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How automation could affect employment for women in the United Kingdom and minorities in the United States

As adoption increases, new research looks into the consequences for women's jobs in the United Kingdom and those of African American workers.

As automation technologies advance—from language process and machine learning to self-driving vehicles—the number of jobs, as well as their very nature, will be affected. In the United Kingdom, our research suggests that, with the right actions, women could benefit from the impact of advanced technologies on skills and jobs. In the United States, without concerted effort—including retraining—automation could heighten existing disparities for African American workers. The two stories that follow look at the magnitude of potential change and steps that could mitigate the downside.

Automation and the future of women at work

Research in the United Kingdom suggests that, with the right actions, women could benefit from the impact of advanced technologies on skills and jobs.

by Tera Allas, Michael Chui, and Vivian Hunt

Much has already been said about how automation and artificial intelligence will affect employment and wages. But what about the impact of these trends on women in the workplace?

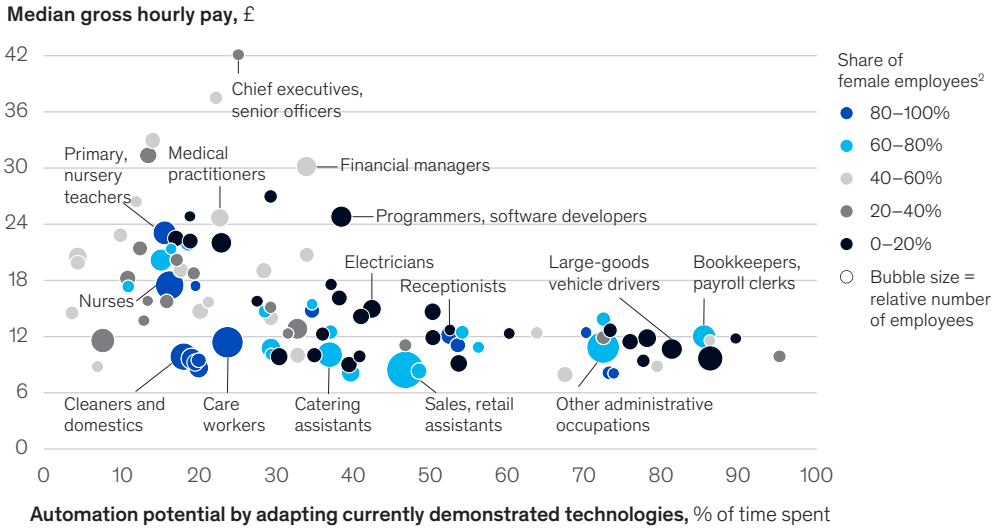
While many obstacles still stand in the way of gender parity, with the right policy actions by governments and businesses, women appear well placed to benefit from the mix of sectors, skills, and occupations that will become important as technology adoption advances.[1]

On this point, the conclusions of McKinsey's previous research in Germany and France were relatively encouraging: many women there work in the expanding healthcare and social-care sectors, for example, and have

Exhibit

Many female-dominated occupations in the UK are less easily automated.

UK occupations,[1] 2018



[1] Top 100 occupations by employment, representing 70% of employees in United Kingdom.
[2] As of Q2 2018; not seasonally adjusted; includes part-time and self-employed people.

Source: Office for National Statistics; McKinsey Global Institute analysis; McKinsey analysis

the sort of social, emotional, and digital skills that will be in high demand in the future.

In the United Kingdom, meanwhile, we took a closer look at granular data for different jobs and found that female-dominated occupations are, on balance, less susceptible to automation. To be sure, technology is likely to reduce the demand for sales, retail, and administrative jobs—jobs that still employ a lot of women. However, the occupations that are most female-dominated—childcare, cleaning, nursing, and teaching—are among the least likely to be performed by machines (exhibit).

Moreover, women in the United Kingdom are already moving out of highly automatable and low-paid occupations and into less automatable and often better-paid ones. For example, between 2001 and 2018, female employment in secretarial and administrative occupations dropped by 450,000, while it grew by almost one million in occupations such as project management, legal and teaching professions, and medical practice.

A similar trend of women moving to higher-skilled occupations has been observed by researchers in the United States.[2] They found evidence that this was partly the result of a growing premium on social skills within cognitive,[3] high-paid occupations.

These employment trends have contributed to the shrinking (if still substantial) gender pay gap in the United Kingdom, while there are also other factors at play.[4] For example, according to the research on adult skills by the Organisation for Economic Co-operation and Development (OECD), UK and Dutch women—uniquely among more than 30 countries studied—use more problem-solving skills at work than men do. The OECD suggests that this is associated with a narrower gender pay gap.[5]

Such broadly positive observations, though, should not evoke complacency. Women still suffer from lower wages and lower representation in high-productivity sectors.[6] There are fewer women than men that possess important skill sets such as advanced technological skills. And women haven't yet

captured their fair share of management and leadership positions. This might mean that even as female workforce participation continues to improve, the financial rewards are unevenly shared. (Indeed, even when men and women have the same skills, a pay gap still persists in many cases.) As a result, adopting policies that narrow current pay gaps; actively boost women's opportunities in science, technology, engineering, and mathematics (STEM); and ensure that reskilling efforts are inclusive therefore remains a top priority.

These are not only important societal issues on which policy makers need to act; they also demonstrate that many businesses still fail to acknowledge the full potential of what women have to offer. Our most recent research found that companies in the top quartile for gender diversity on executive teams were 27 percent more likely to have superior value creation than the bottom quartile.[7] To take advantage of this opportunity, leaders must continue to articulate the business case and commitment to diversity, craft and deliver a targeted portfolio of initiatives, tailor strategies to maximize local impact, and track progress through granular data. Q

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[1] Sandra Sancier-Sultan and Julia Sperling, "Women and the future of work: A window of opportunity in Western Europe?," November 2018, McKinsey.com.

[2] Guido Matias Cortes, Nir Jaimovich, and Henry E. Siu, *The "end of men" and rise of women in the high-skilled labor market*, NBER working paper, number 24274, February 2018, nber.org.

[3] As distinct from occupations that are routine or manual. The study focused on analyzing the labor-market outcomes for college-educated men and women.

[4] While women in the United Kingdom have been moving to better-paid jobs, there have also been shifts within occupations and sectors. For example, the gender pay gap decreased between 2005 and 2015 within almost every sector and in around two-thirds of 25 different occupational groups.

[5] *Skills matter: Further results from the survey of adult skills*, Organisation for Economic Co-operation and Development, June 2016, oecd.org.

[6] Vivian Hunt, Lareina Yee, Sara Prince, and Sundiatu Dixon-Fyle, "Delivering through diversity," January 2018, McKinsey.com.

Where automation holds the most risk for African American workers

Without concerted effort—including retraining—automation could heighten existing disparities.

by David Baboolall, Duwain Pinder, and Shelley Stewart III

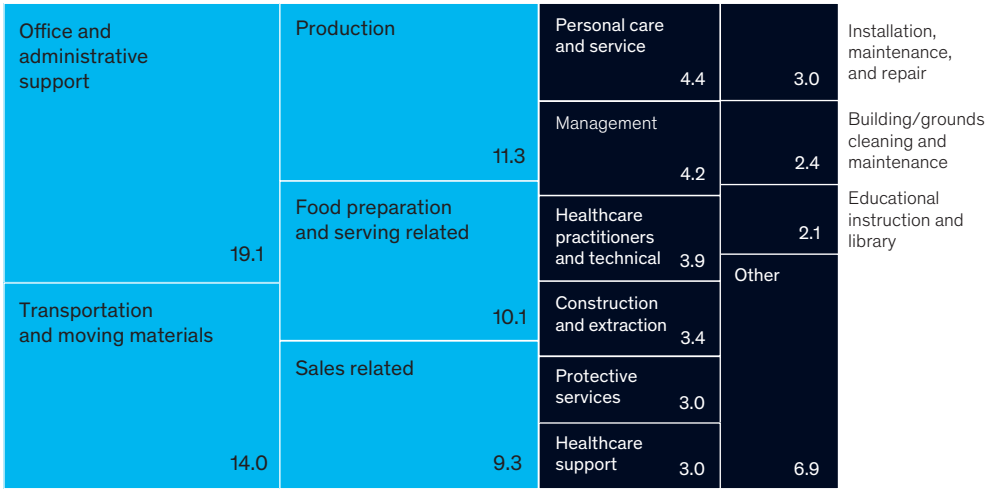
African American workers appear especially vulnerable as automation starts to reshape jobs and activities in the United States. In fact, when we looked at nearly 2,000 different detailed activities in more than 800 occupations, we found that these workers are disproportionately concentrated in the kinds of support roles most likely to be affected.

As companies adapt and develop technology, it's clear that they will be able to automate a much higher percentage of the time spent

Exhibit

Five occupation categories account for more than 60 percent of the automation risk for the African American workforce.

Occupation, % of total automation risk[1]



[1] Calculated by dividing the number of employee hours that can be automated in each occupation category by the total number of employee hours that can be automated in the African American workforce.

Source: US Bureau of Labor Statistics, 2017; US Equal Opportunity Commission; McKinsey Global Institute analysis

on support roles than the time spent on more directive ones.[1] And among the occupations we analyzed, African Americans held some 459,000 more jobs subject to automation than their overall numbers in the US population would predict. For example, African Americans are demographically overrepresented in the category of truck drivers to the tune of roughly 156,000 jobs; self-driving trucks therefore pose a disproportionate threat to their livelihood.

Eventually, as many as 80 percent of a truck driver's work hours could be automated—the field's "automation potential"—raising the vulnerability of all 581,000 African Americans in that job class. By contrast, African Americans are underrepresented by around 100,000 employees among software developers, a field that has an automation potential of just 15 percent.

As the exhibit shows, retraining African American workers in just five occupational categories would mitigate nearly 60 percent of the risk to this group from automation. That will require hard work, creative solutions, and funding. African American workers have access to fewer economic resources to address potential displacement on their own, so collaboration across the private, public, and social sectors will be vital in order to promote retraining opportunities needed to mitigate the potential disruption. Q

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For more, see "Automation and the future of the African American workforce," on McKinsey.com.

[1] Examples of directive roles include executives, professionals, craft workers, sales workers, and technicians.