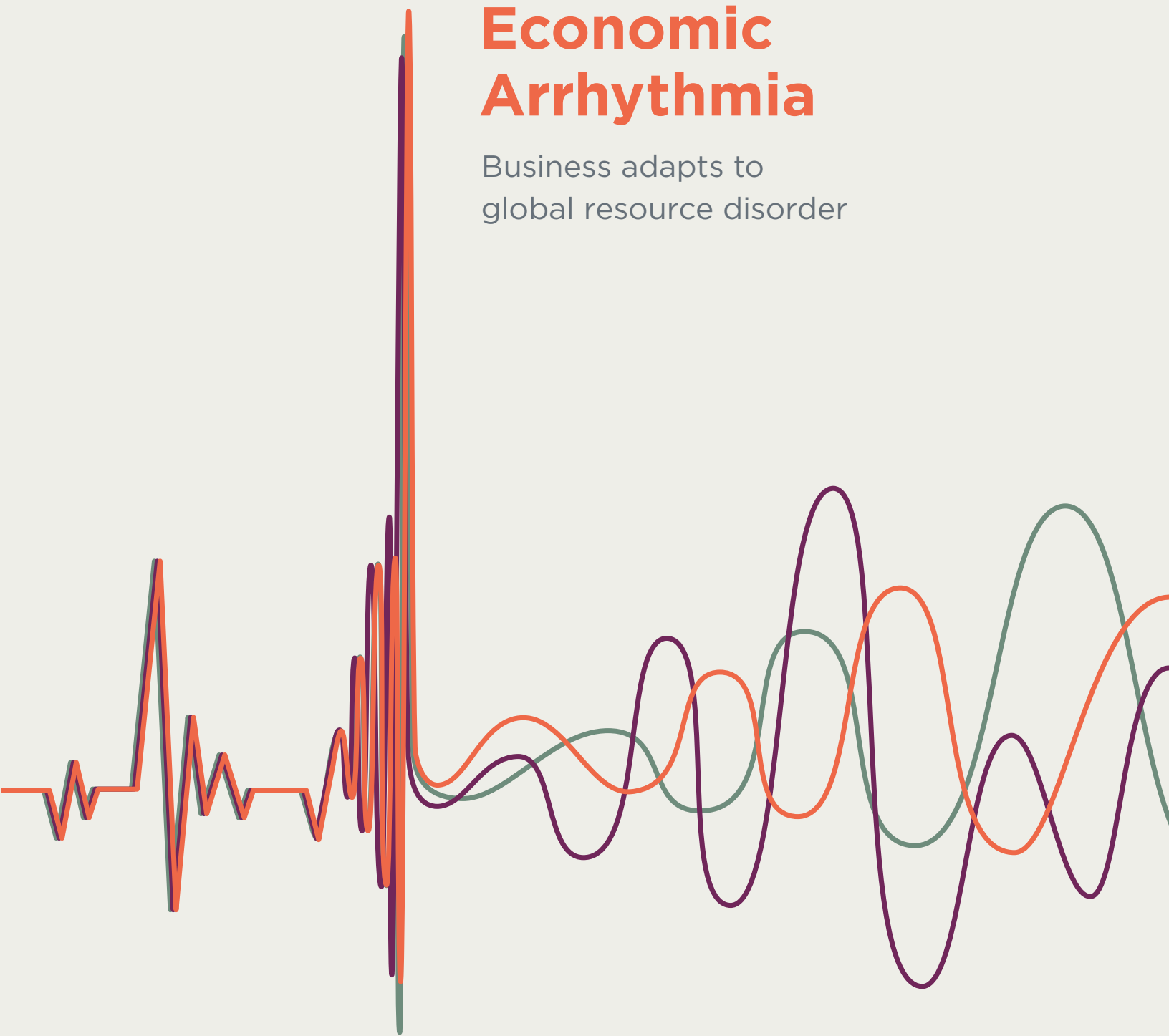


2022 Capital Markets Forecast

Economic Arrhythmia

Business adapts to
global resource disorder



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Certain indicators reflect an early-cycle economy while others suggest much-later cycle phenomena. It is this structural disconnect—like an asynchronous heartbeat—that we coin “economic arrhythmia.”

Tony Roth

Chief Investment Officer

Wilmington Trust Investment Advisors, Inc.

FROM THE CHIEF INVESTMENT OFFICER

The COVID-19 pandemic has been the most disruptive event in a generation and is sure to have permanent consequences—both negative and, yes, even positive—on our daily lives. In an economic sense, the immediate impact was stark and obvious, but the further we withdraw from the initial shock, the clearer it becomes that the abrupt nature of the recession and resulting policy response has severed the connective tissue between the different forces of the economy.

Much like an electrical impulse to the heart, trillions of dollars of pandemic-related stimulus provided support to sustain the consumer and business sectors of the economy through the depths of the crisis. As we now pass into a postpandemic state, we take stock of the acute dislocation that the public health crisis has brought to key pockets of the economy. Certain indicators—we believe none more germane than our 2022 gross domestic product (GDP) projections—reflect an early-cycle economy while others, such as the labor market and inflation, suggest much-later cycle phenomena. It is this structural disconnect within key dimensions of the economy—like an asynchronous heartbeat—that we coin “economic arrhythmia.”

In addition to key aspects of the economic cycle falling out of phase, businesses are concurrently suffering from unprecedented shortages of both labor and physical inputs. These supply-chain and related staffing shortages together present a picture of “global resource disorder,” that now threatens to result in both heightened inflation and constricted economic activity. Most concerning, the historically tight labor market—where the number of job openings far outpace the number of available workers—is badly out of sync with the overall economic cycle. This is the focus of our *first theme*.

This severe labor market shortage—*more than any other economic factor*—is accounting for a massive breakdown in the normally well-oiled global supply chain. Disruptions at every node of the supply chain, from production to transportation and distribution, are straining businesses globally. In our *second theme*, we explore the transformational impact these challenges—and the technological innovations being brought to bear on them—are having on corporate strategy.

Where the rubber meets the road for investors is our *third theme* on portfolios. We bring together our conclusions on the state of the economic cycle and business model transformation. Labor participation and how firms deal with global resource disorder will likely determine the path for inflation, which is the critical consideration for investors in 2022. Spoiler alert: The unique nature of this economic cycle requires a deviation from the typical investment playbook, and we are managing client portfolios accordingly.

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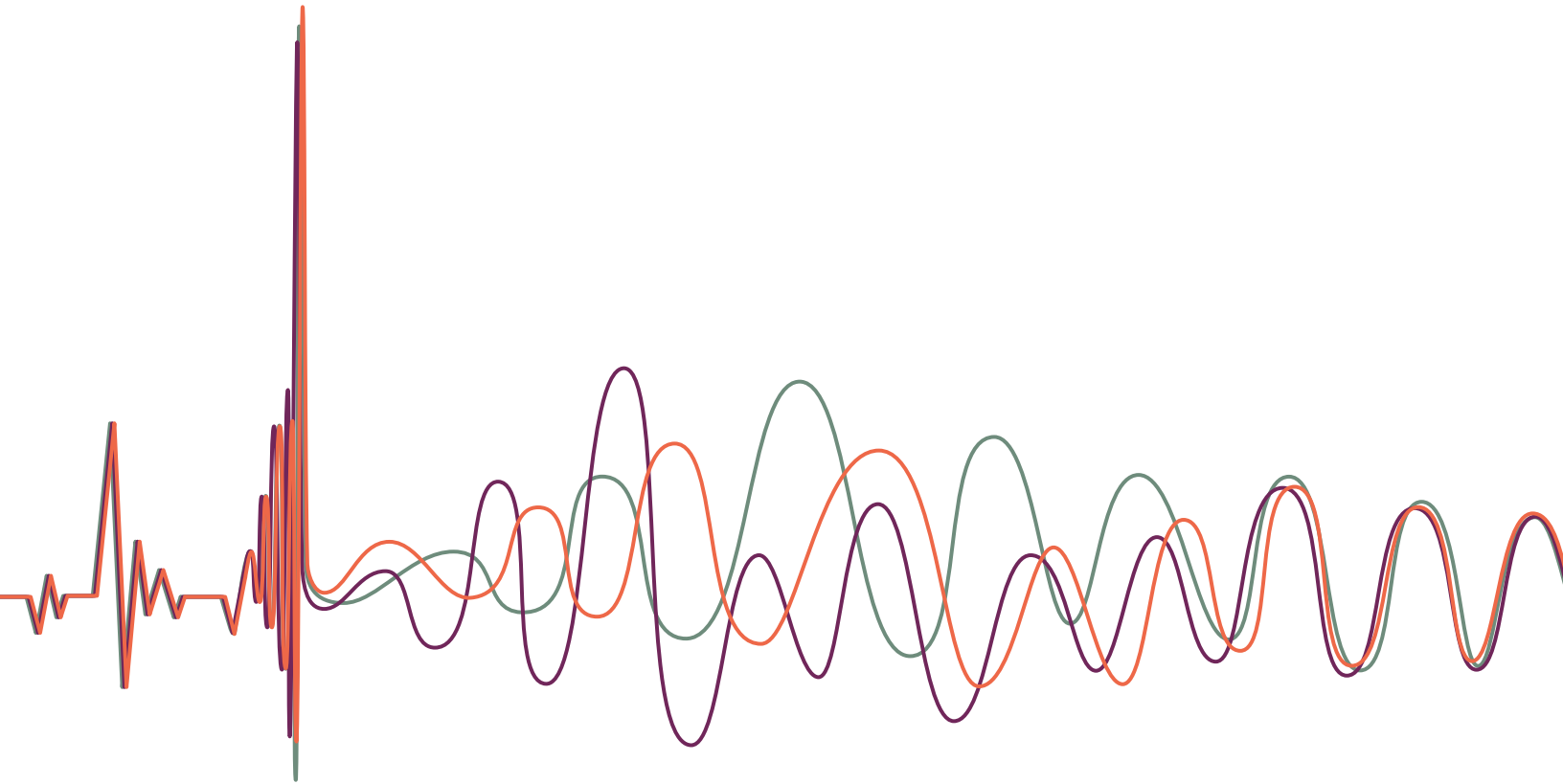
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THEME I

An unprecedented economic cycle

As of this writing, we continue to believe that the public health crisis will recede further—albeit after a winter bump led by the Delta and Omicron variants—and that the labor and other disruptive forces accounting for this unparalleled resource tightness will be sorted out. However, the labor force, business inventory, and inflation cycles are closely intertwined, and numerous alternative paths could transpire and deflect the natural reversion of the economy to a globally interconnected and fine-tuned machine. As we set out, the degree of healing in the global labor force—and as will be discussed in Theme II, the degree of innovation that businesses bring to this singular resource challenge—will largely determine the direction of the global economy over the course of 2022.

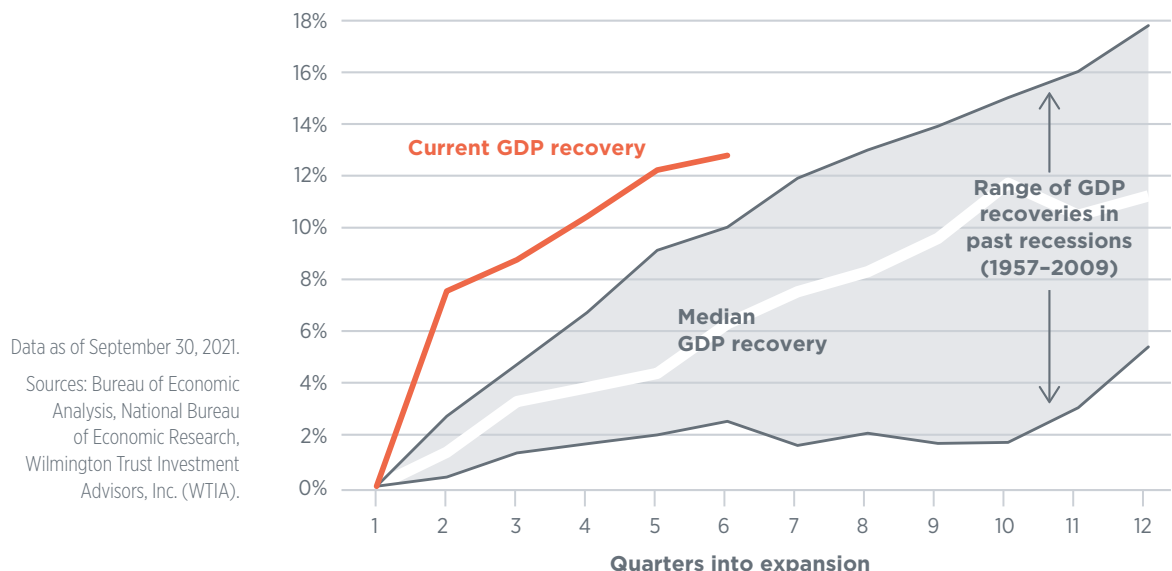
To sort through these dynamics and their impacts, we recommend investors focus on current disruptions to the economic cycle. We view this as a crucial lens for analyzing the market, since returns by asset class are heavily influenced by the cycle's stages, or regimes. Not only are we in the very early stage of this recovery in terms of time, but its relative strength at this point exceeds all others in the post-World War II era (Figure 1).

However, in juxtaposition to this expansion, *some of the major components of the economy are at odds with their typical behavior*. This is due to the nature of the recession, the ensuing government response, and the enduring psychological and commercial ripple effects of the health crisis. Our first theme examines labor markets, inventories, and inflation. In our estimation, the evolution of these key economic dimensions will largely define the shape of the economy in 2022 and 2023, as well as the performance of financial markets over this time.

Figure 1

This recovery is unlike all others

Percent change in GDP after start of expansions



Economic cycles provide a clarifying lens

We characterize the economic cycle in four stages (Figure 2). This is more detailed than the standard two-stage delineation of Expansion and Contraction used by the National Bureau of Economic Research (NBER).¹ For investors, it is not enough to merely gauge whether the economy is expanding or contracting, but also the *rate* of contraction or expansion. As we explain in Theme III, our research shows the strongest equity returns typically occur when the economy is *still contracting* but the rate of decline is slowing, and the cycle is troughing. Returns also remain strong in the phase when growth is accelerating or above trend, and then weaken.

At the start of 2022, we characterize the overall economy as transitioning from Acceleration to Deceleration and we expect it to move further into the Deceleration stage over the course of the year. An important point is that economies sometimes toggle back and forth from Acceleration to Deceleration. In fact, the economy can move among the various stages several times over the course of an NBER-defined expansion. Our expectation of a move into Deceleration during 2022 is *not necessarily* followed by an expectation that Contraction will follow *shortly* thereafter. The path forward depends on the interplay of the factors we shall discuss.

Labor markets

By nearly any measure, the U.S. labor market is sending the customary signals of an economy deep in the Deceleration phase. Job openings are at record highs, fast food and retail outfits are offering hiring bonuses, and large corporations from retail to banking have substantially raised their minimum wages. These clear signs of labor market tightness are perhaps counterintuitive given the relative youth of the economic recovery—not yet two years young—coupled with the monumental scale of job losses during the pandemic. While we are starting to see evidence of recovery in the labor force participation rate (the percentage of the working-age population seeking work), much remains to be done. Our analysis leads us to conclude there are multiple forces impeding the return of workers. To varying degrees, we expect these forces to abate in 2022 and conditions to ease but are cognizant of risks to that outlook. The main drivers holding back labor force participation are:

- Retirement
- Skills mismatch
- Lifestyle reassessment
- Lingering virus impacts

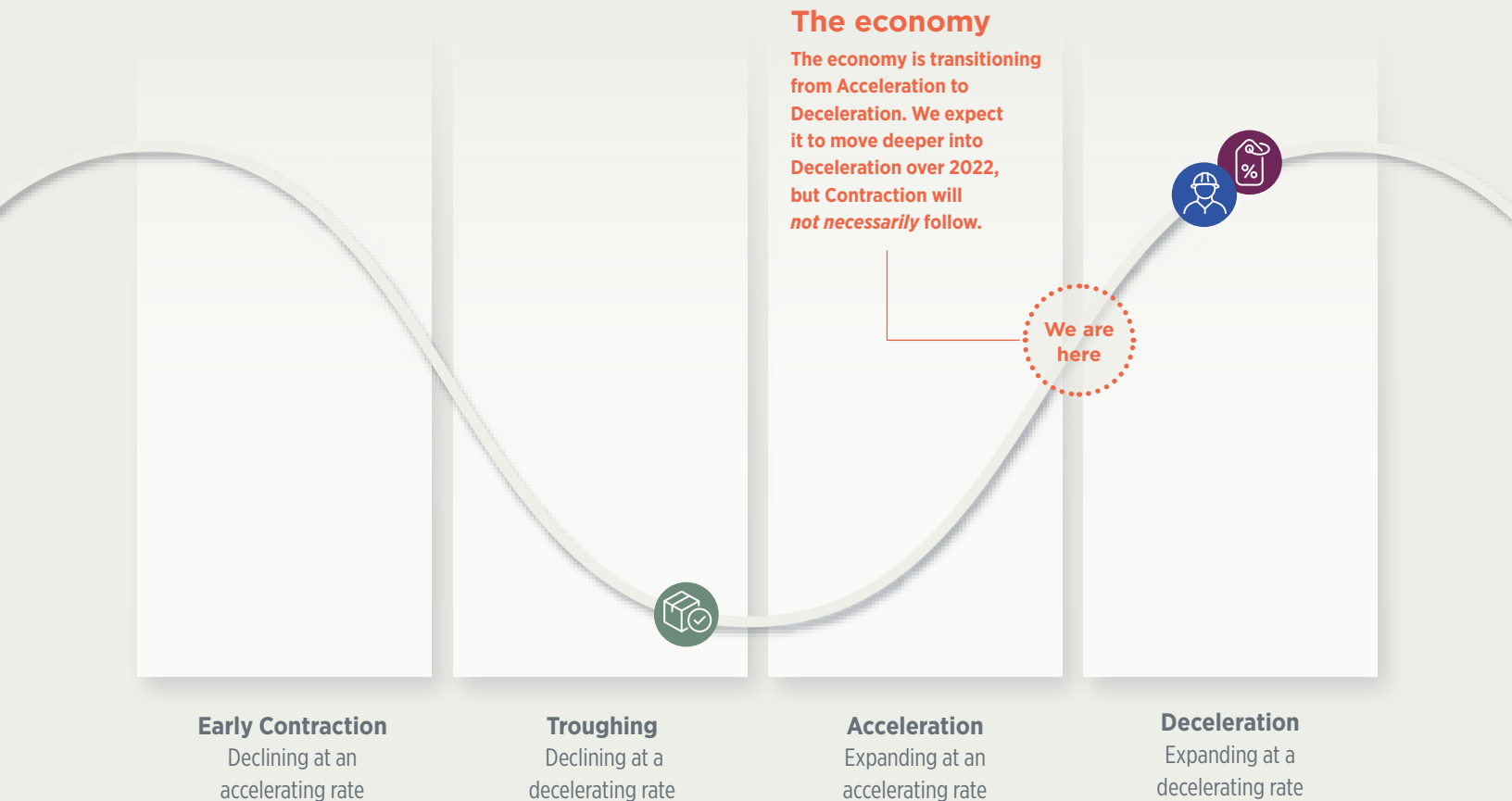
The current cycle versus the norm

The labor market typically *lags* the recovery. For example, in the previous cycle, the economy bottomed out in June 2009, but the labor market kept worsening for more than six months. Job losses continued until March 2010 and the unemployment rate did not decline significantly until the summer, a full year after the recession ended. Figure 3 shows the unemployment rate peaks for the 1990 and 2001 recession periods came long after the recessions had ended. This is a familiar and reliable dynamic, as firms are reticent to hire until the recovery is well-established. In a normal cycle, it takes years for the unemployment rate to grind lower and for wage pressures to build.

Figure 2

An economic cycle with major components out of sync

We view the economic cycle in four stages. It is critical to gauge whether the economy is expanding or contracting, but also to assess the *rate* of expansion or contraction.



Inventories

The current low level of inventories would normally suggest an economy still deep in recession as firms typically cut production and absorb inventories in a downturn. But the current shortage is the result of a spike in sales of goods combined with supply-chain disruptions. We view companies as ready to ramp up production, which should bode well for economic activity in 2022.



Labor

The labor market is sending the customary signals of an economy deep in the Deceleration phase but is being hindered by low labor participation. There are multiple forces holding back workers, including retirement, skills mismatch, lifestyle reassessment, and virus impacts. We expect these forces to partially abate in 2022, but there is a risk of extended labor shortages.



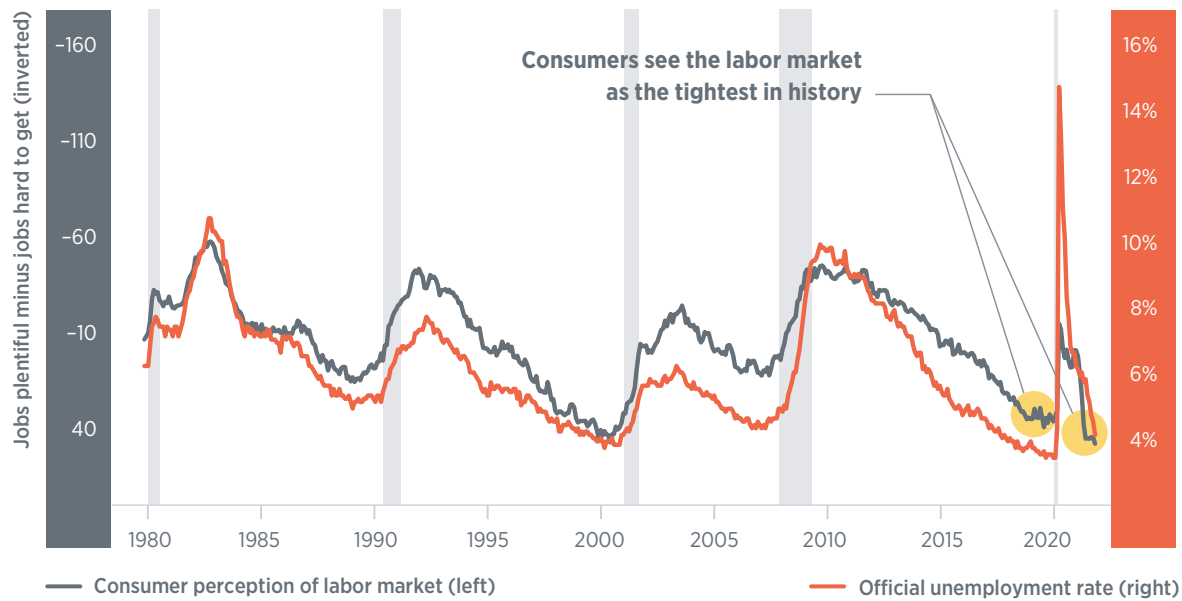
Inflation

Inflation is high and acting like the cycle is deep in the Deceleration phase, but it has been pushed there by the unique nature of the pandemic, the government response, supply shortages, and labor force disruption. We expect inflation to decelerate in 2022 but lingering supply-chain issues could combine with wage pressures to hold inflation much higher than in past cycles.

Source: WTIA.

Figure 3

Official data not reflecting historic tightness of labor market



Data as of November 30, 2021.

Shading represents recession periods.

Sources: Bureau of Labor Statistics, Conference Board, WTIA.

Fast forward to the current cycle, which is defying the norm. The unemployment rate had already fallen to 4.2% as of November 2021.² And we believe the official unemployment rate is even understating the degree of tightness due to low labor force participation. The Conference Board’s survey has a parallel measure that is not affected by those structural changes. It asks consumers whether jobs are “plentiful” or “hard to get.” The net difference between the two (Figure 3) reveals a labor market at its tightest on record, which aligns with surveys of business, news headlines, and anecdotal evidence. Not only has the labor market never been this tight; never before has it happened this quickly.

Retirement

One of the major considerations influencing the labor force in 2022 is retirement. The overall labor force is down 2.4 million as of November 2021.³ Much of the decline, especially for the upper age brackets, is likely permanent. The long-anticipated retirement of Baby Boomers is a structural phenomenon, but it has been hastened by cyclical forces, including financial markets. Ironically, the rapid recovery of equity markets (and, by extension, retirement accounts) worked hand-in-hand with COVID fatigue to quicken the retirement of the largest U.S. generation.

In 2020, it took just six months (Feb. 19, 2020 to Aug. 21, 2020) for the S&P 500 to recapture the pre-pandemic peak. Compare that to the previous cycle when more than five years elapsed before the index recovered (Figure 4). Back then, the prolonged recovery in financial markets forestalled retirements until nest eggs could rebound. In the early days of that recovery, there was a virtual bottleneck at the top of labor markets, little upward movement for mid-level workers, and college grads moved “back to their parents’ basements.” Once financial markets recovered, retirement accelerated.

In this current cycle, the dynamic is the complete opposite with the historic speed of the financial market recovery spurring retirement in 2021, creating a vacuum instead of a bottleneck. Mid-level employees are moving up quickly or being hired away by competitors. The vacuum is also horizontal across sectors; former restaurant staffers are being scooped up to work in other industries, for example, creating challenges for refilling positions.

We expect markets and retirement accounts to perform well in 2022, so we do not anticipate that recent retirees will rush back in. But a host of factors could entice some to return, including a period of market weakness, higher wages, or a realization that retirement funds will prove insufficient.

Skills mismatch

It's not only retirement that is causing a shortage of labor. There is also a skills shortage. As we discuss in Theme II, firms invested heavily in new technology to deal with the realities of the pandemic. From increased robotics at manufacturers to order-taking apps used by mom-and-pop shops, technology was a lifesaver. Importantly, it's here to stay. Now that firms have made the investments, they will keep them. Across the economy that means a need for higher skills. Not all workers are up to the task, so some of the current labor shortage is not from a lack of labor, but a lack of *effective* labor, at least until workers can be retrained.

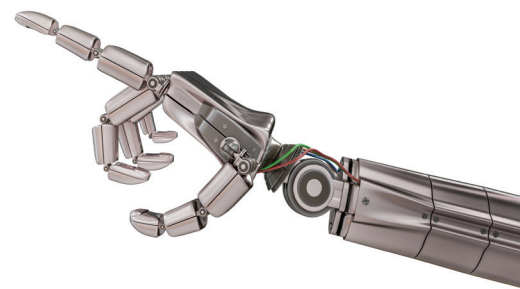


Figure 4

Strong financial market recovery in this cycle hastened retirement* versus previous cycle S&P 500 index



Data as of October 31, 2021.

*We use the increase in the number of people aged 55 and up who identify as "not in the labor force and do not want a job." S&P 500 index measures the performance of approximately 500 widely held common stocks listed on U.S. exchanges. Most of the stocks in the index are large-capitalization U.S. issues. The index accounts for roughly 75% of the total market capitalization of all U.S. equities.

Sources: Bloomberg, Bureau of Labor Statistics, WTIA.



55%

of respondents polled noted they knew someone who was driven to quit a job because of what's come to be known as "you only live once," or YOLO—a COVID-inspired impulse to seize the day

Lifestyle reassessment

A reassessment of employment versus leisure may also be contributing to worker shortages. A Harris Poll conducted in conjunction with Personal Capital found that 66% of respondents were interested in switching jobs.⁴ Other workers may not return at all, with 55% of respondents in the poll noting that they know someone who was driven to quit a job because of what's come to be known as YOLO, or "you only live once"—a COVID-inspired impulse to seize the day, as the fragility of life and the value of time spent with family were made painfully apparent. We expect these forces will weigh on labor force participation in 2022 and beyond, though to what degree is one of the key determinants of the shape of the continuing recovery that is simply unpredictable due to the lack of historical precedent.

Virus impacts

The ongoing challenges of the pandemic continue to impede labor force participation. The Bureau of Labor Statistics looks for connectivity between labor force participation and COVID. It reports that, in November 2021, about 1.2 million people "did not look for work" due to the pandemic, a clear drag on participation that tightens the labor market. That is much improved from the end of 2020, before vaccines were available, when 4.6 million reported being out for that reason. We expect ongoing vaccinations, a decline in cases, a normalization of school conditions, and the availability of new therapeutics to mitigate this impact in 2022.

Inventory rebuild

If the labor market is showing signs of late-cycle Deceleration, the state of business inventories points in the opposite direction. The shelves are so bare that if they were the only indicator, any objective observer would conclude the economy was still deep in recession, as firms typically cut production and absorb inventories in a downturn. By contrast, the current shortage stems from the pandemic and related supply-chain disruptions. We view companies as ready to ramp up production, which bodes well for economic activity in 2022—if and only if they have the labor and other needed resources to do so.

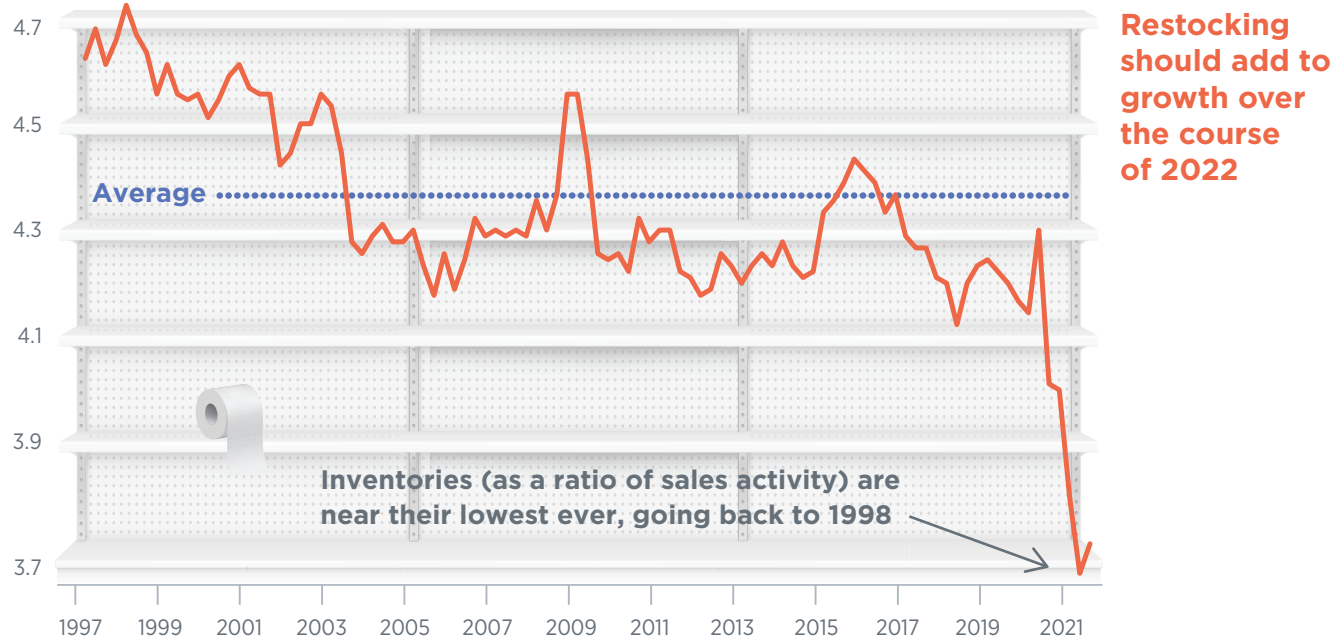
Overall inventories, adjusted for inflation, are down 4.0% in the third quarter of 2021 from pre-COVID levels, but this number belies the full story.⁵ It is best to view inventories as a ratio of *final sales*, to put the raw level into the context of demand. On this measure, the situation is stark. Measured as a ratio of final sales, inventories are near their lowest in history, dating to 1998 (Figure 5). This plunge has been driven by a spike in sales of goods (+6% relative to prepandemic)⁶ as consumers bought cars and fortified their homes for a pandemic with computers, phones, tablets, patios, decks, grills, swimming pools, and exercise equipment—all with the help of government stimulus. And conversely, the inability of companies to keep up has and continues to contribute meaningfully to the shortages.

Inventories are held and measured at three supply-chain levels: manufacturing (accounting for 40% of total inventories on average since 2010); wholesale (30%); and retail (30%).⁷ Tracking them can be maddening because some products are meant to reach a retail consumer (an automobile), some are not (auto manufacturing equipment), and some are components of a final product (an automobile transmission).

Figure 5

The shelves are as bare as ever

Ratio of nonfarm inventories to final sales of goods and structures



Data as of September 30, 2021.

Sources: Bureau of Economic Analysis, WTIA.

A look at the breakdown shows that inventories in this cycle have been hardest hit at the retail level (-9% relative to prepandemic) driven by the auto industry, where a shortage of semiconductors—a key component in autos—have pushed inventories lower by a shocking 28%. Clothing and accessory inventories also dropped sharply, as retailers have been cautious about restocking. Manufacturing inventories have been low as well (-4%), due to a combination of strong demand for goods and supply-chain disruptions. Wood product manufacturing inventories have cratered (-11%) thanks to strong sales of furniture and home goods as the pandemic prompted the housing and renovation boom.⁸ To be sure, there is a lot of restocking to do in 2022.

Getting a boost from restocking is a familiar dynamic in the economic cycle, one that historically has contributed to overall growth in the Acceleration phase. In 2010, inventory growth contributed just more than half (1.4%) of the economy's total growth of 2.7%. The experience was similar in all previous early-stage recoveries (1976, 1983, 1991, and 2002),⁹ and we expect inventory growth to constitute a strong tailwind in 2022.

In sum, while the Omicron variant and subsequent strains are cause for concern, we expect ongoing vaccinations and antiviral treatments to continue mitigating the virus impact, supply chains to improve over the course of 2022, and consumer spending to remain healthy given the unequaled magnitude of fiscal and monetary policy stimulus. Moreover, the inventory cycle should rebound more swiftly along with demand and present a key growth support in the year ahead.

Our base case calls for inflation to decelerate in 2022, and the key question is whether this will happen. Instead, lingering supply-chain issues could combine with wage pressures to hold inflation far higher than in past cycles.

Inflation

The state of inflation, much like the labor market, is acting like the cycle is deep in the Deceleration phase. Also like the labor market, inflation has been pushed to this aberrant position by the unique nature of the pandemic, the government response, and the labor force disruption previously discussed.

Historically, inflation is low during recessions and immediately thereafter, due to weak consumer spending and resource slack. In the three recessions preceding the most recent, the PCE Price Index that tracks personal consumption expenditures (the Federal Reserve's preferred inflation measure) in year-over-year (y/y) terms fell by an average of 1.1% from the start to the end of the downturn. The pandemic recession of 2020 was no different, with core PCE falling from 1.9% y/y to 0.9% y/y.¹⁰ Inflation typically then builds slowly as the economic cycle progresses and firms gradually hire available workforce and use up spare capacity.

Looking at simple inflation rates can obscure longer-term trends, so examining fluctuations around those trends is important (Figure 6). This inflation cycle is without precedent in terms of the quickness of price advancement. The initial burst of price gains in 2020 was isolated to a handful of the aforementioned reopening and supply-chain disruption-related categories, but pressure spread more broadly at the end of 2021. Our base case calls for inflation to decelerate in 2022, and the key question is whether this will happen. Instead, lingering supply-chain issues could combine with wage pressures to hold inflation far higher than in past cycles.

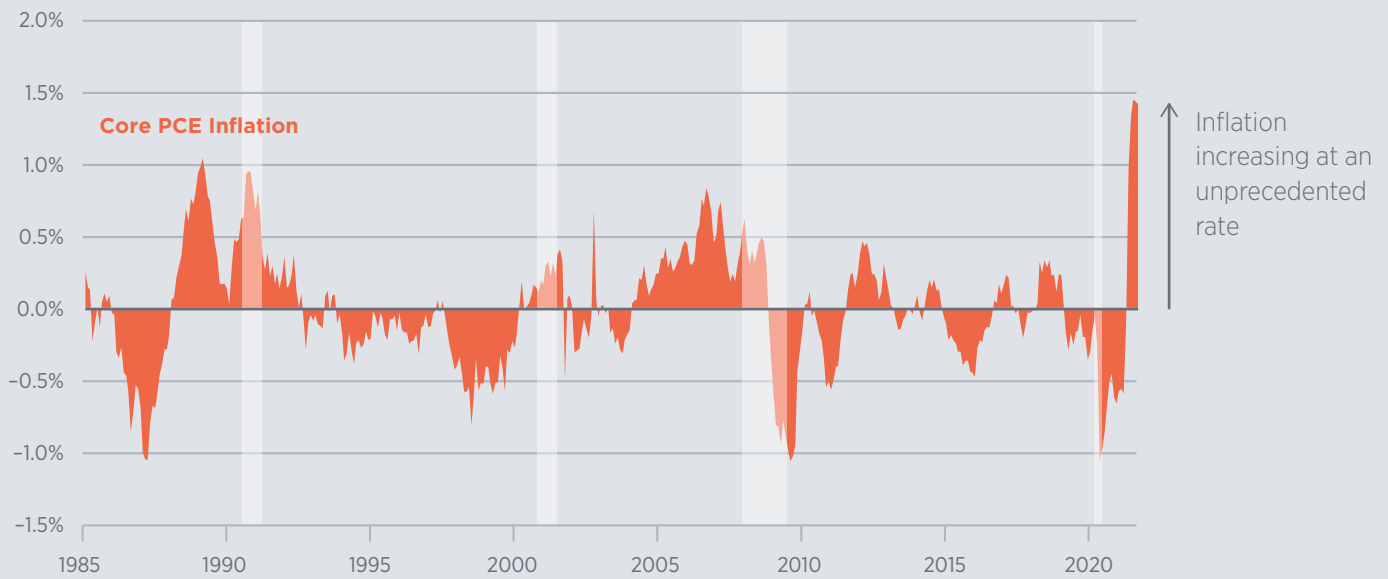
Supply-chain problems do appear to be pushing core inflation higher (Figure 7). There is a strong statistical connection showing fluctuations in supplier delivery times leading changes in core PCE inflation even before COVID. The labor issues at play are not U.S.-centric but afflict most countries, with queues of fully loaded container ships building at the world's seaports. And the issues do not owe solely to labor shortages strictly speaking, but also to a labyrinthine hodgepodge of vaccine and testing requirements, as well as travel bans for workers. Those issues are solvable through coordination among countries, and should abate, in our view, as the public health crisis itself subsides in 2022, with increased vaccinations and effective therapeutics.

Pulling it all together—an aberrant but healing cycle

In this unparalleled cycle, labor market and inflation indicators are trumpeting warnings of a late-cycle Deceleration. Together these could be seen as decisive in our assessment of the economic cycle. Instead, we see factors that should significantly mitigate the cycle's labor and inflation aberrations. To start, many workers have retired or temporarily stepped away, but scores may return enticed by wages and a resolution to the pandemic. And while inflation is running hot for now, we nonetheless expect it to decelerate in 2022 with easing supply-chain disruptions and fading reopening demand. Also, firms have much work ahead of them just to restock their inventories. We therefore forecast robust, above-trend growth this year. Theme II explores how it lies with firms to efficiently navigate the challenges of a tight labor market, supply-chain disruption, and price volatility.

Figure 6

High inflation usually comes late in the cycle, but it's already here



Data as of August 31, 2021.

Shading represents recession periods.

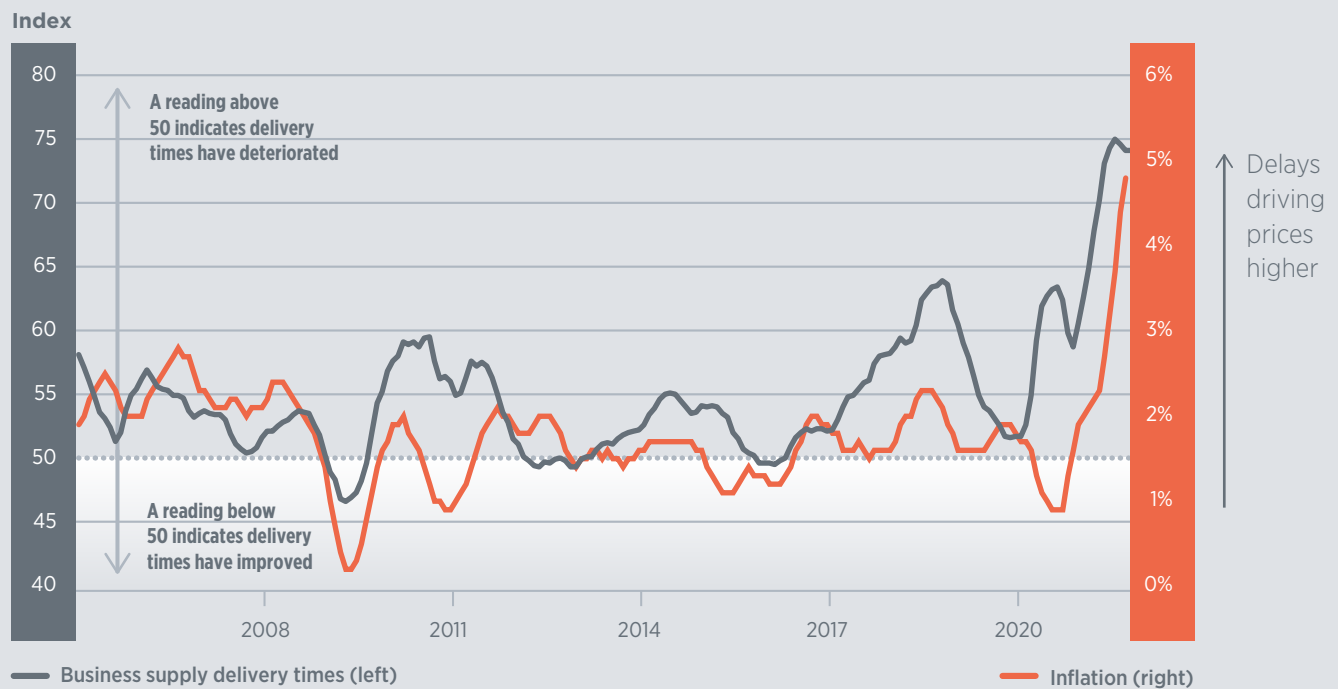
Personal consumption expenditures (PCE) data are 3-month moving average divergence from trend. Trend is calculated using a Hodrick-Prescott (HP) filter.

Sources: Bureau of Economic Analysis, WTIA.

Figure 7

Supply-chain problems driving inflation higher

Institute for Supply Management Manufacturing Report on business supplier delivery times and Core PCE 6-month annualized (6-month averages)



Data as of October 31, 2021.

Sources: Bureau of Economic Analysis, Institute for Supply Management, WTIA.

THEME II

The adaptive brilliance of business

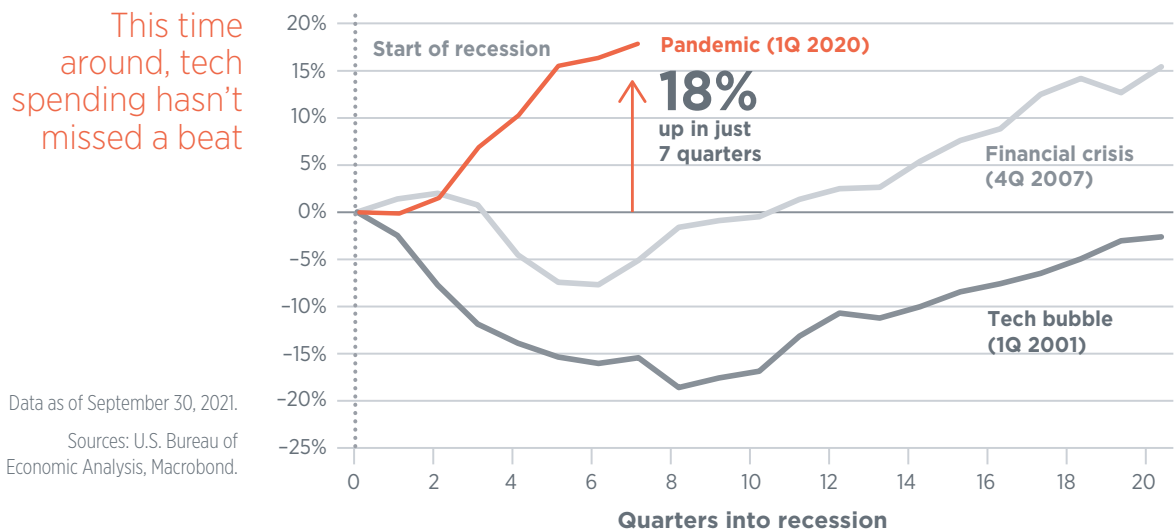
The unusual cadence of this economic cycle is forcing companies to learn a new set of dance steps. The labor shortages and resultant supply-chain disruptions explored in Theme I have dealt dual blows—in the form of mounting costs and volatile demand—to businesses large and small. But some of the best-positioned companies in 2022 are those using technology investment as a foundation for stronger, more resilient business models.

The tightest labor market in history is pressuring companies to deploy technology to extract more productivity from their workforces, reach new workers, and automate where possible. We first delved into the exponentially paced sequence of technological breakthroughs in our 2019 forecast, *The Fourth Industrial Revolution: Digital, data, and debt disruption*, where “Industry 4.0” is at the core of nearly every economic sector and enterprise. But technology cannot immediately remedy the resource disorder being inflicted on the labor market by retirements, skills mismatches, or geographic dislocations. This is leading to severe disruptions in the production, transportation, and delivery nodes of supply chains. While the near-term situation has no easy fix, companies are making significant changes to their business models, taking out an insurance policy of sorts, to prepare for future shocks. And China’s deteriorating relationship with the U.S. and web-like integration into global supply chains means companies must make some hard decisions to position for a future of rivalry with—yet reliance upon—China.

The low-rate environment, another unusual but propitious artifact of this economic cycle, continues to facilitate the corporate finance decisions to make this investment possible. Companies are issuing new debt, refinancing existing debt, and consolidating in record numbers. This backdrop leaves us optimistic on corporate profitability and the equity market broadly.

Figure 8

Cumulative % change in tech capital expenditures during last three recessions





forecasted revenue
growth per year
through 2025 for
cloud providers

Whatever the question, tech is increasingly the answer

Integration of and investment in technology is a growing part of the solution set to the major labor market and supply-chain issues facing companies today. As a result, corporate tech investment has defied the typical gravitational pull of economic recessions. In past times of economic uncertainty, companies commonly have pushed the pause button on new spending, but this time around they have blown through the typical tech-spend slowdown and upgraded software, cloud storage, and automation to keep up with the demands of a “socially distant” economy (Figure 8).

Gartner, a leading global consultant, forecasts information technology budgets worldwide will increase nearly 9% in 2021 and another 5.3% in 2022.¹¹ For large and small businesses alike, software and cloud spend are the priority. Deloitte predicts that cloud providers will continue to see robust revenue growth—of 30% per year or greater—through 2025.¹² International Data Corporation expects over 90% of enterprises worldwide to rely on the cloud by 2022.¹³

While investors often punish the share prices of companies viewed as spending too aggressively, we find long-term value in businesses making savvy tech investments to build out their cloud infrastructure and increase productivity as well as reinforce supply chains, ultimately delivering stronger profit profiles down the road.

Laboring over a labor shortage

The current labor shortage facing businesses is unrivaled. As of September 2021, 51% of small business owners reported job openings they could not fill—a record-high reading and well above the 48-year average of 22%. Of companies surveyed, 40% reported labor costs or quality as their top business problem—also record-high readings.¹⁴ Some of this supply-side labor shortage will likely be temporary, but retirements and skill mismatches will require technology investment to prevent more lasting impact. Businesses are using technology to increase productivity in three main ways:

- Arming workers with better tools
- Accessing new workers
- Automating key roles

Arming workers with better tools

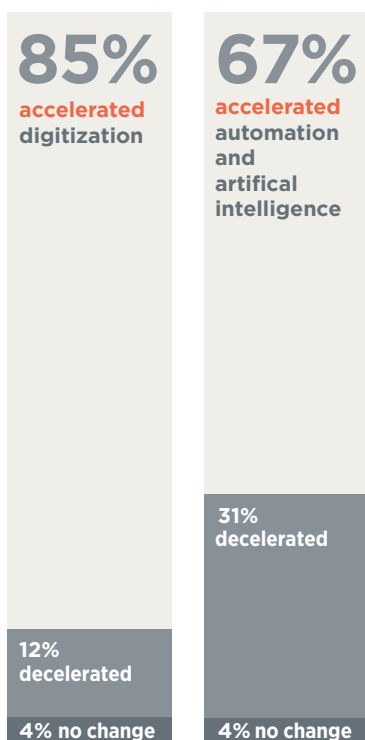
Technology continues to arm employees with productivity-enhancing tools focused on communication, collaboration, and task automation. Look no further than Zoom, Webex, Microsoft Teams, Slack, Skype, and other cloud-based platforms, which allowed work to continue through the pandemic with minimal disruption. Investments in cloud-based software have fostered better partnership and higher employee engagement, whether colleagues are across the table or the globe. Technology is also helping simplify tasks that are important to employees and can result in higher satisfaction, such as scheduling. Target Corp. recently launched an app to allow workers to more easily view, add, or swap hourly shifts. While this investment may not immediately sell more cosmetics or household goods, it potentially contributes to higher employee retention.

Figure 9

Companies are pressing ahead with digitization, automation, and artificial intelligence

Survey question:

“Since the start of the COVID-19 outbreak, how has your company’s or business area’s adoption of the following technology trends changed?”



800 companies were surveyed by McKinsey & Company.

Source: McKinsey & Company Global Business Executives Survey, July 2020.

Figures may not sum to 100%, because of rounding.

Accessing new workers

Companies are accessing new workers by sweetening the pot and expanding the pool. Companies across industries—particularly in lower-skilled areas like restaurants and hospitality—are raising hourly wages, adding sign-on or referral bonuses, and enhancing benefits. According to the National Federation of Independent Business, a net 42% of small business owner-respondents reported raising compensation (a 48-year record-breaking reading), while a net 30% plan to raise salaries in the next three months.¹⁵ A nationwide driver shortage has led trucking and logistics company Cowan Systems to offer every newly hired driver a \$15,000 sign-on bonus. The American Trucking Association expects the driver shortage to reach 160,000 drivers by 2028, so further enticements to take the wheel may be in store for prospective employees.¹⁶

Wage increases at one firm place pressure on competitors to respond, sometimes in a big way. A leading global consumer products company followed by our equity analysts noted a 33% increase in its entry-level wage to \$20/hour, partially in response to companies like Walmart and Chipotle lifting minimum wage to \$15/hour.

When wage increases do not suffice, companies must expand the worker pool. This necessitates embracing remote and flexible work arrangements. A 2020 Gartner survey of 127 company leaders revealed that 82% of respondents intended to permit remote working some of the time in a postpandemic world. A surprisingly high 47% responded they would allow some employees to work remotely full time going forward.¹⁷

The pay philosophy of remote work has evolved quickly to the benefit of workers. Historically, companies utilizing remote work have incorporated it as a back-door way to save on expensive city salaries. However, companies such as Okta and Zillow have started to migrate toward a nationalized pay scale, an added benefit to those relocating to less expensive parts of the country. It is now obvious that some of the same work can be done from anywhere in the world, and a combination of location flexibility and reduced emphasis on regionalized pay grades can retain and attract workers while reducing company real estate costs.¹⁸

Automating key roles

Labor force automation is a tale as old as time but one that is increasingly relevant to corporate conversations based on the acceleration of artificial intelligence (AI), big data, and 5G. A McKinsey global survey of 800 senior executives found that 67% of respondents have accelerated the use of automation and AI in the wake of the pandemic (Figure 9).¹⁹

The math of higher wage costs for lower-skilled work equals faster return on investment for automation technology. The same consumer products company mentioned above has estimated that the payback period for a technological investment to automate production has been cut almost in half—from 30–36 months under a prepandemic wage cost structure to 18–24 months since.



Confronted by shipping delays, Peloton invested \$100 million to pivot to air transport for its bicycles

We expect automation to more dramatically impact workforces in the quick-service food industry, particularly as robotics develops “fine motor skills” to manipulate different textured foods while safely working alongside humans. The warehouse industry is also utilizing technology, with retailers like American Eagle Outfitters and Gap deploying AI-powered robots to help sort clothes.²⁰

Bottlenecks, backlogs, and blockages: Companies are adapting to supply-chain challenges

The transformational impact of labor shortages and supply-chain disruptions for future business models cannot be overstated. The severity of the current situation is leading companies across the industrial landscape to rethink and reinforce their supply chains. Three realities have become clear: 1) There is no easy, quick fix to large-scale disruptions; 2) Supply-chain pressures are expected to persist at least into the middle of 2022; and 3) Disruptions of this sort—though perhaps not of this scale—will likely repeat well into the future.

Consider the following:

- Congestion at U.S. West Coast ports is at extreme levels, pushing companies to extreme action as a result. In February 2021, after Peloton fell several months behind in delivering bicycle orders, the company invested \$100 million to ship its products by air. CEO John Foley indicated at the time that this would result in the company incurring 10 times the typical transportation and delivery costs.²¹
- The CEO of Jo-Ann Stores, LLC cited an increasing number of cases where the cost to ship by ocean freight exceeded the cost of the product being transported. Costs to ship via a 40-foot container from China to the West Coast have risen to more than 10 times prepandemic levels.²²
- Automakers like Toyota have for years made enhancements to their supply chains. Still, in August 2021, Toyota announced that a global semiconductor shortage would force the company to cut global auto production by 40%.²³ Much-coveted chips were prioritized for higher-margin vehicles.

Technology and big data have improved supply-chain efficiency in recent years. Improved demand forecasts from AI have ushered in the era of dynamic pricing (sellers’ ability to price a particular item differently with changes in demand) and “just-in-time” inventory, allowing companies to extract much more from their profit curves while reducing the costs associated with stale or unwanted inventory.

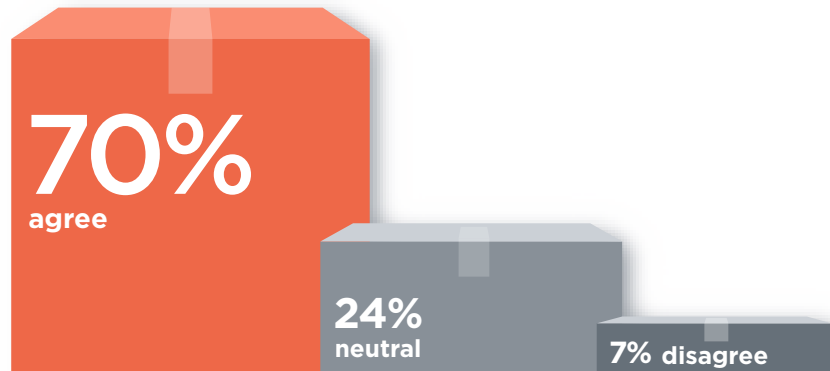
However, increased supply-chain efficiency has come at the expense of durability. A rolling series of supply-chain disruptions from trade wars, natural disasters, and a pandemic are forcing a rethink of the fragility associated with these profit-maximizing strategies. Just-in-time supply-chain management is not going away but is being complemented by just-in-case inventory models to increase the margin for error and forestall extreme product shortfalls. As evidence, several studies since the onset of the pandemic have found companies shifting focus to building more resilient supply chains through dual sourcing of materials, increasing inventory of critical products, and nearshoring or expanding their supplier base, even at the cost to the company’s bottom line (Figure 10).

Figure 10

Companies are shifting their focus

Survey question:

“In sourcing suppliers, my company will prioritize resilient and flexible processes over lowest cost. **Agree or disagree?**”



Source: “[Global Supply Chain Disruption and Future Strategies](#),” Foley & Lardner LLP blog, September 29, 2020.

Figures may not sum to 100%, because of rounding.

While a global pandemic is certainly an unforeseen “black-swan event,” it will not be the last disruption to upset production and transportation of goods. McKinsey estimates that supply-chain disruptions lasting a month or more occur every 3.7 years, with communications equipment, apparel, and petroleum products among the most vulnerable industries. Adjusted for probability and frequency of disruption, companies can expect to lose more than 40% of a year’s profits every decade, on average.²⁴ Geopolitics, natural disasters, and cybersecurity are all threats for which companies must be prepared.

In the future, supply-chain optimization will involve minimizing disruption as much as minimizing cost. Technology can help.

- **Automation** is increasing the business viability of bringing manufacturing closer to the end user and operating with less reliance on a particular region. As an example, rocket manufacturer Relativity has combined cloud-computing, 3D printing, AI, and autonomous robotics in such a way that allowed the company to continue production during the pandemic with all but a single employee working from home.²⁵
- **5G deployment** is still in its infancy but has the potential to be transformational when it comes to digitizing supply chains. The improved speed, capacity, coverage, and bandwidth offered by 5G provide the foundation for connecting the “internet of things,” and there are few things more interconnected than global supply chains. Benefits include real-time tracking of goods, production environments, and information through every phase of the supply chain.
- **Blockchain** technology’s distributed ledger is most often associated with cryptocurrencies. But the technology can also improve transparency and the security of goods changing hands in the global marketplace—reducing supply-chain and manufacturing risks for everything from perishable food to high-value goods such as jewelry or pharmaceutical products.

CHINA'S DOMINANCE

Provides 70%–77% of the world's rare earth elements

Produces 70% of the acetaminophen and 80% of the blood anticoagulant used in the U.S.

Is a top source of foreign goods for more than 60 economies

Accounted for 28.7% of global manufacturing output in 2019

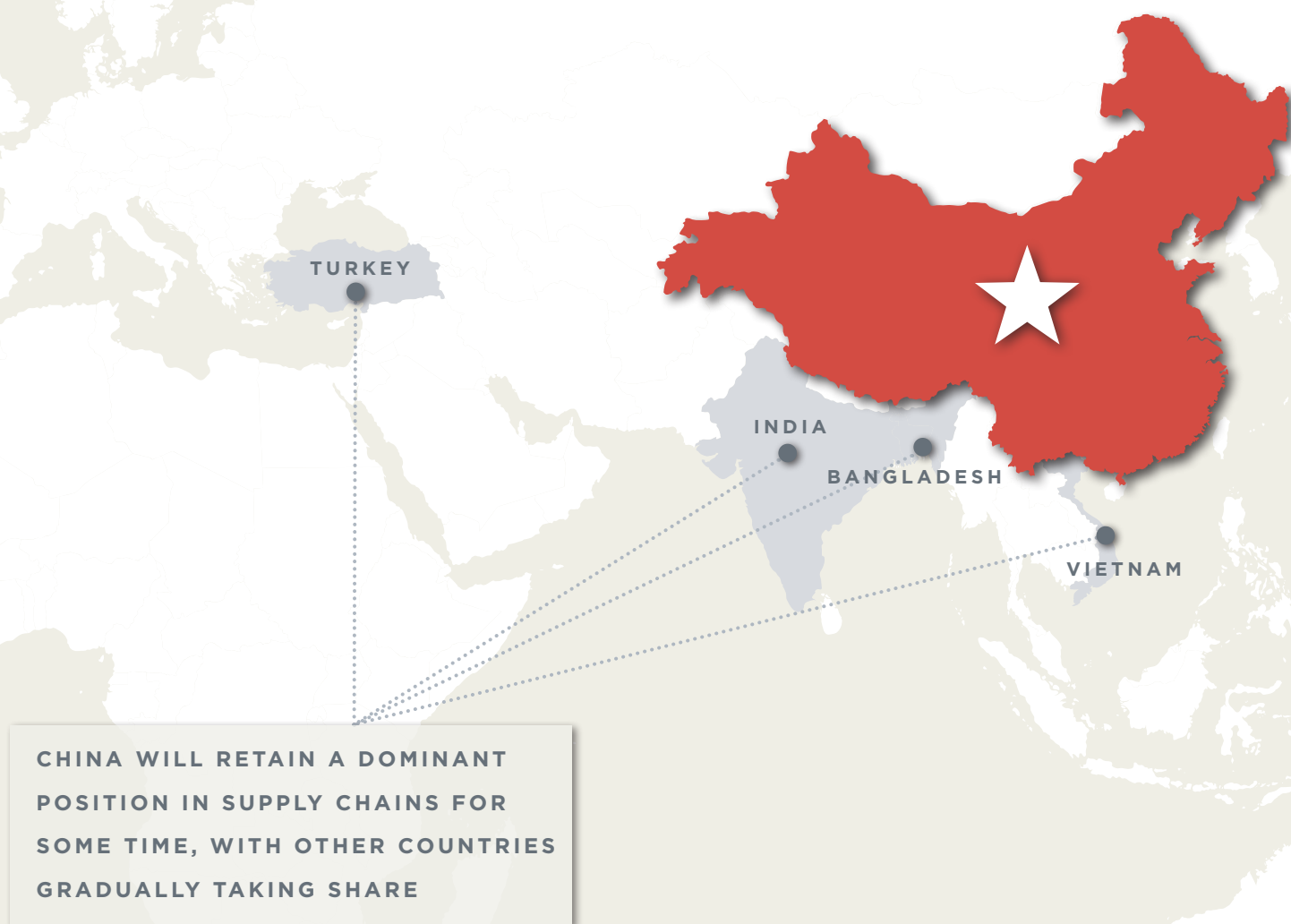
One of the greatest sources of continued risk for global companies stems from ongoing tensions with China. The Trump administration singled out China as a strategic enemy, and the Biden administration seems poised to keep pressure on this key relationship. Yet interdependencies between China and the rest of the world are numerous and, in many cases, troubling. China provides 70%–77% of the world's rare earth elements—critical mineral inputs for batteries, technology, and defense products.²⁶ It produces 70% of the acetaminophen, 80% of the blood anticoagulant heparin, and an outsized amount of active pharmaceutical ingredients used in the U.S.²⁷ Mainland China is the top source of foreign goods for more than 60 economies²⁸ and, according to the United Nations, it accounted for 28.7% of global manufacturing output in 2019.

Corporations' approaches to China are not clear-cut or one-size-fits-all. We expect companies to continue to diversify supply-chain risk away from China to the benefit of Vietnam, India, and Turkey, among others. As an example, consider data from QIMA, a company that specializes in onsite inspections and environmental audits. Within the textile and apparel industry, it has seen a doubling of demand for its services in Vietnam, India, and Bangladesh in the first quarter of 2021 compared to the first quarter of 2019. Over that same period, demand in China is down 20%. In a survey across all industries, 38% of U.S.-based buyers single out Vietnam as a country from which they intend to purchase more.²⁹

But expectations for a mass exodus from China are misguided. Access to the growth of Chinese consumer purchasing power is too valuable to businesses, and neighboring labor pools are simply too small to absorb a large percentage of China's current output. Accordingly, we anticipate most companies with an existing presence in the country will remain. This is true even within the tech sector, where data security and privacy are paramount. One survey showed 62%–64% of non-China-based tech firms intend to localize production in China to operate more seamlessly within the cultural norms and regulations of the region.³⁰

The strategic tradeoff is clear: Invest now to reduce supply-chain risk and lost profit down the road. We analogize it to a supply-chain insurance policy. The immediate costs are tangible, but the long-term savings from creating a more durable supply chain are potentially significant.

The pandemic has exposed the world's dangerous reliance upon China, **which is motivating companies to diversify their supply-chain risk**



Source: United Nations.

This technological investment has been brought to you by the low-rate environment

The technological investments needed to overcome the current labor and supply-chain challenges do not come without serious cost. Fortunately, the low interest rate environment is facilitating strategic corporate finance decisions that put these investments within reach.

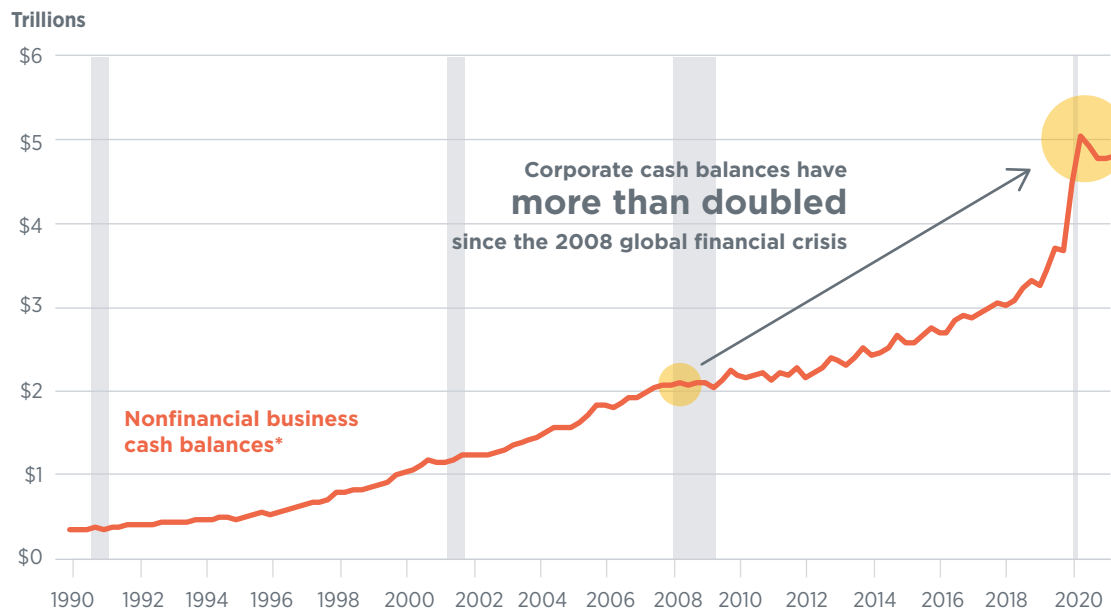
- **Issuing debt**—Companies issued a record amount of debt in 2020 at attractive rates, helping to fortify balance sheets in preparation for the unknown. And fortify they did. Today, U.S. nonfinancial corporations are sitting on more than \$5 trillion in cash (Figure 11), some of which we expect to be deployed into tech-related capital expenditures. Cash levels for global corporations also sit at a record \$6.8 trillion, which is 45% above the prepandemic 5-year average.³²
- **Refinancing debt**—In 2021, many companies extended maturities and locked in even lower rates for existing debt. Current terms are favorable for companies considering refinancing. The current yield at which companies could issue new debt is nearly 2% below the par-weighted coupon (the overall average-weighted coupon on the market index of corporate bonds) companies are currently paying, a favorable spread relative to history.³³ As an example, in September 2021, Gap raised \$1.5 billion in a junk-bond sale to help buy back more expensive debt issued during the peak of the crisis in 2020. They offered debt holders a premium to return the debt and still stand to save hundreds of millions of dollars of interest cost over just a few years.³⁴
- **Consolidation**—The low-rate environment, cost of keeping up with technology needs, and looming threat of higher taxes have spurred a wave of consolidations, something we predicted in our 2021 Capital Markets Forecast, *Seismic Shocks: The great pandemic, global reset, and a transformed financial landscape*. We expect rates to move higher in 2022 but remain around 2%, a level that could continue to encourage strategic combinations.

Pulling it all together—when life gives you lemons

Many successful companies are embracing labor- and supply-chain-related challenges head on, with technology as their weapon of choice. Those companies that are deploying technology to make sound, strategic changes to their business models should find themselves stronger, more resilient, and potentially more profitable than before the pandemic. In fact, nonfinancial corporate profit margins are the highest they have been in over 50 years.³⁵ Our job as investors is to identify those companies that can *keep* them that way.

Figure 11

U.S. companies are flush with cash



Data as of June 30, 2021.

Gray shading represents recession periods.

*Business cash balances are calculated as the sum of checking, currency, savings, time, and money market deposits.

Sources: Federal Reserve, Macrobond, WTIA.

Apple's supply-chain success

Apple is a very specific, singular example of a company that has thus far effectively managed supply-chain risks. It is by no means immune to the semiconductor, transportation, or China-related risks that have plagued many companies. However, two strategies have helped it to navigate better than most.

Vertical integration

While Apple does not produce key hardware components in-house, as in the traditional sense of the term vertical integration, management does work closely with supply-chain partners to design and deliver at each step of the process. Assistance for suppliers, large-order sizes, and long lead times are leveraged to help Apple stay near the front of (or in some cases cut) the line when it comes to the components for their consumer electronics. They also have exclusivity arrangements for certain chips, as with Taiwan Semiconductor for Apple's self-designed A-series and M-series chips.³¹

Local focus

Apple has been operating in China for years. Like some other large companies that have successfully operated there, Apple's management recognizes the importance of taking a local approach to the culture and regulations of the region. In some ways, Apple and China have a symbiotic relationship. China is a key end market for Apple, and in return the Apple ecosystem supports millions of Chinese jobs directly and indirectly.



While few firms can exert the leverage of this multinational tech behemoth, there are lessons to be learned.

THEME III

2022 Investment playbook

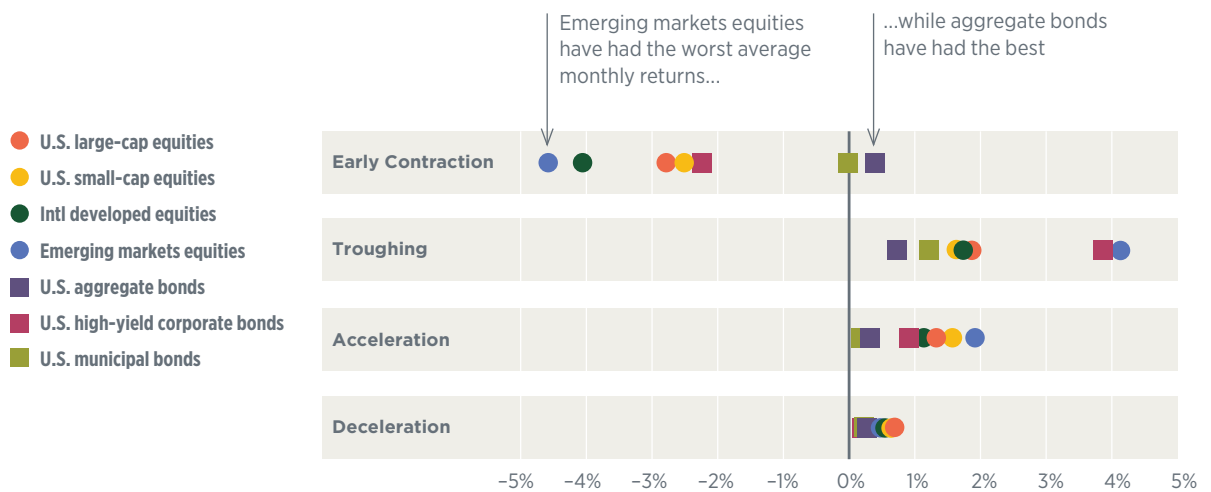
It is with intention that we place so much focus on understanding the nuances of the economic cycle. Years of experience have taught us that viewing a portfolio first through an economic lens can provide clarity and structure to an investment process. The approach starts with economic analysis, upon which we layer myriad market and strategy considerations. While history provides a reference, we know each economic cycle is unique. The resource disorder and attendant inflation concerns plaguing this cycle are the most distinguishable factors altering our investment playbook.

Where the economic rubber meets the investment road

The economic regimes laid out in Theme I serve as useful demarcations for evaluating asset returns throughout the cycle. Figure 12 shows the historical range of monthly returns for major asset classes in each stage of the economic cycle. For example, in Early Contraction, the worst average returns have come from emerging markets equities, and the best returns from bonds. Two conclusions stand out that inform our investment strategy. First: Determining which asset classes are likely to perform best is dependent on the economic regime, which can switch quickly and may result in dramatic leadership changes. And second: Diversification is always an important consideration, but even more so when the range of returns is greater, as in Early Contraction and Acceleration—the two stages we contemplate as the most likely next step for the economy.

Figure 12

Range of returns across asset classes by economic regime



Data as of September 30, 2021.

Analysis uses data for asset classes beginning January 1, 1988 and represents average monthly returns for the following indices: Russell 1000, Russell 2000, MSCI EAFE, MSCI Emerging Markets, Bloomberg U.S. Aggregate TR Bond, Bloomberg U.S. Corporate High Yield, and Bloomberg Municipal Bond, all total returns in U.S. dollars. The economic regimes come from WTIA analysis and are based upon the Brave-Butters-Kelley Coincident Index from the Federal Reserve Bank of Chicago. Early Contraction represents an economy that is in recession with the pace of activity deteriorating, Troughing represents recession but the pace of contraction slowing, Acceleration represents an economy expanding at a rapid pace, and Deceleration represents expansion but slowing. Investing involves risks, and you may incur a profit or a loss. Past performance cannot guarantee future results. Sources: Bloomberg, Federal Reserve Bank of Chicago, WTIA.

Figure 13 shows the same average monthly return data in more detail and includes sectors and factors. They say a picture (or a table?) is worth a thousand words, but sometimes the abridged version is helpful. We offer the following takeaways:

- The economy has historically spent less than 10% of the time in either the Early Contraction or Troughing stages.³⁶ *The Deceleration stage has been the most frequent and is once again where we find ourselves today.*
- *The best returns for risk assets, including large-cap, small-cap, and cyclical equities have occurred during the Troughing stage of the economy.* This may be surprising, as the economy is still technically in recession, but risk assets are notorious for sniffing out changes in the economy six to nine months ahead. Prices of the riskiest assets typically bounce in anticipation of the economy soon finding a bottom.
- *The Deceleration stage has historically delivered modest albeit positive average monthly returns across almost every asset class, sector, and factor, despite the economy's strongest growth being in the rearview mirror.* The best returns have come from a combination of growth-oriented sectors like technology and health care, where companies rely less on the ebbs and flows of the economic cycle and more on their organic growth, along with defensive sectors like consumer staples and real estate. On the factor front: Momentum, profitability, lower volatility, and management quality stand out when the economy is decelerating.
- *Diversification is paramount.* The economic cycle is fluid, frequently moving from one regime into another. Historically, when in Deceleration, the economy's next move was into Early Contraction 21% of the time and into Acceleration 79% of the time. With these two stages representing such a dramatically different set of asset class returns, it can be critically important to maintain a balanced set of exposures across asset classes, sectors, factors, and even sources of return (e.g., income).

What are factors?

A factor is any quantifiable driver of an asset's risk or return. Factors are sometimes referred to as “risk premia,” and they come together like building blocks to describe the returns of a security. Factors can relate to the macroeconomy, like inflation or credit risk, or to investment styles, like growth or value. Wilmington Trust applies factor analysis across individual securities and broader asset classes. While there are hundreds of factors, we focus on seven that have proven durable drivers of excess returns over time:



Growth
Stocks generating higher historical and predicted growth



Management quality
Stocks showing high management quality as defined by responsible, measured growth in assets, capex, and equity share issuance



Profitability
Stocks generating high profitability and operating efficiency



Momentum
Stocks showing strong recent performance



Size
Correlates to the market capitalization of a company



Value
Stocks that are underpriced on a variety of valuation metrics



Low volatility
Stocks exhibiting lower historical variability of returns

Criteria described above indicate a positive (high) level of exposure, according to the MSCI Barra Factor Framework.

Figure 13

Market returns through the cycle (average monthly return)

	Early Contraction	Troughing	Acceleration	Deceleration
ASSET CLASSES				
U.S. large-cap equities	-2.7%	1.9%	1.3%	0.6%
U.S. small-cap equities	-2.4%	1.7%	1.7%	0.6%
Intl developed equities	-3.9%	1.9%	1.1%	0.5%
Emerging markets equities	-4.5%	4.3%	2.0%	0.4%
U.S. aggregate bonds	0.4%	0.8%	0.4%	0.4%
U.S. HY corporate bonds	-2.2%	4.1%	1.1%	0.3%
U.S. municipal bonds	0.0%	1.4%	0.4%	0.4%
S&P 500 SECTORS				
Technology	-2.2%	2.3%	1.8%	0.5%
Health care	-1.5%	1.7%	0.5%	0.9%
Consumer discretionary	-2.4%	2.8%	1.5%	0.5%
Communication services	-2.3%	0.8%	0.4%	0.3%
Financials	-4.7%	1.3%	1.3%	0.4%
Industrials	-3.8%	0.5%	1.5%	0.5%
Consumer staples	-1.9%	1.1%	0.6%	0.6%
Utilities	-2.5%	-1.0%	0.8%	0.5%
Materials	-4.0%	4.5%	1.7%	0.2%
Real estate	-5.1%	1.2%	1.4%	0.7%
Energy	-4.7%	3.1%	0.7%	0.8%
FACTORS				
Growth	0.05%	-0.17%	0.05%	0.02%
Management quality	-0.06%	-0.23%	0.11%	0.12%
Momentum	0.52%	-2.22%	-0.02%	0.34%
Profitability	0.18%	0.33%	0.12%	0.14%
Small size	0.35%	0.43%	0.19%	0.08%
Value	-0.33%	-0.31%	0.09%	0.04%
Low volatility	0.15%	-0.31%	-0.16%	0.13%

Colors depict the ranking of monthly returns within each category (asset classes, sectors, factors).

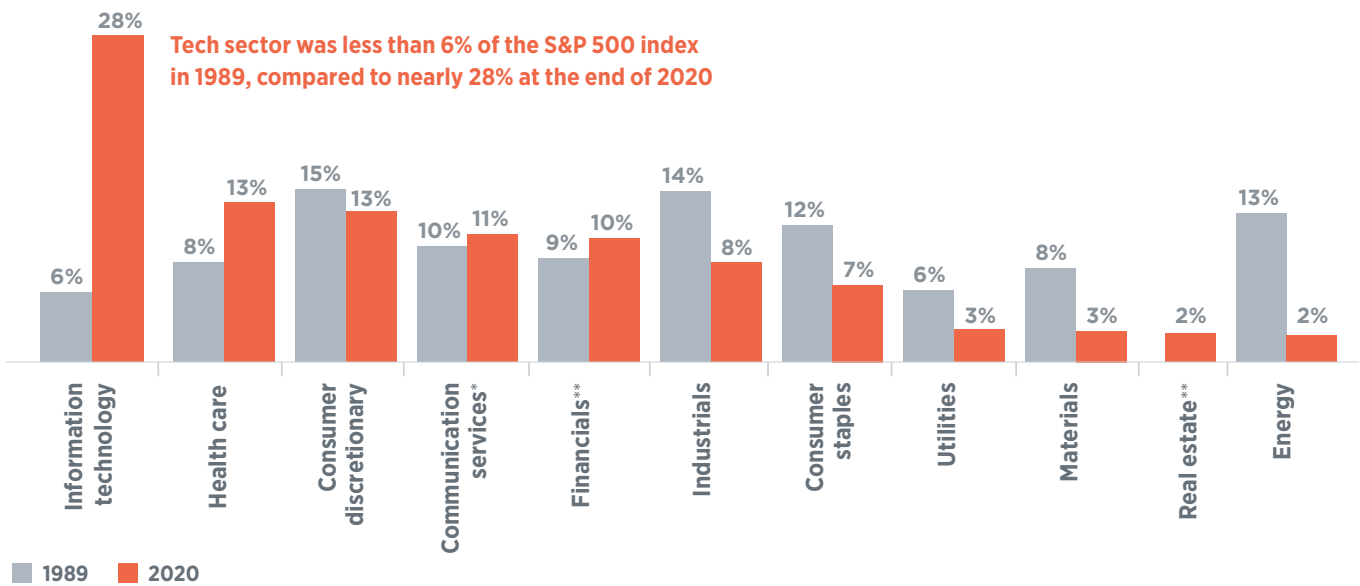
Analysis uses data for asset classes beginning January 1, 1988, sectors beginning September 30, 1989, and factors beginning January 1, 1995 through September 30, 2021. Indices represented for asset classes are the Russell 1000, Russell 2000, MSCI EAFE, MSCI Emerging Markets, Bloomberg U.S. Aggregate TR Bond, Bloomberg U.S. Corporate High Yield, and Bloomberg Municipal Bond, all total returns in U.S. dollars. Factors are Barra market-neutral factor indices, where the returns shown represent an excess return over a factor-neutral benchmark. The economic regimes come from WTIA analysis and are based upon the Brave-Butters-Kelley Coincident Index from the Federal Reserve Bank of Chicago. Early Contraction represents an economy that is in recession with the pace of activity deteriorating, Troughing represents recession but the pace of contraction slowing, Acceleration represents an economy expanding at a rapid pace, and Deceleration represents expansion but slowing. Barra Market Factor Indices aim to track the performance of a particular target factor with a high exposure to the target factor and low exposure to the non-target factors; they aim to minimize tracking error with low turnover relative to the benchmark. Brave-Butters-Kelley (BBK) Coincident Index is part of a research project of the Federal Reserve Bank of Chicago and is the sum of the leading and lagging subcomponents of the cycle measured in standard deviation units from trend real GDP growth. Factor neutral benchmark is a portfolio of financial assets that exhibits performance independent from a number of underlying factors. MSCI Barra Factor Framework aims to capture some important style factors in an index that represents sources of systematic risk and return, including momentum, leverage, volatility, value, and earnings yield.

Sources: Bloomberg, Federal Reserve Bank of Chicago, WTIA.

Investing involves risks and you may incur a profit or a loss. Asset allocation/diversification cannot guarantee a profit or protect against a loss. Past performance cannot guarantee future results.

Figure 14

S&P 500 sector allocations



*Telecommunication Services was renamed Communication Services, with issues added from other sectors post September 20, 2018.

**Beginning in 2016, the S&P 500 split out real estate from the financials sector.

Source: Standard & Poor's.

Every cycle is unique

The aforementioned insights and projections require a few caveats and a dose of humility. First, the infrequency of economic recessions—only five U.S. recessions in the last 40 years—means we have relatively few distinct data points in our sample. Second, the world changes. Forty years ago, China represented just 1.7% of world GDP. In 2020, that number had grown to 17%.³⁷ A similar trend is evident in U.S. equity market composition, where the tech sector was less than 6% of the S&P 500 index in 1989, compared to nearly 28% at the end of 2020 (Figure 14). The composition of the tech sector has itself evolved through the pandemic as a result of changes in corporate tech spending patterns (discussed in Theme II). What was once a cyclical sector tied to the ups and downs of the economy has become a structural defensive sector, with the performance of tech stocks positively correlated to the economic threat posed by COVID-19.

Lastly, there are always remarkable economic or market factors that make *this time* rhyme with but not repeat the past. In the current expansion, two elements stand out: the nature of the recession and ensuing recovery, and resource disorder.

The abrupt and complete shutdown of the global economy followed by a remarkable U.S. fiscal response distorted the recovery and ushered in an earlier-than-usual arrival of peak economic growth. This is significant because a decelerating economy can precede recession and equity market weakness. But this is not always the case, particularly if growth is slowing to a higher-than-average rate. We forecast 2022 GDP growth of 3.5%, a full percent above the historical average since 1988. In the past, stocks have delivered above-average returns when the economy is growing above trend, even if that growth represents a deceleration from peak levels (Figure 15).

The resource disorder afflicting the economy is the most pressing near-term risk for investors with potential impacts on all areas of the portfolio—asset classes, sectors, and factors. It is our base case that inflation pressures will likely subside somewhat

as we move into the middle of 2022, with workers rejoining the labor force, supply chains running more smoothly, and the Federal Reserve beginning a gradual rate-hike cycle. But we must also consider other scenarios, and we believe there is a reasonable risk that inflation turns out to be less transitory than most expected just several months ago.

Insulating against inflation

In building a portfolio to insulate against inflation risk, we consider both the magnitude and direction of inflation. Figure 16 shows average monthly asset class returns in four regimes corresponding to when inflation is high versus low and rising versus falling. The breakpoint for high versus low is 3.9%, which is the average year-over-year change in the Consumer Price Index (CPI) since October 1970.³⁸ One could draw the demarcation line between high and low differently, but regardless, the data reveal that from today's starting point, *the critical factor is whether inflation continues to rise or begins to fall.*

After a decade of disinflation handwringing, we now find ourselves facing high inflation but at a fork in the road. If our base case plays out, we will transition from the *high-and-rising* inflationary environment to the *high-and-falling* regime. In such scenarios, receding price pressures have historically delivered above-average returns for both stocks and bonds. (Bonds typically perform well because declining inflation coincides with a decline in nominal interest rates, helping support price returns for bonds.)

However, inflationary pressures could continue to build pending the status of the labor market and supply chains, leaving us in a persistent high-and-rising inflation regime. In our view, this risk is not properly priced into markets. Stocks are generally regarded as one of the most stable, long-term inflation hedges, given the ability of companies to pad revenues by passing along price increases to consumers. In fact, in three out of the four regimes shown, equities deliver strong returns. However, stocks have not held up well in environments where inflation is high and continuing to rise. This backdrop raises the prospects for monetary policy tightening and impending recession and has historically provided the lowest returns for stocks.

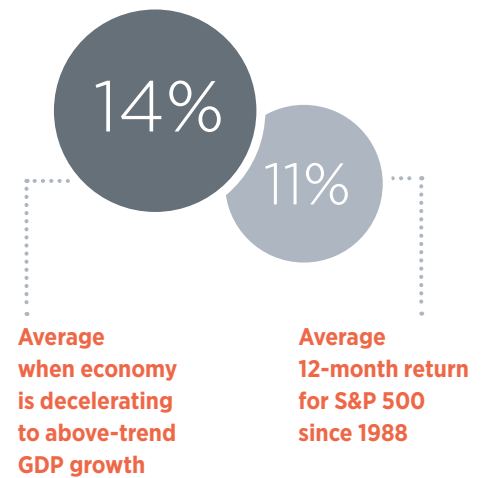
In fact, going back to 1970, any time inflation was high and rising, the Fed was already in the midst of a rate-hike cycle.³⁹ Typical inflation hedges like commodities and gold have performed best in such environments. We would also expect other inflation hedges like real estate investment trusts, energy stocks, dividend payers, and covered-call strategies to outperform the broader U.S. equity index but still provide muted returns. Treasury inflation-protected securities (TIPS) would likely outperform bonds but underperform gold and commodities.

Thus, putting our high-and-falling base case together with the possibility of a high-and-rising environment persisting, we have adopted a constructive position on equities along with a broadly diversified basket of other inflation hedges.

Alas, there is also a risk more sinister than inflation looming in the shadows: stagflation. The pressures being felt within the labor market and supply chains today raise the prospects of the supply-side of the economy not meeting demand, thereby impeding growth while maintaining upward pressure on prices and wages. Stagflation comprises a disastrous combination of high inflation, low (or negative) growth, and

Figure 15

Above-trend growth, above-trend returns



As of June 30, 2021. Data begin January 1, 1988.

All periods represent average annualized total returns for the S&P 500 over that period. Above-trend GDP growth is U.S. quarterly GDP above the historical average of 2.5%. Returns in the circle on the left are the next-12-month total returns for the S&P 500 when the economy is in the Deceleration stage and quarterly GDP growth is above the historical average.



We believe crypto's role as "digital gold" would not be as a true equivalent, as it has no physical asset of value backing it, but more as a currency hedge against the U.S. dollar losing its coveted status as the world's reserve currency.

rising unemployment that was seen in the 1970s. We do not expect true stagflation to take hold in 2022, but we examine which assets may best protect the portfolio should we fall into a low-growth, high-inflation environment. In this *stagflation lite* scenario, gold and commodities have previously delivered above-average returns. Bonds have outperformed stocks, as these periods correlate to recessions (Figure 17). We take these facts into account in striking an optimal asset class balance in our diversification mix.

Bitcoin as the new gold?

Notably absent from this historical analysis are bitcoin and other cryptocurrencies, a relatively nascent but burgeoning asset class utilizing revolutionary technology. Views on crypto are evolving and often polarizing. Objective analysis of the inclusion of cryptocurrencies in a diversified portfolio requires disentangling the potential use case for crypto and blockchain technology from the investment case. Here we focus on the investment case.

Historical analysis of cryptocurrencies as an asset worthy of investment in a diversified portfolio is muddled by the data's short history (the first bitcoin was mined in 2009) and questionable quality.⁴⁰ Since cryptocurrencies do not offer steady cash flow like bonds or generate earnings like stocks, the investment case for crypto lies predominantly in a combination of its potential for price appreciation, diversification, and inflation hedging. The limited supply of, growing demand for, and speculative fervor surrounding cryptocurrencies has resulted in a 237% annualized return for bitcoin since 2010.⁴¹ However, that has come with a standard deviation four to six times that of stocks and three drawdowns (peak-to-trough asset losses) of between 53% and 83% in the last four years alone. Based on its recent risk versus return profile, cryptocurrencies would only be suitable in very small allocations, if at all, for high-risk-tolerant investors.

The investment case for cryptocurrencies or blockchain rests on them evolving into more stable portfolio diversifiers, as well as hedges against U.S. dollar debasement and inflation. It is possible that, in the future, cryptocurrencies could supplant traditional gold as the typical investment store of value, and the past year of comparative returns would suggest this may already be taking place. We believe crypto's role as "digital gold" would not be as a true equivalent, since it has no physical asset of value backing it, but more as a currency hedge against the U.S. dollar losing its coveted status as the world's reserve currency. The rapid evolution of crypto-related technology and regulation make this asset class one to watch.

Settling into, but not settling for, lower returns

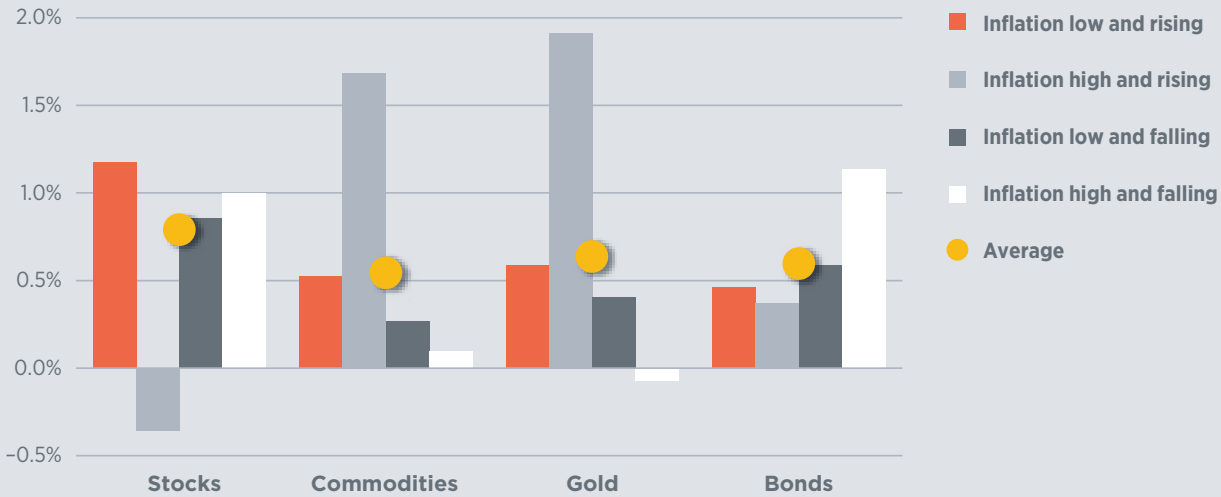
The last point of note is regarding lower return expectations for public equities in 2022. We have witnessed a remarkable run for stocks over the past one, three, and five years. Valuations for equities are elevated across virtually every measure and may portend much lower average equity returns over the next three and five years. This raises the profile of two investment strategies: income generation and private markets.*

In a low-return environment, income becomes a larger and more critical driver of total return. We would caution against some of the more common ways of obtaining higher yield, namely extending bond duration or lowering credit quality. We expect interest

* Private market investments are only available to investors that meet the U.S. Securities and Exchange Commission's definitions of "qualified purchaser" and "accredited investor."

Figure 16

High inflation and at a fork in the road
Monthly returns across inflationary regimes

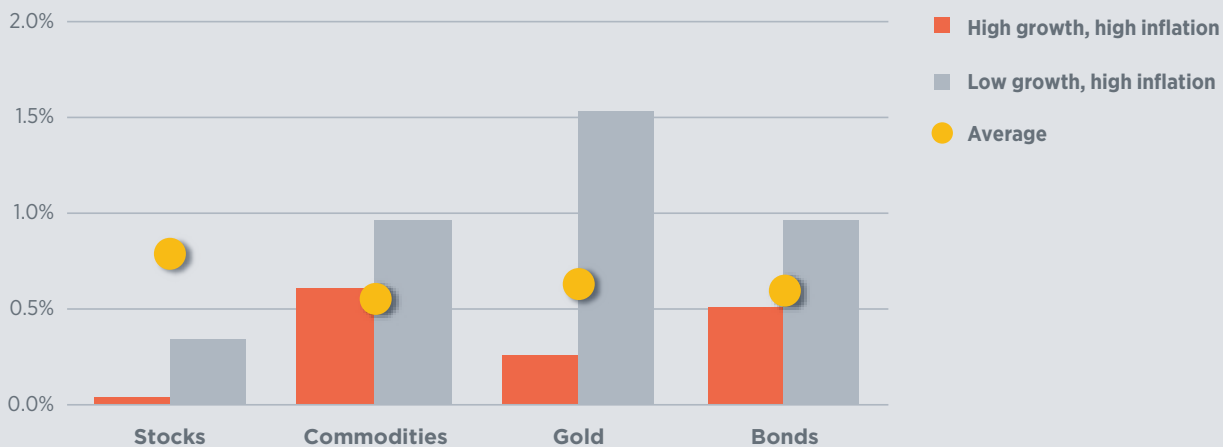


Data beginning January 31, 1976 through August 31, 2021.

Historical average returns not shown here, as index data are more limited for commodities and gold. Bars represent average monthly returns when inflation is above (high) or below (low) 3.9%. Receding (rising) inflation indicates the current reading for U.S. CPI y/y is below (above) the 3-month moving average. The average return is over all periods. Assets represented include the S&P 500 index (price return), Bloomberg Commodity Total Return index, gold spot price, and the Bloomberg U.S. Aggregate Total Return Bond index. Sources: Bloomberg, WTIA.

Figure 17

Commodities and gold may offer respite in “stagflation lite”
Monthly average asset returns



Data beginning October 31, 1970 through August 31, 2021.

Bars represent average monthly total returns when U.S. quarterly GDP is above 3% (high) or below 2% (low) and inflation is above 3.9% (high). The average return is over all periods. Assets represented include the S&P 500 index (price return), Bloomberg Commodity Total Return index, gold spot price, and the Bloomberg U.S. Aggregate Total Return Bond index. Sources: Bloomberg, WTIA.

Private equity, debt, and real estate offer qualified investors access to less efficient markets and potentially higher returns, including during times of economic contraction and outright loss for listed equities.

rates to rise, so short-term returns could be painful for investors extending their duration; those investors with longer time horizons could do fine from clipping a higher coupon and rolling down the yield curve. Similarly, credit spreads (yield over a similar-duration Treasury) are very compressed, and lower-quality corporate bonds are quite expensive for their risk as a result. Instead, we see opportunities in dividend equities, particularly in some sectors where valuations are still attractive. International equities also typically offer a higher dividend than their U.S. counterparts, and economies outside of the U.S. have more ground to make up versus pre-COVID levels. Covered-call strategies can also be beneficial, as investors can pick up additional income from the premium they sell on a call option in return for a capped upside to their equity holdings. This strategy can work particularly well in choppy or down markets.

Private markets also may offer a compelling opportunity in a low-return environment for publicly traded stocks. Private equity, debt, and real estate offer qualified investors—those who meet minimum income and asset requirements set forth by the Securities and Exchange Commission—access to less efficient markets and potentially higher returns, including during times of economic contraction and outright loss for listed equities. Private markets are obviously not suitable for every investor, and the key consideration is assuming a longer investment horizon to contend with lockup periods and illiquidity.

Pulling it all together—investment conclusions

Every cycle is unique, but this cycle is even “more unique” than most. While we have conviction that supply-chain disruptions will resolve sooner rather than later, there is less visibility as to how potentially structural changes to the labor market will play out. As a result, our investment conclusions emphasize diversification—of asset classes, factors, sectors, and even passive as well as active sources of return.

Equities are the common denominator. Having proven their resilience through a variety of inflationary environments, they are anticipated to do so again. The main risk is that inflation not only remains high but continues to increase, in which case exposure to commodities, bonds, and TIPS could provide important diversification. Income-generating assets and private markets can potentially offset lower price returns of equities and bonds, while being accretive to overall long-term portfolio returns.

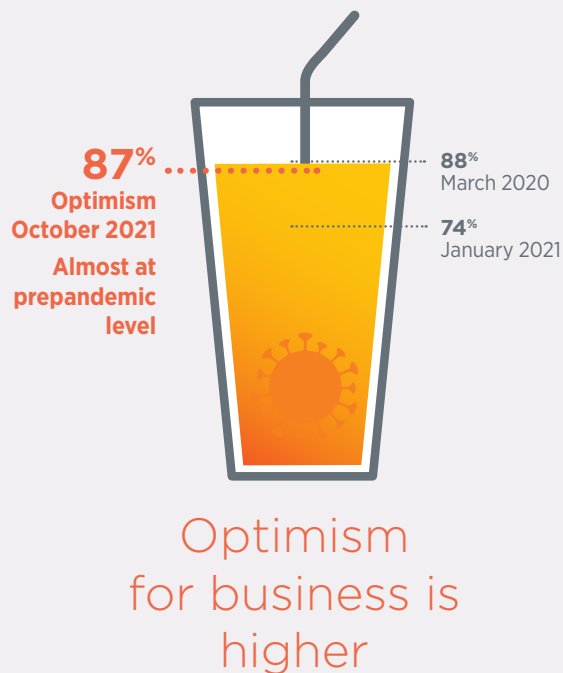
It is important to recognize that both economic and noneconomic variables affect the inflationary regime and resultant asset class returns. Cryptocurrencies and blockchain are a good example to illustrate the evolving opportunity set for investors. Commodities are another example. They have proven to be a useful inflationary hedge over time, but priorities and policies related to climate change are likely to have a major impact on commodity usage over the next 30 years, and the return profile of the asset class will evolve accordingly. This is yet another reason to remain diversified.

Within factors and sectors, we advocate for a healthy exposure to the value factor and cyclical sectors, as valuations remain attractive and should continue to benefit from higher rates and above-trend economic growth. However, the integration of technology into business and consumer activity will continue to accelerate, necessitating ongoing exposure to the growth factor and tech-related sectors over the next three to five years.

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Business Owner Success Survey



* The survey took place in September–October 2021 among 1,001 business owners, with 367 of these being minorities, 252 females, 200 with \$1 million–\$5 million in revenue, and 801 with \$5 million+ in revenue.

See Disclosures and other important information for survey methodology.

When the full force of COVID-19 shook us to our collective core in the spring of 2020, many business owners were forced to press pause to some degree until the economy reopened and they could regain their sea legs. Inventory was not immediately challenged but would become so and remains a concern for many. Government stimulus dollars and easy lending policies proved critical in helping business leaders to pivot, punt, and reprioritize in order to surmount labor crunches and broken supply-chain challenges. Now, 18 months after the initial surge of the virus, we surveyed more than 1,000 business owners* in September–October 2021 to check the pulse of business health and sentiment. Here are highlights gleaned from our research.

Drink up: The confidence cup is more than half full

When it comes to sentiment, owners have rebounded to pre-COVID levels—a big gulp more from where they were in second-quarter 2021, as reported in our *The Rush to Retire* research. Of those who responded to a question on their 12-month outlook for the U.S. economy, 77% said they were very or somewhat optimistic, almost at the 81% marker just before the pandemic, as reported in our second-quarter 2020 report, *The Power of the Pack*, and up from 66% this past spring. Closer to home, optimism for their business was even higher, with 87% very or somewhat optimistic—almost at the 88% prepandemic level and up from 74% earlier this year. Looking at 2022 versus 2021 revenue, 67% of those surveyed said they expect an increase, with smaller business owners showing greater optimism than larger business owners, 71% to 66%.

The laborious ties that bind us

Forty-four percent of survey respondents identified labor costs as the largest potential obstacle to revenue growth. Hiring and retraining employees has been both a priority and a challenge. Two-thirds (66%) of large businesses brought back employees in the past six months, and half retrained those employees due to pandemic-induced changes in organizational structure and skills requirements. While 62% of all business owners surveyed found it difficult to fill available positions, among those who brought new employees on board, 83% were able to fill all their open roles. To do so, business owners had to sweeten the pot, providing more benefits (45%), paying higher wages (44%), and offering flexible work hours (43%). (See research insights brought to life: Three M&T Bank business-owner client case studies on page 34 reveal that such pot sweeteners were just as important in retaining the talent they had.)

TO FILL OPEN ROLES, BUSINESS OWNERS ARE SWEETENING THE POT



44%

paying higher wages



43%

offering flexible hours



45%

providing better benefits

BIGGER BIZ SPENDS MORE TO GROW—AND SAVE

Who increased capital spending in 2021?



48%

large businesses



23%

small businesses

- Large businesses: \$5 million+ in annual revenue
- Small businesses: \$1 million to \$4.9 million in annual revenue

Healing crippled supply chains

Along with labor challenges, supply-chain blockages or paralysis were identified as an obstacle by nearly half of survey respondents. Among those with supply-chain issues, nearly half of all business owners were forced to expand lead times to proactively increase inventory and reduce delivery time of products and services to customers. Large businesses appear to be leveraging their scale versus their smaller counterparts, as 59% of large businesses replaced underperforming supply-chain partners, while 73% of smaller business owners had to add partners.

The changes large business owners have made seem to be working, with 88% indicating an improvement in their supply chain in the past three months, while just over half (52%) of small business owners saw an improvement.

Evolving, growing, and saving

Twice as many large businesses (48%) increased capital spending versus small (23%); of the big boys, two-thirds increased tech spend to allow for more efficient operations and also allow employees to work remotely, with funding coming from a variety of sources. Their smaller counterparts also prioritized business efficiency, but generally stayed the course with capital spending levels and deployed existing funds.

Of the large businesses that will allow employees to work at home, 60% will be reducing office space, and the reductions will create large cost savings on expenditures such as rent, overhead, etc. Two-thirds of small businesses will allow employees to work remotely, but less than 40% are looking to reduce office space. However, nearly three-quarters of small businesses that are reducing office space expect to save on costs.

COVID-19 remains the top risk factor

Almost half (47%) of business owners surveyed said the COVID-19 pandemic is the factor that will have the largest impact on their business over the next 12 months. This was followed by competing with new technologies (32%), attracting and retaining talent (31%), and rising health care costs (28%).

Similarly, 43% said the pandemic was a top risk to their business over the next year, while 30% answered inflation and 25% said supply chain. Despite this, their confidence in the long-term future has reverted to pre-COVID levels. The number of owners who feel confident or very confident that their personal and business assets will be well-managed in their absence reached 92%, compared to 93% prepandemic and 83% in the spring of 2021.

CASE STUDIES

How 3 M&T business-owner clients met their pandemic challenges

“To stave off labor shortages, I engaged four outside recruiters a few months ago, especially because I knew we needed to be prepared for the increased growth post COVID.”

Co-owner Les Stier,
Nassau Candy Distributors



“Lead times for delivery started at 4–12 weeks and are now at 20–62 weeks, so we’re placing orders months in advance of when we estimate we’ll need the merchandise.”

CEO Thomas Albero,
Alliance Material Handling



“Throughout the pandemic, employees in accounting, service, etc. were able to work from home with the laptops we provided.”

CEO Raja Amar and
COO Larry Melchionda,
Portables Choice Group



Nassau Candy Distributors Sweet solutions for a bitter time

Background: *Nassau Candy, headquartered in Hicksville on New York’s Long Island, is one of the largest U.S. wholesale manufacturers of specialty and private label confections, supplying many national retailers and independent stores nationwide. In addition to Nassau Candy-made creations, it imports and distributes high-end confectionary, soda, gourmet food, and natural brands, including health, beauty, and household care to total 20,000+ stock-keeping units. The 80-year-old family-owned business has 1,300 employees, and comprises 10 companies—including a promotional arm that produces a series of private label edible and non-edible products. Distribution centers are located in New York, Florida, Michigan, Texas, and California. We spoke with co-owner Les Stier.*

Challenges: Inventory began to be a problem in 2021 and I expect it to continue into 2022. We source some candy ingredients, for example, from Brazil, Spain, and Germany. Certain manufacturers closed and ports shut down. Additional concerns were getting enough candy containers, such as bags and tubs. And finally, I was concerned labor would become tight, if the pandemic persisted.

Solutions: We took a number of steps to maintain supply. First, we were more aggressive in placing orders—doing so more frequently and on a larger basis—as well as giving manufacturers longer lead times. Additionally, we accepted the manufacturers’ price increases and passed them on to our customers. We also broadened our vision as to where product can come from and opened ourselves to bringing in more from Hungary and Mexico.

To stave off labor shortages, I engaged four outside recruiters a few months ago, especially because I knew we needed to be prepared for the increased growth post COVID. We’re nearing that point and our industry trade show indicates that the industry is 65% back to normal. Others who didn’t start padding their workforce are suffering now. We also made efforts to retain the workers we have and gave bonuses to our 50 drivers. To us, they’re front-line heroes and it was well deserved. We gave appreciation bonuses to some other employees as well as promotional giveaways like jackets. And where appropriate, we’ve allowed some of our associates to do a little work from home.

Alliance Material Handling

Uncle Sam and a little gumption helped a gamble pay off

Background: Alliance Material Handling, Inc. is a warehouse solutions provider based in Maryland, with three locations in Virginia, and one in Delaware. The 65-year-old company sells, leases, and services forklifts, and it designs as well as installs racking systems for large warehouses and industrial buildings. To learn how Alliance dealt with some of the COVID-induced obstacles, we spoke with Chairman & CEO Thomas Albero.

Challenges: Labor was a significant stumbling block, as over half of our 175 employees are forklift mechanics—a very specialized skill. But when the pandemic hit, many of our customers shut their doors and we ended the first half of 2020 with a year-to-date loss for the first time in 20 years. We were going to need to downsize and let go of 45 employees. Supply-chain backlogs started to accelerate in 2Q when our stock orders kept getting delayed. Lead times for delivery started at 4–12 weeks and are now at 20–62 weeks. About 15% of our parts come from Ireland and Korea where computer chips (used in forklifts) were held up due to trucking and shipping container delays. We do \$15 million worth of forklift repairs but only if we have the parts.

Solutions: Just when we were about to fire nearly a quarter of our staff, Paycheck Protection Program (PPP) came out. We gave the technicians jobs like cleaning and painting. PPP was instrumental in our ability to retain our workers, which was critical since being a forklift mechanic is such a specialized skill; it would have been difficult to replace them once things picked up.

We also decided to take a gamble. The largest global online retailer outside China was a client of ours only for forklift maintenance, but bought its forklifts and pallet racks directly from the manufacturer. We approached them with an offer to supply warehouse materials for less. They let us do a small job and we came in on time and below budget. We ended up getting an agreement for them to buy their pallet racks from us and have had a 3,000% bump in that portion of our business. When warehouses reopened, there was a big surge in demand for forklift repair. If PPP hadn't enabled us to hold on to our technicians, we wouldn't have been able to take on the business.

Portables Choice Group

Creative lending led to synergies and increased revenue

Background: The Portables Choice Group (PCG) is a 26-year-old wireless and accessory distributor to partners that include one of the largest mobile telecommunications providers—with offices and distribution centers in Arizona, California, and Metropolitan New York. CEO Raja Amar and COO Larry Melchionda shared how they pivoted in the face of pitfalls that led them to not just survive, but to thrive.

Challenges: We receive merchandise on a consignment basis from our primary partner to distribute to those retail stores, earning commissions based on how much is sold. The government shut us down for six weeks at the start of the pandemic, but we were later considered an essential business and allowed to reopen. We started to experience shortages in 3Q 2020 as manufacturing facilities in China and Korea shut down due to the virus. Without raw materials like SIM card memory chips, inventory of phones started to tighten. The cost of shipping containers skyrocketed and the inventory that did exist was sitting there, waiting to be unloaded. As a result, our partner had to reduce our allocation. Shipping delays also led to challenges in our accessories business (handsets and screen protectors)—as well as closures in airport channels and big box stores.

Solutions: We knew we had to be open to changing the way we did business. With funding from the PPP, we were able to keep workers on the payroll and satisfy rental costs. We were also able to access smart lending solutions, and the liquidity helped us to acquire a facility in Arizona, which increased revenues. We decided to merge with a company in New York that was experiencing challenges as well. Consolidation created a greater combined effect as a whole, and it allowed us to grow revenue. We didn't have to let go of a single person out of a staff of 600. Throughout the pandemic, employees in accounting, service, etc. were able to work from home with the laptops we provided. COVID-19 was a terrible time for the nation but by adapting to the circumstances at hand, and with the help of the government and a private lender, we ended up with an even more lucrative business than we had before.

Disclosures and other important information

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Bloomberg Commodity Total Return index is composed of futures contracts and reflects the returns on a fully collateralized investment in the Bloomberg Commodity Index (BCOM). This combines the returns of the BCOM with the returns on cash collateral invested in 13-week (3-month) U.S. Treasury bills.

Bloomberg Municipal Bond Index measures the performance of the Bloomberg Barclays U.S. Municipal Bond Index, which cover the four main sectors of the USD-denominated long-term tax-exempt bond market: state, and local, general obligation bonds, revenue bonds, insured bonds, and pre-refunded bonds.

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MSCI EAFE Index is an equity index which captures large and mid-cap representation across 21 Developed Markets countries around the world, excluding the U.S. and Canada. With 902 constituents, the index covers about 85% of the free float-adjusted market capitalization in each country.

MSCI Emerging Markets Index captures large- and mid-cap representation across 27 emerging markets countries. With 1,407 constituents, the index covers about 85% of the free float-adjusted market capitalization in each country.

Russell 1000 Index measures the performance of the largest 1,000 securities by market capitalization listed on U.S. exchanges based on a combination of their market capitalization and current index membership.

Russell 2000 Index measures the performance of approximately 2,000 smallest-cap American companies in the Russell 3000 Index, which is made up of 3,000 of the largest U.S. stocks.

Survey methodology: 200 owners of businesses with revenue of \$1M-\$5M and 801 owners with revenue of \$5M+ were asked to complete an internet-based questionnaire to ascertain their views on the U.S. economy, the state of their businesses, future plans for their business and impacts of the Covid-19 pandemic. The survey took place in September–October 2021 among 1,001 business owners with 376 of these identifying as people of color and 252 identifying as female.

Business Owner Confidence Index methodology: Wilmington Trust questioned business owners on their outlook on the "U.S. economy" and the outlook "for your business" over the next 12 months using a 5-point scale: "very optimistic," "somewhat optimistic," "neither optimistic nor pessimistic," "somewhat pessimistic," "very pessimistic." Scores were then averaged using the top-2 box scores and the bottom-2 box scores: • Top-2 box scores = "very optimistic" + "somewhat optimistic" • Bottom-2 box scores = "very pessimistic" + "somewhat pessimistic." Finally, the following equation was used to create a single score: • (Very optimistic + ½ somewhat optimistic) – (very pessimistic + ½ somewhat pessimistic) • Average of the two scores.

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