



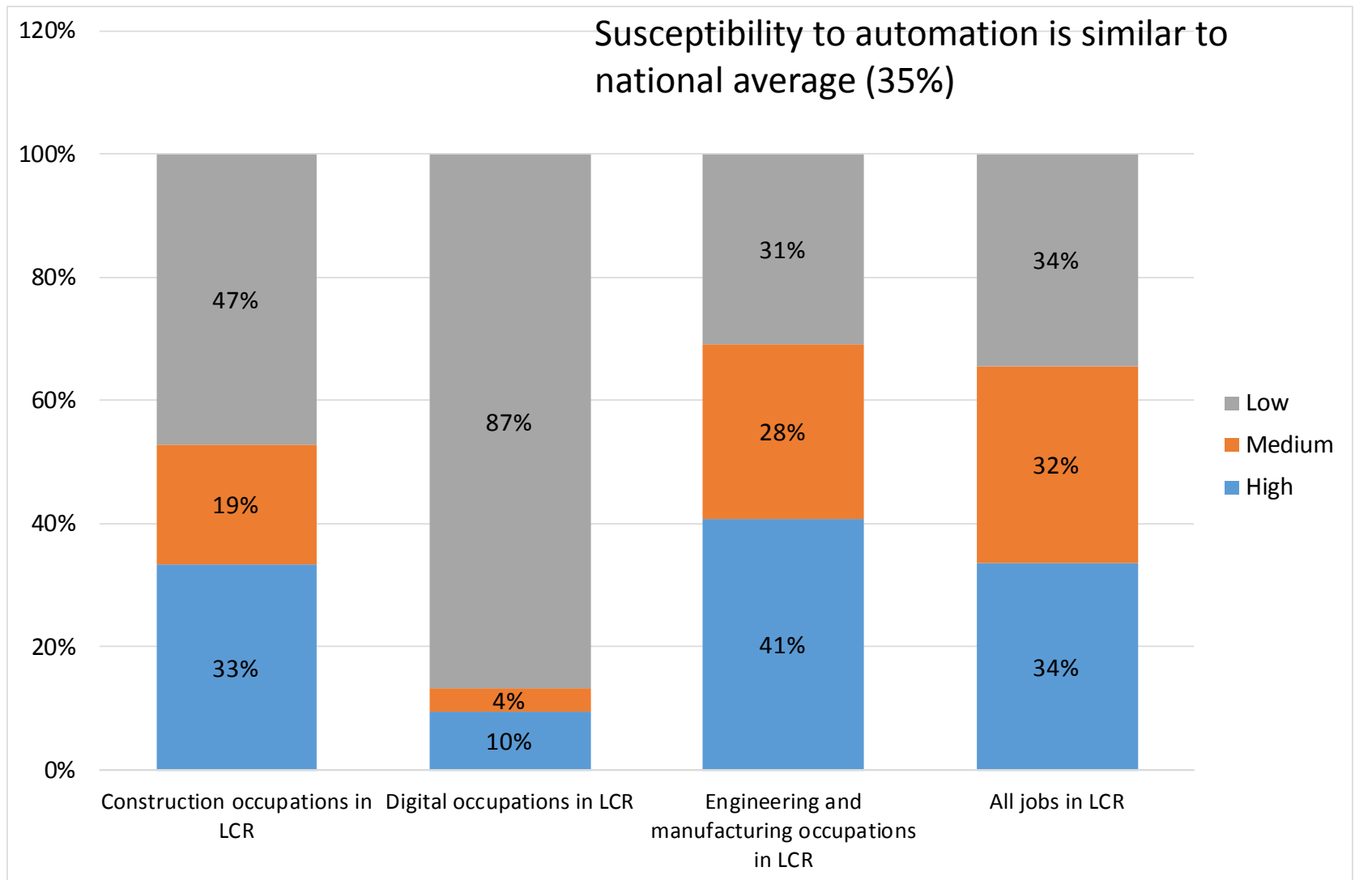
## IMPACT OF AUTOMATION IN LEEDS CITY REGION

# BACKGROUND

- The following presentation applies analysis by Frey and Osborne ('The Future of Employment: How susceptible are jobs to automation', 2013) to City Region employment data to assess the susceptibility to automation of local jobs
- The work by Frey and Osborne and related analysis found that 35% of current jobs in the UK are at high risk of computerisation over the next 20 years
- They calculate susceptibility to automation of each job based on nine key skills required to perform it: social perceptiveness, negotiation, persuasion, assisting and caring for others, originality, fine arts, finger dexterity, manual dexterity and the need to work in a cramped work space.
- The key indicator used below relates to the proportion of jobs in a given industry / occupational group that are at high risk (i.e. 70%+) of automation based on Frey and Osborne's assessment.

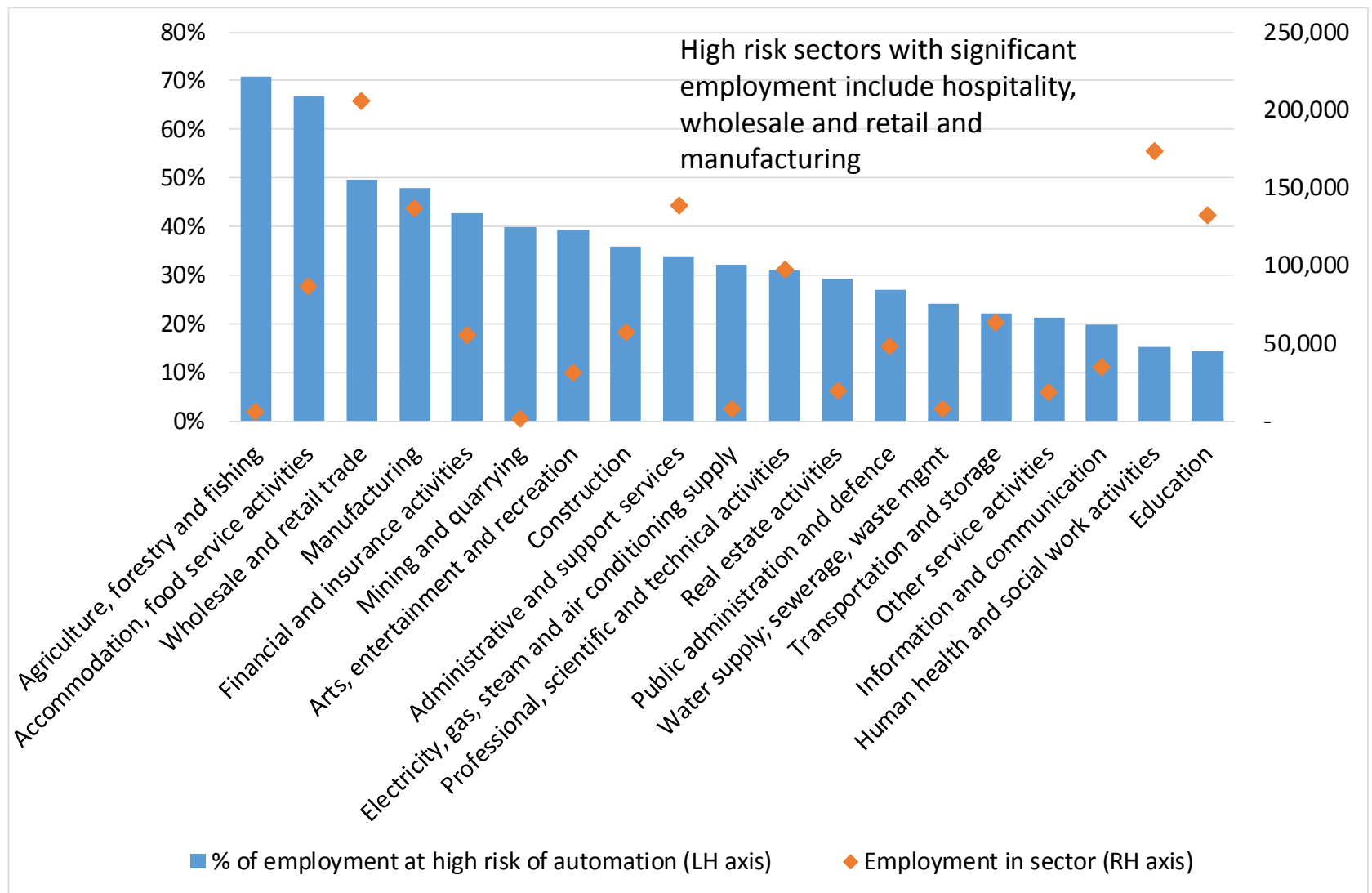
# OVERALL, 34% OF EMPLOYMENT IN LCR AT HIGH RISK

## % OF EMPLOYMENT AT HIGH RISK OF AUTOMATION, LEEDS CITY REGION



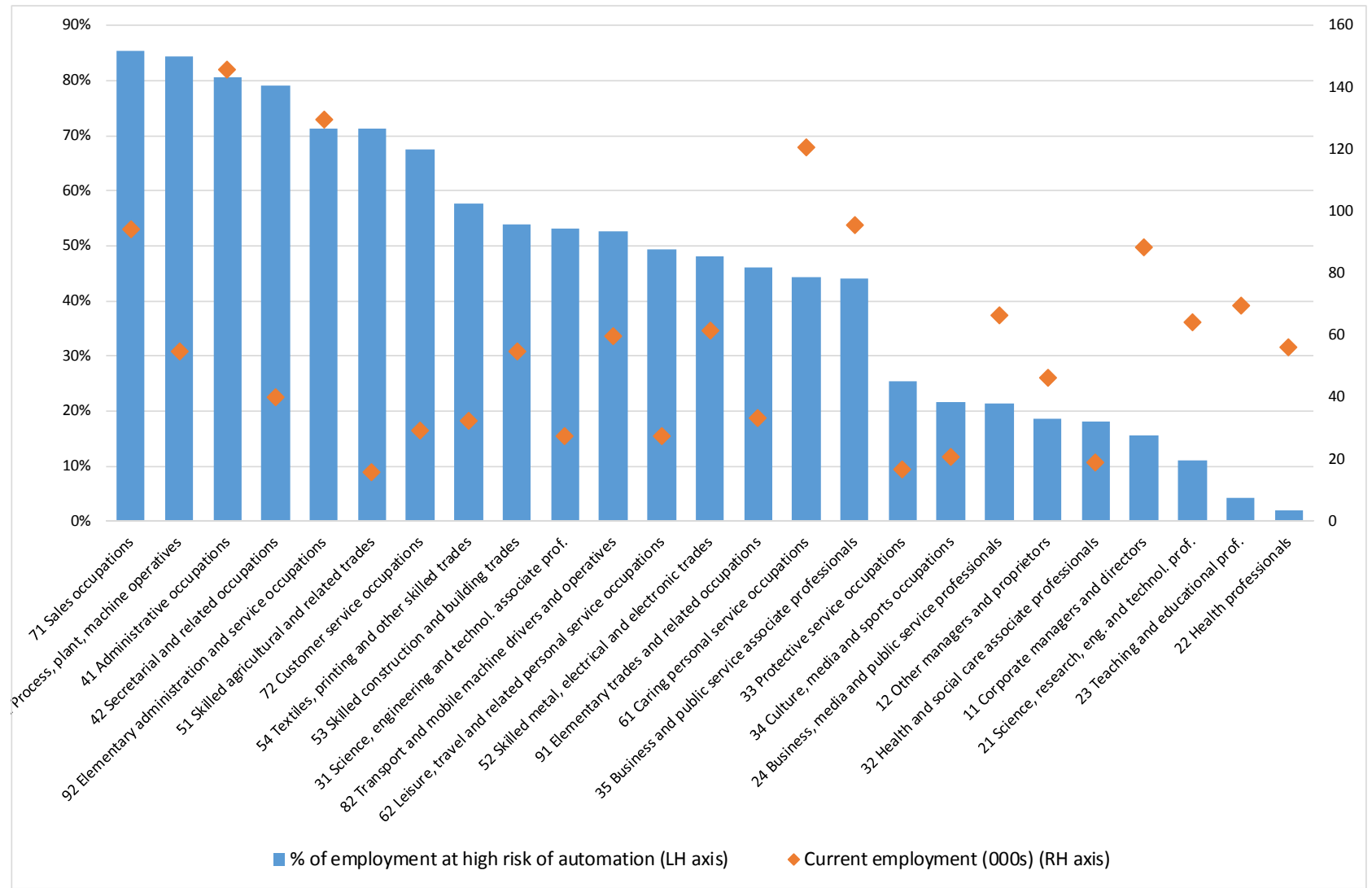
# AGRICULTURE AND HOSPITALITY SECTORS AT GREATEST RISK

## % OF EMPLOYMENT AT HIGH RISK OF AUTOMATION BY SECTOR, LEEDS CITY REGION



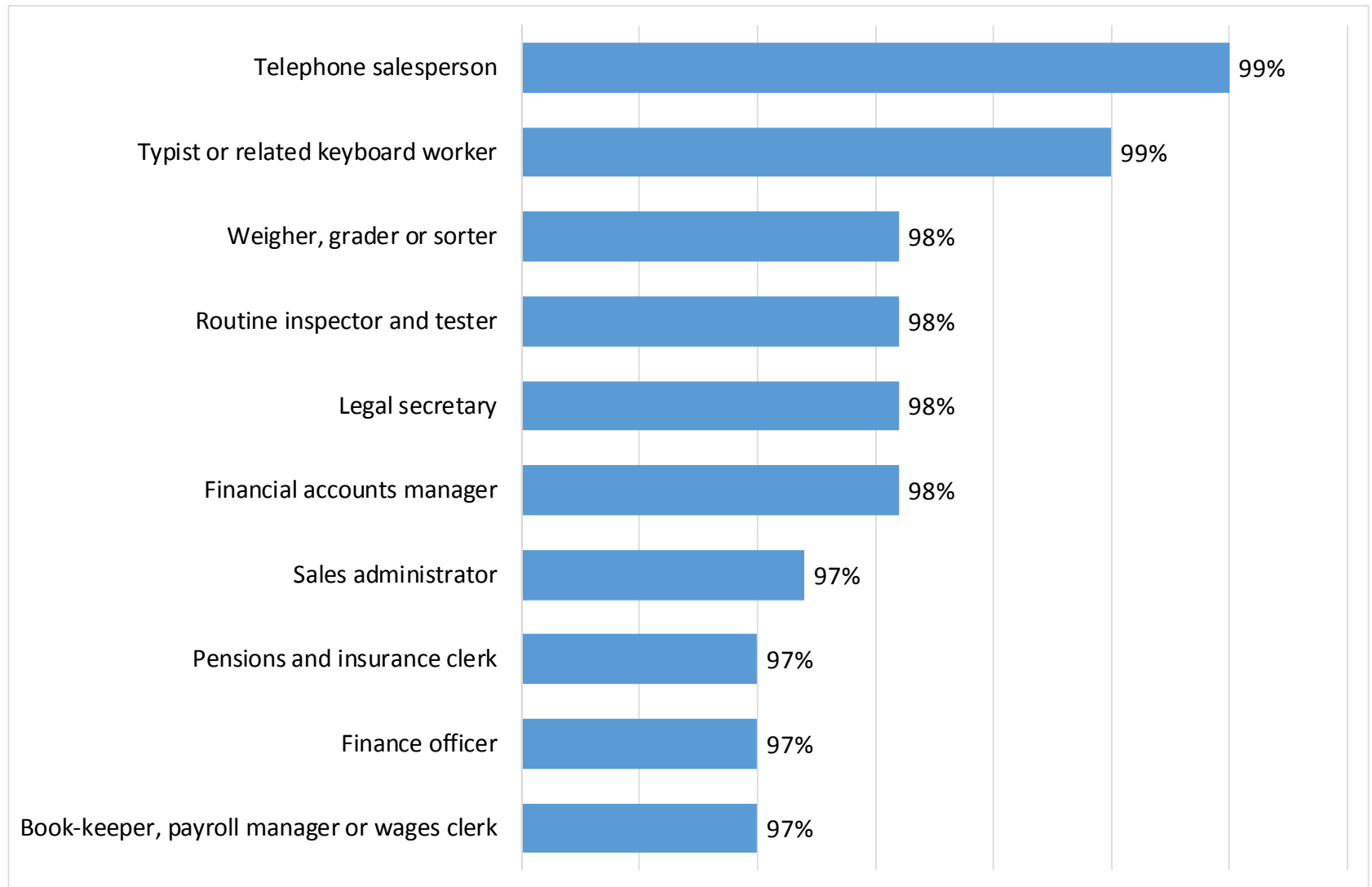
# SALES, OPERATIVE AND ADMIN OCCUPATIONS AT GREATEST RISK

% OF EMPLOYMENT AT HIGH RISK OF AUTOMATION BY OCCUPATIONAL CATEGORY, LEEDS CITY REGION



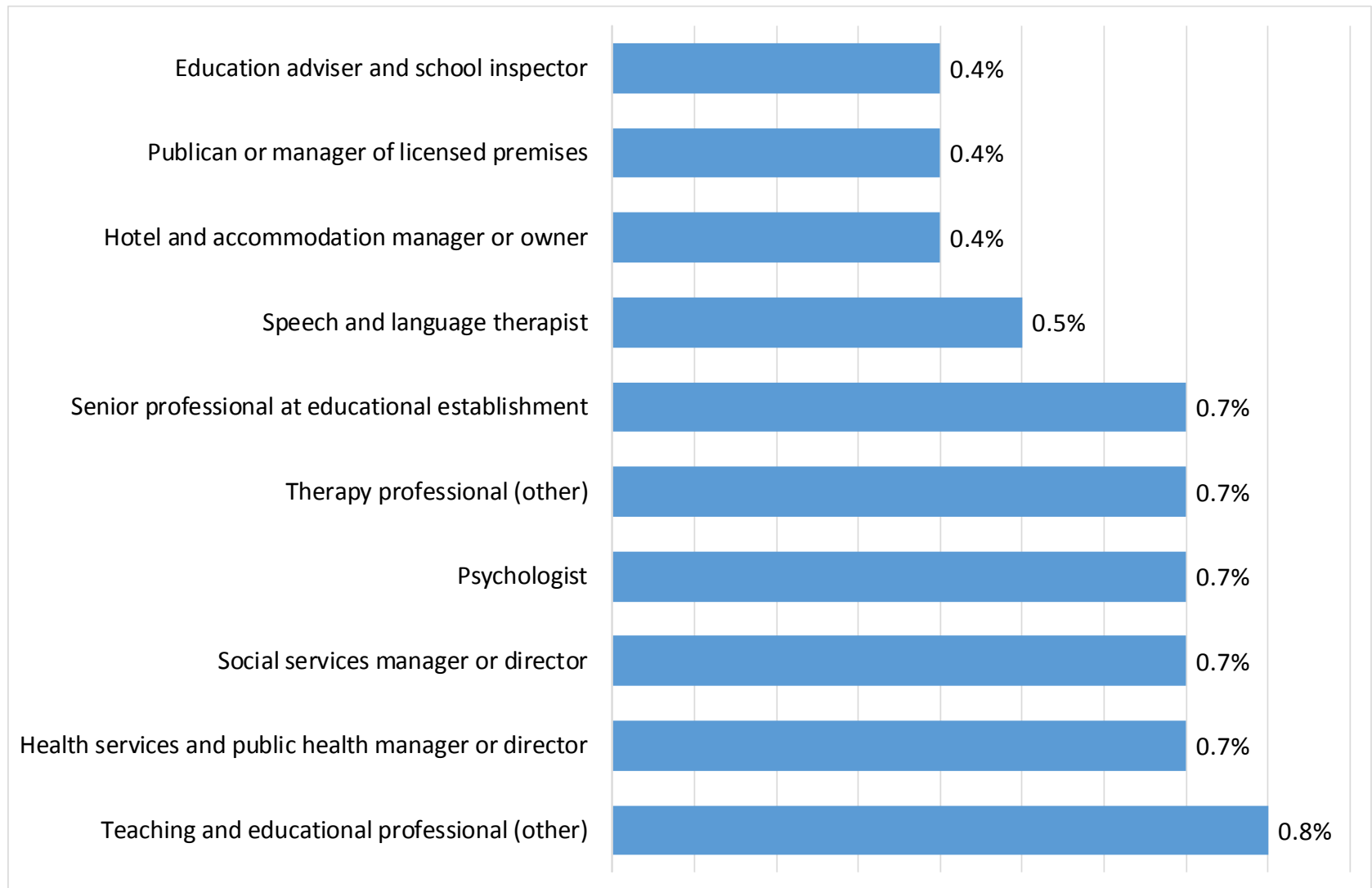
# SOME OCCUPATIONS HAVE VERY HIGH RISK OF AUTOMATION

## DETAILED OCCUPATIONS WITH GREATEST RISK OF AUTOMATION



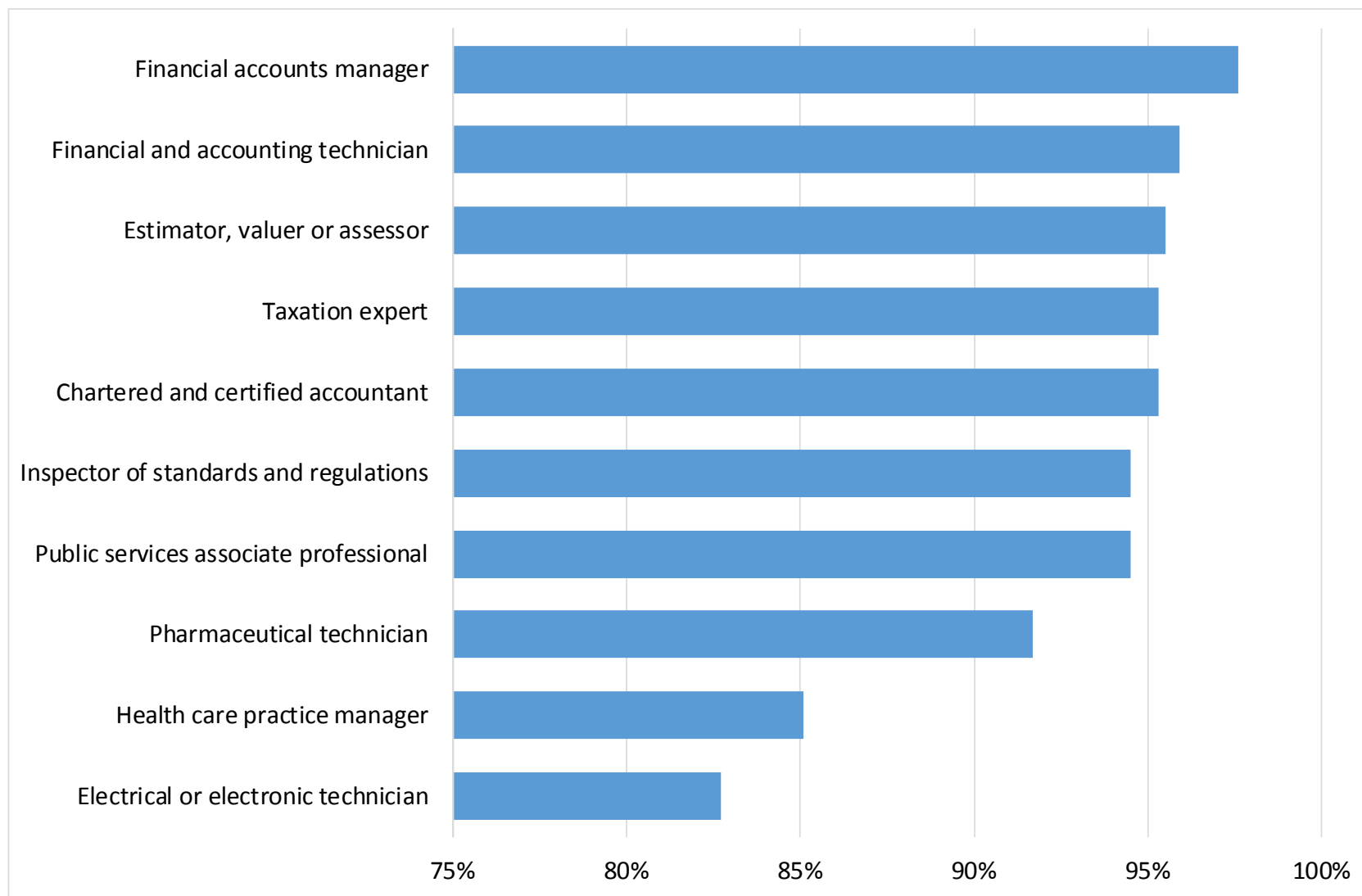
# WHILST OTHERS HAVE A VERY LOW RISK

## DETAILED OCCUPATIONS WITH LOWEST RISK OF AUTOMATION



# ACCOUNTING ROLES MOST AT RISK AMONG HIGH SKILLED OCCUPATIONS

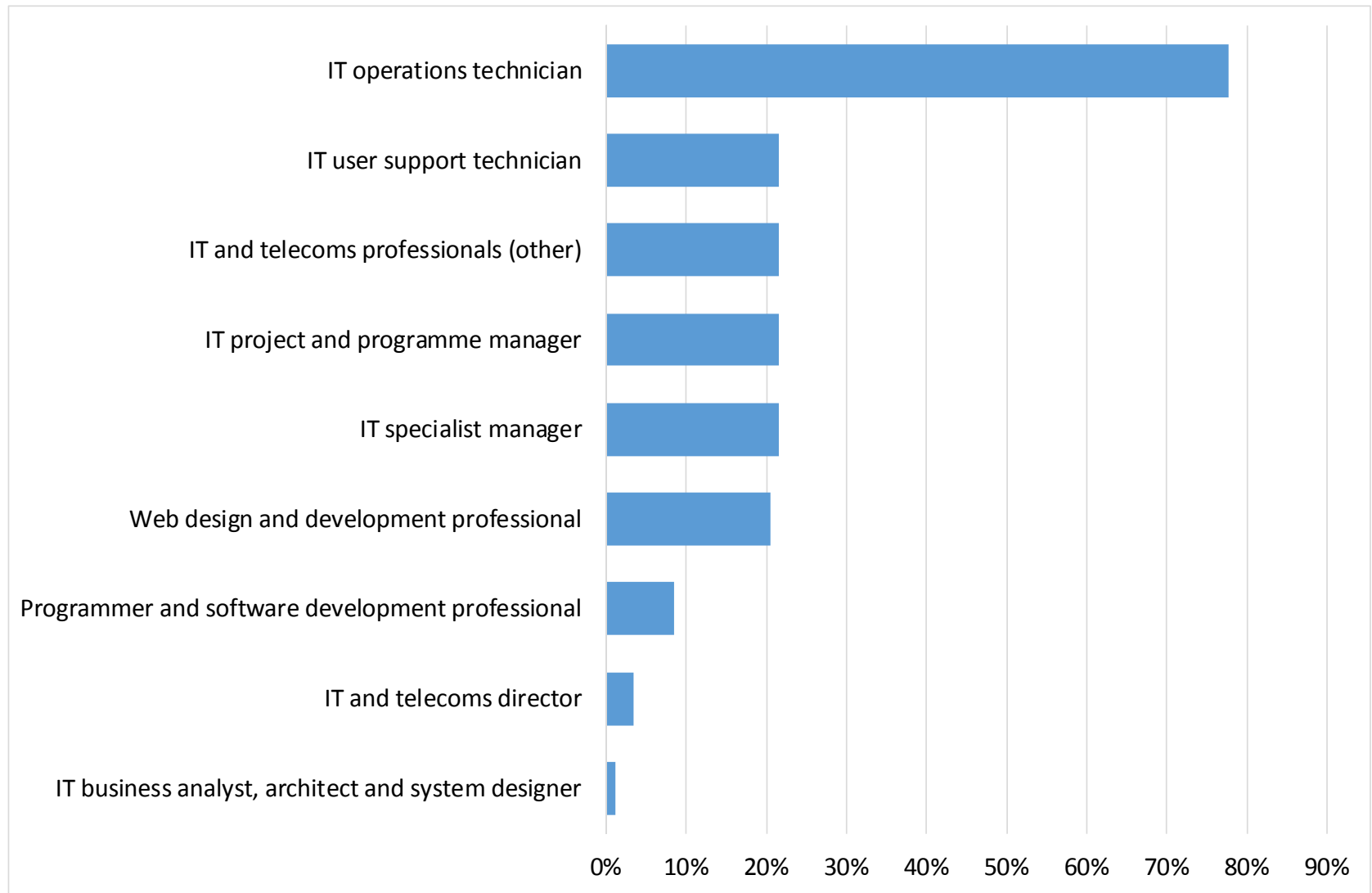
## HIGH SKILLED OCCUPATIONS WITH GREATEST RISK OF AUTOMATION





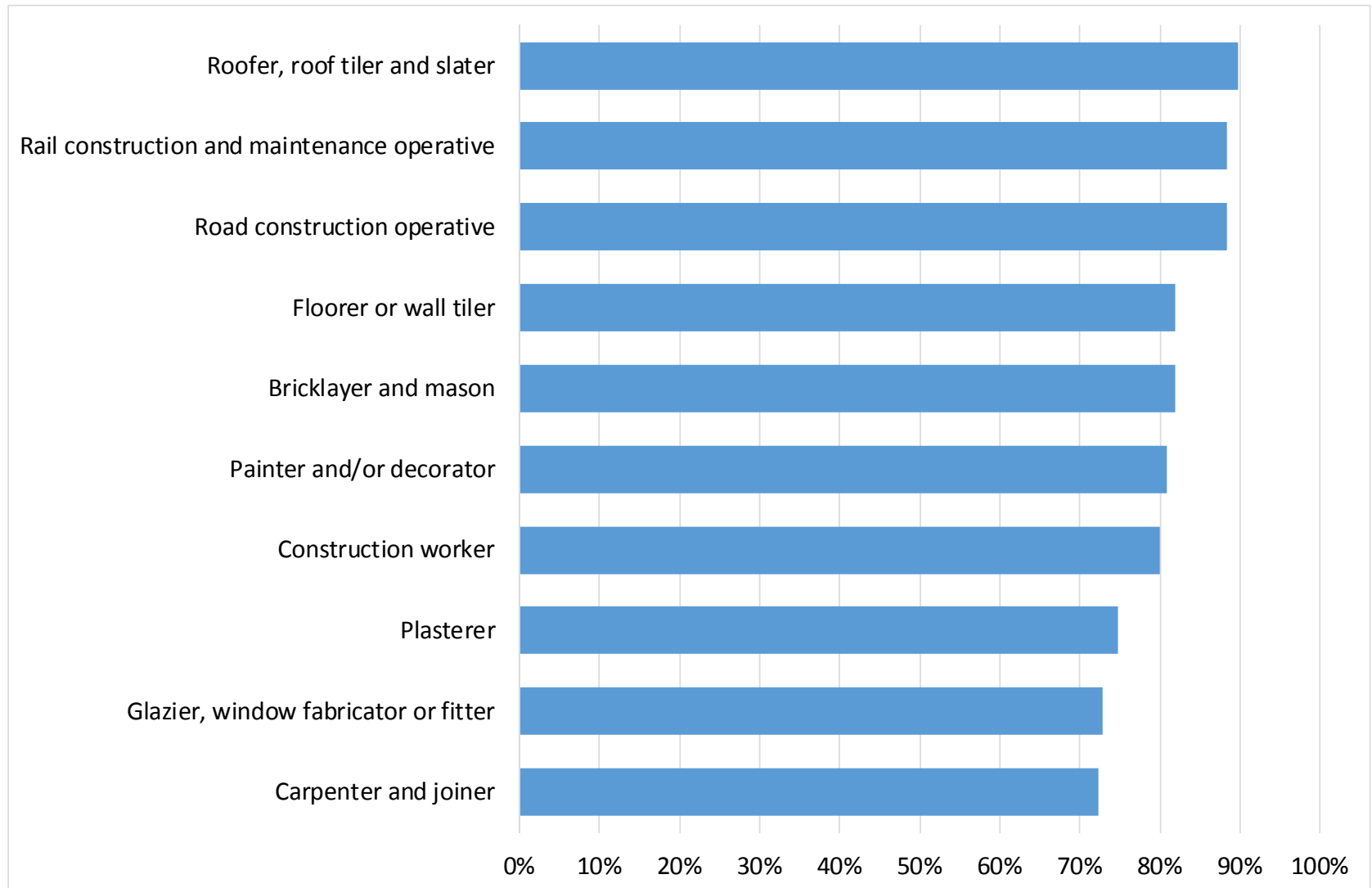
# DIGITAL OCCUPATIONS GENERALLY HAVE LOW RISK OF AUTOMATION

## RANKING OF DIGITAL OCCUPATIONS BY RISK OF AUTOMATION



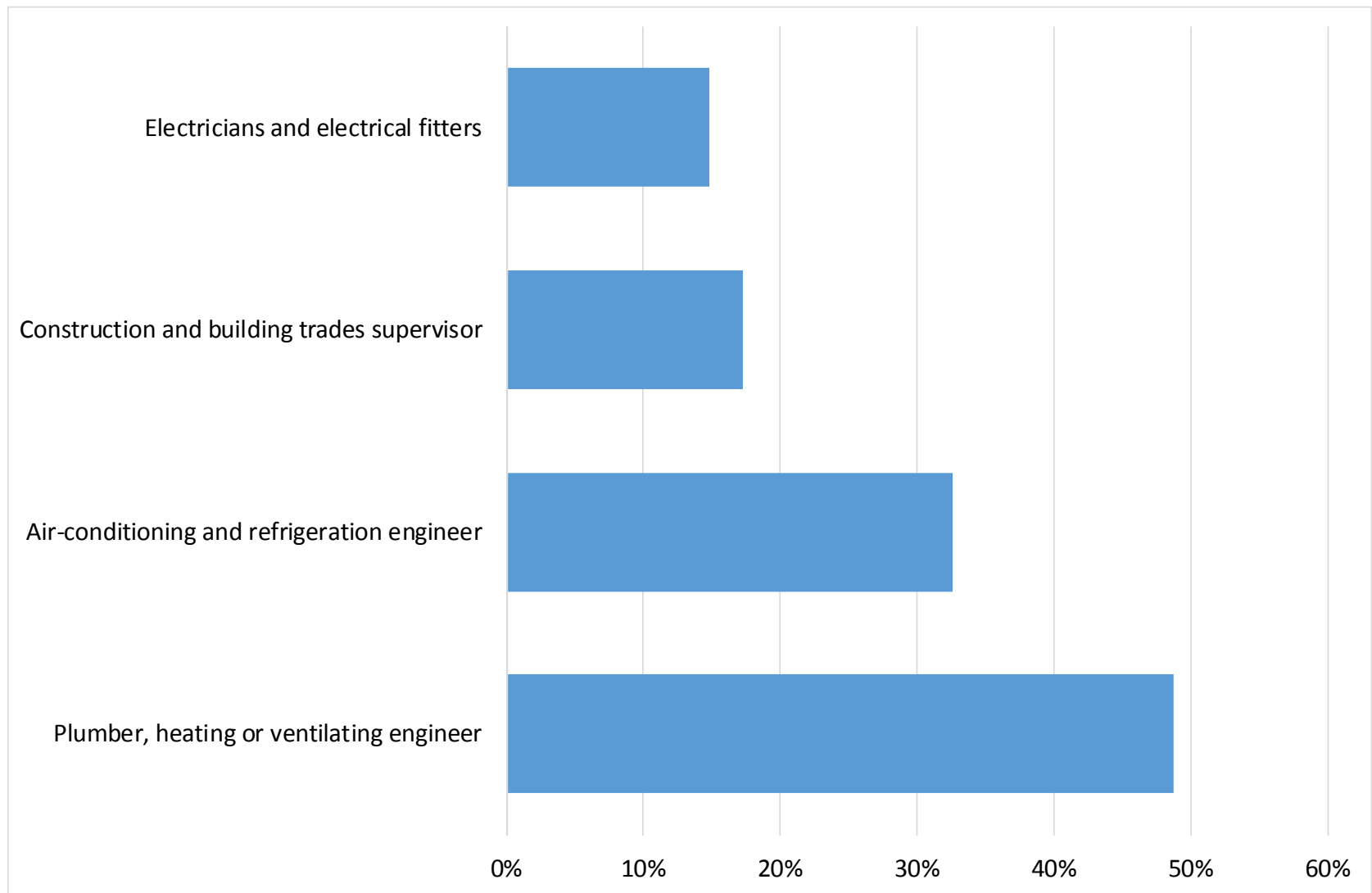
# SOME CONSTRUCTION TRADES HAVE A HIGH RISK OF AUTOMATION

## RANKING OF CONSTRUCTION TRADES BY RISK OF AUTOMATION



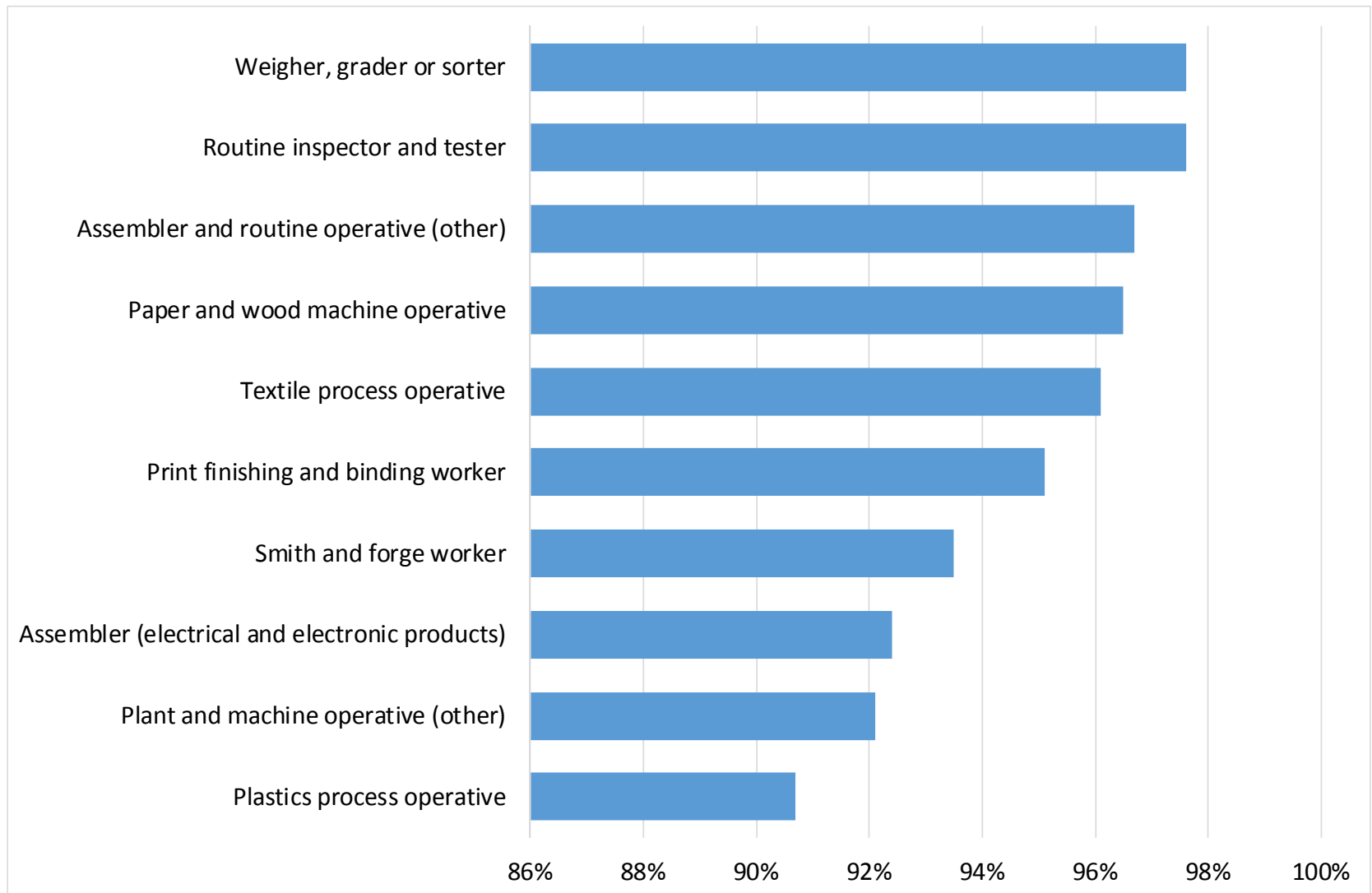
# BUT NOT ALL

## RANKING OF CONSTRUCTION TRADES BY RISK OF AUTOMATION



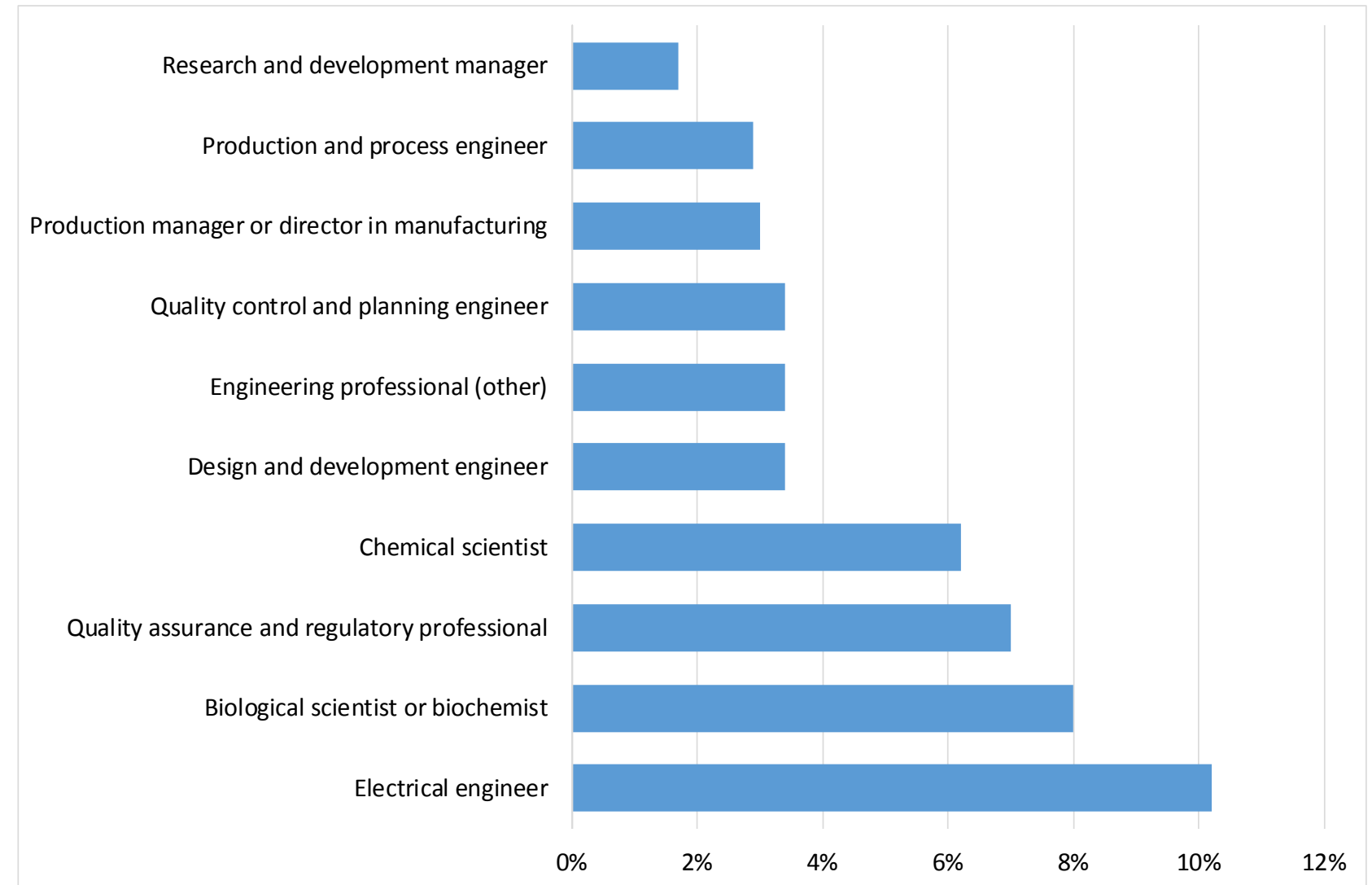
# ROUTINE OPERATIVE ROLES IN MANUFACTURING AT HIGH RISK

## RANKING OF ENGINEERING / MANUFACTURING OCCUPATIONS BY RISK OF AUTOMATION



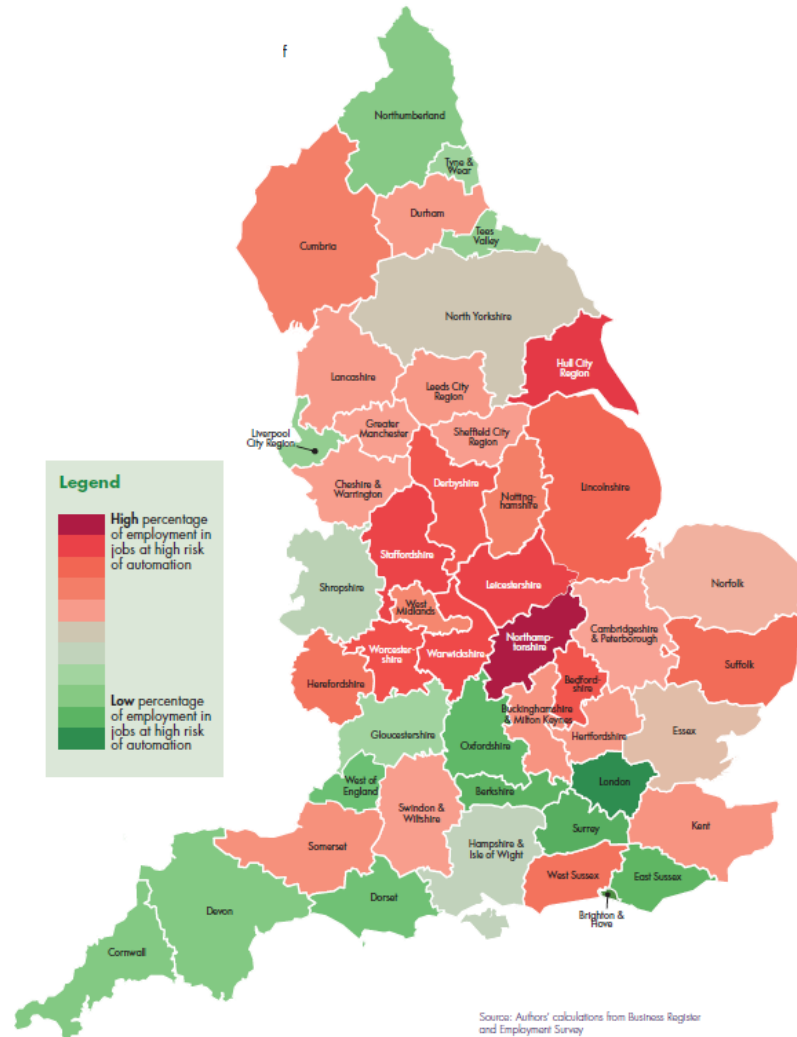
# BUT HIGHER SKILLED ROLES AT LOW RISK

## RANKING OF ENGINEERING / MANUFACTURING OCCUPATIONS BY RISK OF AUTOMATION



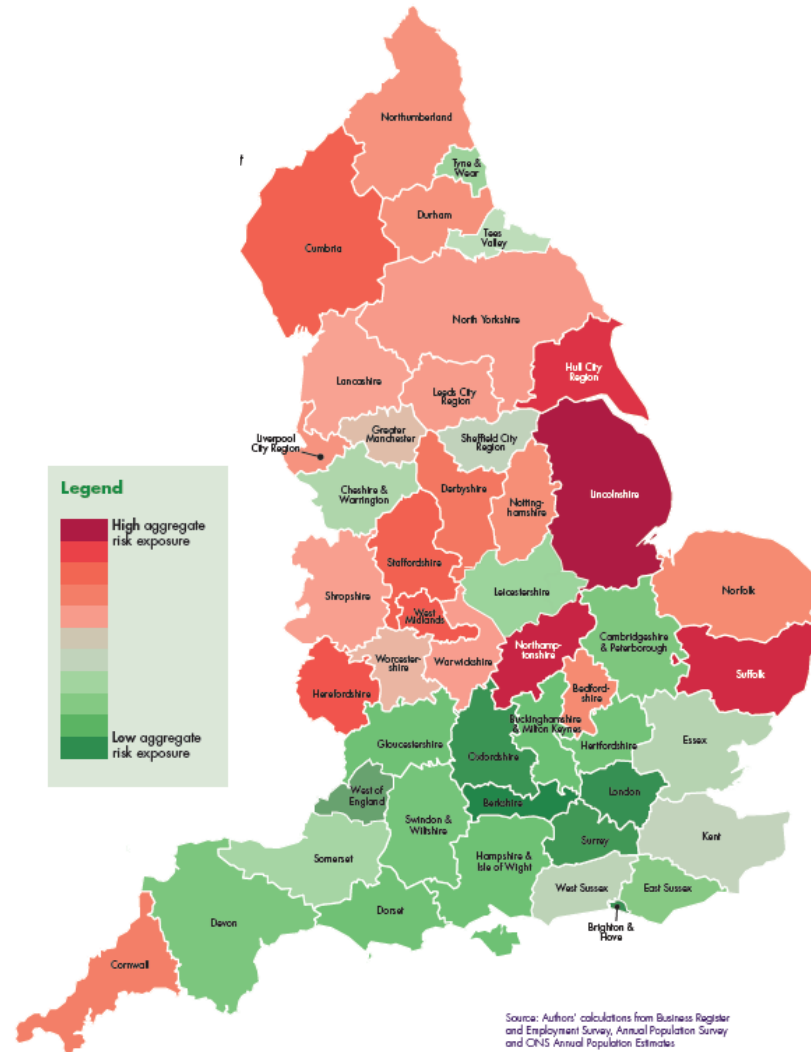
# OTHER ANALYSIS SUGGESTS SHOWS LCR'S EXPOSURE TO AUTOMATION IN CONTEXT

Exposure of England's 47 strategic authority areas to the automation of manual jobs



# AND SHOWS IMPACT OF AUTOMATION IN COMBINATION WITH OTHER LABOUR MARKET FACTORS

Aggregate risk exposure of the local labour market of England's 47 strategic authority areas



Aggregate risk exposure is a combined measure of exposure to five structural labour market risks: migrant labour supply, automation of manual jobs, skills base and demographics. Each measure is weighted the same.

# CONCLUSIONS

- Based on the Frey and Osborne's analysis, employment in the City Region has a significant susceptibility to automation, in line with the level estimated for the UK.
- However, susceptibility is much higher in some sectors and occupations than in others – for example a majority of jobs in the agricultural sector and in sales occupations are at high risk of automation.
- With some exceptions, higher skilled jobs are expected to be the most resistant to automation, along with caring occupations.
- Routine clerical and manual roles will continue to be the most susceptible to automation, together with sales roles (such as checkout operators).
- Forecast pattern of automation has implications for inclusive growth – further decline of middle skilled clerical and manual roles narrows progression routes for those without a degree while negative impact on some service intensive roles with high levels of employment could further reduce opportunities for low skilled.