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European Centre for the Development
of Vocational Training

EN



2020 skills forecast Croatia



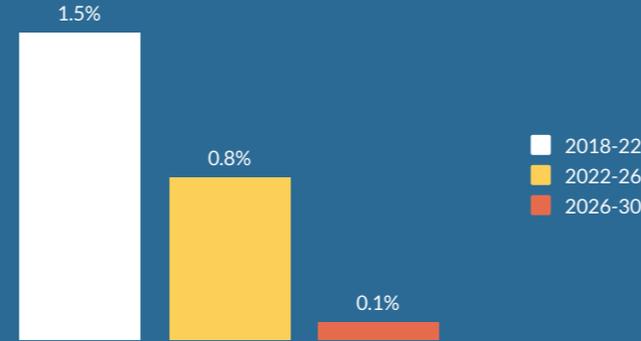


1 669 000

Employment in 2030

2.3%
Increase
2018-30

% Employment growth 2018-30



948 000

Total job openings, 2018-30



■ Replacement needs (100%)
■ New job openings (0%)

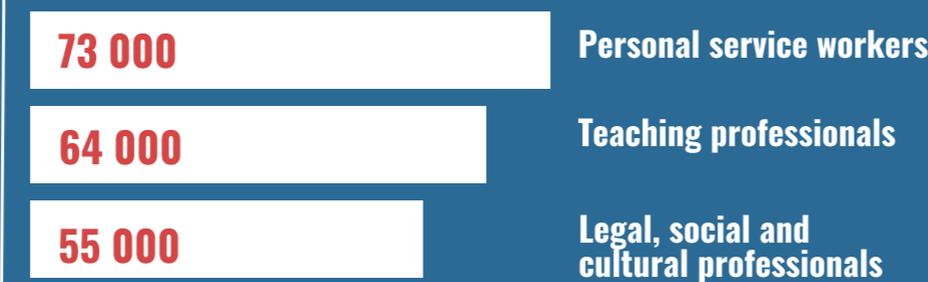
FASTEST-GROWING SECTORS

Growth per year 2018-30

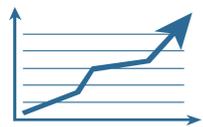
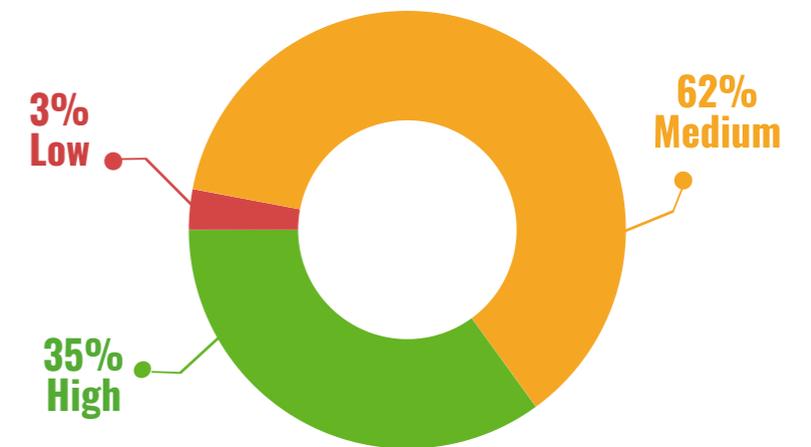


HIGHEST-DEMAND OCCUPATIONS

Total job openings 2018-30



Total job openings by qualification level 2030:



4.4%

Increase
in employment
in 2018-30



Fastest-growing sector
Non-marketed services



Highest-demand occupation
Business & administration associate
professionals

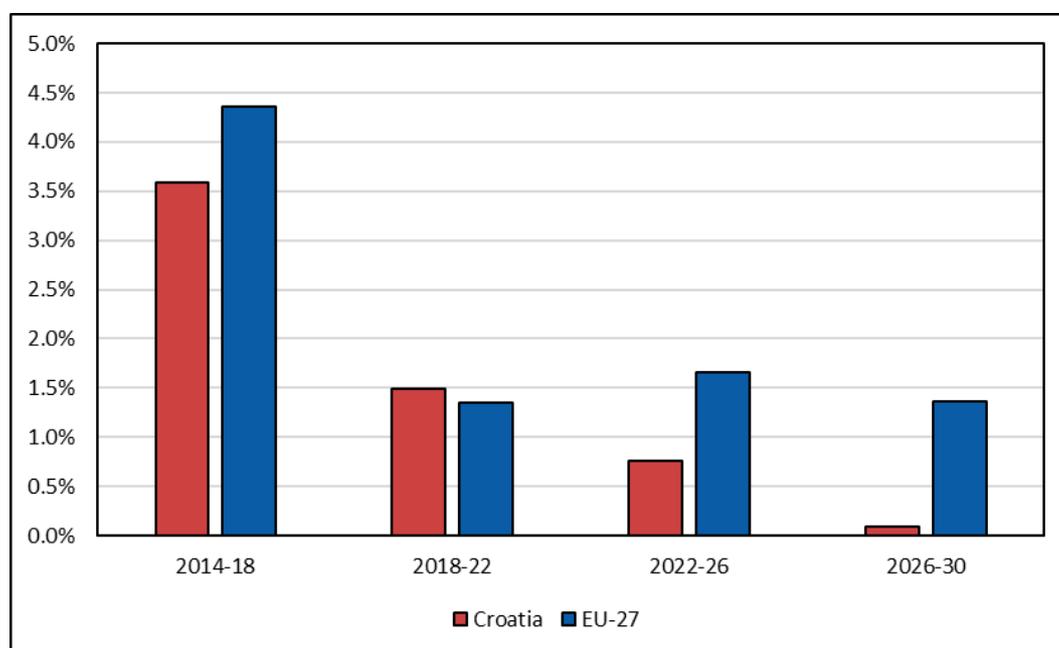
3% Increase in high-skilled
labour supply 2018-30



1. Employment outlook

Employment in Croatia is forecast to increase by gradually decreasing rates over the period 2018-30. It is expected to grow by 1.5% in the short term (2018-22), by 0.8% in the medium term (2022-26) and to stagnate in the long term (2026-30). Employment in Croatia is expected to grow at the same rate as the EU-27 average in the short term but to fall behind it in the medium and long term. The key reasons for the moderation of employment growth are a declining population and relatively slow growth in the labour participation rate.

Figure 1. Percentage employment growth in Croatia and the EU-27, 2014-30



Source: Cedefop (2020 Skills Forecast).

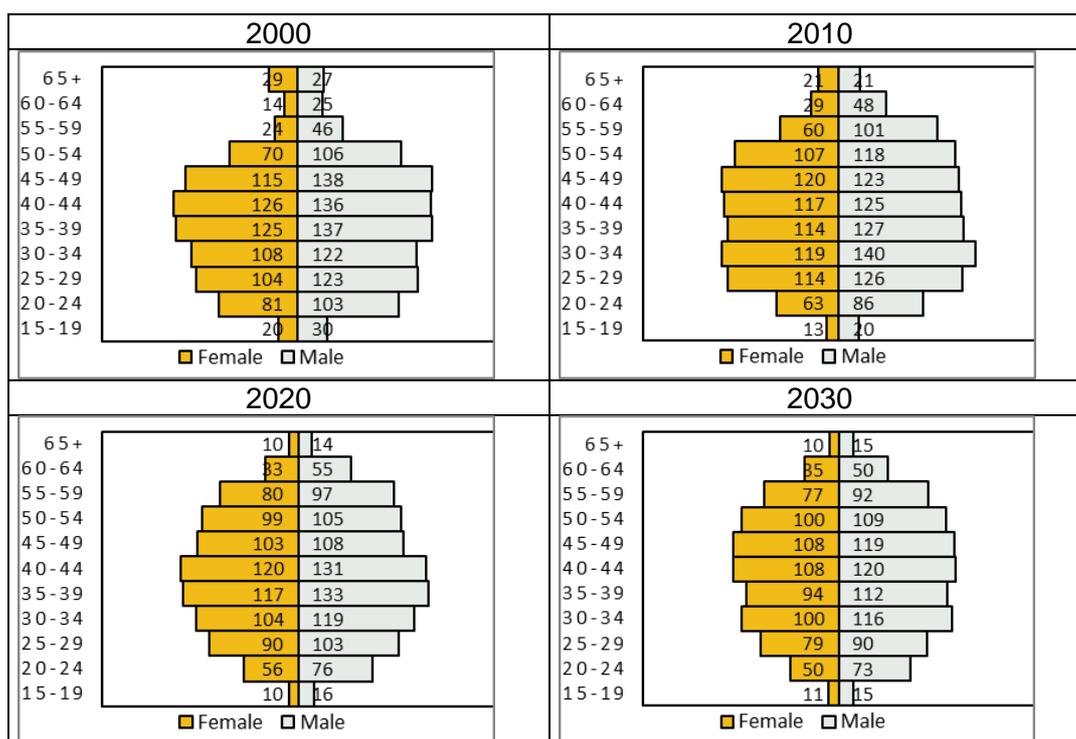
2. Labour force overview

The labour force in Croatia is expected to decline by 7% over the three decades from 2000 to 2030. The decline in the labour force is driven by unfavourable demographic developments, whereby the working age population, except among those aged 55-59 and 65+, is expected to decline between 2000 and 2030 due to a decades-long period of low fertility rates. Despite an increase in participation rate among all age groups, the only age groups whose labour force is expected to increase between 2000 and 2030 are those aged 50 to 64. This change in the structure is driven by a later exit from the labour force following a gradual

increase in the legal retirement age. However, the increase in the age structure of the labour force expected in Croatia is somewhat weaker than in the EU as a whole. Indeed, between 2000 and 2030 those aged 55-59 are expected to increase their share in the labour force by 6 percentage points (pp). The age group with the highest share of the labour force in 2030 (with a 14% share) is expected to be those aged 40-44, as was the case in 2000.

Labour force participation rates are expected to increase for most age groups over 2000-30, except for those aged 15-19 and 65+ because of longer schooling and expected continued use of the possibility of retiring 5 years earlier with 35 years of contribution. However, much of the increase has happened in the first two decades, between 2000 and 2020, and the total participation rate is in fact expected to decline by 1 pp over 2020-30, reflecting the ageing of the population (with older age groups having lower participation rates). Over the period 2020-30, the increase in participation rates is expected to be highest for the 45-49 age group, which is expected to show an increase of 6 pp.

Figure 2. Distribution of the labour force (thousands), 2000-30

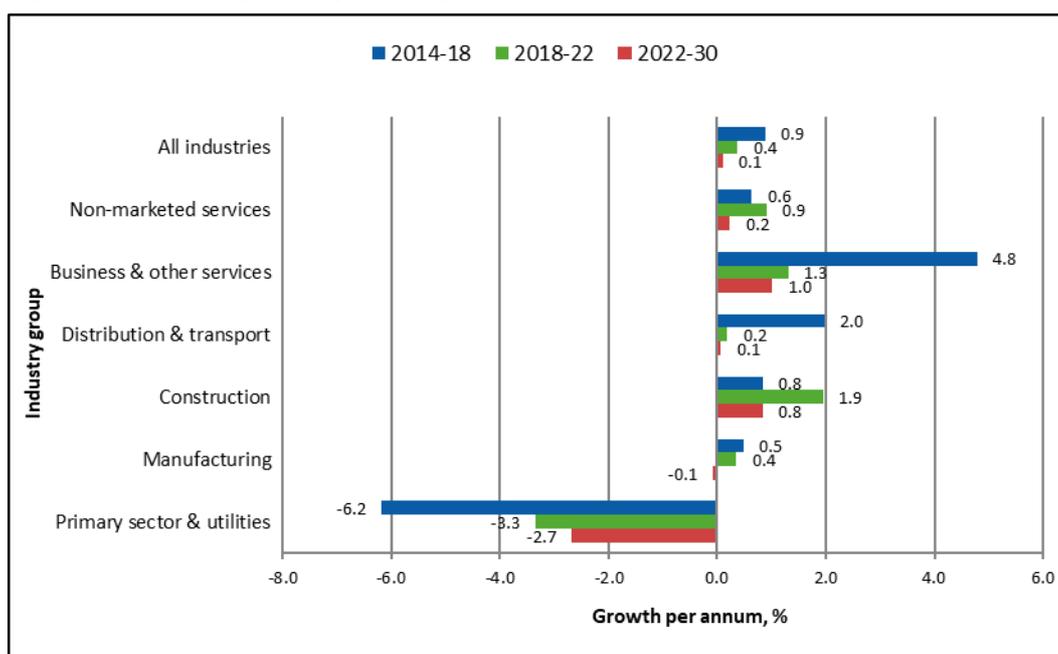


Source: Cedefop (2020 Skills Forecast).

3. Sectoral employment trends

As Figure 3 shows, employment is expected to expand in most sectors. *Business & other services*, after a very large increase over 2014-18, is expected to continue to increase by around 1% per annum (pa) during the forecast period. *Construction* is expected to grow by 2% pa in the short term (2018-22) and 1% pa in the long term (2022-30). This sector suffered a lot during the Great Recession and is expected to gradually recover in years to come. After a 1% pa increase in the short term, *non-marketed services* is expected to grow slightly in the long term. *Distribution & transport* and *manufacturing* are expected to stagnate during the forecast period. Following the trend in recent years, employment in *primary sector & utilities* is expected to continue to decline rapidly during the forecast period, although at a slower pace than seen over 2014-18.

Figure 3. Employment growth by broad sector of economic activity, 2014-30



Source: Cedefop (2020 Skills Forecast).

In terms of sub-sectors (i.e. below the level of the six broad sectors discussed above), *computer programming and information services*, *architectural & engineering*, *real estate activities* and *legal, accounting and consulting* are expected to grow at a fast pace, thus driving the increase in *business & other services*. *Motor vehicles* and *other transport equipment*, sub-sectors belonging to *manufacturing*, are expected to grow relatively rapidly but their influence on *manufacturing* employment will be limited due to their small size and the

contemporaneous decline/stagnation in larger sub-sectors such as *food, drink and tobacco*. The decline in *primary sector & utilities* is expected to be driven by a large decline in *agriculture*.

4. Job openings by occupational group

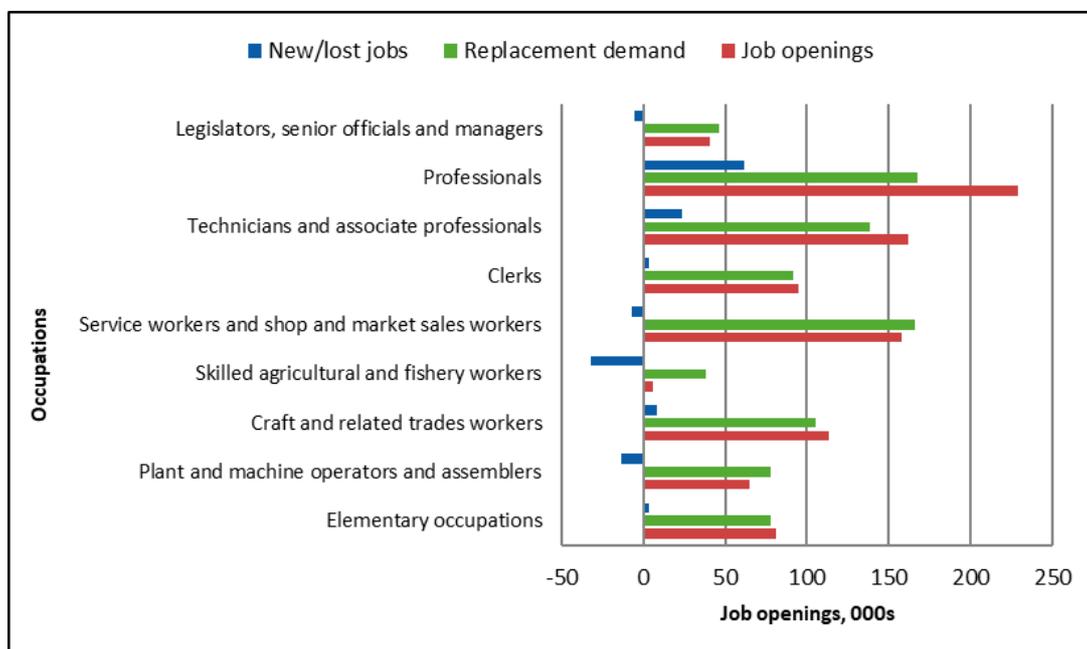
Cedefop skills forecasts estimate the total job openings by occupational group as the sum of net employment change and replacement needs. Net employment change refers to new jobs created due to the expansion of the employment in that sector or occupation. Replacement needs arise as the workforce leaves the occupation due to retirement or career changes. Replacement needs, generally, provide more job opportunities than new jobs, meaning that significant job opportunities arise even in occupations declining in size (i.e. agricultural workers are a typical example, as ageing workers employed in the sector will need to be replaced).

Professionals is expected to be the occupation creating the highest amount of job openings in Croatia, accounting for 24% of total job openings and providing a significant amount of new jobs (61 000), as shown in Figure 4. *Technicians and associate professionals* and *service workers and shop and market sales workers* are expected to be the second occupations in terms of total job openings, but, while the former is expected to create new jobs (21 000), the latter is expected to shrink (-8 000 jobs) and to provide job openings only because of replacement needs. *Skilled agricultural and fishery workers* are expected to decline significantly (-32 000 jobs), with replacement demand barely offsetting that decline. *Plant and machine operators and assemblers* are expected to shrink (-13 000 jobs), while the remaining occupations are expected to stagnate.

At the more detailed level, most job openings (taking both new/lost jobs and replacement needs together) are expected to be in *high skill* occupations such as *legal, social and cultural professionals* and *business and administration associate professionals*. *Health professionals* and *associate professionals* are also expected to increase their employment and provide job openings because of increasing demand for health services due to the ageing of the population. *Skilled non-manual* occupations such as *personal service workers* and *sales workers* are expected to provide many job openings to fill replacement needs but the overall employment in these occupations is expected to shrink. Among *skilled manual* and *elementary* occupations, those related to construction such as *building and related trades workers, excluding electricians* and *labourers in mining, construction, manufacturing and transport* are expected to provide new jobs,

while those related to agriculture such as *market-oriented skilled agricultural workers* and *agricultural, forestry and fishery labourers* are expected to shrink.

Figure 4. Job openings by broad occupational group, 2018-30



Source: Cedefop (2020 Skills Forecast).

5. Drivers of occupational change

Within the Cedefop skills forecast, future employment growth (or decline) of occupations is further broken down by separating national economic components from regional industrial and economic effects, helping to interpret what is driving the change. From this perspective employment growth can be explained by three possible drivers: (a) overall trends of the economy (i.e. growth or decline), (b) shifts of employment between sectors and (c) changes in the occupational structure within sectors (i.e. factors making some occupations more important than others).

In the next decade, changes in occupational composition of employment in Croatia are expected to be driven both by changes in the level of specialisation within occupations, and, in fewer cases, by changes in industry size. Stronger occupation-specific and industry effects will lead, overall, to increasing shares of *professionals* and *legislators, technicians and other associate, customer services clerks*. The increase in industry size has a positive impact, alongside a positive

but more modest occupation effect, only for *science and engineering professionals* and for *building and related trade workers*. High-skilled occupations that can benefit from these trends are, for example, *teaching professionals* and, in particular, *business and other professionals* and *science and engineering associate professionals*.

The overall effect of occupational change therefore depends on a number of factors that need to be considered together. Increasing digitisation and moves toward a service-oriented economy, including within manufacturing, will lead to a greater use of higher-level occupations at the expense of some medium and low-level occupations. Lower-level occupations are expected to decrease.

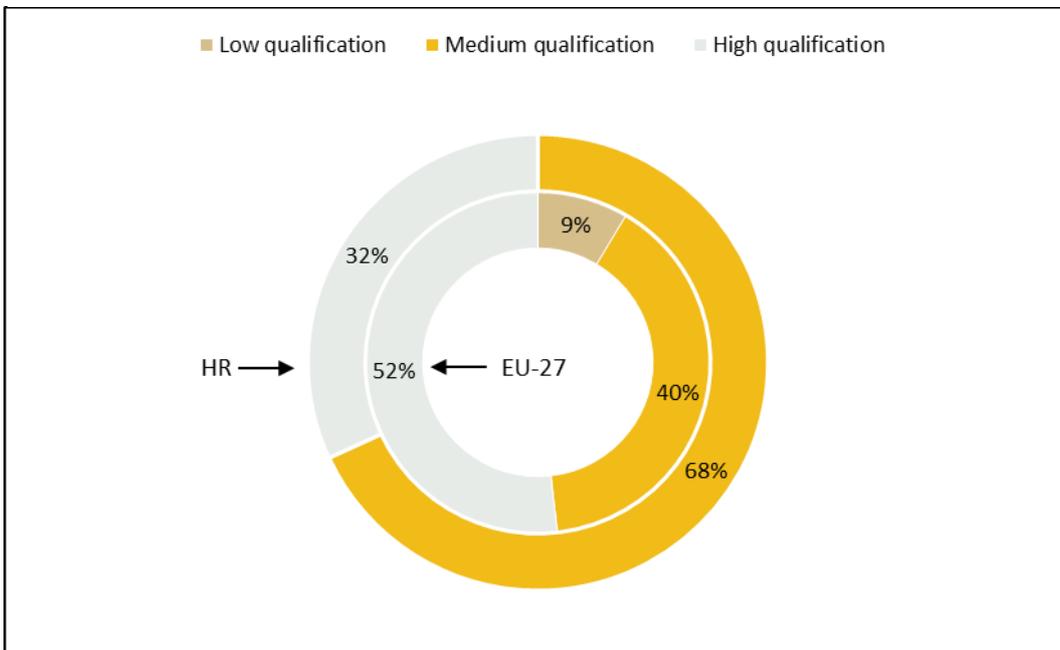
Intermediate occupations are expected to increase slightly overall. Among the medium-qualified occupations becoming stronger are *legal, social, cultural and related associate professionals, labourers in mining, construction, manufacturing and transport* and *building and related trade workers excluding electricians*.

6. Demand for and supply of skills

Within the Cedefop skills forecast, skills are proxied by the highest level of qualification held by individuals in the labour force and in employment. Three levels are distinguished, high, medium, and low, which correspond to the official ISCED classification. The occupational group also offers an indication of the skill level required, as some occupations (e.g. professionals) typically require high-level skills, while some others (e.g. elementary) typically require only basic ones. Therefore, occupational groups are also linked to a skill level.

In Croatia over 2018-30, more than two thirds of job openings are expected to require a medium qualification, while the other third are expected to require high level qualifications (see Figure 5). At an aggregate level, replacement demand for workers with low level qualifications is expected to be lower than the decline in the number of jobs requiring low level qualifications, but this does not mean that there will not be opportunities for workers with low level qualifications in some occupations and sectors. In comparison with the EU, in relative terms Croatia is projected to see less job openings requiring high and low qualifications and substantially more requiring medium qualifications.

Figure 5. Shares of total job openings by level of qualification, 2018-30



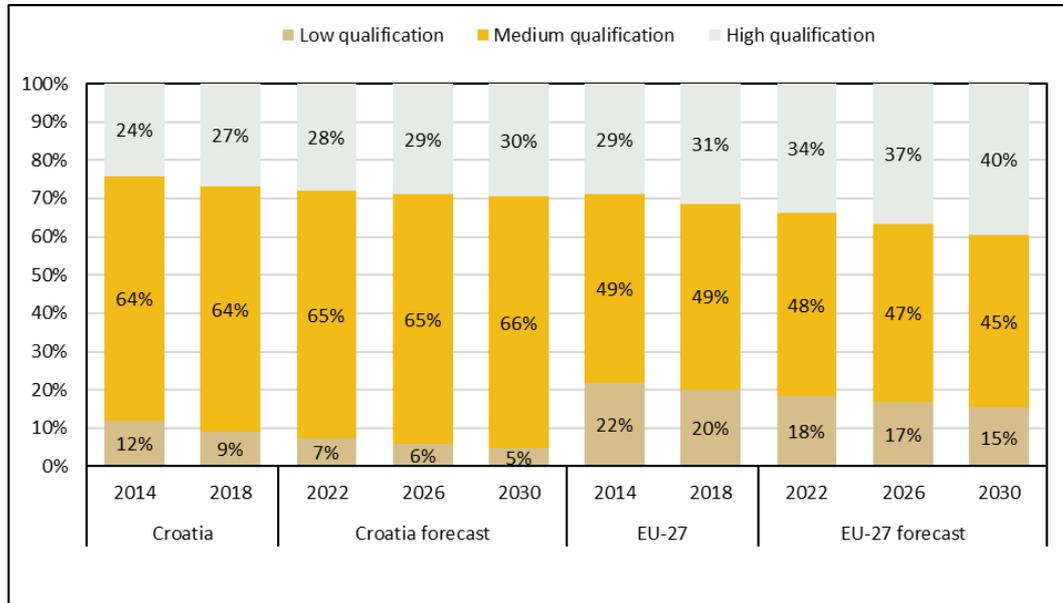
Source: Cedefop (2020 Skills Forecast).

Future labour supply trends depend on the size of the working age population (defined as aged 15 or older), the labour market participation rates, and the extent to which people acquire formal qualifications.

Figure 6 depicts the development of qualification shares in the labour force in Croatia and the EU-27. Croatia is slowly increasing its share of higher qualified in the labour market. While the share was 27% in 2018, it is expected to increase to 30% by 2030. The share of medium qualified in the labour force is also expected to increase slowly over the forecast period, from 64% in 2018 to 66% in 2030.

The increase in shares of high and medium qualified will come out of the share of lower qualified workers, whose share is expected to fall by 4 pp, from 9% in 2018 to 5% in 2030. Relative to the EU-27 averages, the labour force qualification mix in Croatia is not expected to align with the EU averages, maintaining a predominance of medium qualified workers and having about one third of the EU-27 average share of low skilled.

Figure 6. Labour force share by level of qualification, 2014-30

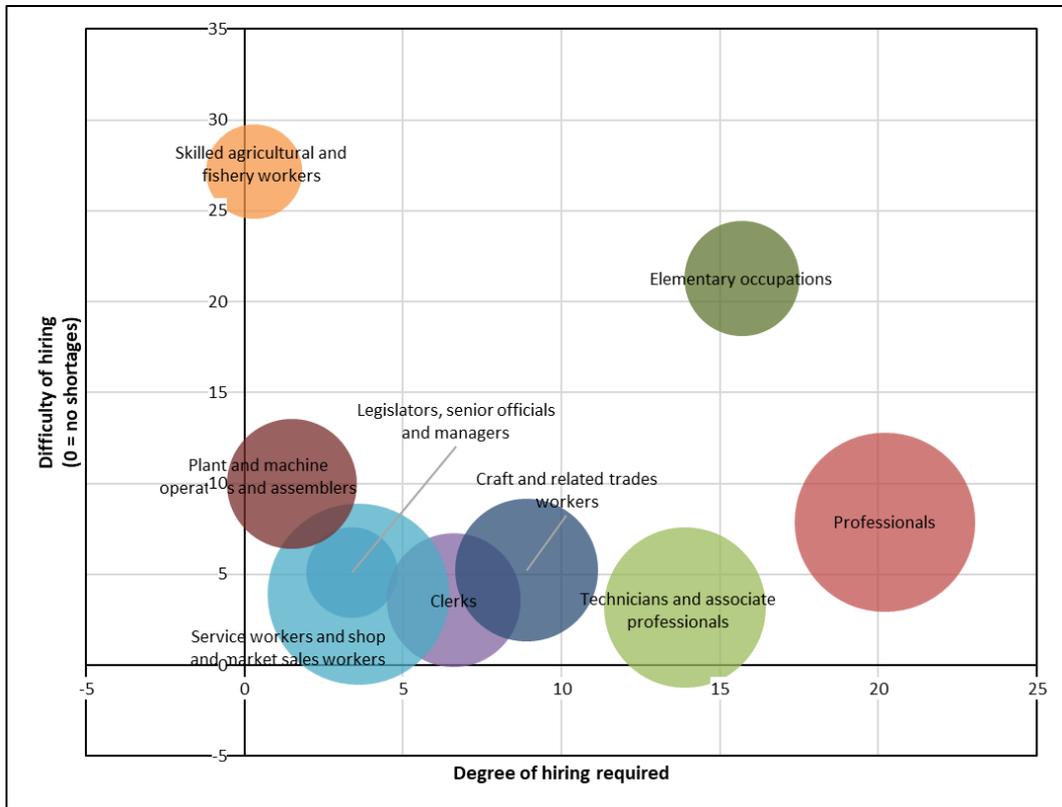


Source: Cedefop (2020 Skills Forecast).

Overall, the forecast implies an increasing shortage of labour force with the required skills in Croatia, especially among the high and lower qualified, while the supply of medium educated is forecast to sufficiently fill the demand within medium level occupations.

Figure 7 shows an indicator, *difficulty of hiring*, whose aim is to approximate shortages of supply by qualifications and its impact on occupations. This measure, shown along the vertical axis, indicates increasing difficulties to fulfil demand given the available supply of qualifications used in the occupation. Along the horizontal axis, the *degree of hiring required* in the occupation is depicted. Higher values indicate that to reach the forecast result that occupation will need to adjust more (in terms of workers with particular qualifications) relative to the base year (2018) levels. These changes (degree of hiring required) can be due to a change in the qualifications required or increases in the number employed. The size of the bubble indicates the *overall employment level*, bigger bubbles indicate more employment while smaller bubbles less employment. Occupations with both a high *degree of hiring required* and a high *difficulty of hiring* (i.e. towards the top right of the figure) are likely to have the most difficulties in achieving a suitable workforce.

Figure 7. Indicators of future hiring difficulties, 2018-30



N.B: Indicators were calculated at the level of the underlying two-digit occupation groups. Aggregation was based on the employment weights within each one-digit occupation group.

Source: Cedefop (2020 Skills Forecast).

Low level occupations such as *elementary occupations and skilled agricultural and fishery workers* are expected to experience high levels of hiring difficulties in the next ten years (Figure 7). These go along with medium levels of change expected in qualifications required, and thus a medium degree of hiring required, within *elementary occupations*, but with low levels of hiring required for *skilled agricultural and fishery workers*. While *professionals* and *technicians and associate professionals* in Croatia are expected to have lower hiring difficulties, they also show a high degree of hiring required over the forecast period. A low degree of hiring required along with modest hiring difficulties can be found among *legislators, senior officials and managers*.

A more detailed analysis of projections for *professionals* in Croatia (not shown) reveals that hiring difficulties might be reasonably low for all occupations within the group. However, the degree of hiring required is expected to differ substantially from occupation to occupation. *Information and communications*

technology professionals and to a lesser degree *business and administration professionals* are likely to face a high degree of hiring required and *health professionals* a low degree of hiring required.

Cedefop methodology and scenarios

The Cedefop Skills Forecast offers quantitative projections of future trends in employment, by sector of economic activity and occupational group. Future trends in the level of education of the population and the labour force are also estimated. Cedefop's forecast uses harmonised international data and a common methodological approach allowing cross-country comparisons between employment trends in sectors, occupations and qualifications. The forecast and methodology is validated by a group of national experts. The forecast does not substitute national forecasts, which often use more detailed methodologies and data, while they also incorporate in-depth knowledge of a country's labour market.

The latest round of the forecast covers the period up to 2030. The forecast takes account of global economic developments up to May 2019. The European economy is continued to expand for the seventh year in a row in 2019, with real GDP growing in all EU Member States. As global uncertainties continue to weigh, domestic dynamics are set to support the European economy. The key assumptions of the baseline scenario incorporate the Eurostat population forecast available in May 2019 (Europop 2015) ⁽²⁾ and the short-term macroeconomic forecast produced by DG ECFIN in May 2019 ⁽³⁾.

The Cedefop Skills forecast was developed before the global Covid-19 pandemic had begun. The short-term economic impacts of the pandemic and subsequent lockdowns in many countries are very uncertain, and therefore the current short-term forecast is likely to be over-optimistic. However, the key long-term factors (such as the ageing population, increasing use of automation/artificial intelligence, globalisation, resource scarcity and moves towards a carbon neutral economy) will still hold as the EU Member States put plans in place to deal with the virus and their economies move forwards. The trends in the longer-term forecast are therefore still likely to hold.

For the latest update and access to more detailed Cedefop skills forecast data please visit:

<http://www.cedefop.europa.eu/el/events-and-projects/projects/forecasting-skill-demand-and-supply>

⁽²⁾ <https://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-projections-data>

⁽³⁾ https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2019-economic-forecast-growth-continues-more-moderate-pace_en



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