

Megatrends in a Post-COVID World

A grounded, data-driven exploration of the
true impact of the coronavirus

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Introduction

Around the world, COVID-19 has transformed everyday ways of living. Societies globally have altered how they shop, gather, and work, trading in human interactions for digital ones and adopting new precautionary behaviors. As these short-term changes to society and the economy become more familiar, COVID-19's long-term consequences remain unknown. While some believe the novel coronavirus may carry positive change for the planet, others fear the enduring social and economic repercussions.

Amidst this uncertainty, almost every company we have spoken with has expressed desire in gaining clarity on future predictions. One oft-repeated maxim is that the current crisis is simply accelerating trends that were already in place previously. In this paper, we will deep dive three megatrends that were in place prior to COVID-19 and hope to better assess its likely long-term impacts. We will look at **1. Urbanization, 2. Globalization, and 3. Digitalization.**

Rather than a traditional White Paper exposing proven methodologies, this work will serve as a position piece. These positions are informed by diligent research into existing data and credible coverage of current events, but are not to be treated as absolute predictions. We do not have a crystal ball. We would enjoy hearing your thoughts on this report and its contents and encourage you to reach out to the authors listed.

COVID Effect			Impact
<div>1. Rapid Urbanization</div> <div></div>	1.1	Departure from cities	Attitudes towards city living will change & growth may slow, but urbanization will continue.
	1.2	Changes in urban mobility	Decrease in public transit use will shift preferences & cause increase in private car sales.
	1.3	Work from home preferences	Office use may change with growth in WFH flexibility, causing drop in commercial real estate.
<div>2. Globalization</div> <div></div>	2.1	Slowing globalization	COVID-19 will accelerate “slowbalziation” trend, impacting developing countries most.
	2.2	Shifts in supply chains	Shifting focus from cost reduction to risk reduction will lead to consumers absorbing additional costs.
	2.3	Globalization of data	The growth of globalization of data & info will accelerate, increasing international collaboration.
<div>3. Digital Transformation</div> <div></div>	3.1	Acceleration of tech advances	New industries will emerge as technology proves able to solve problems highlighted by COVID.
	3.2	Growing acceptance of tech	Greater adoption of technology will lead to advances in R&D, realizing long-term efficiencies.
	3.3	Jobs lost due to automation	Front-of-house and manual labor jobs will increasingly be transitioned to machines.



1. Rapid Urbanization

The past few decades have witnessed mass migration to cities, with >80% of annual GDP generated in major urban areas. **Today, 55% of the global population lives in cities, with this number projected to grow to 68% by 2050.** As urban destinations grow in popularity, megacities (or cities with more than 10M people) demonstrate unique appeal. In 1990, there were 10 megacities, which comprised 7% of the urban population. By 2010, 12% of the urban population was dispersed across 23 megacities, and by 2030, BlackRock predicts that there will be 43 megacities across the globe, housing 14% of the urban population.

However, we know that COVID’s high transmission rate has transformed these megacities into hot spots for contagion. New York City saw the highest number of cases and deaths in the United States, and **if NYC were a country, it would have the 7th highest infection rate.** Human interaction is an inescapable feature of urban life— most city-dwellers rely on public transportation and elevators to bring them to their apartments. Given this necessity for high-touch living, it is valuable to understand how COVID-19 will affect the next decade of urbanization.

Share of the Population Living in Cities (%)

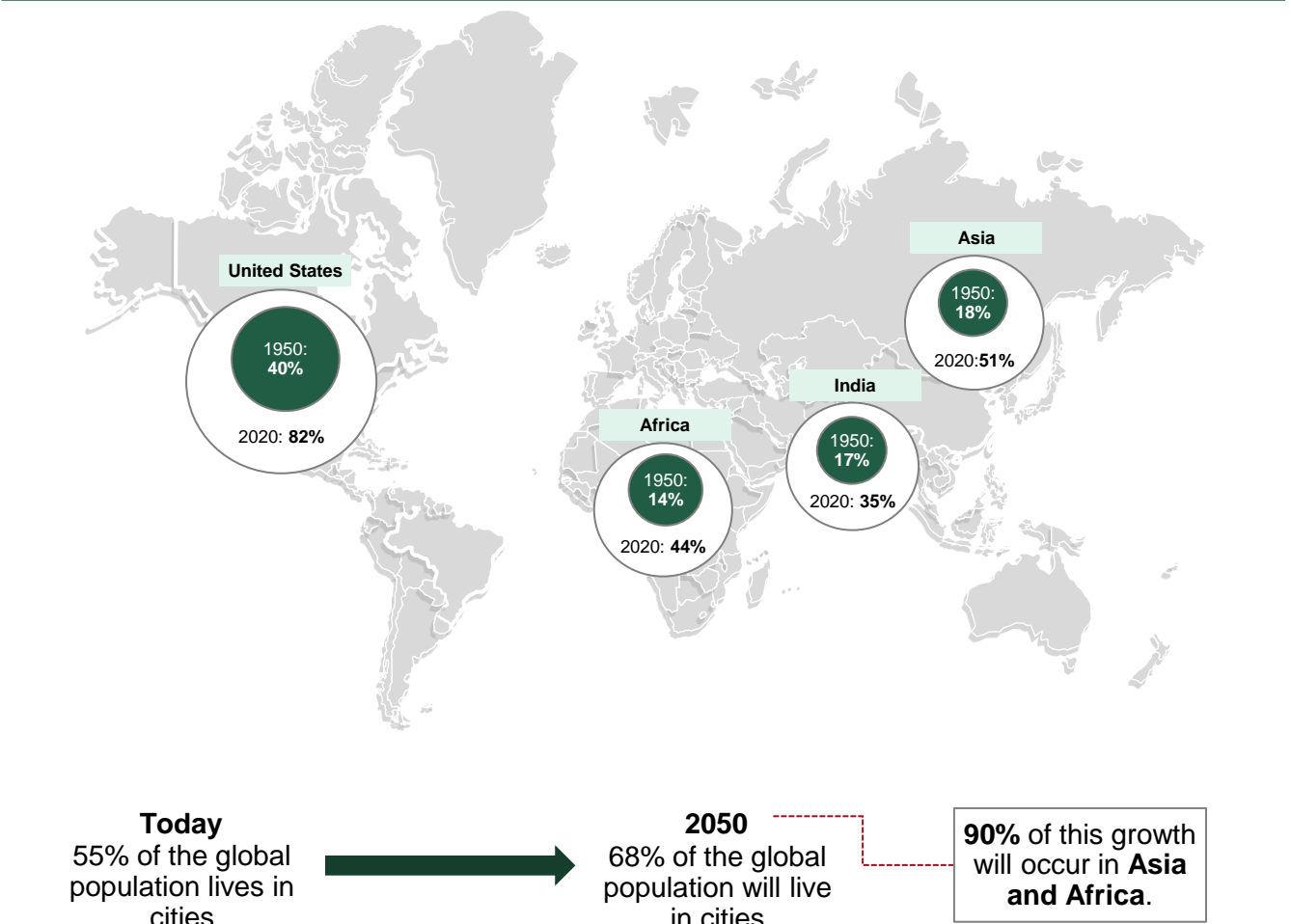


Figure 1: Share of population living in cities. Source: UN World Urbanization Prospects, 2018



1.1 We will see some level of deurbanization, but holistically, cities will not lose their allure and popularity

In a survey conducted by *The Harris Poll*, **nearly 40% of respondents said they have already considered moving to less densely populated areas of the country** due to the fear and anxiety the COVID-19 pandemic, as well as potential future pandemics, has stoked. While this 40% figure is quite jarring and major cities were already experiencing slight stagnation before the coronavirus pandemic, there will not be massive deurbanization for two main reasons.

Has the COVID-19 crisis caused you to consider moving to a less densely populated area of the country?, % Yes

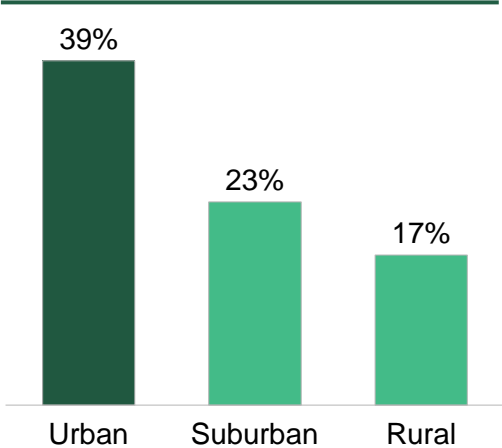


Figure 2: COVID-19 effects on moving.
Source: The Harris Poll

First, **humans are quick to forget disaster**. Historical pandemics like the 1918 Spanish Influenza and SARS, as well as major events like 9/11, reveal a short human attention span for tragedy. While there will be a temporary drop in newly executed leases and longer summers spent at family homes away from city centers, populations are expected to remain in their urban homes as life begins to normalize.

Second, **voluntary deurbanization is class-prohibitive**. High moving costs associated with broken leases and narrowed employment opportunities make relocation inaccessible to lower-earning socioeconomic groups, which makeup the majority of urban populations. Although post-COVID cities will appear and operate in new ways, particularly for demographics reeling from the economic impacts of COVID, they will still attract new populations. Urban growth may lag in the short-term, but **widespread urbanization will continue**.

1.2 Urban mobility will suffer in the short-term, and government organizations will be required to re-think the daily operations of public transportation

Because coronavirus is highly transmissible it will also cause unique disruptions to high-traffic systems like public transportation. Due to minor human outflow from cities and increased fear of transmission, **public transit usage has observed a steep decline**. In some places like where outbreaks were quickly managed, people have been slow to return to pre-pandemic ridership activity. For example, Japanese citizens are experiencing aversion behavior despite low death rates, resulting in an **89% decrease in ridership**. In cities with high rates of infection like London, Madrid, and New York City, **demand remains down 70% or more**.

These shifting attitudes towards public transit also mean change for the auto industry. In the short-term, stay-at-home orders and financial insecurity will cause an **85% decrease in discretionary spending on cars and household durables**, meaning automotive companies will lose out on revenue. However, post-pandemic, this trend will cease, and auto sales will grow. Early research on China shows that in severe outbreak regions (like Wuhan), **66% of people who do not currently own a car plan to purchase one within the next six months**. In major cities where travel involves high-contact activity on systems like subway networks, households with economic flexibility will begin purchasing vehicles to avoid infection risk. For demographics that can afford them, automobiles will hold new allure.



Q2 US consumer spending forecast (q/q, annualized)

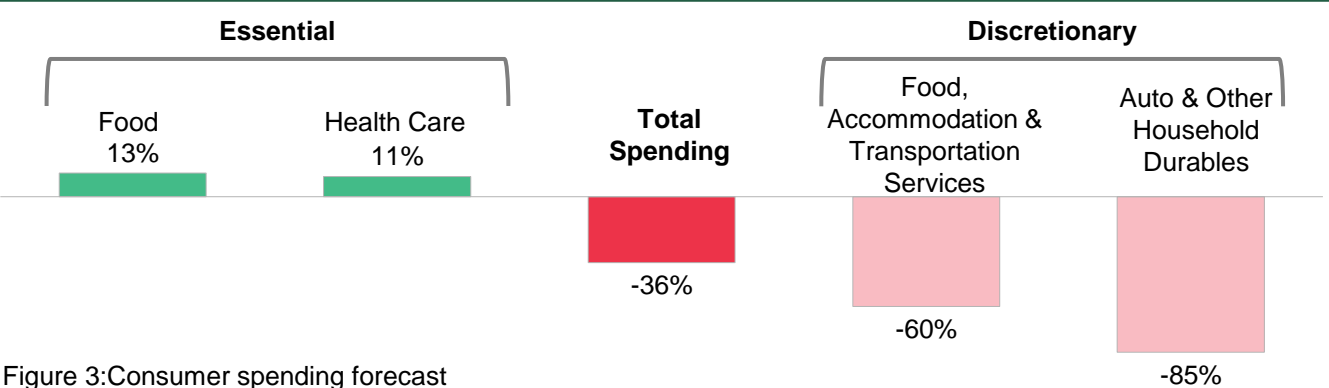


Figure 3: Consumer spending forecast
Source: Deutsche Bank

Fear of public transit will also force governments to reconsider public infrastructure investment. **Low-income populations will remain reliant on public transit**, placing essential workers at risk of infection. In order to preserve efficient mobility for low-wage populations, governments will have to create safe and accessible transit options. While shrinking sales taxes, lower parking fees, and other fiscal constraints may pose challenges to these efforts, governments will pursue infrastructure investments to avoid the greater costs of continued outbreak and an immobilized workforce. Even in the face of decreased infrastructure usage and tightened budgets, investing in transit will allow cities to **prevent disease spread and restore economic activity**.

1.3 Commercial real estate will take a hit from new work from home policies and other COVID-related working preferences

One of COVID's most significant effects has been a **tectonic shift from office work to widespread work-from-home**. Many industries that were never expected to operate from home, such as sales and trading, have been forced to invest in enhanced and more secure online alternatives. Though many workplaces are observing maintained or improved productivity levels, **we believe office spaces will never become extinct**. There will be more flexibility when it comes to work from home requests, specifically for employees who have families or whose commutes are exceptionally long, but no one should underestimate both the power, and social benefit, of co-working. However, the **number and size of offices will be impacted going forward**. Large offices full of individual workstations will be reconsidered in favor of smaller offices designed explicitly for meeting and collaborating.

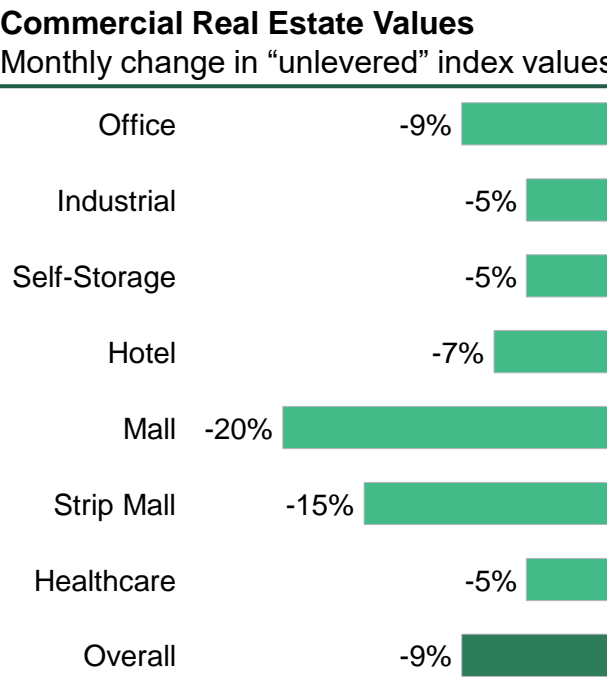


Figure 4: Commercial real estate valuations in April.
Source: Green Street Advisors



With fewer and less spacious leases signed, the commercial real estate industry will be hit hard – **27% of CFOs reported they are planning to reduce their real estate footprint.** Large office buildings may sit partially empty, and the standard 10-year leases will likely be a practice of the past. In April, **commercial real estate valuations were down 9% month over month and 8% overall in the past 12 months.** But commercial real estate firms will not be the only ones to suffer. In many cities, restaurants, coffee shops, and retail businesses will experience catastrophic ripple effects as service and consumption habits change post-virus. Traffic to-and-from the office will decrease, lowering consumption and spending in office districts. Additionally, **real estate taxes are essential to keep cities running** and plan an essential role in operating critical services such as schools, libraries, transportation, and parks. With fewer and/or smaller leases signed, the drop in taxes collected by city entities could be crippling. The downstream effects could mean public schools will become overcrowded and under resourced, or that municipalities will have to explore and implement new tax revenue sources. While there will always be a need for offices, as humans are social beings and work has become increasingly collaborative, the shifting preferences organizations are embracing will alter commercial real estate in the long-term.

2. Globalization

Today, virtually no country exists completely isolated from the world. Due to emerging wealth in developing countries coupled with advancements in communication and technology, the world has moved toward full globalization over the past century. Products, jobs, technology, and information currently flow globally across borders and cultures. However, the breadth of the coronavirus’s reach across industries and countries will usher in a new phase for globalization in the post-COVID era. Key components of a globalized world, like shipping, economies of scale, and capital flows, will remain. However, **new policies, practices, and popular sentiment will change the future of globalization.** The novel coronavirus will affect supply chains as well as social perceptions of what it means to live in a “global world.”

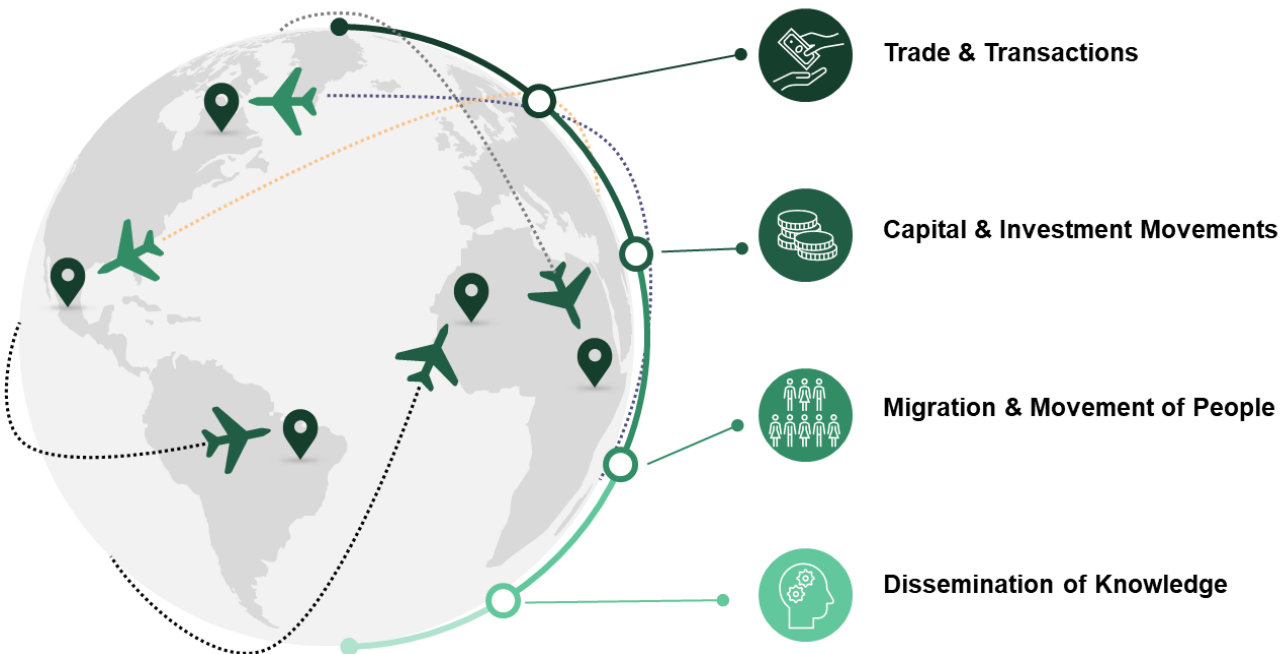


Figure 5: Factors that will be affected post-COVID.



2.1 The pandemic has contributed to the shift away from globalization that was already in progress

The last time globalization peaked was just before the 2008 Great Recession, and world trade has been faltering ever since. Some experts call this **post-recession period “slowbalization,”** in which global trade growth no longer outpaces global output. The **flattening of global supply chains** has contributed to slowbalization, largely due to China’s resolve to develop their industries internally, as well as the recent “America First” mentality.

The pandemic arrived at a time at which globalization was already vulnerable and added to existing troubles with border shutdowns, production halts, and shelter-in-place orders. Accordingly, the **World Trade Organization has forecasted a decline in world trade between 13% and 32% in 2020**, representing a greater dip than the anticipated falls in GDP. In order to protect their industries and populations, countries will implement more “domestic-first” policies, signaling a temporary uptick in protectionism. However, these sentiments will prove unsustainable. As countries are called on to think more seriously about preparedness and future pandemic prevention, protectionist policies will fail to provide the necessary solutions.

Furthermore, **developing countries with export economies will be hurt the most** as more developed countries attempt to deglobalize their operations. Less work will be purchased from developing countries and the resulting job losses will halt the expansion of wealth. **Capital-intensive industries, independent of location, will also suffer with shifting supply chain operations.** Manufacturing organizations of all types will need to rethink their core operations in order to mitigate the impacts of slowbalization.

World Merchandise Trade Volume Index, 2015 = 100

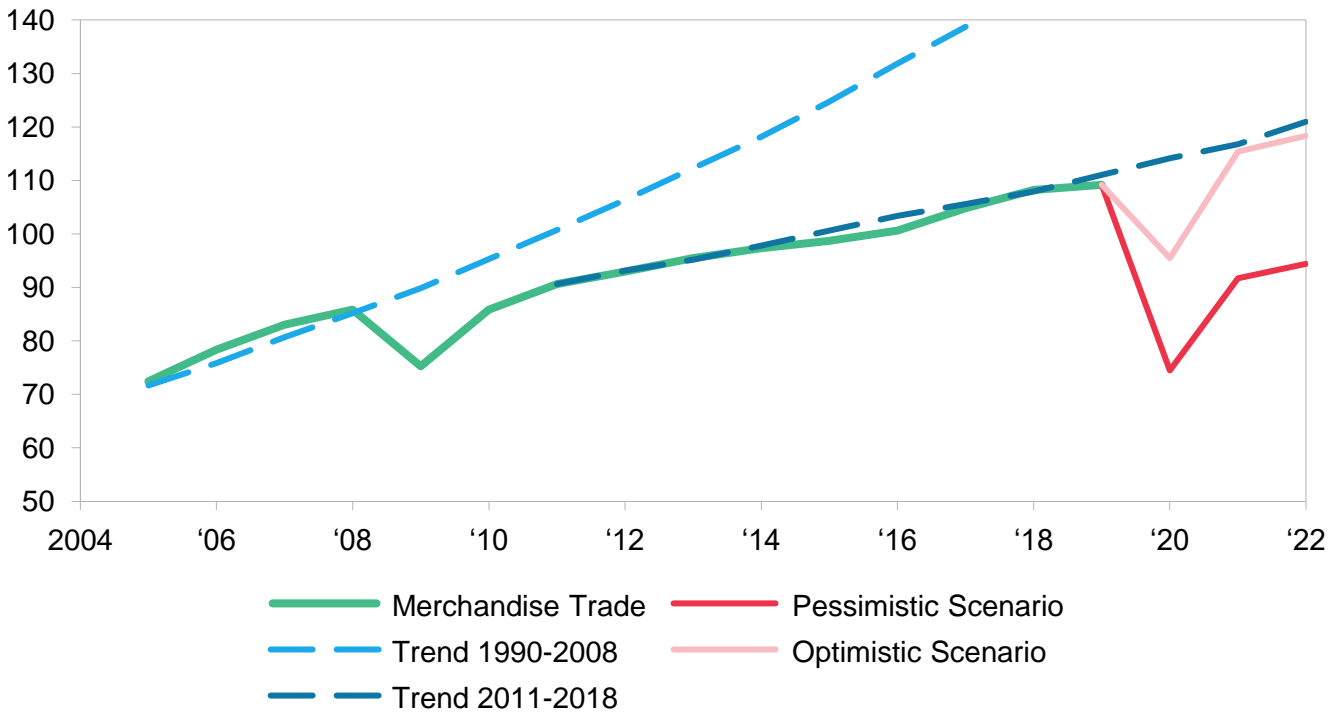


Figure 6: World Merchandise Trade Volume. Source: World Trade Organization



2.2 While many organizations previously focused on achieving cost reductions across the board, attention will now shift to risk reduction, specifically within supply chain operations

Prior to COVID-19, cutting costs was a primary focus for organizations around the world. Key tasks were outsourced abroad and economies of scale were leveraged for lower prices. However, large-scale shutdowns tied to the coronavirus have amplified the harms of these practices as companies try to stay afloat. As a result, organizations will **shift their focus from cost reduction to risk reduction** to enable more proactive postures in the face of future risks – 72% of CFOs indicated that their top priority moving forward will be to achieve **resilience and agility**, which requires better identification and quicker resolution of “single points of failure.” Several strategies will emerge during this shift: onshoring key operations, building a secondary supply base, and rethinking the use of just-in-time supply chains.

There will be an influx in the **onshoring of key points in supply chains**. Spurred by stay-at-home orders, many governments have either shut borders or dramatically altered the in-and-outflow of goods. Heighted geopolitical tensions have also resulted in added tariffs and hostile trading policies, with further escalation possible. Organizations believe that understanding, and controlling, these external risks will better insulate their supply chains from future crises.

Beyond onshoring, a survey of procurement industry leaders conducted by Applied Value found that in the short term, supply chain mitigation strategies will be centered around supplier risk management, changing transportation networks, and increasing safety stock. **63% of those surveyed indicated that a long-term priority moving forward will be building a secondary supply base** to protect against future times of uncertainty.

Long-term supply chain strategies

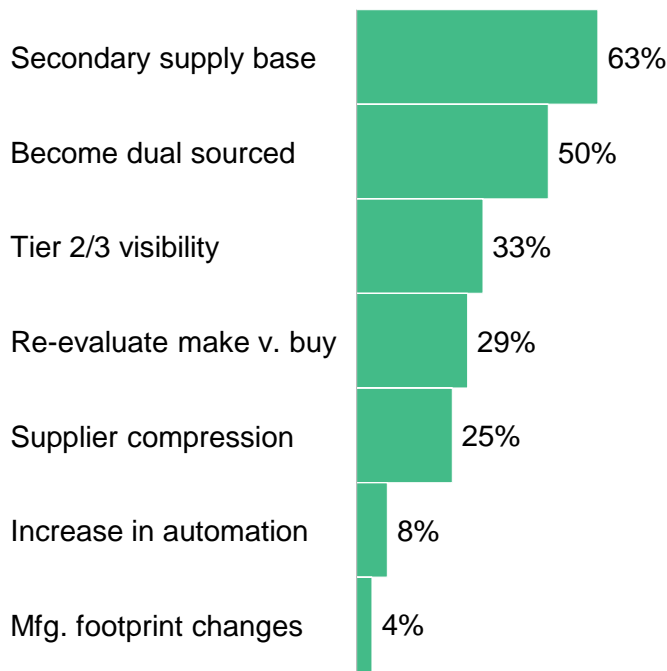


Figure 7: Long-term supply chain strategies identified by procurement industry leaders
Source: Applied Value Survey

Organizations will also begin to rethink the use of just-in-time supply chains to prepare for potential fluctuations in demand. We saw this on a massive scale with PPE shortages, as manufacturers struggled to ramp-up lean production lines in order to meet the growing need. While the future of supply chains remains uncertain, organizations will value a healthy inventory supply and more robust, automated, and diversified value chains from beginning to end. Key stakeholders will begin **increasing and localizing inventories as well as diversifying their key inputs & suppliers**



As a result of reworking supply chain operations, cost of goods and production will inevitably increase. While companies will carry a percentage of this new cost burden, significant **costs will shift to the consumer**. This cost redistribution will have a few consequences, the greatest of which is a potential for inflation in the long-term once the short-term risk of deflation from cash-strapped consumers withholding purchases waiting for lower prices passes. Although current rising prices are offset by the incredibly low interest rates, businesses should be wary of long-term decreases in discretionary consumer spending. Industries like trucking and warehousing will be hit hardest by depressed spending as the flow of shipped and purchased goods slows. Long-term, almost every industry will feel the effects.

2.3 Data and information sharing will become the new face of globalization

Up until now, the idea of globalization has conjured images of commerce and physical trading between nations. We think of shipments of textiles and building materials as they cross the oceans. This view of globalization is threatened by COVID-19 as borders are closed, tariffs are increased, and entire production lines are halted. In March, **the US saw 10% fewer cargo ships arrive at ports than a year prior, and prices for air-based freight transportation nearly doubled**. We will likely see these trends extend beyond the end of the pandemic. Companies are looking to protect their supply chains by onshoring production and attempting to create additional jobs for those out of work.

Annual Size of the Global Datasphere
Zettabytes (1 zettabyte = 1 trillion gigabytes)

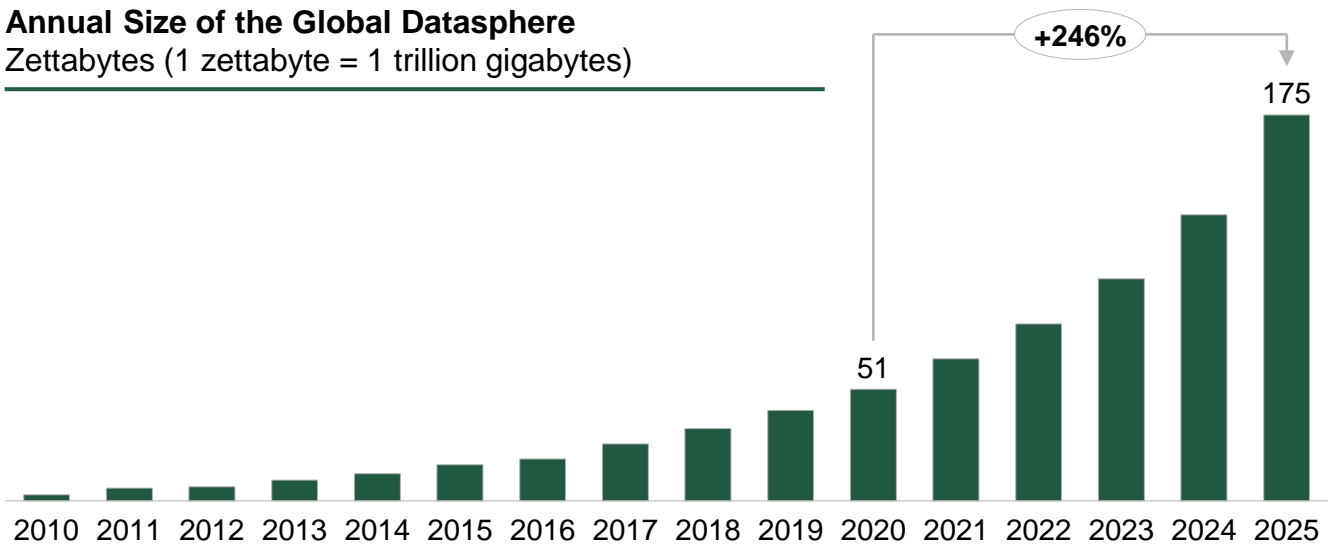


Figure 6: Global Datasphere size. Source: IDC Data Age 2025

While physical trade slows globally, data and knowledge will continue to globalize at unprecedented rates. **The annual size of the global datasphere is predicted to increase by 246% in the next 5 years**, with the majority of data being created, managed, and shared by businesses. With the creation of all this new information, we will see various countries working together in novel ways. Even now, many nations have collaborated over coronavirus, aligning best practices, sharing research on potential treatments, and developing far-reaching policies to slow the virus’s spread. At the conclusion of the pandemic **this international collaboration will not end**. Our world will be smarter, more connected, and extremely collaborative.



3. Digital Transformation

The world is in the middle of an unparalleled transformation: **the digital revolution**. With an influx of data, an increasingly connected world, and the accelerated introduction of new technologies, the line between the digital and physical world is becoming increasingly blurred. COVID-19 has clearly altered the megatrends of rapid urbanization and globalization, permanently shifting former preferences and practices with many secondary effects. Still, the greatest long-term consequence of coronavirus will likely be the acceleration of digitalization.

Industry leadership has utilized this pandemic as a launchpad for lasting disruption that will alter how business is conducted in a post-COVID landscape.

3.1 The coronavirus pandemic will accelerate technological innovation, further advancing the worldwide technological revolution

COVID-19 Impact on Technological Efforts
Importance, # out of 10



Figure 7: COVID-19 Impact on Technological Efforts. Source: Atlantic Council GeoTech Center

The Atlantic Council’s GeoTech Center surveyed 100 leading experts in the tech industry about the impact COVID-19 will have on the ongoing technological revolution. The **vast majority agreed that COVID-19 will significantly accelerate most aspects of business in technology**. We’ve touched on several of these topics already, including the digitalization of the workspace and increased flow of data across borders. Companies can no longer afford to “just wait and see” how new technologies will fare before implementation. Businesses will recognize the importance and necessity of staying ahead of new technologies and practices. COVID-19 will reveal that that late adopters have more to lose. These new ways of thinking will prove beneficial for advancing current technologies and data-utilization.

The healthcare sector specifically will benefit from this digital expansion. The **digital healthcare market is predicted to grow 26.3% by 2025**. Not only will telemedicine become more prominent, but care practices for conditions like diabetes and cardiac disease are also likely to become more digitalized. Additionally, **automation and AI will be built into supply chains** to help predict “points of failure” and optimize production. This may help account for some of the added costs incurred from increased onshoring and secondary supply chains.

3.2 Companies that would usually resist digitalization will begin to adopt emerging technologies more quickly and open-mindedly

Pre-COVID, a “traditional company” would take 18-24 months to react to a new digital trend. Organizational governance as well as a fear of change could often keep large, reputable organizations from being early adopters of new technologies. However, we’ve already seen companies accepting and embracing new technologies. In a survey of IT managers across various industries, **73% IT industry leaders plan to accelerate or maintain their digital transformation initiatives and projects** due to COVID-19’s impact on operations. Furthermore, 68% of these IT leaders are planning to hire more IT financial analysts to oversee this new focus on digital transformations. While in the short-term, we are likely to observe smaller technological changes with the goal of improving efficiency and operation, long-term priorities will be centered around forming a sustainable infrastructure that can withstand future crises.

Change in Digital Transformation Spend Post-Pandemic

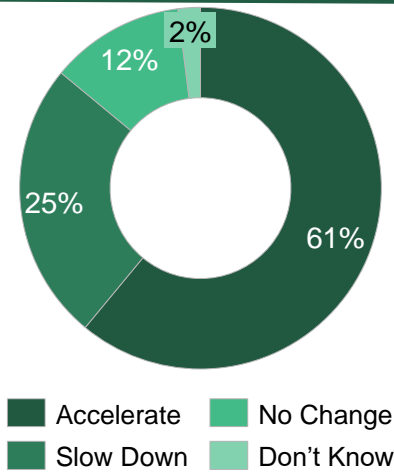


Figure 8: Digital Transformation Changes
Source: OPSRamp survey of 137 Director-level+ IT Professionals

Looking forward, **companies will think critically about their daily operations and whether taking a digital approach can streamline existing processes.** The healthcare industry illustrates how urgency produces this change. For example, UK start-up BenevolentAI used an AI-based platform to identify a drug with the best chance of treating COVID symptoms. They were able to whittle down 370 candidates to just six that showed the most promise in only three days. This is a best-in-class example of leveraging technology to improve current ways of working that will have long-term industry-wide effects. Although upfront digitalization costs might be high, we can expect **quicker and nimbler R&D** resulting in long term efficiencies benefitting both the organization and the end consumer.

3.3 COVID has fast-tracked the mounting disruption of the labor market due to automation and other emerging technologies

Machines have threatened to replace humans for years. Restaurants have slowly begun to adopt self-order point of sale systems, eliminating the need for cashiers. Production lines have favored robots to piece together intricate outputs over humans. Certain jobs and industries are quickly becoming obsolete with the increased skill and accuracy of AI and machine learning. The **coronavirus pandemic has only served to speed automation along.** Since many jobs most at risk of automation-replacement are also jobs considered “essential” (and often require close quarters for execution, putting employees at a higher risk of infection), organizations with a goal of reducing risk will begin **transferring manual jobs to robots where possible.** Replacing certain jobs with machines or AI capabilities protects the company against future shutdowns and other human risks. Their processes could continue without much slowdown, and they would be spared painful decisions between putting their employees at risk to continue production or laying off staff to save money.



Studies have predicted that there will be a significant overlap between jobs that are vulnerable in the current COVID downturn and those that were already susceptible to automation in the future. Increased automation will be felt across all industries, even those that seem to rely on human input. According to the chart below, **front-of-house jobs like cashiers, concierge, and ushers may be the first to go**. While the automation and digitalization of previously manual jobs will be positive for organizations and key stakeholders, a large portion of the working class will suffer in the long-term.

Jobs at Risk from COVID-19 and Automation

% share of total sector

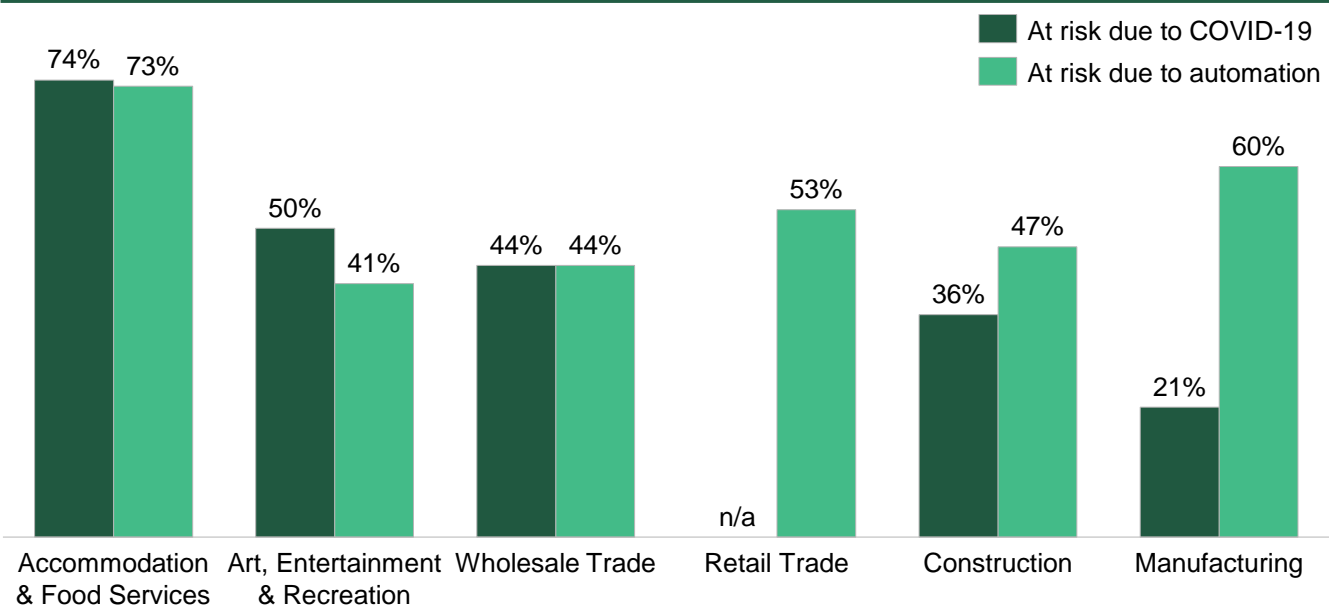


Figure 9: Jobs at risk from COVID and Automation. Source: Center for State and Local Finance

Conclusion

The novel coronavirus has impacted our lives in innumerable ways and will continue to do so. Short-term impacts on the preexisting megatrends of digitization, globalization, and urbanization help us forecast what life will look like in the future. Cities may look different: with fewer large offices and cleaner, more efficient public transportation in accordance with some migration to the suburbs. Supply chains may replace the just-in-time model with more risk-averse, inventory- heavy models. Lastly, the accelerated digital revolution will have transformative effects on every aspect of human life. It will be imperative to continue tracking these trends in relation to COVID-19 in order to make smarter and more data-backed decisions moving forward. **As always, we look forward to discussing these with you and brainstorming on potential ways we can help accelerate your path to this “new normal” through our proven methodologies.**



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