The Future Of Work:Data Analysis Of Glassdoor Jobs

Submitted by

***S.Manojkumar**
K.Manikandan
A.Karezhilnithi
R.Kokila

1

The Labour Market Outlook in the Pandemic Economy

1.1 Introduction

Developing and enhancing human skills and capabilities through education, learning and meaningful work are key drivers of economic success, of individual well-being and societal cohesion. The global shift to a future of work is defined by an ever-expanding cohort of new technologies, by new sectors and markets, by global economic systems that are more interconnected than in any other point in history, and by information that travels fast and spreads wide. Yet the past decade of technological advancement has also brought about the looming possibility of mass job displacement, untenable skills shortages and a competing claim to the unique nature of human intelligence now challenged by artificial intelligence. The coming decade will require purposeful leadership to arrive at a future of work that fulfils human potential and creates broadly shared prosperity.

In 2020, economic globalization is stalling, social cohesion is being eroded by significant unrest and political polarization, and an unfolding recession is threatening the livelihoods of those at the lower end of the income spectrum. As a new global recession brought on by the COVID-19 health pandemic impacts economies and labour markets, millions of workers have experienced changes which have profoundly transformed their lives within and beyond work, their well-being and their productivity. One of the defining features of these changes is their asymmetric nature—impacting already disadvantaged populations with greater ferocity and velocity.

Over the course of half a decade the World Economic Forum has tracked the labour market impact of the Fourth Industrial Revolution, identifying the potential scale of worker displacement alongside strategies for empowering job transitions from declining to emerging roles. The fundamental rate of progress towards greater technological incursion into the world of work has only accelerated over the two years since the 2018 edition of the report. Under the influence of the current economic recession the underlying trends toward the technological augmentation of work have accelerated. Building upon the Future of Jobs methodology developed in 2016 and 2018, this 2020 third edition of the *Future of Jobs Report* provides a global overview of the ongoing technological augmentation of work, emerging and disrupted jobs and skills, projected expansion of mass reskilling and upskilling across industries as well as new strategies for effective workforce transitions at scale.

Over the past decade, a set of ground-breaking, emerging technologies have signalled the start of the Fourth Industrial Revolution. To capture the opportunities created by these technologies, many companies across the private sector have embarked on a reorientation of their strategic direction. By 2025, the capabilities of machines and algorithms will be more broadly employed than in previous years, and the work hours performed by machines will match the time spent working by human beings. The augmentation of work will disrupt the employment prospects of workers across a broad range of industries and geographies. New data from the Future of Jobs Survey suggests that on average 15% of a company's workforce is at risk of disruption in the horizon up to 2025, and on average 6% of workers are expected to be fully displaced.

This report projects that in the mid-term, job destruction will most likely be offset by job growth in the 'jobs of tomorrow'—the surging demand for workers who can fill green economy jobs, roles at the forefront of the data and AI economy, as well as new roles in engineering, cloud computing and product development. This set of emerging professions also reflects the continuing importance of human interaction in the new economy, with increasing demand for care economy jobs; roles in marketing, sales and content production; as well as roles at the forefront of people and culture.[1] Employers answering the Future of Jobs Survey are motivated to support workers who are displaced from their current roles, and plan to transition as many as 46% of those workers from their current jobs into emerging opportunities. In addition, companies are looking to provide reskilling and upskilling opportunities to the majority of their staff (73%) cognizant of the fact that, by 2025, 44% of the skills that employees will need to perform their roles effectively will change.

The sections that follow in this first chapter of the *Future of Jobs Report* situate the 2020 COVID-19 economic recession in the context of past recessions, and in the context of the Fourth Industrial Revolution. They review the impact of this health shock on the labour market, paying particular attention to its asymmetric nature. Chapter 2 outlines the latest evidence from the Future of Jobs Survey, taking stock of the path of technological adoption, the scale and depth of the job transitions and the learning provision that is in place and planned in the horizon up to 2024. Finally, Chapter 3 reviews the public and private sector policies and practices that can support a proactive adaptation to these unfolding trends. In particular, the chapter outlines the mechanisms for job transitions, the imperatives of creating a learning organization and structures which can support such adaptation both across government and across business.

This edition of the *Future of Jobs Report* takes stock of the impact of two twin events—the onset of the Fourth Industrial Revolution and of the COVID-19 recession in the context of broader societal and economic inequities. It provides new insights into effective practices and policies for supporting worker transitions towards a more equitable and prosperous future of work. In economies riddled with inequalities and sluggish adaptation to the demands of the new world of work, there is an ever-larger need for a 'Great Reset', which can herald opportunities for economic prosperity and societal progress through good jobs.

1.2 Short-term shocks and long-term trends

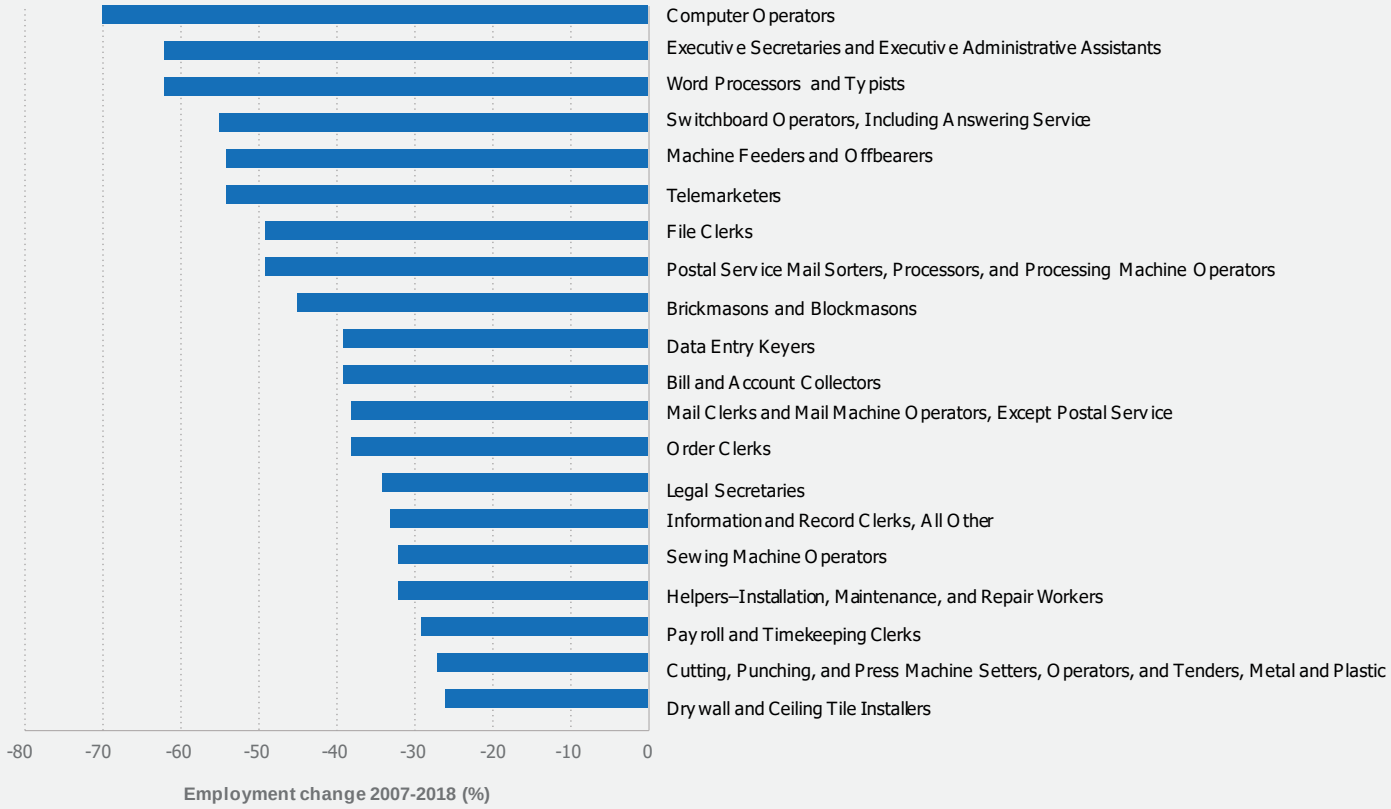
Over centuries, technological, social and political transformations have shaped economies and the capacity of individuals to make a living. The first and second Industrial Revolutions displaced trades that had thrived on older technologies and gave rise to new machines, new ways of work and new demand for skill sets that could harness the power of steam, coal and factory production. The transformation of production has consequently given rise to new professions and new ways of working that eventually paved the path to greater prosperity despite initial job displacement among individuals. Although in 2018 we proposed that the labour market impact of the Fourth Industrial Revolution can be managed while maintaining stable levels of employment, the current 2020 global recession has created a 'new normal' in which short-term and long-term disruptions are intertwined.

A significant volume of research has been published on the future of work since the World Economic Forum published it first edition. To date, the conclusions drawn from that body of literature appear to offer both hope and caution. The twin forces of technology and globalisation have brought profound transformations to labour markets and in the near term.[2] Few analysts propose that technological disruption will lead to shrinking opportunities in the aggregate,[3] and many of the insights gathered point to the emergence of new job opportunities. Across countries and supply chains, research has evidenced rising demand for employment in nonroutine analytics jobs accompanied by significant automation of routine manual jobs.[4] Empirically, these changes can be observed in data tracking employment trends in the United States between 2007–2018. The evidence indicates that nearly 2.6 million jobs were displaced over a span of a decade.[5] Figure 1 presents the types of roles that are being displaced—namely Computer Operators, Administrative Assistants, Filing Clerks, Data Entry Keyers, Payroll Clerks and other such roles which depend on technologies and work processes which are fast becoming obsolete.

In late 2019, the gradual onset of the future of work—due in large part to automation, technology and globalization—appeared to pose the greatest risk to labour market stability. The first half of 2020 has seen an additional, significant and unexpected disruption to labour markets, with immediate knock-on effects on the livelihoods of individuals and the household incomes of families. The COVID-19 pandemic appears to be deepening existing inequalities across labour markets, to have reversed the gain in employment made since the Global Financial Crisis in 2007–2008, and to have accelerated the arrival of the future of work. The changes heralded by the COVID-19 pandemic have compounded the long-term changes already triggered by the Fourth Industrial Revolution, which has, consequently, increased in velocity and depth.

In reaction to the risk to life caused by the spread of the COVID-19 virus, governments have legislated full or partial closures of business operations, causing a sharp shock to economies, societies and labour markets. Many businesses have closed their physical office locations and have faced limitations in doing business face-to-face. Figure 2 shows the trajectory of those closures. Beginning in mid-March and by mid-April, nearly 55% of economies (about 100 countries) had enacted workplace closures which affected all but essential businesses.[6] During May and June, economies resumed some in-person business operations—yet limitations to the physical operation of business continue, geographic mobility between countries persist and the consumption patterns of individuals have been dramatically altered. By late June 2020, about 5% of countries globally still mandated a full closure of in-person business operations, and only about 23% of countries were fully back to open.[7] In addition, irrespective of legislated measures, individuals have shifted to working remotely and enacting physical distancing.[8]

FIGURE 1 | Employment trends for jobs in the United States at high risk of automation, 2007–2018



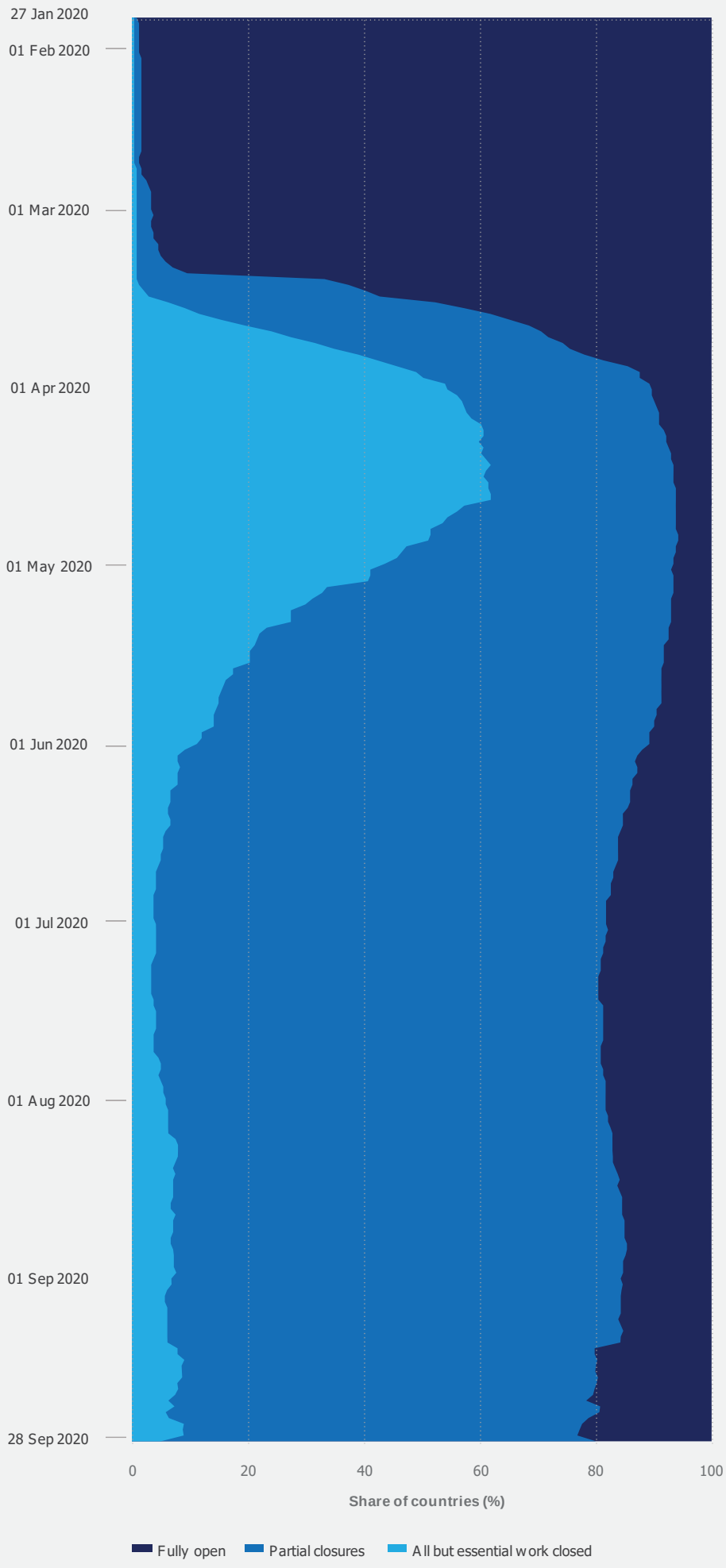
Source

Ding, et al, 2020.

Collectively, the life-preserving measures to stop the spread of the COVID-19 virus have led to a sharp contraction of economic activity, a marked decline in capital expenditure among several industries facing decline in demand for their products and services, and put new pressures on enterprises and sectors. Not all companies have been equally affected. Some businesses have the resources to weather the uncertainty, but others do not. Among those faltering are companies that typically don't hold large cash reserves such as SMEs (small-to-medium enterprises) or businesses in sectors such as Restaurants and Hospitality. Some types of business operations can be resumed remotely, but others, such as those in the Tourism or Retail sectors that depend on in-person contact or travel, have sustained greater damage (Figure 9 on page 17 demonstrates some of those effects).

The current health pandemic has led to an immediate and sudden spike in unemployment across several key economies—displacing workers from their current roles. Since the end of the Global Financial Crisis in 2007–2008, economies across the globe had witnessed a steady decrease of unemployment. Figure 3 presents the historical time series of unemployment across a selection of countries and regions. Annotated across the figure are the four global recessions which have throughout history impacted employment levels in significant ways. The figure shows that during periods of relative labour market stability unemployment stands at near or around 5% while during periods of major disruption unemployment peaks at or exceeds 10%. During the financial crisis of 2010, unemployment peaked at 8.5% only to drop to an average of 5% across OECD economies in late 2019.[9] According to the International Labour Organization (ILO), during the first half of 2020 real unemployment figures jumped to an average of 6.6% in quarter 2 of 2020. The OECD predicts that those figures could peak at 12.6% by the end of 2020 and still could stand at 8.9% by end 2021.[10] This scenarios assumes that the economies analysed experience two waves of infection from the COVID-19 virus accompanied by an associated slow-down of economic activity. It remains unclear whether current unemployment figures have peaked or whether job losses will deepen over time. New analysis conducted by the IMF has estimated that 97.3 million individuals, or roughly 15% of the workforce in the 35 countries included in the analysis, are classified as being at high risk of being furloughed or made redundant in the current context.[11]

FIGURE 2 | Countries enacting workplace closures, February–September 2020

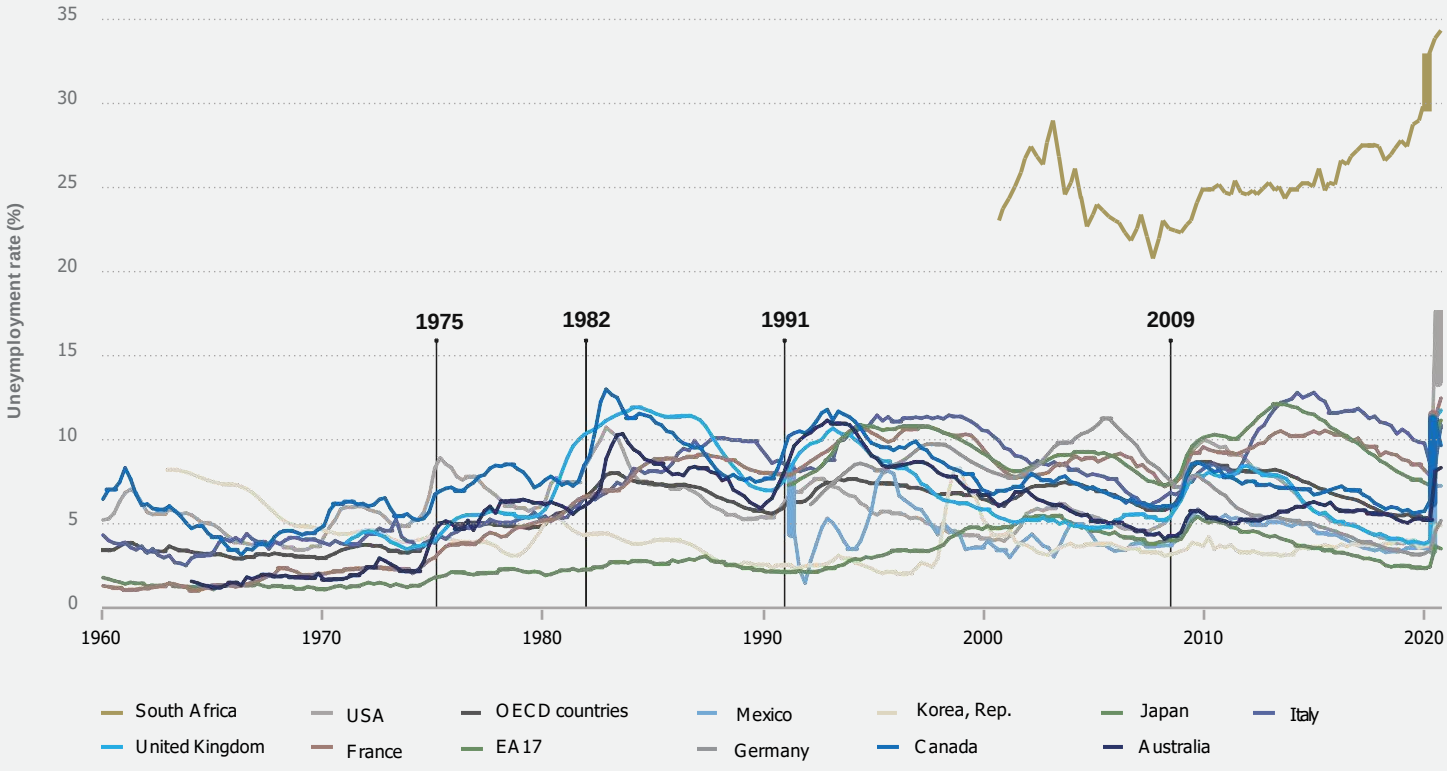


Source

Hale, et al, 2020.

Countries have taken different approaches to tackling the pandemic, in the established provision of social protection to displaced workers and in newly enacted temporary government schemes targeted at job retention. This has created varied trajectories of labour market disruption and recovery. For instance, several economies, such as Germany and Italy, have established large-scale temporary job retention schemes including wage support measures (commonly called furlough schemes). According to the latest estimates such schemes have in recent months subsidized the wages of close to 60 million workers.[12] While initially more temporary in nature, the persistence of limits to economic activity caused by COVID-19 has led to an extension of several job retention schemes up to the end of 2021 in an effort to prevent sudden spikes in unemployment.[13] While such measures have meant that unemployment figures in those economies have stayed relatively stable, it is yet to be seen if these trends hold after they are lifted.

FIGURE 3 Unemployment rate, selected countries and regions, 1960–2020



Source

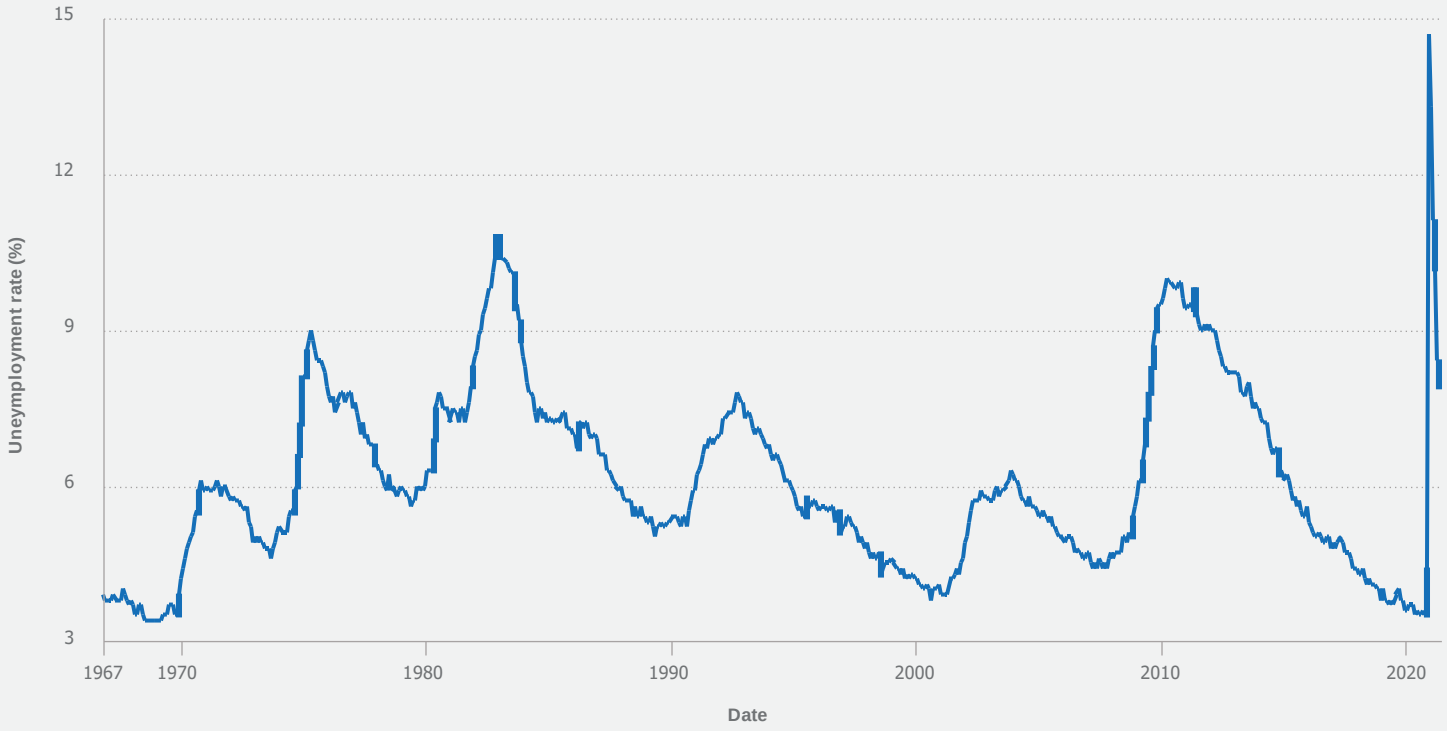
OECD Economic Outlook: Statistics and Projections, and Kose, M. Ayhan, et al. 2020.

Notes

Forecasts for Q3 2020 produced by the OECD assuming two waves of COVID-19, namely a "double hit" scenario. EA17 = Belgium, Germany, Estonia, Ireland, Greece, Spain, France, Italy, Cyprus, Luxembourg, Malta, Netherlands, Austria, Portugal, Slovenia, Slovakia, and Finland.

Comparing figures for quarter 2 of 2020 to the same quarter in 2019, unemployment in Australia increased by 1.5 percentage points; in Brazil that same figure was 1.6; in Canada, 6; in Chile, 5.5; Columbia, 9; and United States, 8.5. The relevant statistics for countries such as the United Kingdom, Germany, Japan, France and Italy show greater resilience. The Country Profiles in Part 2 of this report present key labour market indicators showcasing the latest annual, monthly and quarterly figures for the economies covered in this report, including the figures listed above. It is evident that the United States and Canada experienced a significant disruption on an unprecedented scale. Employment figures for the United States illustrated in Figure 4 show that the unemployment rate rose from 3.5% in February 2020 to peak at 14.7% in April 2020. The unemployment rate for the United States has now dropped to stand closer to 10%. In contrast, during the Global Financial Crisis in 2009 the unemployment rate in the United States rose from 4.7% in December 2007 to nearly 10% by June 2009.[14] In two months the COVID-19 pandemic has destroyed more jobs than the Great Recession did in two years. As the United States has lifted restrictions on the physical movement of people, some workers have been recalled into employment while others have seen temporary redundancies become permanent job displacement (some of this data can be observed in Figure 11 on page 19).

FIGURE 4 | Unemployment rate in the United States, seasonally adjusted, 1967–2020



Source

United States Bureau of Labor Statistics.

Notes

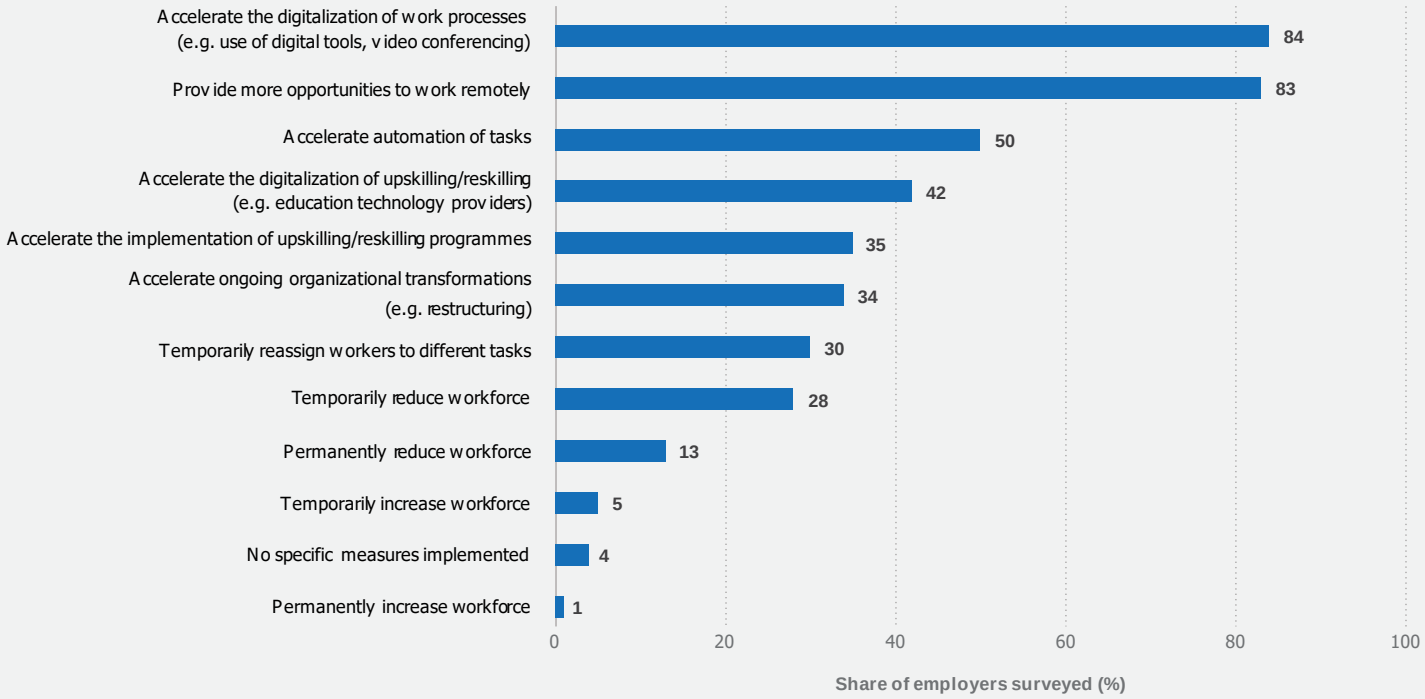
Unemployment Rate, also defined as the U-3 measure of labor underutilization, retrieved from FRED, Federal Reserve Bank of St. Louis

It appears increasingly likely that changes to business practice brought about by this pandemic are likely to further entrench wholly new ways of working, and that the second half of 2020 will not see a return 'back to normal' but will instead see a return to 'the new normal'.

Early evidence from the World Economic Forum's Future of Jobs Survey presented in Figure 5 suggests that, in addition to the labour market displacement caused by this health shock, employers are set to accelerate their job automation and augmentation agenda, raising the possibility of a jobless recovery. Among the business leaders surveyed, just over 80% report that they are accelerating the automation of their work processes and expanding their use of remote work. A significant 50% also indicate that they are set to accelerate the automation of jobs in their companies. In addition, more than one-quarter of employers expect to temporarily reduce their workforce, and one in five expect to permanently do so. The International Labour Organization (ILO) projects that by the second quarter of 2020, the equivalent of 195 million workers will have been displaced and as jobs are transformed at a greater speed.[15]

While many workers moved into unemployment during the period of mid-March to the end of July hiring rates also remained low, reflecting business reluctance to invest in new personnel. This means that workers displaced from the labour market have fewer opportunities to return to work as businesses reduce their workforce. This trend can be observed through data from the professionals on the LinkedIn platform, which allows the LinkedIn Economic Graph team to track changes in hiring rates for seven key economies—Australia, China, France, Italy, Singapore, the United Kingdom and the United States. Those hiring rates are featured in Figure 6. They show that in China, for instance, hiring contracted to a low of -47% year-on-year rate at the end of February. In France and Italy, the contraction was more pronounced, reaching -70% and -64.5%, respectively, in mid-April. Those low figures were approached by the United Kingdom and Australia, where contractions reached a relatively more robust -40%. Since then, hiring rates have gradually rebounded, with most of the seven key economies tracked by these metrics trending towards a 0% year-on-year change. By 1 July, China, France and the United States had seen the most recovery in comparative hiring rates, at -6% or -7%. By the end of September the countries with the strongest recovery in hiring were China (22%), Brazil (13%), Singapore (8%) and France (5%). In those economies it appears that hiring is now compensating for the months in which new personnel were not engaged, indicating some stabilization of the labour market.

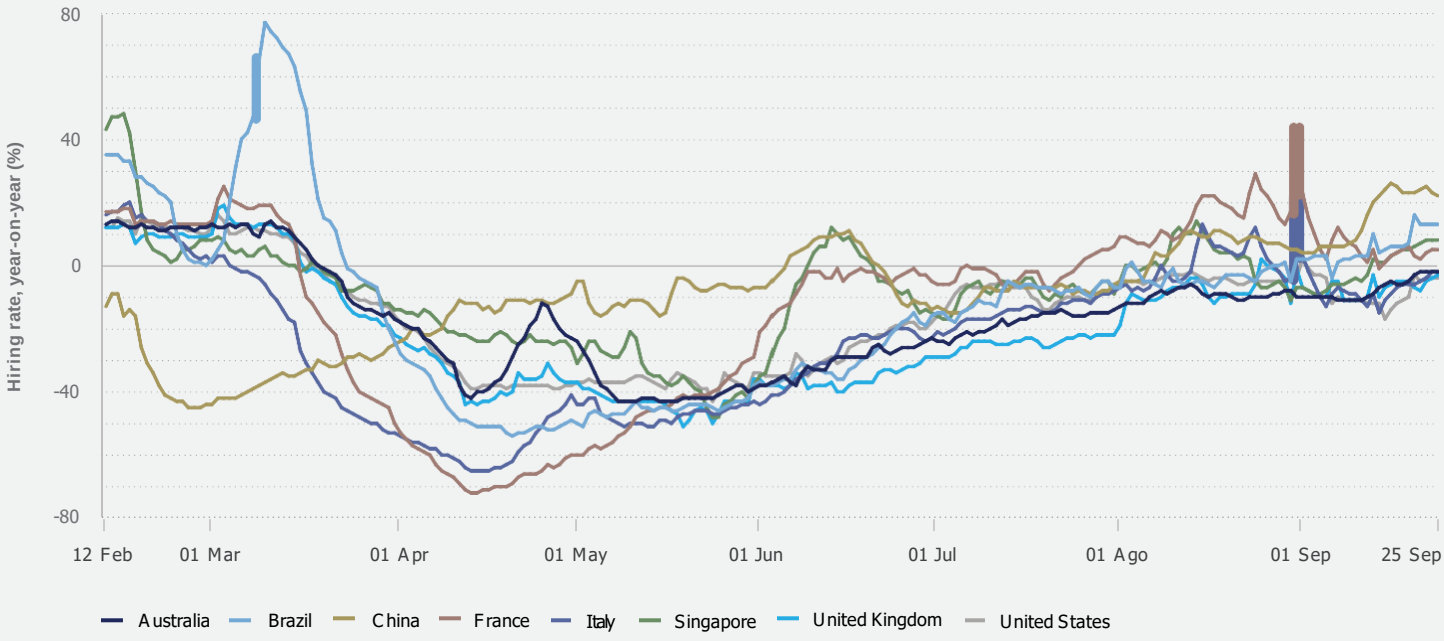
FIGURE 5 | Planned business adaptation in response to COVID-19



Source

Future of Jobs Survey 2020, World Economic Forum.

FIGURE 6 | Hiring rate trends in selected countries, February–October 2020, year-on-year changes



Source

LinkedIn Economic Graph.

FIGURE 7 | Hiring rate trends in selected countries, by industry, April-September 2020, year-on-year changes

Industry	Country/Economy	April (month)	May (month)	June (month)	July (month)	August (month)	25 September (14-day rolling average)
All		**-41%**	**-39%**	**-13%**	**-11%**	**4%**	**-4%**
	Australia	-34%	-41%	-23%	-19%	-3%	-11%
		-51%	-46%	-21%	-8%	-2%	3%
	China	-11%	-11%	2%	-8%	10%	11%
		-67%	-40%	3%	-3%	24%	3%
	Italy	-57%	-48%	-22%	-13%	2%	-11%
		-25%	-39%	3%	-9%	4%	-5%
	United Kingdom	-42%	-45%	-27%	-19%	-4%	-11%
	United States	-40%	-39%	-19%	-11%	0%	-11%
Consumer Goods		**-61%**	**-53%**	**-27%**	**-22%**	**-5%**	**-14%**
	Australia	-44%	-50%	-24%	-21%	-11%	-12%
	France	-75%	-50%	-13%	-12%	8%	-3%
		-76%	-62%	-35%	-27%	-8%	-31%
	United Kingdom	-56%	-55%	-40%	-31%	-11%	-8%
	United States	-53%	-48%	-21%	-16%	-2%	-14%
Finance		**-42%**	**-38%**	**-21%**	**-13%**	**3%**	**-7%**
	Australia	-19%	-37%	-27%	-28%	-1%	-7%
	France	-72%	-41%	1%	-8%	12%	6%
		-48%	-41%	-31%	-3%	7%	-9%
	United Kingdom	-39%	-37%	-34%	-23%	-13%	-18%
	United States	-33%	-34%	-14%	-3%	9%	-6%
Health Care		**-23%**	**-22%**	**6%**	**1%**	**23%**	**8%**
	Australia	-12%	-26%	-1%	6%	19%	14%
	France	-54%	-19%	37%	10%	40%	17%
		-29%	-27%	2%	0%	26%	1%
	United Kingdom	10%	-4%	1%	-5%	18%	7%
	United States	-28%	-33%	-11%	-6%	14%	0%
Manufacturing		**-53%**	**-45%**	**-20%**	**-18%**	**3%**	**-6%**
	Australia	-34%	-31%	-18%	-12%	3%	5%
	France	-71%	-39%	-1%	-14%	20%	-8%
		-61%	-54%	-34%	-18%	-4%	-16%
	United Kingdom	-51%	-55%	-38%	-32%	-4%	-4%
	United States	-47%	-47%	-12%	-13%	3%	-8%
Recreation & Travel		**-79%**	**-74%**	**-43%**	**-32%**	**-20%**	**-28%**
	Australia	-77%	-77%	-51%	-44%	-43%	-50%
	France	-82%	-70%	-15%	-8%	11%	-5%
		-87%	-78%	-40%	-28%	-15%	n/a
	United Kingdom	-73%	-77%	-63%	-50%	-23%	-26%
	United States	-75%	-69%	-44%	-32%	-28%	-31%
Retail		**-53%**	**-47%**	**-15%**	**-5%**	**13%**	**4%**
	Australia	-38%	-44%	-18%	-6%	9%	5%
	France	-68%	-38%	21%	9%	41%	20%
		-73%	-58%	-27%	7%	10%	-1%
	United Kingdom	-42%	-48%	-28%	-22%	1%	2%
	United States	-46%	-48%	-24%	-13%	6%	-8%
Software & IT Services		**-38%**	**-36%**	**-15%**	**-22%**	**-3%**	**-14%**
	Australia	-27%	-37%	-24%	-23%	-4%	-12%
	France	-61%	-35%	-7%	-24%	0%	-20%
		-43%	-44%	-24%	-16%	-2%	-10%
	United Kingdom	-31%	-39%	-6%	-27%	-6%	-16%
	United States	-28%	-26%	-14%	-22%	-2%	-12%

Source

LinkedIn Economic Graph.

Note

Values in brown indicate where the hiring rate is lower than in 2019, while values in green indicate where the rate is higher than 2019.

The darker the colour, the lower/higher the rate.

This tentative rebound is not equally distributed across industries. Figure 7 shows the year-on-year change in hiring rates throughout April, May, June, July, August, and most of September for seven key industries and the seven economies tracked by LinkedIn. Among the notable findings are those indicating a persistent hiring slump in Recreation and Travel, Consumer Goods and Manufacturing. Also striking is that the Software and IT sector, which is not shedding jobs at the same rate as other industries, is also not hiring at the same rate as this time last year. The same observation also holds for the Finance Industry. It is perhaps not surprising that the Health and Healthcare industry has maintained the closest to comparable hiring rates to this time last year.

In sum, unemployment and hiring rates suggest a significant number of individuals were displaced across labour markets over the month of April 2020. While those figures have stopped trending in a negative direction in the period up to July 2020, this recovery remains tentative, with unequal geographic and industry patterns. Longer persistence of these trends is likely to entrench labour market scarring, lead to an overall reduction in employment and entrench worker displacement.

1.3 The remote and hybrid workforce

As a result of the twin forces of the Fourth Industrial revolution and the COVID-19 recession, day-to-day digitalization has leapt forward, with a large-scale shift to remote working and e-commerce, driving a surge in work-from-home arrangements and a new marketplace for remote work. However, it has also brought about significant well-being challenges as workers have struggled to adapt to new ways of work over a short period of time.

In the COVID-19 context, workers have been segmented into three categories: 1) 'essential workers' such as delivery personnel, carers and health workers, food shop workers, agricultural workers and manufacturers of medical goods; 2) 'remote workers' who can work remotely and are likely to keep their jobs; and 3) 'displaced workers' who have been displaced from their jobs in the short term and potentially in the future, and who fall disproportionately into the sectors most negatively affected by the pandemic—Hospitality, Retail, Service work as well as Travel and Tourism.

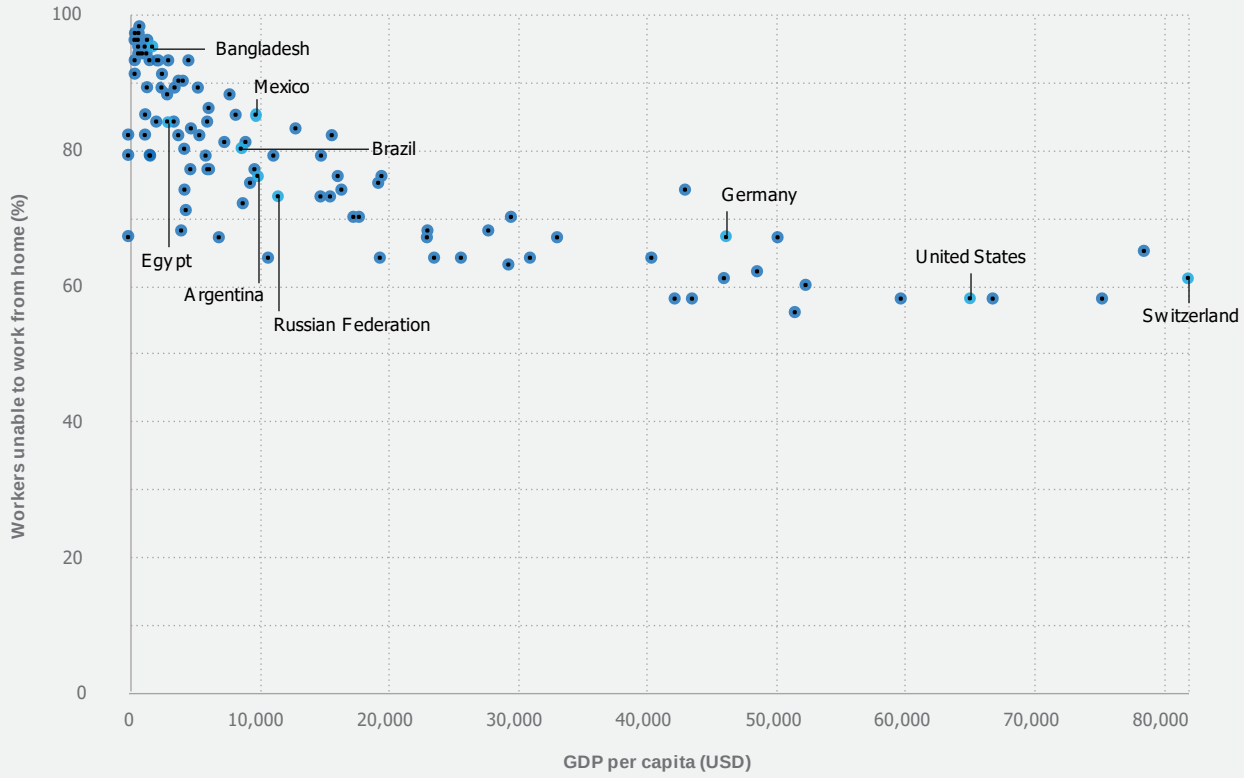
All three types of workers are facing a wholesale shift in working practices, which now require new types of resilience and entail a reskilling or upskilling agenda. For essential workers, physical safety remains a paramount concern. Displaced workers are facing significant job uncertainty, and a short-term or permanent need to shift roles. Remote workers are faced with potential well-being and mental health challenges due to extensive changes to working practices as well as new areas of exclusion such as access to digital connectivity, living circumstances and the additional care responsibilities faced by parents or those looking after elderly relatives.[16]

New evidence from Chief Human Resource Officers completing the Forum's Future of Jobs 2020 Survey indicates that, on average, 44% of workers are able to work remotely during the COVID-19 crisis while 24% of workers are unable to perform their current role. This estimate indicates an aspiration to expand the availability of remote work. The current theoretical share of jobs that can be performed remotely in any given economy has been approximated at 38% of jobs in high-income countries, 25% in upper-middle income economies, 17% in lower-middle income economies and 13% in low-income economies.[17] When adjusted to account for disparities in internet access by economy, the same figures decrease to 33.6% of jobs in high income economies, 17.8% of jobs in upper-middle income economies, 10% of jobs in lower-middle income economies, and just 4% of jobs in low income economies.[18] Figure 8 plots the estimated share of workers unable to work remotely against the GDP per capita for each country. According to such estimates around 60% of workers in high-income countries such as the United States and Switzerland are unable to fully work from home. This figure rises to more than 80-90% for economies such as Egypt and Bangladesh.

Sectoral differences underpin the estimates shared above. A larger share of roles in the Finance and Insurance and Information and Professional Services sectors can be performed remotely, while Accommodation and Food Services, Agriculture, Retail, Construction, Transportation and Warehousing offer fewer opportunities for remote work.[19] Figure 9 presents one estimate of the associated risk to employment across different sub-industries: 47% of workers in the Accommodation and Food Services sector, 15% in Wholesale and Retail Trade and 15% of the workforce in Transportation are at risk of unemployment.

Despite the limitations listed above, demand from employers for remote-based work is increasing rapidly across economies. Insights from the Glassdoor online platform show that access to working from home has nearly doubled since 2011, from 28% to 54% of workers mentioning that they had the opportunity to work from home.[20] The industries with the largest opportunity to work from home are the Information Technology and Insurance industries, with 74% of workers in those industries reporting having access to remote working. But there are also industries such as Finance, Legal work and Business Services, which could, in theory, perform more remote work.

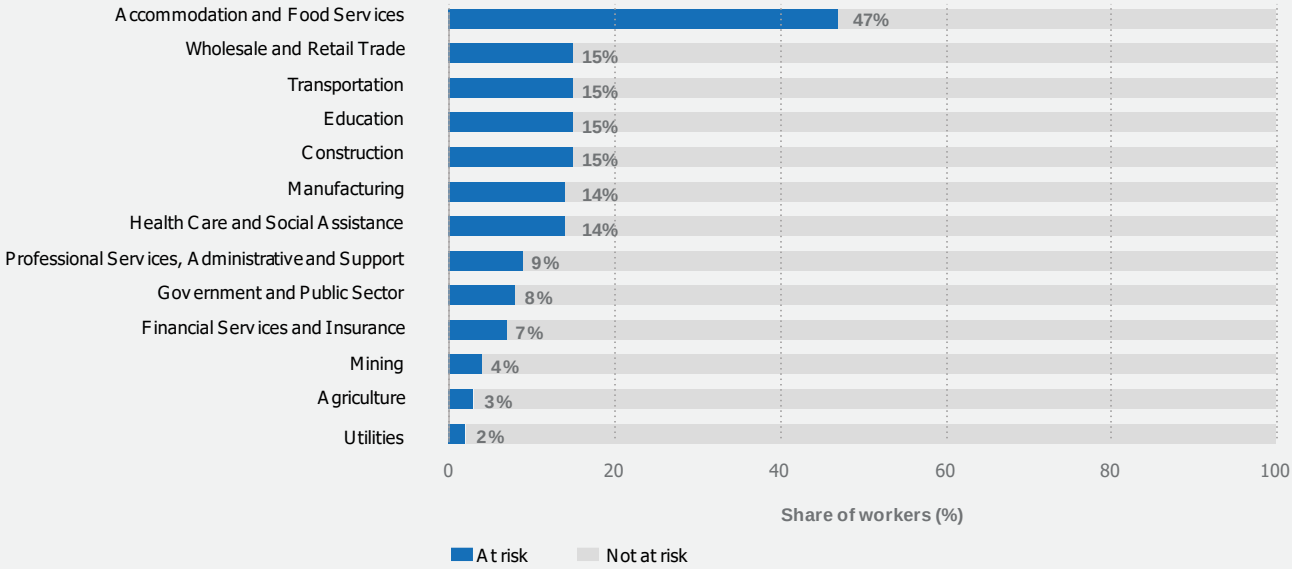
FIGURE 8 | Estimated share of workers unable to work from home, by per capita GDP



Source

Dingel & Neuman, World Bank Home Based Work (HBW) index, World Bank's *World Development Indicators* database.

FIGURE 9 | Estimated share of workers at risk of unemployment, by sub-industry



Source

Brussevich, et al, 2020.

Data shared by the LinkedIn Economic Graph team demonstrates that, in addition to established patterns of working from home and the theoretical potential for at-home work, there is actually an emerging marketplace for remote work–as evidenced by both strong demand from jobseekers[21] as well as an increasing demand from employers for jobs that are based remotely.[22] The index of job searches and job postings displayed in Figure 10 show that the amount of workers looking for remote job opportunities has nearly doubled, while the number of job postings (controlling for shifts in hiring rates) has gradually increased—with peaks of a two-fold increase in mid-April and a three-fold increase in mid-June.[23] In addition, workers in those industries surveyed for the LinkedIn Workforce Confidence Index believe there is potential to expand the use of remote work beyond what it has been historically to match the theoretical potential of working from home.[24]

The pandemic has shown that a new hybrid way of working is possible at greater scale than imaged in previous years, yet business leaders remain uncertain about the productivity outcomes of the shift to remote or hybrid work. Overall, 78% of business leaders expect some negative impact of the current way of working on worker productivity, with 22% expecting a strong negative impact and only 15% believing that it will have no impact or a positive impact on productivity. Such scepticism is likely to reflect a number of factors: 1) the switch to remote work is occurring during a period of additional stress and concern caused by the risk to life and health of the COVID-19 virus; 2) those caring after young children are faced with additional pressures—needing to take on more unpaid care work due to the intermittence of school and nursery arrangement; 3) while companies with established remote work practices are accustomed to a range of approaches to maintaining a sense of community, of active collaboration and ensuring a flow of communication, newly remote companies are still establishing these ways of communicating and coordinating in the new, post-pandemic world of work.

The Future of Jobs Survey indicates that company adaptation to the newly remote and hybrid workplace is already underway. Ensuring employee well-being is among the key measures undertaken by business leaders looking to effectively shift to remote work. In particular, 34% of leaders report that they are taking steps to create a sense of community among employees online and looking to tackle the well-being challenges posed by the shift to remote work.

FIGURE 10 The new marketplace for remote work

A. Changes to job-seeking behaviour, February-June 2020

B. Changes to job-posting behaviour, February-June 2020

Source

LinkedIn Economic Graph.

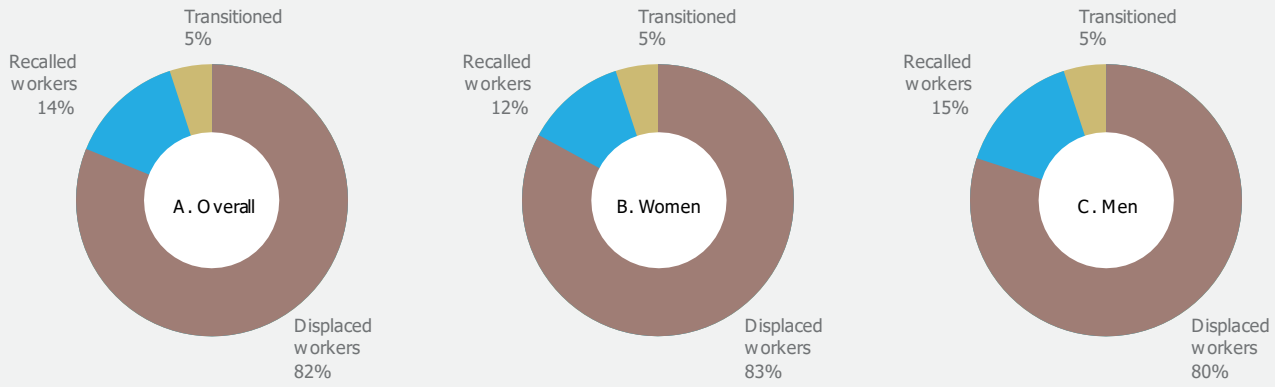
1.4 Impact on equality

The individuals and communities most affected by the unprecedented changes brought about by COVID-19 are likely to be those which are already most disadvantaged—living in neighbourhoods with poor infrastructure, who have poor employment prospects and whose income does not equip them with a comfortable living standard, healthcare coverage or savings.[25] Furthermore, across several countries, the pandemic is set to broaden. An estimated 88 to 115 million people could fall back into extreme poverty in 2020 as a result of this recession.[26] The following wide array of characteristics typically pose a risk of social and economic exclusion among these populations: age and generation; gender and gender expression; sexual orientation; mental and physical abilities; level of health; race, ethnicity and religion; in-country geographic location, such as rural and urban. These characteristics are typically reflected in outcomes such as levels of education, employment type, income level and socio-economic status.[27]

In some countries those affected have been disproportionately women, for whom the ILO reports higher unemployment rates. This is the case in the United States, Germany and Australia. In the United States between December and April 2020, women's unemployment rose by 11% while the same figure for men was 9%. In Germany those figures were 1.6% and 0.8%, respectively. New sources of data can add more granularity to these trends. ADP Research Institute (ADPRI) has been able to track the impact of COVID-19 on the United States labour market in near real time.[28] The data shows that, within the observable shifts of workers' employment over the period of February to May, 25% of workers left or were asked to leave their current role. Of those 25%, 82% of workers tracked by APDRI dropped out of employment and become displaced workers,[29] 14% of workers were initially displaced and then recalled by their companies, and just 5% made successful transitions elsewhere in the labour market (Figure 11). The data shows variations by gender, age and wage level. As revealed in Figure 12, women make up a smaller share of both those who were retained by companies and of those who are recalled. Displaced workers are in fact on average more female, younger and have a lower wage.

The metrics shared by ADPRI also reveal the effect of this disruption by industry and wage level. Figure 13 A details the industries which are most affected by the current disruption; in particular, workers in Arts, Entertainment, and Recreation, and Accommodation and Food Services. Significant numbers of workers have also been displaced from the Retail sector as well as from the Real Estate, Rental and Leasing sector. In addition to this measure of attrition, Figure 13 B presents an overview of the workers who transitioned in and out of jobs during the same period; in effect, the re-allocation of workers by industry sector. The data shows that, on average, workers who did transition moved towards sectors which provide essential services such as Retail and Health, as well as sectors which have been less disrupted, such as Financial Services and Construction. Across these transitions, workers were also able to increase their wages. By contrast, struggling sectors such as Arts, Entertainment and Recreation as well as Accommodation and Food Services gained fewer workers than they lost in the February to May period—and workers who transitioned to those sectors appear to have taken a pay cut, suggesting necessity rather than desirability dictated the change.

FIGURE 11 Outcomes for workers who lost their jobs in the United States, February–May 2020, by gender

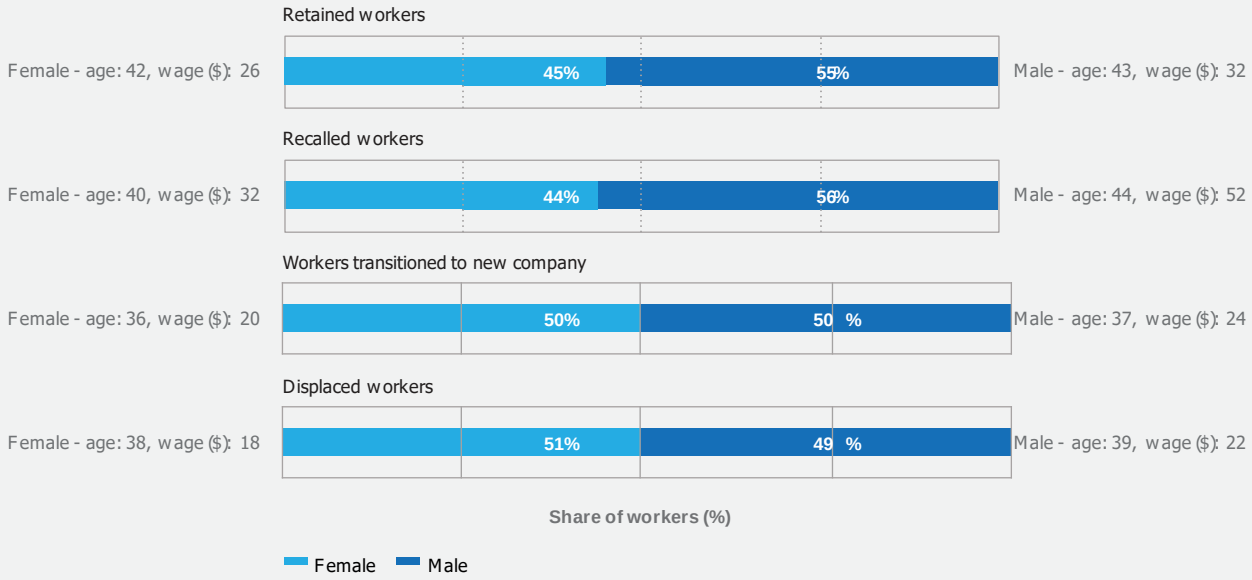


Source

ADP Research Institute, produced for the World Economic Forum's New Metrics CoLab.

FIGURE 12

Retained, recalled, transitioned and displaced workers in the United States, by gender and by category of affected worker



Source

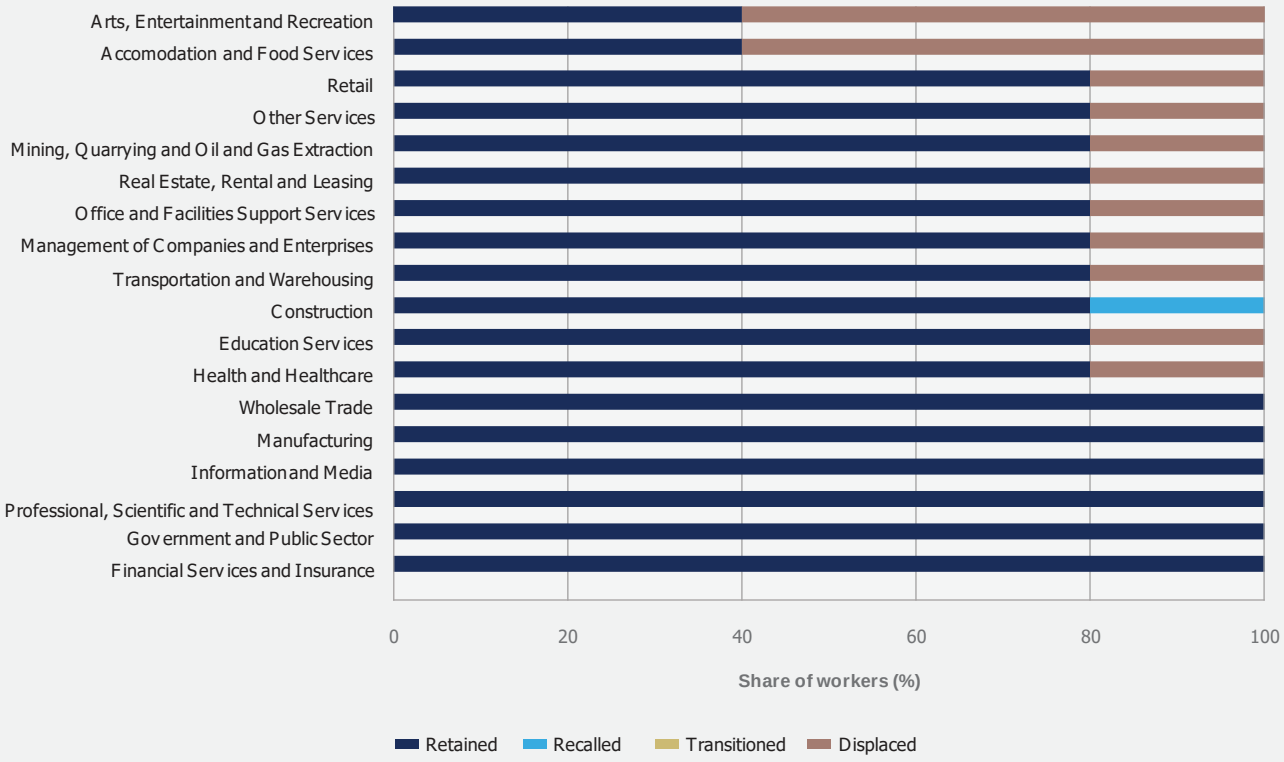
ADP Research Institute, produced for the World Economic Forum's New Metrics CoLab.

Figures 13 C and 13 D present the wage and age dynamics of workers in the United States who were retained, recalled, displaced or transitioned. The markers in brown denote displaced workers; in gold, those who transitioned to new opportunities; in light blue, those who were recalled; and in dark blue, those who were retained. Those recalled into the labour market have the highest average wage of the four cohorts, and those who are displaced have the lowest average wage. In Retail, those who were displaced earn on average a low $17.80 an hour while those recalled are earning $27.00 an hour. In Information and Media, those displaced earn $28.70 an hour while those recalled earn $61.20 an hour.

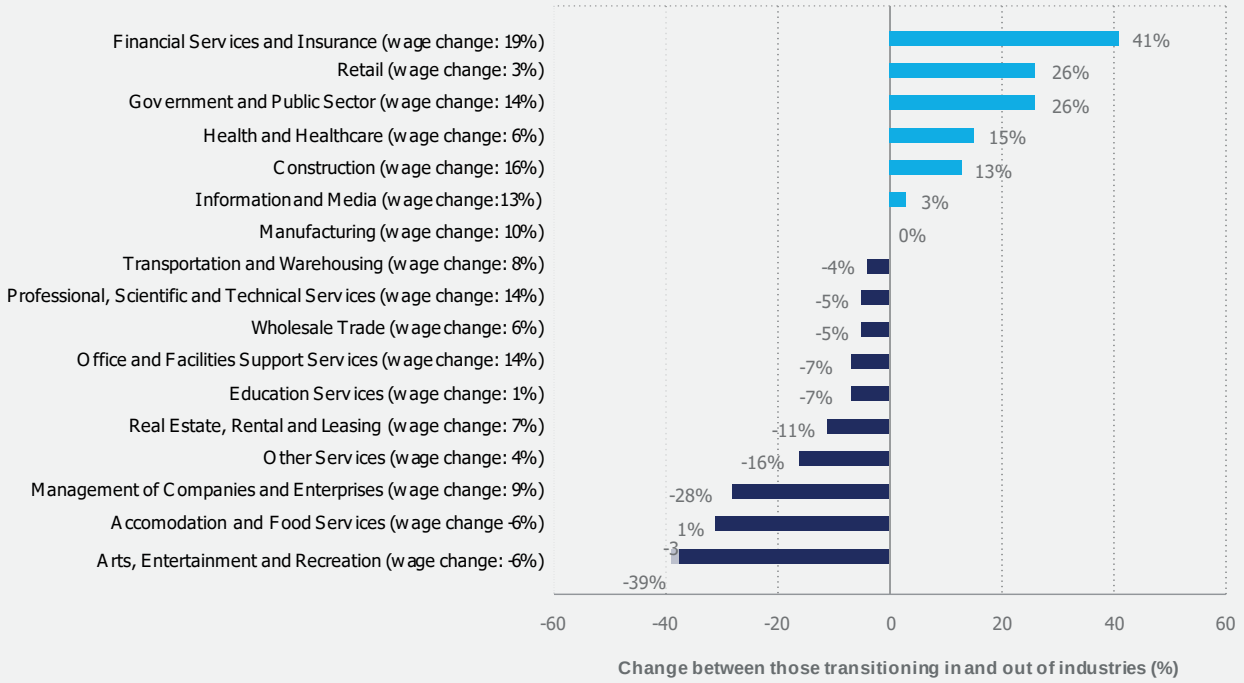
In addition, retained and recalled workers are, on average older, aged 40 and above, while displaced workers are more typically in their mid-to-late thirties or have just turned 40. For example, in Education Services, those displaced are on average aged 35, while those retained at nearing 43. In Retail and in Accommodation and Food Services these average ages are distorted by the relative youth of both sectors. In Retail, the average age for a displaced worker is 34, while those retained are nearing 40. Across the board, younger workers (those in their 30s) are more likely to have transitioned to new roles during these uncertain times.

Across established labour market indicators, unemployment figures for those with basic education are typically higher than for those who have completed a tertiary education degree. Current ILO figures list unemployment levels among those with an advanced degree as 6.5% and among those with basic education as 7.5%. The latest available figures by economy are listed in the Country Profiles in Part 2 of the report. It must be noted that such figures are still too rarely collected and that more timely unemployment figures remain unreliable. This trend can be further confirmed by focusing on country-level data with strong availability. Figure 14 presents unemployment levels among workers in the United States by education level over time. It shows that the unemployment rate among those with less than secondary education peaked at 21.2% in April, and stills stands at 12.6% as of the end of August. On the other hand, unemployment levels among workers who hold at least a tertiary degree spiked at 8.4% in April and stands at 5.3% as of the end of August. Comparing the impact of the Global Financial Crisis of 2008 on individuals with lower education levels to the impact of the COVID-19 crisis, it is clear that the impact today is far more significant and more likely to deepen existing inequalities.

A. Affected workers by sub-industry



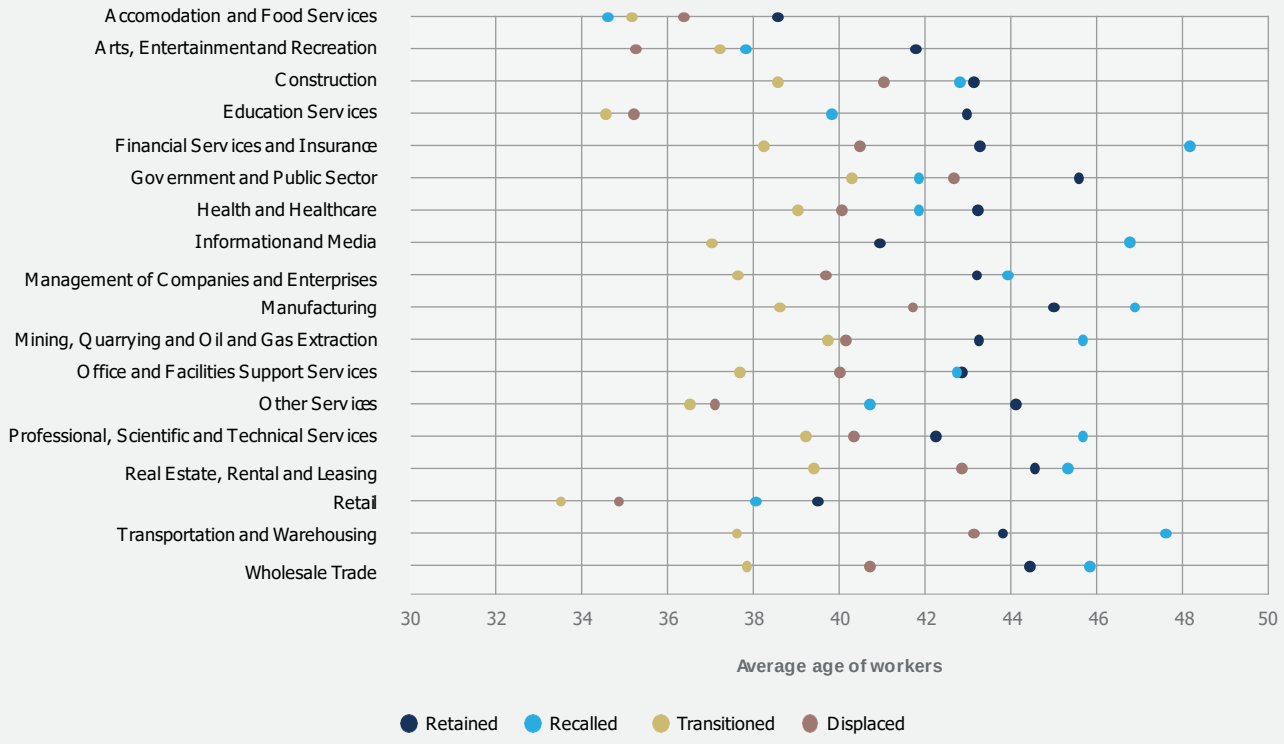
B. Worker transitions into sub-industries, by relative volume of transitions and wage change accepted



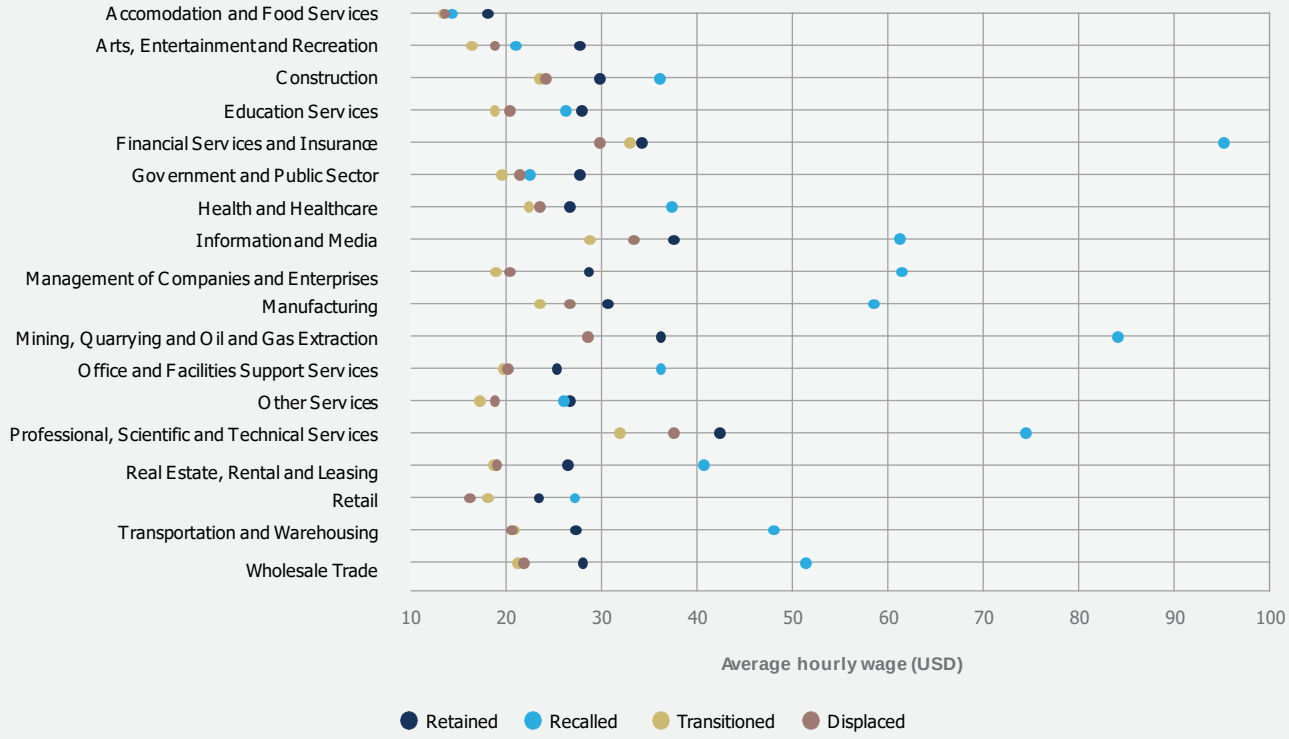
Note

The wage change value shows the difference of starting and ending wage as a share of the starting wage. It is calculated from data showing transitions from one industry to another as the unweighted median wage change of transitions from all other industries into the destination industry.

C. Affected workers by sub-industry and age



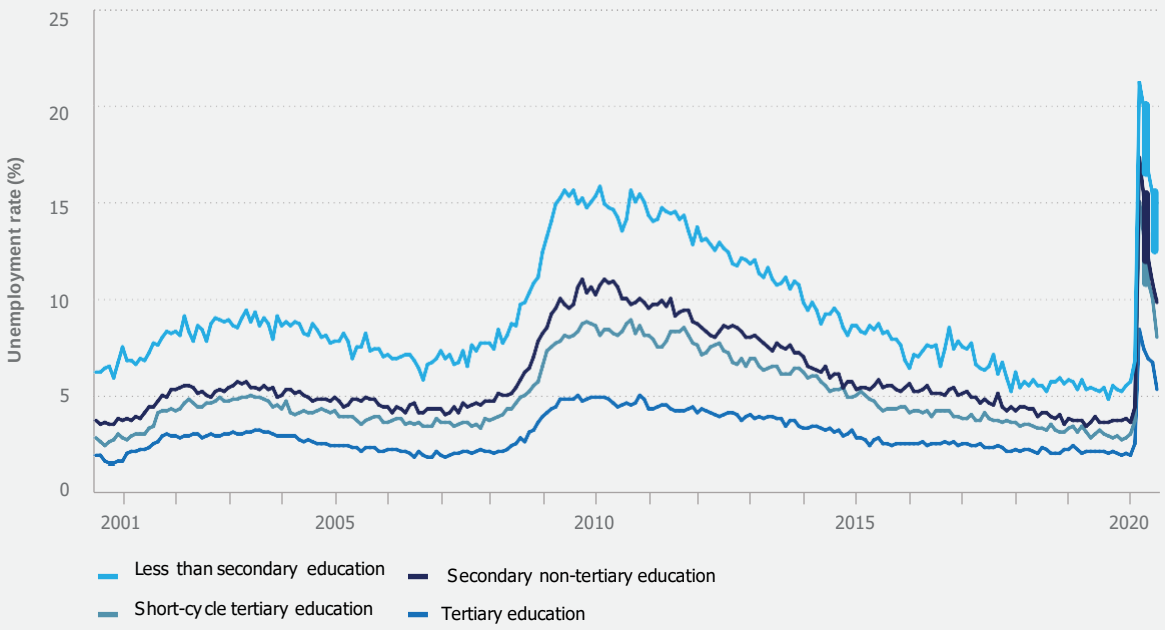
D. Affected workers by industry and wage



Source

ADP Research Institute, produced for the World Economic Forum's New Metrics CoLab.

FIGURE 14 | Unemployment rate in the United States by educational attainment, seasonally adjusted, 2000–2020



Source

United States Bureau of Labor Statistics.

Note

Short-cycle tertiary education provides professional knowledge, skills and competencies. Typically, programmes are practically based and occupationally-specific.

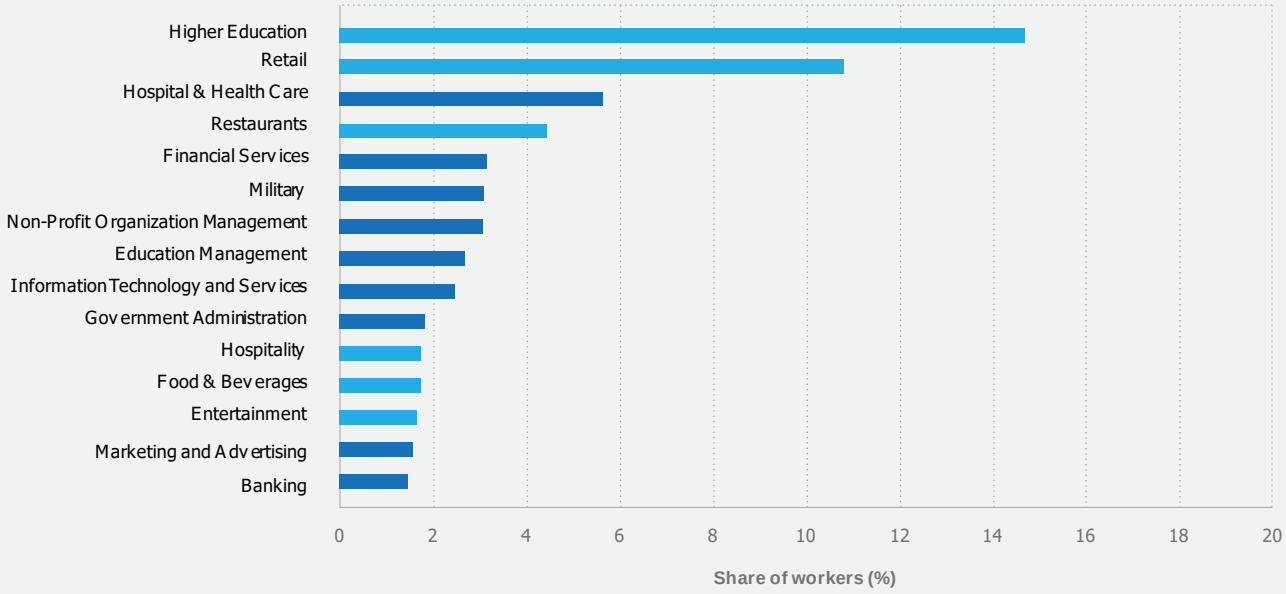
Finally, such turbulent labour markets provide additional challenges to young professionals navigating their entry into working life. The FutureFit AI global data map combines job automation and growth forecasts, real-time labour market information, learner resumes and the professional profiles of individuals. As such, it can track the historic job trajectories of professionals through different roles and industries,[30] and in this instance the transition of young professionals who are in their first decade of working life in the United States observed between 2008 and 2019.[31] The data in Figure 15 A reveals that, historically, the Retail, Restaurants, Hospitality, and the Food & Beverage sectors, as well some parts of Higher Education, have been among the top 20 starter-sectors for young people. However, as Figure 15 B indicates, these industries maintain a high attrition rate as workers tend to be transient. Thirty-seven percent of young professionals who work in Retail use the industry as a stepping-stone to another career and have historically moved onto another industry beyond the six affected sectors. The same figure is at 32% for those in the Restaurant sector. As roles in these sectors are temporarily or permanently displaced, those at the start of their careers will need to re-route and leapfrog into aspirational opportunities to work in high quality, well-remunerated jobs.

Figure 16 presents FutureFit AI data that documents past labour market transitions of young professionals over a decade. It shows the kinds of industries young professionals have targeted for their job transitions after entering the world of work in one of the six industries most affected by the COVID-19 pandemic. Figure 17 illustrates those next-step possible opportunities, which include new roles in the Healthcare, Financial Services, Not-for-Profit and Information, Technology and Services industries—roles such as Credit Analysts, Bank Tellers and Public Relations Coordinators in the Not-for-Profit sector, Certified Nursing Assistants in Healthcare, and Account Executives in the Information Technology and Services sector.

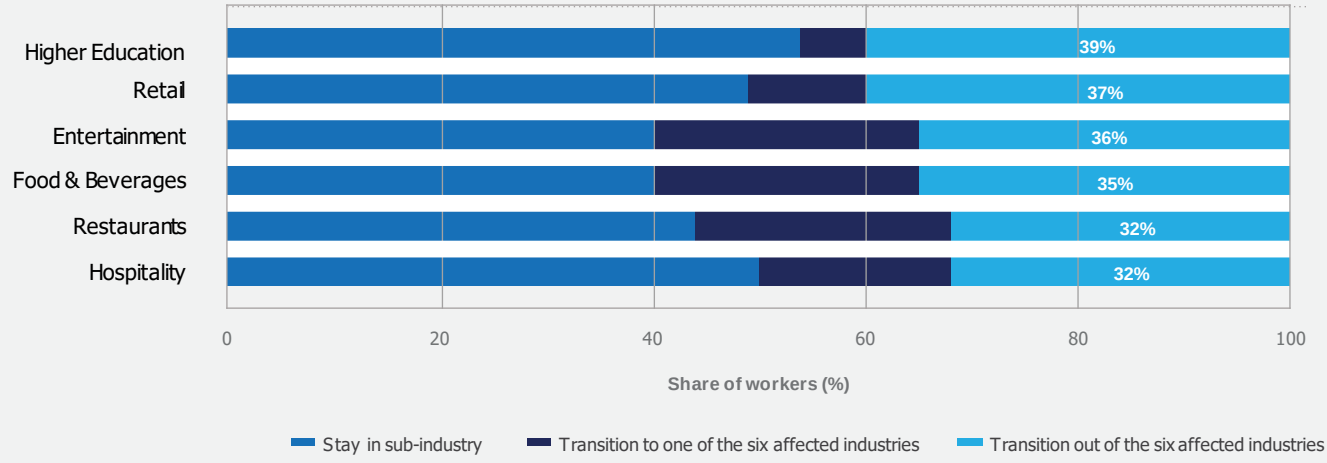
This willingness to transition to new job opportunities, matched with new reskilling and upskilling capabilities, can help place young professionals back on track, helping them find routes from affected to new, growing opportunities. While the data shared above suggests that businesses and individuals have taken on significant initiative to adapt to the current labour market, economic scarring and persistent damage to the labour market have the potential to limit the scale of opportunities available to workers. However, governments have at their disposal a range of tools that can alleviate the impact on workers as economies recover.

FIGURE 15 | Relationship between youth job transitions and affected industries

A. Youth first jobs, by sub-industry



B. Youth transcience through affected sub-industries



Source

FutureFit AI, produced for the World Economic Forum's New Metrics CoLab.

In previous recessions, the long-term impact on earnings among young people resulted in persistent earnings declines lasting up to 10 years, as young professionals started to work for lower-paying employers, then partly recover through a gradual process of mobility toward better firms. We have also seen young professionals start to work in occupations that do not match their education levels.[32] As we consider the ways to revive the labour market, such insights can point to ways in which data-driven re-employment can support not only re-entry into one's original industry or to an adjacent one, but also provide accelerated transitions to the ultimate career designation aspired to by young professionals.

The early indicators shared in this section signal that without adequate intervention, gains towards bridging societal inequalities might be reversed and wages further polarized. While data for the United States cannot be generalized to the world, the availability of such granular insights in this one economy serves as a stark reminder of the potential impact of these disruptions on equality within and across all economies.

FIGURE 16 | Primary possible transitions for affected young professionals

Source sub-industry	Destination sub-industry: Apparel & Fashion	Broadcast Media	Education Management	Financial Services	Hospital & Health Care	Non-Profit Organization Management	Information Technology and Services	Marketing and Advertising	Real Estate
Entertainment			-				-		-
Food & Beverages	-	-						-	-
Higher Education								-	-
Hospitality	-	-	-				-		
Restaurants								-	-
Retail		-					-	-	-

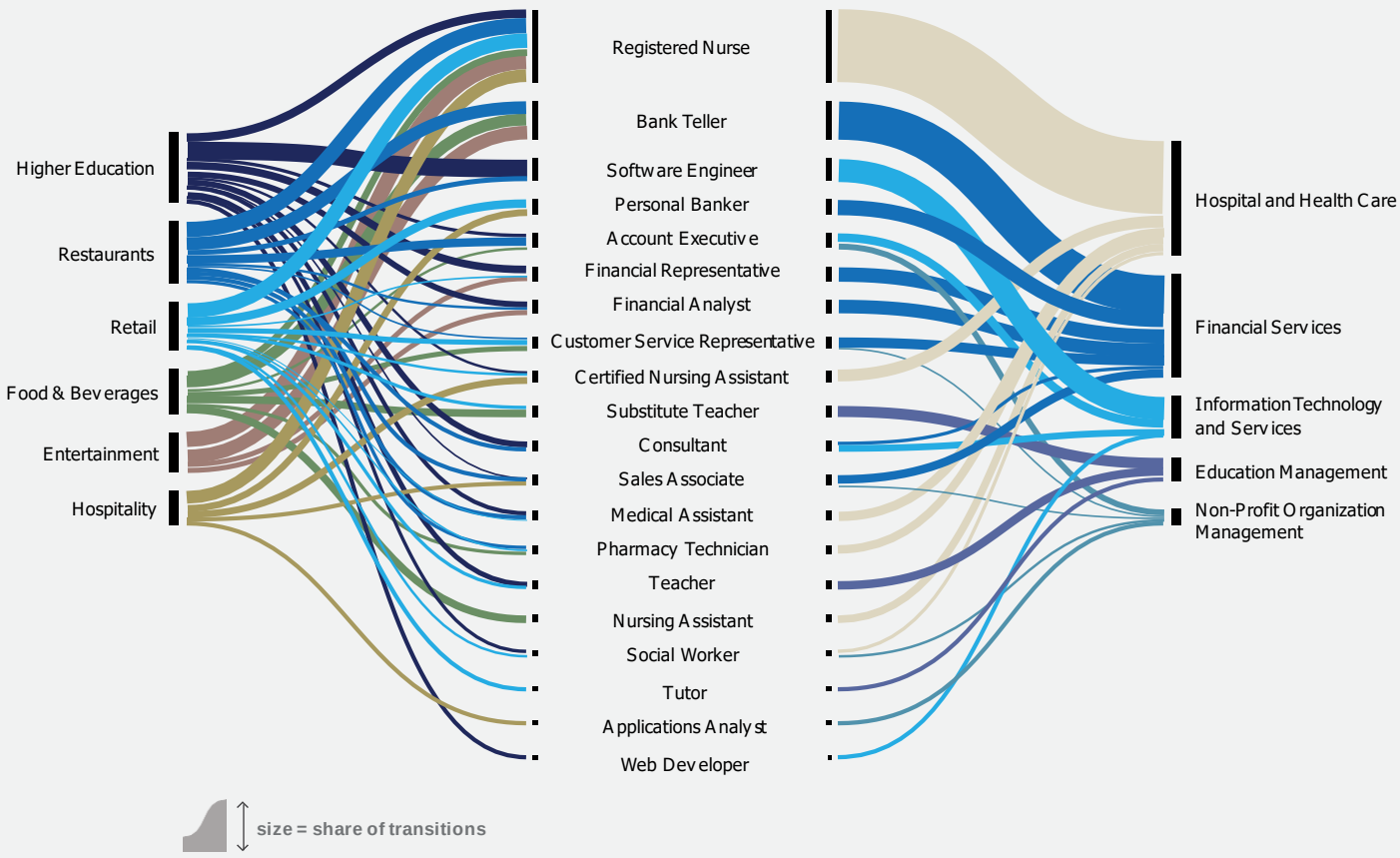
Source

FutureFit AI, produced for the World Economic Forum's New Metrics CoLab.

Note

Values refer to share of workers transitioning from source sub-industry to destination sub-industry.

FIGURE 17 | In-focus transitions for affected young workers



Source

FutureFit AI, produced for the World Economic Forum's New Metrics CoLab.

Country Profile
Brazil

Total Employment
136,154,622

Current skills in focus of existing reskilling/upskilling programmes

Share of companies surveyed identifying this skill as being in focus across their reskilling or upskilling programmes

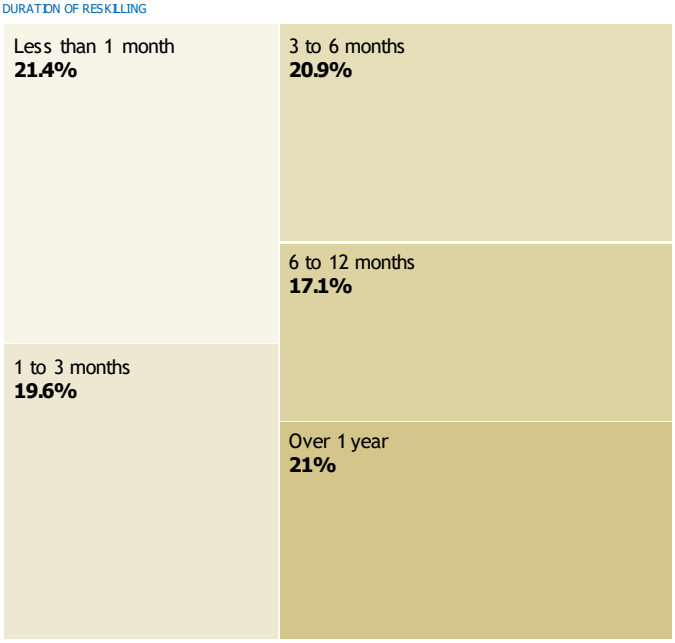
1.	Leadership and social influence
2.	Analytical thinking and innovation
3.	Active learning and learning strategies
4.	Critical thinking and analysis
5.	Technology design and programming
6.	Service orientation
7.	Reasoning, problem-solving and ideation
8.	Management of personnel
9.	Creativity, originality and initiative
10.	Resilience, stress tolerance and flexibility

Responses to shifting skill needs

Share of companies surveyed

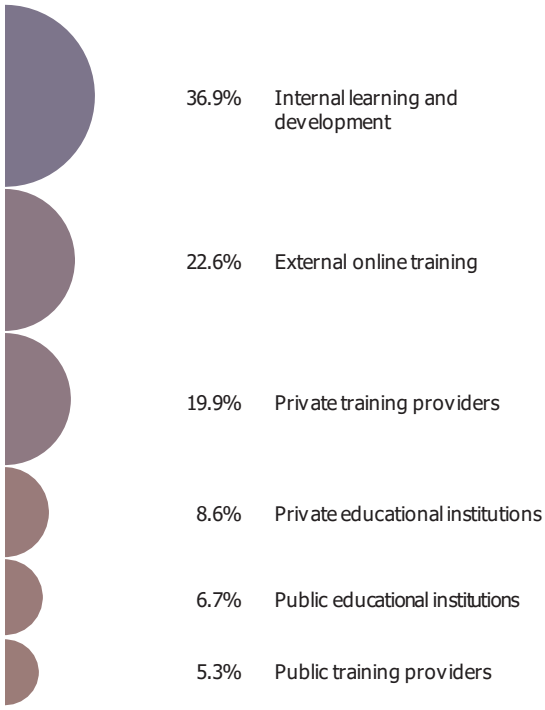
Average reskilling needs

Share of workforce of companies surveyed within this data



Projected use of training providers

Share of companies surveyed

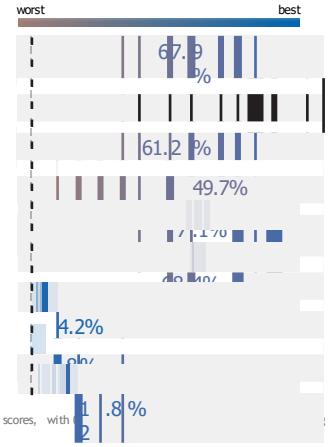


Canada

Working Age Population

26,359,853

Education & skills



Digital skills among active population*
WEIGHTED AVERAGE 2019-2020

Attainment of basic education

Business relevance of basic education*
WEIGHTED AVERAGE 2019-2020

Attainment of advanced education
2016

Business relevance of tertiary education*
WEIGHTED AVERAGE 2019-2020

Supply of business-relevant skills*
WEIGHTED AVERAGE 2019-2020

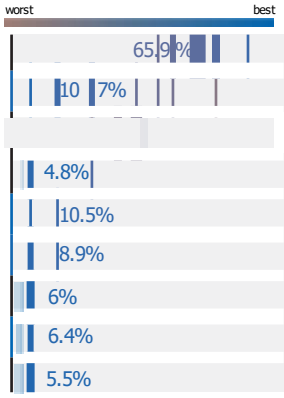
Unempl. rate among workers with adv. educ.
2019

Unempl. rate among workers with basic educ.
2019

Share of youth not in empl., educ. or training
2020

* The figures presented for these indicators are rebased 0-100% progress scores, with [illegible] the best performance.

Jobs & work



Labour force participation
2019

Vulnerable employment
2020

Working cond. impact of gig economy*
2020

Unemployment rate
2019

Unemployment rate
Q2 2020

Unemployment, monthly
AUGUST 2020

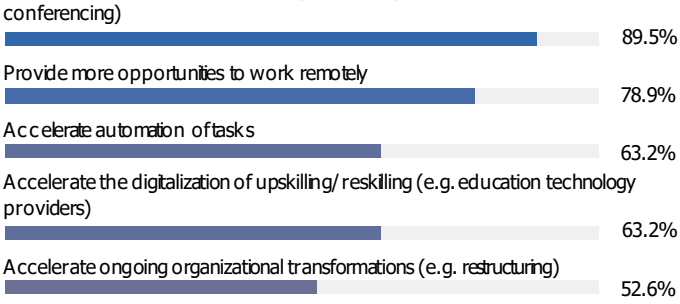
Unemployment rate change
2019- Q2 2020 YOY CH.

Unemployment rate change, women
2019- Q2 2020 YOY CH.

Unemployment rate change, men
2019- Q2 2020 YOY CH.

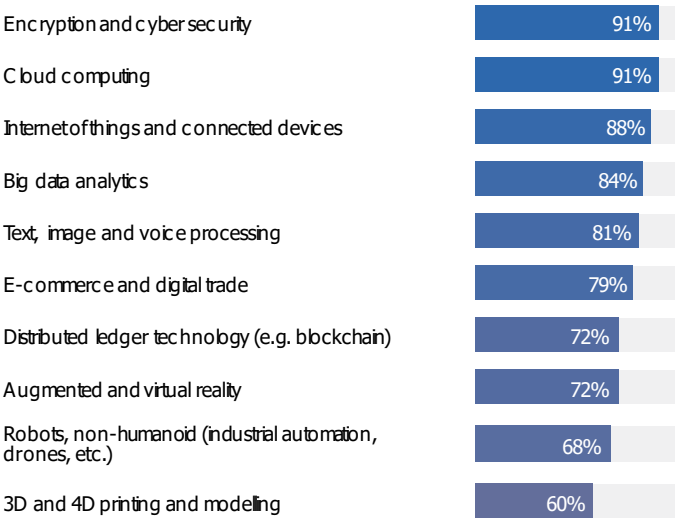
Impact of COVID-19 on companies' strategy

Share of companies surveyed looking to adopt this strategy as a result of COVID-19



Technology adoption

Share of companies surveyed



Emerging and redundant job roles

Role identified as being in high demand or increasingly redundant within their organization, ordered by frequency

EMERGING

1.	AI and Machine Learning Specialists
2.	Data Analysts and Scientists
3.	Process Automation Specialists
4.	Information Security Analysts
5.	Software and Applications Developers
6.	Internet of Things Specialists
7.	Big Data Specialists
8.	Mathematicians, Actuaries and Statisticians
9.	FinTech Engineers
10.	Digital Transformation Specialists

REDUNDANT

1.	Data Entry Clerks
2.	Accounting, Bookkeeping and Payroll Clerks
3.	Business Services and Administration Managers
4.	Accountants and Auditors
5.	Administrative and Executive Secretaries
6.	Mining and Petroleum Extraction Workers
7.	Assembly and Factory Workers
8.	Mechanics and Machinery Repairers
9.	Human Resources Specialists
10.	Financial Analysts

Emerging skills

Skills identified as being in high demand within their organization, ordered by frequency

1.	Analytical thinking and innovation
2.	Active learning and learning strategies
3.	Technology design and programming
4.	Critical thinking and analysis
5.	Complex problem-solving
6.	Leadership and social influence
7.	Emotional intelligence
8.	Technology use, monitoring and control
9.	Resilience, stress tolerance and flexibility
10.	Reasoning, problem-solving and ideation
11.	Creativity, originality and initiative
12.	Systems analysis and evaluation
13.	Troubleshooting and user experience
14.	Service orientation
15.	Quality control and safety awareness

Country profile
Canada

Total employment
26,359,853

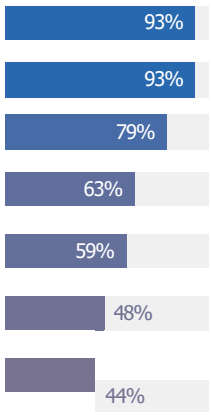
Current skills in focus of existing reskilling/upskilling programmes

Share of companies surveyed identifying this skill as being in focus across their reskilling or upskilling programmes

1.	Leadership and social influence
2.	Analytical thinking and innovation
3.	Critical thinking and analysis
4.	Technology design and programming
5.	Active learning and learning strategies
6.	Technology use, monitoring and control
7.	Reasoning, problem-solving and ideation
8.	Resilience, stress tolerance and flexibility
9.	Quality control and safety awareness
10.	Management of personnel

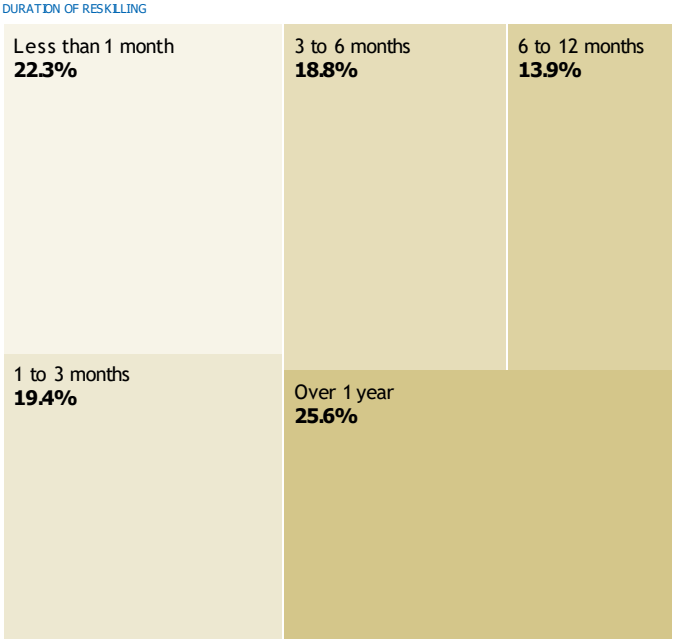
Responses to shifting skill needs

Share of companies surveyed



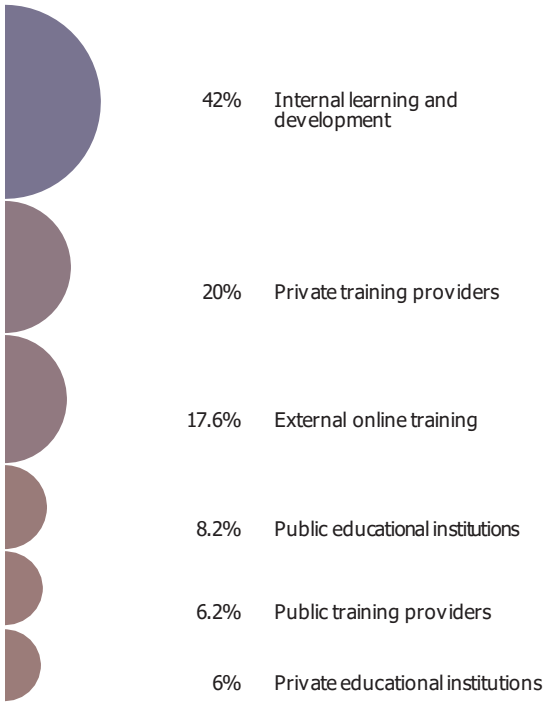
Average reskilling needs

Share of workforce of companies surveyed within this data



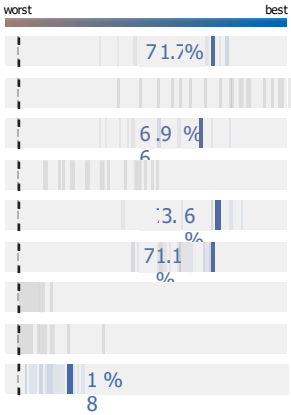
Projected use of training providers

Share of companies surveyed

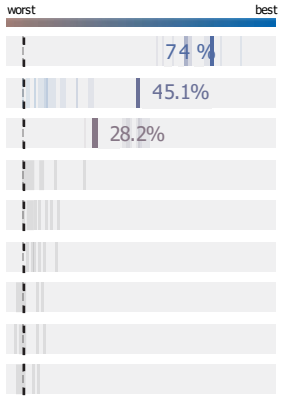


China

Education & skills



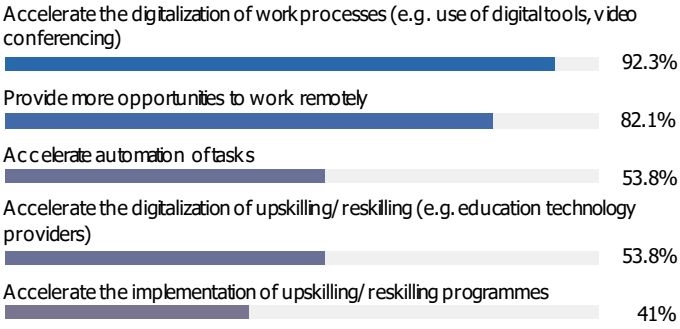
Jobs & work



* The figures presented for these indicators are rebased 0-100% progress scores, with 0 being the worst performance, and 100 being the best performance.

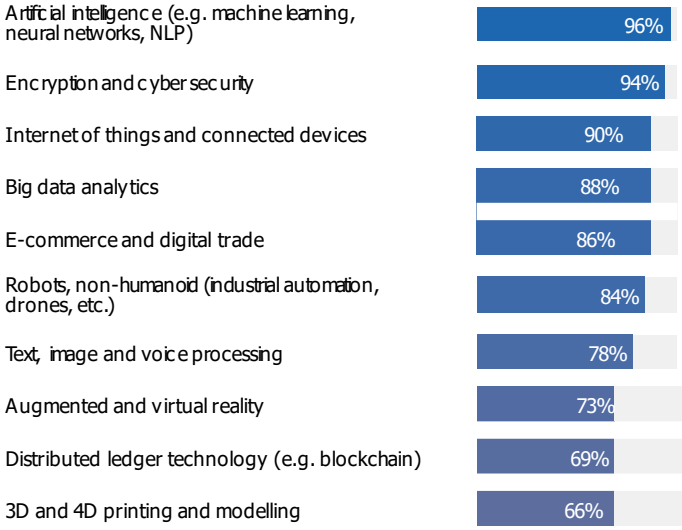
Impact of COVID-19 on companies' strategy

Share of companies surveyed looking to adopt this strategy as a result of COVID-19



Technology adoption

Share of companies surveyed



Emerging and redundant job roles

Role identified as being in high demand or increasingly redundant within their organization, ordered by frequency

EMERGING

1.	Data Analysts and Scientists
2.	AI and Machine Learning Specialists
3.	Big Data Specialists
4.	Information Security Analysts
5.	Digital Transformation Specialists
6.	Internet of Things Specialists
7.	Digital Marketing and Strategy Specialists
8.	Supply Chain and Logistics Specialists
9.	FinTech Engineers
10.	Assembly and Factory Workers

REDUNDANT

1.	Data Entry Clerks
2.	Accounting, Bookkeeping and Payroll Clerks
3.	Administrative and Executive Secretaries
4.	Business Services and Administration Managers
5.	Assembly and Factory Workers
6.	Accountants and Auditors
7.	General and Operations Managers
8.	Client Information and Customer Service Workers
9.	Human Resources Specialists
10.	Financial and Investment Advisers

Emerging skills

Skills identified as being in high demand within their organization, ordered by frequency

1.	Analytical thinking and innovation
2.	Active learning and learning strategies
3.	Complex problem-solving
4.	Technology design and programming
5.	Creativity, originality and initiative
6.	Resilience, stress tolerance and flexibility
7.	Critical thinking and analysis
8.	Emotional intelligence
9.	Technology use, monitoring and control
10.	Reasoning, problem-solving and ideation
11.	Leadership and social influence
12.	Troubleshooting and user experience
13.	Service orientation
14.	Systems analysis and evaluation
15.	Quality control and safety awareness

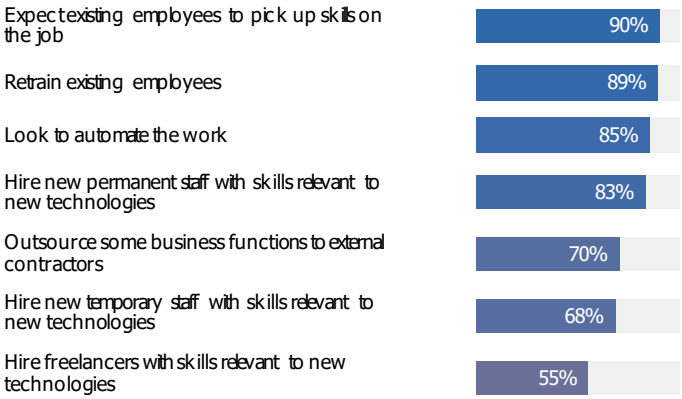
Current skills in focus of existing reskilling/upskilling programmes

Share of companies surveyed identifying this skill as being in focus across their reskilling or upskilling programmes

1.	Analytical thinking and innovation
2.	Leadership and social influence
3.	Active learning and learning strategies
4.	Technology design and programming
5.	Critical thinking and analysis
6.	Complex problem-solving
7.	Reasoning, problem-solving and ideation
8.	Creativity, originality and initiative
9.	Service orientation
10.	Technology use, monitoring and control

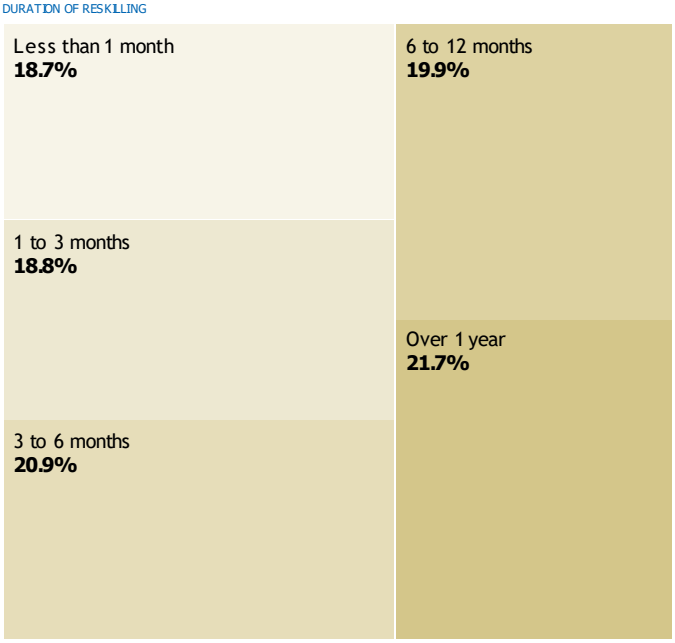
Responses to shifting skill needs

Share of companies surveyed



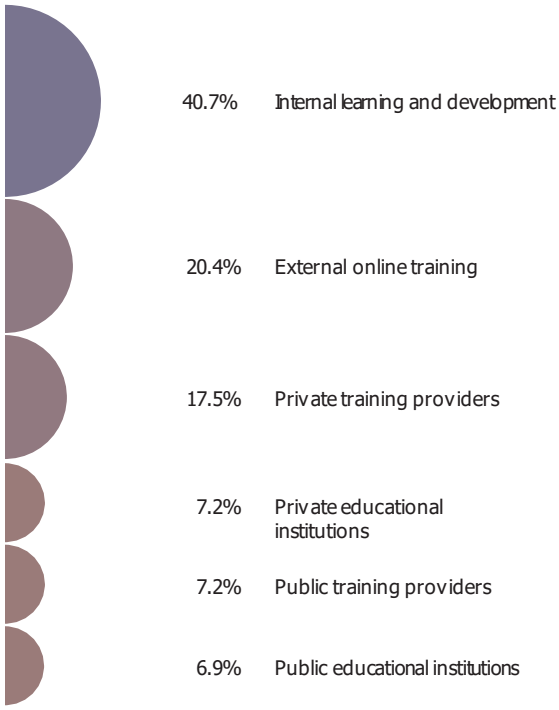
Average reskilling needs

Share of workforce of companies surveyed within this data



Projected use of training providers

Share of companies surveyed

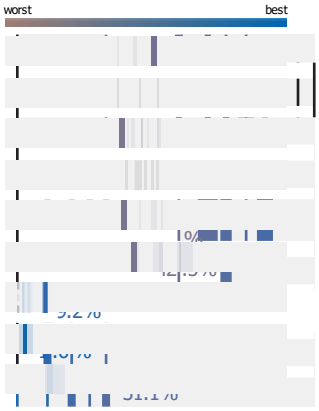


India

Working Age Population

588,373,756

Education & skills



Digital skills among active population*
WEIGHTED AVERAGE 2019-2020

Attainment of basic education

Business relevance of basic education*
WEIGHTED AVERAGE 2019-2020

Attainment of advanced education

Business relevance of tertiary education*
WEIGHTED AVERAGE 2019-2020

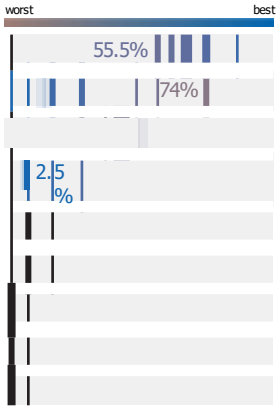
Supply of business-relevant skills*
WEIGHTED AVERAGE 2019-2020

Unempl. rate among workers with adv. educ.
2018

Unempl. rate among workers with basic educ.
2018

Share of youth not in empl., educ. or training
2020

Jobs & work



Labour force participation
2018

Vulnerable employment
2020

Working cond. impact of gig economy*
2020

Unemployment rate
2018

Unemployment rate

Unemployment, monthly

Unemployment rate change

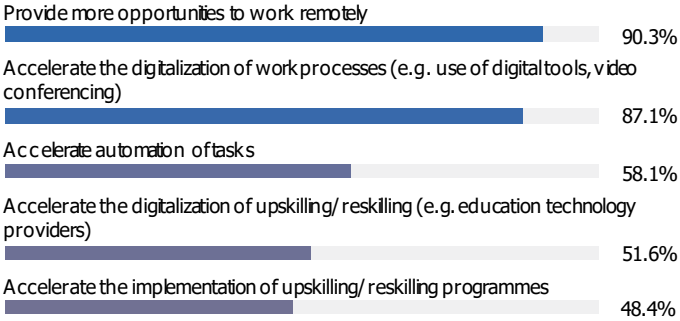
Unemployment rate change, women

Unemployment rate change, men

* The figures presented for these indicators are rebased 0-100% progress scores, with 0 being the worst performance, and 100 being the best performance.

Impact of COVID-19 on companies' strategy

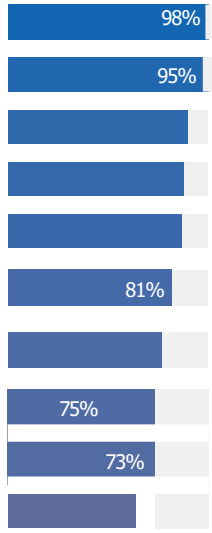
Share of companies surveyed looking to adopt this strategy as a result of COVID-19



Provide more opportunities to work remotely	90.3%
Accelerate the digitalization of work processes (e.g. use of digital tools, video conferencing)	87.1%
Accelerate automation of tasks	58.1%
Accelerate the digitalization of upskilling/reskilling (e.g. education technology providers)	51.6%
Accelerate the implementation of upskilling/reskilling programmes	48.4%

Technology adoption

Share of companies surveyed



Cloud computing	98%
Encryption and cyber security	95%
Internet of things and connected devices	
Big data analytics	
Text, image and voice processing	
Artificial intelligence (e.g. machine learning, neural networks, NLP)	81%
Robots, non-humanoid (industrial automation, drones, etc.)	
Distributed ledger technology (e.g. blockchain)	75%
E-commerce and digital trade	73%
Power storage and generation	

Emerging and redundant job roles

Role identified as being in high demand or increasingly redundant within their organization, ordered by frequency

EMERGING

1.	AI and Machine Learning Specialists
2.	Data Analysts and Scientists
3.	Information Security Analysts
4.	Internet of Things Specialists
5.	Big Data Specialists
6.	Project Managers
7.	FinTech Engineers
8.	Digital Marketing and Strategy Specialists
9.	Software and Applications Developers
10.	Business Development Professionals

REDUNDANT

1.	Administrative and Executive Secretaries
2.	General and Operations Managers
3.	Assembly and Factory Workers
4.	Accounting, Bookkeeping and Payroll Clerks
5.	Data Entry Clerks
6.	Accountants and Auditors
7.	Architects and Surveyors
8.	Human Resources Specialists
9.	Client Information and Customer Service Workers
10.	Business Services and Administration Managers

Emerging skills

Skills identified as being in high demand within their organization, ordered by frequency

1.	Analytical thinking and innovation
2.	Complex problem-solving
3.	Active learning and learning strategies
4.	Critical thinking and analysis
5.	Resilience, stress tolerance and flexibility
6.	Technology design and programming
7.	Emotional intelligence
8.	Creativity, originality and initiative
9.	Leadership and social influence
10.	Reasoning, problem-solving and ideation
11.	Technology use, monitoring and control
12.	Service orientation
13.	Troubleshooting and user experience
14.	Systems analysis and evaluation
15.	Persuasion and negotiation

Country profile
India

Total workforce
588,373,750

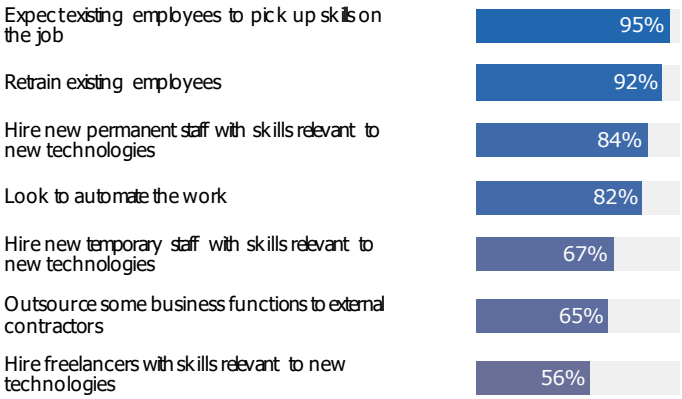
Current skills in focus of existing reskilling/upskilling programmes

Share of companies surveyed identifying this skill as being in focus across their reskilling or upskilling programmes

1.	Analytical thinking and innovation
2.	Active learning and learning strategies
3.	Leadership and social influence
4.	Critical thinking and analysis
5.	Technology design and programming
6.	Creativity, originality and initiative
7.	Complex problem-solving
8.	Technology use, monitoring and control
9.	Resilience, stress tolerance and flexibility
10.	Quality control and safety awareness

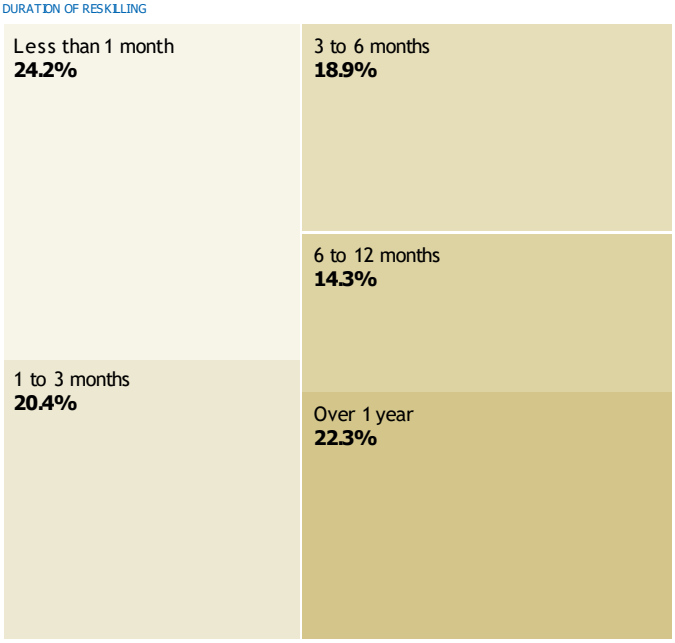
Responses to shifting skill needs

Share of companies surveyed



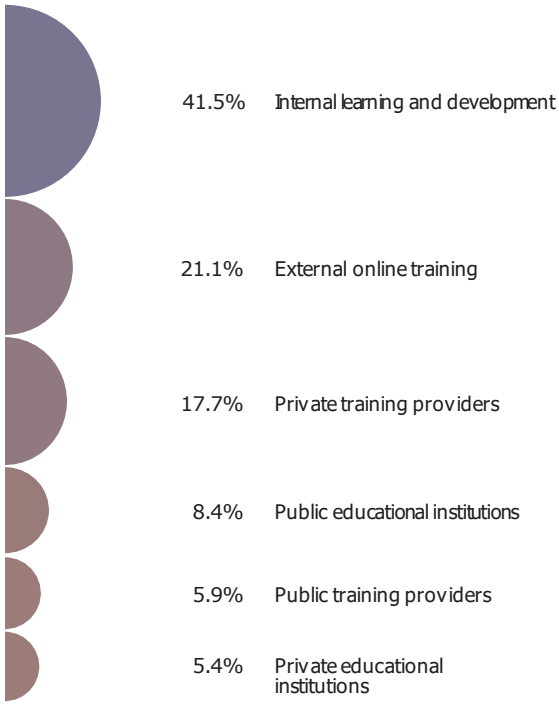
Average reskilling needs

Share of workforce of companies surveyed within this data



Projected use of training providers

Share of companies surveyed



Contributors

World Economic Forum Platform for Shaping the Future of the New Economy and Society

Project team

Saadia Zahidi
Member of Managing Board

Vesselina Ratcheva
Insight Lead, Benchmarking Practice

Guillaume Hingel
Insight Lead, Benchmarking Practice

Sophie Brown
Project Specialist

Acknowledgements

We are extremely grateful to our colleagues on the Platform team for their collaboration, help and efforts, and in particular to Ida Jeng Christensen, Eoin Ó Cathasaigh, Genesis Elhussein, Till Leopold and SungAh Lee. A special thank you to Michael Fisher for his excellent copyediting work and to Accurat for their outstanding graphic designing and layout of the report.

Collaborations

The Platform for the New Economy and Society aims to empower decision-making among leaders in business and policy by providing fresh, actionable insight through collaboration with leading experts and data-holding companies as part of its New Metrics Co-Lab. We would like to thank the following contributors for their collaboration and support to this report:

Automatic Data Processing (ADP)
Matthew Levin, Chief Strategy Officer, ADP LLC
Ahu Yildirmaz, Co-Head, ADP Research Institute
Renzhong Meng, Director, ADP Research Institute

Coursera
Emily Glassberg Sands, Head of Data Science
Vinod Bakthavachalam, Senior Data Scientist
Eric Karsten, Data Scientist

FutureFit AI
Hamoon Ekhtiari, CEO
Terralynn Forsyth, Head of Product

Linkedin
Rachel Bowley, Senior Data Scientist, Economic Graph
Murat Erer, Senior Insights Analyst
Mariano Mamertino, Senior Economist, Economic Graph Team
Kristin Keveloh, Manager, Economic Graph Team
Sein O Muineachain, Manager, Economic Graph Research and Insights (EMEA)