

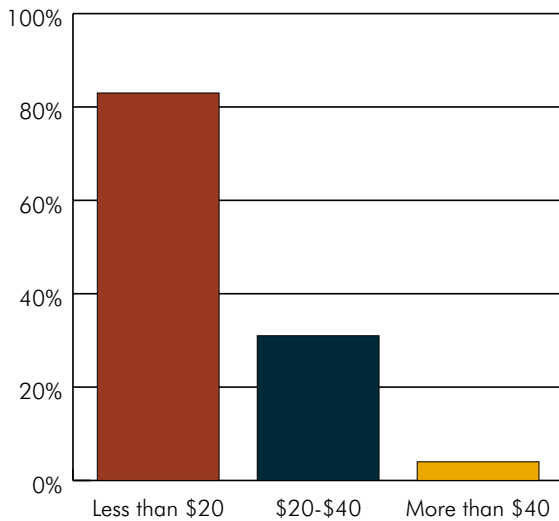
# AUTOMATION AND TOMORROW'S JOBS

Most Automation Potential		
Rank	Occupation	Probability
1	Telemarketers	0.99
2	Title examiners/abstractors/searchers	0.99
3	Sewers (hand)	0.99
4	Mathematical technicians	0.99
5	Insurance underwriters	0.99
6	Watch repairers	0.99
7	Cargo/freight agents	0.99
8	Tax preparers	0.99
9	Photographic process workers/processing machine operators	0.99
10	New account clerks	0.99
11	Library technicians	0.99
12	Data entry keyers	0.99
13	Timing device assemblers/adjusters	0.98
14	Insurance claims/policy processing clerks	0.98
15	Brokerage clerks	0.98
16	Order clerks	0.98
17	Loan officers	0.98
18	Insurance appraisers (auto)	0.98
19	Umpires/referees/sports officials	0.98
20	Tellers	0.98

Least Automation Potential		
Rank	Occupation	Probability
1	Recreational therapists	0.0028
2	First-line supervisors of mechanics, installers, repairers	0.003
3	Emergency management directors	0.003
4	Mental health/substance abuse social workers	0.0031
5	Audiologists	0.0033
6	Occupational therapists	0.0035
7	Orthotists and prosthetists	0.0035
8	Health care social workers	0.0035
9	Oral and maxillofacial surgeons	0.0036
10	First-line supervisors of fire fighting/prevention workers	0.0036
11	Dietitians and nutritionists	0.0039
12	Lodging managers	0.0039
13	Choreographers	0.004
14	Sales engineers	0.0041
15	Physicians/surgeons	0.0042
16	Instructional coordinators	0.0042
17	Psychologists	0.0043
18	First-line supervisors of police/detectives	0.0044
19	Dentists	0.0044
20	Elementary school teachers	0.0044

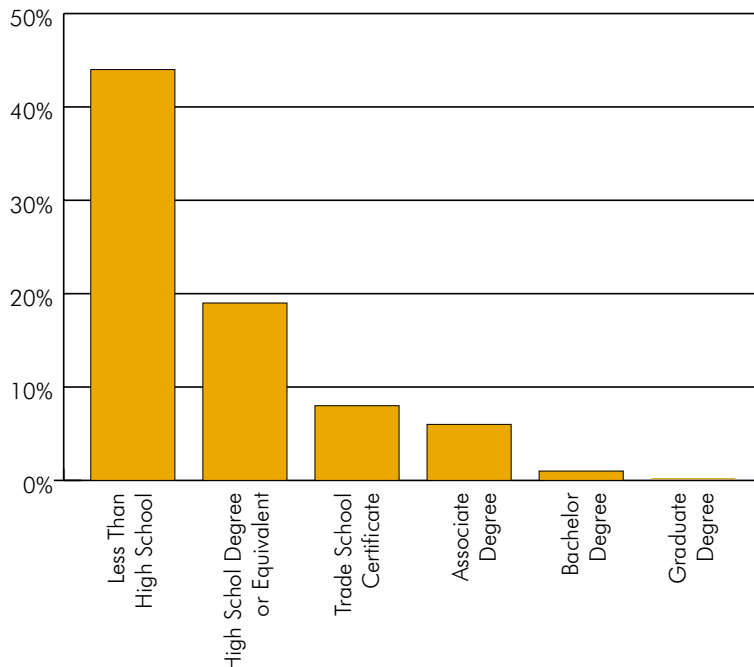
Source: The Future of Employment: How Susceptible Are Jobs to Computerisation? (University of Oxford researchers, 2013)

## Share of Jobs with High Probability of Automation, by Occupation's Median Hourly Wage



Source: Artificial Intelligence, Automation and the Economy (December 2016 report from the Executive Office of the President)

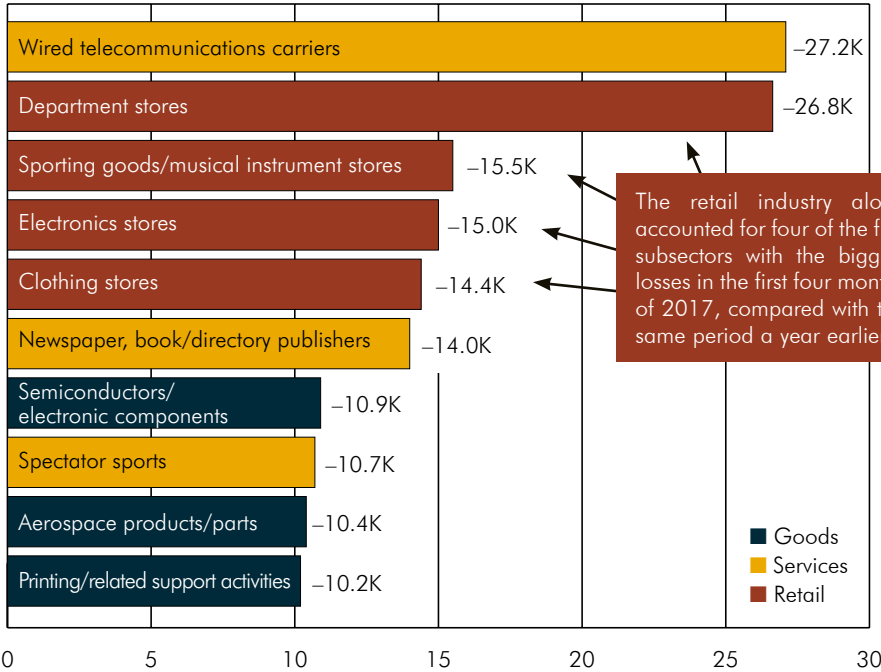
## Share of Jobs with Highly Automatable Skills, by Education



# SERVICE SECTOR CHANGES

## Top Job-Losing Subsectors

(January-April 2017)



Job loss discussions typically focus on manufacturing and industrial processes. In 2016, services accounted for three-fourths of the job losses among more than 350 private economy sectors.

The retail industry alone accounted for four of the five subsectors with the biggest losses in the first four months of 2017, compared with the same period a year earlier.

Source: Bloomberg Businessweek; Bureau of Labor Statistics data

## Job Losses in Department Stores vs. Coal Mining

### Department Stores

2017 employment: 1.28M



26.8K jobs lost

While coal mining job losses were 5.5% in the first four months of 2017 compared to a year earlier (and that figure was just 2% for department stores), the total number of retail jobs disappearing was much higher as department stores employ approximately 25 times more workers.

### Coal Mining

2017 employment: 50.6K



2.8K jobs lost

Source: Bloomberg Businessweek; Bureau of Labor Statistics data. Employment data are averages for first four months of 2017; losses are from comparison to the same period in 2016