



# THE THROUGH-THE-LOOKING-GLASS RECOVERY

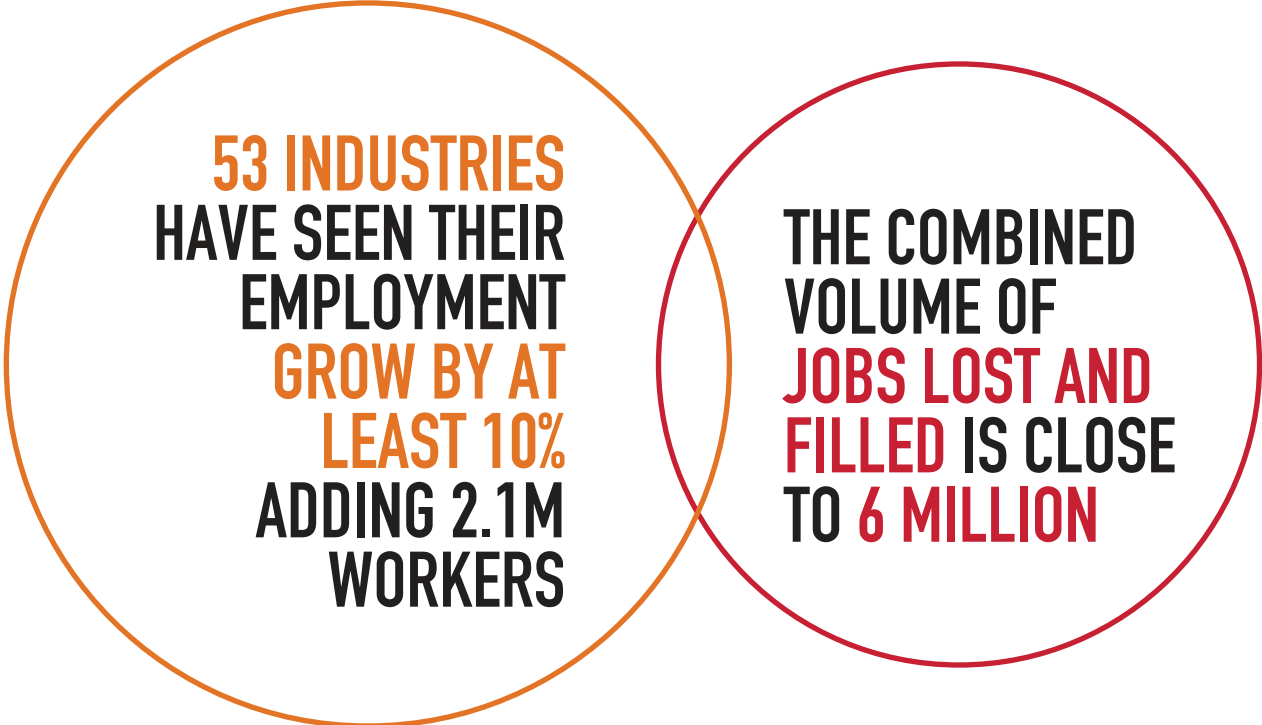
**NEW, COMPLEX DYNAMICS** IN THE U.S. ECONOMY **SUGGEST THAT  
EMPLOYMENT IN SOME INDUSTRIES WON'T COME BACK** FROM THE PANDEMIC

# OVERVIEW

A **permanent shake-up** of U.S. industries is underway. While the economy sustained massive, near-instantaneous employment loss in the early days of the pandemic, **the job market has now returned to 99% of its prior strength** after just two years, far faster than the job market has recovered from past shocks. But **the economy we have returned to isn't the same** one we left behind. Today's resurgence belies seismic shifts in the landscape of employment, with job openings in a broad range of sectors and occupations significantly – and in some cases permanently – ahead or behind where they were at the start of 2020. **It is as if we woke up after a long sleep to find a world not destroyed but distorted**, much as Alice in Lewis Carroll's *Through the Looking-Glass*.

**On the one hand, 53 industries have seen their employment grow by at least 10%, together adding 2.1 million workers.** This group of surging industries includes technology, engineering, science, and manufacturing. On the other hand, **about 100 industries, which comprised 15% of total employment pre-pandemic, have lost more than 10% of their jobs, representing a net decline of 3.5 million jobs.** 26 months into the pandemic, these struggles continue. **Nearly one in six U.S. industries has still not recovered from a jobs decline of 10% or more.** Sectors as diverse as commercial banking, accommodations, bus and rail travel, and department stores are experiencing serious, often accelerating declines.

**Taken together, the combined volume of jobs lost and jobs filled – of people either leaving work in one industry or taking a job and contributing to the growth of another – is close to 6 million.** A survey of occupations shows a similar pattern, with declines in occupations closely associated with the struggling sectors, and climbing numbers for occupations that support the growing industries.



**53 INDUSTRIES  
HAVE SEEN THEIR  
EMPLOYMENT  
GROW BY AT  
LEAST 10%  
ADDING 2.1M  
WORKERS**

**THE COMBINED  
VOLUME OF  
JOBS LOST AND  
FILLED IS CLOSE  
TO 6 MILLION**

# WHAT'S BEHIND THESE CHANGES?

**SIX NEW SECULAR TRENDS** AT WORK IN THE ECONOMY ARE EACH HAVING A MAJOR IMPACT ON EMPLOYMENT.

## STRUCTURAL

Four trends appear to be **structural**; their emergence represents a set of changes that will last beyond the current crisis, permanently reshaping what jobs are available:

### ■ GROUNDING OF BUSINESS TRAVEL

The grounding of business travel has led to steep declines in employment in hotels, conference services, rail and bus transportation, and travel booking.

### ■ WORK/HOME HYBRID

The work/home hybrid has had a major impact on employment across a range of sectors from dry cleaning and downtown restaurants to commercial real estate and janitorial services.

### ■ ONLINE SHOPPING

Online shopping has skyrocketed, leading to a surge in jobs related to e-commerce but leaving brick and mortar retail employment in the dust.

### ■ DIGITAL MODES OF INTERACTION

Industries, consumers, and employers have wholly embraced digital modes of interaction, accelerating employment growth in sectors like software, online publishing, and systems design but driving down hiring in traditional media, telecoms, market research, and others.

## CYCLICAL

Two other trends are more likely **cyclical in nature**. The industries involved may well return to an earlier state over the course of the next year or two:

### ● MORE GOODS AND FEWER SERVICES

Consumers purchased more goods and fewer services. When you're stuck at home, you buy goods. But now that we're back out and about, demand for services is already growing, and employment in consumer goods will cool.

### ● PUBLIC HEALTH EMERGENCY

A public health emergency bore out in healthcare employment. A surge in mental health industries will likely persist; diagnostic and pharmacological industries may slow; nursing homes should recover, in time.

It is notable that these employment shifts have been precipitated not by economic malaise but by changes in consumer and business behavior of unprecedented rapidity. As such, the **overall recovery stands in sharp contrast to the recoveries that followed the last two recessions**, the dotcom bust and the Great Recession. Unlike in those recessions, neither automation nor offshoring has yet had a major impact on employment. The combination of severe labor shortages, considerable wage inflation, and the possibility of a recession could conspire to change this equation, reshaping the market further.

It will be important for educators, employers, policymakers, and workers to understand these changes. First, in a **job market that, in sum, is almost fully recovered**, there can still be significant displacement. At the same time, even when the workforce has returned to its prior size, these changes suggest that **present shortages are likely to persist**. Put together, these changes **increase the level of mismatch between supply and demand** that has long been at play in the job market. The implications are significant for where industry can find talent, for which training programs are needed and which are no longer relevant, and for what kinds of support workers may still need in an unusual economy.

# TAKING STOCK OF THE CHANGES

This briefing uses an analysis of employment and occupation data **from 2017 to 2022** to understand the largest job effects of the pandemic upheaval. It unpacks the **choices and interactions of consumers, workers, and employers**, studies employment changes in the databases of the Bureau of Labor Statistics, and uses data from Emsi Burning Glass to undertake **an analysis of over 115 million U.S. job postings to identify changes in occupations across the economy.**

**THE CHANGES UNDERWAY  
IN THE MARKETPLACE AND THE  
ECONOMY HAVE THEIR ROOTS IN  
AN ARRAY OF COMPLEX FACTORS  
DRIVEN BY THE PANDEMIC,  
IN WHICH CONSUMERS,  
WORKERS, AND EMPLOYERS  
EACH PLAY A MAJOR PART.**

As a result of the pandemic, **consumers significantly changed their behavior and spending patterns.** In myriad ways, they have moved daily life online: they have accelerated their online shopping, and moved deeply into telebanking, telehealth, and online education. In addition, consumers have shifted their spending from discretionary services to discretionary goods, and stepped up the demand for health services, especially mental health.

Workers play a specific set of roles as consumers. They now spend less time and money on commuting to work, and continue to spend less time in the office, even as many businesses re-open. As a result of spending more time at home, they are spending more money on their homes and home offices. Because they now spend so much less time in professional contexts, many workers have changed their wardrobes, and have been spending less time and money on how they look. After two years of living so differently, there is uncertainty regarding whether two or three years from now, consumers will revert back to their pre-pandemic behavior. Our analysis leads us to conclude that **many of these changes are lasting.**

**Workers have also experienced a moment of relative power in the jobs market,** with employers desperate to meet consumer demand and increasingly willing to raise wages and allow for increased workplace flexibilities to which workers became accustomed in the pandemic.

Employers are making permanent changes, too. Industries across the economy reacted to changes in consumer spending with a **massive investment**

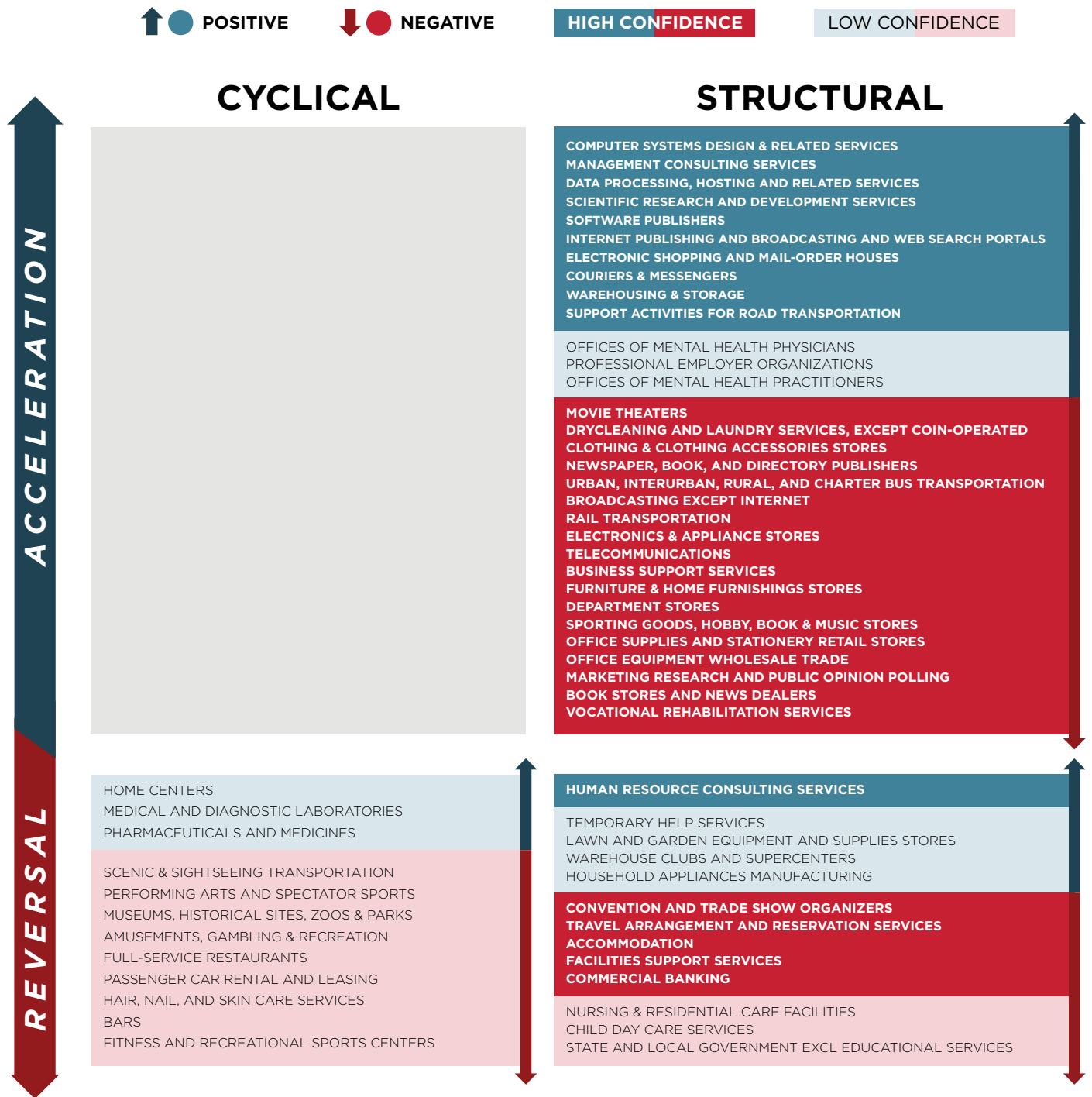
**in their ability to conduct business online.** They have also taken advantage of the digital transformation of consumer sectors by eliminating many in-person customer service jobs. As a result, **employers have permanently reduced the number of jobs in multiple industries,** including commute related transportation, business travel related industries, in-person retail, in-person customer service occupations, office maintenance, and many others.

The pandemic has permanently increased the number of jobs in technology and home delivery-related industries and occupations. Other changes may not be so lasting. Over the course of the pandemic, there has been a dramatic change in the number of jobs in in-person discretionary services, manufacturing and transportation of goods, and mental health. But it is unclear if these changes will be permanent.

In many cases, the changes in the employment landscape that have borne out over the last two years **have been a long time in the making** – not altogether new but **greatly accelerated by the pandemic.** The shift to online shopping, just like the decline of the movies, was already underway. However, **in many other sectors, the changes represent a significant reversal in fortune.** For example, HR consulting services were in decline before the pandemic, but employers now need help navigating uncharted workforce dynamics. By contrast, the convention and accommodation industries were both booming coming into the pandemic, spurred by a growing level of business travel; the subsequent collapse in employment in both sectors seems to be permanent.

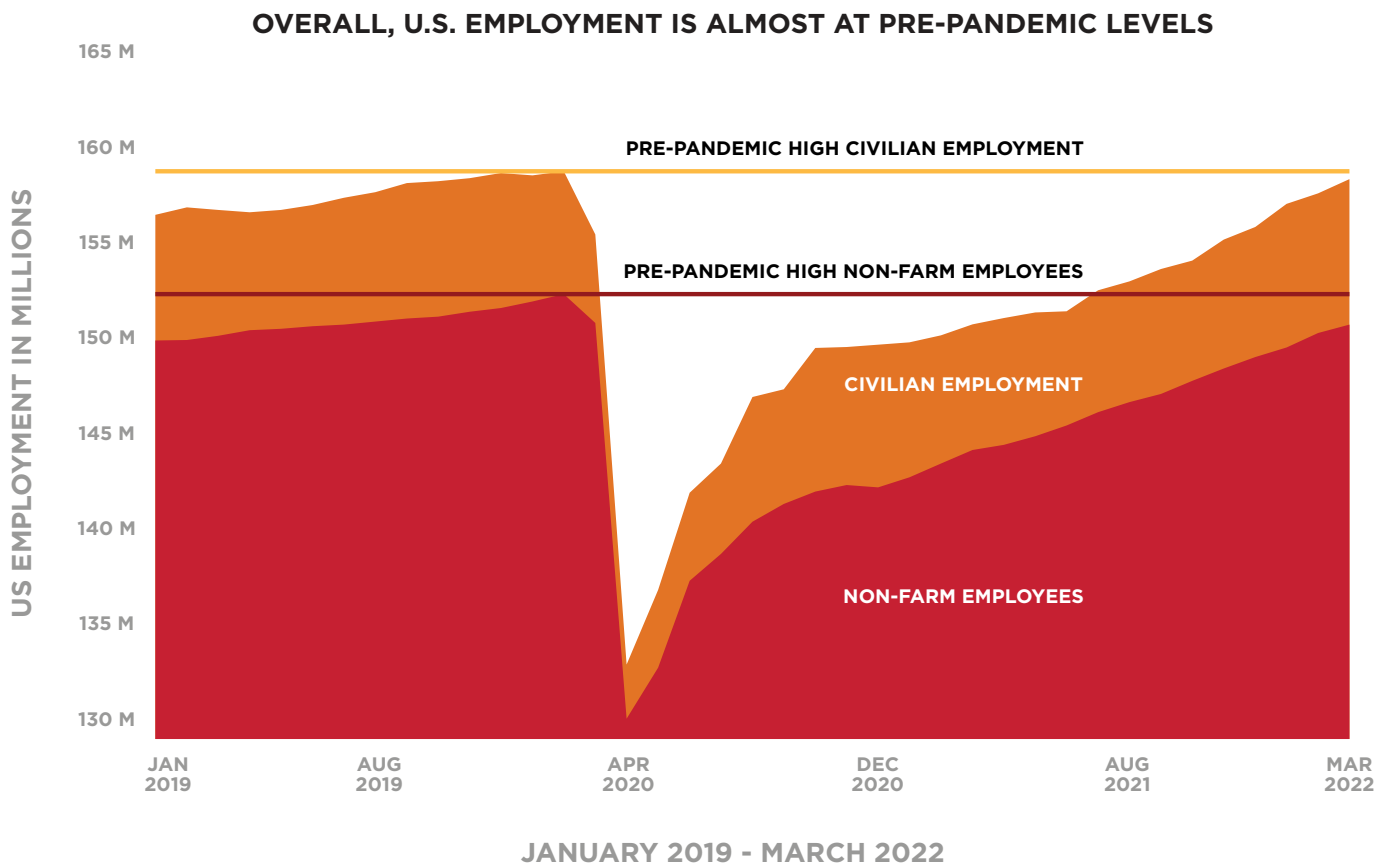
**Figure 1 maps changes in sectoral employment based on two key factors:** which are **structural vs. cyclical**, and which represent **an acceleration of prior trends vs. a reversal in fortune**. Much is still unknown. To show the degree of confidence we feel about our predictions, those with a **high level of confidence appear in bold**; those with a **lower level of confidence appear unbolded**.

**FIGURE 1:** Tracking changes in employment **based on market dynamics:** Some will persist over time while others are likely cyclical; some represent an acceleration of prior trends, some reflect a reversal



# A RAPID RECOVERY THAT IS NOT UNIVERSAL

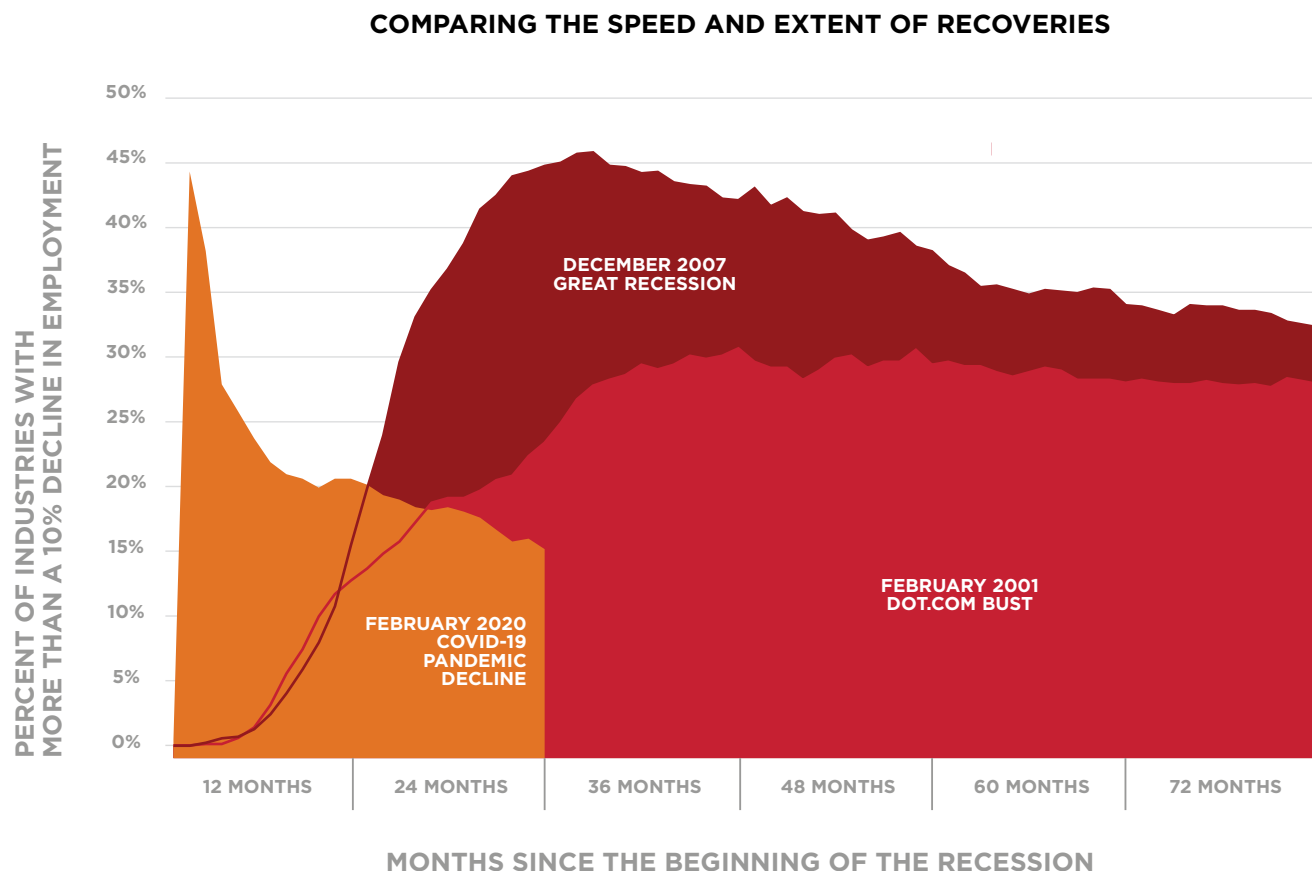
Overall, as indicated in **Figure 2**, after a historic shock, **employment in the US is largely back to pre-pandemic levels.**



**FIGURE 2:** Overall, U.S. Employment is Returning to Pre-Pandemic Levels

However, to develop a fuller picture of both the extent of the pandemic's job market impact and the overall strength of its recovery, it is illuminating to draw a comparison with the two major economic crises of the recent past. In the pandemic, **nearly half (45%) of all industries sustained losses of 10% or more**, vastly outpacing the jobs losses of the dotcom bust in 2001 and matching the scale of job losses in the Great Recession (Figure 3).

**FIGURE 3:** Comparing the Impact on Industries of the Dot.com Bust, the Great Recession, and the Pandemic Decline



On the surface, the comparison shows that the **current recovery is unfolding far faster and more comprehensively than was true in either prior jobs crisis.** For example, six years into the Great Recession, fully a third of U.S. industries still struggled with a 10% or greater decline in employment. By contrast, this time, **twice as high a percentage of industries have recovered in one-third the time.** (Figure 3) Another reason for the rebound is that major sectors – including manufacturing, computer, engineering, and science-related industries – have dramatically exceeded the pace of their recoveries in prior downturns, and in many cases, have accelerated the pace of their growth. The wave of growth in these industries substantially contributed to overall national jobs gains.

However, seen in another light, these data are sobering. Fully **one in six U.S. industries continues to struggle** with a workforce that has been, in a literal sense, decimated: **reduced by 10% or more** in a matter of months, and **failing to recover** over a period of more than two years. Since neither widespread automation of jobs nor significant increase in offshoring activity has been at play, these losses cannot be explained by employer efforts to reduce costs, and must instead be understood as **signaling fundamental change in these industries.**

# STRUCTURAL CHANGES ARE HERE FOR THE LONG HAUL

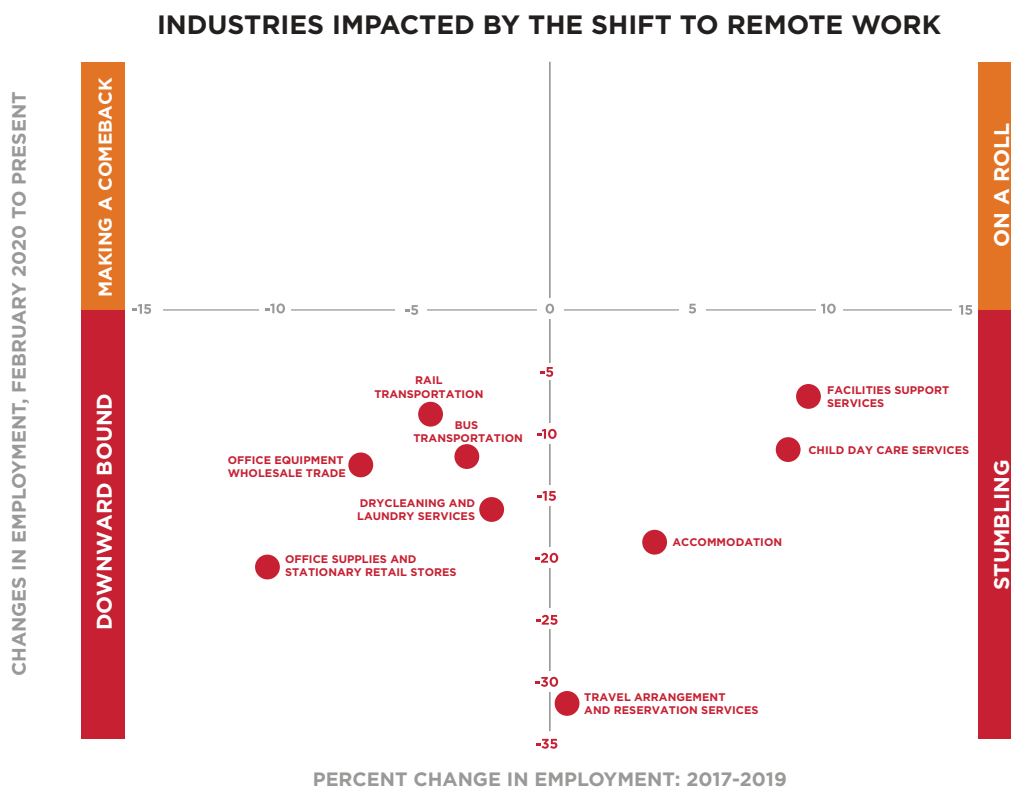
Four major trends appear to be driving changes that will endure, **making permanent, structural alterations** in the economy.

## ZOOM! BUSINESS TRAVEL GETS GROUNDED

The pandemic forced employers and workers to abandon the well-established norm of traveling frequently to get business done. Early on in the pandemic, both within companies with multiple locations, and in business dealings between companies and clients, workers in many industries made a **rapid pivot to remote work**, and quickly showed how effectively they could both collaborate and compete through video conferencing technologies. This immersion in online and remote work, initially treated as a necessary stopgap during an unusual period of transition, rapidly transformed people's experience of how effective workplaces are shaped. It also **challenged long-held assumptions about the level of in-person interaction required** for a range of activities, from internal brainstorming meetings to client sales presentations. Forced by public health restrictions to shut down virtually all business travel, many industries have discovered over the course of the past two years that their use of **video tech and virtualization tech has so deeply permeated their ordinary business practice** that they can maintain their much-reduced levels of business travel with few downsides. Add to this the view of the worker: in a recent national survey of workers who have experience with remote working, **39% stated that they would not engage in future business travel** under any circumstances.<sup>1</sup>

This transformation of the business travel paradigm has led to **steep declines in employment in many business travel-related fields**. Convention and trade show organizers are down 47% since the start of the pandemic, travel arrangement and reservation services sank 33%, and accommodation went down 16%; bus (-12%) and rail (-9%) transportation both experienced significant decline. Looking forward, we see little evidence that the pre-pandemic level of business travel will return. We predict, with a high level of confidence, that **these five industries** – whose prospects are closely linked with the business travel sector – will be **unable to return to their pre-pandemic employment** levels by 2025.

**FIGURE 4:** The shift to remote work has accelerated industry declines



<sup>1</sup> "For Business Travel, a 'Return to Normal' Will Never Happen," Linda Roeschke, Morning Consult, November 2021



## THE HOME/WORK HYBRID IS HERE TO STAY

Remote work is also transforming commuting and the workplace. Just as business travel dropped precipitously in the past two years, so, too, did commuting and the use of traditional office space. During much of 2020 and 2021, millions of people who were daily commuters stopped going in to the office altogether, and vast amounts of office space went unused for prolonged periods of time. While many families chafed at the loss of child care as that industry contracted, flexible home-based working schedules allowed some families to cope with less child care in ways that may be sustainable over time.

The trend of increased home-based working life continues. Even as restrictions on congregating and working in common spaces are reduced and some employers are encouraging a return to the office, many workers maintain a remote work or hybrid arrangement that significantly cuts back on their time commuting and working in a central office. Current talent shortages are exacerbating this. On the one hand, **employers are increasingly open to sourcing talent wherever they can find it**, without regard to geography. On the other, in a seller's market, **workers have acquired new-found power and aren't shy about demanding flexibility in work arrangements.**

At the early stages of the pandemic, many believed that a rapid return to the old pattern of office-based work and commuter-driven employment would reassert itself soon. That has not happened, and instead, both employers and workers have two years of experience with alternatives. It turns out that both **companies and employees like a lot of these changes and want to keep them. Companies and industries have extended the home-based working practices of many employees because productivity is sufficient, costs are reduced, and workers demand them.**

The effects of these developments have been to **reduce employment in multiple industries that depend on the office-based business model.**

With many fewer people using offices, all of the **systems to support those workers and sustain those facilities have been dialed back.** The facilities support services industry (office and building cleaning and maintenance) grew by 9% between 2017 and 2019, and then declined by 7% over the first two years of the pandemic. Bus transportation was down 13% from 2017 to 2019 and rail transportation was down 8%. Dry-cleaning and laundry services plummeted over 30% in the first year of the pandemic, and its two-year decline is 27%, showing very weak prospects for recovery.

Another industry that went from growth to decline over the past four years is **commercial building.** Growing by 8% in the two years leading up the pandemic, it **has dropped by 4%** in the past two years. As the reduced use of commercial real estate by multiple industries and sectors persists, and increasing abandonment of the traditional office-based economy seems ever more likely, jobs in the commercial building industry face an acutely uncertain future.

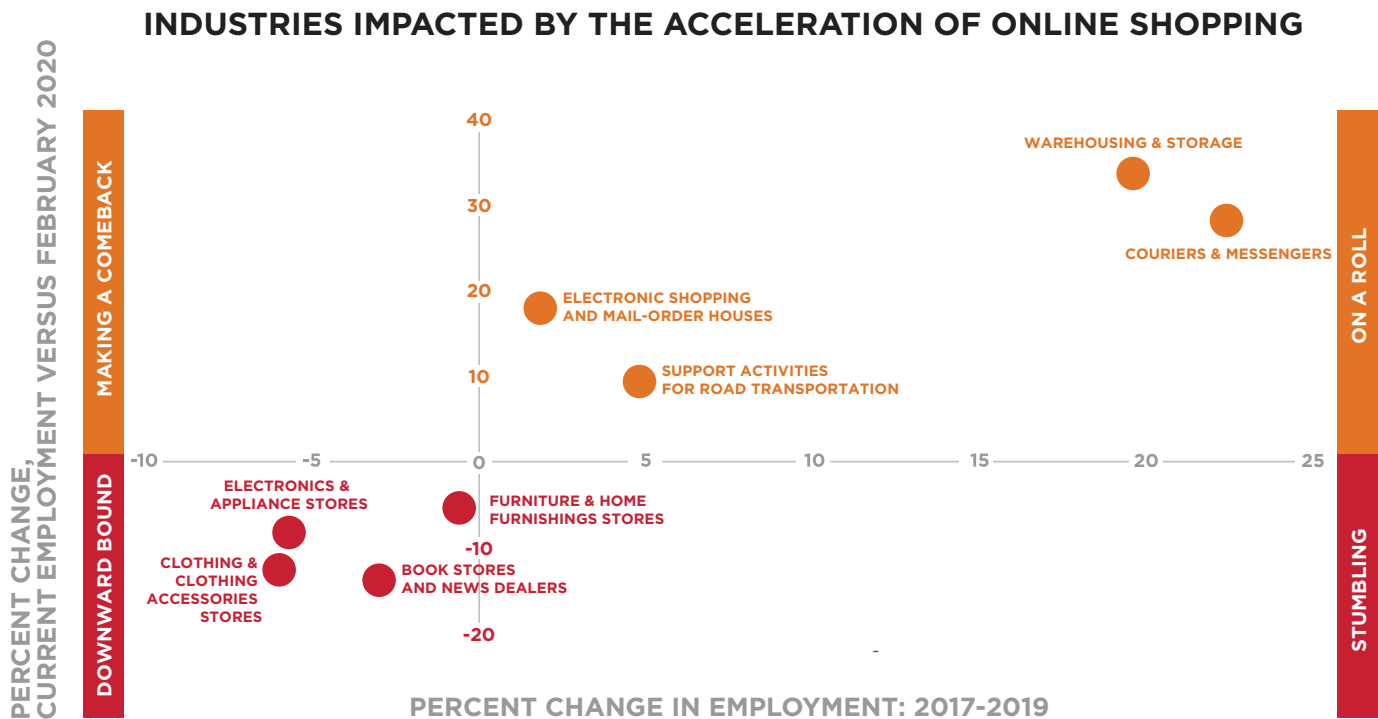
In the coming three years, we predict that **none of the industries which have seen significant decline** – commercial building, facilities support services, bus and rail transportation, and dry cleaning and laundry services – **will return to their pre-pandemic level of employment.** We also predict that this trend away from office work will **reduce spending on food around offices, complexes, and commercial zones.** There may also be a reduced demand for child care in the long term, if a fraction of home-based working families find they require less child care support. Further, as people spend more time working from home, they will need less office attire, which could affect clothing industries. The commercial building and real estate industries face large questions about their futures, and could face major reductions in their employment numbers. These changes very clearly have the **potential to drive a lasting transformation** of the U.S. workplace and economy.

# THE FALL OF THE MALL

For years, economists and forecasters have predicted the demise of the in-person, retail shopping sector, based on the expectation that the steady growth of online shopping in the past decade would persist, and inevitably overtake the brick-and-mortar shopping experience. The pandemic appears to have contributed to this pattern in several industries. Even though retail sales had recovered and surged well beyond pre-pandemic levels by February 2022 – **retail sales adjusted for inflation are 14% above pre-pandemic levels** – this was clearly due to the historic growth of the online retail economy. As evidence, we note that the **courier and messenger industry grew 28%** and **warehousing and storage grew 34%** in the two years since February 2020, reflecting the huge investments required to meet the package delivery and storage demand of an online purchasing surge unlike anything in our past.

As impressive as the growth numbers for deliveries and warehousing are, they are not the main story here. What has outstripped all other industries, in terms of a rate of employment growth in a sector, is the online shopping industry itself. That’s because, as hard as it is to remember, online shopping – what’s officially referred to as the electronic shopping and mail order house industry – had been stuck in place before the pandemic, growing at a rate of only 2% from 2017 to 2019 even as courier industry employment grew by 22% and warehousing and storage grew by 20%. In other words, the recent high growth of courier and storage industries, though impressive, is just the continuation of a trend, whereas the **18% growth posted in online shopping during the pandemic represents a nine-fold increase over the prior two-year period.**

**FIGURE 5:** Online shopping cuts jobs in some industries and rapidly expands jobs in others

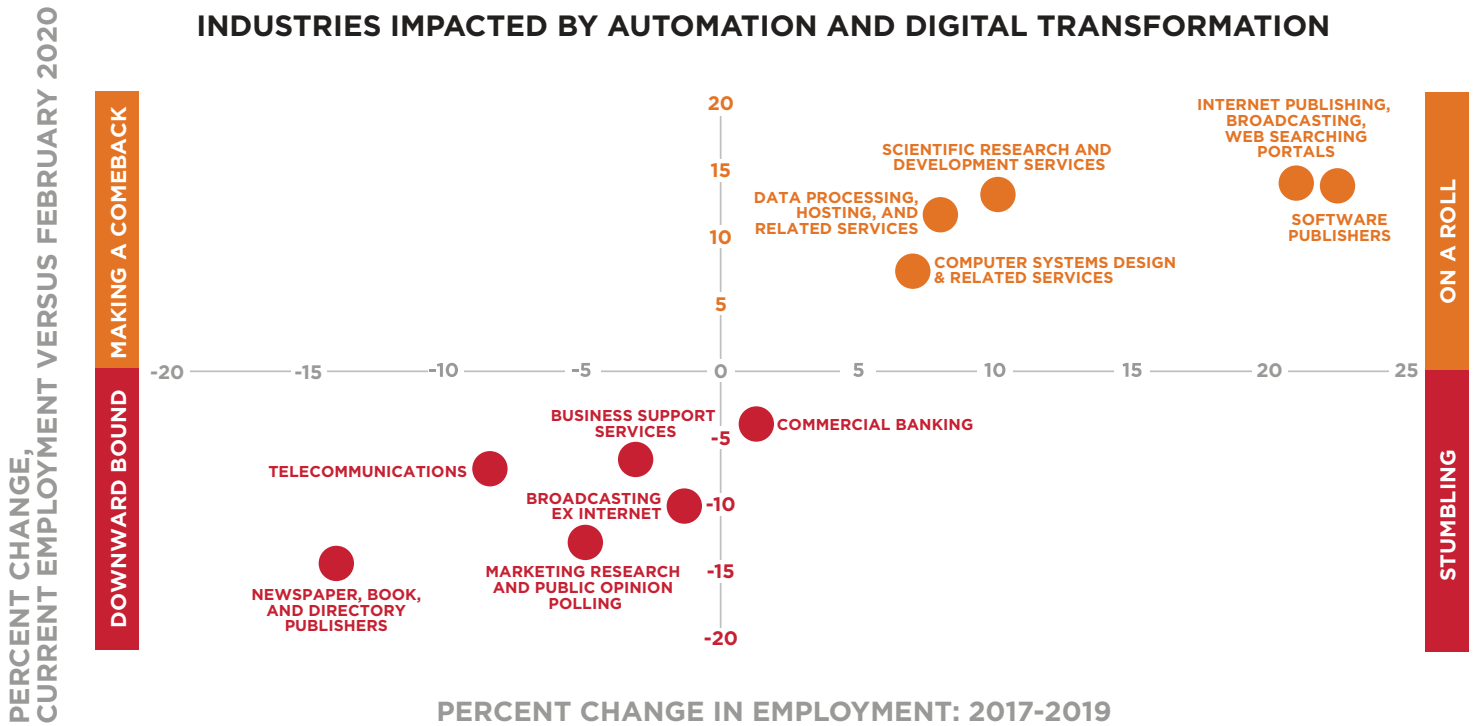


The **brick-and-mortar retail** industries, by contrast, have **sustained substantial declines**, and do not appear to be making a recovery that will return them to their former position. In malls and Main Street shops across the country, not surprisingly, many industries experienced decline in the past two years, and employment is still well below pre-pandemic levels. Clothing and accessories store employment was down 13% over the 25 months ending in March 2022, electronics and appliance store jobs fell 8%, and book stores and news dealers were down 14%. We predict that none of them will return to their pre-pandemic employment levels by 2025.

# THE EMBRACE OF TECH IS TOTAL, BUT THE DRIVE FOR AUTOMATION IS NOT, YET

The pandemic has greatly accelerated the shift to online activity and the transformation of business and consumer practices. **This speedy digital transformation, which would otherwise have taken years, has driven industries that were already on the rise, but that have positively soared in the past two years.** Industries riding this wave include online shopping and payments, cloud computing services, cyber security, business-related software, social media, online advertisement, and on-demand entertainment content.

**FIGURE 6:** New levels of digital immersion accelerated decline and growth in industries: those doing well did even better, those struggling declined further



**Longer term trends of internet penetration** – like the decline in the number of workers in industries such as newspaper publishing, TV and radio broadcasting, telecommunications carriers, and advertising – **accelerated during the pandemic.**

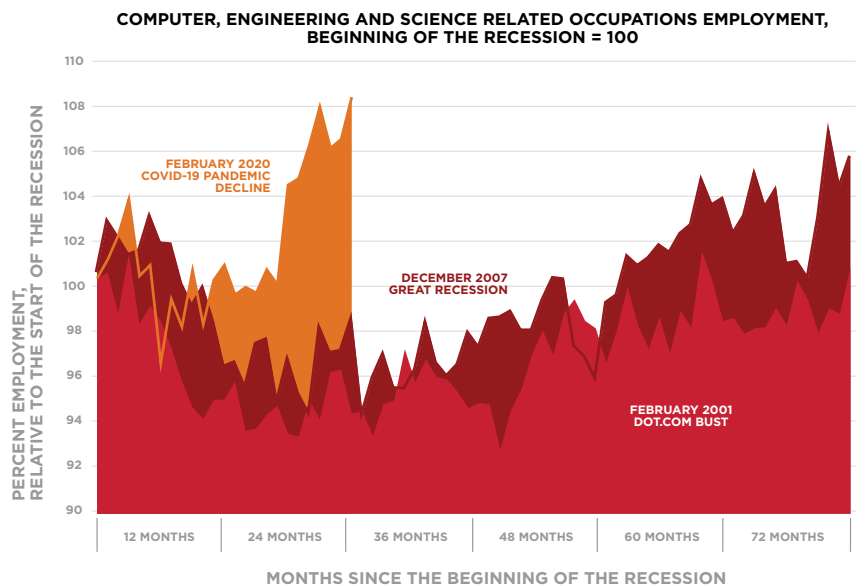
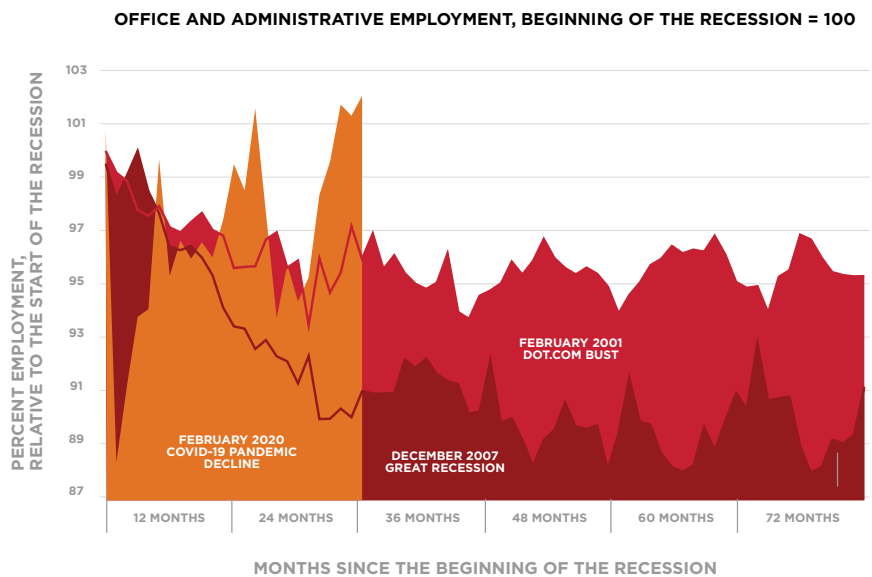
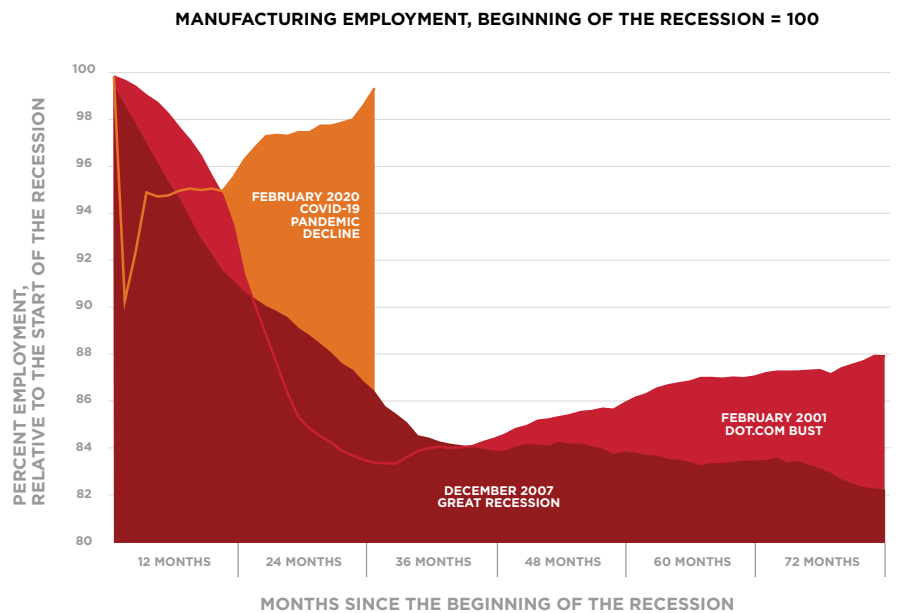
Across the gamut of industries, **the pandemic drove many functions to shift online** -- including food services, health care, banking, and higher education -- both accelerating a pre-existing trend, and responding to consumer demand. This has led to the reduction of many in-person customer services positions such as commercial banking tellers and reservation ticket agents, as consumers are increasingly comfortable with online resources and online assistance.

It is useful to note that **neither automation nor the offshoring of jobs** – large factors in prior economic crises – **has played a significant role in the pandemic-driven economic downturn and recovery.** Two reasons for this are that the pandemic-induced recession was short and

historic sums of public funding were available to shore up the economy; as a result, many employers hoped for, and experienced, a quick and full recovery. They were not forced to reduce labor costs. Much of the automation in recent decades took place in the throes of extended recessions, with greatest impact in the manufacturing sector and among office and administrative occupations. In the previous two recessions, reductions in these job types were an important reason why employment in many industries did not fully recover. This time seems to be different, at least so far. Compared to the 1995-2010 period, **it is much harder today to replace workers with technology,** as many workforces have already been rendered lean, and workers are functioning with very high levels of productivity.

How this will play out should the economy shift into recession over the coming months remains to be seen. Greater focus on labor efficiency could further reshape the job market and drive changes throughout.

**KEY SECTORS – INCLUDING MANUFACTURING OFFICE AND ADMINISTRATIVE, AND COMPUTER, ENGINEERING, AND SCIENCE RELATED OCCUPATIONS – RECOVERED FASTER AND GREW MORE THAN IN PRIOR RECESSIONS.**



**Figure 7:** Key Sectors Recovered Faster and Grew More than in Prior Recessions

# CYCLICAL CHANGES

## SIGNAL LIKELY RETURNS TO EARLIER CONDITIONS

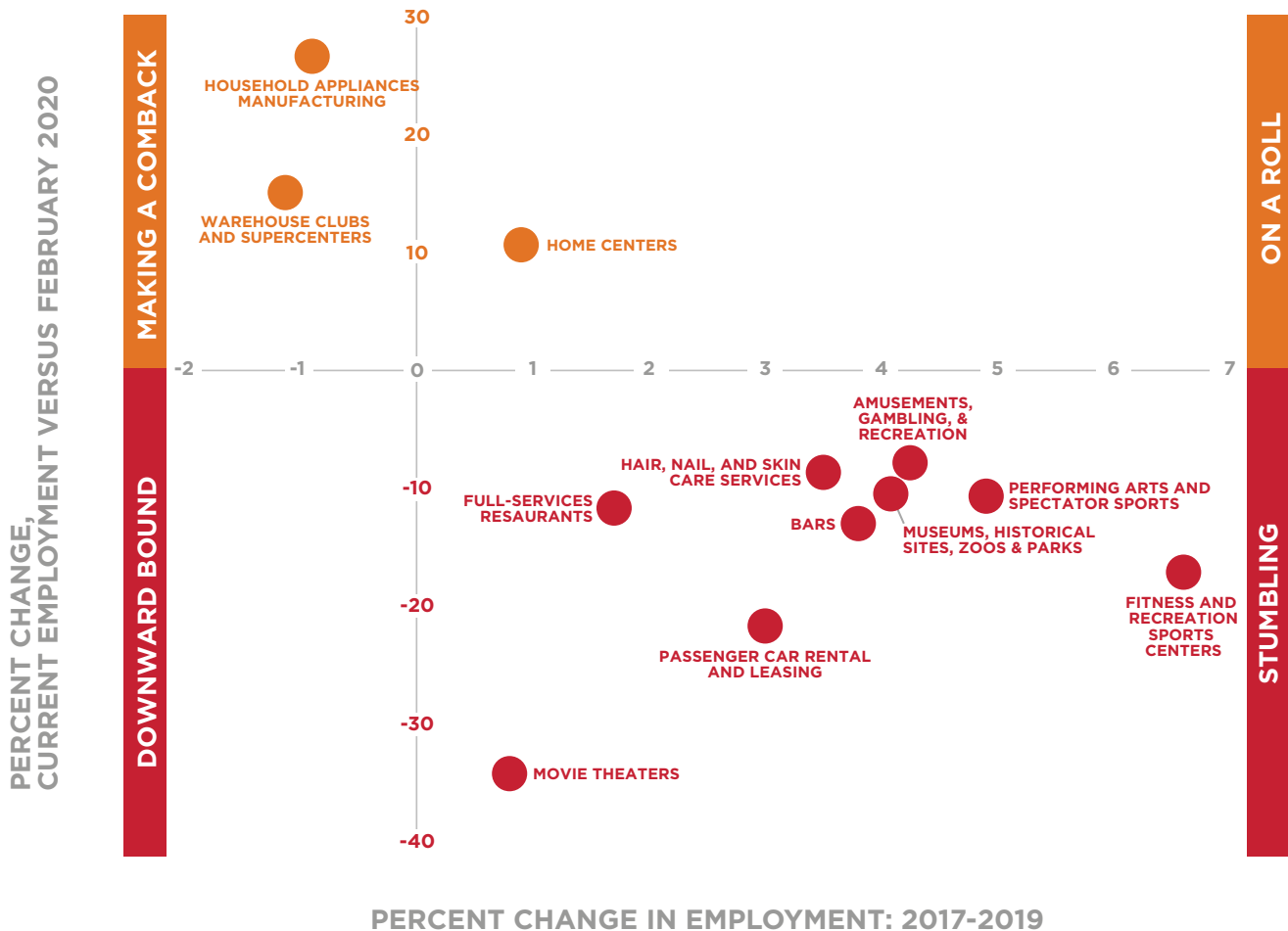
### FROM SERVICES TO GOODS... AND BACK?

The surge of industries tied to the sale of goods was **driven by the high ongoing consumer activity of the pandemic**. It was also **fueled by a simultaneous drop of spending on services** – a natural development given that many services were unavailable or unappealing amidst pandemic-related health concerns. While some of these trends may prove to be lasting, it would seem **likely that demand for many services will return** to prior levels. Even though the combination of a possible new recession and surging inflation may depress consumer spending overall, **consumer services have more space to recover**. **By contrast, there is a natural ceiling on consumer goods demand**. After all, if you bought a new refrigerator during the pandemic, you're not likely to be on the market for another one anytime soon.

One change may remain permanent. The pandemic forced all of us to spend more time at home and, correspondingly, to spend more dollars on our home environment. If this new focus on nesting has come to be a permanent change in mindset, consumers may continue to prioritize spending on home related goods.

**FIGURE 8:** Many service industries declined during the pandemic, while industries supporting the sales of goods grew

### INDUSTRIES IMPACTED BY THE SHIFT FROM SERVICES TO GOODS



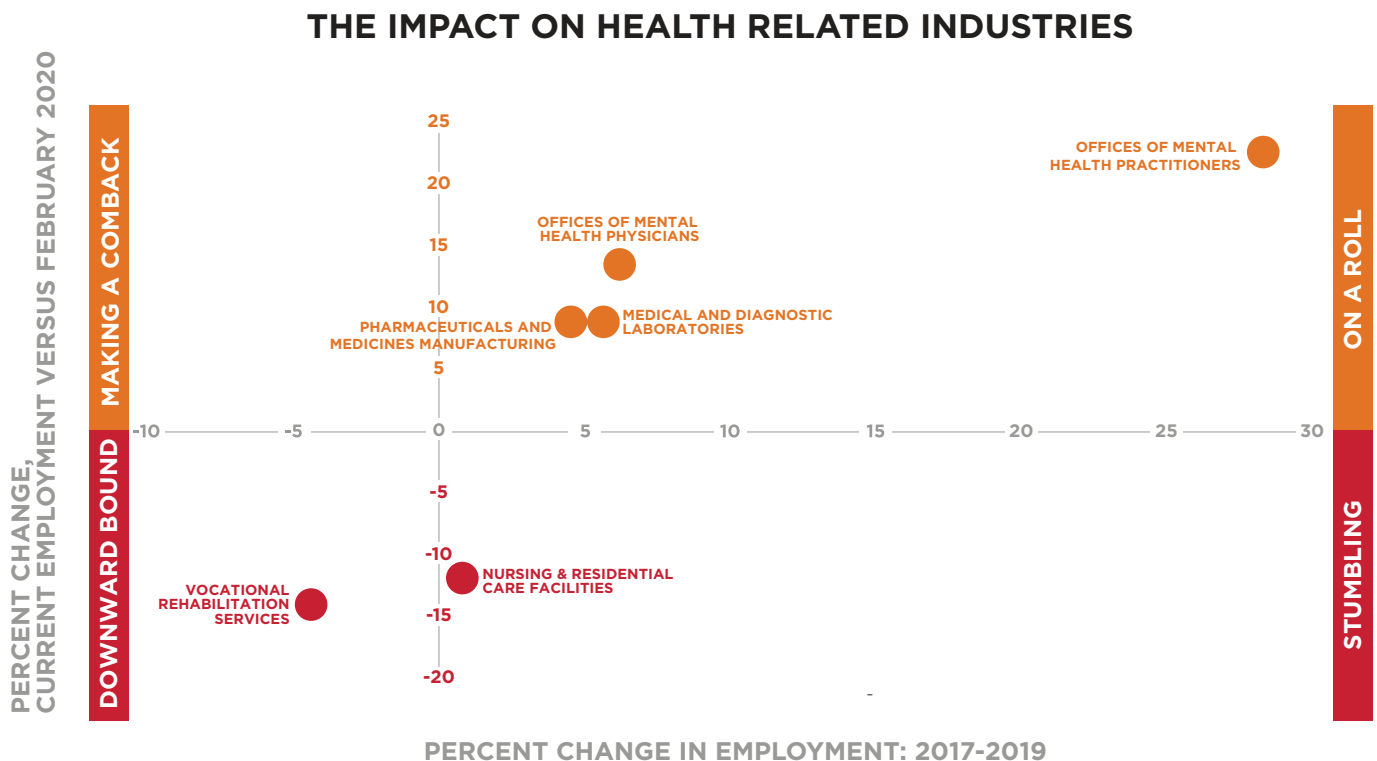
# A PUBLIC HEALTH EMERGENCY CHANGED OUR DEMAND FOR HEALTHCARE

The pandemic has led to changes in our use of some healthcare services. Not surprisingly, **employment in diagnostic labs and in pharmaceutical manufacturing is up** significantly. It's unclear if such changes will be sustained over the long haul, however, as the pandemic ultimately wanes.

At the same time, the pandemic precipitated a surge in demand for mental health services. We expect this change to last, as the experiences of the past two years, including increased high visibility self-disclosures and advocacy by public figures dealing with mental health challenges, have left more Americans open to seeking help.

Employment in **nursing and residential care and in vocational rehabilitation has seen steep declines** amidst public health concerns. With so much media attention given to the wave of deaths in nursing homes especially during the early days of the pandemic, employment in these sectors **could be slow to recover** despite the positive demographics of a rapidly aging population.

**FIGURE 9:** In the health sector, mental health and laboratory industries grew, while nursing homes and vocational rehabilitation services plummeted

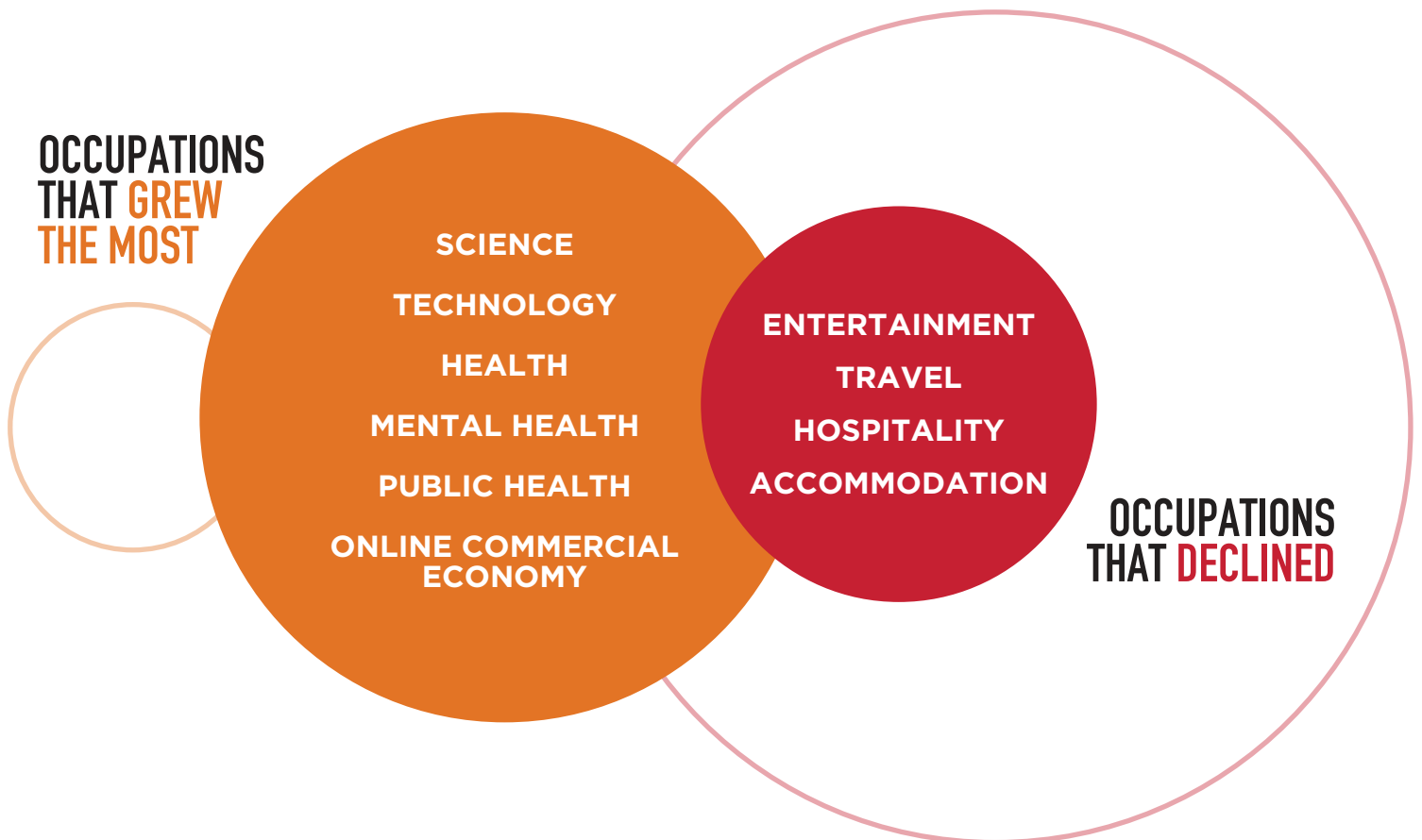


# DECLINES AND GROWTH IN OCCUPATIONS MIRROR SECTORAL CHANGES

Because government statistics do not provide timely, granular data on occupations, the Institute examined the data from Emsi Burning Glass on 115 million job postings from the period 2019 through 2021 in order to compute the percentage change in numbers of online job postings during that period.

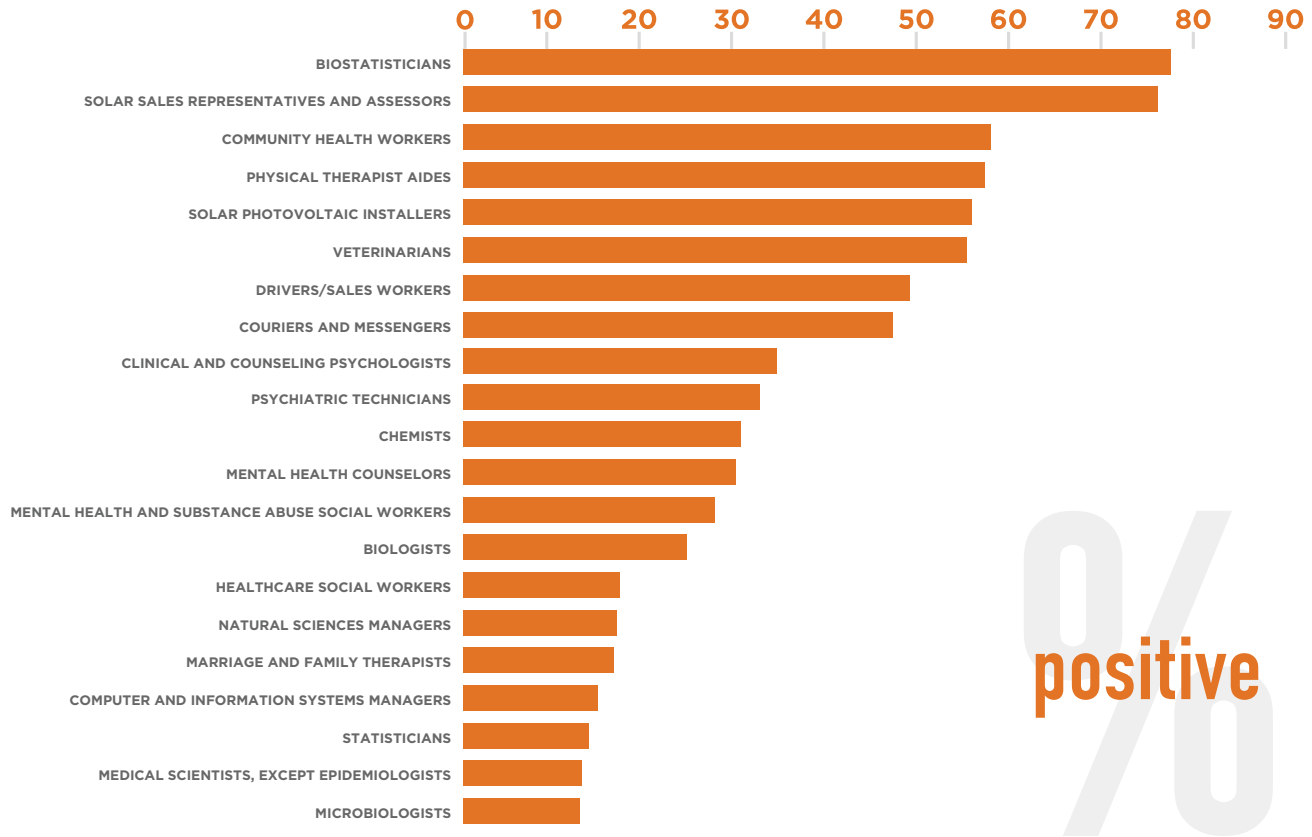
The occupations that **grew the most through the first 22 months** of the pandemic include key roles in **science, technology, health, mental health, public health and the online commercial economy**, all areas in which one or more industries also grew, sometimes substantially. The **growing occupations include solar sales people and technicians, biostatisticians, counselors, veterinarians, and couriers and messengers.**

**Occupations that declined** during this period concentrate in **entertainment, travel, hospitality, and accommodation-related fields.** A cluster of office and administrative occupations also show steep declines – from legal secretaries to data entry keyers to telephone operators between 2019 and 2021. That’s notable because Figure 7 shows that Office and Administrative jobs are surging, but upon closer examination, that surge takes place entirely in 2022, a period not covered by the occupations tables of Figure 10. This late surge in jobs makes sense: many recovering industries, in multiple sectors, require increased office administrative supports to function at a higher capacity.

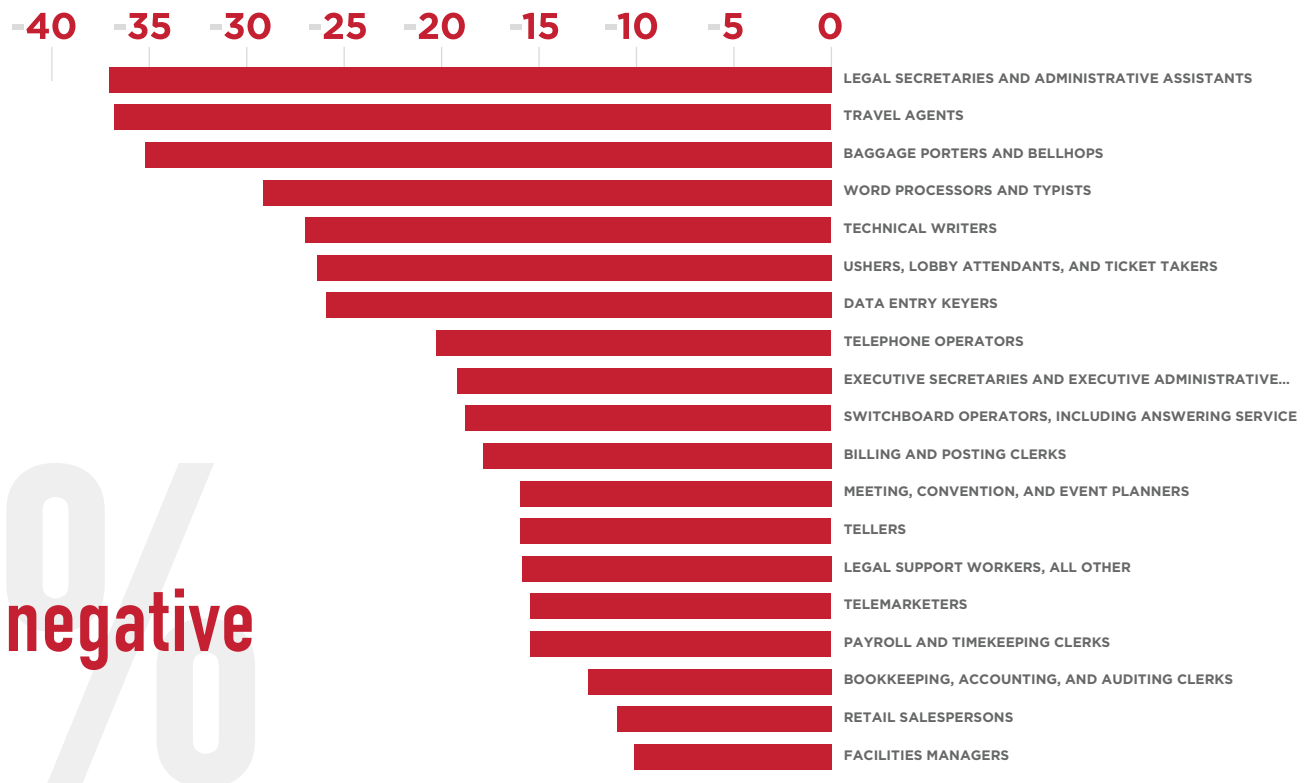


**FIGURE 10:** Occupation growth and decline from 2019 to 2021 mirrors that of industries

**PERCENT CHANGE IN OCCUPATION SHARE 2019-2021**



**PERCENT CHANGE IN OCCUPATION SHARE 2019-2021**





# CONCLUSION

**The post-pandemic job market is back to full strength, but it will never return to its prior shape.** The changes chronicled in this report have impacted millions of workers and yet, for the most part, haven't been comprehensively tracked. Many of **these changes represent the acceleration of prior trends while others represent dramatic reversals.** Understanding how significant they are and whether they are likely to be permanent will be **critical to minimizing labor market mismatches – and the corresponding human toll they exact** – at a time already rife with acute talent shortages. **Educators need to respond** by realigning the mix of programs they offer to accord with this new landscape of opportunity. **Employers should work proactively** to build talent pipelines for points of surging demand while looking to displaced workers to identify untapped sources of talent. And **policymakers must recognize** the needs of both workers and industry as both constituencies seek to master a new physics. Unlike Alice in “Through the Looking-Glass,” **we aren't going to wake up and find that this has all been a dream. The new job market is altered but vibrant.** With a clear awareness of its contours, we can better collaborate to make it one that works for all.

**THE NEW  
JOB MARKET IS  
ALTERED BUT  
VIBRANT**



Situated at the intersection of learning and work, The Burning Glass Institute advances data-driven research and practice on the future of work and of workers. We work with educators, employers, and policymakers to develop solutions that build mobility, opportunity, and equity through skills.

## AUTHORSHIP

**GAD LEVANON, Chief Economist, The Burning Glass Institute**

**MATT SIGELMAN, President, The Burning Glass Institute**

## ACKNOWLEDGEMENT

The authors would like to thank Emsi Burning Glass for providing access to real-time job postings data, and Andrew Bundy of Community Matters for serving as the project editor. Our thanks as well go to Amanda Antico of EvolvED for being so generous with her counsel and time. We are grateful to Samantha LaCour of EvolvED for her exceptional design work and consummate professionalism.

## CONTACT

**[RESEARCHCENTER@BURNINGGLASSINSTITUTE.ORG](mailto:RESEARCHCENTER@BURNINGGLASSINSTITUTE.ORG)**

**[HTTPS://WWW.BURNINGGLASSINSTITUTE.ORG](https://www.burningglassinstitute.org)**