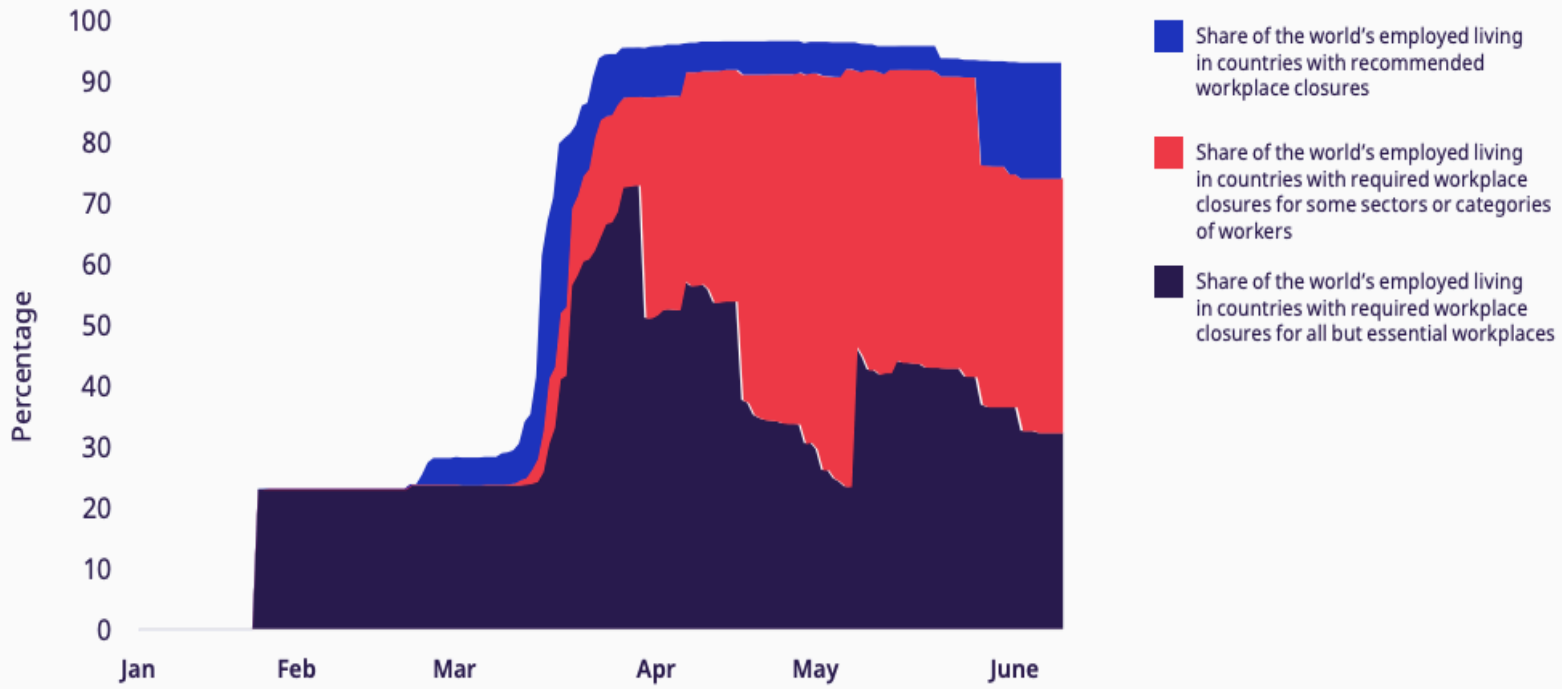
Work and Epidemics 2

Covid-19 and Works in a World Scale

Figure 1. Share of world's employed in countries with workplace closures, 1 January–15 June 2020 (percentage)

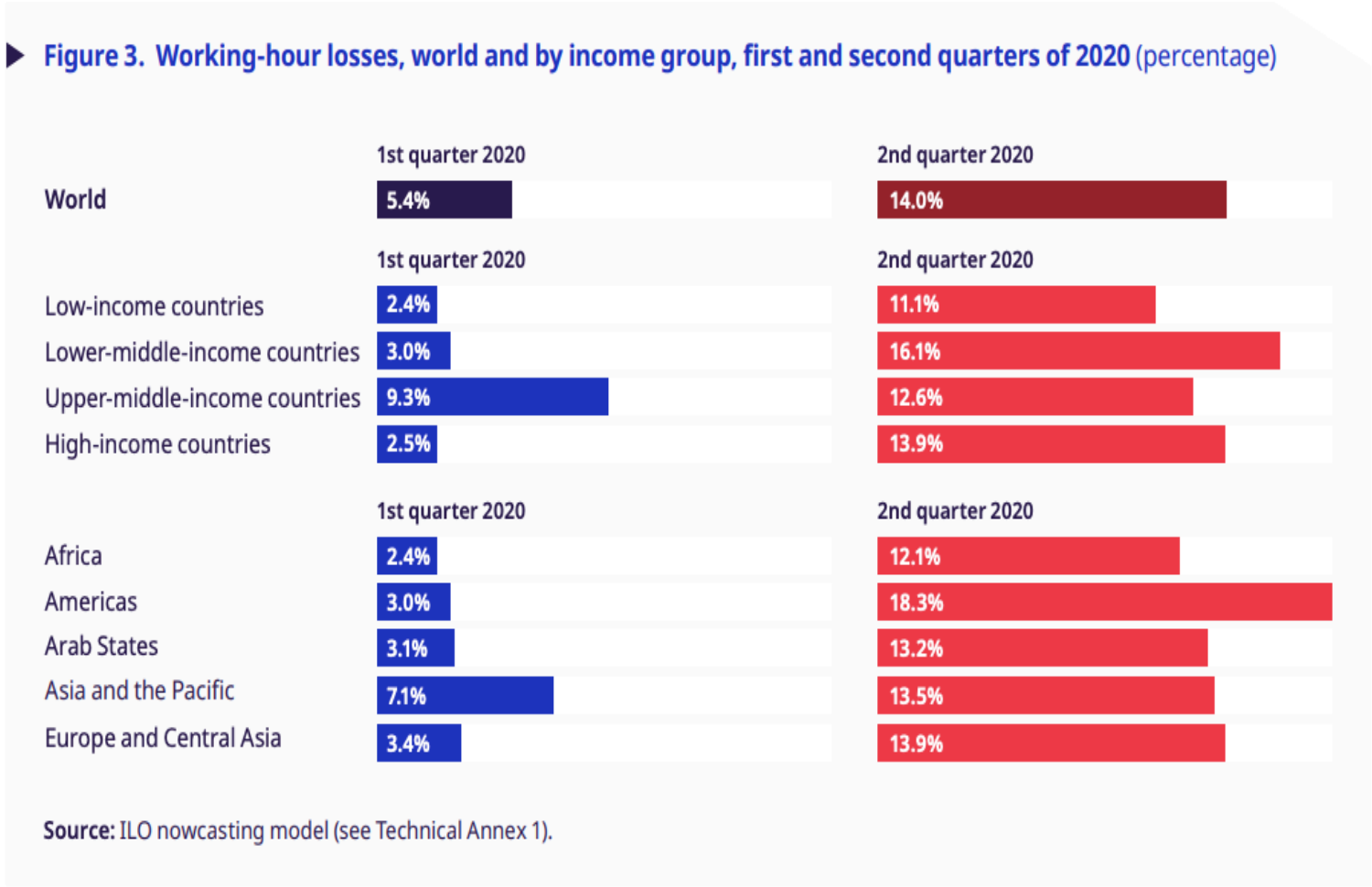


Note: The shares of workers in countries with required workplace closures for some sectors or categories of workers and countries with recommended workplace closures are stacked on top of the share of workers in countries with required workplace closures for all but essential workplaces.

Source: ILOSTAT database, ILO modelled estimates, November 2019; Oxford COVID-19 Government Response Tracker.

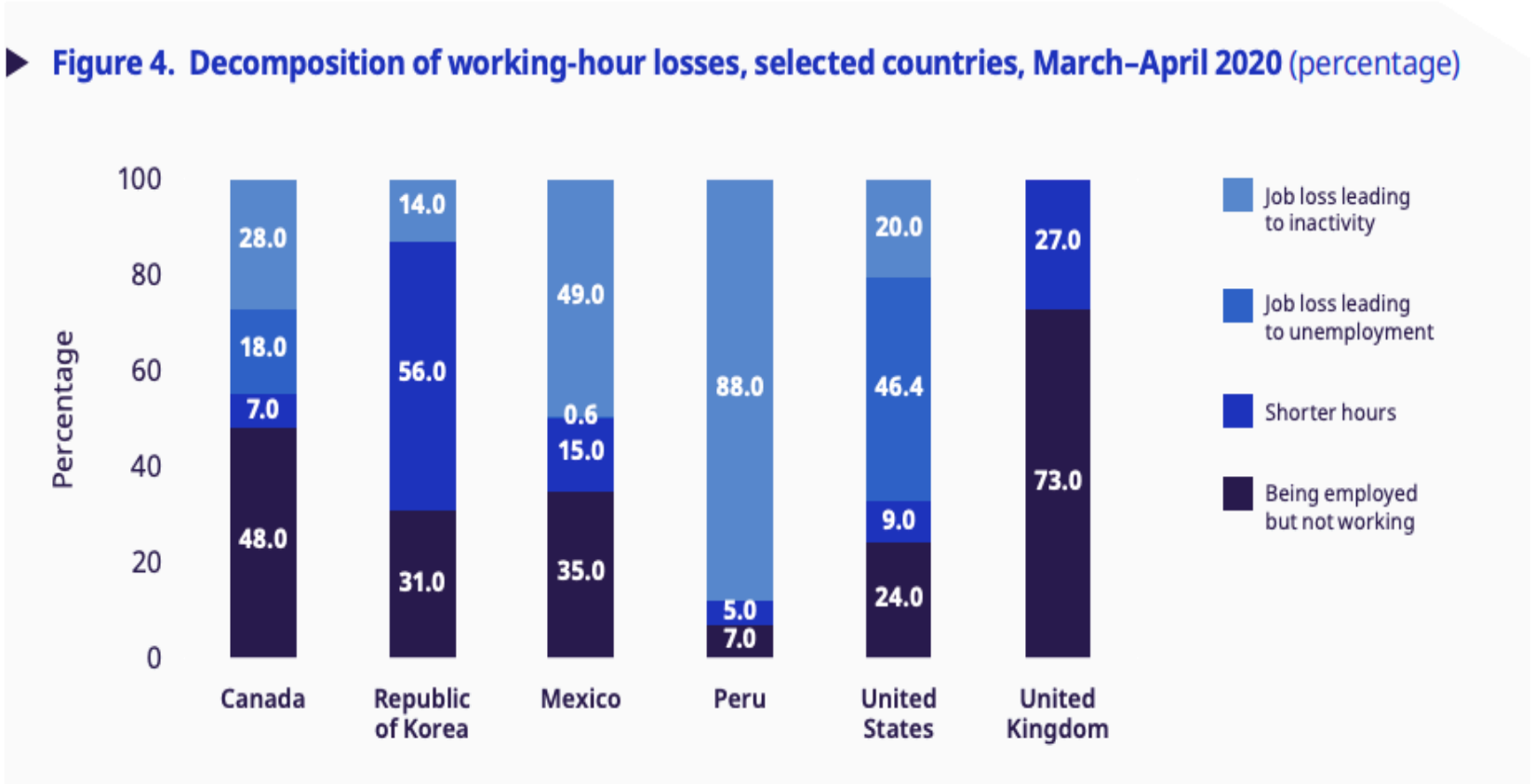
- Taken together, the vast majority, namely, 93 per cent, of the world's workers continue to reside in countries with workplace closure measures of some kind still in force

Covid-19 and Works in a World Scale



- Globally, there is decline in global working hours of 14 per cent in the second quarter of 2020 (up from the previous estimate of 10.7 per cent), which is equivalent to 400 million full-time jobs.

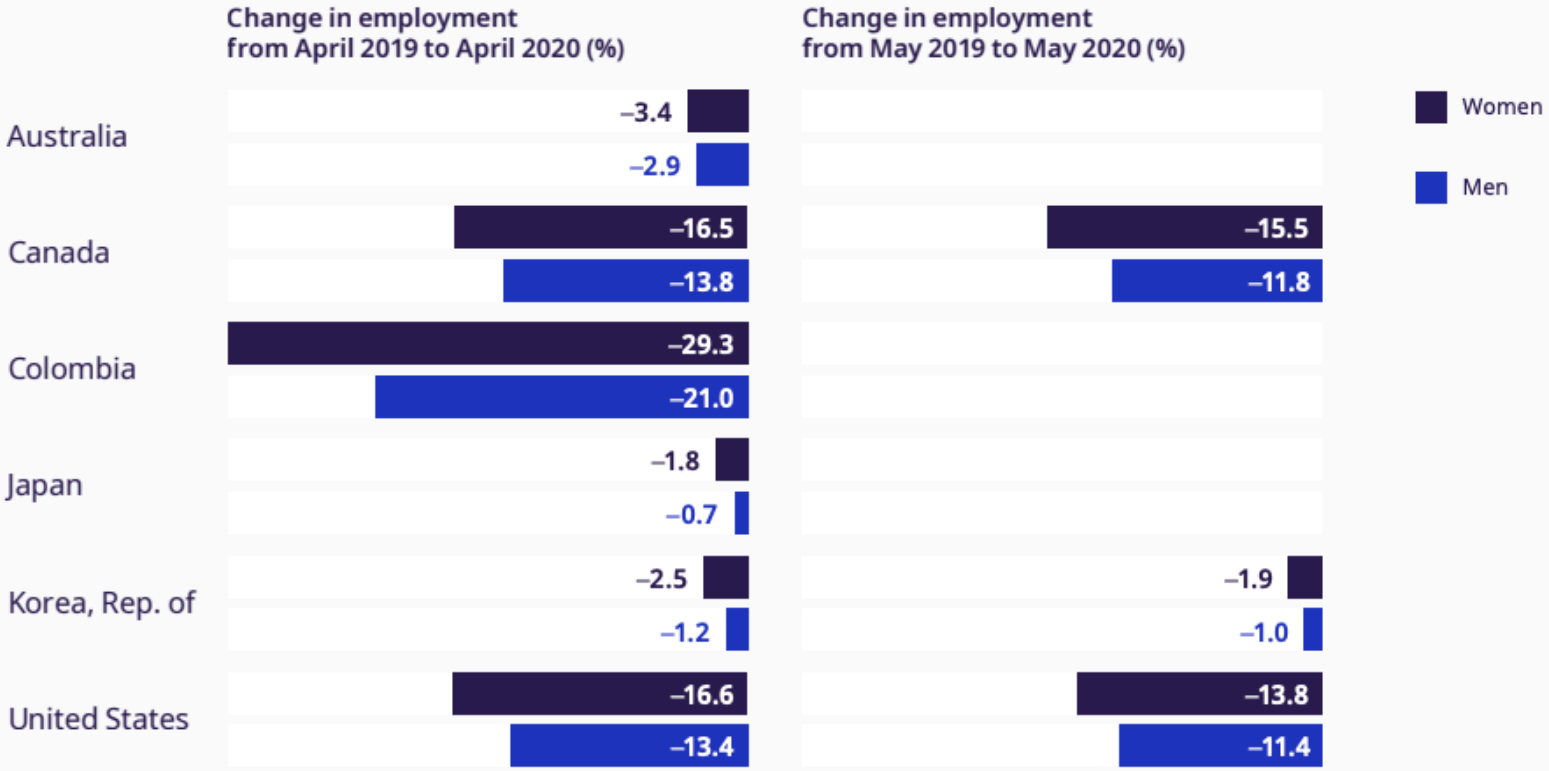
Covid-19 and Works in a World Scale



- The decomposition of working-hour losses shows that a narrow focus on unemployment does not allow one to gauge the full impact of the COVID-19 crisis on the labor market.

Covid-19 and Works in a World Scale

Figure 6. Change in employment for women and men (aged 15+), selected countries, year-on-year changes from April 2019 to April 2020 and from May 2019 to May 2020 (percentage)

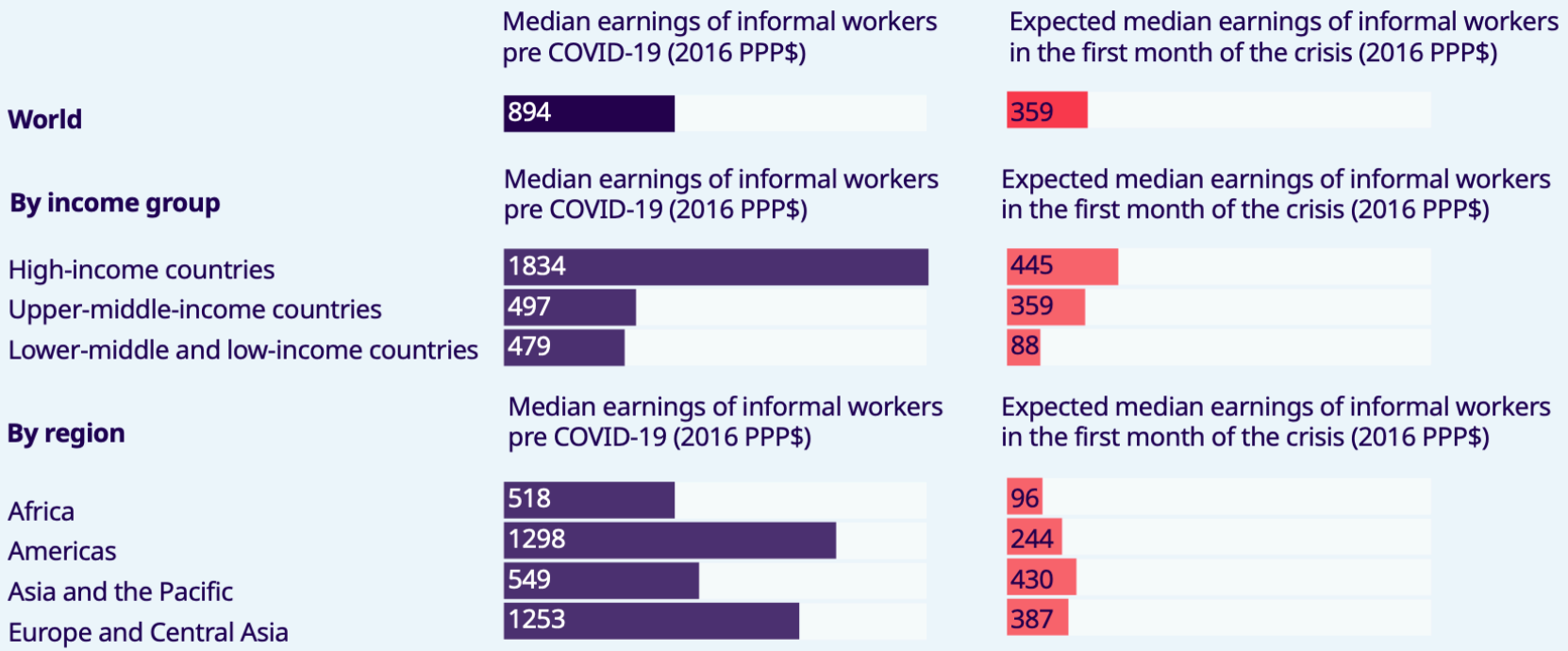


Source: ILOSTAT database.

- The crisis is disproportionately affecting women workers

Covid-19 and Works in a World Scale

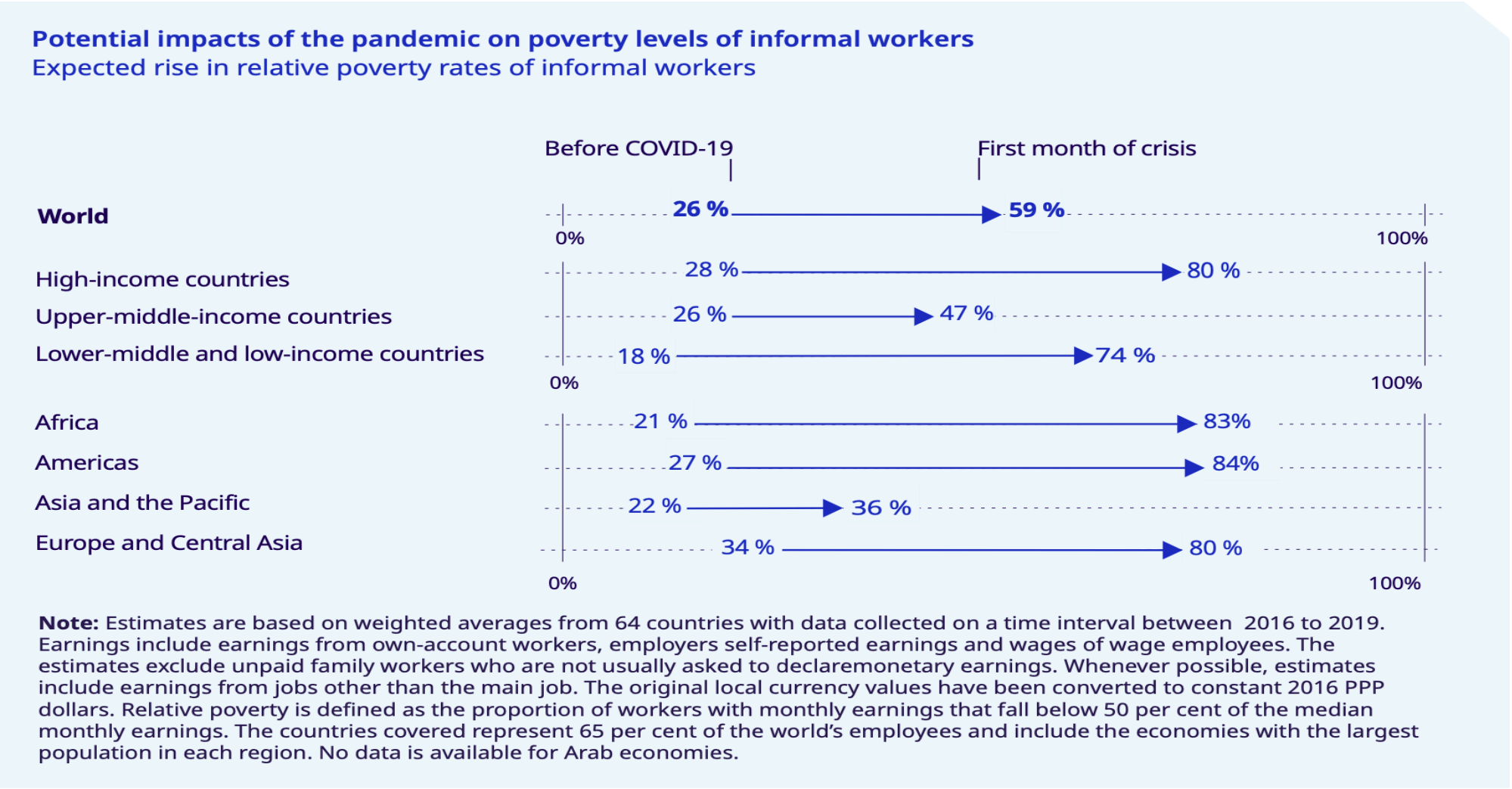
Figure 4.
Potential impacts of the pandemic on earnings of informal workers



Note: Estimates are based on weighted averages from 64 countries with data collected on a time interval between 2016 to 2019. Earnings include earnings from own-account workers, employers self-reported earnings and wages of wage employees. The estimates exclude unpaid family workers who are not usually asked to declare monetary earnings. Whenever possible, estimates include earnings from jobs other than the main job. The original local currency values have been converted to constant 2016 PPP dollars. The countries covered represent 65 per cent of the world's employees and include the economies with the largest population in each region. No data is available for Arab economies.

- This estimate suggests that almost 1.6 billion informal economy workers, accounting for 76 per cent of informal employment worldwide, are significantly impacted

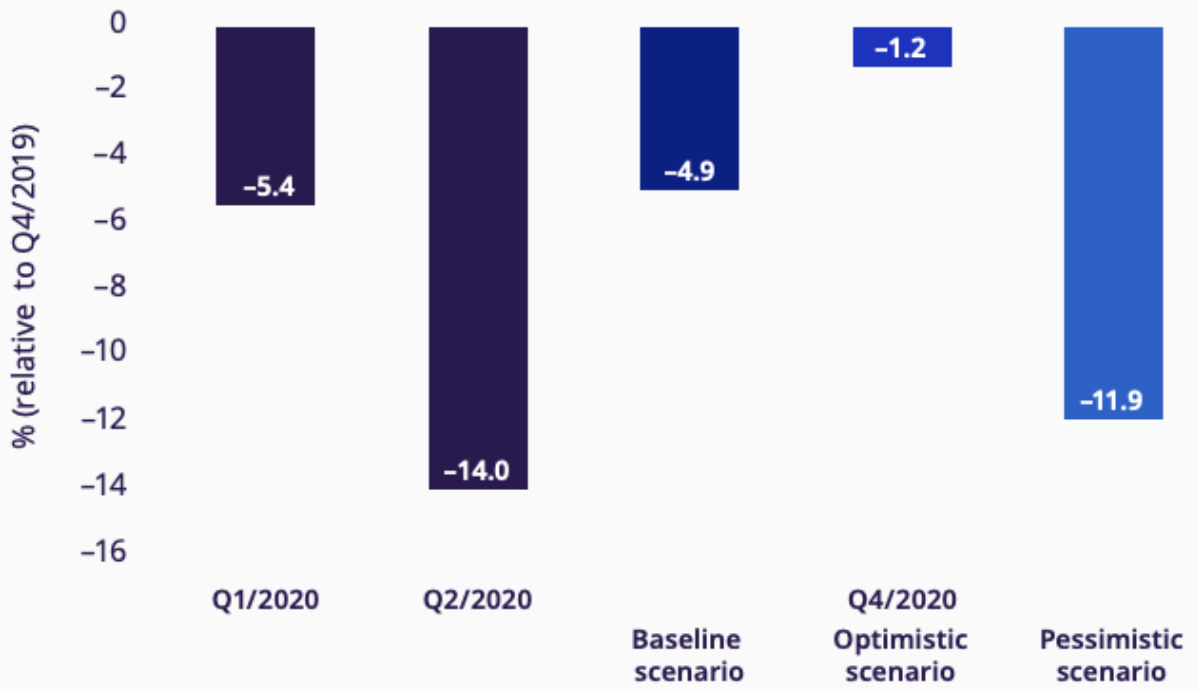
Covid-19 and Works in a World Scale



- Income losses for informal economy workers are likely to be massive.

Covid-19 and Works in a World Scale

Figure 7. Projected working-hour losses in the second half (fourth quarter) of 2020, world (percentage)



Note: See Technical Annex 4 for further details on the scenarios used to obtain these projections.

- Projections?

Covid-19 and Works in a World Scale

Table 2. Projected working-hour losses in the second half (fourth quarter) of 2020, by region (percentage and full-time equivalent jobs)

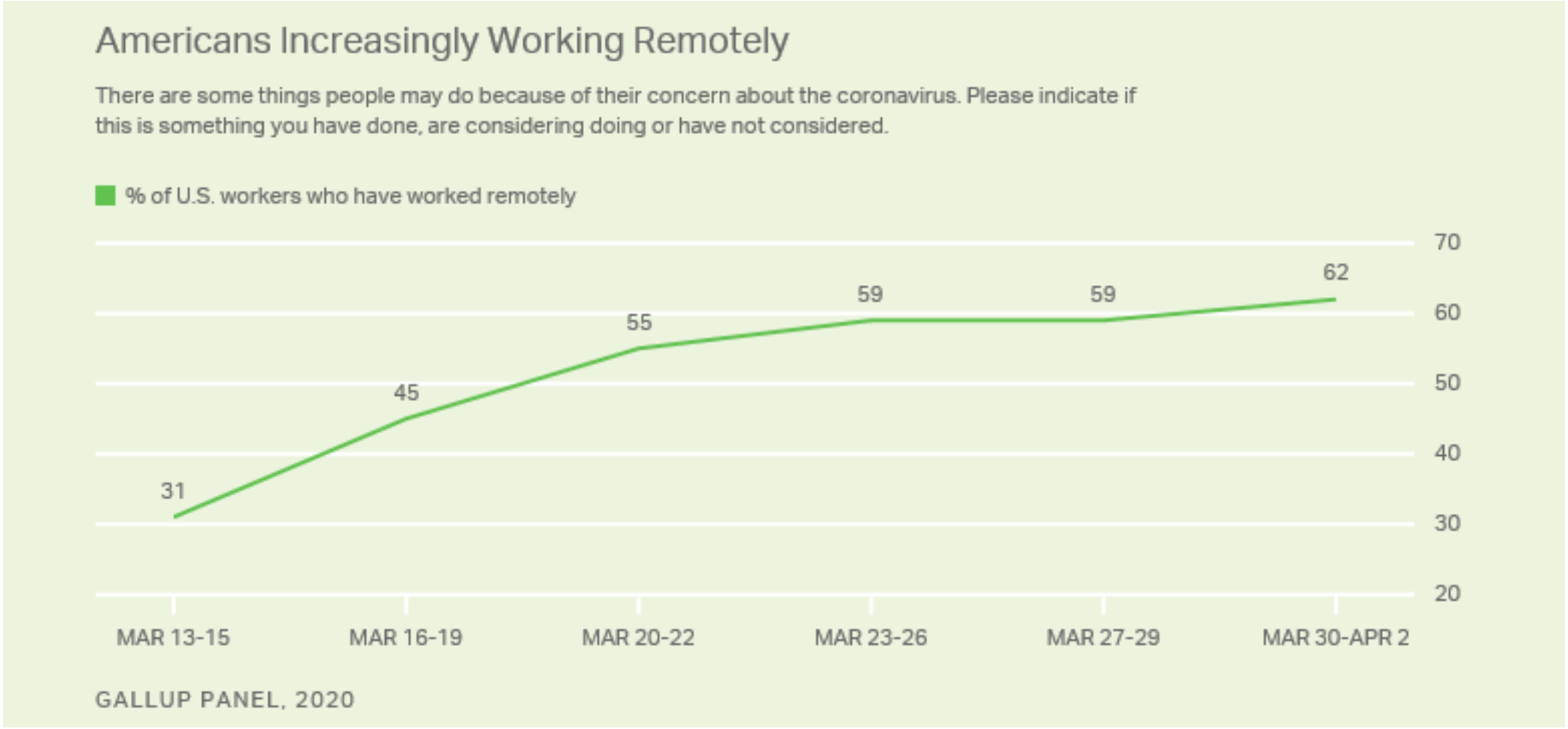
	Q2 2020		Baseline scenario		Pessimistic scenario		Optimistic scenario	
	Hours lost	Equivalent number of full-time jobs (48 hours/week)	Hours lost	Equivalent number of full-time jobs (48 hours/week)	Hours lost	Equivalent number of full-time jobs (48 hours/week)	Hours lost	Equivalent number of full-time jobs (48 hours/week)
	%	millions	%	millions	%	millions	%	millions
World	**14.0**	**400**	**4.9**	**140**	**11.9**	**340**	**1.2**	**34**
Africa	12.1	45	3.5	13	10.8	40	–0.1	0
Americas	18.3	70	7.8	29	15.6	60	2.5	9
Arab States	13.2	8	3.9	2	11.9	7	–0.1	0
Asia and the Pacific	13.5	235	4.5	80	11.5	200	1.2	21
Europe and Central Asia	13.9	45	5.4	18	10.6	35	1.2	4

Notes: (1) Negative values indicate a recovery to above pre-crisis levels. (2) See Technical Annex 4 for details of the various scenarios.

- The ILO forecasts for the second half of 2020 show large variations between regions, as was the case with the nowcasts for the first half of the year

Measures in a Workplace

Measures in a Workplace: Social Distancing



- https://www.weforum.org/agenda/2020/07/the-post-covid-workplace-will-employees-be-safe/

Measures in a Workplace : Social Distancing

- What are the characteristics of workers in jobs likely to be initially affected by broad social distancing?
- Workers in occupations that are most likely to be affected - those with a low score in the work-from- home measure, or a high score in personal-proximity - are predominantly characterized by traits associated with the more economically vulnerable in the US economy.
- Workers that are more likely to be affected by work from home orders are those that are more economically vulnerable
  - Less likely to have a college degree and health insurance
  - Less likely to be white, or work for large firms, and less likely to be born in the US

10 technology trend to watch in the Covid-19 pandemic

- 1. Online shopping and robot delivery

- From World Economic Forum

https://www.google.com/search?q=10+technology+trend+to+watch+in+the+Covid-19+pandemic+world+economic+forum&biw=1245&bih=701&tbm=isch&source=lnms&sa=X&ved=0ahUKEwjaoo364ePrAhWhyDgGHa9QB-gQ_AUIECgC

10 technology trend to watch in the Covid-19 pandemic

- 2. Digital and contactless payments

10 technology trend to watch in the Covid-19 pandemic

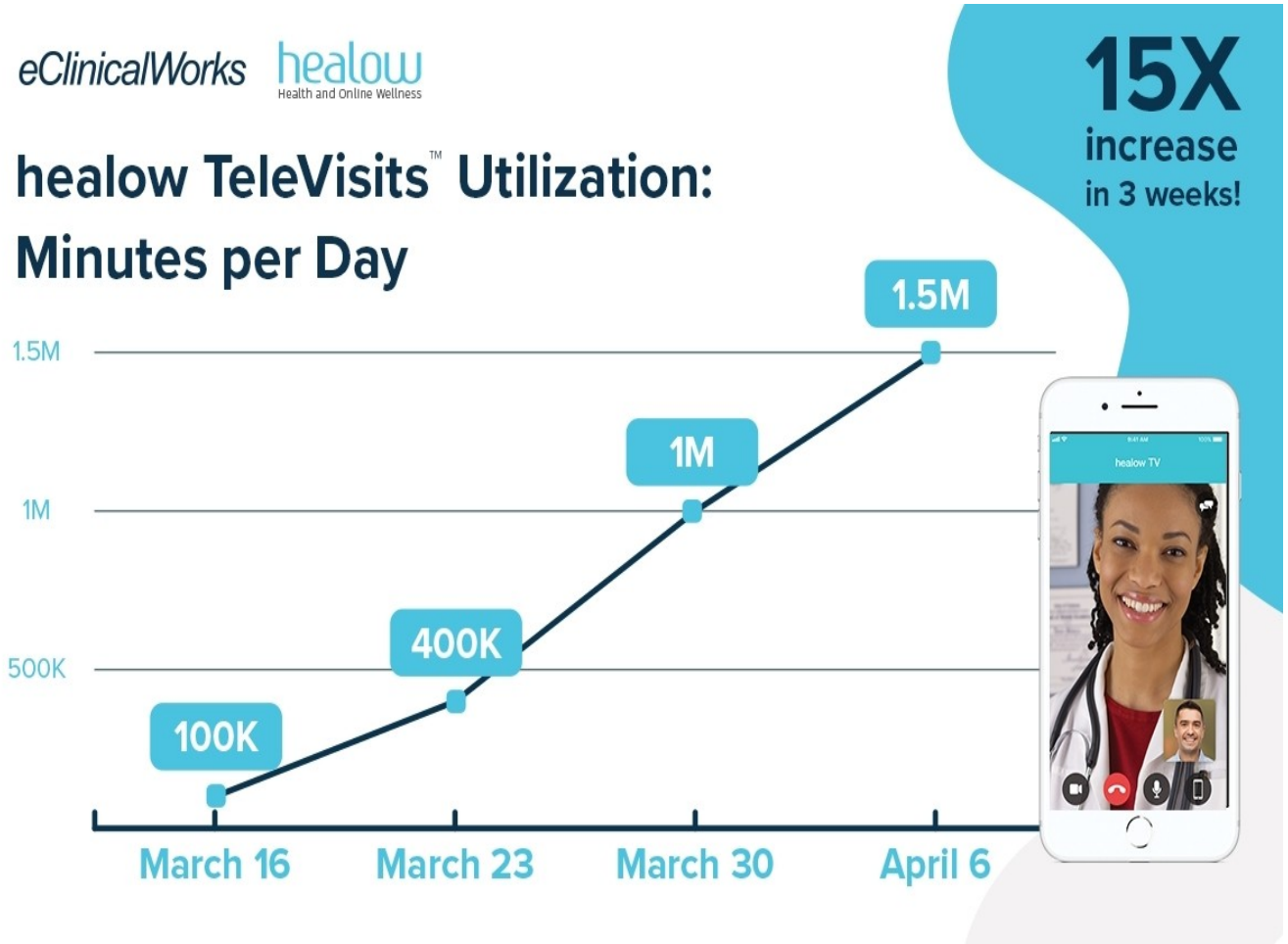
- 3. Remote Work

10 technology trend to watch in the Covid-19 pandemic

- **4. Distance Learning**

10 technology trend to watch in the Covid-19 pandemic

- **5. Telehealth**



10 technology trend to watch in the Covid-19 pandemic

- **6. Online Entertainment**

10 technology trend to watch in the Covid-19 pandemic

- **7. Supply Chain 4.0**
- Core technologies of the Fourth Industrial Revolution, such as Big Data, cloud computing, Internet-of-Things (“IoT”) and blockchain are building a more resilient supply chain management system for the future by enhancing the accuracy of data and encouraging data sharing.

10 technology trend to watch in the Covid-19 pandemic

- **8. 3D Printing**
- 3D printing offers flexibility in production: the same printer can produce different products based on different design files and materials, and simple parts can be made onsite quickly without requiring a lengthy procurement process and a long wait for the shipment to arrive.

10 technology trend to watch in the Covid-19 pandemic

- **9. Robotics and Drones**

10 technology trend to watch in the Covid-19 pandemic

- **10. 5G and Information and Communications Technology (ICT)**

Automation and Job Loss

- Chernoff and Warman 2020
- Which jobs are at risk from the heightened push to automate jobs in response to the COVID-19 pandemic and the threat of future pandemics?
- The paper construct the indexes of automation and COVID-19 transmission risk.
- Identify the U.S. local labor markets that may be most impacted by the potential push to automate jobs due to an overlap in COVID-19 transmission risk and automation potential.

Table 1: Four highest and lowest automation viral transmission risk occupations, and five largest occupations by low, medium and high-risk categories

Occupation	Automation potential	Viral transmission risk	Number of workers
Automation potential			
Highest index values			
Reservation and transportation ticket agents and travel clerks	1.000	0.429	112,678
telephone operators	0.995	0.182	24,691
Air traffic controllers and airfield operations specialists	0.950	0.347	36,845
Payroll and timekeeping clerks	0.900	0.178	143,326
Lowest index values			
Manicurists and pedicurists	0.000	0.449	202,813
Helpers, installation, maintenance, and repair workers	0.070	0.415	17,735
Directors, religious activities and education	0.080	0.288	54,729
Upholsterers	0.087	0.178	26,525
Viral transmission risk			
Highest index values			
Dental hygienists	0.661	1.000	136,296
Respiratory therapists	0.551	0.960	97,768
Dental assistants	0.471	0.947	247,349
Dentists	0.525	0.947	139,654
Lowest index values			
Tire builders	0.824	0.000	13,455
Writers and authors	0.304	0.025	172,007
Logging workers	0.402	0.034	46,357
Electronic home entertainment equipment installers and repairers	0.253	0.073	27,406
Joint risk of viral transmission and automation potential, 5 largest occupations			
High-risk occupations			
Customer service representatives	0.543	0.510	3,863,976
Licensed practical and licensed vocational nurses	0.529	0.923	1,076,689
Medical assistants	0.788	0.796	647,090
Correctional officers and jailers	0.588	0.709	443,206
Pharmacy technicians	0.683	0.758	438,432
Medium-risk occupations			
Elementary and middle school teachers	0.267	0.618	4,590,547
Registered nurses	0.456	0.907	3,799,883
Secretaries and administrative (except legal, medical, and executive)	0.565	0.325	3,336,141
Accountants and auditors	0.709	0.204	2,322,413
Stockers and order fillers	0.573	0.404	2,254,411
Low-risk occupations			
Cashiers	0.424	0.458	4,827,834
Driver/sales workers and truck drivers	0.324	0.278	4,465,011
Retail salespersons	0.494	0.435	4,412,672
First line supervisors of retail sales workers	0.467	0.382	3,622,093
Janitors and building cleaners	0.307	0.377	3,511,529

Automation and Job Loss

- women are more likely than men to be in occupations that are at high risk of both COVID-19 transmission and automation.
- the occupations held by women with mid-level education face the highest risk,
- Geographically, while automation potential tends to be concentrated in the American Heartland, commuting zones where both the automation and transmission risk are high are diffusely distributed across the U.S.
- This is largely due to the fact that the occupations that have highest transmission risk tend to be in the services and are ubiquitous across U.S. local labor markets.