

# Focus on Polarisation of skills in the labour market

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## Summary

Studies of the changing demand for skills over the past two decades, including Cedefop forecasts, show a 'skills polarisation': demand for medium-skilled intermediate occupations is falling, while demand in both high-skilled and low-skilled occupations is rising - although there are important variations between EU Member States.

## Key Messages

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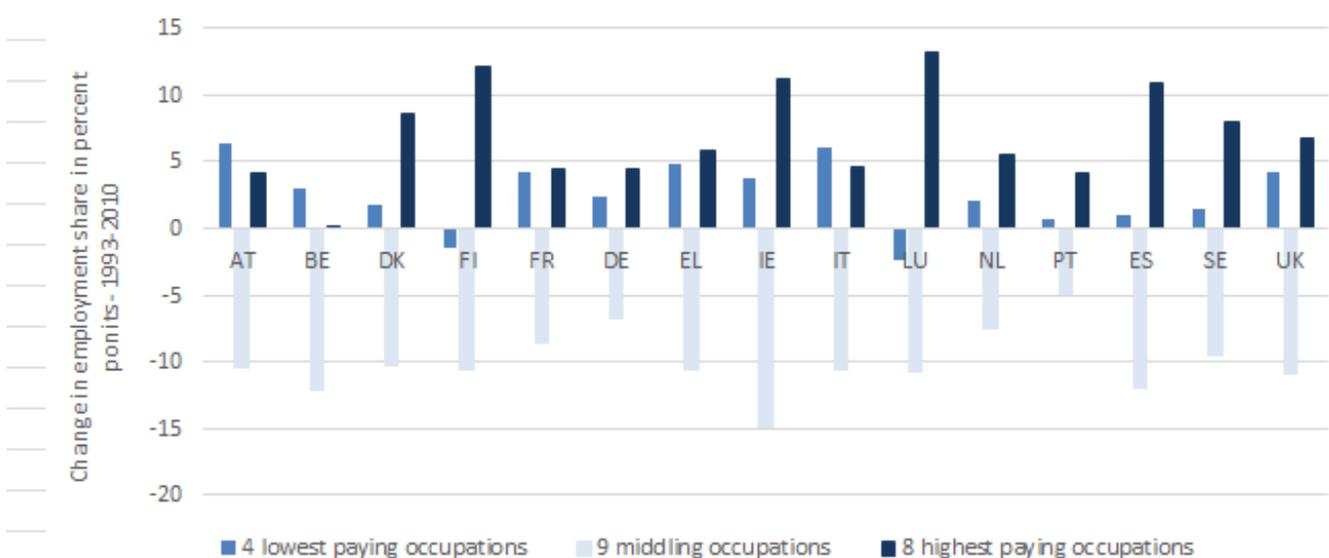
- Demand for intermediate jobs nonetheless remains high due to natural turnover caused by factors like retirement. Hence, policies for improving the skill set of low-qualified workers remain important.
- Cross-country differences in occupational change suggest that context matters; institutions and related policies influence the patterns observed and point to the importance of demand-side policies.

## The skills polarisation challenge

From the early 1980s, European Union Member States saw a shift in their labour markets, reflecting the trend towards a knowledge-based economy. High-skilled occupations increased their share in the labour market, implying somewhat weaker demand in medium-skilled occupations and stagnating demand in elementary, low-skilled occupations.<sup>[1]</sup> Educational policies have therefore strongly supported educational expansion at upper secondary and tertiary levels and also provided for up-skilling later in life.<sup>[2]</sup>

However, since the early 2000s, a more complex pattern seems to have emerged. Instead of a general movement towards more high-skilled, better-paid jobs, a more polarising trend has been observed. This pattern shows the demand for high-skilled and low-skilled jobs on the rise; meanwhile, the demand for jobs requiring medium levels of skills, and paying average levels of wages, is substantially declining (see Figure 1). This trend implies a “U-shaped” development of the job structure, sometimes termed ‘hollowing out of the middle’ or, more frequently, ‘skills polarisation’. Related developments have been reported for many European countries, in particular, the UK.<sup>[3]</sup> Such developments could lead to income and social polarisation that could potentially undermine social cohesion.

**Figure 1: Job polarisation in selected European countries between 1993 and 2010**

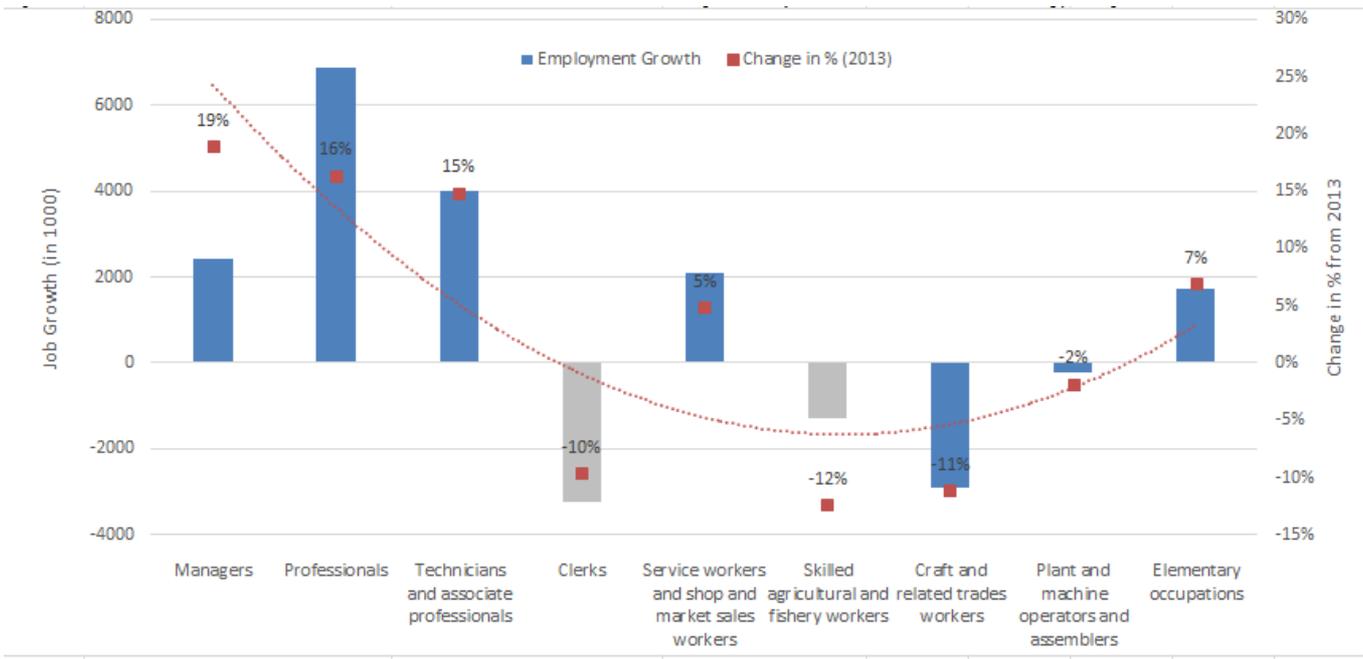


Source: Data taken from Goos et al. (2014), Table 2; based on ELFS 1993-2010. Note: Pooled data approach

### A trend that continues into the future

Looking forwards, the latest version of Cedefop’s skills demand forecast (2015) also points to a polarizing scenario, rather than general up-skilling. The absolute number of jobs requiring mid-level (non-tertiary) skills is expected to decline across the EU-28. On the other hand, high-skilled occupations and low-skilled, elementary occupations are expected to grow (Figure 2).

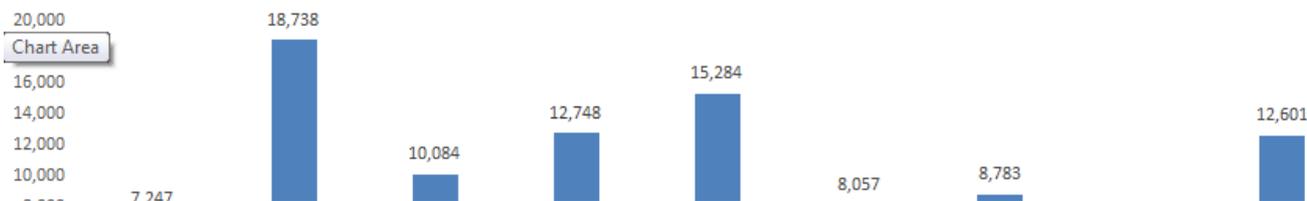
**Figure 2: Cedefop skills demand forecast: Employment growth and replacement demand according to occupational groups (EU-28, 2013 to 2025); absolute changes in jobs in thousands and relative changes in percentage points (year of reference: 2013).**

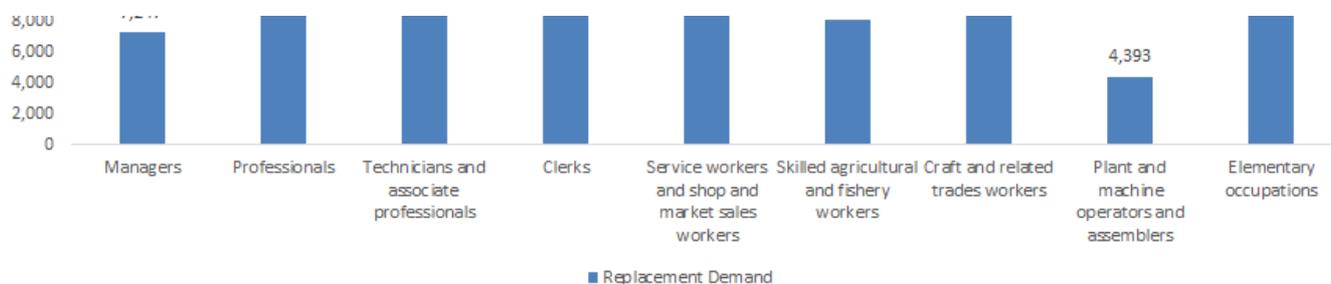


Source: Cedefop<sup>[4]</sup>

The EU-28 forecast shows the U-pattern. A closer look at the figures, however, allows us to put them into perspective. It shows that while the demand for medium-skilled occupations is expected to decline slightly, demand arising from natural turnover due to factors like retirement (known as replacement demand) will be high. This implies that it will remain much easier to find medium-skilled than low-skilled jobs. However, as in the past, patterns of skills demand differ widely between countries,<sup>[5]</sup> as discussed later in more detail.

**Figure 3: Cedefop skills demand forecast: Replacement demand according to occupational groups (EU-28, 2013 to 2025); absolute numbers in thousands**





Source: Cedefop<sup>[6]</sup>

## What drives skills polarisation?

Whilst the actual extent of skills polarisation can be only roughly estimated and differs across countries, there is widespread agreement on the underlying drivers for this pattern. Skills polarisation is the result of an interplay of factors, both on the side of employers (demand side) and on the side of workers (supply side). On the supply side, skills polarisation is mainly driven by changes in the composition of adults looking for work. Three key drivers are frequently discussed:<sup>[7]</sup>

- Educational expansion: in many EU Member States, the number of young people entering upper secondary or higher education continues to rise. Cohorts of labour market entrants with increasingly better qualifications press for jobs with high skills and above-average pay.
- Specialisation and professionalisation: driven by the education sector, more and more occupations rely on new, specialised programmes at post-secondary or tertiary level. Former mid-level occupations thereby move up the occupational scale. This academic drift is thought to be a response to the observed needs of employers, but also puts pressure on employers to adapt their work practices and structures to new professional roles.
- Migration: despite their often high levels of qualification, large inflows of migrants, provide a reservoir of unskilled 'cheap labour', allowing the re-introduction of low-productive services.<sup>[8]</sup>

On the labour demand side, the changing demand for skills amongst enterprises also contributes to skills polarisation. Drivers include:

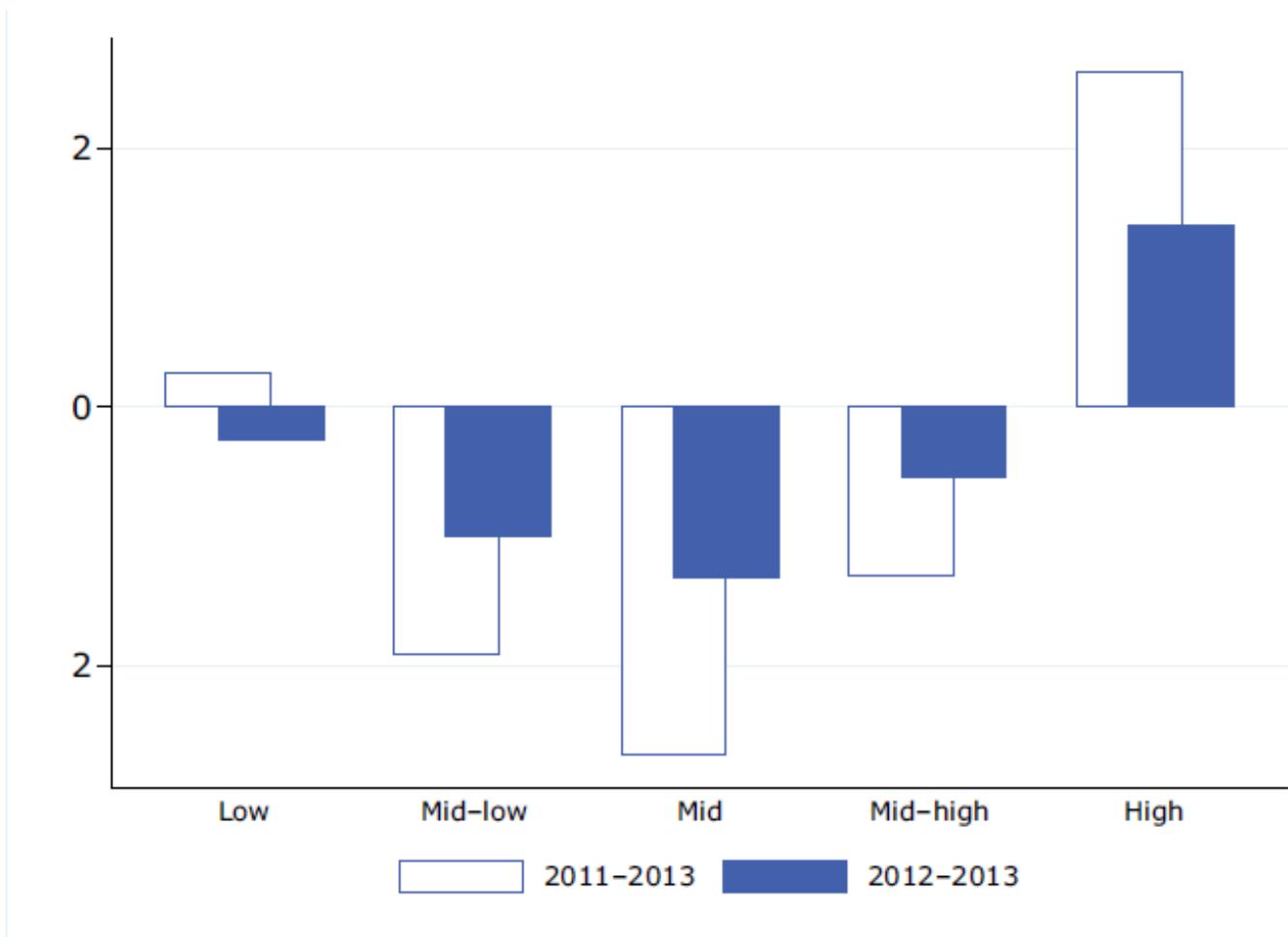
- Task-biased technological change:<sup>[9]</sup> automation has changed manufacturing since the 1980s, replacing low-skilled blue-collar workers with robots. More recently, routine service work in administration, requiring mid-level skills, has been replaced by software applications of all kinds. Only a certain group of personal service occupations - those typically requiring low-level skills, but also hand-eye coordination - has currently remained untouched by the 'Second Machine Age'.<sup>[10]</sup> This may help explain the rise in service worker employment shown in Figure 2.
- Rising demand for specific types of personal services: an increasing number of dual-career couple households has created additional large-scale demand for low-skilled personal services, such as cleaning services or caregiving. Ageing societies also drive up demand for care work which, although requiring mid-level skills, tends to be low-paid.<sup>[11]</sup>
- Off-shoring of mid-level jobs: While low-skilled work was already being sent overseas in the 1990s, recent years have seen the relocation outside the EU of mid-level jobs in administration and low-

recent years have seen the relocation outside the EU of mid-level jobs in administration and less critical jobs in many other areas such as editing, publishing and marketing. Internet-based technologies enable real-time collaboration amongst workers across the globe, including those in low wage countries who are well-educated.<sup>[12]</sup> New crowdsourcing approaches may add to this tendency.

### Long-term and short-term trends

When choosing a shorter time frame for observation, one sees a more complex picture, with periods of up-skilling and polarised change across countries following no simple trend.<sup>[13]</sup> Even the 2008 economic crisis and its subsequent effects had no uniform impact on skills demand across countries. Figure 4 reports the most recent changes in skills demand for five groups of jobs in the EU, each accounting for one fifth of employment in 2011. It shows that while some skills polarisation could be found in the ‘aftershock’ of the economic crisis, it consisted more of a small increase in low-skilled jobs, a slight decrease of medium-skilled jobs and a strong increase in highly-skilled jobs. The latest available figures (2012-2013) show less pronounced skills polarisation.

**Figure 4: Net employment change (%) by job-wage quintile for EU-28, 2011 Q2 to 2013 Q2**

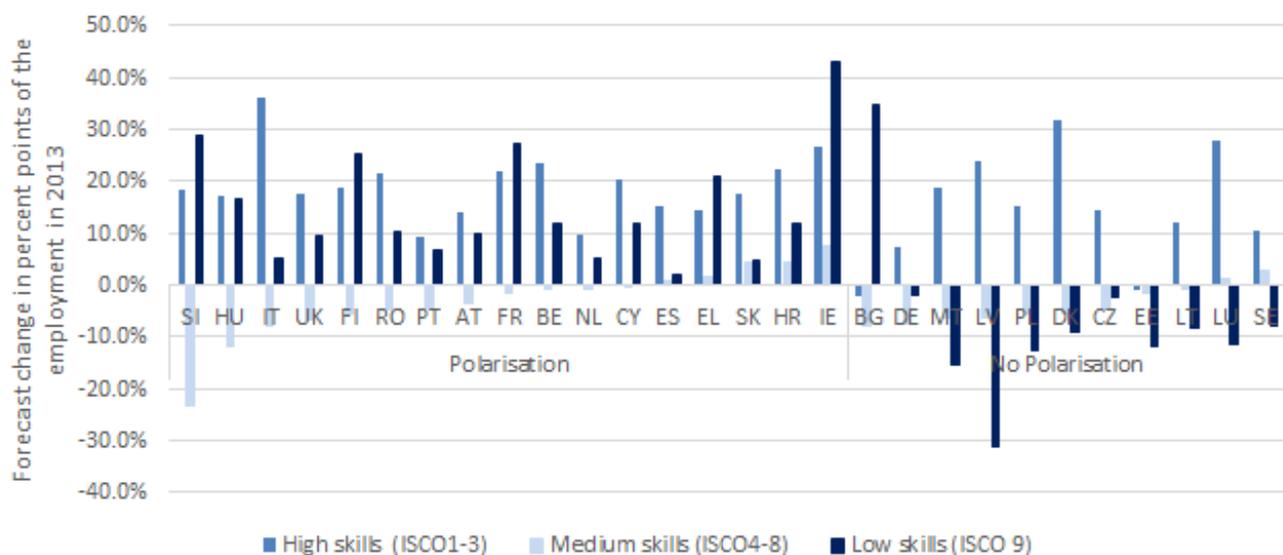


Source: Eurofound (2014) p. 9, based on ELFS data.

### Institutional settings matter

The best method of measuring and comparing skills polarisation across countries remains a matter of debate; different approaches deliver substantially different results.<sup>[14]</sup> Nonetheless, all the studies quoted here (which use different measurement approaches) show that the scale of skills polarisation differs substantially between countries. Figure 1 shows clear differences in skills polarisation patterns amongst selected EU countries in the past two decades. Cedefop's 2015 skills demand forecast (Figure 5) sees a polarisation pattern in 17 out of 28 EU Member States; however, even amongst these countries, the degree of expected polarisation differs widely. As Eurofound summarises, "The data not only showed diversity but a diversity that was clearly linked to European regions that share broadly similar institutional frameworks. This suggested that the institutional framework had something to do with the patterns of structural change in employment. The interpretation was that, although it is certainly possible that technology and globalisation have a similarly polarising effect on employment demand everywhere, some features of the institutional system [...] affect the demand for different types of jobs and hence the observed diversity".<sup>[15]</sup>

**Figure 5: Cedefop skills demand forecast: Expected employment growth as a percent of the 2013 figure for the three occupational groups (EU-28, 2013 to 2025); grouped by present/absent polarisation and according to the degree of expected losses in medium skilled jobs<sup>[16]</sup>**



Source: Cedefop<sup>[17]</sup>

In terms of what might explain these differences, the supply-side and demand-side drivers discussed above explain at best only part of the variation; the scale of skills polarisation depends on countries' institutional environments as well as on policies that more directly shape skills development.

Dimensions include:

- Minimum wages set at a comparatively high level: high minimum wages tend to limit the expansion of low-productive production and service jobs. Enterprises cannot compete on the basis of price, simply by taking advantage of the availability of low-cost labour. Instead, they have to compete on the basis of quality and effectiveness of work arrangements, which in turn require higher levels of skills. Prices

of personal services tend to be relatively high due to higher labour costs, so that demand – for example, for help with household chores – remains comparatively low.<sup>[18]</sup>

- Dominant forms of work organisation and the division of managerial and manual tasks: countries that rely more on work practices with a high degree of task discretion and self-guided work teams see less erosion of their mid-level positions and lower additional demand for managerial ones. Freed from routine aspects of their work, mid-level jobs take on ever more demanding tasks and experience. This can involve up-skilling from within, instead of the replacement of mid-level positions by a combination of low-skilled jobs and new management positions.<sup>[19]</sup>

To conclude, countries' institutional setups make a difference, so that one cannot expect clear-cut patterns of skills polarisation across European countries in the years to come.

Skills polarisation is likely to become an important policy challenge in the future. While the scale of skills polarisation is a matter of debate, and while countries' exposure to skills polarisation differs, it will certainly require attention by policymakers. At the same time, even if the absolute demand for medium-skilled jobs is forecast to decrease in the coming years, replacement demand is likely to remain substantial, which clearly supports the continuation of policies aimed at up-skilling low-qualified adults.

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## Endnotes

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[1] Different authorities and forecasts use different definitions, but in general, high-skilled refers to managers, professionals, technicians and related professions; medium-skilled to clerks, service and sales workers, craft workers, skilled agricultural workers, and plant operators; and low-skilled to elementary occupations and low-paid fractions of sales personnel, skilled agricultural workers, and machine operators.

[2] Cedefop (2011), Labour-market polarisation and elementary occupations in Europe - Blip or long-term trend?

[3] M Goos et al (2014). Explaining job polarization: routine-biased technological change and offshoring. *The American Economic Review*, 104(8), 2509-2526. S McIntosh (2013). Hollowing out and the future of the labour market

[4] Cedefop skill demand forecast 2015, <http://www.cedefop.europa.eu/de/events-and-projects/projects/forecasting-skill-demand-and-supply/data-visualisations>

[5] Cedefop (2011), Labour-market polarisation and elementary occupations in Europe - Blip or long-term trend?, 23-27

[6] Cedefop skill demand forecast 2015

[7] D. Autor et al. (2003) "The Skill Content of Recent Technological Change: An Empirical Exploration." Quarterly Journal of Economics, D. Oesch (2013). Occupational change in Europe: how technology and education transform the job structure, Goos et al. 2014 as above.

[8] Cedefop 2011 as above; E Fernández-Macías (Ed) (2012) Transformation of the employment structure in the EU and USA, 1995-2007

[9] D Autor et al. (2003) as above

[10] E Brynjolfsson/ A McAfee (2014). The second machine age: work, progress, and prosperity in a time of brilliant technologies

[11] S McIntosh (2013) as above

[12] P Brown et al. (2011). The global auction: the broken promises of education, jobs, and incomes.

[13] D Oesch 2014, as above; Eurofound. (2014). Drivers of recent job polarisation and upgrading in Europe.

[14] The key issue is whether to construct the measures for skills polarisation based on a pooled data set (as in Goos, M. et al. 2014, as above) or based on a country-by-country approach (as in Fernández-Macías, E., Hurley, J. and Storrie (2012) and Eurofound (2014), as above).

[15] Eurofound. (2013). Employment polarisation and job quality in the crisis: European Jobs Monitor 2013, 25

[16] Skills polarisation is operationalised as a pattern in which jobs with high- and low-skills demands are expected to grow at a stronger rate than jobs requiring medium levels of skills.

[17] Cedefop skill demand forecast 2015, see above

[18] See in particular D Oesch 2013, as above

[19] D Gallie, Duncan (Ed.). (2007). Employment regimes and the quality of work

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