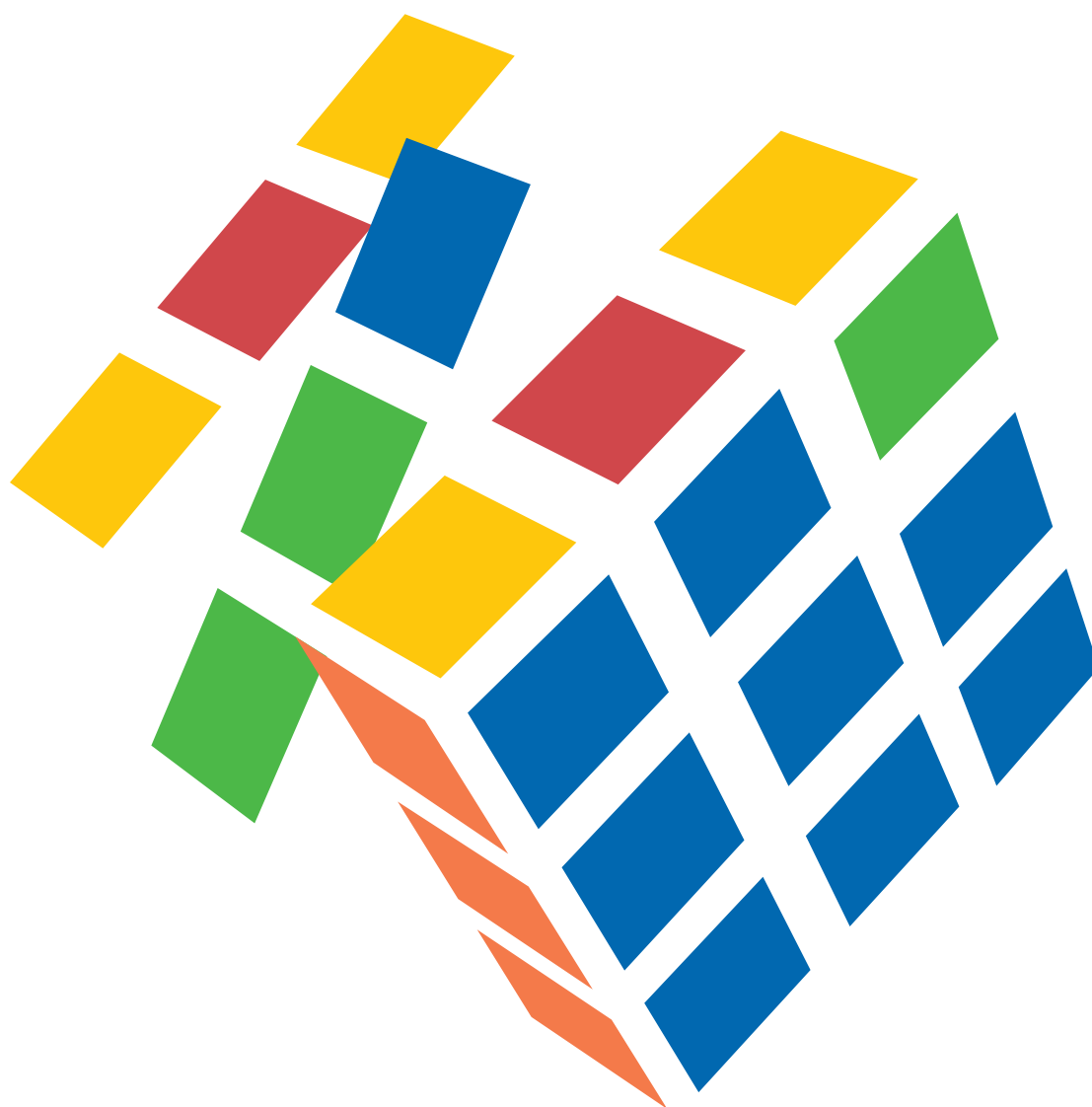# CEDEFOP

European Centre for the Development
of Vocational Training

2018 skills forecast
Denmark

Key facts: Denmark
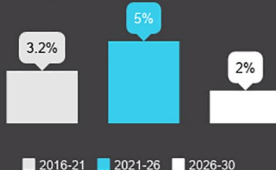
3 175 500
Employment in 2030

10.23%
Increase from 2016 to 2030

% Employment growth 2016-2030

3.2%
5%
2%

■ 2016-21 ■ 2021-26 ■ 2026-30

FASTEST GROWING SECTORS
Growth per year 2016-30

Primary sector & utilities — 1.3%

Non-marketed services — 1.1%

HIGHEST DEMAND OCCUPATIONS
Total job openings 2016-30

265 100 — Business and administration associate professionals
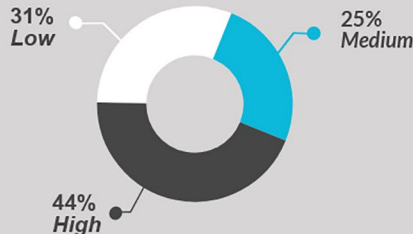
173 600 — Teaching professionals

167 000 — Personal care workers

EU
Overview

Top growing sector
Business & other services

Top demand occupation
Business & administration associate professionals

6%
Increase in employment since 2016

2 189 000
Total job openings, 2016-30

■ Replacement needs (86%) □ New job openings (14%)

Total job openings by qualification level:

31% *Low*

25% *Medium*

44% *High*

96% of the new job openings
will relate to high-skilled occupations

1. Employment outlook

Employment growth in Denmark is expected to be higher in the period 2016-30 (9%) than in the previous period, 2011-16. As shown in Figure 1, employment growth rises from 3.2% in 2016-21 to 5% in the period 2021-26, before increasing at a slower rate towards the end of the forecast period (reaching 2.1% over the period 2026-30). In the period 2016-30, employment growth in Denmark is expected to be above the EU-28 average (6%) and similar to the growth rate of Malta.

Figure 1 Percentage employment growth in Denmark and the EU-28, 2011-30
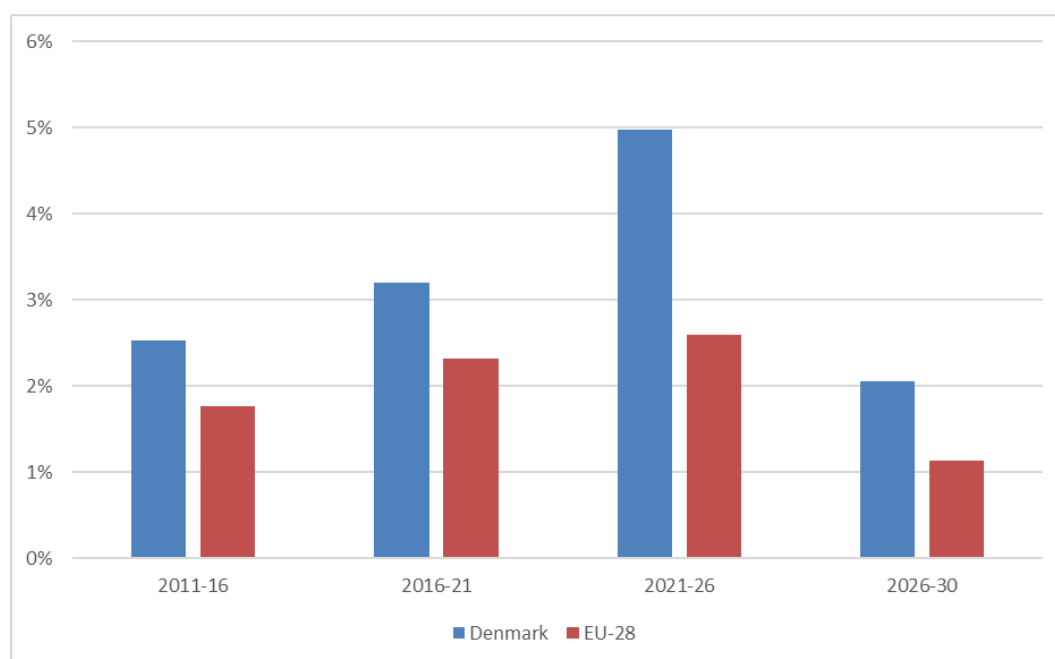
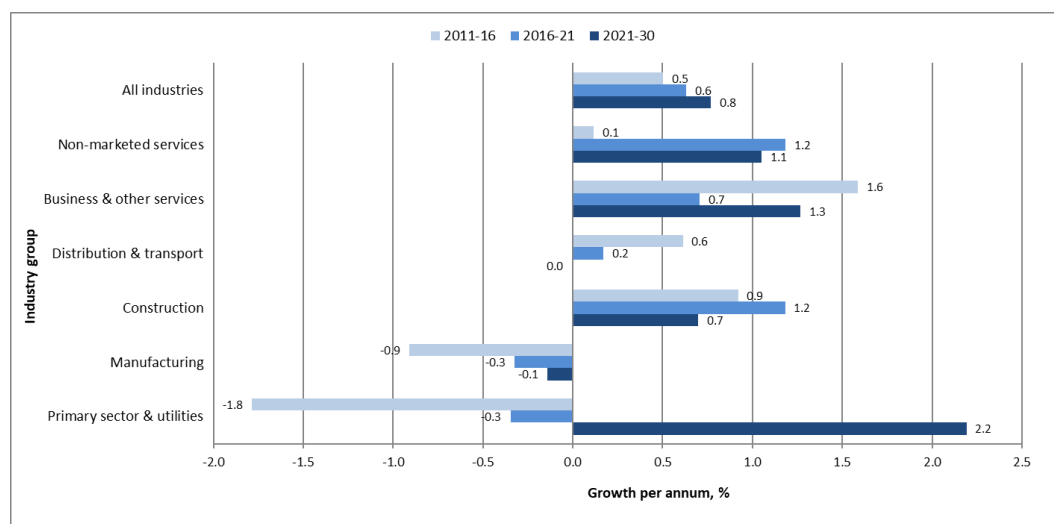Source: Cedefop (2018 Skills Forecast)

2. Labour force overview

In Denmark, the labour force is expected to increase by around 11% in the period 2016-30, similar rates to those in, e.g. Switzerland and Sweden. The growth in the labour force is based on changes in the age composition of the working age population. This is driven by an increase in the population of 30-34 and 35-39 year-olds (of 33% and 29%, respectively), the latter age group having a participation rate of 90% on average. However, the labour force of those aged 45-54, with a similar participation rate, is expected to decline (by almost 6% over

the period). Denmark is also expected to experience a 26% increase in the population of those aged 60+ between 2016-30, which – due to their low participation rate – will only contribute slightly to the labour force growth over the period.

3. Sectoral employment trends

Overall employment levels are expected to grow in Denmark by 2030, but with important differences among sectors. Figure 2 shows that after shrinking by 0.3% per annum and 1.8% per annum in 2016-21 and 2011-16, respectively, employment in *the primary sector and utilities* is expected to increase by 2.2% per annum in the period 2021-30, driven by growth in the *agriculture* sector. Employment in the *business and other services* sector is expected to increase throughout the forecast period, by 0.7% per annum in 2016-21 and 1.3% per annum in 2021-30, driven by the increase in the *banking and insurance* and *other business services* subsectors. Employment in *manufacturing* sector is expected to stagnate over the period 2016-30, but employment in the *food, drink and tobacco* and *engineering* subsectors are expected to grow slightly by 0.7% per annum and 0.8% per annum in 2021-30, respectively.

Figure 2 Employment growth by broad sector of economic activity, 2011-30
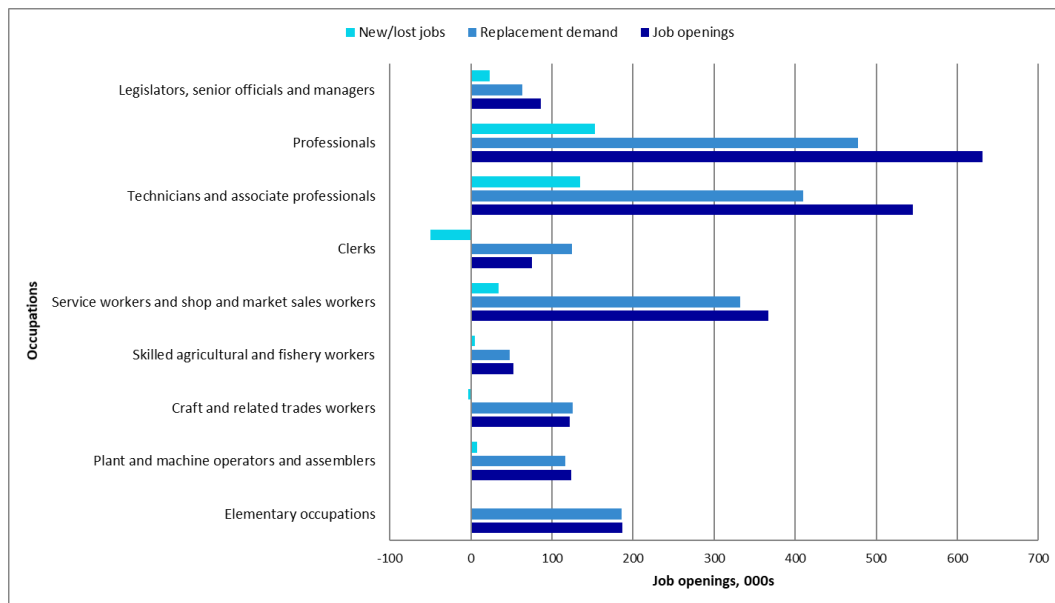

Source: Cedefop (2018 Skills Forecast)

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).

Figure 3 shows the **total job openings** by broad occupational group over the period 2016-30. The number of job openings is determined by the amount of jobs lost/newly created and by the amount of jobs that are created following the retirement of older workers. Most jobs will come from the need to replace workers retiring or changing occupations.

Figure 3 Job openings by broad occupational group, 2016-2030

Source: Cedefop (2018 Skills Forecast)

Professionals and *technicians and associate professional* occupations are expected to generate the largest number of job openings in 2016-30, accounting for 29% and 25% of **total job openings** respectively, with 8 out of 10 job openings being created by replacement demand. *Clerks* and *craft and related trades workers* are expected to shrink, but job openings will still be created by replacement needs.

Looking at the occupational groups in more detail, the largest number of **total job openings** (both new jobs and replacement jobs) is expected among *business and administration associate professionals.* The second highest number of job openings are expected among *teaching professionals*, mostly driven by replacement demand. The largest number of **new jobs** are expected to be created in the *legal, social, cultural and related associate professions*.

General keyboard clerks are expected to experience the largest decline in employment in the period 2016-30, followed by *numerical and material recording clerks.* However, this will be more than offset by the replacement demand in these occupations.

5. Drivers of occupational change

Within the Cedefop skills forecasts, 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/ others).

The growth in the *agriculture* sector in 2021-30 is expected to drive the demand for *market orientated skilled agricultural workers* and *agricultural forestry and fishery labourers* over the period 2016-30. Growth in the *non-marketed services* sector will lead to increased demand for *health professionals, teaching professionals* and *personal care workers.*

Employment is expected to fall in several clerical occupations, as the routine nature of the tasks involved makes them increasingly susceptible to automation in the workplace, leading to workers being replaced by technology to some extent. *General and keyboard clerks*, *numerical and material recording clerks* and *other clerical support workers* are all occupations expected to experience a significant decline in demand in the period 2016-30 due to automation.

Taking into account both occupation and sector effects, the occupations that are expected to show the highest increase in employment are *legal, social, cultural and related associate professions* and *health professionals*. Among *market orientated skilled agricultural workers* there will be both positive (sectoral change) and negative effects (within occupation shifts); however, the positive effects are expected to outweigh the negative effects over the period up to 2030.

6. Demand for and supply of skills

Within the Cedefop skills forecasts, skills are proxied by the highest level of qualification held by individuals in the labour force and 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.

Figure 4 shows the share of total job openings by level of qualification required, in the period 2016-30. Denmark is expected have a higher proportion of job openings requiring high and low level of qualifications than the EU-28 average (low qualifications in particular, compared to the EU-28 average), but a lower proportion of job openings requiring medium qualification levels.
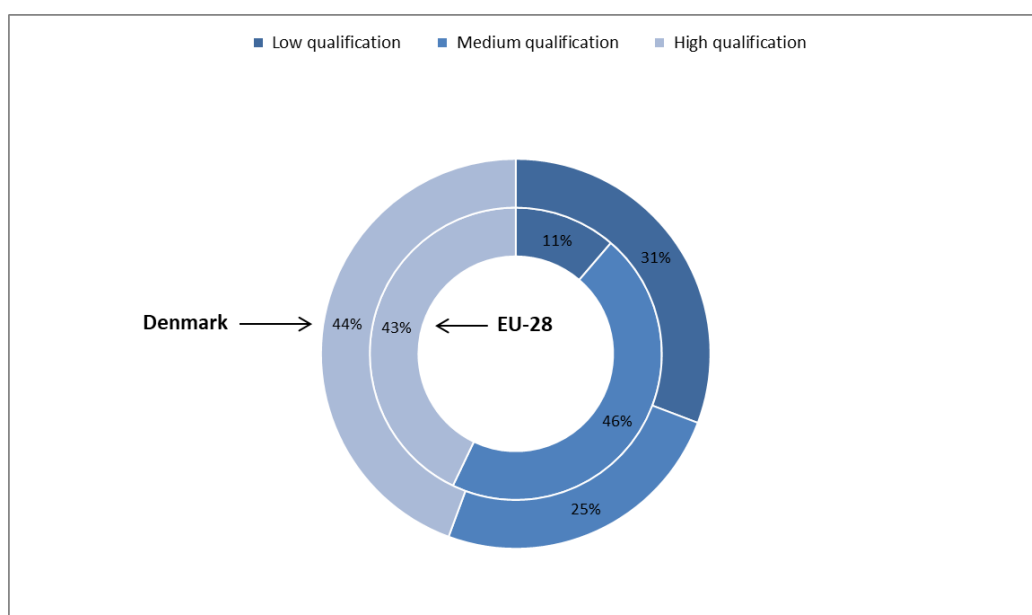

**Figure 4 Share of total job openings by level of qualification, 2016-30**

Source: Cedefop (2018 Skills Forecast)

Teaching professionals are expected to generate the largest number of job openings requiring high level of qualifications, followed by *business and administration professionals*.

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.

Compared to the EU-28 average, Figure 5 shows that Denmark will in 2030 have a higher proportion of the workforce holding high- and low-level qualifications, and a lower proportion holding medium level qualifications.

Figure 5 Labour force share by level of qualification, 2011-30
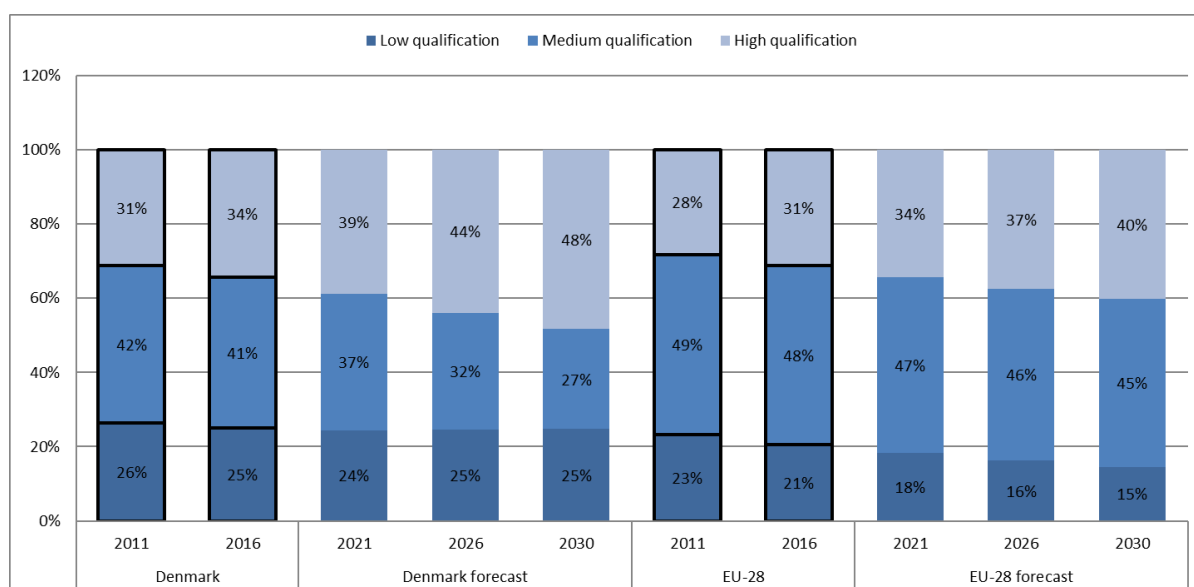
Source: Cedefop (2018 Skills Forecast)

The demand for highly- and medium- qualified workers is expected to fall short of their supply, while low-qualified workers will be in shortage, a situation which could give rise to significant skills mismatches over the forecast period.

Cedefop methodology and scenarios

Cedefop skills forecasts offer quantitative projections of future trends in employment by sector of economic activity and occupational group. Future trends on the level of education of the population and the labour force are also estimated. Cedefop's forecasts use harmonised international data and a common methodological approach allowing cross-country comparisons about employment trends in sectors, occupations and qualifications. The forecasts and methodologies applied are validated by a group of national experts. These forecasts do 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 forecasts covers the period up to 2030. The forecasts take account of global economic developments up to May 2017. Despite cross-country differences, the EU economy as a whole is expected to show modest growth, after a better-than-expected performance in 2017. Over 2018 and 2019, the EU economy as a whole is expected to grow, albeit at a slower pace compared to 2017, supported by increased household expenditure and falling unemployment, although wage growth remains muted. Investment is also expected to pick up given favourable financing conditions and an improved economic outlook. The key assumptions of the baseline scenario incorporate the Eurostat population forecast available in 2017 (Europop 2015) ([1]) and the short-term macroeconomic forecast produced by DG ECFIN in May 2017 ([2]).

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

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([1])   https://ec.europa.eu/eurostat/web/population-demography-migration-projections/population-projections-data

([2])   https://ec.europa.eu/info/business-economy-euro/economic-performance-and-forecasts/economic-forecasts/spring-2017-economic-forecast_it

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