DEMOGRAPHIC DROUGHT

The Rising Storm

Building a Future-Ready Workforce to Withstand the Looming Labor Shortage

Lightcast

Future-Ready Workforce Collection

Contents

Introduction

You can't prepare for a storm if you don't know it's coming. Today's labor market rests on baseline assumptions that were formed when the Baby Boomers dominated the workforce, but now, this enormous cohort of 76 million Americans is ready to retire—and the US faces a shortfall of millions of workers in the decade to come. Workforce strategies need to adapt, but if you don't know what changes lie in store, you can't know what changes to make in response.

The disruption ahead is like a hurricane: We can use the conditions that formed it to understand the path it will take, we can see the outer bands that have already begun to hit certain areas, we can predict when it will make landfall, and we can recognize that those in the direct path of the storm need to make different preparations than those further out. *The Rising Storm* outlines all of these. Some findings are familiar territory for Lightcast, because this report is part of the ongoing *Demographic Drought* series of research, but the changes are significant. While past reports were only able to say there was disruption ahead, the patterns are clearer in *The Rising Storm*, providing insight on when the storm will arrive. The news is not comforting—the most acute shortages of workers will arrive in under a decade, primarily in the next five years, and the industries hardest hit are among those our society relies on most, including healthcare and construction.

However, that's not to say this report is all doom and gloom. It was written with two goals:

Inform, Don't Alarm

The need for this research arose because not enough people understand how severe the coming storm will be. After all, people have always retired, and society has always gotten along just fine, so why are the Baby Boomers any different? It's a question worth asking (and the answers are in Chapter 2). In fact, even government statistics agencies fail to recognize the implications of their own predictions, and it is only by analyzing them together that the full picture becomes clear. The danger ahead comes from a perfect storm of factors all coinciding before the end of the decade, and therefore relies on several different patterns, including retirement ages, AI, immigration, birth rates, and even addiction and incarceration. If someone wanted to argue against a worker shortage ahead, it would be by setting one of those patterns against the others—perhaps by saying that our older population will find workers in older adults who want to put off retirement. But in fact, retirements are actually happening earlier and earlier, and all the data points in the same direction: there's a storm coming.

Anticipate and Adapt

The purpose of spending so much time on the background of the disruption ahead is to prepare for it as well as possible. If we don't understand why certain shortages are happening, then we won't know how to respond effectively—the solution has to match the problem. One size does not fit all: Worker shortages can be solved by developing local workforces, globalization, automation, and immigration, and each industry will have to create its own balance between those four options in order

to meet its own specific needs.

The report is structured like the path of a hurricane, starting with the conditions forming, the first gusts, and then landfall.

Chapter 1 covers the Baby Boomers' labor market, and how their unique economic situation led to beliefs that were perfectly valid at the time, but no longer match our economic reality. In short: the Boomers' world was full of competition, and their focus was keeping other workers out. Now, in a market defined by worker scarcity, we need to look for ways to let workers in.

Chapter 2 covers the present and recent past as Boomers have retired—out of the 5 million workers who have left the labor force since 2020, 80% are over the age of 55, and Boomers are the second-smallest generation currently working. Unlike their grandparents, younger generations are starting work later and finding careers in office-based jobs that require a college degree, and food service, the skilled trades, and others of the most critical industries in the US are already feeling the strain. This has led to understaffing and shortage challenges that foreshadow what we'll see in the future, as US population growth will outpace labor force growth by nearly 8 to 1.

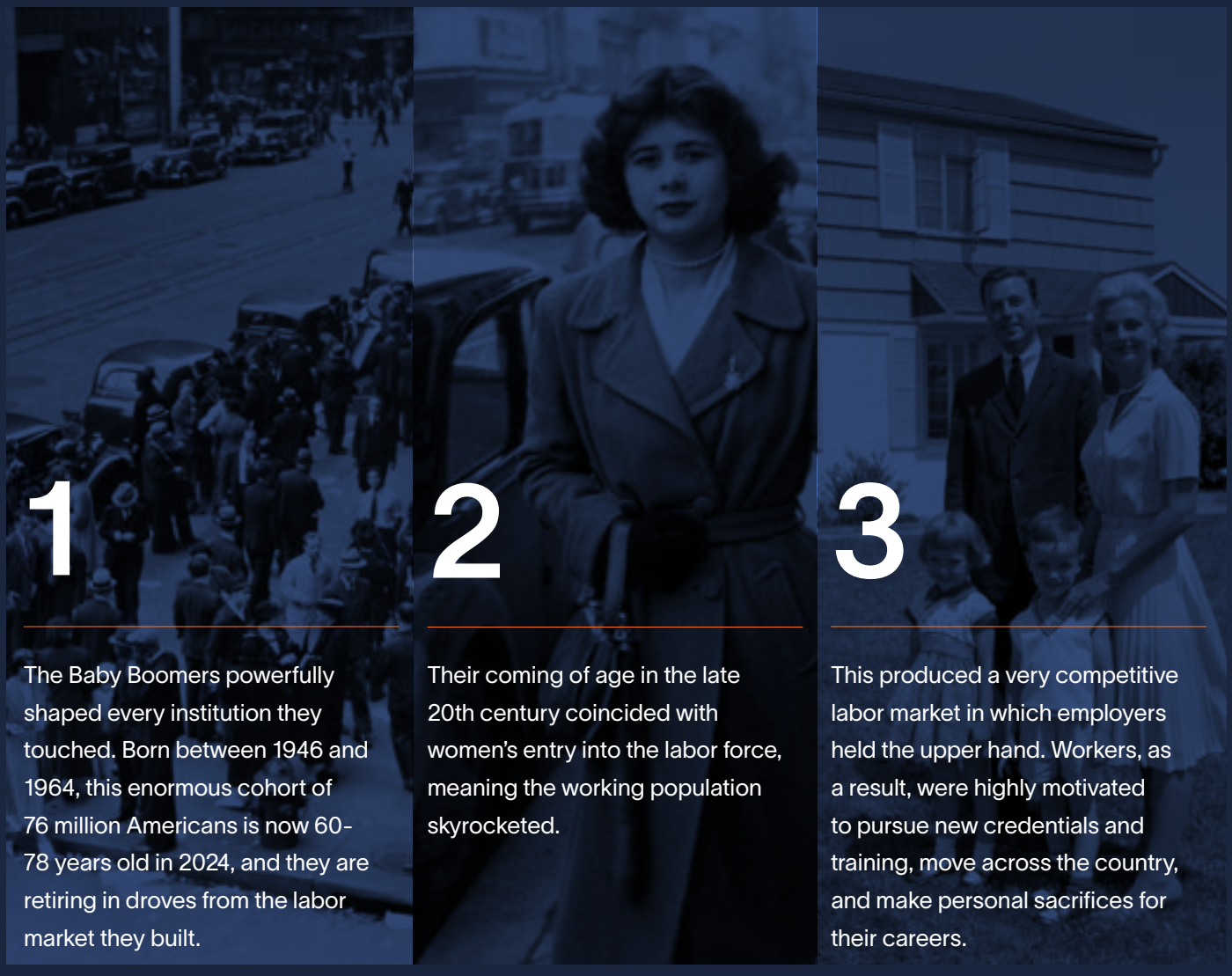
Chapter 3 covers landfall and the decade to come. Job posting data shows high demand across many critical industries, already greater than the number of workers the US is projected to gain in the coming years. The US working-age population is expected to grow by 18.7 million by 2032, but labor force participation is expected to drop from about 62.5% currently to 60.4%; in other words, the US will have more people, but a lower share of them will be working. Compared to the present day, that's a deficit of roughly 6 million workers. Immigration will be key to keeping the economy afloat, and in fact already is: All growth in the labor force since 2019 can be attributed to foreign-born workers.

Chapter 4 covers solutions. Some industries, like healthcare, will feel the full Category 5 force of the storm to come. Others, like tech, will feel less of the impact. But the hurricane will hit shore, and there are steps every organization can take to prepare. Included in this overview are case studies and other examples of solutions available to build a future-ready workforce.

So far, the labor market of the 2020s has seen unprecedented turbulence. The overheated pressure of 2022 and 2023, which created record highs in job openings and quits, leading to supply chain shortages and inflation, was not a one-time blip; instead, it was a precursor (an "outer band") of what's to come. As those trends have eased, it would be tempting to think that the worst is behind us, when in fact, the worst is still to come. Right now, we're in the calm before the storm, which means now is also the time to prepare for what's ahead. And that starts by understanding where we are and how we got there.

Conditions Forming: The Baby Boomers' Labor Market

Takeaways



1

The Baby Boomers powerfully shaped every institution they touched. Born between 1946 and 1964, this enormous cohort of 76 million Americans is now 60-78 years old in 2024, and they are retiring in droves from the labor market they built.

2

Their coming of age in the late 20th century coincided with women's entry into the labor force, meaning the working population skyrocketed.

3

This produced a very competitive labor market in which employers held the upper hand. Workers, as a result, were highly motivated to pursue new credentials and training, move across the country, and make personal sacrifices for their careers.

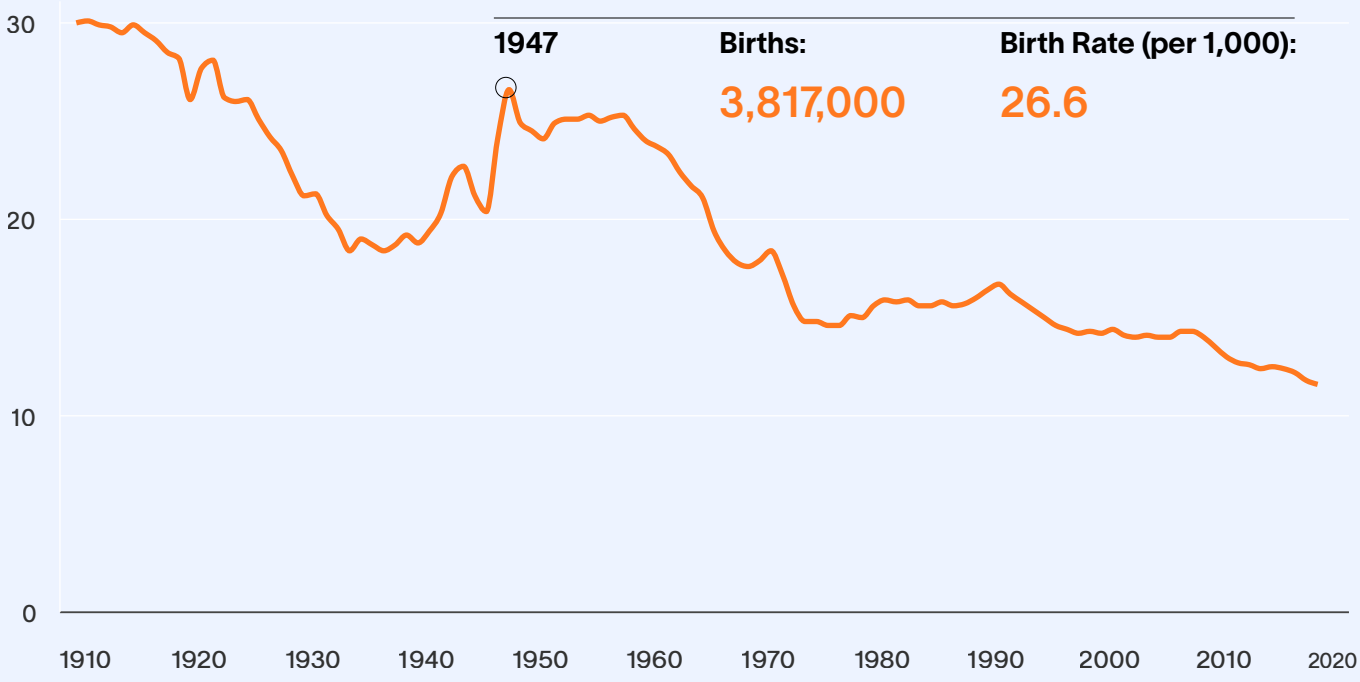
The US Workforce Soared in the Late 20th Century

To understand the coming labor force crisis, we need to first understand the workforce conditions that shaped the Baby Boomers' attitudes and expectations, which in turn shaped the labor market we're living in today.

Boomers were born between 1946 and 1964, during the enormous surge in births after World War II. The US birthrate fell steadily throughout the 1930s and '40s but then swung upwards, peaking at nearly 27 births per 1,000 people in 1947.

The US birthrate swung upwards after WWII and peaked in 1947.

US Birth Rates (per 1,000 Population)



Source: National Center for Health Statistics

In the years following the Baby Boom, exponential global population growth seemed inevitable for the foreseeable future. Not only were people having a lot of babies, but advances in medicine, nutrition, and living conditions meant these babies were now surviving infancy in greater and greater numbers. Those same advances that reduced infant mortality also helped raise adult life expectancy to historic highs.

This spike in the global population led to a corresponding increase in labor force growth as the Boomer generation reached working age and as women began to enter the labor force in unprecedented numbers.

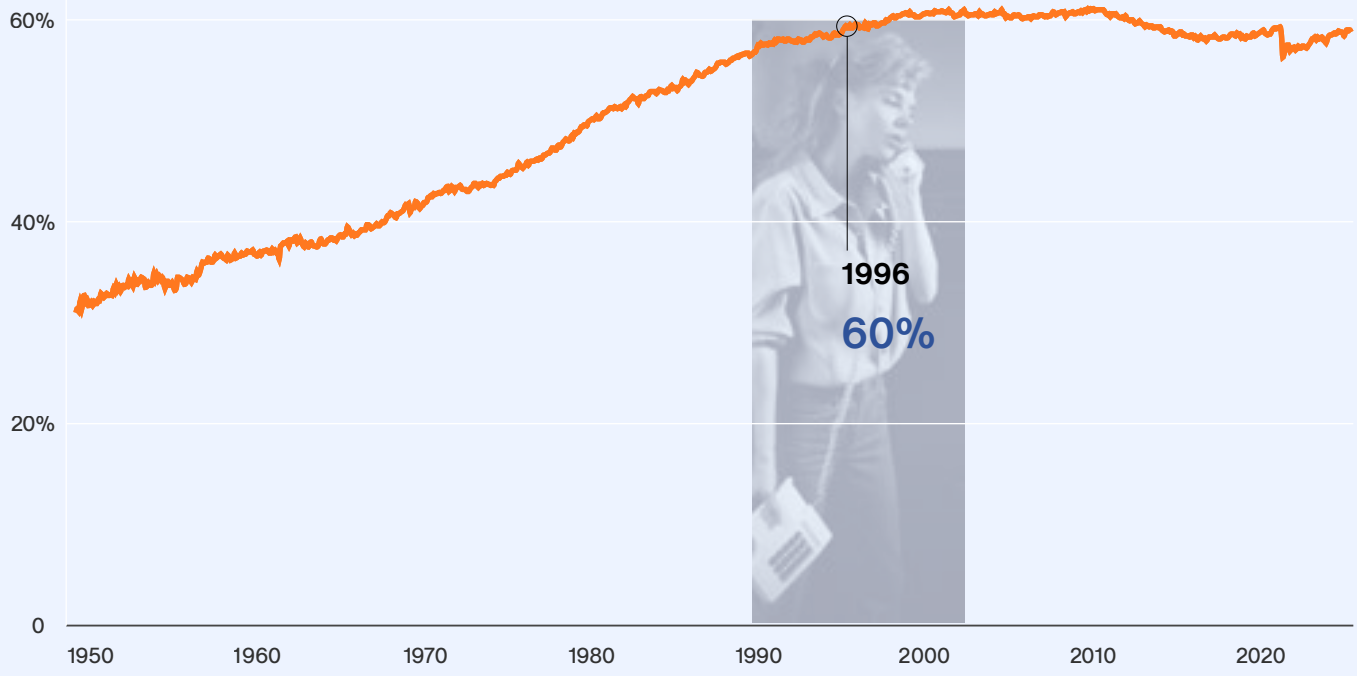
> **This spike in the global population led to a corresponding increase in labor force growth as the Boomer generation reached working age and women joined the labor force.**

The labor force participation rate (LFPR) for women over age 20 jumped from 30% to 40% from 1948 to 1960. Once the first female Boomers entered the workforce in the early 1970s, their cohort's LFPR shot up even more, hitting 60% by the mid '90s.

The combination of an enormous population of Boomers and an extraordinary increase in female workforce participation proved very powerful. The working population grew from a huge influx of young workers, then nearly doubled as women joined the men on the job, and the US labor force swelled to unparalleled levels.

From 1950 through 2000, female labor force participation rose consistently; reaching over 60% by the mid-1990s.

Civilian Labor Force Participation Rate, Women 20 Years and Over



Source: Bureau of Labor Statistics

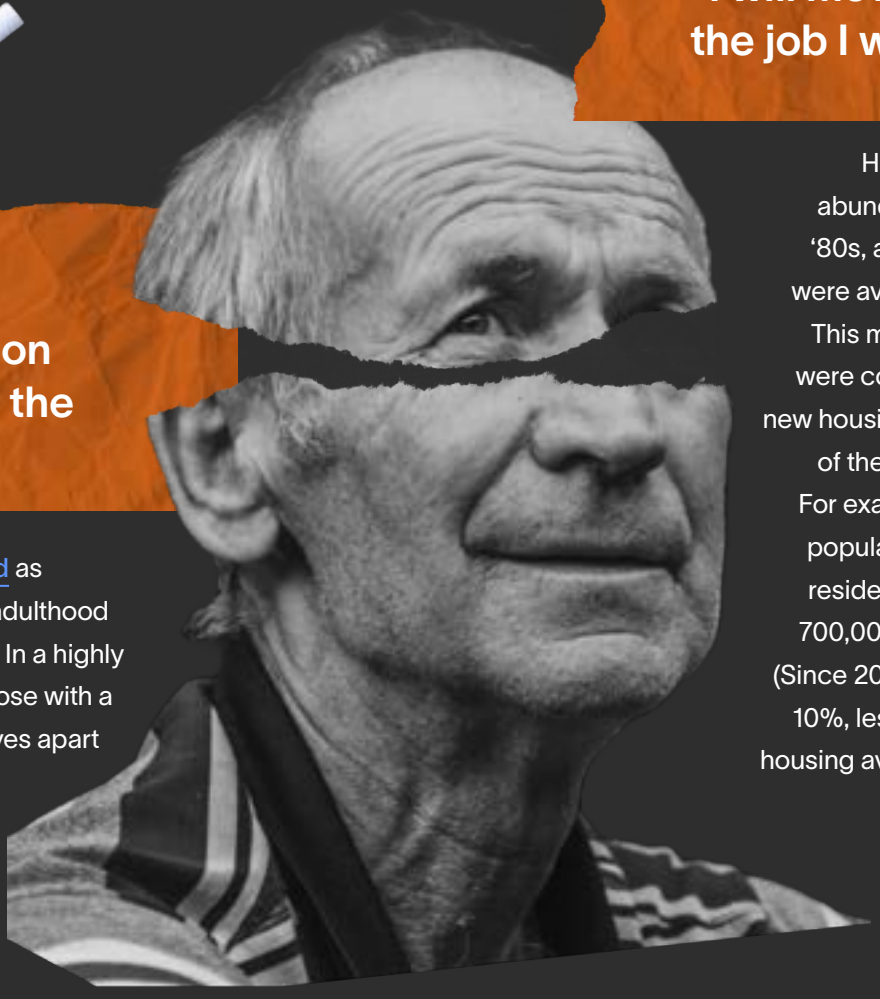
How the Baby Boomers' Labor Market Shaped Their Worldview

Imagine you are a young adult entering the workforce during the 1970s and '80s. You are one of millions entering an economy without enough jobs to go around, and now you're in tight competition for them. You and your peers are looking for work but struggling to find it: From 1973 to 1997, the US unemployment rate never drops below 5%. Employers are suddenly able to take their pick from an influx of highly skilled, ready-to-work job applicants.

How would that environment shape your approach to your life and career? Here are some thoughts that might run through your head:

"I will move to get the job I want."

"Higher education will help me get the job I want."



College enrollment soared as Boomers reached young adulthood in the 1970s and mid-'80s. In a highly competitive landscape, those with a degree could set themselves apart from other job candidates.

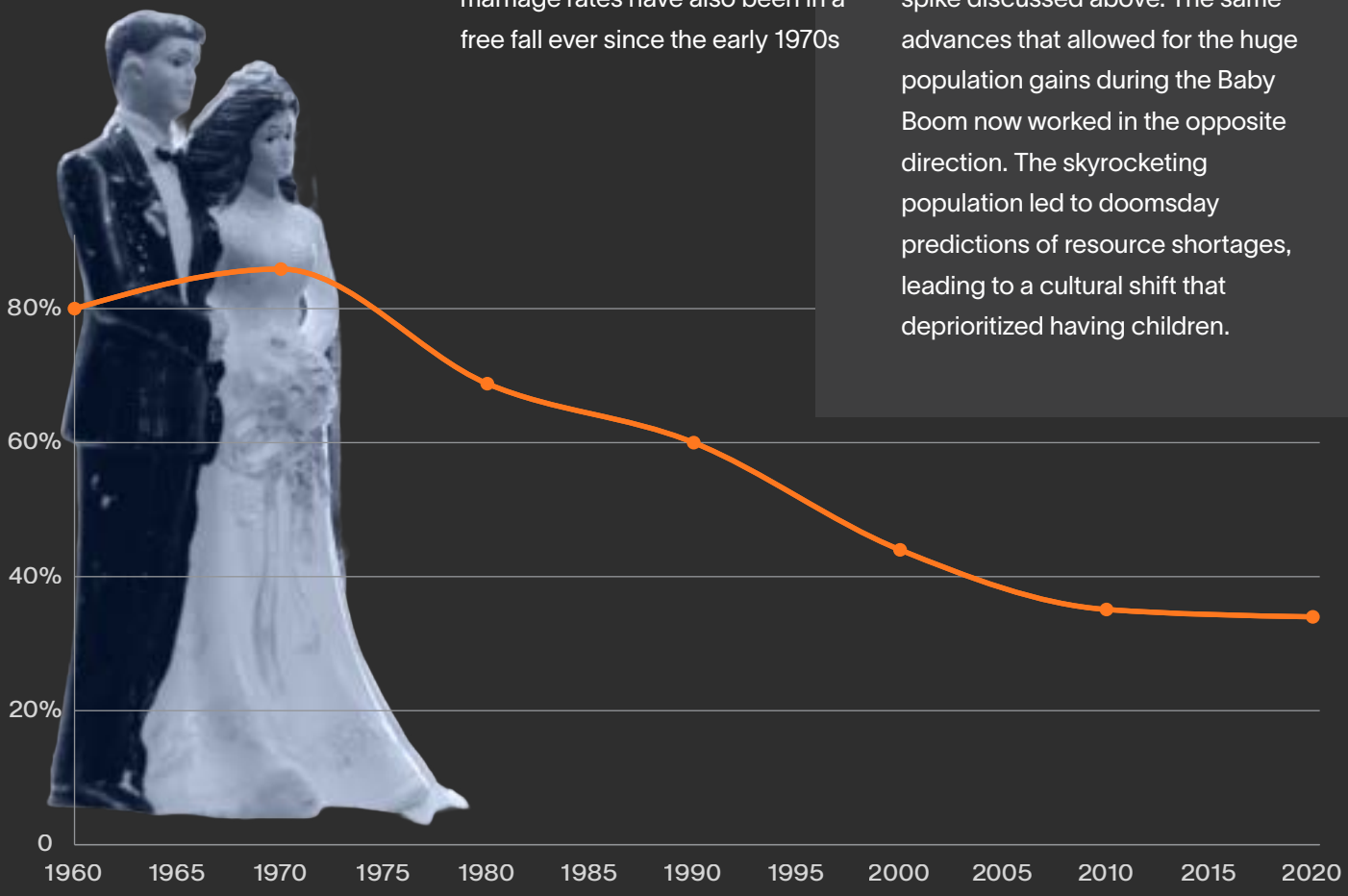
Housing was generally abundant in the 1970s and '80s, and plenty of workers were available to build more. This meant that employees were comfortable moving to new housing markets in pursuit of their professional goals. For example, Silicon Valley's population grew, alongside residential construction, by 700,000 from 1980 to 2000. (Since 2000, it has only grown 10%, less than 300,000, with housing availability cited as the main obstacle.)

“I need to weigh the benefit of a family against its cost to my career.”

Satires of the 1980s yuppie showed how young professionals were plentiful, highly educated, and highly motivated to build wealth and move up the career ladder—no matter the cost to their personal lives.

The US divorce rate skyrocketed from 1960 to 1980, before gradually falling again into the 2020s.
But while divorce has declined, marriage rates have also been in a free fall ever since the early 1970s and correspond fairly strongly with the growth in the labor force participation rate.

One natural consequence of fewer people getting married is that fewer people had babies. While pregnancy and childcare would be hindrances to parents hoping to advance in the workforce, this is also connected to the population spike discussed above. The same advances that allowed for the huge population gains during the Baby Boom now worked in the opposite direction. The skyrocketing population led to doomsday predictions of resource shortages, leading to a cultural shift that deprioritized having children.



The US marriage rate is at an all-time low.

Number of Newly Married People per 1,000 Unmarried Population, Age 15+

Source: Institute for Family Studies Calculation of NCHS, Decennial Census, and American Community Survey Data

“I do not want immigrants coming to steal jobs.”

As the competition for jobs increased, the last thing anyone would want is more people pursuing those same jobs. Adults who joined the workforce from the 1970s to the ‘90s had to fight for their roles, and this made them very wary of any attempts to increase the pool of jobseekers through immigration.

“My highest political priorities are creating jobs and decreasing unemployment.”

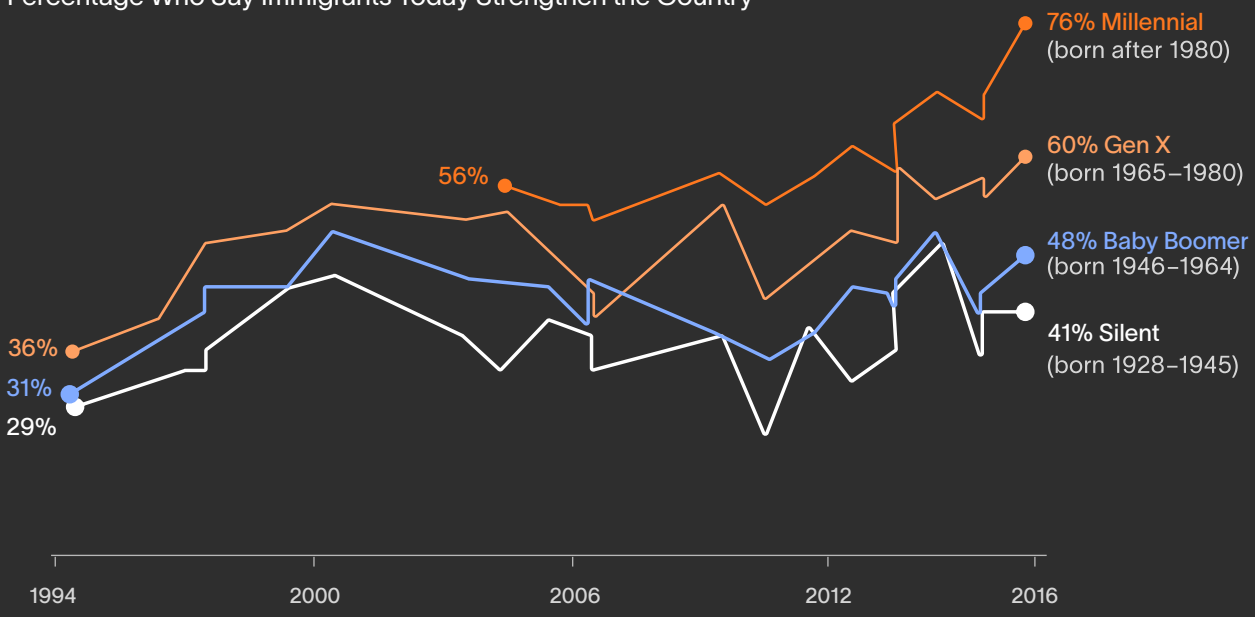
Anything that threatens job growth, like imported goods, automation, and regulation, faces fierce opposition. On the other hand, things that create jobs, like subsidies, low taxes, new industries, and growing companies—are welcomed with open arms.

“I need to look out for number one more than I prioritize company loyalty.”

At the turn of the millennium, as Boomers were at the peak of their careers, many companies went through layoffs and employees lost confidence in their long-term prospects in the companies that employed them. When shareholders wanted businesses to cut costs and maximize profitable returns, those companies could no longer offer their workers the stability that had been standard in the past. When workers could no longer expect loyalty from their employers, they didn’t offer loyalty in return. The result is that job switching became much more commonplace.

As a percentage, older generations are least likely to say immigrants strengthen the country.

Percentage Who Say Immigrants Today Strengthen the Country



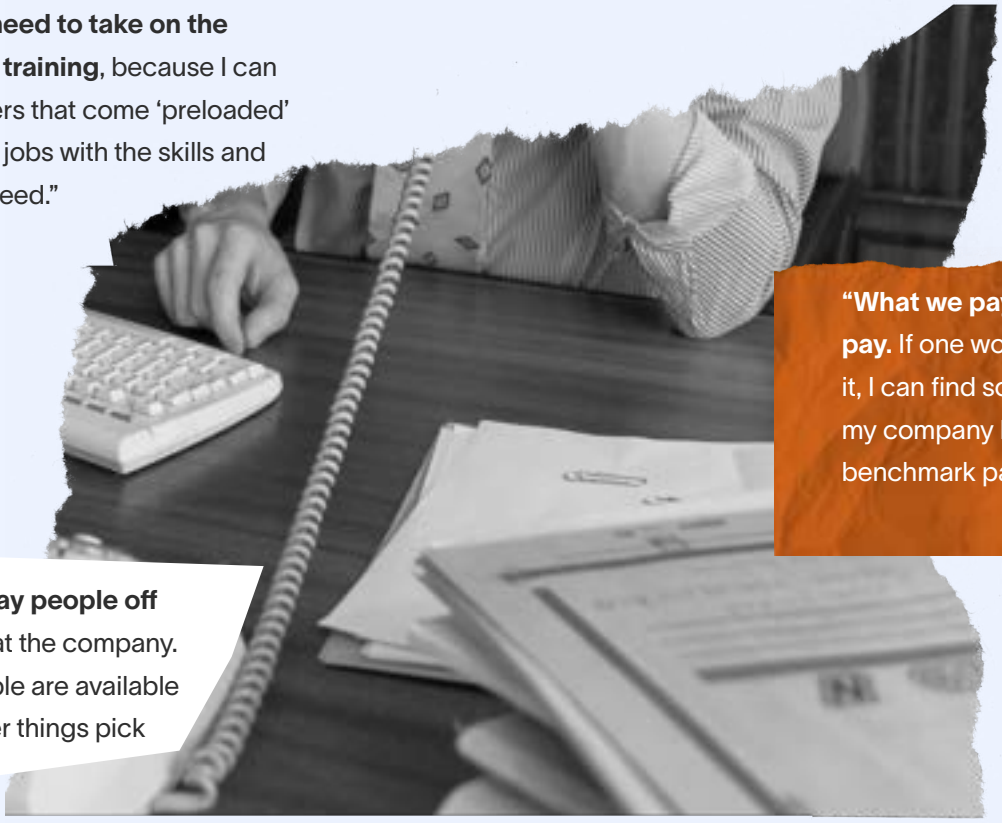
Source: PEW Research Center

Now, let's consider the same situation from the perspective of a hiring manager. How would an unprecedented surplus of workers affect your hiring mindset?

"It's a hassle to sort through too many applicants, so **I will screen out as many as possible** before the interview process."

"When I'm hiring, I know I can expect plenty of applicants, so I can limit the field by creating detailed job descriptions with highly specific qualifications and degree requirements."

"I do not need to take on the burden of training, because I can take workers that come 'preloaded' from other jobs with the skills and abilities I need."



"What we pay is what we pay. If one worker doesn't like it, I can find someone else, so my company has little need to benchmark pay rates."

"We can afford to lay people off during slow cycles at the company. Plenty of other people are available to replace them after things pick up again."

Changing Winds

During the extended period when the Baby Boomers dominated the labor market, employers had the upper hand over jobseekers.

On the open market, companies could shop for ready-made workers to fit their demands: from an eager, low-cost twenty-something, to the best-qualified, most experienced veteran, to anyone in between. Workers were a widely available commodity, and Boomers were ready to move across the country for new opportunities. Employers could afford to be choosy.

In response, many workers pursued increasingly specialized degrees to improve their prospects, and this suited employers just fine. Colleges designed more career-focused programs to attract and train students for particular roles, and they graduated job-ready workers at a reliable rate.

Growing companies made space for these college-educated workers, especially in professional, office-centered industries. Wages and salaries grew. The Baby Boomer generation, and the firms they started and worked for, flourished.

These ideal, sunny labor market conditions led to an expectation that workers would be highly motivated to compete for jobs, which shaped both workforce preparation and talent acquisition. And these expectations were perfectly reasonable—but only for as long as the conditions that the Boomers created would last.

But clouds were on the horizon. The winds would eventually change, and those sunny conditions are largely gone—not only in the US, but in many other developed countries.

▸ For more context on historical data on US population and labor trends, Lightcast offers the world's most trusted comprehensive labor market data and analytics. Using Lightcast's dataset of over 2.5 billion job postings, 400 million career profiles, and 100+ government sources, you can build a future-ready workforce with clarity and confidence. ■

The Outer Bands: Today's Labor Market

Takeaways

1

The Baby Boomers are retiring, which has led to unique challenges for two reasons:

1. The Boomers are an unusually large demographic.

2. Younger workers approach their lives and careers much differently than Boomers.

2

Labor force participation for working-age men has been falling, and our options to fill those vacancies are very limited.

3

The tight and turbulent labor market from 2021 to 2023 is a precursor, or outer band, of the rising storm.

Producers, Consumers, and the Aging Labor Force

One crucial statistic tells the story of the 2020s labor market: **the drop in the Labor Force Participation Rate (LFPR)**.

The LFPR is the percentage of working-age (16+) adults who are either employed or actively looking for work. This means that if you're unemployed and looking for a job, you're considered part of the labor force, but those who are not actively looking for work—which can include full-time caregivers, the incarcerated population, and retirees, among others—are not considered part of the labor force.

A declining LFPR means fewer potential workers are available in the labor market.

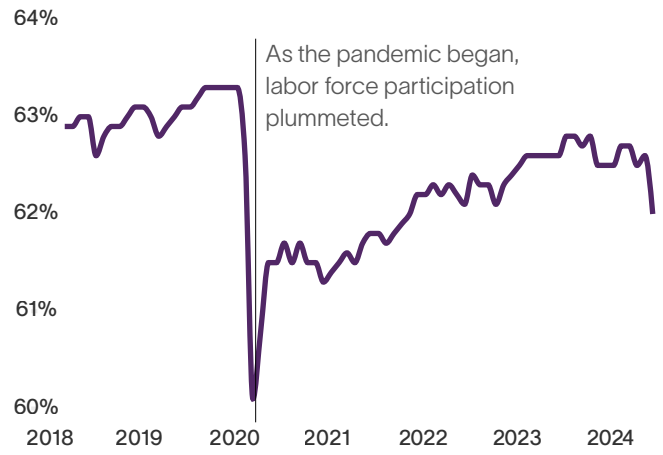
While the LFPR is expressed as a percentage, we can also look at these trends in terms of total numbers. In these charts, we can see the drop in labor force participation, and also the actual number of workforce dropouts. In 2019, roughly 95 million people in the US had no job and were not actively looking for one. Since 2020, that number has been hovering near 100 million.

In economic terms, we think of people as both producers (those who work to generate goods and services) and consumers (those that purchase them). Many people are both—at work, we contribute to the economy in one way, but throughout our day, we benefit from the contributions others are making.

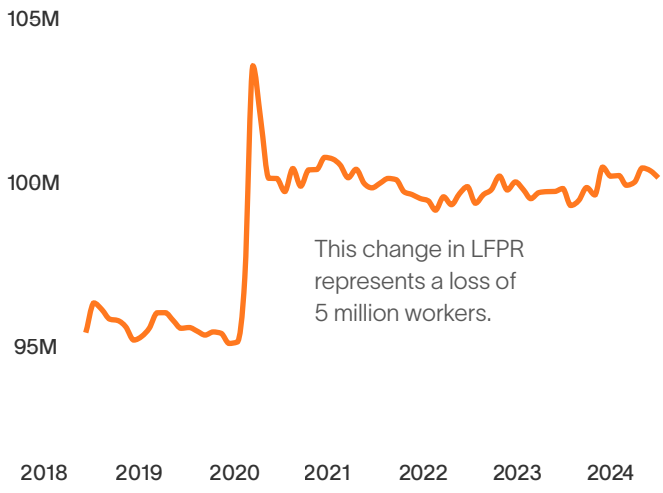
Since the start of the decade, 5 million economic producers have become consumers only, meaning that a larger share of people are now depending on our working population, which is not keeping up. More than anything else, Baby Boomer retirements are driving that shift. ■

The LFPR took a serious hit in 2020 and has not recovered since.

Labor Force Participation Rate



Total Adult Population Not in Labor Force



Source: Bureau of Labor Statistics

The Silver Tsunami Has Hit Shore

Out of the 5 million people who have left the labor force since 2020, **80% are over the age of 55**.

Just as the Baby Boomers' entrance into the labor market created a surge in the number of available workers, their retirement is leaving behind a workforce whose numbers are not keeping pace with the US population.

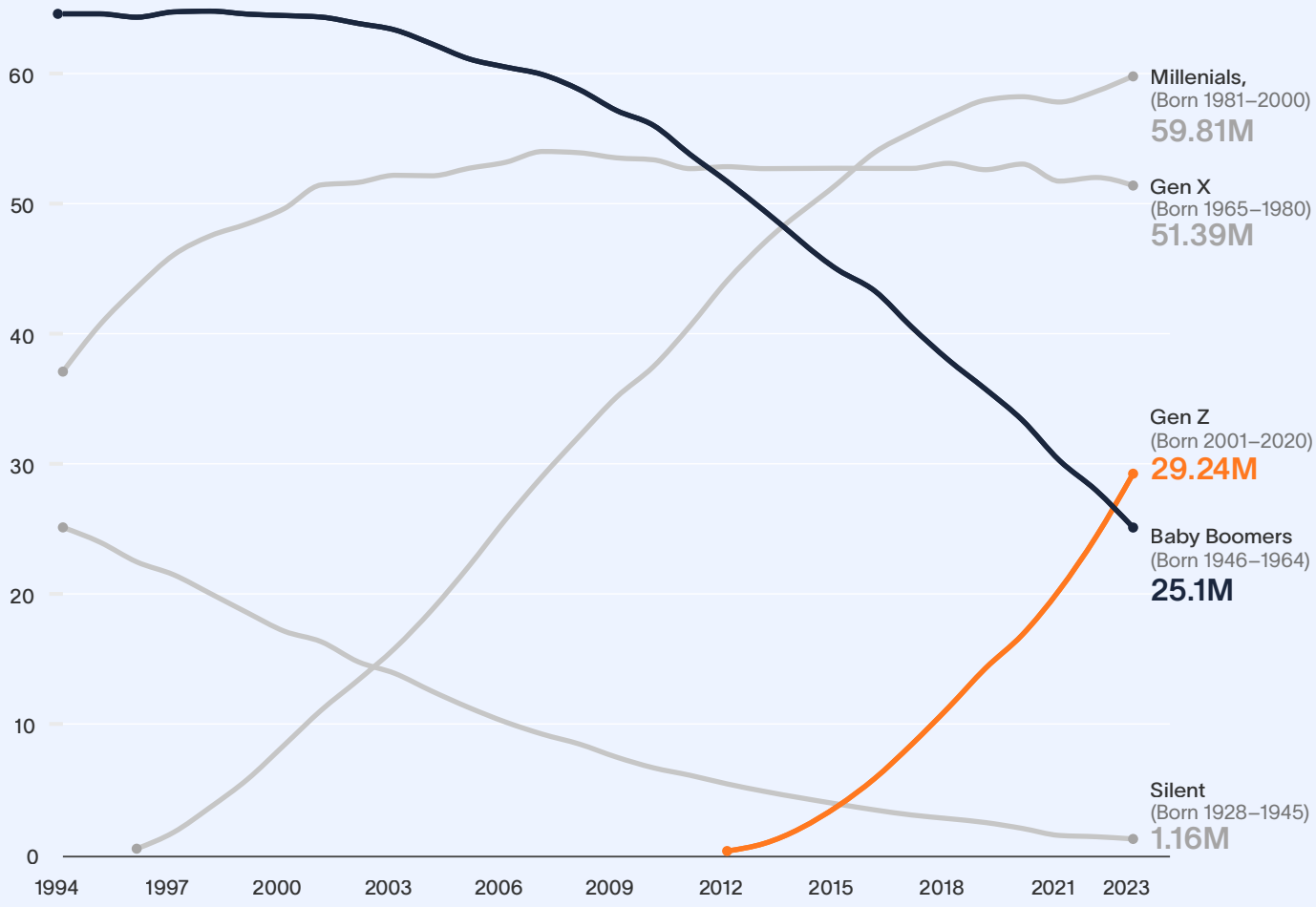
The Baby Boomers are now the fourth-largest generation in the US labor market, and their number has been steadily decreasing for years. Once the oldest Boomers reached age 65 in around 2010, they quickly lost their position as the largest demographic in the labor force.

Boomers currently make up only about 15% of that total.

As much as the Boomers were motivated to work in past decades, they're now on their way out of the workplace. This wave of retirements—"The Silver Tsunami"—has been coming for a long time, but the pandemic accelerated it. The LFPR for people age 55 and older dropped sharply over the first few months of 2020.

The Baby Boomers are now the second-smallest generation in the US labor force.

Annual US Labor Force, In Millions



Source: US Census Bureau Current Population Survey; Lightcast Analysis

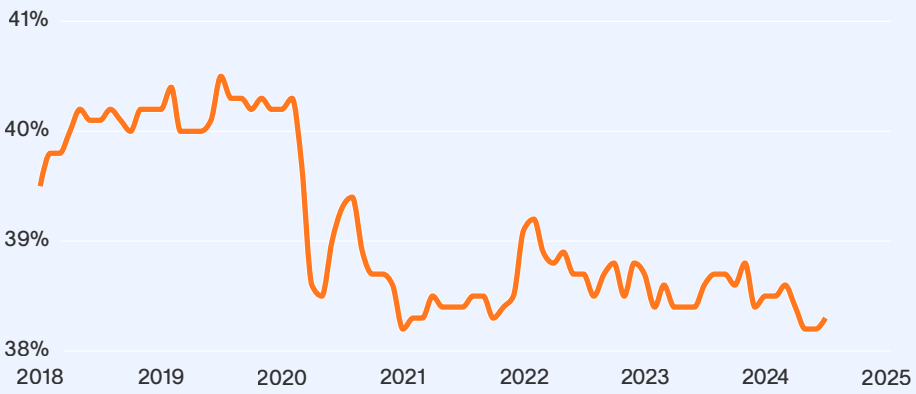
The 55+ cohort includes many people who fall below the normal US retirement age, which, as defined by the Social Security Administration, is around 66 for Boomers.

But a majority retire earlier than that: the actual average retirement age in the US is 61. More than half of Americans retire before 65, and by age 67, 70% are retired.

Because retirees are out of the labor force but still require goods and services, they depend on the working-age adult population to produce those goods and services for them. This dynamic is called "old-age dependency," and the number of old-age dependents is growing faster than the working population. In 2022, BLS projected the US would add 6.4 million net workers by 2032. Already in 2024, 4.1 million have been added—which means the US can expect only 2.3 million over the next eight years. Meanwhile, the total US population is projected to add 18 million people—outpacing labor force growth by almost 8 to 1. As a result, the struggle to find enough workers to meet the demands of the market is steadily intensifying.

Labor participation for older adults dropped sharply during the pandemic.

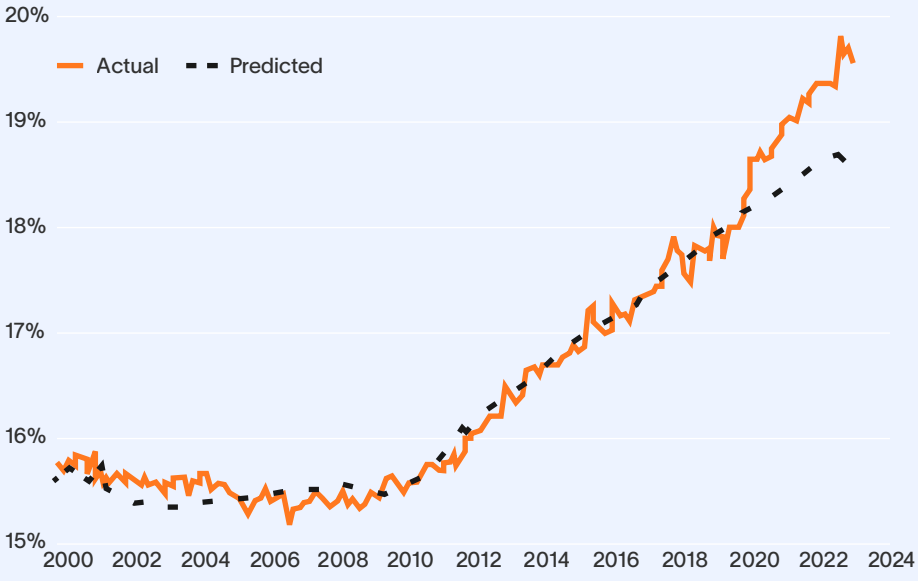
Civilian Labor Force Participation Rate, Age 55+



Source: Bureau of Labor Statistics

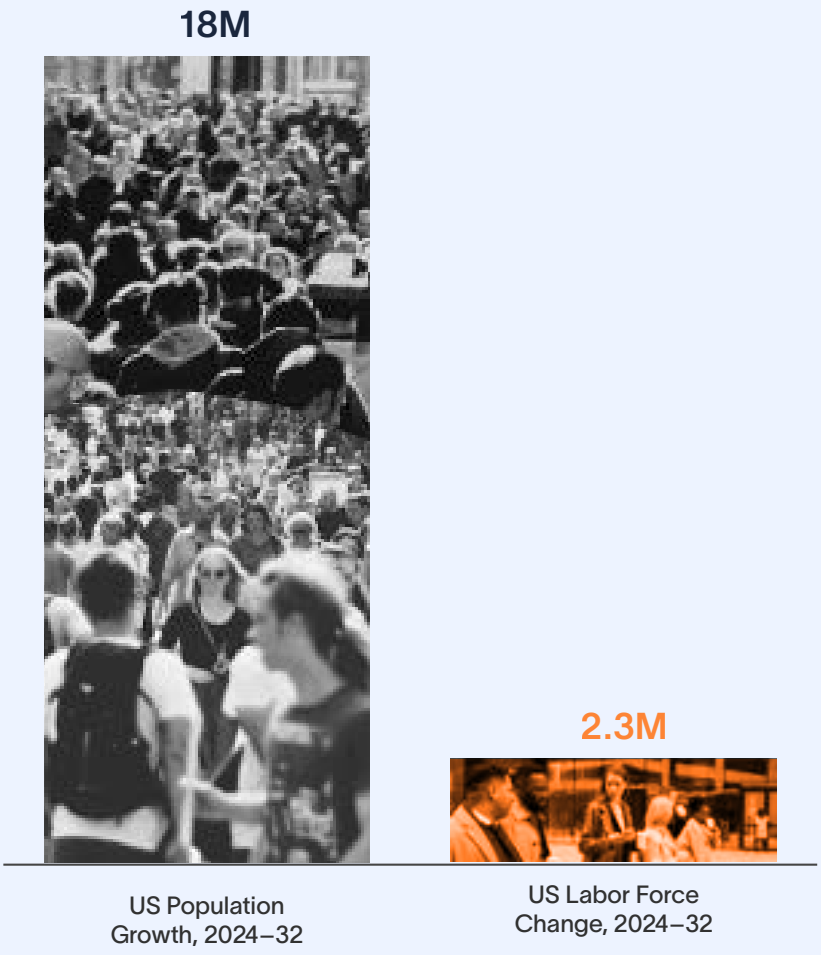
Actual retirements are much more frequent than were projected.

Percentage of 16+ Population That Is Retired



Source: St. Louis Fed *On the Economy*

From 2024 to 2032, US population growth will outpace labor force growth by nearly 8 to 1.



Source: Congressional Budget Office (Population Growth), Bureau of Labor Statistics (Labor Force Change), Lightcast Analysis

What Makes Baby Boomer Retirements Different?

This mounting wave of retirees is disrupting the labor market patterns we've grown accustomed to. Although people have always gotten older, and older people generally move out of the workforce and onto other things, three factors make this retirement surge different—and more alarming—than the retirements of decades past.

1. Unprecedented Scale

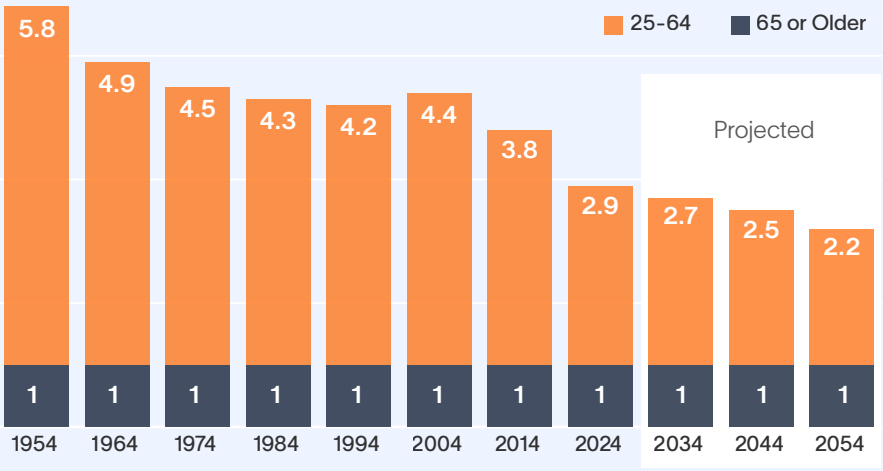
The first reason is the simplest: the Baby Boomers are a very large cohort of people. And the Baby Boom of the 1940s and 1950s was followed by decades of "baby bust." This steep rise and fall of US birth rates means we no longer have enough young people to replace millions of Boomer retirees.

Starting in 2024 and lasting through 2027, the number of Americans turning 65 is reaching all-time highs, at a rate of more than 11,000 new 65-year-olds per day, which is more than 4 million per year. The US is losing a massive pool of hard-to-replace talent.

As the Congressional Budget Office's Demographic Outlook shows clearly, the proportion of working-age people to retirees is falling, putting greater pressure on those who are working to support those who aren't.

Every year, there are fewer working-age people to support the older population.

Ratio of 65+ Population to 25–64 Population



Source: Congressional Budget Office

The wave of Baby Boomer retirements will hit every region, industry, and occupation differently.

The unprecedented disruption of Boomer retirements will require unprecedented efficiency from everyone involved with the labor market, underscoring the need for deliberate, data-driven solutions. Lightcast makes it easy to track real-time demographic and workforce trends throughout the labor market for educators, regional leaders, and HR and talent leaders. Unlock unparalleled insights, including location-specific metrics, wage growth, industry analysis, and hiring projections. ■

2. The Inheritance Factor

The work of 76 million Boomer men and women generated incredible prosperity, which has only grown as they invested their wealth across the economy. Total Boomer assets are now valued at close to $80 trillion—nearly four times the combined asset value held by Millenials. In fact, 51% of all wealth in the US is held by the Baby Boomer generation.

This is more than just the expected accumulation of assets over one's lifetime. Yes, Boomers are reaching the age where wealth tends to peak, but adjusted for inflation, they have generated more real household wealth than their parents or grandparents did at the same ages.

On top of being part of an enormous labor force, the majority of married Boomers were also part of dual-income couples. By 1995, when the large female Boomer population was in its prime working years (age 33 to 49), Boomer households earned the largest increases in real household income in global recorded history.

From when the Boomers first entered the workforce in 1975 until they first hit retirement age in 2009, US GDP nearly tripled—from $5.6 trillion to a spectacular $15.3 trillion. Median household incomes hit new highs as well, growing by $42,000 in real dollars between 1975 and 1995—five times the income growth of the previous 20 years, when their parents were the primary generation in the workforce.

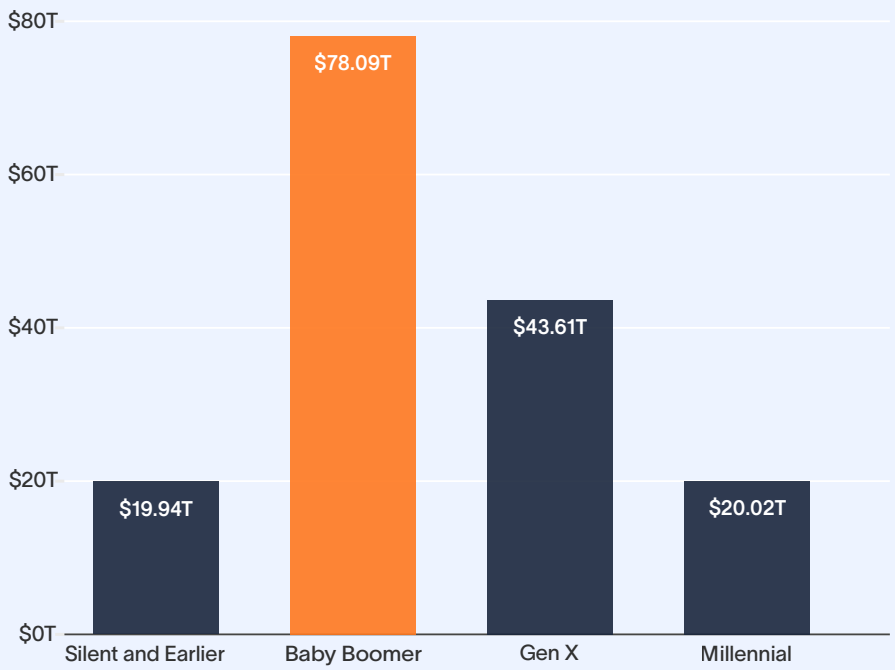
Because they made so much money, Boomers could afford to retire early. According to the Employee Benefit Research Institute, 39% of those who retired early did so because they had the financial means to afford it. With the stock market (and home prices) hitting historic highs in the early 2020s, the timing has been excellent for cashing in on retirement investments.

This has consequences for more than just Boomers, because Millennials are set to inherit that same wealth. This is especially significant because Boomers had fewer children (averaging 1.8, compared to their parents' average of 4), so this larger-than-usual accumulation of wealth will be inherited by a smaller-than-usual number of people. Millennials are expected to inherit an estimated $68 trillion from their Boomer parents by 2030, which will make them the wealthiest generation in history.

One of the primary motivators to get a job is to make a living—but if you have more than enough money to live on, that motivation no longer

The Boomer generation accumulated enormous wealth.

Assets by Generation



Source: Federal Reserve

applies. If Millennials, whose own income is supplemented by their parents' wealth, also retire early, then labor force participation will continue to fall, intensifying the need and competition for workers.

To be fair, this is far from a sure thing, and several factors could limit this historic transfer of wealth. First, rising post-pandemic inflation has limited everyone's spending power, regardless of age. Second, Boomers' longer lifespans could also translate to less savings over time, especially if rising prices translate to a higher-than-expected cost of living in their retirement years.

But ultimately, the wealth transfer from Boomers to Millennials might not even take the form of inheritances—because that money is being handed down already.

3. Late Bloomers

Millions of Millennials have been financially supported by their Boomer parents throughout their lives. As a result, they've been able to live comfortably while working less than their parents did.

One's maximum earning years are between the ages of 45 and 54, and for the Boomers, this would have spanned roughly between 1991 and 2018, peaking from 2002 to 2007, while Millennials were just entering the workforce. So as Boomer parents flourished in their peak earning years, there was minimal pressure on their adult children to contribute to the household income nor to leave the nest and stop using up resources. Mom and dad made plenty of money.

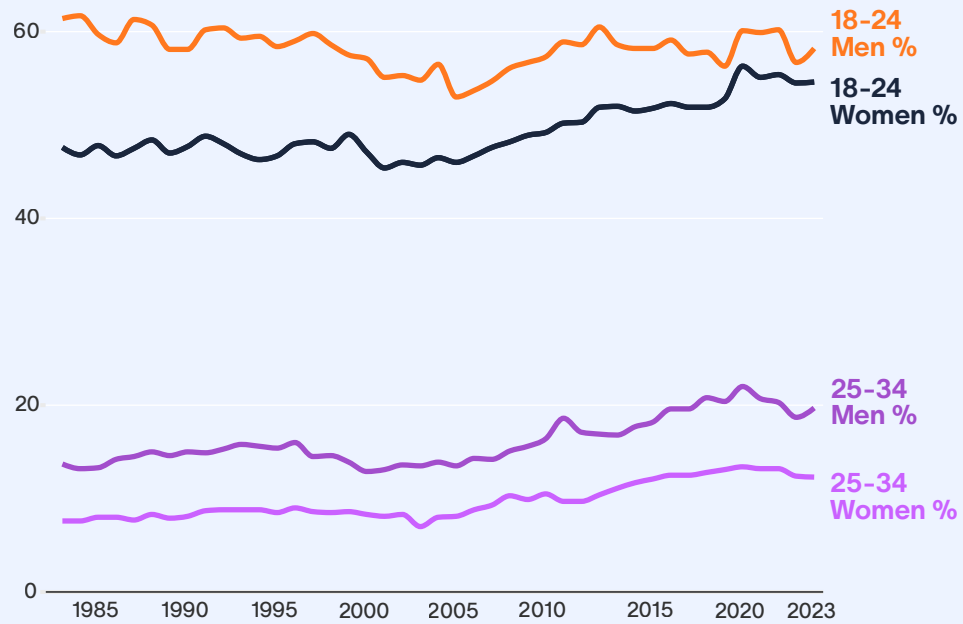
A full 13% of Millennials did not get their first job until they were over 20, compared to just 8.9% of Gen X and 6.3% of Boomers. And a USA Today study found that 65% of Boomers are financially supporting their adult kids. Census data also shows that a growing percentage of adults aged 25 to 34 are living with their parents—including roughly one in five men.

Starting in 2014, for the first time since 1880, more men 25 to 34 years old were living with their parents than with a spouse. For 25- to 29-year-olds, that percentage was an astounding 25%.

Simply put, Boomers were part of a unique economic era, which upended the circumstances they were born into, and future generations have made different adaptations because they're in a different environment. Fewer young people are working, in part because they have fewer financial responsibilities and in part because their financial needs are met through other means.

A growing number of young adults are living with parents.

Percentage of Young Adults Living With Parents



Source: US Census Bureau

Understanding the Prime-Age Male Workforce

Prime-age men (ages 25 to 54) make up the largest share of the working population—but their participation is dropping.

In 1980, prime-age men made up 38% of the workforce, but as of mid-2024, it lies at just under 34%. Over this period, the LFPR for prime-age men has fallen from 94% to 89%. This drop represents roughly 2.6 million prime-age men no longer actively working or searching for a job.

We can zoom in for a closer look. The LFPR for men ages 25 to 34, already in slow decline as Boomers began aging out, took a shocking dive as Millennial men entered that age group. Just from 2007 to 2014, the LFPR went from 93% to 88%.

To be clear, this isn't saying that men are just a smaller fraction of the labor force than they used to be. Although it's true that women now comprise a larger share of the workforce as their participation started increasing in the 1950s, the problem isn't that men make up a smaller piece of the pie: it's that they are opting out of the pie entirely. Gen X, Millennial, and Gen Z men do not participate in the labor force at anywhere near the rates that prior generations once did.

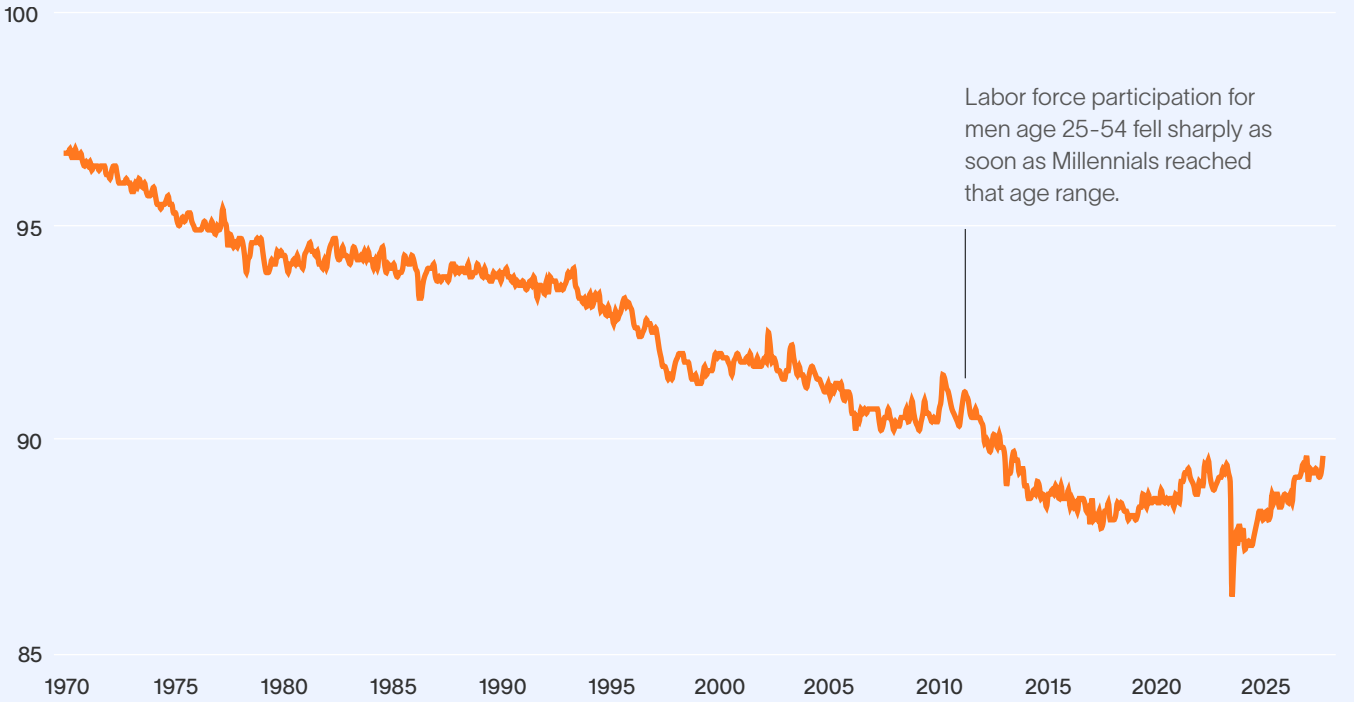
The last male group to grow in the labor force was Baby Boomers. In the chart below, note how male LFPR catapults as Boomer men enter the market from 1970 to 2000, but stagnates as they begin to retire.

As Boomers began exiting the labor market, the total number of prime-age men in the workforce did not grow at all for 16 years (from 2004 to 2020). However, the number of prime-age men not in the labor force swelled by an astonishing 70%. Millennials now outnumber living Baby Boomers, but fewer Millennial men are choosing to get jobs.

But economic trends don't happen in a vacuum: The present labor market conditions are also shaped by troubling developments pervading US society.

Labor participation for prime-age men has fallen dramatically.

LFPR, Men Ages 25–54



Source: Bureau of Labor Statistics

Addiction and Incarceration are Taking Prime-Age Men Out of the Labor Market

Substance abuse and incarceration both affect prime-age men disproportionately more than anyone else.

Drug-related deaths have soared over the past decade, fueled largely by the proliferation of synthetic opioids like fentanyl. US drug deaths hit a record high of over 107,000 in 2022, and while the good news is that these numbers started to drop in mid-2023, drug mortality still remains precariously high at more than 100,000 overdose deaths per year. Nearly 70% of these involve fentanyl.

These tragic statistics vary widely by sex, age, region, and even occupation:

- Synthetic opioids are the cause of death for 2 to 3 times more men than women.
- Roughly 87% of overdose deaths were among working-age people under 65, and 71% of overdose deaths were among prime-age adults.
- Although US overdose deaths are beginning to decline overall, some parts of the US—western states in particular—still face an ongoing increase in drug-related deaths.
- And jobs where workplace injuries are highest also tend to be most affected by opioid addiction and overdoses. These higher-risk occupations are overwhelmingly filled by prime-age men. For example, a Massachusetts analysis found that 1 in 4 opioid deaths occurred in Construction and Extraction occupations—in which 96% of all workers are male and almost 70% are prime-age.

The Labor Market Toll of Addiction and Incarceration

Between substance addiction and current incarceration, a total of **4.6 million** Americans are out of the labor force. The majority of these are prime-age men—the demographic that many of the occupations facing critical labor shortages rely on.

Substance abuse:

Deaths:

100,000+
overdose deaths per year.

70%
of overdose deaths are from opioids.

1 in 4
overdose deaths were in construction and extraction occupations, which are 96% male and almost 70% prime-age.

Addiction and abuse:

2.7 M
people are out of the labor force due to addiction.

1.2 M
of these are due to opioids.

232 M
missed work days due to alcohol alone—the equivalent of 112,000 full-time workers missing for an entire year.

The majority of drug-related deaths and addictions occur among prime-age men without a college degree.

Incarceration:

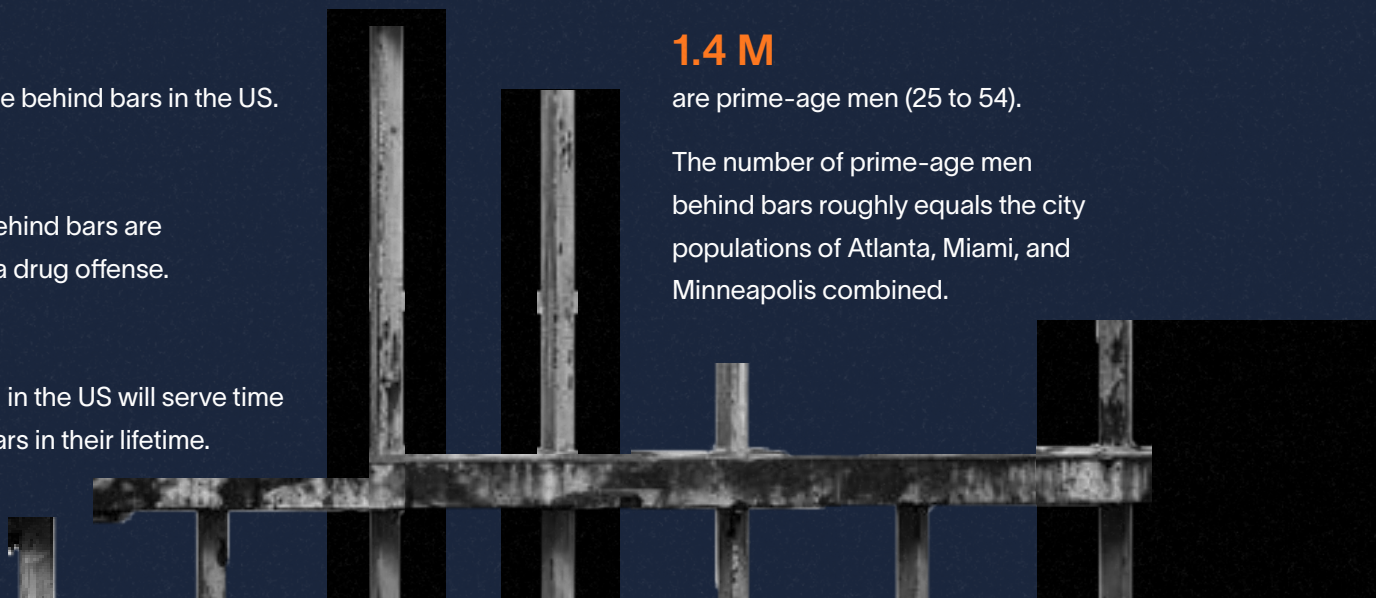
1.9 M
people are behind bars in the US.

1 in 5
people behind bars are there for a drug offense.

9%
of all men in the US will serve time behind bars in their lifetime.

1.4 M
are prime-age men (25 to 54).

The number of prime-age men behind bars roughly equals the city populations of Atlanta, Miami, and Minneapolis combined.



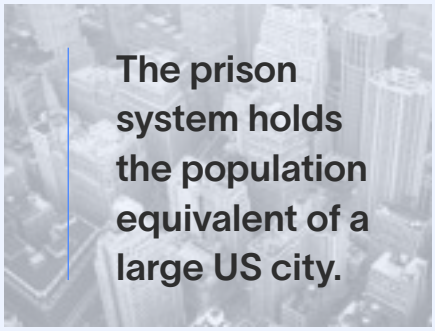
The annual loss of 100,000 people to drug overdoses is tragic, first and foremost, but the economic effects are also significant. During the entire 12 months from May 2023 to May 2024, the US employment level grew by just 376,000 people. If the 100,000+ individuals who lost their lives to overdoses that year had instead survived and found work, the growth in employment might have been almost 30% higher.

But as devastating as drug fatalities are, the personal, societal, and economic impact of addiction extends far beyond the deaths that result. Even legal opioid prescriptions correlate with decreased labor force participation, particularly for men. One study found that a 10% increase in opioid prescriptions accompanied a decline in male labor force participation of more than half a percentage point. In some of the hardest-hit counties, the prescription-opioid-related labor force decline is estimated to be as much as 4%.

NBER analysis also found that opioid abuse was responsible for more than 1.2 million Americans missing from the labor force as of 2022, including an excess of 259,000 above the pre-COVID trends. The same report found that opioids together with methamphetamines have resulted in an estimated 2.7 million prime-age adults who are entirely out of the labor force due to substance abuse.

Dealing an even heavier blow to the labor market is the fact that opioid abuse is three times higher, and meth abuse six times higher, among Americans without a college degree. **The people that the labor market needs most are those most likely to be struggling with drug abuse and addiction**.

But even this doesn't capture the full impact of substance abuse on the labor force. Many who are in the labor force and working full time are also losing work hours and productivity due to addiction and substance abuse. For example, Washington University's School of Medicine's survey of adults with full-time jobs found that alcohol abuse alone (independent of drug abuse) led to 232 million missed days of work per year. If the average full-time employee works 2,080 hours a year, those missed days amount to the equivalent of losing the productivity of 112,000 full-time workers—for an entire year—due to alcohol.



The loss of productivity, especially among men, to substance abuse and addiction is staggering. But another factor contributing to the loss of the prime-age male labor force is incarceration.

Given the extent of the drug problem in the US, it may not come as a surprise that close to 1 in every 5 (or 360,000) people serving time in jail or prison is there for a drug-related offense. But drugs are only a part of the story. The Bureau of Justice Statistics estimates that roughly 5% of the American population will serve time behind bars at some point in their life. For men, however, the rate is 9%. (For women, the likelihood is closer to 1%.)

The current US prison population is over 1.2 million, and with the addition of those behind bars in jails and other correctional facilities, that number rises to 1.9 million. Men account for 93% of the total—77% of whom are in the prime working age of 25 to 54. This amounts to 1.4 million prime-age men behind bars in the United States.

In other words, the prison system holds the population equivalent of a large US city—just of prime-age men who are not working full-time jobs, not supporting themselves or their families, and not advancing in their careers.

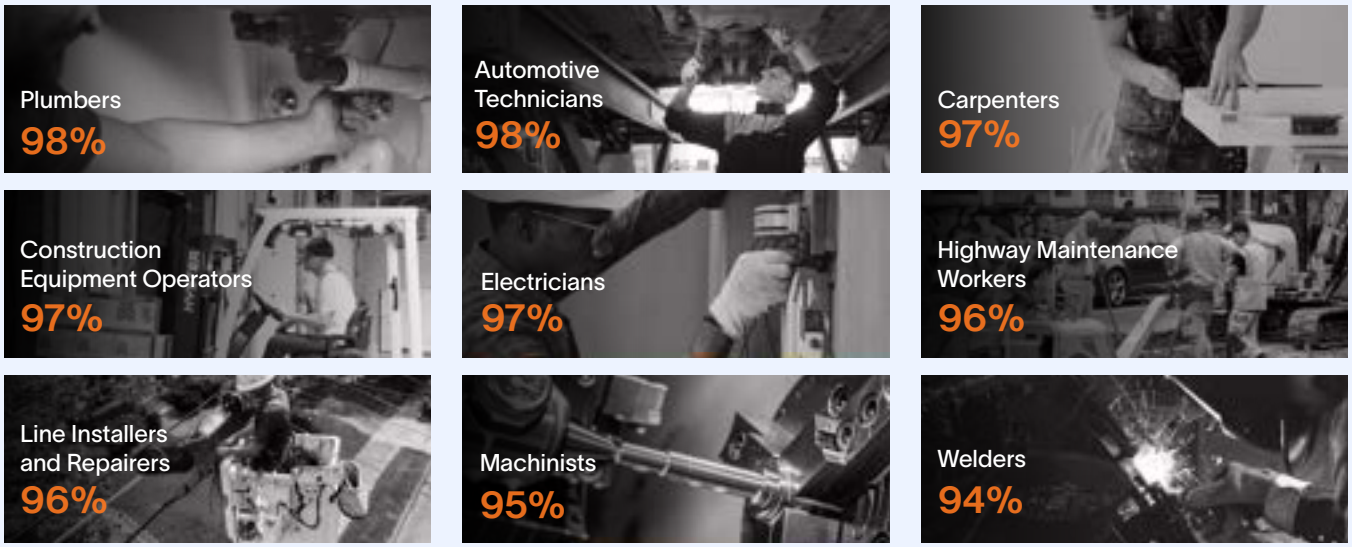
However, an inmate's absence from the labor force doesn't necessarily begin with incarceration or end when the sentence does. The causal connections between low labor force participation and incarceration are complicated. A recent working paper from NBER reports that among those convicted of crime, labor market detachment tends to be high both before and after incarceration, and that within 5 years of release, most former inmates return to the same level of labor force participation they held before their time behind bars. But we also know that 650,000 newly released inmates reenter society every year, and that reentering the labor market appears to be much more difficult than for the average American.

Among those who have served time behind bars, 60% are still without a job a year after their release. And the overall unemployment rate for those formerly incarcerated sits at a whopping 27%—almost 7 times higher than that of the general population. Former inmates who are looking for work represent a huge untapped reservoir of talent. And youth living in high-crime areas need more help learning employable skills and connecting to good jobs before crimes can be committed. Even among those who do not serve time behind bars, a history of criminal activity represents a unique challenge when it comes to building employer trust and developing important job skills.

Between substance abuse and incarceration, an estimated 4.6 million Americans are out of the labor force entirely, while millions more are working fewer hours, missing out on better opportunities, or struggling to get hired in the first place. The majority of those affected are prime-age men. And as the trades and other high-demand, high-risk occupations continue to rely heavily on this demographic, these jobs face an especially difficult uphill battle for talent.

Many occupations in the skilled trades rely on a workforce that is over 90% male.

% Male by Occupation (4-digit SOC), 2024



Source: Lightcast

A Tale of Two Labor Markets

The demands and structure of today's labor market were set by the conditions formed by the Baby Boomers.

When they were in tight competition for jobs, they differentiated themselves from their peers by pursuing higher education. And for decades, the strategy worked. Highly educated Boomers got better jobs, made higher incomes, and received better benefits than those without a degree. But this demand for higher education also fundamentally transformed the market. It made college education not just a path to career success but also a point of pride and a highly sought-after life experience for millions of Americans. And as a result, **the number of jobseekers with college degrees now far surpasses the number of job openings that require one**.

A Lightcast survey in 2022 found that roughly two thirds of graduating high school seniors immediately enrolled in a four-year degree program, and another significant portion enrolled in community colleges with the intent of transferring into four-year programs. Over half of these students reported feeling pressure from friends, family, and teachers to go the college route.

This is creating a misalignment problem. As Boomers exit the workforce and become consumers of services, the number of young people will not only shrink, but also remain out of the full-time workforce during their years in college. And many of the degrees they obtain do not align with the types of jobs the US will need most in the years ahead.

The numbers are already startling. From February 2019 to August

▸ If the skills that learners graduate with aren't the skills businesses actually need, education institutions aren't doing their job—and the value of the degree comes into question. Lightcast's Program Demand Gap Analysis can help institutions align offerings with market demand at every certification and degree level, ensuring learners get the education they need for the career opportunities available. ■

2024, the US labor force with a bachelor's degree grew by over 4.5 million. And yet the total labor force grew by only 3.7 million. How is this possible? Because 800,000 workers without a four-year degree dropped out of the labor force entirely, and the number of people with a degree was large enough to make up the difference.

College-educated workers are plentiful, but the majority of jobs demanded now, and in the near future, will not require a four-year degree. As of August 2024, Lightcast data shows that **nine out of the top 10 jobs with the most job postings in the US did not need a college degree**.

The Baby Boomer mindset that prioritized higher education was formed in an era where there were millions of workers competing for relatively few jobs, and employers could generally rely on having enough staff to meet their needs. For example, the trades were filled with men eager for steady employment, and fast-food restaurants were staffed with teens on summer break or earning some spending money after school.

But if young adults are putting off getting their first job, and the majority are pursuing four-year degrees in hopes of finding a professional, office-centered job, then crucial segments of the economy will be missing key workers.

The labor force is growing in ways misaligned with demand.

Growth of US Labor Force Over the Age of 25, 2019–2024

Source: Lightcast analysis

Among the top 10 most in-demand occupations, nine require a high school diploma or less.

Top 10 occupations (5-digit SOC) with the highest number of annual job openings:

1. Fast Food and Counter Workers
2. Home Health and Personal Care Aides
3. Cashiers
4. Retail Salespersons
5. Stockers and Order Fillers
6. Waiters and Waitresses
7. Laborers and Freight, Stock, and Material Movers
8. Customer Service Representatives
9. Janitors and Cleaners, Except Maids and Housekeeping Cleaners
10. General and Operations Managers

Source: Lightcast analysis

The Outer Bands

When hurricanes form, their furthest reaches—the "outer bands"—arrive before the more destructive wind and rain closer to the center. The same is true for the demographic storm approaching: Even before the storm itself arrives, its first impacts are being felt.

The first of these arrived in 2021 and 2022. After the COVID-19 pandemic, as much of the country returned to business as usual, the labor market faced a shortage of workers throughout the economy, peaking at 12 million job openings in March 2022. A high rate of worker quits in industries including retail, food service, and leisure and hospitality indicated that lower-wage workers were highly in demand and therefore very confident that they could find a better job if they left their current one. Wages increased, and inflation spiked.

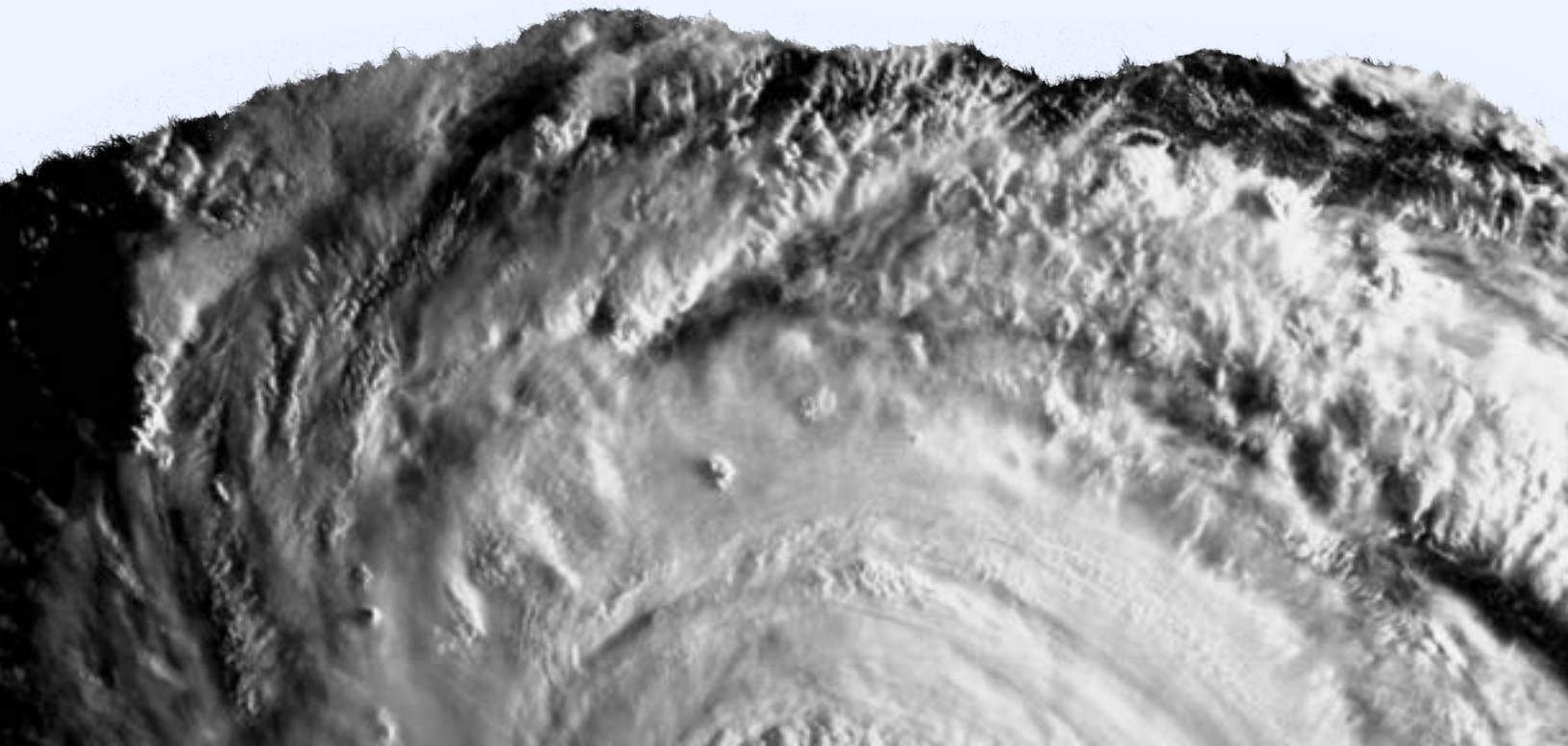
The lower wage shortage was largely driven by a plunge in immigration. Travel restrictions, consulate shutdowns, and even worker shortages within the government led to fewer visas being processed in 2020 and 2021.

By 2023, many of those trends had reversed course. The COVID-era labor crisis had mostly passed, although competition still existed in many fields, such as healthcare. Immigration recovered significantly, which helped bring down wage inflation in services and consumer products, which then helped overall inflation to fall as well. In April 2024, Federal Reserve Chairman Jerome Powell testified to Congress that "[Immigration] actually explains what we've been asking ourselves, which is how can the economy have grown over 3 percent in a year when almost every outside economist was forecasting a recession?"

Put into hurricane terms, the waters surged above flood stage for a while, which was reflected in a wage-price spiral, and then coiled back. A historically high increase in immigration provided a quick fix to many of the shortages and inconveniences caused by a tight labor market, and the lasting damage was minor.

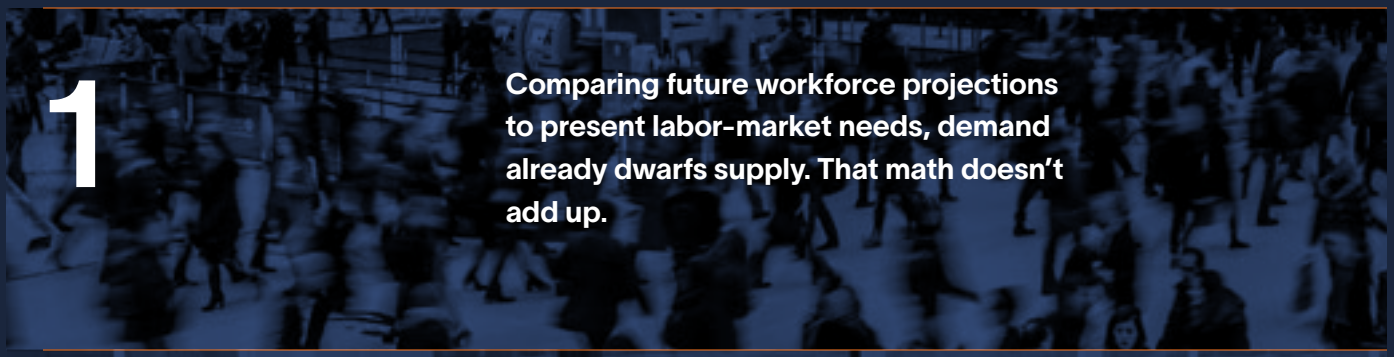
It would be tempting to think that the storm has passed—with "The Great Resignation" over, the labor market will return to business as usual. But **this wasn't the storm itself; it was only a precursor to the real thing.**

The retirement of the Baby Boomers is a structural change, not a cyclical one, and the declining labor force participation of younger generations will be difficult to reverse. The shortages and inconveniences of 2021 and 2022 gave the US an excellent glance into its future.



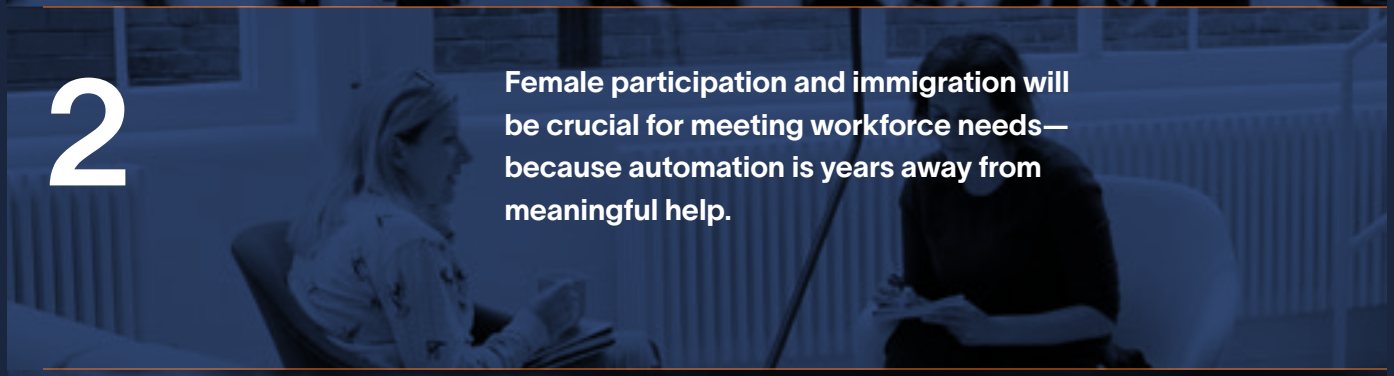
Landfall: The Decade Ahead

Takeaways



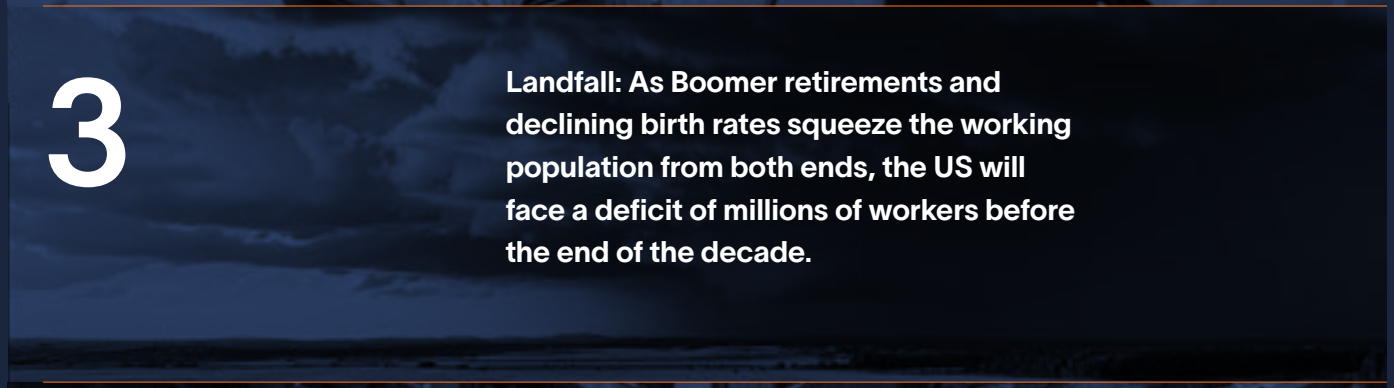
1

Comparing future workforce projections to present labor-market needs, demand already dwarfs supply. That math doesn't add up.



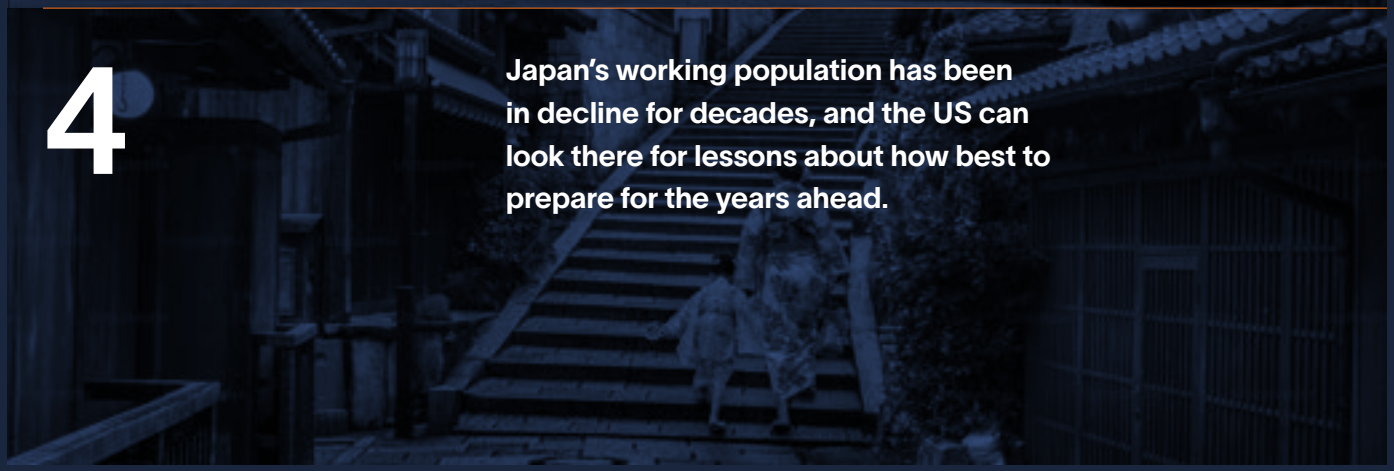
2

Female participation and immigration will be crucial for meeting workforce needs—because automation is years away from meaningful help.



3

Landfall: As Boomer retirements and declining birth rates squeeze the working population from both ends, the US will face a deficit of millions of workers before the end of the decade.



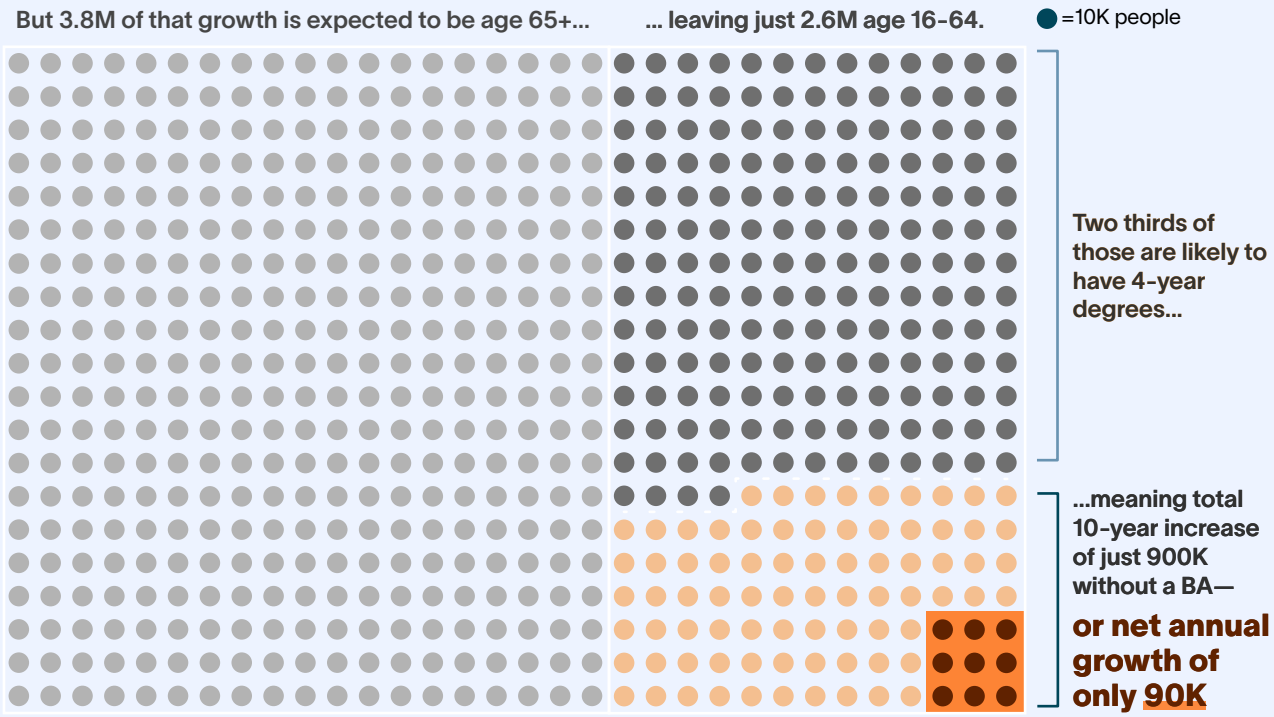
4

Japan's working population has been in decline for decades, and the US can look there for lessons about how best to prepare for the years ahead.

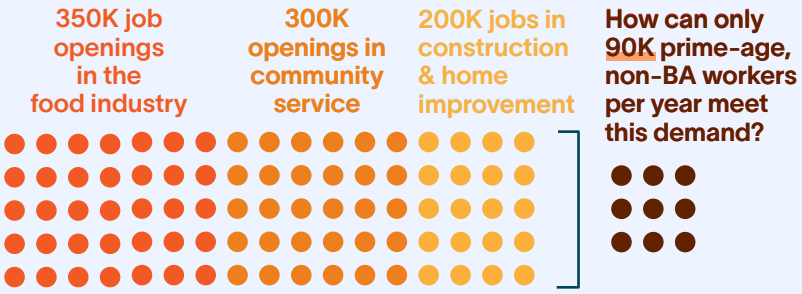
The Math Problem

The Bureau of Labor Statistics predicts 6.4 million workers will be added to the labor force from 2022 to 2032. (This is the same projection that showed, on pages 18-19, that US population growth will outpace labor force growth 8 to 1.) Taking that estimate at face value, it would still be the smallest ten-year increase on record. For comparison, the Baby Boomers' entry into the job market added 25 million workers to the labor force in the 1970s—a sharp contrast to projected ten-year growth of less than 7 million.

BLS projects net labor force growth of **6.4 million** by 2032.



But currently, we have **850K job openings** in just these 3 critical sectors:



Source: Bureau of Labor Statistics, Lightcast Analysis

Broken down by age, the BLS projections offer more detail. Among the 6.4 million new workers, nearly 60% (3.8 million) will be over the age of 65, leaving 2.6 million prime-age workers.

We know that workers continue to retire early, casting doubt on the idea that the over-65 labor force will increase, but we can play along. Based on BLS's figure of 2.6 million prime-age workers, let's put together a hypothetical projection to estimate where those workers might end up.

If current education trends hold, roughly two thirds (1.7 million) of those remaining workers will have a college degree, meaning the US will produce just 900,000 workers without a 4-year degree from now until 2032.

These 6.4 million net new workers will be in high demand. Assuming they are distributed evenly at 10% entering the labor force per year, then we can expect 640,000 annually, of which 90,000 are prime-age and have less than a bachelor's degree.

Looking just at some of the most essential categories of work, demand is already high, particularly in fields that require physical exertion and no college degree.

Already, the demand dwarfs the supply—imagine what will happen as a growing and aging population needs more food, and more housing.

These are jobs that need to be filled, but there simply aren't enough workers. So where can we look to find them?

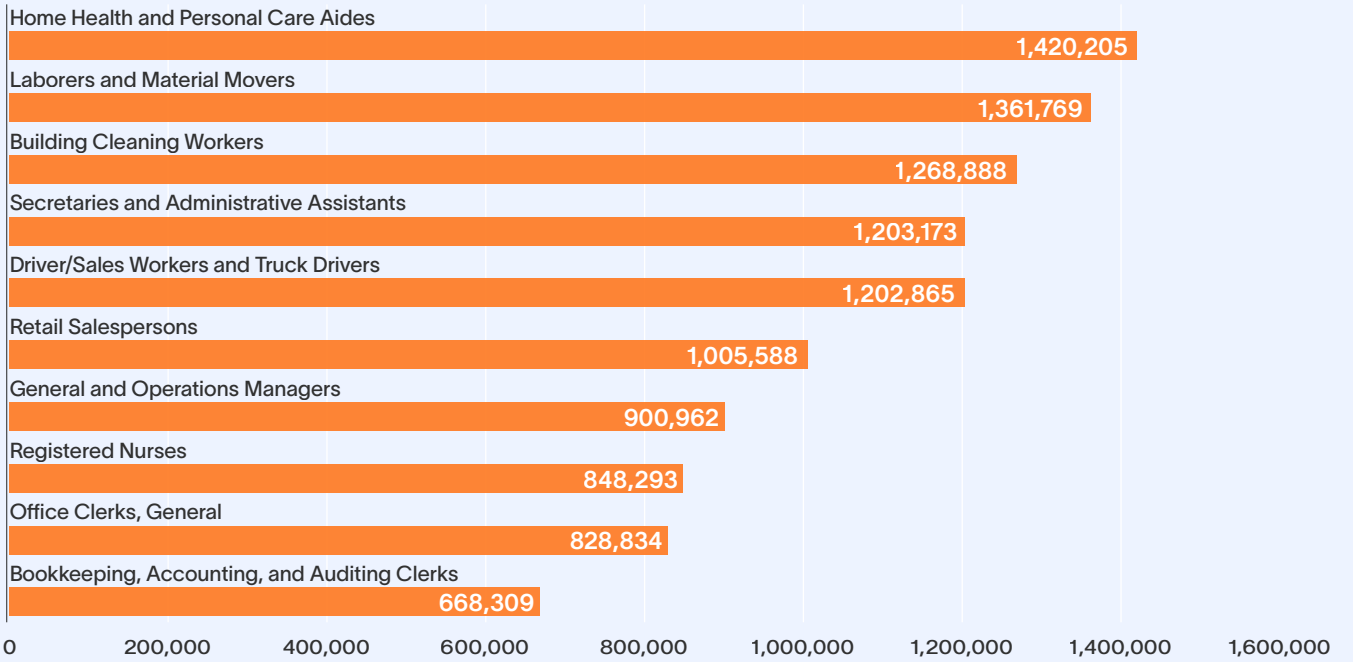
Who is Going to Do The Work?

These challenges are arising as Baby Boomers retire, and we've also established that labor force participation for US-born prime-age men has decreased. According to Lightcast data, some of the occupations that are most important to our society's functioning, including home health aides, custodial workers, and truck drivers, are among those where older workers are most prevalent.

But who will fill these urgently needed jobs if US-born men are not? We have three options: women, immigrants, and automation. Let's take each alternative in turn.

Millions of critical jobs are filled by people at or near retirement age.

Top 10 Occupations (4-Digit SOC) With the Highest Number of Workers Age 55+



Source: Lightcast

Record-High Women's Participation Hides Deeper Trends

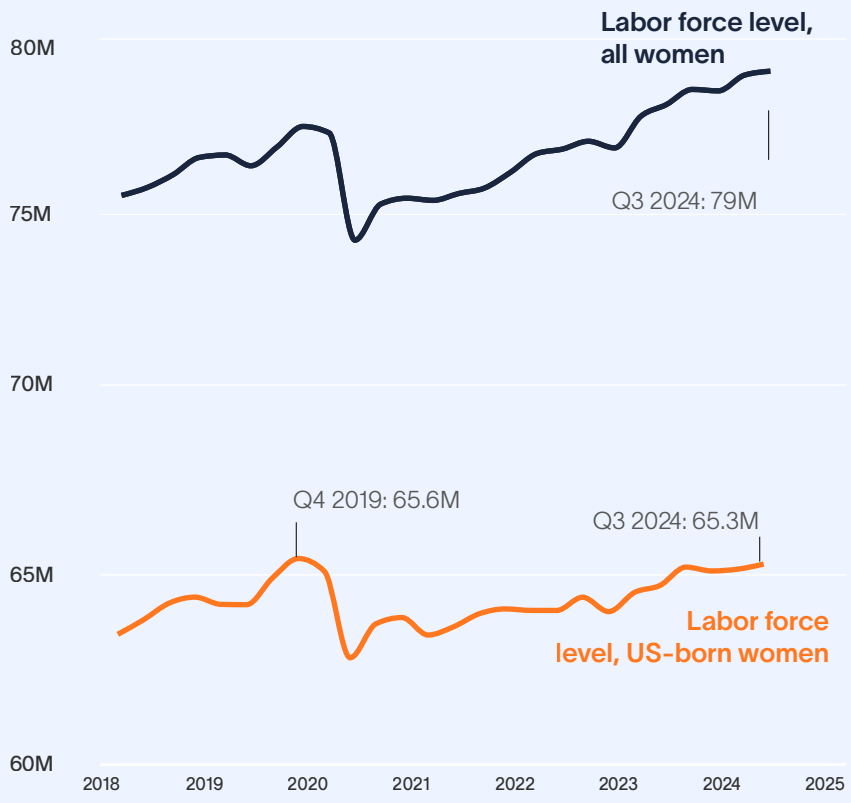
Prime-age (25 to 54) women reached a significant milestone in 2024 as their labor force participation hit record levels, including an all-time peak of 78% in April.

The gains in the women's labor force may seem, at first, like a reason to rely more heavily on American women for future growth. But what's noteworthy is this: Although more women are now in the labor force overall than there were prior to the pandemic, **100% of the net growth in women's labor force over the last 5 years has come through immigration**.

The labor force level for US-born women has been slow to recover, still below its 2019 level. This trend indicates that if more women are to join the workforce in the coming years, the US-born population may not be the place to find them.

Even though more women than ever are in the labor force, the share of US-born women is lower than it was in 2019.

Civilian Labor Force Level



Source: Organization for Economic Co-operation and Development

Adding to the challenge is this: developing the future US labor force often comes at the expense of the current labor force, and vice versa. If women have children in the near term, that supports labor force growth in the decades to come, but often at the expense of the mother's current place in the labor force. Neither route provides a clear and easy solution.

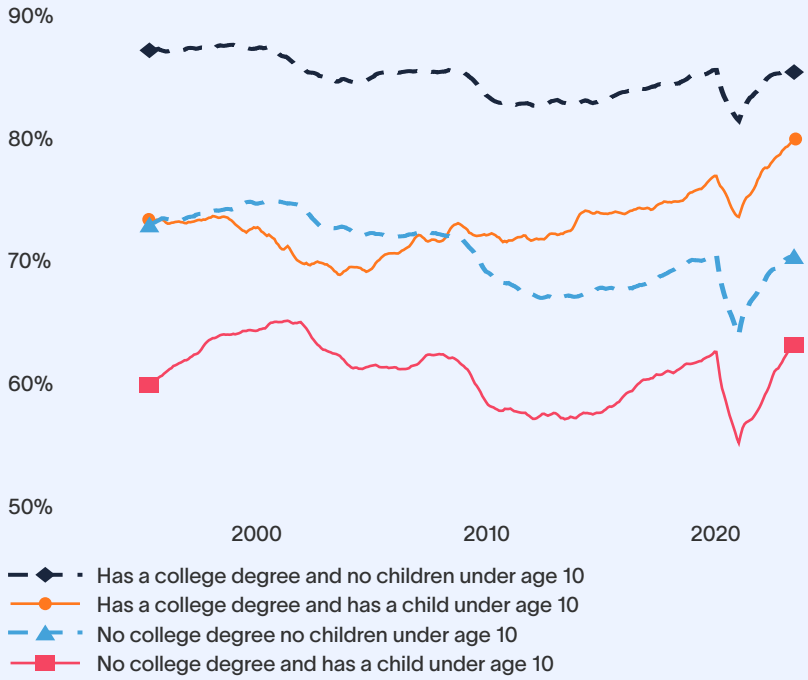
Having children tends to take women out of the job market during the years when their children are young. Prime-age women with young children at home have lower rates of employment than their similarly educated counterparts without young children.

To be fair, there are nuances within this larger trend: Since 2020, the cohort of women with the highest increase in labor force participation has been women with the youngest children (aged 0 to 4). The rise in remote and hybrid work since the pandemic, as well as an increase in jobs offering more flexible hours, have likely played a significant role in allowing more women to seek employment while caring for their very young kids.

However, this demographic of moms with young kids still posts the lowest labor force participation rate among all prime-age women.

Women with a college degree and no children have the highest employment rates.

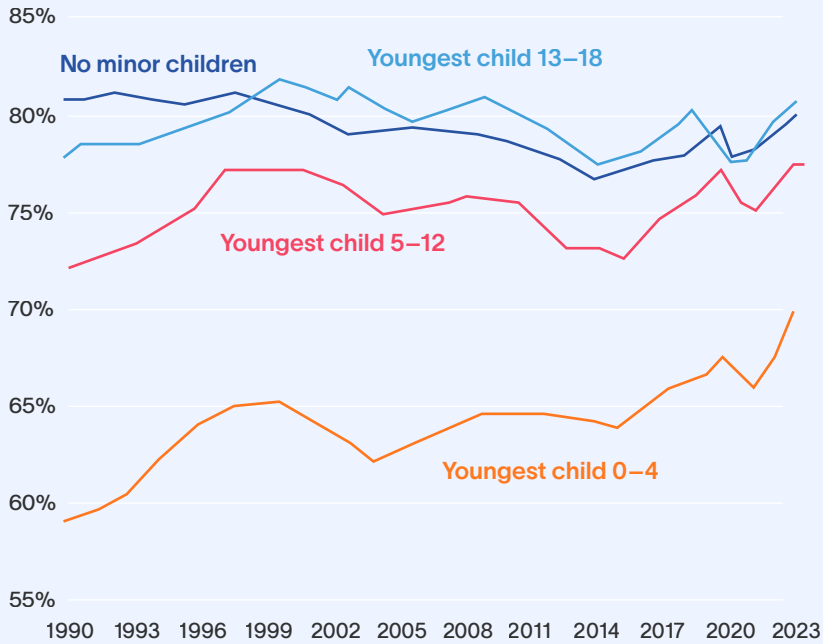
Prime-Age Women by Educational Attainment and Motherhood



Source: Penn Wharton Budget Model Analysis of CPS and IPUMS data

Among prime-age women, mothers of children ages 0–4 have the lowest participation rate.

Prime Age Women's LFPR 1990 to June 2023, by Age of Youngest Child



Source: Brookings; Bureau of Labor Statistics

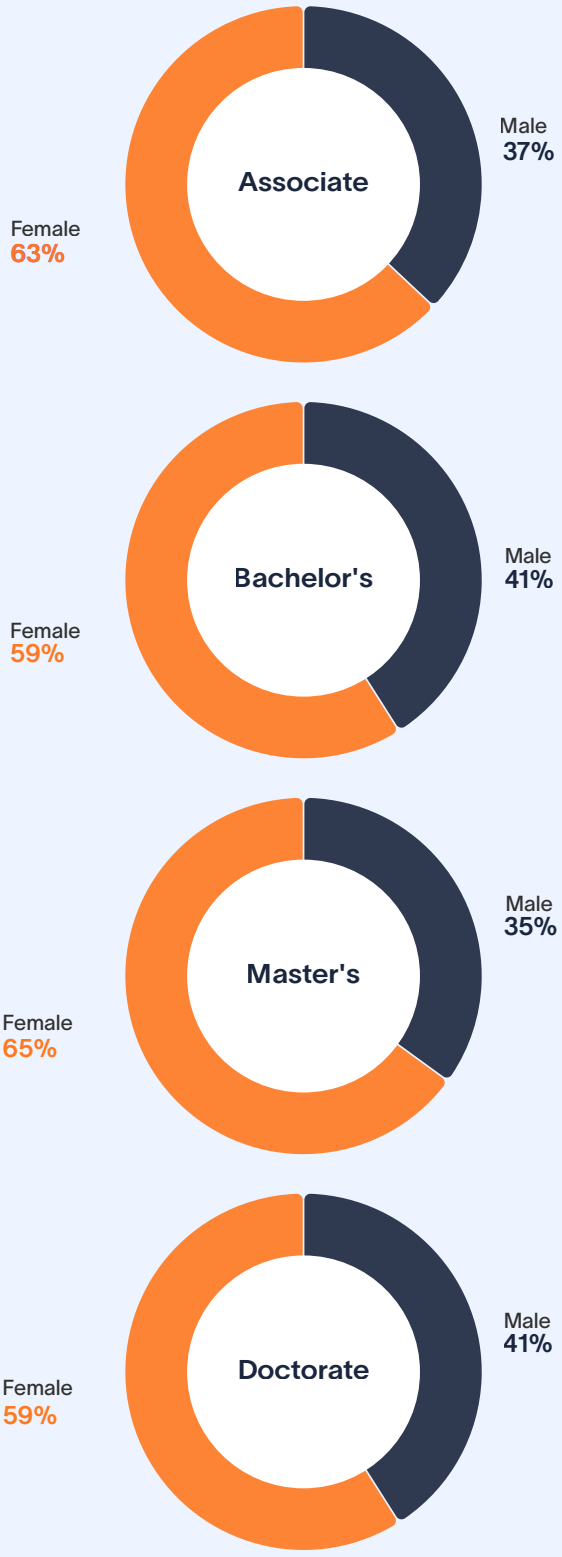
So even as women's labor force participation rises overall, important caveats limit the long-term reliability of that trend. Another is that women are not trained for many of the jobs seeing the greatest demand for workers.

The tightest labor shortages across the labor market are in high-demand sectors like the skilled trades, which do not require a college degree. But women earn the majority of degrees at every level of higher education.

So while women have been earning degrees at record levels and filling a growing share of critical roles in sectors like healthcare, Lightcast occupation data reveals that women still fill an extremely small share—less than 2%—of the roles in dozens of trades that are facing critical shortages. These include plumbing, auto maintenance, HVAC, mining and extraction, and similar hands-on fields. **Of all occupations (5-digit SOC) where 90% or more of the workers are men, just 3% require a college degree.**

The bottom line is this: a labor force with a growing share of highly educated women is not one prepared to fill the rising number of openings in many of these critical, male-dominated skilled-trade jobs.

Women earn the majority of US college degrees at every level.



Source: Lightcast, NCES Finalized Degree Data for 2021-22 Academic Year

Immigration is Keeping the Labor Market Afloat

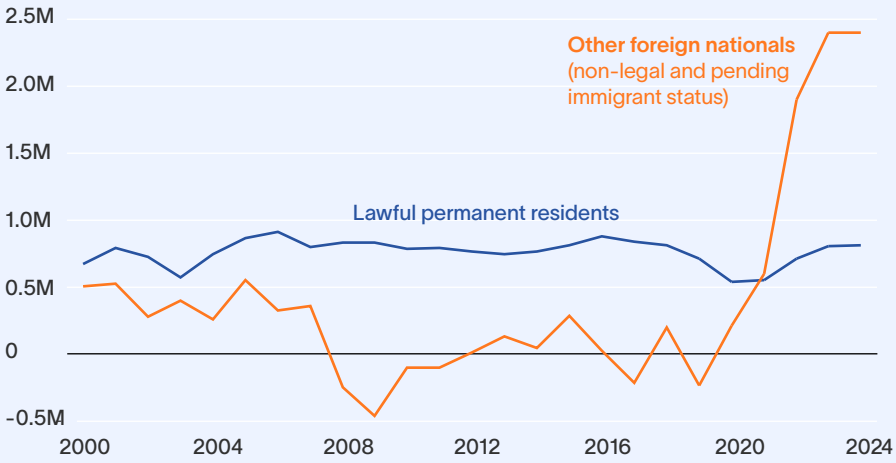
If there aren't enough workers in your own country, your alternative is to get them from other countries. According to revised estimates from the Congressional Budget Office, the US saw an increase of 3.3 million immigrants in 2023, 2.6 million of whom made it into the labor force. This is significantly above any number the US has seen in decades. Typically, immigration held steady at around 1 million per year.

Between Q4 of 2019 and the first half of 2024, the US labor force grew more than 2%, but all of that growth has come from outside the country. In that time, the US-born labor force lost 73,000 people, while the foreign-born labor force grew by 3.77 million. Without the immigrant population, the US labor supply would have fallen below 2019 levels.

In many respects, foreign-born workers are essentially keeping the US economy afloat. Significant portions of the US labor force rely heavily on a steady stream of foreign-born workers, such as the IT and construction industries, at roughly 4.5 and 3.5 million, respectively.

With legal immigration holding steady, the rise in other foreign nationals explains recent labor force growth.

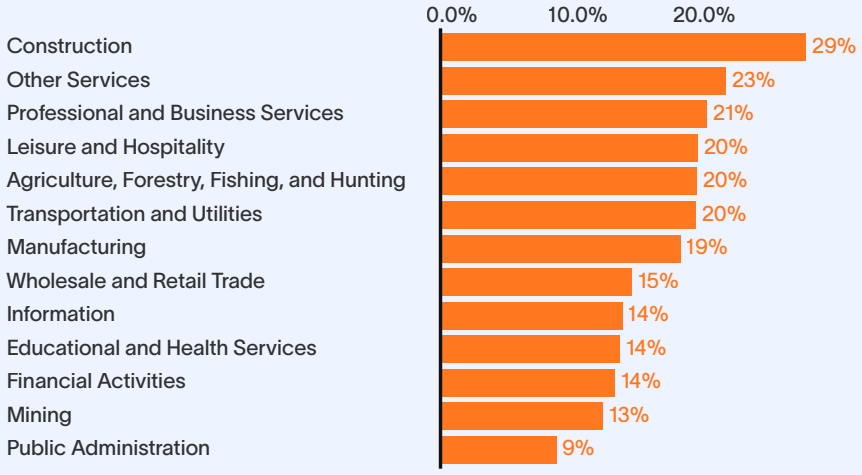
CBO Estimates of Net Migration By Category, 2020–2024



Source: Congressional Budget Office

Foreign-born workers make up a large share of many crucial industries.

Share of Employed Workers That Are Foreign Born (2022), By Industry



Excludes military workers. Source: US Census Bureau

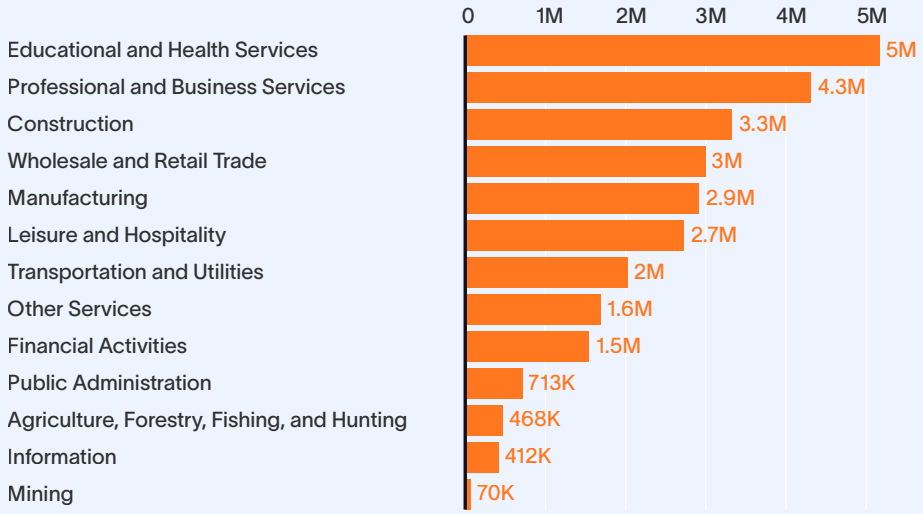
Healthcare in particular clearly illustrates the US labor force's reliance on immigration. Nearly 2.8 million—or 18%—of the healthcare workers in the US have come from outside the country. Foreign-born workers account for one in every four doctors, one in five registered nurses, and one in four health aides. (In some states, these numbers approach one third, or even one half, of workers in these healthcare occupations). The US currently employs 143,000 nurses from the Philippines alone (about 5% of all nurses) and more than 350,000 Filipinos in healthcare overall.

So if the question is whether immigrants can supply the workforce that the US-born population isn't providing, the answer seems to be yes—for now. Foreign-born workers make up such a large share of the US workforce that it could not function without them.

Foreign-born workers account for one in every four doctors, one in five registered nurses, and one in four health aides.

Industries across the labor market employ millions of foreign-born workers.

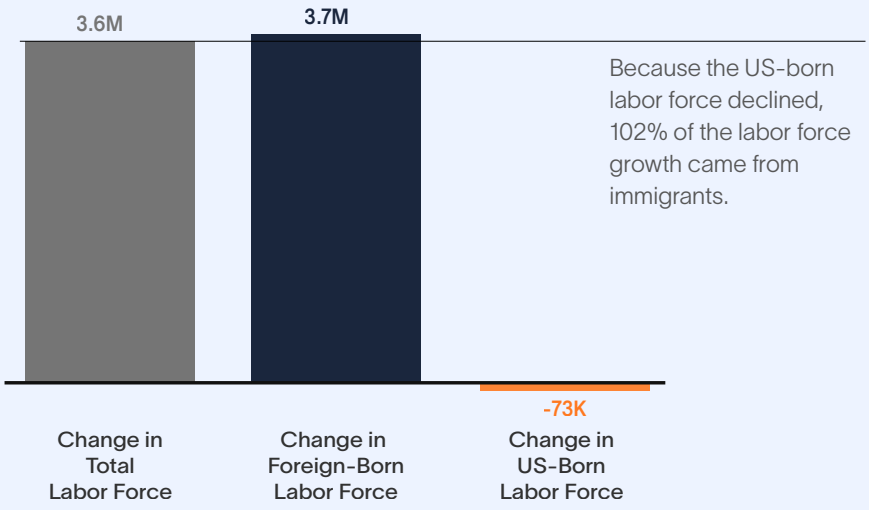
Employed Foreign-Born Workers (2022), By Industry



Excludes military workers. Source: US Census Bureau

Without foreign-born workers, the US labor force would have shrunk over the past five years.

Change in Civilian Labor Force, Q4 2019–Q2 2024



Source: Bureau of Labor Statistics; Lightcast Analysis

Non-Human Augmentation is Years Away from Effective Help

Finally, if fewer and fewer people are participating in the labor force, can AI and automation make up the difference?

The short answer is no. At least not anytime soon, and not in the sectors that need it most. The tools simply aren't there yet, and the industries most in need of workers are those least likely to be replaced with AI.

Despite years of head starts, chatbots like ChatGPT produce largely unsatisfying results—some useful shortcuts and improved efficiency, yes, but nothing at the level that could replace humans in whole sectors of the market. As best stated in recent research by Goldman Sachs and MIT, "There is pretty much nothing that humans do as a meaningful occupation that generative AI can now do." If AI cannot handle the simplest of questions in common experiences in 2024, it is hard to imagine it being able to handle complex tasks in just a few short years.

Companies want to believe AI is the future, but their consumers disagree. Customer service satisfaction scores are plummeting as more and more companies turn to chatbots and automated systems.

Artificial intelligence may augment tasks, but won't replace anyone's job anytime soon. But even if it were, which jobs would it be replacing? This type of technology is best at understanding and analyzing large packets of information, and generative tools specifically are best at creating new written and visual content. The jobs most likely to be affected by AI are in management, information, and other professional fields.

Lightcast research has presented similar findings. Out of the ten occupations that list the most AI-related job postings, eight are in tech, and the others—Pilot and Research Scientist—are highly specialized, professional roles.

Non-tech jobs that request "Generative Artificial Intelligence" most in postings are likewise in office-based jobs, including marketing and sales roles.

Above, when we distributed the projected growth of 6.4 million new workers into the highest-priority jobs that the US needs to fill, we put the greatest emphasis on sectors like nursing, food service and construction, not IT and marketing. The urgent need in the US labor market is for practical, hands-on work, but there is no real evidence that tech companies intend to produce technology that would solve these problems, and no indication the sectors most in need are prioritizing this kind of technology either.

Consider the fast-food worker: an occupation with a relatively

AI is most relevant to tech jobs, according to job postings.

Number of Postings for Top AI-Related Occupations, 2023

Source: Lightcast

Among non-tech jobs, writers and SEO specialists need generative AI skills most.

Share of Job Postings in Non-Tech Roles Requesting Generative AI Skills

Source: Lightcast

low salary in an industry with low margins. If automation could reduce the need for those workers, then not only does it help the country to stay fed, but those workers would have opportunities to find higher-paying work in a less menial field.

To that end, we're a long way off. Chris Kempczinski, CEO of McDonald's, summarized it well when he said, "[Automation] is great for garnering headlines; it's not practical in the vast majority of restaurants." (McDonald's also recently ended an experiment with AI taking orders at the drive-thru).

Technology isn't advanced enough to do diverse hands-on tasks, especially in the industries most in need of help. Instead, AI is targeting jobs typically filled by those with a college degree. One notable exception is healthcare: While most jobs in the field require a college degree, Lightcast data shows that it has the lowest demand for AI overall.

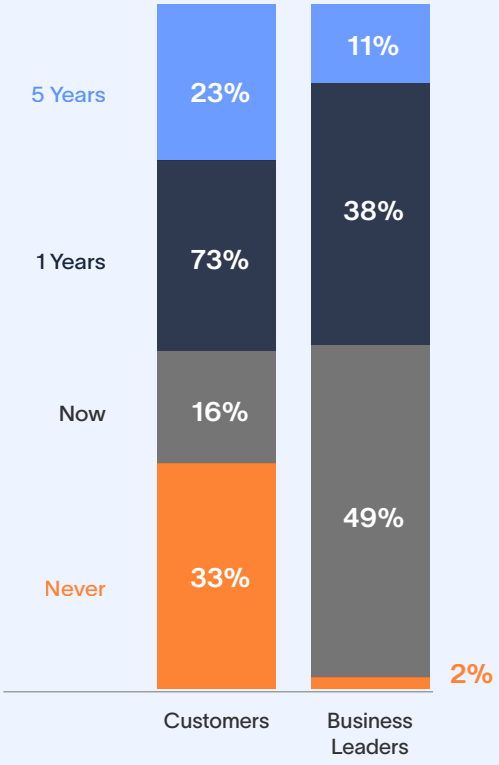
Looming Boomer retirements will require even more nurses, doctors, and other workers than the significant need already facing the US healthcare industry. Is technology anywhere close to providing that assistance?

The National Nurses United say no: **"As nurses, we know that the hands-on work of caring for other people cannot and should not ever be automated. The work of registered nurses, and of other health care workers, must be provided in person. No artificial intelligence system will ever replace the human expertise and clinical judgment essential to providing the safe, effective, and equitable nursing care that all patients deserve."**

In summary: older workers are retiring. US-born men are participating in the labor force less than they once did. Women's labor force participation is up, but immigration is driving that change and, in fact, keeping the entire labor force afloat. Automation is still far off from providing meaningful assistance. And the storm hasn't even hit yet.

Business leaders are optimistic, but one third of customers believe AI will never improve engagement.

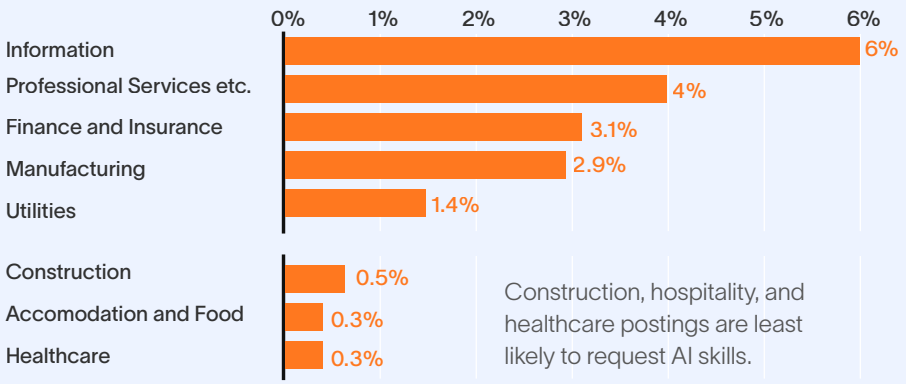
Survey: "When Will AI Improve How Customers Engage With Business?"



Source: LivePerson

Demand for AI skills is highest in office-based professional sectors.

Share of Job Postings Demanding AI Skills, May 2023–May 2024



Source: Lightcast

Landfall

Recall how the labor market tightness of late 2021 through early 2023 marked the "outer bands" of the hurricane forming. During that time, labor force participation dropped about one percentage point from its pre-pandemic levels, and the result was unprecedented turnover and wage growth, followed by the highest inflation since the 1980s.

The years ahead are poised to bring more of those challenges; if those were the outer bands, this is landfall.

The BLS projects that the labor force participation rate will fall in the future, not increase—estimating a LFPR of 60.4% by 2032. That's a full two percentage points lower than we've seen in the post-pandemic era so far, when LFPR has hovered near 62.5%.

The same office predicts the working population will increase 7% over the same period (up 18.7 million, for a total of 282.6 million).

This means a lower percentage of the population will be working in order to support a larger overall number of people. Consider this the worst of both worlds: If the population increases, then the existing workforce is strained to continue producing enough goods and services to meet existing demand. If labor force participation decreases, then the existing population has fewer workers available to meet its needs.

If both happen at once, that's a Category 5 disaster. Those two projections combined will lead to 6 million fewer people in the labor force in under 10 years.

Understanding the Forecast

If the rising storm has been built on patterns that have developed over the course of decades, then projecting its arrival within a few years requires compelling evidence.

Some back-of-the-envelope math gives us a rough proxy for the challenge we're about to face. Assume everyone leaves the labor force when they turn 65, and they join it as soon as they turn 16, so every year, we take the number of new 16-year-olds and subtract the number of new 65-year-olds. For decades, that has given us more net workers every year—but in 2027, that stops. We've always had a positive number, but we're about to see a negative number.

Raising the stakes even higher, this projection is based on the rule of thumb that people retire at age 65, even though we've already seen that most workers retire earlier. It also assumes that 16-year-olds will replace retirees, even though we've also seen that workers are entering the workforce later and later. The labor force for US-born workers has already been declining for months now, years ahead of schedule.

When BLS projects that a net 6.4 million workers will join the labor force between 2022 and 2032, it assumes 3.8 million will be over the age of 65. This would mean that the labor force participation for those aged 65 and older will increase, which would offset the looming threat of a shrinking workforce.

In other words, they project that workers are retiring later and later, which is not supported by our earlier evidence that retirements are happening earlier and earlier.

Without immigration, working-age people will start to disappear from the US labor force.

Simulated Net Change in the US Working-Age Population Excluding Immigrants

Graph represents population change if 65 year olds (workforce exits) are subtracted from 16 year olds (workforce entrants).

Source: Census.gov, Lightcast Analysis

Compare the following two charts. In 2022, BLS projected that up through 2032, the LFPR for people aged 75 and older will increase from about 8% to about 10% (top chart).

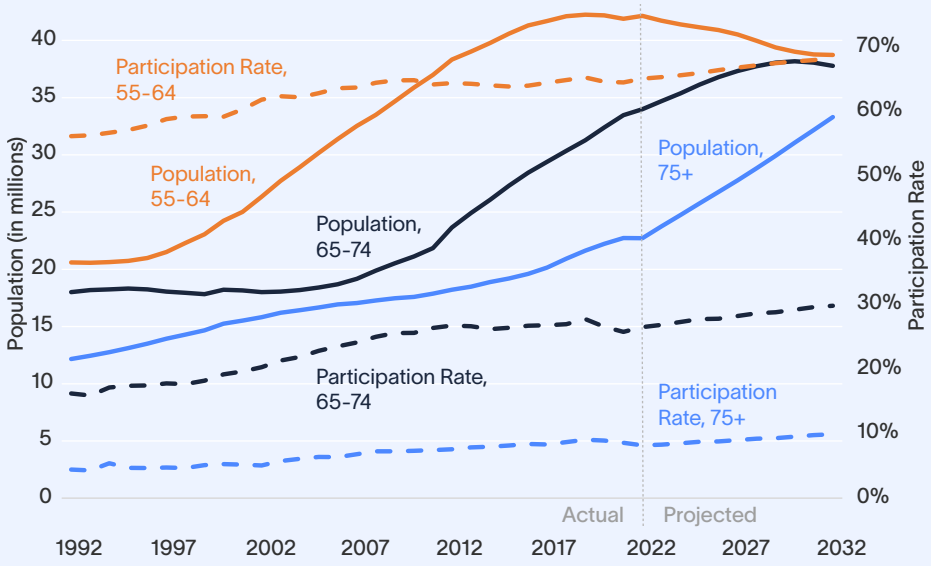
Instead, we see in the second chart that labor force participation has dropped steadily since 2022 for this segment of the population. Neither the 65 to 69 nor the 70 to 74 age group has seen an increase in their LFPR for the past six years.

This includes the period in 2022 and 2023 when high inflation and a hot labor market put workers at the advantage, so if there ever were a time to rejoin or stay in the job market, that would have been it. Conventional wisdom would hold that if wages are high, and the cost of living is also high, individuals would respond to both the carrot and the stick by taking jobs. Since older workers did not, there seems little evidence to suggest that any combination of incentives will bring them back into the labor force. They're gone for good, which casts doubt on any projection that depends on their increased participation.

Looking ahead, the trend of early retirement shows no indication of changing course. In fact, it is poised to continue accelerating. After Baby Boomers retire, it will be Gen X's turn—and they've already beaten Boomers' average retirement balances, clearing the way to even more early retirements.

BLS projects rising labor force participation for older adults, but early retirements call those projections into question.

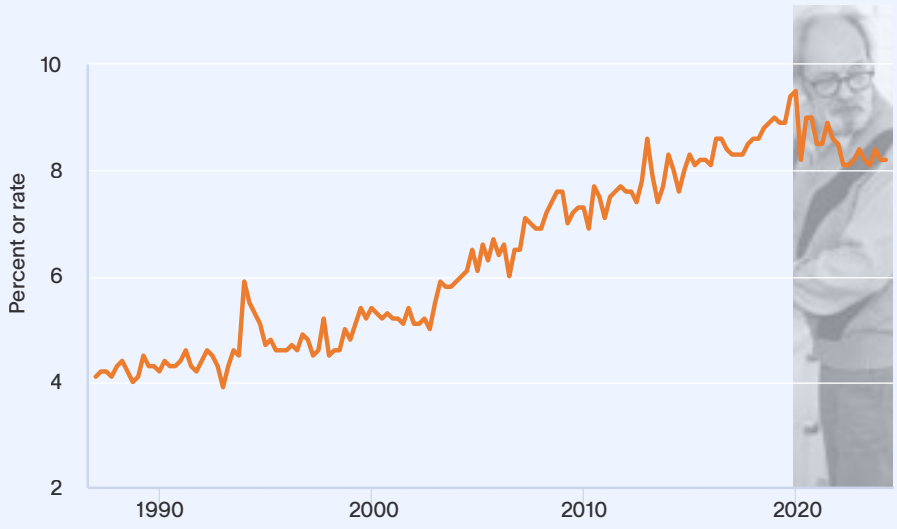
Population and Labor Force Participation Rate, by Select Age Group, 1992–2002, and Projected 2022–2032



Source: Bureau of Labor Statistics

After years of increases, labor force participation for the oldest Americans is now dropping.

Labor Force Participation Rate, 75+ (Unadjusted)



Source: Bureau of Labor Statistics

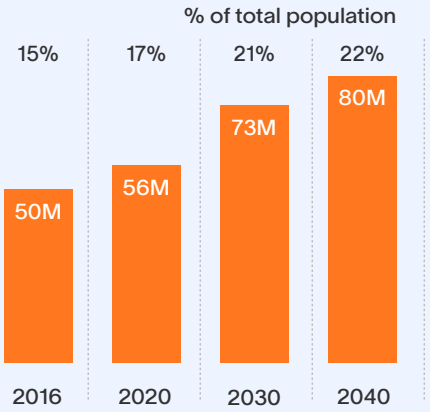
We've seen that workers retire earlier than they expect to. Looking ahead, future generations expect to retire earlier than the one before them, meaning that the decades to come could see even lower proportions of adults in the workforce.

An aging population can also take more prime-age workers out of the labor force: Over the past several years, nursing care facilities have been hit harder by labor shortages than most other workplaces, a significant feat in an era where workers are hard to find across the board. As the Boomers enter their 80s, demand for nursing homes will surge. If there aren't enough workers to meet that increased demand, then many older adults will need to find home-based healthcare—but the home health industry is also chronically understaffed.

The only remaining option would be for someone, like a family member, to take care of their elderly relative without pay. Currently, according to Census Pulse Surveys, roughly 3% of people are out of the labor force taking care of elderly relatives or friends—a number that is likely to rise to 5% or more as the elderly population continues to grow.

The share of the population 65 and older is projected to continue rising.

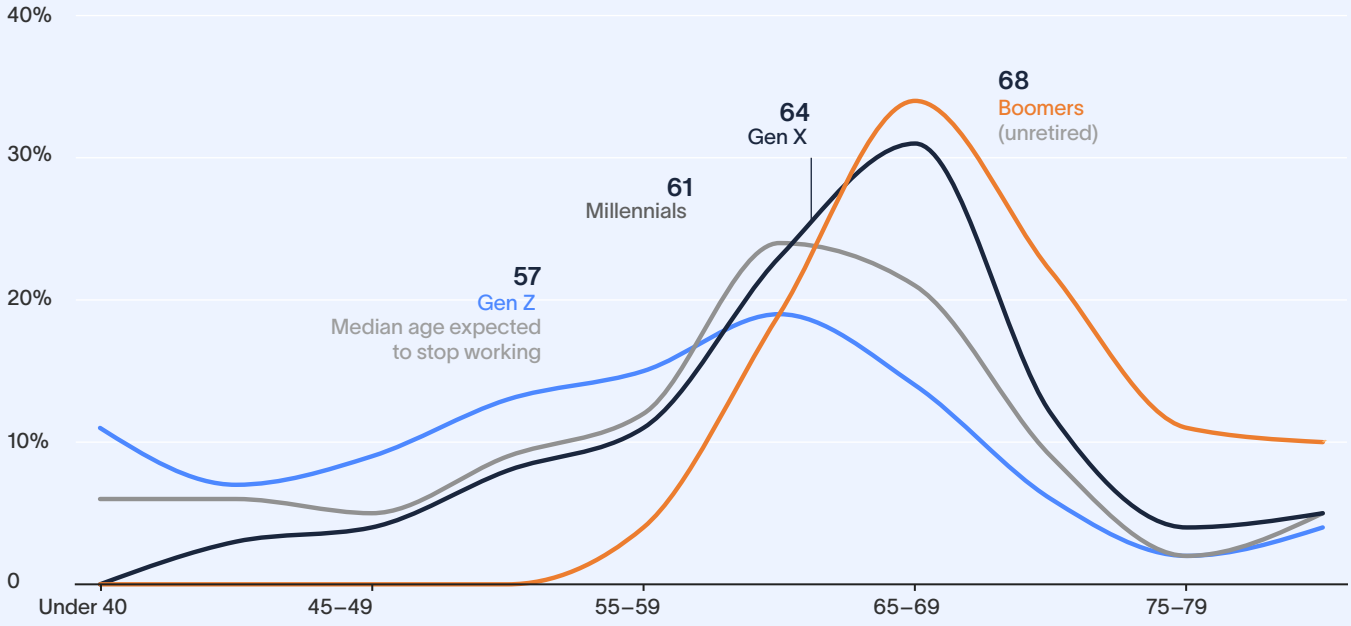
Projections of the Older Adult Population



Source: US Census Bureau

Each generation anticipates retiring earlier than the one before.

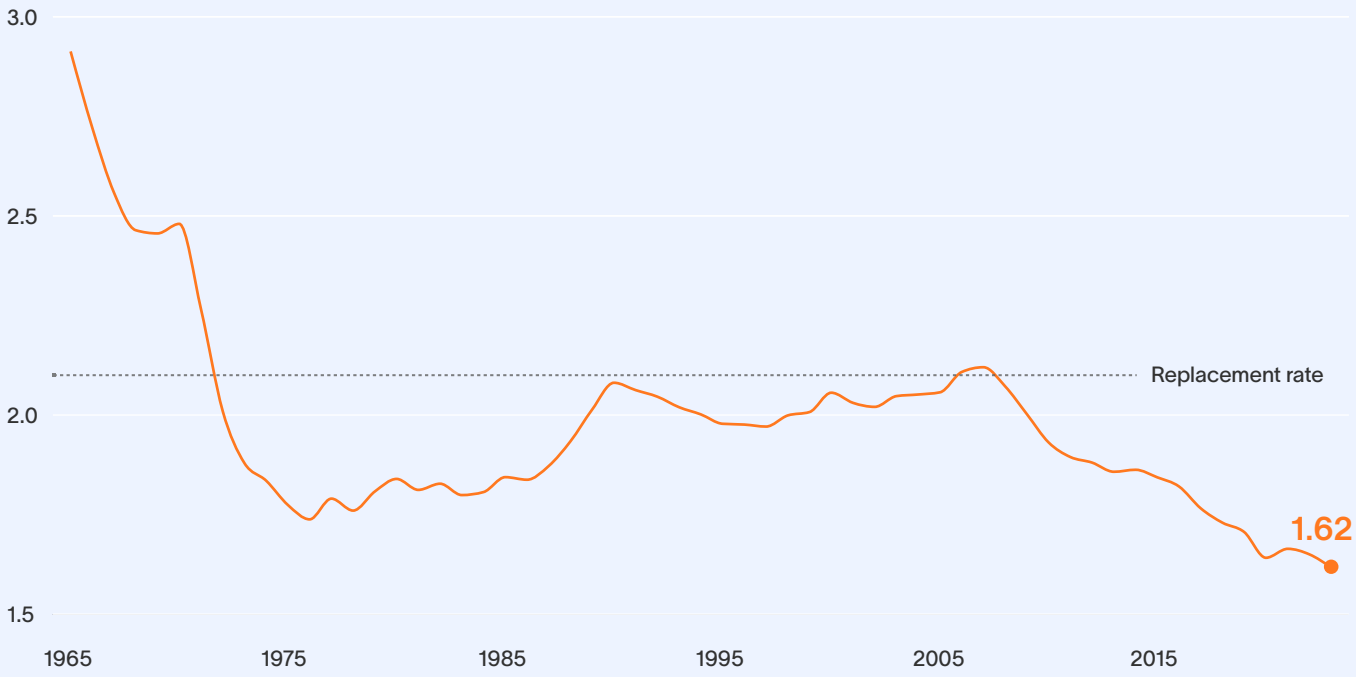
Survey: "At What Age Do You Expect to Stop Working?"



Source: 2022 Investopedia Financial Literacy Study

The US fertility rate fell dramatically after the Baby Boom, and it has stayed below replacement level for decades.

US Total Fertility Rate (Births per Woman), 1965–2023



Source: Centers for Disease Control and Prevention

As older workers leave the labor force, potentially requiring some prime-age workers to drop out and care for them, we face a decline of workers numbering in the millions. The youngest Boomers are 60 years old in 2024. Once they hit 65, we can't count on them to continue working—and that's why we can expect the storm to hit by the end of the 2020s.

The late 2020s are also on track to see an increasing decline in the younger labor force. The US birth rate has been in decline since 2007—so **we can expect to see the number of 18-year-olds drop every year after 2025.**

When both older and younger workers start fading from the labor force at the same time, in less than ten years, that's when the rising storm makes landfall.

Immigration is the Levee Holding Back the Storm Surge

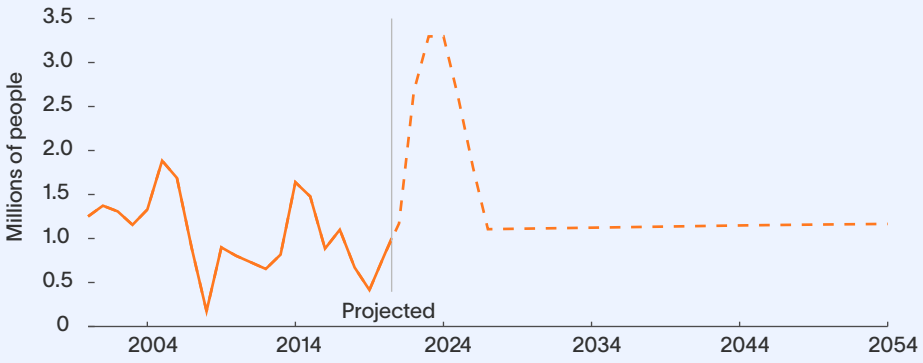
For the US to meet its hiring needs in critical industries going forward, immigration would need to exponentially increase. But will it?

The Congressional Budget Office projects that immigration over the next few years will return to its pre-2016 baseline—just north of 1 million per year. Strictly in terms of the labor market, that number was a fine standard during that time period. But the coming years will differ from the past few decades: as the Baby Boom generation passes the labor force baton to the smaller and less engaged generations that follow, the US will need far more immigrants if it wants to maintain its current supply of labor.

This is true on a big-picture level, but even more significant within specific industries. If you look at the jobs the general population relies upon most to function in day-to-day life, those are the same industries that are the most dependent on immigration. This includes healthcare, construction, and service industries first and foremost, which are also the industries most likely to experience staffing shortages.

Immigration is expected to drop from 3.3 million in 2024 to 1.1 million annually through 2054.

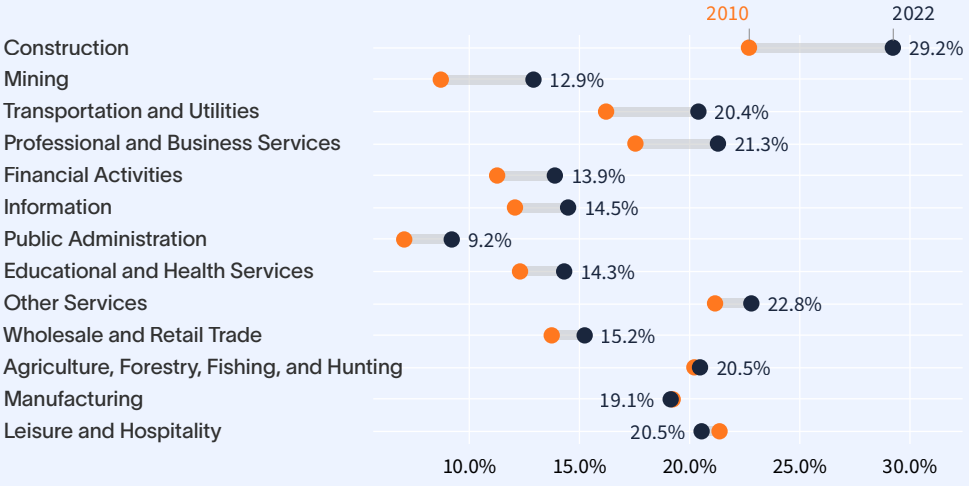
Net Immigration



Source: Congressional Budget Office

The share of foreign-born workers has grown in almost every industry since 2010.

Share of Workers That Are Foreign Born, By Industry (2010 and 2022)



Source: US Census Bureau

The US needs millions of new immigrants to meet current and future labor needs. Creating systems to support such an influx would be a huge undertaking on its own, but that also assumes that there will be immigrants ready and able to come to the US. That's not a sure thing.

To illustrate, we can look at one occupation in particular: registered nurses. As of 2021, there were 546,000 immigrant RNs in the US (which is probably well below the 2024 number).

As we saw on page 39, the US is significantly dependent on the Philippines for its supply of nurses. The Philippines has over 110 million English- speaking residents, making it a prime source of immigrants not just for the US, but for several other English-speaking nations. That transaction puts the Philippines at a disadvantage: 70% of Filipino nursing graduates emigrate, and now the Philippines has its own labor shortage. The country needs 100,000 more nurses than it has. In 2021, faced with the nursing shortage at home, the Philippine government placed strict limits on the number of nurses leaving the country for other shores—a tactic that may spread to more countries and other industries as talent shortages intensify internationally.

Developing nations around the world, the types of countries on which the US would pin its immigration hopes, are seeing significant decreases in birth rates. In short, the rest of the world is not an unlimited supply of people that the US can tap whenever it wants. If it ever had been before, it isn't any longer.

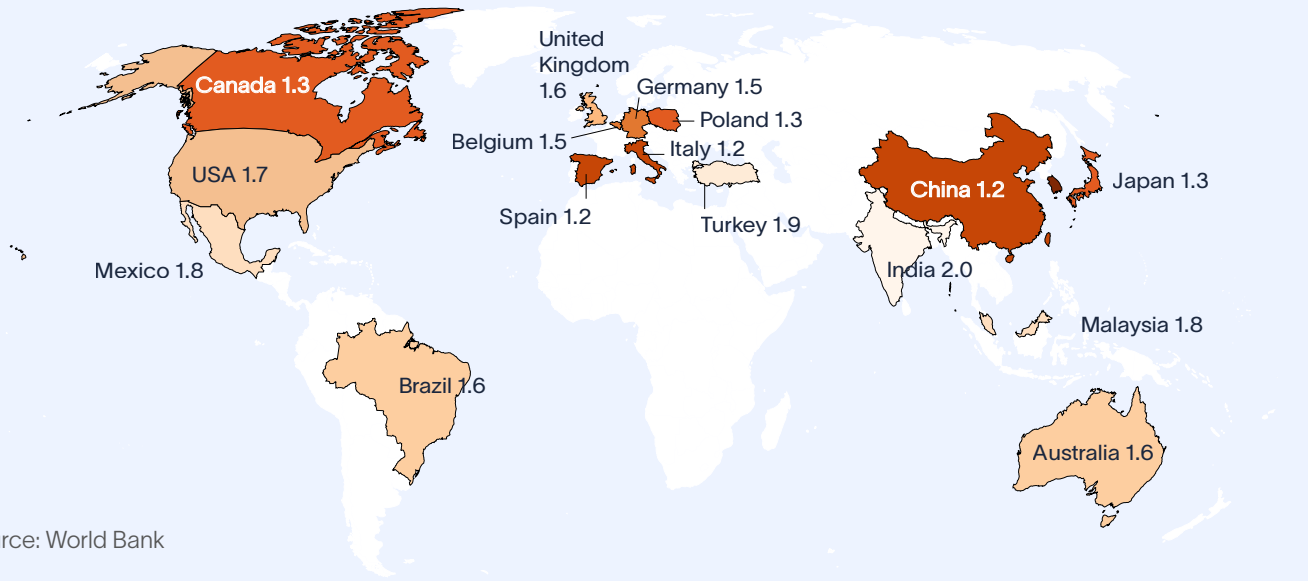
Even Mexico, a country that for decades had too few good jobs to go around and therefore supplied the US with inexpensive labor, now has an unemployment rate that has hovered in the 2% range. Over 75% of Mexican companies said they had trouble finding workers in 2023 and 2024, as job openings climbed to over 1 million.

Starting in 2030, the Census Bureau estimates that the primary future driver of US population increases will come from immigrants, while deaths outpace births among the US-born population.

The US isn't alone in needing an answer to its aging population and shrinking labor force. Developed countries around the world are facing birth rates well below replacement and the related challenges created by a decline in young workers. One country already well into that situation is Japan.

Many of the world's biggest economies face below-replacement birth rates.

Birth Rates By Select Countries (Replacement Rate: 2.1)



Source: World Bank

What Can the US Learn From Japan?

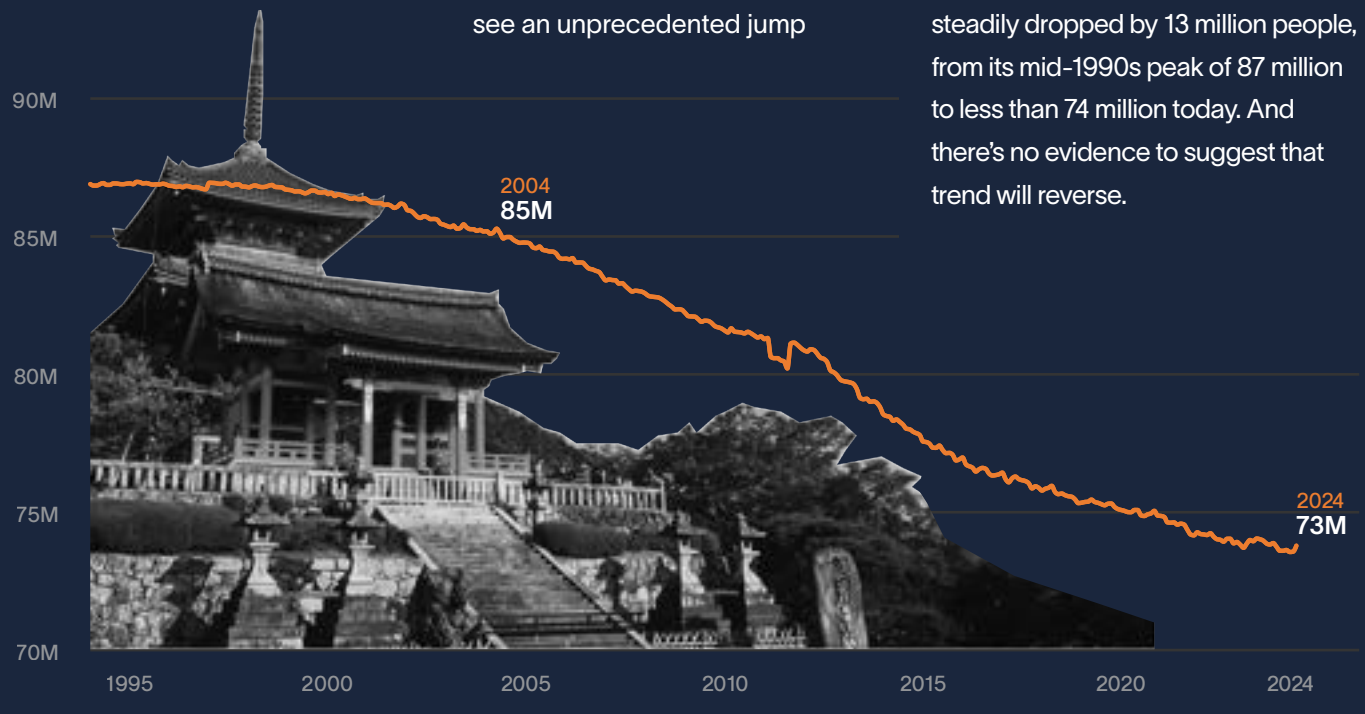
While many countries around the world are grappling with the economic impact of low birth rates and aging populations, Japan is a unique case. It may not have the lowest birthrate in the world (that status goes to South Korea), but it does offer a glimpse into the unique challenges of long-term low birth rates combined with a history of low immigration. This combination has pushed Japan to the population shrinking point many years ahead of the US. For that reason, Japan can serve as a forecast of the storms facing other developed nations in the years ahead, as well as provide insights into how the US might prepare to weather the coming hurricane.

Japan's population declined by nearly 600,000 people from 2022 to 23, and that decline includes a higher-than-average net gain of immigrants. Since peaking in 2009, its population has fallen by just shy of 3.5 million. This decline is the cumulative result of five decades of fertility rates below the replacement level of 2.1 children per woman. While some efforts at raising birth rates have been tried, they have largely failed. Japanese fertility has been hitting consecutive years of new record lows, dropping to 1.2 in 2023.

Assuming Japan doesn't suddenly see an unprecedented jump in large-scale immigration, the working-age population is in a seemingly unstoppable decline, and the effects of this trend are hitting the workforce hard.

Why? It's a compounding effect: there are now so few young women of child-bearing age that even if birth rates suddenly rose to two or three children each, the total number of children born would be much smaller than in years past. That influx of new babies would still also take decades to enter the labor force and replace the millions of elderly adults.

As the chart below illustrates, Japan's 15 to 64 working-age population has steadily dropped by 13 million people, from its mid-1990s peak of 87 million to less than 74 million today. And there's no evidence to suggest that trend will reverse.



Japan's working-age population is in unstoppable decline.

Working Age (15-64) Population in Japan

Source: Organization for Economic Co-operation and Development

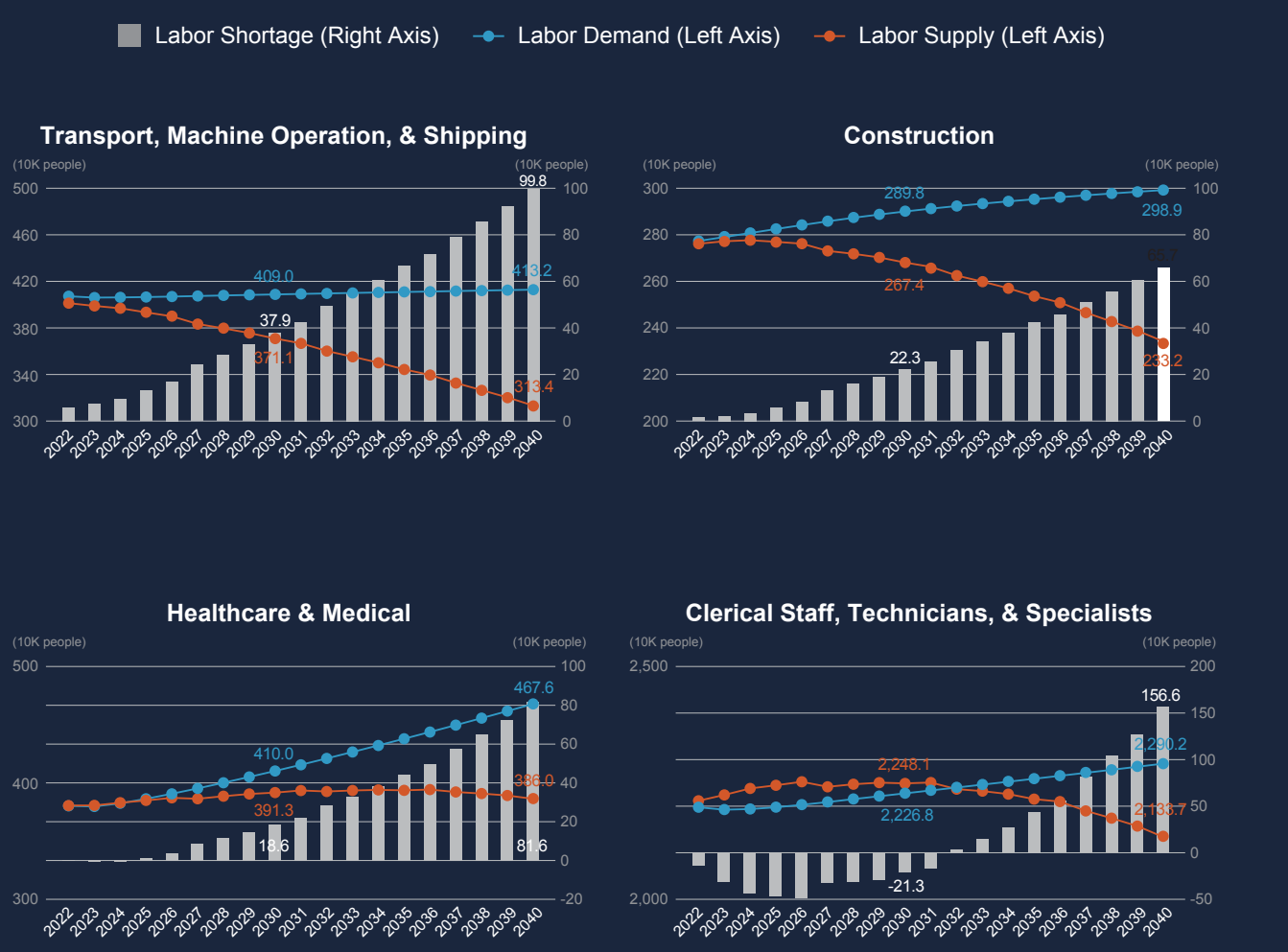
The Japanese talent pool is drying up, and in some instances, the resulting labor shortages are already proving to be disastrous.

To provide just one example, Japan suffered an earthquake early in 2024 that destroyed 60,000 buildings and left many homes unsafe for habitation. In the past, companies might have moved in quickly to rebuild—but not anymore. The construction industry now has 30% fewer workers than it did in the mid-1990s.

The construction labor shortage is only going to intensify as demand rises. By 2040, the Recruit Works Institute projects this shortage to triple—hitting a deficit of 667,000 workers in Japan's construction industry alone.

The same pattern holds across multiple industries. The only sectors showing any significant labor force stability are those, like clerical work, in which Japan's aging adults are willing and physically able to remain on the job. But even those jobs will face shortages within a decade: Agriculture is another sector near the path of the storm. The average age of people engaged in Japan's farming industry is now 68.4. As that average inches toward 70, concerns over the future of the Japanese domestic food supply are rising.

Demand is growing and supply is shrinking across Japan's key industries.



Source: Recruit Works Institute

So what can countries like the US learn from the lessons of Japan as it grapples with its demographic decline? What has worked well, and what hasn't? Here are six of the countermeasures the country has pursued as it attempts to soften the severest blows to the workforce:

1. Offshoring Hard-To-Fill Jobs

As far back as the 1980s, many large Japanese-owned companies started moving production facilities to other countries where labor is cheaper and more abundant. Decisions to offshore can bring significant tradeoffs, such as short-term job losses, empty facilities, and shipping and logistics challenges (particularly for an island nation). But from a labor shortage perspective, this has been a successful strategy. Two positive outcomes after sending manufacturing jobs overseas include:

1. Japan's manufacturing sector currently has a labor surplus, and:
2. Some of the workers who might have pursued manufacturing jobs have likely been redirected toward critical roles still needed at home—like construction, maintenance, and transport.

2. Boosting Immigration

Similar to offshoring, increased immigration seeks to add foreign-born talent to the declining Japanese labor pool. Recent measures to counteract Japan's low immigration rate have been somewhat successful, bringing in workers to fill job vacancies in government-selected occupations with the greatest need. As one article states, "Japan expects to take in 820,000 skilled workers from overseas over the coming five years, sharply expanding previous projections to address growing labor shortages."

But increased immigration, even in a best-case scenario, is a bandage, not a cure. As the Recruit Works Institute report concludes, "Accepting immigrants might have been a solution ten years ago, but definitely not for ten years later." And the *Japan Times* reported in 2023, "With Japan's labor force set to drop by an average of 220,000 people a year...the country needs to be bringing in 2.3 times the number of recent entrants just to keep up."

3. Increasing Efficiency and Automation

Japan has been on the cutting edge of developing labor-saving technologies for decades, but even with the introduction of AI and robots, not all tech solutions have replaced people. The age-old challenge of new technology is that it tends to create or reshape human work rather than simply replacing it. For example, the *MIT Technology Review* reports that the much-anticipated introduction of caregiving robots to assist the elderly has failed to replace human staff. In some cases, the robots added more tasks to the daily workload of already overworked caregivers—albeit of a different sort (troubleshooting computer errors and charging batteries instead of spending time with patients).

Many AI uses deployed so far, such as generating and analyzing large chunks of text and data, are in professional services and other information-focused fields. Those fall under the purview of the exact office-based jobs that Japan's older workers are still comfortable in and competent doing, meaning that these new tools are mainly addressing solved problems, not those that most urgently need solving.

4. Delaying Retirement and Elder Employment

As mentioned above, older adults are helping take the strain off some of the less physically demanding sectors of Japan's labor market. In 2020, the Japanese government introduced policies to ensure that adults over 70 can stay employed, and to some extent it's working. More than one third of Japanese adults aged 70 to 74 (men in particular) are still in the labor force—compared to fewer than one in five Americans in the same age cohort. But with the demands of an aging population, desk jobs commonly held by older workers are not the roles closest to the path of the hurricane.

5. Raising the Birth Rate

Unfortunately, when it comes to building the labor force, this solution is a case of far too little far too late. In 2023, the Japanese government announced plans to direct ¥3.5 trillion (~$24 million USD) toward raising marriage and birth rates. But as with so many similar efforts around the globe, money and incentives are unlikely to move the needle more than a fraction. And as stated earlier, the young population has been shrinking for decades, leaving even fewer people of childbearing age—meaning that even if they all had multiple children starting today, their numbers would be small relative to the number of elderly adults. And it would take at least two decades before any of them entered the labor force at significant rates. More births might save Japan from extinction, but it can do almost nothing to solve the labor crisis facing the country today.

6. Increased Urbanization

One of the major stories to come out of Japan's aging crisis is the disappearance of rural villages as more and more young people head to big cities for better job opportunities and social connections. The result has been that rural communities are struggling to maintain basic infrastructure. One in 10 Japanese citizens is now over the age of 80, so losing young people to the city means that physically demanding jobs are simply left unfilled in these smaller towns, making them increasingly unlivable for the elderly residents. The population density of cities can offer efficiency that rural economies cannot, so Japan's urban areas are now drawing old and young alike. It's one way to ensure that their basic needs can still be met despite fewer workers.

However, even this urbanization trend is not a long-term answer. As Japanese Prime Mister Fumio Kishida stated recently, Japan is "on the brink of not being able to maintain social functions."

Japan may be further down this road toward failing rural infrastructure and loss of young people to the big city, but some parts of the US are already facing a similar rural-aging crisis. In many of America's small towns, retirement-age workers are the only ones left to do the hard work of keeping their communities running—a physically exhausting responsibility they cannot continue indefinitely.

What are the implications?

The diminishing workforce performing physical jobs like construction and manufacturing in Japan offers a clear picture of what could happen to the US. Older workers want desk jobs and less strenuous professional roles—and this kind of work is where we see the only meaningful growth in Japan's labor force.

The same thing is happening in the US. A Lightcast survey of high schoolers asked how they felt about entering the skilled trades, 43% answered "These jobs are physically tough, and I'd prefer to do other work," and 32% answered "I would prefer to work in an office setting."

Meanwhile, AI is targeting those same desk jobs and easier professional roles. So older adults, younger adults, and artificial intelligence are all coming for those same desk jobs. All of this comes together to show that we will have no shortage of office workers—putting these desk jobs well outside the main path of the coming storm.

Japan is well ahead of the US in facing the labor crisis of the future, yet the core effects of the problems are already being felt in the US and many European nations. The conveniences that a labor surplus brings will be the inconveniences of a labor shortage.

At its core, the danger of the coming hurricane is that it will disrupt the most commonplace and fundamental aspects of day-to-day life in the US.

In countries with shrinking labor forces (like Japan), urbanization illustrates the need for a sustained working population. When there are not enough workers to fill critical roles in a community, people will leave for an area that can meet their needs. Communities can only exist when they can provide all critical services, including and especially skilled trades, food distribution, and healthcare. If any one element is missing, the area's population will shrink.

That's one potential consequence. Where else would these inconveniences and shortfalls arise? Once again, we are able to look at 2021 and 2022 as a sneak preview of what can be expected when the hurricane makes landfall in 2028-2030. Here are some challenges faced over the past few years, which stand to be even worse without enough workers.

Construction: A lack of workers means homebuilders only build higher end properties with the best funding, while construction times increase due to lack of supply of key input products.

Manufacturing: Companies that are unable to fill all shifts decide to cut back on orders taken.

Retail: Smaller businesses face a lack of in-person staff as larger companies, who can afford higher pay-rate increases, absorb more of the labor pool.

Restaurants and Hotels: A lack of staff limits capacity, leading to longer wait times, shortages of hotel rooms and fewer dining options outside of the home.

Lifestyle/Consumer products: Product shortages of home goods become a norm with long wait times to procure goods, due to labor shortages along the supply chain.

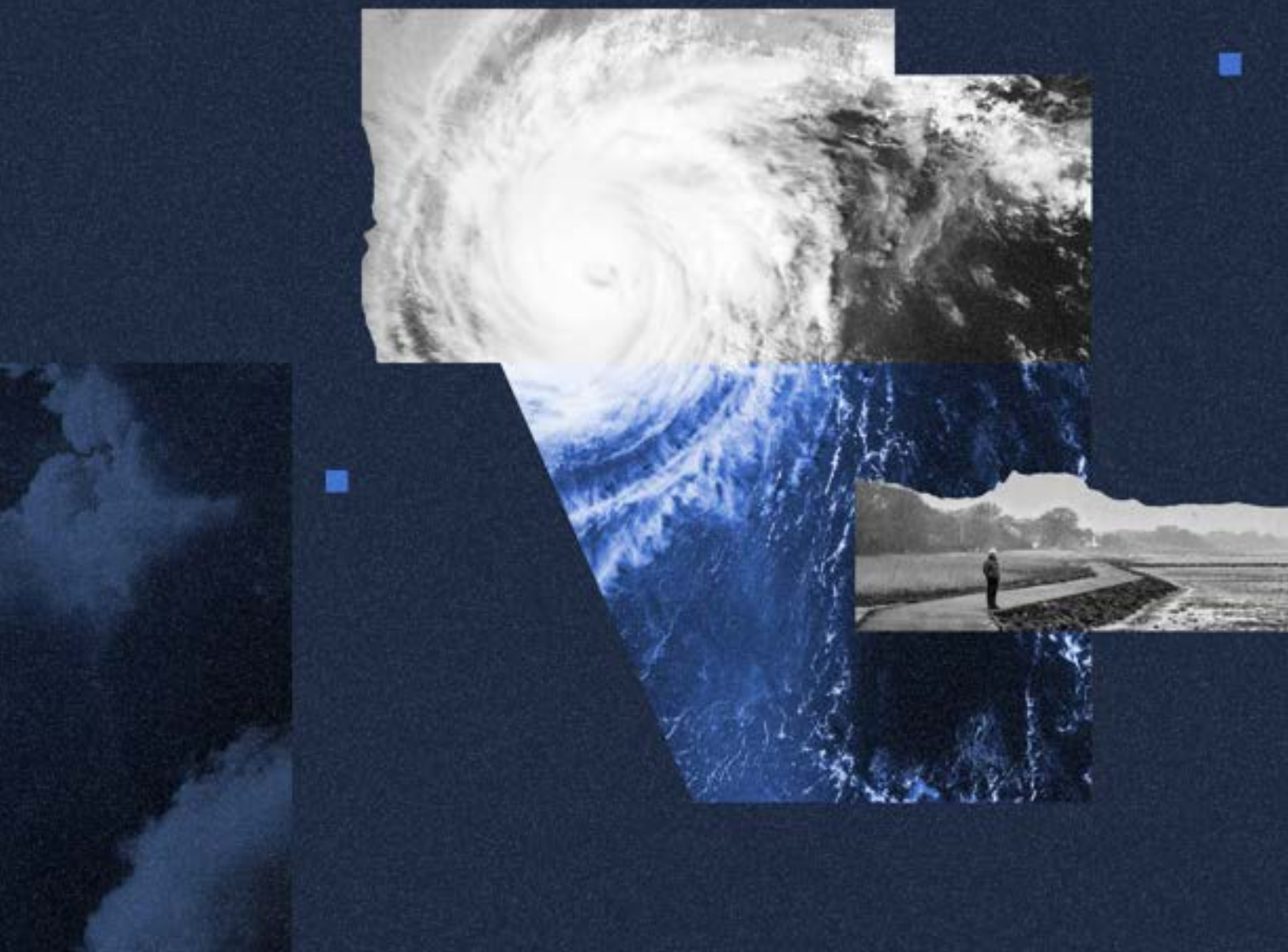
Healthcare: Hospitals at capacity will turn away patients to other places, and wait times for standard procedures stretch beyond days and weeks and into months.

So what can be done to prepare?

Preparing For the Storm

No perfect solution can prevent the coming shortfall of workers, just like nothing can stop a hurricane forming. But after seeing the forecast of what's ahead, we can make preparations that mitigate its effects.

Before identifying and applying practical solutions, we can start by reframing the narratives that have shaped our approach to the labor market for decades.



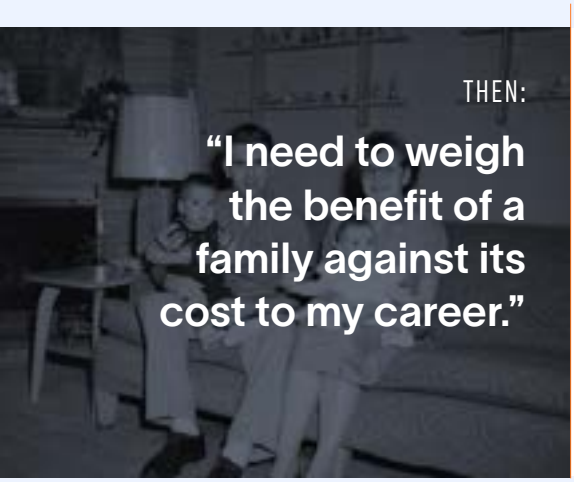
Re-Examining the Baby Boomers' Worldview Based on What We Know Today

NOW:

Young workers with college degrees are now abundant across the labor market, which means simply having a bachelor's degree brings less of a guaranteed advantage for jobseekers. And not all degrees are created equal; the quality of the institution and the market demand for particular skills directly affect the value of a degree after graduation. On average, a 4-year degree still corresponds with higher labor force participation and strong wages, but that wage premium has dropped by more than 4% since 2013, especially as labor shortages drive wages up in many non-degree occupations. In today's market, many paths can lead to financial stability (especially in light of increasing student debt), indicating a job that doesn't require a college degree could be a better fit for many young workers.

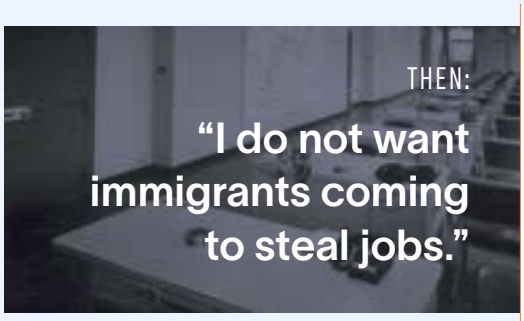
NOW:

Labor force mobility has reached record lows in recent years as inflated prices led to a collapse in home affordability. People cannot move and do not expect to move. Businesses can no longer rely on workers coming to them, and both workers and employers should focus on local opportunities—especially in sectors where remote work and automation are least likely to fill talent gaps.



NOW:

Family planning remains an incredibly personal and sensitive decision, but those decisions are not happening against a backdrop of a surging population like they once were. A declining birth rate is exacerbating the labor force challenges the US is facing, and although a rising one would help alleviate some of those challenges in the long term, the growth would potentially come at a cost to women's labor force participation in the short term. This would put employers that prioritize childcare and other flexible options for working moms at an advantage.



NOW:

Without enough US-born Americans working, the only other source of new talent is immigration. As shown in this paper, roughly 1.5 million immigrants will be needed every year for the next 8 to 10 years to offset the declining US workforce enough to support the economy.

NOW:

Throughout the Baby Boomers’ time in the labor market, talent was abundant, but in today’s era, talent is scarce, and low unemployment means low availability of people to fill important jobs. The assumption that surplus labor will persist is more than outdated; it’s dangerous.

Policies that create jobs will not benefit the market as a whole if they take workers from other critical industries. Governments at all levels absolutely must consider the types of workers new companies would want, relative to what workers are available. When talent is scarce, this workforce alignment is essential.

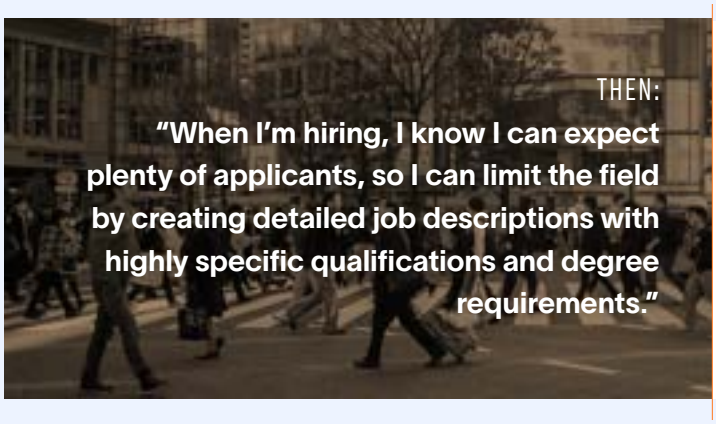
Without increased growth in the working-age population, regions throughout the country are in a zero-sum game: If one employer adds workers, it will come at the expense of other employers. Competition has historically been economically beneficial for all involved, but there are now new risks: Adding new office jobs might not be wise if it leaves areas without essential jobs like police officers, firefighters, or even food service in grocery stores and restaurants. Job allocation needs to become as big a priority as job creation once was.

NOW:

Unlike the others, the trend of diminishing loyalty between employers and employees hasn’t been reversed by changing market conditions. Instead, it has accelerated: Businesses carried out widespread layoffs during the COVID-19 pandemic, then in the immediate aftermath, workers left in droves as jobs with higher pay and other benefits were posted.

It’s worth noting that while this phenomenon was often referred to as “The Great Resignation,” it would be more accurate to call it “The Great Reshuffling.” Almost all of the workers who quit their jobs immediately found work elsewhere, and the unemployment rate stayed low. While millions of workers started new jobs in 2022 and 2023, firms were merely recruiting people who were already in the labor force, not bringing in others off the sidelines. The status quo, on both sides, is no longer defined by loyalty but by mutual benefit. But as worker shortages intensify, valuing and retaining employees should be a growing priority.

Employers need to revise their thinking, too.

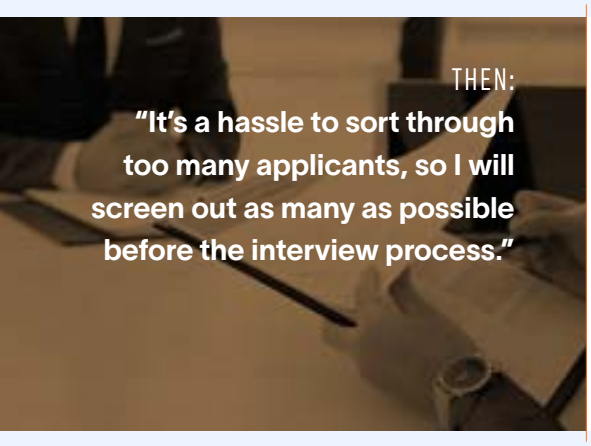


THEN:

"When I'm hiring, I know I can expect plenty of applicants, so I can limit the field by creating detailed job descriptions with highly specific qualifications and degree requirements."

NOW:

Employers need to open the door wide in order to reach as many applicants as possible. This means job descriptions need to be clear and open-minded, ideally also oriented around future training and reskilling.

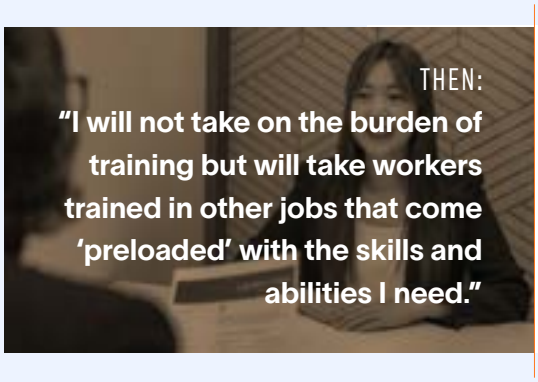


THEN:

"It's a hassle to sort through too many applicants, so I will screen out as many as possible before the interview process."

NOW:

Just as hiring managers themselves need to revise their mindset from one of abundance to one of scarcity, they need to update their technology to match. Any applicant tracking system used should be constantly reviewed to make sure they are letting as many differently qualified people through as possible. Best practice would be to regularly review applicants that were screened out to see if they would make good candidates.

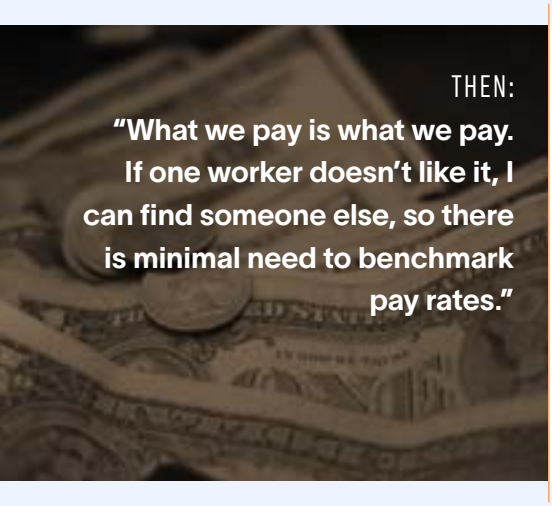


THEN:

"I will not take on the burden of training but will take workers trained in other jobs that come 'preloaded' with the skills and abilities I need."

NOW:

The best way to make sure a worker has all the skills they need for a job is to teach those skills. This applies for new hires but also longtime employees that can be upskilled and reskilled into other kinds of work or positions higher up in the organization.



THEN:

"What we pay is what we pay. If one worker doesn't like it, I can find someone else, so there is minimal need to benchmark pay rates."

NOW:

Overpaying for labor is irresponsible, but so is below-market pay. Often, any short-term savings on payroll are counterbalanced by higher turnover, making an employer's ongoing retention efforts more expensive than simply offering the more competitive wage. Benchmarking industry and regional salary rates is crucial for every role in order to ensure workers—both candidates and longtime employees—are adequately compensated before they look for jobs elsewhere.

THEN:

"We can afford to lay people off during slow cycles at the company. There are plenty of people available to replace them after things pick up again."

NOW:

Turnover was easier to manage when labor was plentiful. Now that hiring is more of a challenge, companies need to think about how best to utilize labor during slow cycles and keep ramp-up volumes as small as possible. This is already showing up in data from the temporary staffing industry: The industries they serve are not showing declining trends in employment, but the usage of temporary staffing has diminished greatly.

Rethinking long-held beliefs about how to hire isn't easy, but new challenges require new solutions. Fortunately, data-driven insight makes this easier. Using Lightcast analytics and expertise, you can benchmark pay competitively, make smarter talent pipeline decisions, use skills to identify what you need in new hires and how they can build their career, and create an overall workforce planning strategy for your organization's long-term success. ■

How Work Can Get Done

If we understand that the coming years will not enjoy the abundance of workers that past decades did, then everyone's approach to the labor market will need to change as a result. That happens differently for every industry, but before we analyze how a few key sectors can adapt, let's lay out which potential solutions are on the table.

If you don't have enough workers nearby to do the work your business needs, what can you do? Four main options are available:

1. Local Workforce Development

While there will be fewer workers available in the coming years, that isn't to say there will be none at all. The conventional way that businesses gain a workforce was by hiring workers who live nearby, though for many jobs, remote work is an increasingly viable option (according to Lightcast data, 3.5 million remote jobs were posted in 2022). This flexibility means employers could pursue populations that are typically underserved such as formerly incarcerated, disabled, caregivers and others.

Regardless, once a workforce is secured, it will increasingly fall on employers to upskill the workers they have, because "ready-made" workers with all the requisite training will be harder to find both because they're fewer in number and highly in-demand.

Critical Data Points Needed:
There are two ways of approaching this. Companies can focus on competing in the open market for talent; and/or they can develop the skills of the workforce they already have. Talent intelligence will be key in either case, including data on:

- Number of people in the occupation(s) you utilize.
- Occupations that are skill adjacent (skill overlaps) with the occupations you employ.
- Skill sets key to occupations to analyze gaps between the different jobs/ what types of training may be needed.
- Salary data to show different cost scenarios. For example, how much money is saved by upskilling, if at all?
- Identification of competitors, both their strength and relevance.

2. Globalization: Push Work to Other Countries

For decades, countries like the US have relocated work to other parts of the world through offshoring or nearshoring. This has served to lower costs to manufacture goods, run call centers, take advantage of specialized labor pools or to locate closer to targeted consumer populations.

Critical Data Points Needed:
Companies looking to offshore traditionally have mainly done this to save money, but it could also be about finding a capable and stable workforce. With that in mind, the data points one must have would be:

- Salary information.
- Workforce dynamics.
- Quantity and location of supply.
- Quality of supply.
- Applicable skill sets.
- Educational system quality.
- Government policy, including corruption index, labor laws.

3. Automation

As we've seen, many potential uses of AI are out of reach for practical application to replace human workers. On the other hand, automation and robotics have been enhancing efficiency and productivity in several sectors for decades, so it's not out of the question.

If automation is being seriously explored for your industry, then you

would either need to know who is doing that work, or your company would need to partner with different organizations to explore those possibilities.

Critical Data Points Needed:

- Companies that exist in the robotics/automation industry.
- Universities that have programs where robotics and automation are strengths where partnership may limit capital investment costs.
- Occupations that are critical in companies who have heavy automation strategies.

4. Immigration: Pull Workers in from Other Countries

This has been the most reliable source of growth in the US labor force and will remain the most important path forward, as the US has shown it cannot sustain its workforce with US-born workers. However, it's also the most complex: Numerous programs allow immigrants to enter the US labor force, and numerous highly contested policy decisions, both in the US and abroad, are in play.

1. **H-1B:** Since the early 2000s, the most well known (and often controversial) program has been H-1B visas. This is a non-immigrant visa program allowing temporary employment of foreign workers in specialty/technical occupations. It is very heavily skewed towards IT and is currently capped at 65,000 workers annually. Similar programs (H-1A and H-1C) exist for registered nurses in underserved areas, but these programs typically run through the H-1B process. Demand for these visas is increasing.
2. **H-2B:** The H-2B program is a temporary non-immigrant visa program that allows employers to hire foreign workers to fill temporary non-agricultural jobs. These jobs are typically seasonal or peak-load in nature and cannot be filled by US workers; their industries can range from tourism to construction. It is currently capped at 66,000 annually.
3. **H-2A:** This program allows businesses to bring in foreign nationals to fill temporary agricultural jobs. The maximum period of stay is three years, and there are roughly 370,000 employed through the program.
4. **Refugees and Asylum Seekers:** Officially, "Refugees and asylees are employment eligible incident to their status and are authorized to work indefinitely because their immigration status does not expire," according to the US Citizenship and Immigration Service, which makes limitations to the numbers of refugees and asylum seekers flexible but also unreliable.
5. **Work Visas**: Work visas are available for workers holding advanced degrees, exceptional ability (the O-1 and EB-2) or in the skilled trades (EB-3).
6. **Foreign Born Students**: Under the F-1 visa, firms can employ students who are obtaining their degree and those who have graduated for up to 18 months. These are typically technical and other professional jobs.

Critical Data Points Needed:

The difficulties and amount of data you need for immigration are greatly dependent on the type of workers you need and what industries you are in:

- Country of origin and tier status of that country.
- Utility of immigrants in client's industry.
- Location of immigrants in the native country.
- Understanding of immigrant programs, forms, costs, and attorney requirements.

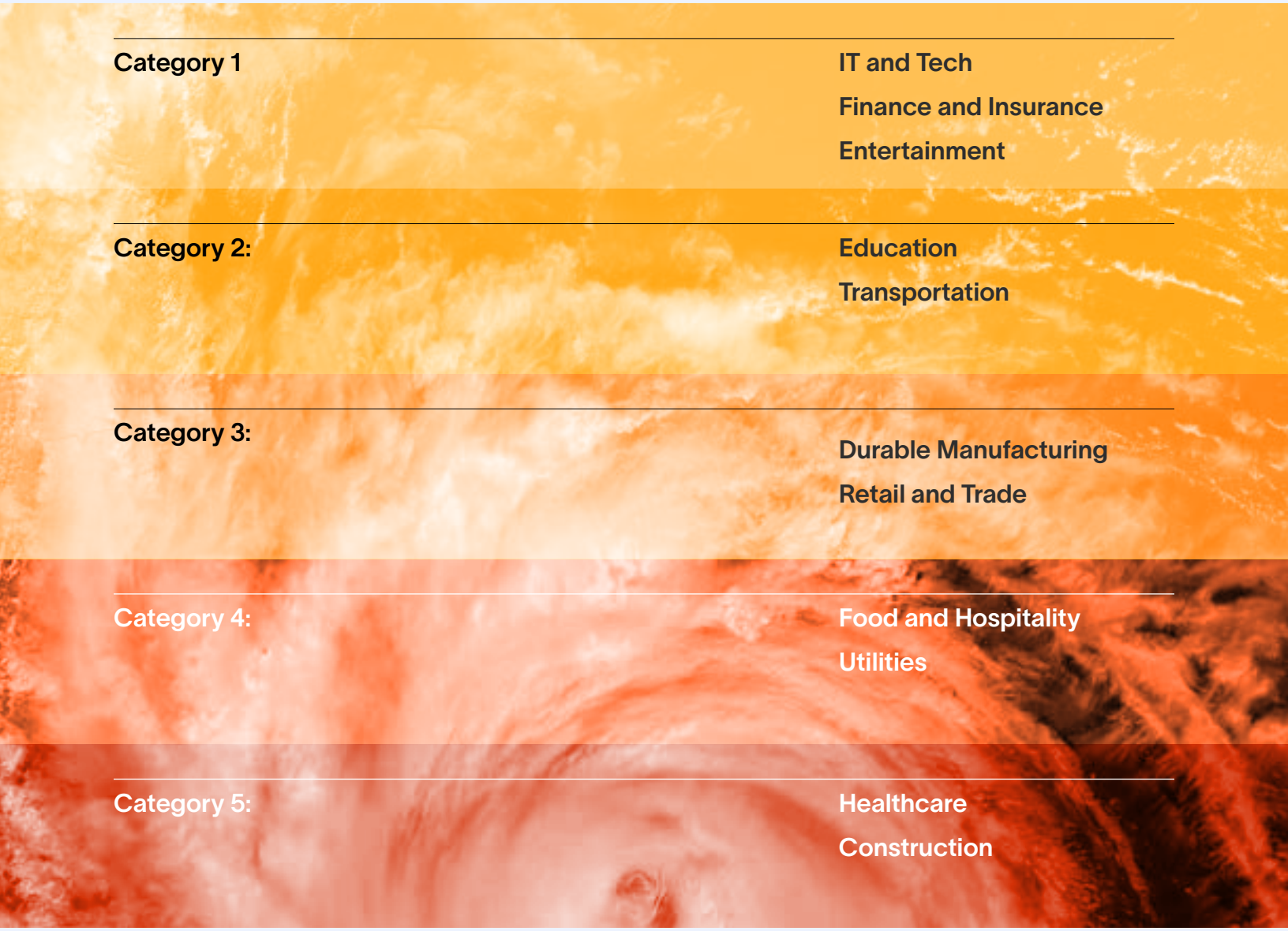
▸ Effective use of data requires not just access, but also analysis. To make sense of the countless complex patterns and trends throughout the labor market, Lightcast offers an unparalleled view of the labor market, with a dataset including over 2.5 billion job postings, talent intelligence on over 5.8 million companies, and global data in over 150 countries and nine languages. For an even closer look, consider Lightcast Professional Services, delivering insight across every layer of data available for a custom solution. ■

Putting These Options to Work: Sector by Sector

No matter which option is chosen to get work done, all require extensive labor market knowledge and knowledge of trends in your own industry and location, as well as your own company's ambitions.

Given the four potential ways work can get done, here's how a few key sectors can deploy them effectively, representing industries directly in the path of the coming storm and also those that may feel less of an impact. While each industry is unique, seeing similar patterns in the six represented here can help every sector better understand what strategies it needs to succeed as the storm rises.

Like the actual scale by which hurricanes are measured, this is given as a range between Category 1 (the least severe) to Category 5 (catastrophic). Case studies and examples included as potential solutions below come from Lightcast clients.



Category 1	**IT and Tech** **Finance and Insurance** **Entertainment**
Category 2:	**Education** **Transportation**
Category 3:	**Durable Manufacturing** **Retail and Trade**
Category 4:	**Food and Hospitality** **Utilities**
Category 5:	**Healthcare** **Construction**

Healthcare

How Work Gets Done:

- Immigration
- Local Workforce Development

Potential Hurricane Impact
CATEGORY 5

This is the eye of the storm. Healthcare desperately needs more workers, and is already facing massive shortfalls across the country. Expanding the talent pipeline presents a challenge in such an intimidating field to enter, but many solutions can help bridge the gap.

In southwest Pennsylvania, one healthcare organization is using retiring nurses to help train the next generation: Within a certain timeframe before retirement, a nurse shifts away from 100% patient care to a mix more like 70% patient care, 30% training younger, less experienced staff. This keeps nurses on the job longer because their work is less taxing, and it also gets newer staff up to speed faster, reducing the time it takes them to reach full competency.

A large hospital system based in the Southeast used job posting trends to anticipate their own future demand for healthcare roles, and used social profile data to analyze education trends and forecast the future supply of RNs years ahead. The hospital also streamlined its workforce strategy across multiple locations, creating a holistic compensation model across various roles throughout the region. This allowed the organization to more efficiently recruit nurses in a market saturated with competitors—and the data provided clear recommendations for higher pay in hard-to-fill entry-level roles.

The aging US population puts healthcare in an especially challenging position for two reasons. First and foremost, older adults need more healthcare than younger populations. Second, five million healthcare workers are over the age of 55 (out of roughly 20 million total), so retirements in this industry will be particularly significant—and solutions all the more important.

Construction

How Work Gets Done:

- Immigration
- Local Workforce Development

Potential Hurricane Impact
CATEGORY 5

When there are not enough workers in the skilled trades, construction pays the cost. It will be critical for this industry to be able to find able-bodied people wherever they can, especially as a growing population needs more housing.

This could include immigration reform or also partnering with high schools and community colleges—data from the National Student Clearinghouse shows that community college enrollment in construction (as well as other hands-on majors like agriculture and transportation) have seen gains since the pandemic, even as overall enrollment has declined.

Demographically, construction is among the industries at greatest risk from the diminishing prime-age male workforce we saw in Chapter 2 (as well as the larger social patterns affecting those men). The good news is that many construction companies have already seen success in working with justice-involved individuals, even creating training programs in carceral institutions that lead to a steady stream of workers. One company in Maryland even went as far as covering legal fees for its employees for up to two years, relieving a common obstacle that limits workers' options post-release. Firms that offer this kind of benefit often see higher retention rates for their staff, because employees are grateful for the assistance.

Even after they get staff on the job site, retention is also a challenge for many construction companies. One nationwide organization addressed this by using skills to identify career pathways for its workers. In discussions with their managers, employees had been looking at other job titles and saying "I would love to be there in a year or two. What do I need to do to accomplish that? What skills or credentials do I need to gain?" When those workers were able to see exactly the skills needed in other positions, and could clearly see their way forward to their goals, they were motivated to stay at the organization because they saw how it could improve their career.

While the need for construction workers is urgent, its advantage is that it can accept workers that come from many different places (including community colleges, trade schools, the justice system, and immigrants from other countries). Investing in any one of those routes can net significant results resulting in meaningful progress.

Food and Hospitality

How Work Gets Done:

- Immigration
- Local Workforce Development
- Automation

Potential Hurricane Impact
CATEGORY 4

As pillars of the service industry, food and hospitality are closely linked. And since they are so expansive and touch so many elements of the labor market, help can come from many directions—and they're vulnerable in just as many places.

More than most other sectors, both food and hospitality rely heavily on young and immigrant workers. At earlier stages in the food production process, other solutions are more accessible—automation has already found a place into farming, processing, and even some of the food delivery industries—but ultimately, the very nature of most of these jobs suggests humans need to be performing the work. Hotels need people to clean rooms, do maintenance, mow yards, and handle events. Restaurants need greeters, servers, cooks, preppers, and cleaners. These low-margin jobs are not on the radar of those developing assistive technologies, and automation is far off from being a cost-effective solution.

Several fast-food franchises are invested in new ways to engage the youth workforce. One regional CEO in Florida meets with his employees every week to discuss their plans after high school and assist where useful. Another restaurant company has established ongoing mentorship programs and recruited outside counselors to assist teenage employees with college and career prep. While in the long term, the labor market would benefit from a lesser emphasis on college right out of high school, in the short term, it can be beneficial to show teens that a job can coexist with future education plans.

While most food and hospitality jobs have relatively low barriers to entry, the bad news is that compensation is generally too low to support a proper workforce. If and when wages do increase, inflation often results: this is what happened in 2022, when overall job openings soared to nearly 12 million and food-at-home prices jumped almost 20%. This is the kind of shock we an expect if demand for workers continues to outpace supply so dramatically, making it vitally important to balance the two.

Durable Manufacturing

How Work Gets Done:

Globalization, Immigration
Local Workforce Development
Automation

Potential Hurricane Impact
CATEGORY 3 - 4

The durable manufacturing industry has the ability to expand its workforce through all four potential solutions—Globalization, Immigration, Local Workforce Development, and Automation—so while it relies heavily on people, its potential storm damage is somewhat mitigated. Computer and Automotive Manufacturing remain the dominant industries for automation, and they have sent work overseas longer than any other sector.

According to Lightcast data, over 188,000 manufacturing jobs are currently posted, the majority of which are in production roles. As domestic manufacturing becomes harder, costlier, and requires more skilled workers, companies and governments will need to spread their offshoring risks by operating in various regions and political environments.

As remote work has led to looser schedules in many sectors, some manufacturing workers are frustrated with the rigidity of production schedules. To take advantage of this, one Texas-based company matches workers and companies with gig-like flexibility, giving individuals more control over their schedules and which companies they spend time working with. This approach has contributed to unique demographic results: nearly 50% of the company's members are minorities, and 66% are between ages 20 and 40—closing a huge gap in an industry that has struggled to engage younger generations and 3.7 million workers are over 55.

In more traditional manufacturing environments, competition is steep and any edge can have major implications. A major multinational automotive manufacturer was seeing its factory talent lured away to retail warehouses, and scraping freely available government data didn't offer any advantage over its peers. But through a comprehensive labor market data platform, the company was able to see detailed reports for each of its 11 plants nationwide, leading to informed decisions about wage adjustments and recruitment marketing. And—just like its talent had been lured away by non-manufacturing competitors—the company was able to find new workers from outside traditional manufacturing roles. In building a future-ready workforce, flexibility is key.

Education

How Work Gets Done:

- Automation
- Immigration
- Local Workforce Development

Potential Hurricane Impact
CATEGORY 2

After the profound teacher shortages that rocked this industry during the pandemic, it seems counterintuitive to put education on the lower end of the hurricane forecast ahead. But consider the nature of a teacher's job: It requires a college degree, it happens in a professional, office-adjacent workplace, and it is not as physically strenuous as many other kinds of work. Education certainly faces hiring challenges—according to Lightcast data, 60% of K-12 teachers who have started work since 2018 are no longer in their positions—but these are not the same types of challenges that are associated with the storm ahead. The high turnover among K-12 teachers is discouraging, but the silver lining is that many young people want to become teachers, and with proper funding and support, it's more likely they would stay in the classroom.

IT and High Tech

How Work Gets Done:

- Globalization, Automation,
- Immigration
- Local Workforce Development

Potential Hurricane Impact
CATEGORY 1

After decades of alarm about the shortage of STEM workers, during which it became almost a punchline to tell struggling workers to "learn to code," the global workforce has become significantly disproportionate toward IT talent. Remote work has expanded the labor force to all countries with an internet connection, while technological advances in AI are simultaneously limiting the need for workers.

Domestically, young people are so comfortable with technology that it has become much easier to upskill and train all levels of educated workers. Tech jobs offer high salaries in comfortable environments, and the country will have no noticeable shortage of people willing to fill them.

Conclusion

In October 2016, Hurricane Matthew had just come off a devastating run through the Caribbean Sea and approached the US. A TV reporter standing in front of a map of Florida put it in the most dramatic terms he could: "This moves 20 miles to the west, and you and everyone you know are dead—all of you—because you can't survive it. It's not possible unless you're very, very lucky."

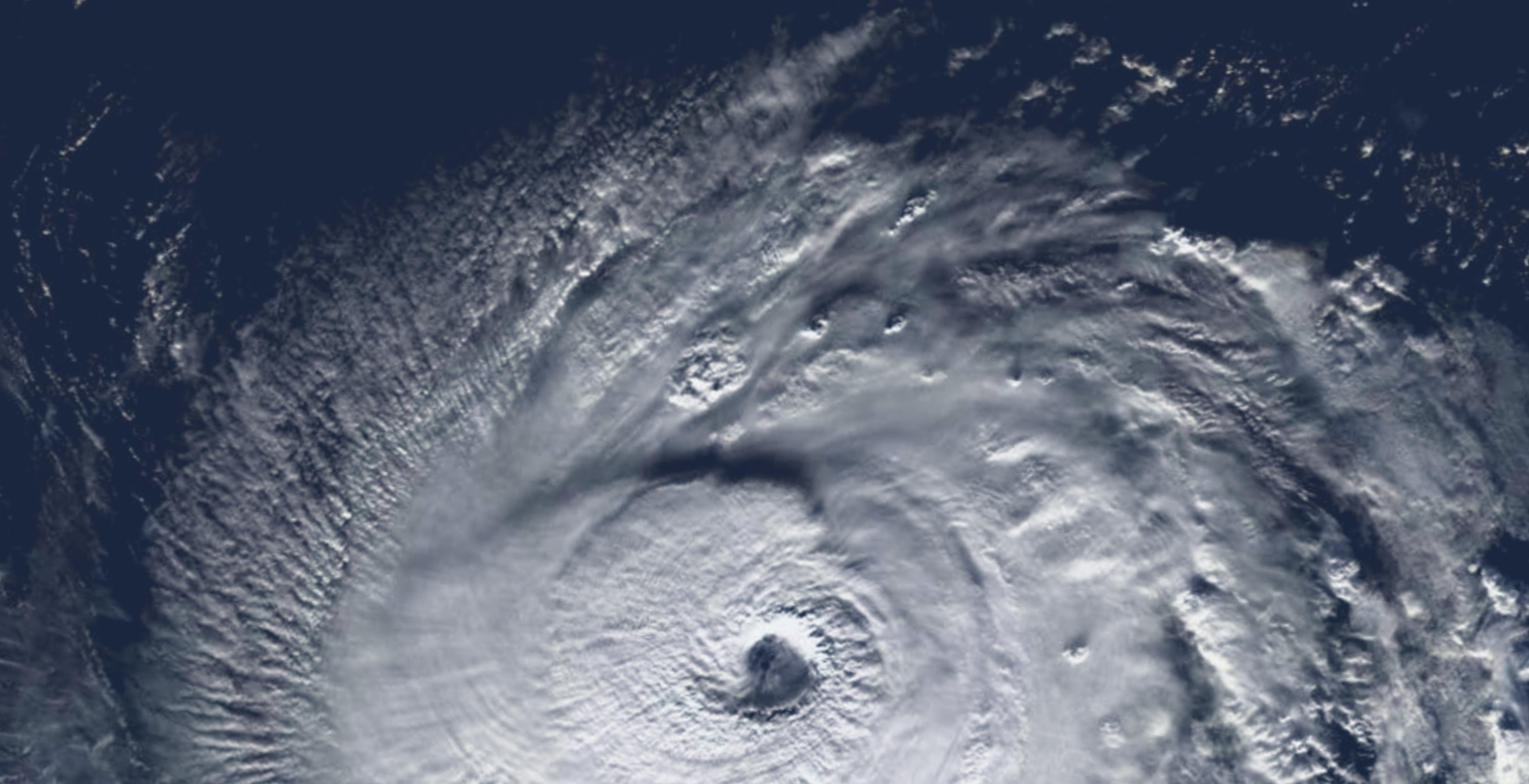
He paused, then added, "And your kids die, too."

Hurricane Matthew didn't make landfall in Florida (though ultimately it did in North and South Carolina). Even before it was clear that Matthew would miss Florida, people were appalled by how overblown his statement was. People who were not going to evacuate still didn't, and those who did evacuate laughed at the exaggeration.

Panic doesn't help anyone, but preparation does. That's why *The Rising Storm* was written: not to raise alarm for its own sake, but to inspire action. The issues raised here are serious and require action from governments, educators, businesses, and individuals to mitigate the effects of the coming shortfall of workers and find the best solutions.

Like Japan today, the US will get through the impending shortages—but not without tradeoffs that will alter our priorities and affect our quality of life. Understaffed businesses mean longer wait times, fewer options, and more inconvenience. And Americans do not like inconvenience. Angry customers and poorly trained workers create countless challenges for businesses. The aging population will not buy the same products they did in the past, and with fewer children, some industries will fade away as others grow stronger.

You can't build a workforce strategy that can withstand the wind and rain if you're only looking at the sunny skies overhead. A future-ready workforce needs to be ready for whatever challenges lie ahead, and that means preparing for them now.



Lightcast

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Educators need to know what skills and occupations will be needed most in the decade to come, so that learners are prepared for career-long success. Learn more about what The Rising Storm means for education:

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More than 700 workforce and economic development organizations use Lightcast data to inform their talent strategies and navigate the fast-changing labor market. We help communities connect their residents to in-demand jobs, attract and support businesses, and align their workforce and educational institutions to meet the needs of their industries.

In a talent-scarce environment, local workers have a crucial role to play in making sure local workforces are aligned with employer needs. Learn more about what The Rising Storm means for communities:

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DEMOGRAPHIC DROUGHT

The Rising Storm

Building a Future-Ready Workforce to Withstand the Looming Labor Shortage

Written by Ron Hetrick, Hannah Grieser, and Tim Hatton

Design by Daniel Botkin

Special thanks to Lindsey Dingman and JP Lespinasse for production, to Christopher Laney and Julia Nitschke for research support, and to everyone at Lightcast who has helped and contributed to this work.

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