tr>
<tr>
<td><strong>JOB TYPE</strong></td>
<td>Workers holding a permanent job less likely mismatched</td>
<td>Mixed evidence, more likely for ARM/GEO &amp; not likely in SRB/TUR</td>
<td>Less likely in all cases but PSE/GEO</td>
<td>More likely in all cases but ALB</td>
</tr>
<tr>
<td><strong>FIRM SIZE</strong></td>
<td>Mixed findings, no clear patterns, in line with the literature</td>
<td>Mixed findings, rather not likely in all cases but EGY</td>
<td>More likely only in GEO/PSE not likely in all other cases</td>
<td>Mixed findings, likely in EGY/SRB/GEO/TUR</td>
</tr>
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ETF (forthcoming) *Skills mismatch determinants in the ETF partner countries. A cross-country analysis* (*) Preliminary findings for Albania, Armenia, Egypt, Georgia, Palestine*, Serbia and Turkey
### Skill mismatch: *alternative policy lens*

<table>
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<tr>
<th>Conventional view</th>
<th>What about other evidence?</th>
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| **Skill shortages** | EU firms cannot find right skills  
Graduates are ill-prepared for changing world of work |
| **Skill mismatch: static** | Policies should aim to match skill supply with skill demand |
| **Activation: the low road** | Quick reintegration of jobless – ‘work first’ |
| **Lifelong learning: individual** | Individuals should be better informed, mobile, enhance employability |

*Source: Cedefop*
Skills mismatch is one of the explanations often given for high youth unemployment and labour market rigidities, but the exact extent of the problem is an unknown entity in the partner countries of the ETF. This article explains the concept and types of skill mismatch and provides an overview of the most promising methodologies for measuring mismatch quantitatively. Based on the ETF study skills mismatch calculation in 2017–18, carried out for seven partner countries (Bosnia, Montenegro, North Macedonia, Moldova, Georgia, Egypt and Morocco), the article presents the methodological approach employed by the ETF, including the results, challenges and lessons learnt from its data collection and measurement process. The results show that labour market outcomes can be largely affected by skills mismatch, especially in the context of the changing dynamics of economies and societies. In order to measure and understand both the magnitude and the interrelatedness of the different forms of skills mismatch, a combination of indicators and analysis of results from different methods is required. A critical study of the various indicators is also included in this article, leading to suggestions for potential new methodological improvements. Finally, the article touches on the key policy implications for persistent or deepening skills mismatches.

9.1 Introduction

Skill mismatch is a term that is frequently referred to in policy debates. However, the concept itself is very broad and can include a number of variations. It is usually defined as a discrepancy between the demand for and supply of skills in the labour market but can be expressed in many different forms and with respect to a number of dimensions (European Commission, 2015; Cedefop, 2015).

Specifically, skills mismatch can be used to describe vertical mismatch (usually measured in terms of over-education, under-education, over-skilling and under-skilling), horizontal mismatch (typically comparing fields of study and work), skills gaps (the extent to which workers lack the skills necessary for a job) and mismatches in skills development.

Skills mismatches are generally restricted to those impacting workers in employment or companies currently employing or seeking to hire workers. Many of the mismatch indicators adopted in the literature have a number of drawbacks, and various approaches used to measure the same type of mismatch are often poorly correlated. All of this suggests that the use of the term skills mismatch within a policy context is highly problematic.

Measures of mismatch can be most usefully subdivided into those that are gauged at the level of the individual’s circumstances, and those that are assessed in terms of firm-level aggregates. Individual concepts of mismatch relate to the degree to which workers in firms possess skill or education levels that are above, below or poorly connected to the requirements of their current job.
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