

What's next for remote work: An analysis of 2,000 tasks, 800 jobs, and nine countries

Hybrid models of remote work are likely to persist in the wake of the pandemic, mostly for a highly educated, well-paid minority of the workforce.

by Susan Lund, Anu Madgavkar, James Manyika, and Sven Smit



For many workers, COVID-19's impact has depended greatly on one question: Can I work from home or am I tethered to my workplace? Quarantines, lockdowns, and self-imposed isolation have pushed tens of millions around the world to work from home, accelerating a workplace experiment that had struggled to gain traction before COVID-19 hit.

Now, well into the pandemic, the limitations and the benefits of remote work are clearer. Although many people are returning to the workplace as economies reopen—the majority could not work remotely at all—executives have indicated in surveys that hybrid models of remote work for some employees are here to stay. The virus has broken through cultural and technological barriers that prevented remote work in the past, setting in motion a structural shift in where work takes place, at least for some people.

Now that vaccines are awaiting approval, the question looms: To what extent will remote work persist? In this article, we assess the possibility for various work activities to be performed remotely. Building on the McKinsey Global Institute's body

of work on automation, AI, and the future of work, we extend our models to consider where work is performed.¹ Our analysis finds that the potential for remote work is highly concentrated among highly skilled, highly educated workers in a handful of industries, occupations, and geographies.

More than 20 percent of the workforce could work remotely three to five days a week as effectively as they could if working from an office. If remote work took hold at that level, [that would mean three to four times as many people](#) working from home than before the pandemic and would have a profound impact on urban economies, transportation, and consumer spending, among other things.

More than half the workforce, however, has little or no opportunity for remote work. Some of their jobs require collaborating with others or using specialized machinery; other jobs, such as conducting CT scans, must be done on location; and some, such as making deliveries, are performed while out and about. Many of such jobs are low wage and more at risk from broad trends such as automation and digitization. Remote work thus risks accentuating inequalities at a social level.

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¹ *The future of work in Europe: Automation, workforce transitions, and the future geography of work*, McKinsey Global Institute, June 2020; *The future of work in America: People and places, today and tomorrow*, McKinsey Global Institute, July 2019; *Jobs lost, jobs gained: Workforce transitions in a time of automation*, McKinsey Global Institute, December 2017.



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The potential for remote work is determined by tasks and activities, not occupations

Remote work raises a vast array of issues and challenges for employees and employers. Companies are pondering how best to deliver coaching remotely and how to configure workspaces to enhance employee safety, among a host of other thorny questions raised by COVID-19. For their part, employees are struggling to find the best home-work balance and equip themselves for working and collaborating remotely.

In this article, however, we aim to granularly define the activities and occupations that can be done from home to better understand the future staying power of remote work. We have analyzed the potential for remote work—or work that doesn't require interpersonal interaction or a physical presence at a specific worksite—in a range of countries, China, France, Germany, India, Japan, Mexico, Spain, the United Kingdom, and the United States. We used MGI's workforce model based on the Occupational Information Network (O*NET) to analyze more than 2,000 activities in more than 800 occupations and identify which activities and occupations have the greatest potential for remote work.

The potential for remote work depends on the mix of activities undertaken in each occupation and on their physical, spatial, and interpersonal context. We first assessed the theoretical extent to which an activity can be done remotely. This depends on

whether a worker needs to be physically present on-site to do a task, interact with others, or use location-specific machinery or equipment.

Many physical or manual activities, as well as those that require use of fixed equipment, cannot be done remotely. These include providing care, operating machinery, using lab equipment, and processing customer transactions in stores. In contrast, activities such as information gathering and processing, communicating with others, teaching and counseling, and coding data can theoretically be done remotely.

Additionally, employers have found during the pandemic that although some tasks can be done remotely in a crisis, they are much more effectively done in person. These activities include coaching, counseling, and providing advice and feedback; building customer and colleague relationships; bringing new employees into a company; negotiating and making critical decisions; teaching and training; and work that benefits from collaboration, such as innovation, problem-solving, and creativity. If onboarding were to be done remotely, for instance, it would require significant rethinking of the activity to produce outcomes similar to those achieved in person.

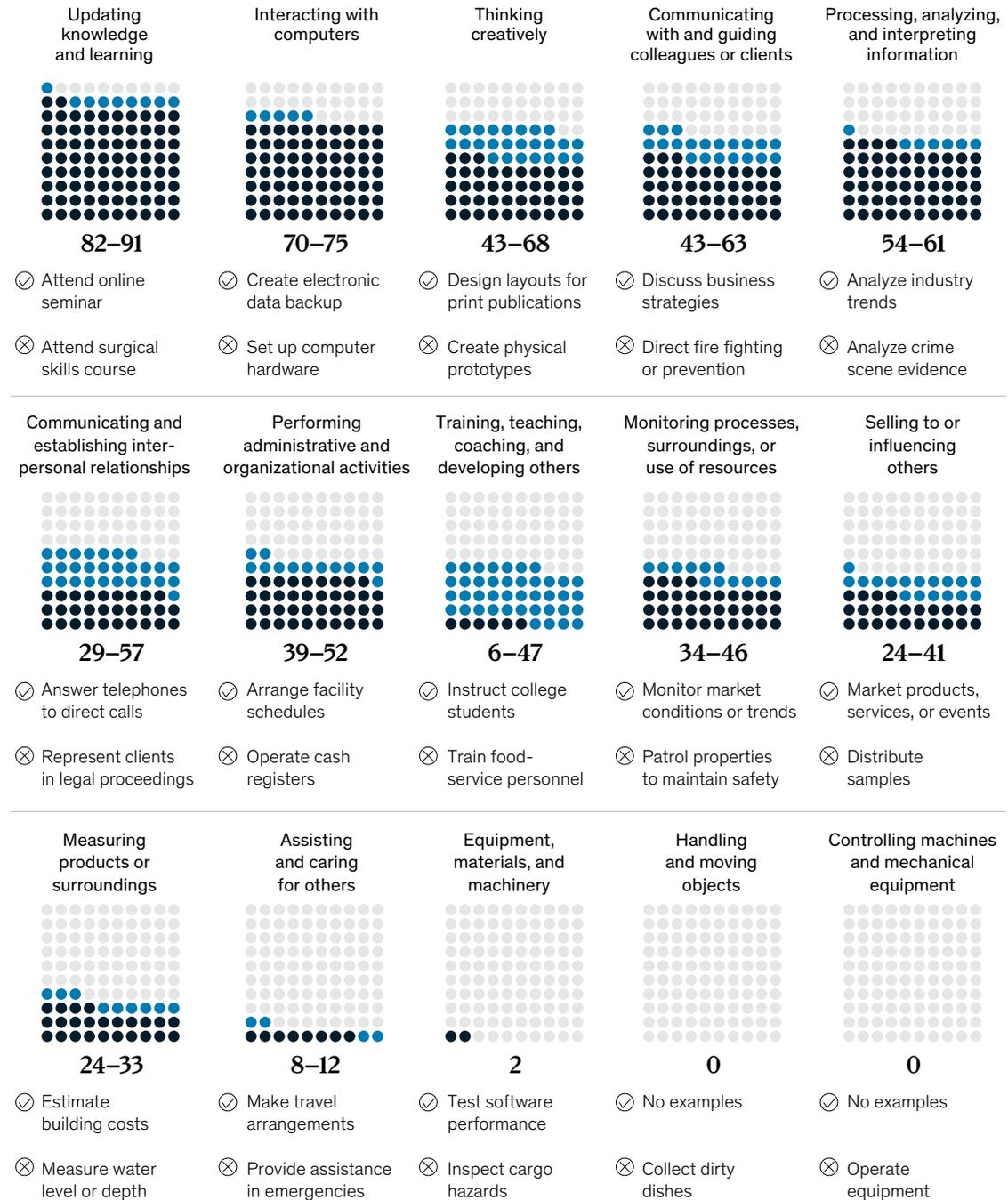
For instance, while teaching has moved to remote work during the pandemic, parents and teachers alike say that quality has suffered. Similarly, courtrooms have functioned remotely but are unlikely to remain online going forward out of concern for legal rights and equity—some defendants lack adequate

Exhibit 1

Activities with the highest potential for remote work include updating knowledge and interacting with computers.

Potential share of time spent working remotely for select activity categories in the United States, %

● Effective potential (no productivity loss) ✓ Task that can be done remotely
 ● Theoretical maximum ⊗ Task that cannot be done remotely



Note: The theoretical maximum includes all activities not requiring physical presence on-site; the effective potential includes only those activities that can be done remotely without losing effectiveness. Model based on more than 2,000 activities across more than 800 occupations.
 Source: McKinsey Global Institute analysis

connectivity and lawyers, and judges worry about missing nonverbal cues in video conferences.

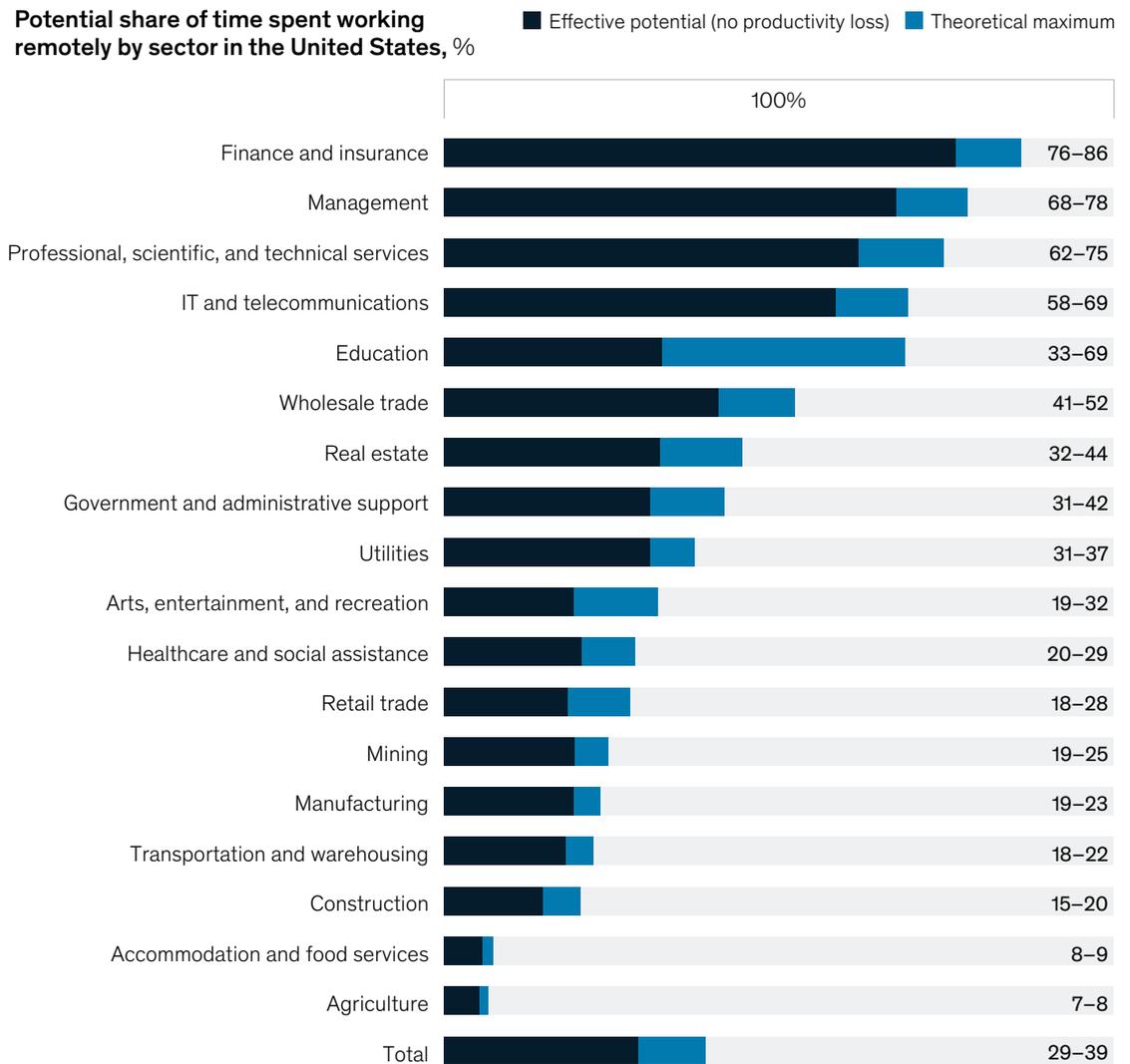
So we have devised two metrics for remote work potential: the maximum potential, including all activities that theoretically can be performed remotely, and a lower bound for the effective potential for remote work, which excludes activities that have a clear benefit from being done in person (Exhibit 1).

To determine the overall potential for remote work for jobs and sectors, we use the time spent on different

activities within occupations. We find that remote work potential is concentrated in a few sectors. Finance and insurance has the highest potential, with three-quarters of time spent on activities that can be done remotely without a loss of productivity. Management, business services, and information technology have the next highest potential, all with more than half of employee time spent on activities that could effectively be done remotely (Exhibit 2). These sectors are characterized by a high share of workers with college degrees or higher.

Exhibit 2

The finance, management, professional services, and information sectors have the highest potential for remote work.



Note: The theoretical maximum includes all activities not requiring physical presence on-site; the effective potential includes only those activities that can be done remotely without losing effectiveness. Model based on more than 2,000 activities across more than 800 occupations.
Source: McKinsey Global Institute analysis



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Remote work potential is higher in advanced economies

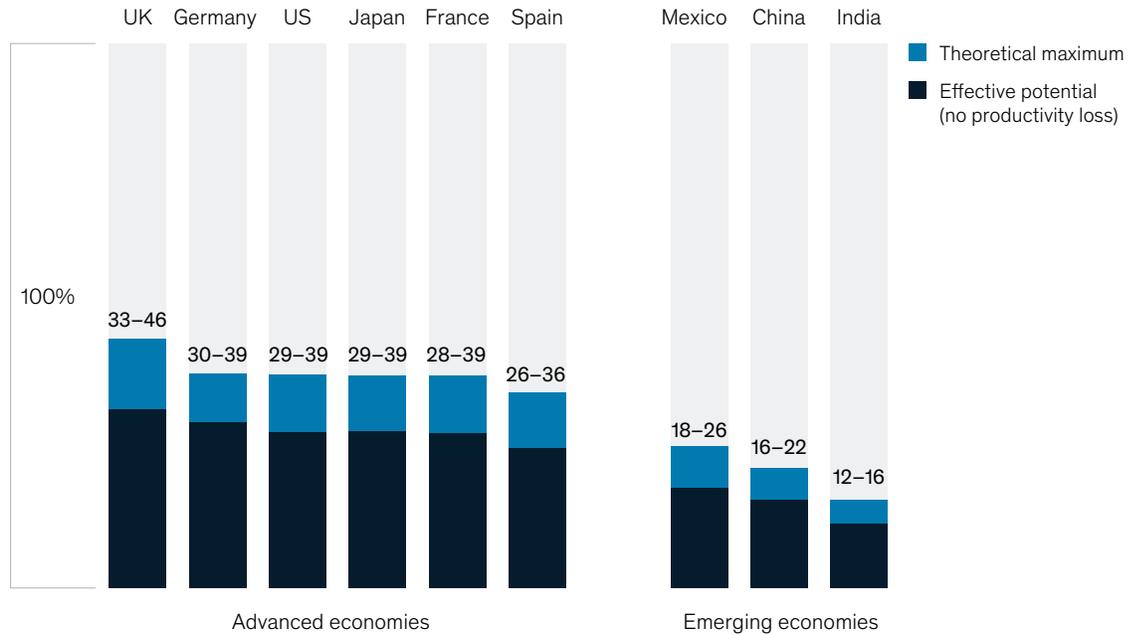
The potential for remote work varies across countries, a reflection of their sector, occupation, and activity mix. Business and financial services are a large share of the UK economy, for example, and it has the highest potential for remote work among the countries we examined. Its workforce could theoretically work remotely one-third of the time without a loss of productivity, or almost half the time but with diminished productivity. (Exhibit 3). Other advanced economies are not far behind; their workforces could dedicate 28 to 30 percent of the time to working remotely without losing productivity.

In emerging economies, employment is skewed toward occupations that require physical and manual activities in sectors like agriculture and manufacturing. The potential for time spent on remote work drops to 12 to 26 percent in the emerging economies we assessed. In India, for instance, the workforce could spend just 12 percent of the time working remotely without losing effectiveness. Although India is known globally for its high-tech and financial services industries, the vast majority of its workforce of 464 million is employed in occupations like retail services and agriculture that cannot be done remotely.

Exhibit 3

Labor forces in advanced economies can spend more time working remotely than workforces in emerging economies.

Potential share of time spent working remotely by country, %



Note: The theoretical maximum includes all activities not requiring physical presence on-site; the effective potential includes only those activities that can be done remotely without any loss of effectiveness. Model based on more than 2,000 activities across more than 800 occupations.
 Source: McKinsey Global Institute analysis

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A hybrid model that combines some remote work with work in an office is possible for occupations with high remote work potential

For most workers, some activities during a typical day lend themselves to remote work, while the rest of their tasks require their on-site physical presence. In the US workforce, we find that just 22 percent of employees can work remotely between three and five days a week without affecting productivity, while only 5 percent could do so in India. In contrast, 61 percent of the workforce in the United States can work no more than a few hours a week remotely or not at all. The remaining 17 percent of the workforce could work remotely partially, between one and three days per week (Exhibit 4).

Consider a floral designer. We estimate that between half and one-quarter of his job can be done remotely. He can take orders by phone or online and contract for delivery through an app, but floral arrangement itself requires being in a shop where the flowers are stored in a refrigerated case and ribbons, moss, vases, and other materials used to create a floral design are at hand. To make a floral designer’s job more remote would require dividing his various tasks among all employees in a flower shop. In contrast, credit analysts, database administrators, and tax preparers, among others,

can do virtually all of their work remotely. In general, workers whose jobs require cognitive thinking and problem solving, managing and developing people, and data processing have the greatest potential to work from home. These employees also tend to be among the highest paid.

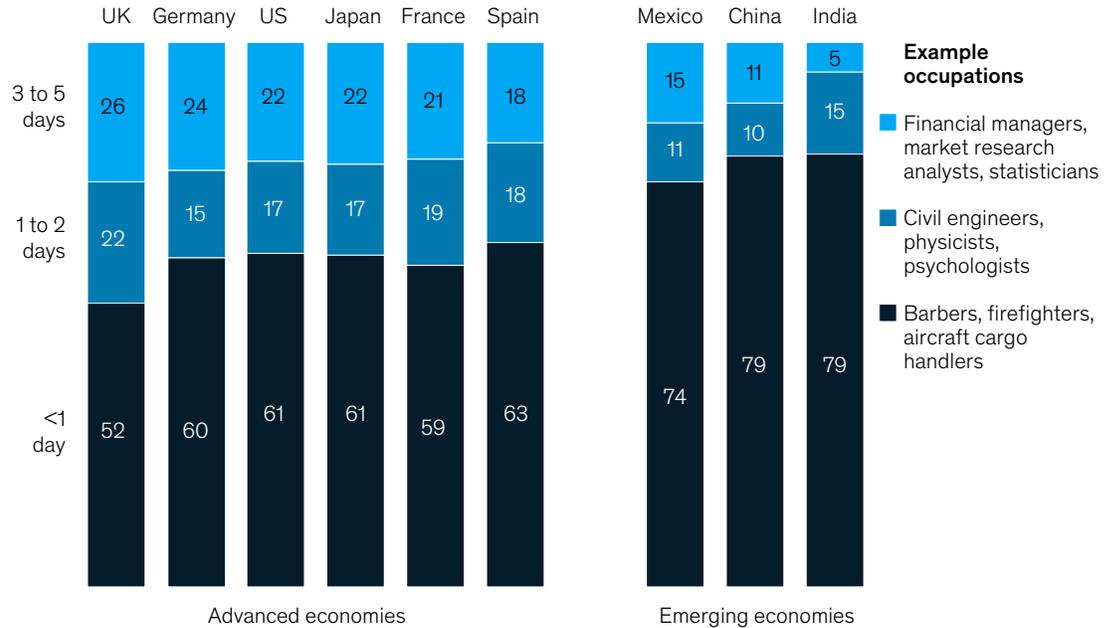
The ability to work remotely also depends on the need to use specialized equipment. According to our analysis, a chemical technician could work remotely only a quarter of the time because much of her work must be done in a lab housing the equipment she needs. Among healthcare occupations, general practitioners who can use digital technologies to communicate with patients have a much greater potential for remote work than surgeons and x-ray technicians, who need advanced equipment and tools to do their work. Thus, among health professionals overall, the effective remote work potential is just 11 percent.

Even for the same activity, the context in which a job is done matters. Consider the activity “analyzing data or information,” which can be done remotely by a statistician or financial analyst but not by a surveyor. Crime scene analysts and workers who analyze consumer trends both engage in what O*NET describes as “getting, processing, analyzing, documenting and interpreting information,” but the former must go to the location of, say,

Exhibit 4

While the majority of the workforce cannot work remotely, up to one quarter in advanced economies can do so three to five days a week.

Workforce with remote-work potential by number of days per week, % of 2018 workforce
 Number of days per week of potential remote work without productivity loss (effective potential)¹



Note: Figures may not sum to 100%, because of rounding.
¹The effective potential includes only those activities that can be done remotely without losing effectiveness. Model based on more than 2,000 activities across more than 800 occupations.
 Source: McKinsey Global Institute analysis

a murder while the latter can do his work in front of a computer at home. A travel agent can calculate the cost of goods or services from a kitchen table, but a grocery clerk does that from behind a counter in a store.

And then there are jobs that require workers to be on-site or in person more than four days a week. Due to the physical nature of most of their work activities, occupations such as transportation, food services, property maintenance, and agriculture offer little or no opportunity for remote work. Building inspectors must go to a building or construction site. Nursing assistants must work in a healthcare facility. Many jobs declared essential by governments during the pandemic—nursing, building maintenance, and garbage collection, for example—fall into this category of jobs with low remote work potential.

This mixed pattern of remote and physical activities of each occupation helps explain the results of a recent [McKinsey survey of 800 corporate executives](#) around the world. Across all sectors, 38 percent of respondents expect their remote employees to work two or more days a week away from the office after the pandemic, compared to 22 percent of respondents surveyed before the pandemic. But just 19 percent of respondents to the most recent survey said they expected employees to work three or more days remotely. This suggests that executives anticipate operating their businesses with a [hybrid model](#) of some sort, with employees working remotely and from an office during the workweek. JPMorgan already has a plan for its 60,950 employees to work from home one or two weeks a month or two days a week, depending on the line of business.



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Hybrid remote work has important implications for urban economies

Currently, only a small share of the workforce in advanced economies—typically between 5 and 7 percent—regularly works from home. A shift to 15 to 20 percent of workers spending more time at home and less in the office could have profound impacts on urban economies. More people working remotely means fewer people commuting between home and work every day or traveling to different locations for work. This could have significant economic consequences, including on transportation, gasoline and auto sales, restaurants and retail in urban centers, demand for office real estate, and other consumption patterns.

A McKinsey survey of office space managers conducted in May found that after the pandemic, they expect a 36 percent increase in worktime outside their offices, affecting main offices and satellite locations. This means companies will need less office space, and several are already planning to reduce real estate expenses. [Moody's Analytics predicts](#) that the office vacancy rate

in the United States will climb to 19.4 percent, compared to 16.8 percent at the end of 2019, and rise to 20.2 percent by the end of 2022. A survey of 248 US chief operating officers found that one-third plan to reduce office space in the coming years as leases expire.

The impact of that will reverberate through the restaurants and bars, shops, and services businesses that cater to office workers and will put a dent in some state and local tax revenues. For example, REI [plans to sell off its new corporate headquarters](#) before even moving in and instead begin operating from satellite offices. In contrast, [Amazon recently signed leases](#) for a total of 900,000 feet of office space in six cities around the United States, citing the lack of spontaneity in virtual teamwork.

Nor is residential real estate immune from the impact of remote work. As tech companies announced plans for permanent remote work options, the median price of a one-bedroom rental in San Francisco dropped 24.2 percent compared to a year ago, while in New York City, which had

roughly 28,000 residents in every square mile at the start of 2020, [15,000 rental apartments were empty](#) in September, the most vacancies in recorded history. Conversely, bidding wars are breaking out in suburbs and smaller cities as remote workers seek less harried, less expensive lifestyles and homes with a room that can serve as an office or gym—though it is unclear how successful companies will be with workers scattered in far-flung locales.

Remote workers may also shift consumption patterns. Less money spent on transportation, lunch, and wardrobes suitable for the office may be shifted to other uses. Sales of home office equipment, digital tools, and enhanced connectivity gear have boomed.

Whether the shift to remote work translates into spreading prosperity to smaller cities remains to be seen. Previous MGI research in the United States and Europe has shown a trend toward [greater geographic concentration of work](#) in megacities like London and New York and high-growth hubs, including Seattle and [Amsterdam](#). These locales have attracted many of the same type of younger, highly educated workers who can best work remotely. It remains to be seen whether the shift to remote work slows that trend, or whether the most vibrant cities remain magnets for such people.

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Organizations will have to adjust their practices to capture potential productivity gains from remote work

Is remote work good for productivity? Ultimately, the answer may determine its popularity, especially given the [long period of waning labor productivity](#) that preceded the pandemic. So far, there is scant clarity—and widespread contradiction—about the productivity impact. Some 41 percent of employees who responded to a McKinsey consumer survey in May said they were more productive working remotely than in the office. As employees have gained experience working remotely during the pandemic, their confidence in their productivity has grown, with the number of people saying they

worked more productively increasing by 45 percent from April to May.

With nine months of experience under their belts, more employers are seeing [somewhat better productivity](#) from their remote workers. Interviews with chief executives about remote work elicited a mixed range of opinions. [Some express confidence](#) that remote work can continue, while others say they see few positives to remote work.

One impediment to productivity may be connectivity. A researcher at Stanford University found that [only 65 percent of Americans surveyed said they had fast enough internet service](#) to support viable video calls, and in many parts of the developing world, the connectivity infrastructure is sparse or

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nonexistent. Developing digital infrastructure will require significant public and private investment.

For women in particular, remote work is a mixed blessing. It boosts flexibility—not needing to be physically co-located with fellow workers enables independent work and more flexible hours—as well as productivity, with less time wasted commuting. Yet remote work also may increase gender disparity in the workplace, exacerbating the regressive effects of COVID-19. The female workforce in many economies is more highly concentrated in occupational clusters like healthcare, food services, and customer service that have relatively low potential for remote work. Previous MGI research on gender parity found that jobs held by women are 19 percent more at risk than jobs held by men simply

because women are disproportionately represented in sectors most negatively affected by COVID-19.

Some forms of remote work are likely to persist long after COVID-19 is conquered. This will require many shifts, such as investment in digital infrastructure, freeing up office space, and the structural transformation of cities, food services, commercial real estate, and retail. It also risks accentuating inequalities and creating new psychological and emotional stresses among employees, including from isolation. For most companies, [having employees work outside the office](#) will require reinventing many processes and policies. How long before someone invents the virtual watercooler?

Susan Lund and **Anu Madgavkar** are partners of the McKinsey Global Institute, where **James Manyika** and **Sven Smit** are co-chairs and directors. The authors would like to thank Olivia Robinson, Gurneet Singh Dandona, and Alok Singh for their contributions to this article.

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