2022 Q3 Update
Equipment Leasing & Finance U.S. Economic Outlook

EQUIPMENT LEASING & FINANCE
FOUNDATION
Your Eye on the Future

EQUIPMENT LEASING & FINANCE ECONOMIC OUTLOOK

July 2022

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Key Trends to Monitor

Monetary Policy

Consumer Spending

Inflation

EXECUTIVE SUMMARY

Equipment and Software Investment: Equipment and software investment rebounded strongly in the first quarter, growing 16% (annualized). Demand has been strong in several end-use markets, but businesses are contending with ongoing supply chain issues and rapidly rising interest rates, along with historic inflation that is threatening to derail the economy.

Momentum Monitor: Despite economic headwinds, several equipment verticals remain in expansionary territory, particularly those related to transportation, oil/mining, and computers. However, others — including construction, agriculture, and software — appear likely to slow.

Manufacturing Sector: Manufacturing output has remained strong despite a variety of headwinds facing the industry. Supply chain turmoil and high energy prices remain problematic, and rising borrowing costs is a growing concern. Still, the data point to significant pent-up demand waiting to be fulfilled should supply chains loosen later this year.

Small Businesses: The Main Street outlook for the remainder of 2022 has worsened. Small firm sentiment has fallen as inflation has accelerated, and hiring has slowed. As the Fed pursues sharply tighter monetary policy to combat inflation, small businesses are likely to feel the effects of higher borrowing costs before they manifest elsewhere in the economy. Fortunately, SMB financial stress is quite low, which will help small firms weather a downturn if one should occur.

Fed Policy: The Fed is aggressively tightening monetary policy, which financial markets expect will continue in the coming months despite concerns of a growth pause or contraction.

U.S. Economy: Following negative GDP growth in Q1, downside risks continue to plague the U.S. economy. While the labor market is still strong and consumer spending has largely held up, the economic outlook has clearly soured, and things appear likely to get worse before they improve. Inflation remains the largest concern for consumers and businesses, and while the Fed is finally acting aggressively, it is likely to take several months before significant inflation abatement occurs. Meanwhile, higher rates are contributing to the slowdown in the housing market and may lead to rising consumer stress as credit card and auto loans become more expensive.

Looking ahead, we do not expect much near-term improvement in the U.S. economy. Another modest GDP contraction in Q2 is likely, and a looming recession in Europe means less demand for U.S. exports in Q3/Q4. Achieving the Fed's desired "soft landing" will be challenging.

2022 Annual Projections

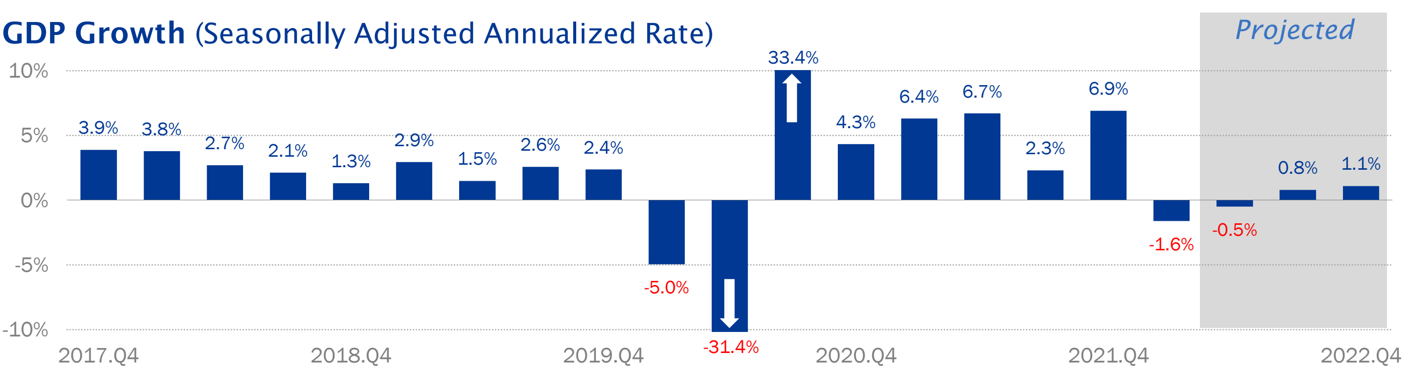
1.6%
GDP Growth

5.9%
E&S Investment Growth

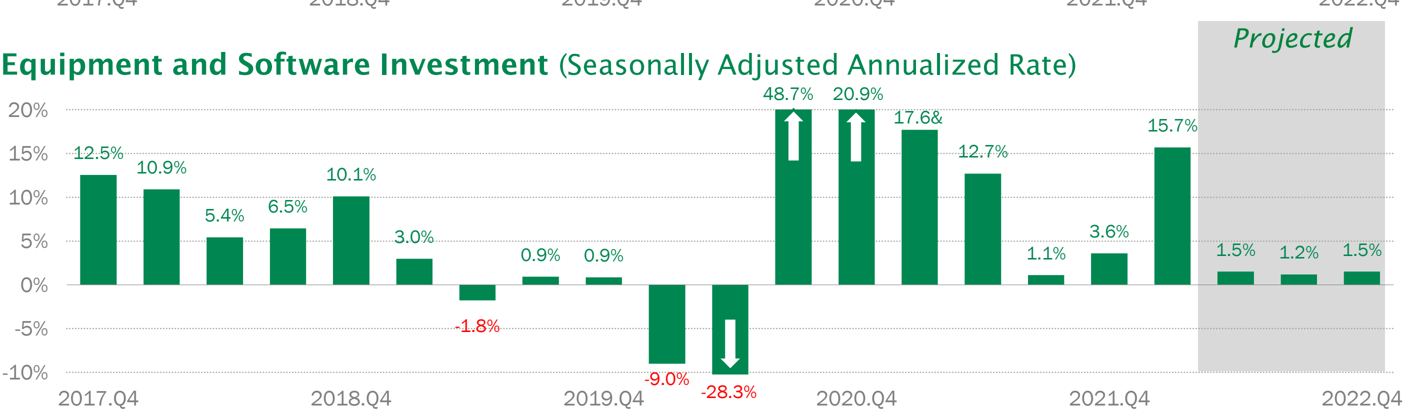
7.5%
Inflation

+175 bp
Change in Fed Funds Rate from Current Range

GDP Growth (Seasonally Adjusted Annualized Rate)



Equipment and Software Investment (Seasonally Adjusted Annualized Rate)



Source: U.S. Bureau of Economic Analysis; Keybridge LLC

Sectoral Performance

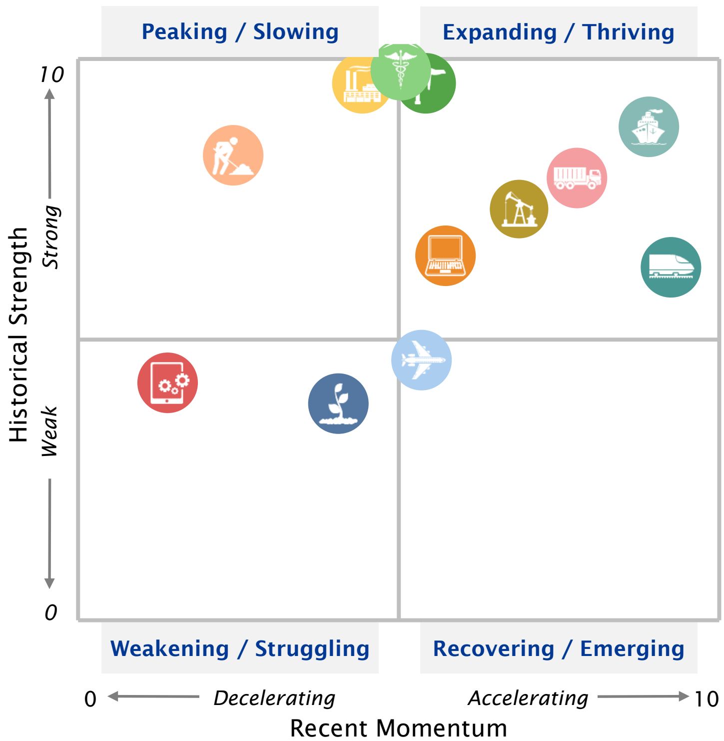
E&S investment rebounds modestly in Q4

Equipment and Software investment surged 15.7% (annualized) in Q1 2022, a strong rebound from the tepid growth seen in the second half of 2021.

Of the 12 investment verticals tracked by the Foundation, nine saw investment growth rise in the first quarter while three saw investment weaken. Six verticals experienced double-digit investment growth, including Construction, Computers, and Ships & Boats.

Looking ahead, six equipment verticals are still in the upper-right quadrant in the Momentum Monitor Sector Matrix (see chart), suggesting that investment growth will either remain healthy or improve. However, other key verticals, including construction, agriculture, and other industrial equipment are exhibiting signs of weakness — not surprisingly, the end-use industries these equipment verticals serve tend to be particularly sensitive to interest rate volatility. Supply chain and geopolitical concerns are notable wildcards for several sectors, including mining & oil, agriculture, and transportation-related verticals (e.g., ships & boats, rail, and trucks).

Momentum Monitor Sector Matrix



For more information on how to interpret the Momentum Monitor, please refer to the Appendix B (p. 14). A full breakdown of each industry vertical is available at https://www.leasefoundation.org/industry-resources/momentum-monitor/

Movements to Monitor

Equipment Vertical	Q1 Investment Growth		Next 6 Months	Short-Term Outlook
	Q/Q	Y/Y		
Mining & Oil	+8.1%	+7.2%	▲	Mining & oilfield machinery investment continues to benefit from a substantial supply-demand imbalance that has resulted in calls for accelerating new investment in domestic energy output.
Agricultural	-15%	-13%	▼	Agricultural machinery investment growth is expected to remain weak as a combination of rising interest rates and painful fuel costs weigh on demand in the farm sector.
Railroad	+20%	+15%	▲	Railroad equipment investment growth has improved steadily since 2020, and several factors – including acute supply chain pressures and the need to transport coal and oil – will likely mean solid growth over the next six months.
Construction	+27%	+15%	▼	Despite the Q1 surge, construction machinery investment growth is expected to weaken in Q3 and Q4 as higher interest rates weigh on housing demand and homebuilding activity.

Credit Supply

Lending standards hold steady in Q1

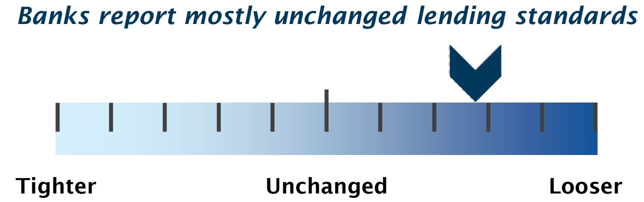
Business lending standards were generally unchanged in Q1, though credit conditions are likely to tighten later this year as the Fed raises interest rates.

- Overall, lending standards for Commercial and Industrial ("C&I") loans were flat at most banks. For loans to large and middle-market firms, a net 1.5% of banks reported easing lending standards, while banks on net reported no change in standards for loans to smaller firms.
- By contrast, lending standards tightened for commercial real estate ("CRE") loans. A net 3.1% of banks reported tightening standards for construction and land development loans in Q1, reversing the Q4 trend.

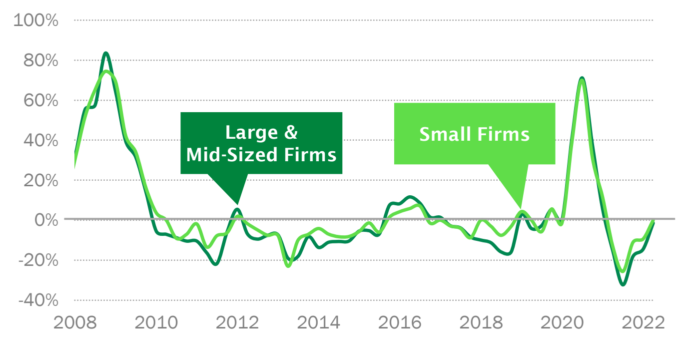
For consumers, credit conditions eased slightly in Q1.

- A net 10% of banks reported easing standards on credit cards, while a net 5.8% of banks reported easing standards on auto loans.
- Meanwhile, standards eased or were unchanged for all categories of residential real estate ("RRE") loans.

Net Change in Credit Supply Conditions
Fed Senior Loan Officer Survey

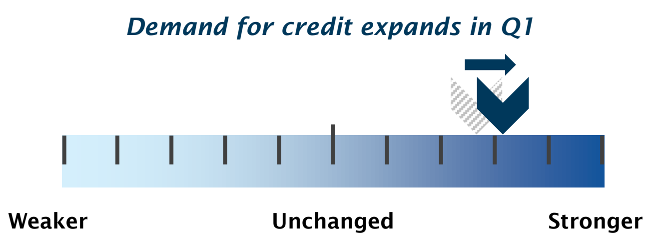


Tightening Standards on C&I Loans
Percent of Respondents

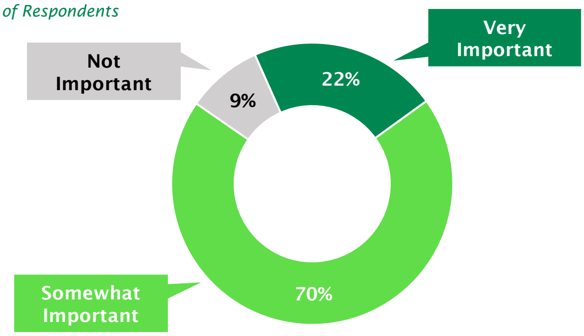


Source: Federal Reserve Senior Loan Officer Survey

Net Change in Credit Demand Conditions
Fed Senior Loan Officer Survey



"Customer Inventory Financing Needs" Driving Stronger Demand for C&I Loans
Percent of Respondents



Source: Federal Reserve Senior Loan Officer Survey

Credit Demand

Business demand increases slightly in Q1

Demand for business loans strengthened in Q1 overall.

- On net, 11% of banks reported stronger C&I loan demand among medium and large firms in Q1, while a net 18% of banks reported stronger demand from smaller firms. Of those reporting stronger demand, the most frequently-cited reason was "customer inventory financing needs" (see chart).
- Among CRE loans, a net 19% of banks reported stronger demand for multifamily residential property loans while 3.2% of banks, on net, reported weaker demand for construction and land development loans.

Among households, credit demand varied by loan type.

- Demand fell significantly for RRE loans, with a net 39% of banks reported weaker demand for GSE-eligible RRE loans in Q1.
- In contrast, a net 17% of banks reported stronger auto loan demand and a net 26% of banks reported stronger demand for credit card loans. After falling sharply earlier in the pandemic, demand for credit cards has risen substantially in recent months, suggesting that consumers are growing more dependent on revolving debt as savings dwindle.

KEY FINANCIAL INDICATORS

Consumer Finances

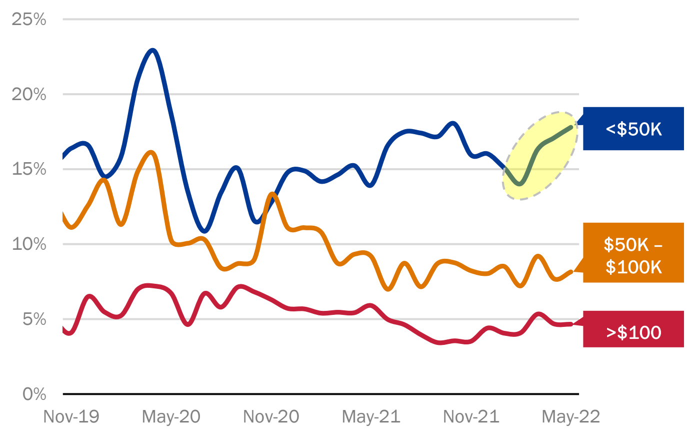
Financial stress remains low despite inflation

Consumers remain in good financial position thanks to a hot labor market and savings from early stimulus programs. However, inflation is starting to make a dent in wallets.

- Persistently high inflation has driven down consumer confidence over the past year. Per the University of Michigan, consumer sentiment is at its lowest level on record and inflation expectations are rising.
- Though overall consumer spending remains strong, there are signs that consumers are starting to tap the brakes in some categories, such as dining out and vacationing. Further, retail sales slowed in May for the first time this year.
- Plentiful jobs and high savings have kept most consumers in good financial shape as evidenced by low debt delinquency expectations. However, stress may be mounting for lower-income households *(see chart).*

Looking ahead, high inflation is expected to worsen financial stress over the coming months.

Debt Delinquency Expectations
*Mean Probability (%)**



Source: New York Fed Survey of Consumer Expectations

**Note: Denotes mean probability of not being able to make a minimum debt payment over the next three months.*

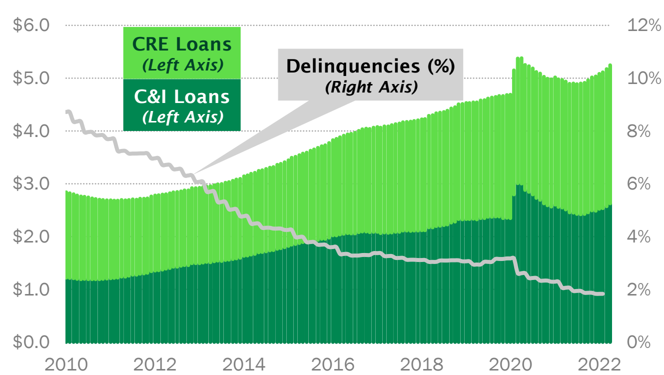
Business Finances

Financial stress continues to decline

Despite persistently high input costs, labor shortages, and supply chain disruptions, business lending activity remains healthy and financial stress continues to fall.

- After swelling to historically high levels in 2020, loan volumes of both C&I and CRE loans continue to steadily increase above pre-pandemic levels.
- Increased loan volumes have not been associated with rising delinquencies, in part due to healthy consumer spending, as delinquencies dropped again in Q1 to the lowest level on record.
- Similarly, the Trepp CMBS Special Servicing Rate continued its strong downward movement in June, dropping 18 basis points as four of five property types improved.

Business Loan Volume
$ Trillions



Source: Federal Reserve Board

Fed Policy Corner

FOMC raises interest rates by 75 bps

- The FOMC raised the Federal Funds Rate 75 basis points in June, the largest single increase in nearly 30 years. Projections from the Fed reveal expectations for rates to rise to the mid-3% range by the end of the year.
- The Fed has also begun shrinking its $9 trillion balance sheet at a pace of roughly $50 billion per month.
- Fed officials pared back their forecasts for real GDP growth this year to just 1.7% on a Q4/Q4 basis — down sharply from earlier estimates.

"We are not trying to provoke and do not think we will need to provoke a recession, but we do think it's absolutely essential [to bring down inflation]. [A recession] is not our intended outcome at all, but it's certainly a possibility,"

— Jerome Powell, Fed Chairman

"Everyone thinks the Fed can handle this. That hurricane is right out there, down the road, on its way. We just don't know whether it's a minor one or Hurricane Sandy."

— Jamie Dimon, CEO of JPMorgan Chase

Main Street Outlook

Small business sentiment sours on inflation, Fed, and recession fears

Small businesses are growing increasingly pessimistic about their prospects as inflation and interest rates take a bigger toll on the U.S. economy.

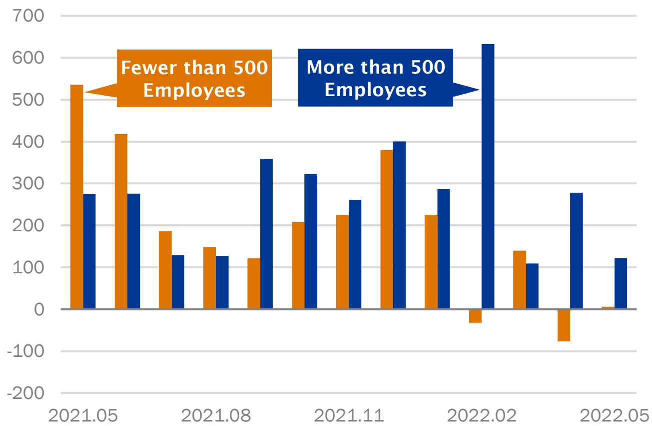
- Small business lending dipped in May according to Equifax, continuing a recent streak of volatility indicative of the turbulence on Main Street.
- NFIB's Small Business Optimism Index fell below the survey's historic average for the fourth consecutive month, and May saw the lowest percentage of small business owners expressing optimism about the next six months in the 48-year history of the survey.
- The share of small businesses that expect sales to increase over the next three months has steadily eroded since the beginning of the year *(see chart below)*.

Many of the headwinds weighing on Main Street are likely to persist — and perhaps worsen — in the coming months.

- **Hiring:** Though job gains are still strong on aggregate, small business owners continue to struggle to find employees. NFIB reported in June that 51% of small business owners have job openings they cannot fill, matching an all-time high for the series. A tight labor market has seen small business hiring slow sharply in recent months: per ADP, hiring at firms with fewer than 500 employees has averaged only 50k per month in 2022 after gaining an average of 300k per month in 2021, while firms with more than 500 employees are still adding 285k employees per month in 2022 (*see chart*).
- **Supply chains:** Small businesses continue to face the same supply constraints that persisted throughout 2021. Per NFIB, only 8% of small businesses reported no impact from supply disruptions in June, compared to 39% reported supply chain disruptions having a "significant impact" on their business.

Job Gains by Firm Size

Thousand SA



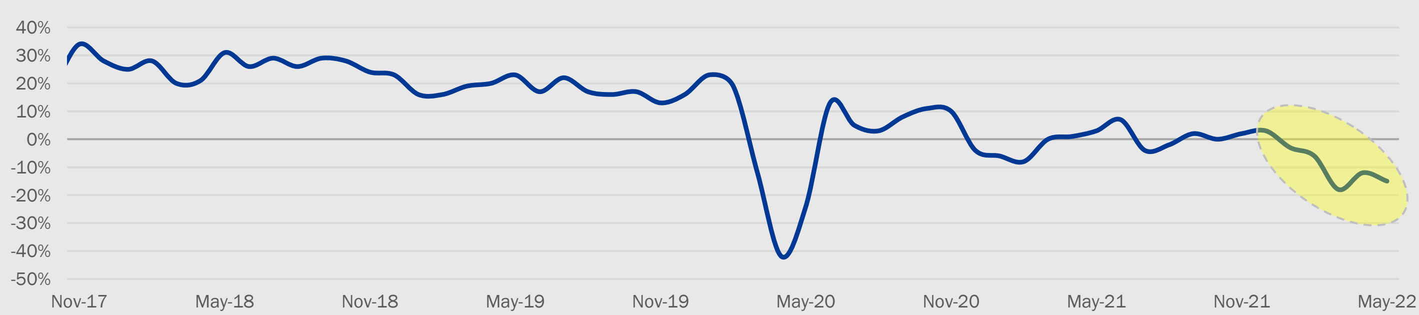
Source: ADP

- **Inflation:** Ongoing supply chains snags and hiring challenges combined to push annual inflation higher in Q2, and more than one-fourth of small business owners report that inflation is the single largest problem they face. In response, a record-high share of small businesses are raising prices. These price hikes are occurring across a wide range of industries (e.g., manufacturing, wholesale trade, retail trade, and construction), which suggests that relief is unlikely over the near term.

Due to these factors, the outlook for Main Street businesses over the remainder of the year has worsened. Further, as the Fed pursues sharply tighter monetary policy to combat inflation, small businesses are likely to feel the effects of higher borrowing costs first and most acutely. We believe declining small business sentiment is justified and that Main Street is likely to face tougher times in the months ahead. Fortunately, financial stress is quite low at present, which will help small firms weather a downturn if one should occur.

SMBs Have Souring Outlook on Near-Term Sales Prospects

Net share of small business owners expecting sales to increase over the next three months, SA



Source: NFIB

MLFI-25

NBV rises despite supply-side issues

According to ELFA's Monthly Leasing and Finance Index (MLFI-25), new business volume eased to $9.4 billion in May, but was up 16% from May 2021 and up 8% year-to-date. The 3-month moving average increased by 8.2% in May and is up 12% compared to a year ago (see chart). The upward trend reflects a return of businesses to traditional means of financing equipment, but supply chain disruptions, labor shortages, rising interest rates and energy prices, and high inflation remain headwinds.

Portfolio performance remained healthy in May. Receivables over 30 days were 1.6 percent, well below April's 2.1 percent and the 1.9 percent reading in May 2021. Meanwhile, charge-offs edged up to 0.12 percent, up 7bp compared to the previous month but down from the year-ago reading of 0.30 percent. The latest charge-off reading is just above last month's record low for the MLFI-25 series, which began in 2009.

Total credit approvals dipped to 76.8% in May from 77.4% in April, though the measure is still near a pandemic-era high.

Meanwhile, the total headcount of equipment finance companies was 3% below year-ago levels.

MLFI-25 New Business Volume

Billions, 3-month moving average

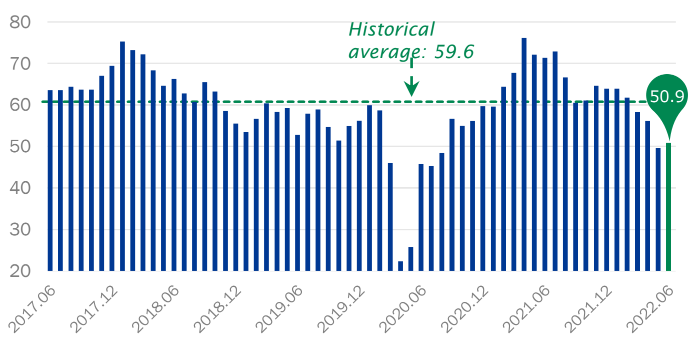
Source: ELFA

> "New business volume for a subset of the ELFA membership shows stable growth [in recent months] amidst a somewhat slowing economy and rising interest rate environment. Anecdotal information from a number of ELFA member organizations indicates that equipment deliveries continue to be a problem as supply chain disruptions continue. Soaring energy prices and inflation are headwinds confronting the industry as we move into the summer months."
>
> — Ralph Petta, President and CEO, ELFA

MCI-EFI

Industry confidence settles near lowest level since onset of pandemic

Monthly Confidence Index – Equipment Finance Industry



Source: ELFF

> "The sustained rising interest rate environment, coupled with pandemic overhang and extreme supply chain bottlenecks, have pushed for a greater need in the equipment financing industry. With this in mind, the market has continued a year-over-year increase in new business volume which leads us to continue to be cautiously optimistic going forward with nearly half the year complete."
>
> — Scott Dienes, SVP & Head of EFL, Associated Bank

In June, the Monthly Confidence Index for the Equipment Finance Industry (MCI-EFI) increased 1.3 points to 50.9, a modest improvement after five straight months of decline. The current reading remains well below the index's long-term average.

- Overall, 11% of respondents expect business conditions to improve over the next four months, up from 6.9% in May. However, 33% of respondents expect business conditions to worsen, up from 31% in May.
- Hiring expectations fell sharply in June, with 30% of respondents expecting to hire more employees over the next four months (down from 48% in May), while a majority (67%) expect no change in hiring.
- Near-term expectations for access to capital used to acquire equipment improved slightly in June. 22% expected capital access to increase over the next four months, while 78% expected the same level of capital access. No respondent expected capital access to decrease.

Industrial Focus

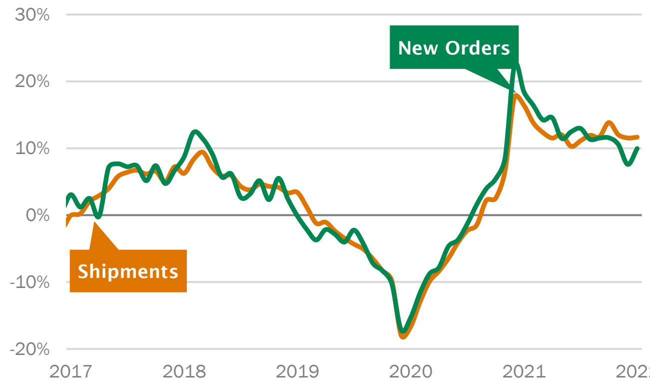
New orders and shipments remain strong

Both new orders and shipments of core capital goods have maintained steady growth in recent months and remain elevated compared to year-ago levels (see chart).

- New orders for nondefense, non-aircraft capital goods (a leading indicator of industry performance) increased 0.6% in May, representing the 16th consecutive month of increase — and Y/Y growth rebounded to 10% after slipping last month.
- Shipments of nondefense capital goods excluding aircraft (a concurrent indicator of industry performance) increased 0.8% in May and are up 12% year-to-date despite ongoing supply chain challenges.

Nonresidential fixed investment grew for the seventh consecutive quarter thanks to a robust expansion in equipment investment.

Shipments vs. New Orders of Core Capital Goods
Year-on-year percent change



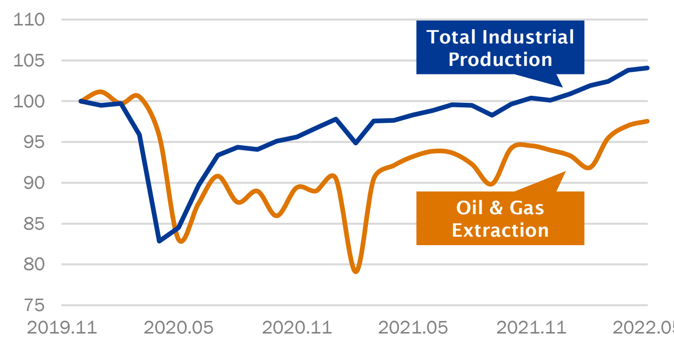
Source: Census Bureau

Industrial production grows in February

Industrial Production rose 0.2 point to 105.7 in May.

- May's modest gain was due to improvements in mining and utilities output, the former of which was supported by a healthy increase in oil & gas extraction. However, oil & gas extraction remains below pre-COVID levels (*see chart*).
- Meanwhile, manufacturing output edged down in May, in part due to the second-largest decline in wood product output since 2008.
- Despite the small decline in manufacturing output, capacity utilization for manufacturing, at 79.1%, was still above its long-run average.

IP: Total Production vs. Oil & Gas Extraction
Reindexed, Dec. 2019 = 100



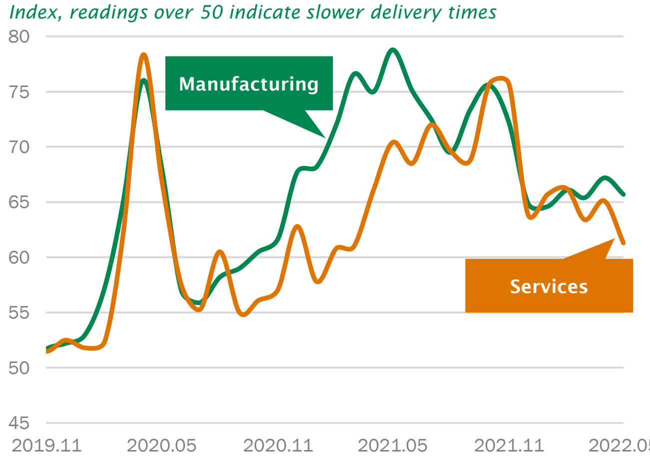
Source: Federal Reserve Board of Governors, G17 report

Supply chains still not back to normal

While supply chains have improved since late 2021, a return to 'normal' is still far from realized. Russia's invasion of Ukraine and the unprecedented sanctions enacted by Western governments, along with ongoing COVID-related shutdowns in major Chinese cities and ports, are likely to result in a lurching, incomplete supply chain recovery for the remainder of 2022.

- The ISM Supplier Deliveries Indices show that both manufacturing and services delivery times remain significantly elevated (*see chart*).
- Meanwhile, prices for commodities such as wheat, crude oil, and aluminum have eased somewhat after surging following Russia's invasion of Ukraine, which may provide some targeted relief over the coming months.
- However, price volatility remains an issue for businesses hoping to invest and make plans for the rest of the year.

ISM Supplier Deliveries Indices
Index, readings over 50 indicate slower delivery times



Sources: Institute for Supply Management

State of the U.S. Economy

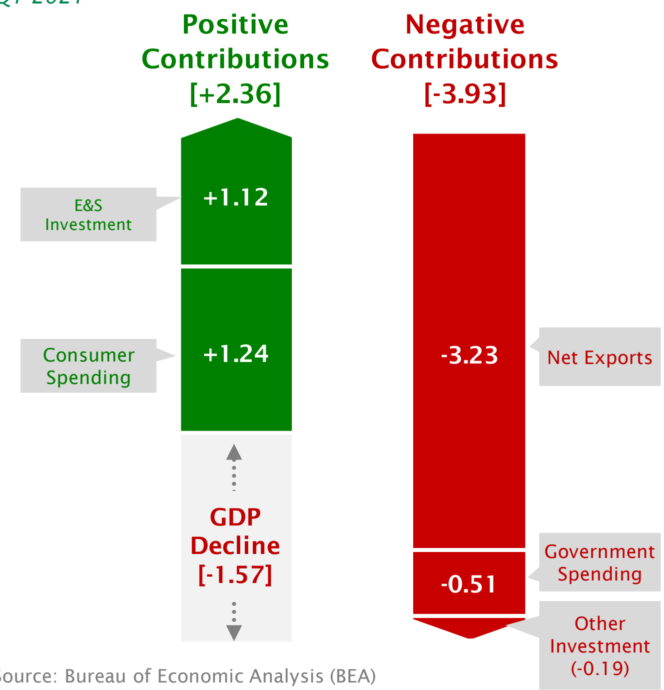
Economy contracts in Q1

The U.S. economy unexpectedly contracted in Q1 due to a sharp decline in inventory investment and weak exports. However, equipment investment and consumer spending were still healthy.

- **Consumer spending**, the economy's largest component, rose 1.8% (annualized) in Q1. Spending on goods eased slightly but spending on services improved.
- **Equipment and software (E&S) investment**, a subset of overall business investment and the lifeblood of the equipment finance industry, surged 16% following muted growth in Q4.
- **Net exports** made a large, negative contribution to growth in Q1.
- **Government spending** fell 2.9% (annualized), the second straight quarter of significant negative growth.
- **Other investment** fell in Q1 due to weaker inventory investment and nonresidential structures investment, while residential investment was mostly unchanged.

Contributions to GDP Growth

Q1 2021



Source: Bureau of Economic Analysis (BEA)

Recession Fears on the Rise as Fed Tightens

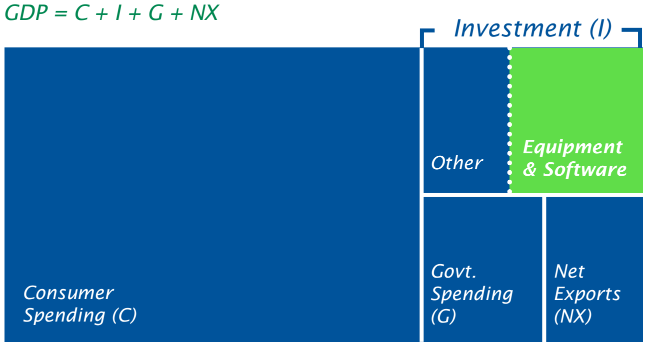
Following Q1's unexpected GDP contraction, downside risks continue to plague the U.S. economy. Optimists point to the economy's notable strengths: a strong labor market, a resilient U.S. consumer who continues to spend, and solid industrial output which has held up despite supply chain issues. While these factors provide some reassurance that a near-term U.S. recession is not yet a *fait accompli*, the economic outlook has clearly soured, and things are likely to get worse before they get better.

Inflation remains the single largest concern for consumers and businesses alike, and while the Fed is finally acting aggressively and appears prepared to take the steps needed to rein in inflation, there have been few signs of price relief in the near term. Supply chains have been a key contributor to inflation, and while they are in better shape than they were a year ago, they are far from normalized due to a confluence of global factors, including the Russia-Ukraine war and China's zero-Covid policy. Meanwhile, tighter monetary policy — while necessary to combat inflation — is slowing the housing market due to rapidly rising mortgage rates and may lead to rising consumer stress as credit card and auto loans become more expensive.

Looking ahead, we do not expect much near-term improvement in the U.S. economy. Another GDP contraction in Q2 appears likely, and the high likelihood of a recession in Europe means less demand for U.S. exports. Achieving the Fed's desired "soft landing" will be challenging.

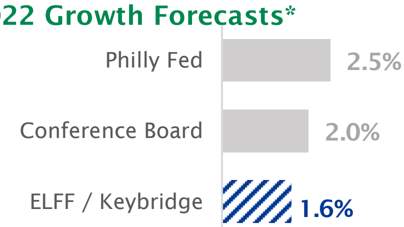
Composition of Gross Domestic Product (GDP)

GDP = C + I + G + NX



Source: Keybridge LLC, based on BEA data

2022 Growth Forecasts*



*Note: The Bureau of Economic Analysis reports annual GDP growth as the percent change in the average level of quarterly GDP from one year to the next. This means that the fourth quarter a given year has an outsized impact as the "jumping off" point for the next year's GDP growth.

Labor Market Holding Steady

Job growth is healthy and workers remain confident, for now

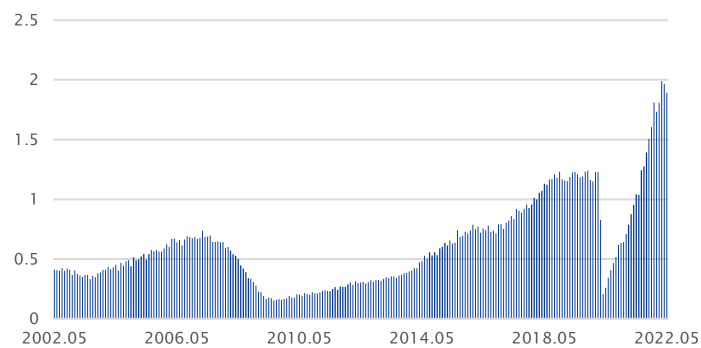
Despite multi-decade-high inflation and rising uncertainty, the labor market is still in good shape. For example, the unemployment rate has remained at a pandemic-era low of 3.6% for the last four months, even while the labor force participation rate has recovered most of the ground lost early in the pandemic. Though hiring has slowed somewhat in 2022, this slower pace of growth has been a positive development: demand for workers remains strong (*see chart*) and nominal wages are growing at a healthy rate but avoiding the dreaded wage-price spiral that can occur in an "overcooked" labor market. Wage growth remains especially strong in service-sector industries such as labor & hospitality and transportation & warehousing.

Workers remain optimistic about their future job prospects. As of April, the private sector quits rate was 3.2%, just shy of a record, and the layoff rate was a record-low 0.9%. Underscoring this confidence, roughly one-fourth of workers earning less than $50k per year expect to quit their job in the next 12 months, a pandemic-era high (*see chart*). Confidence also extends to earnings; expectations for earnings growth a year from now have remained at a record high of 3% for the last six months, according to the NY Fed Survey of Consumer Expectations.

Amid widespread economic uncertainty, the labor market is an important silver lining — though job growth may slow further as the Fed continues to tighten monetary policy.

Job Openings per Unemployed Person

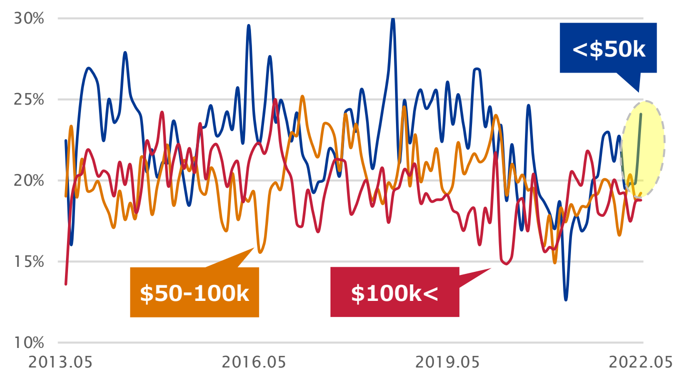
Ratio SA



Source: BLS

Chances of Leaving One's Job Voluntarily in Next Year

Mean probability, by income bracket



Source: NY Fed

Healthy Manufacturing Sector

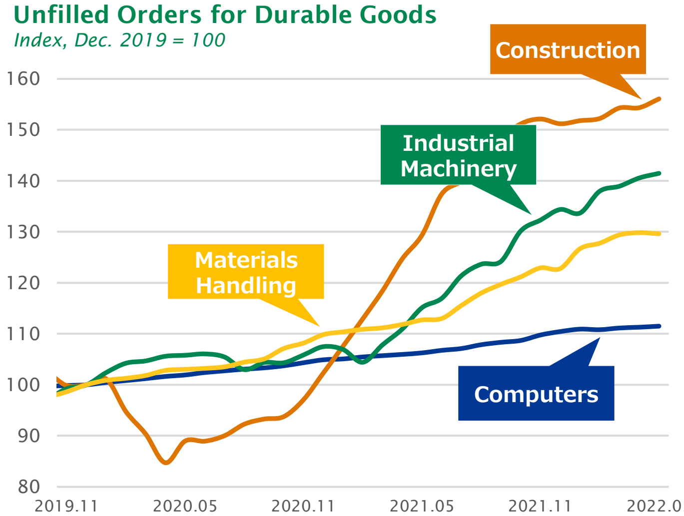
Despite historic uncertainty strong demand props up output

U.S. industrial sector output has held up remarkably well despite significant headwinds. In fact, after adjusting for inflation, equipment investment was 9.5% above its pre-pandemic level in Q1, compared to relatively weaker performance in consumer spending (+5%) and overall GDP (+2.8%). The fact that the manufacturing sector — and the equipment sector in particular — has been an engine of growth even in the face of historic supply chain constraints is remarkable, and there is reason for optimism that growth may continue in specific end-user markets in the near term, even as the Fed raises interest rates and the broader economy struggles.

Unfilled orders in several end-use markets like industrial machinery, materials handling equipment, construction machinery, and computers remain significantly elevated, and in some cases, unfilled orders are 25-50% above pre-COVID levels (*see chart*). While some of these orders could be cancelled in an economic downturn, the data suggests that there may be pent-up demand waiting to be fulfilled should supply chains loosen later this year.

Unfilled Orders for Durable Goods

Index, Dec. 2019 = 100



Source: Census Bureau

Inflation Spreading into Service-Sector Prices

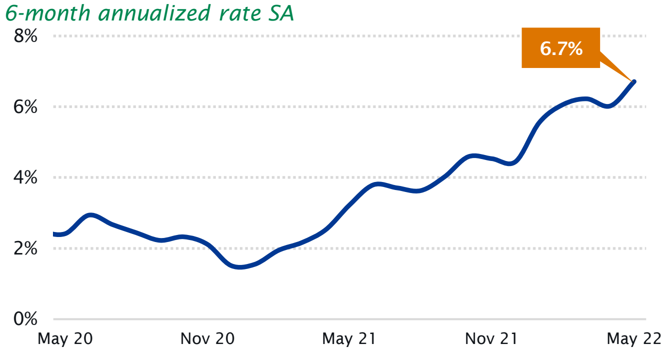
Rising prices fueling concerns about recession

The Consumer Price Index was up 8.6% Y/Y in May, the highest reading since 1981. Inflation has shown few signs of slowing despite multiple interest rate hikes by the Fed. On the contrary, inflation appears to be becoming increasingly embedded in the services sector as consumers shift spending from goods to services — an ominous development given that most of the inflation that occurred in 2021 and early 2022 occurred in sectors directly affected by supply chain disruptions. This emerging "structural" inflation can be best seen in Keybridge's Top-25 to Watch measure, which strips out supply-constrained components of the consumer price index to better illustrate the underlying trend (*see chart*). The steady acceleration of this measure over the last year — and the fact that it does not appear to have peaked yet — is a worrying sign.

High oil and gas prices are the single biggest contributor to inflation. Energy prices surged 34% in May as the national average gasoline price jumped above $5/gallon for the first time ever. The relative inelasticity of gasoline demand means that high prices have resulted in only a small decrease in car travel as consumers cut back elsewhere, as evidenced by May's weak retail sales report. The ongoing war in Ukraine and subsequent sanctions on Russian energy have caused a lasting increase in crude oil prices that seems unlikely to abate anytime soon.

Keybridge's Top-25 to Watch CPI Categories

6-month annualized rate SA



Source: BLS, Keybridge Calculations

Survey data show consumers expect inflation to worsen over the next 12 months, and they are responding in kind by cutting back on non-essential spending, especially as the prices of everyday staples, such as food — which rose 10.1% Y/Y in May — rise. Looking ahead, high inflation and the subsequent Fed response have led most economists to downgrade their forecasts and increased the chances of a near-term recession. It is becoming increasingly difficult to see how the Fed will tame inflation without causing a prolonged economic contraction.

Supply Chains Facing New Headwinds

Inventory "bullwhip" effect portends more challenges to come

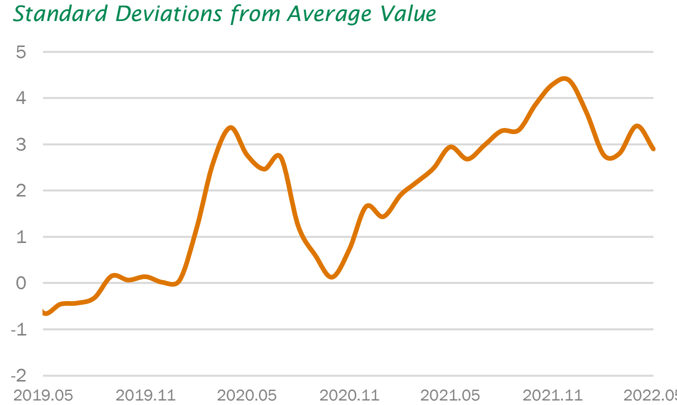
U.S. businesses, particularly those in the retail industry, have discovered a new supply-chain-related challenge: the inventory "bullwhip." Many retailers appear to have overestimated the backlog of demand for consumer durable goods that were popular during the pandemic, including patio furniture, TVs, home furnishings, and sporting goods. As consumers shift back to spending on services, many retailers are finding themselves stuck with large inventories of goods they had ordered in 2021, when severe supply-chain frictions meant that these goods were in short supply (and needed to be ordered far in advance). With inflation high, federal stimulus efforts winding down or ended, and demand for these goods waning, retailers are enacting significant markdowns.

Though the retail inventory situation is not a major concern for the U.S. economy in and of itself, it does suggest that further turmoil in supply chains and inventories may be yet to come. For example, a similar phenomenon could take hold at key U.S. ports as an influx of backlogged shipments from locked-down industrial centers in China flood the market while consumer demand for these goods is falling. Further, Russia's ongoing war in Ukraine will also continue to weigh on the free flow of goods around the world, particularly in energy and agricultural commodity markets.

Looking ahead, supply chains appear likely to remain snagged for the foreseeable future. The New York Fed's Global Supply Chain Pressure Index, which measures how far from "normal" global supply chains are, indicates that supply chain pressures are not as severe as they were in late 2021 but still far from normal (*see chart*). Ultimately, the solution to supply chain pressures is likely to be weaker global economic activity and reduced demand.

Global Supply Chain Pressure Index

Standard Deviations from Average Value



Source: NY Fed

How Much Momentum Does the Housing Market Have?

Rising mortgage rates and high prices a painful combination

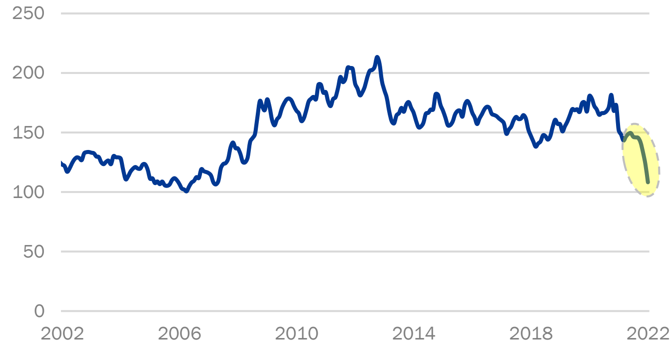
Housing affordability has worsened substantially over the last several months, in large part due to surging mortgage rates that are approaching 6% percent after beginning the year under 3%. Combined with record-high home prices after a surge of homebuying activating in 2020-21, current housing affordability is at its lowest point since 2007 (*see chart*). Not surprisingly, demand is falling: new home sales are down sharply over the last six months and were below pre-COVID levels in April, while existing home sales have also slowed notably.

Though higher interest rate are clearly letting some of the air out of the housing market, there still appears to be some positive momentum in the system. For example, per the Census Bureau, the number of homes currently under construction (1.7 million) is at an all-time high, while the number of homes authorized to be built but not yet started is just shy of a record high. Further, although sales activity is slowing, properties that do reach the market are still selling quickly (in part due to investor activity): the average home was on the market for just 16 days in May, and 88% of homes sold in less than a month.

Overall, it is likely that housing market activity will continue to slow as interest rates rise. That said, the substantial level of pent-up demand, low mortgage delinquencies, and record-high amounts of equity in homes across the country could help avoid, or at least delay, the kind of sharp decline in the market that has occurred during previous cycles of monetary policy tightening.

NAR Housing Affordability Index

Ratio of median income to median loan payment



Source: National Association of Realtors; Macrobond Financial

Could Consumer Financial Stress Rise Sharply?

Inflation weighing on pocketbooks but spending solid, for now

As inflation worsens, consumers are becoming more pessimistic about the economy. In June, the University of Michigan's Consumer Sentiment Survey hit the lowest level recorded in its 70-year history. Further, most Americans expect price increases to worsen over the next 12 months, suggesting that faith in federal policymakers' ability to rein in price growth is slipping. A critical task for the Fed to accomplish moving forward will be to re-tether inflation expectations.

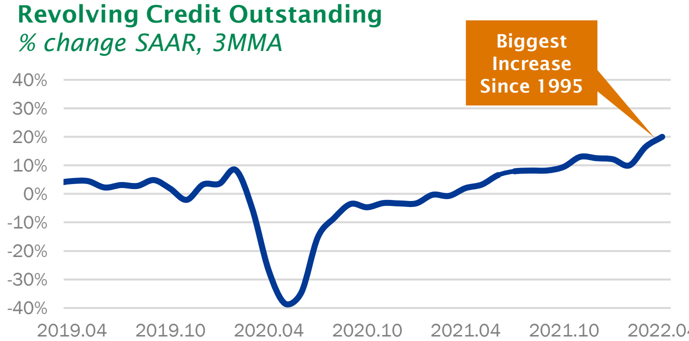
Still, high prices have not yet significantly crimped consumer spending activity. Consumers have been eager to spend during the first half of the year, particularly on services: spending on dining, childcare, and travel has ramped up as COVID-era restrictions are lifted. Though spending appears to be slowing, economists believe a significant amount of "dry powder" remains in the economy.

Notably, a larger share of spending is occurring on credit cards, which led to a rapid increase in revolving debt *(see top chart).* This could lead to more financial stress down the road given that credit card interest rates will rise along with the Federal Funds Rate, particularly among lower-income households. Indeed, there is evidence that financial stress rose significantly in recent weeks (*see bottom chart*).

All told, consumers have thus far held their own despite significant headwinds. However, a rising share of households are seeing their financial situation worsen.

Revolving Credit Outstanding

% change SAAR, 3MMA



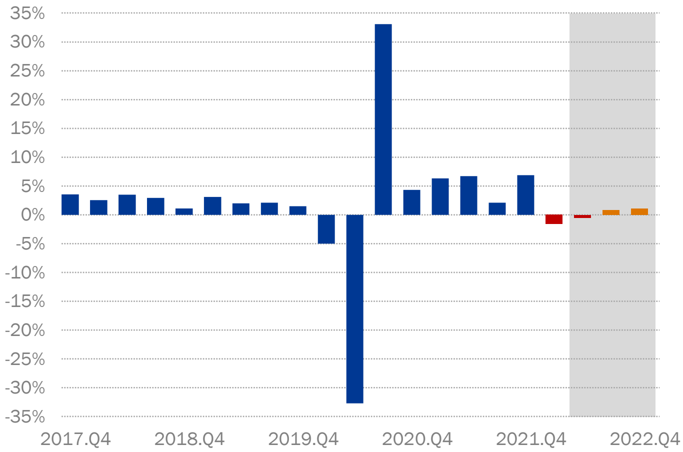
Source: Federal Reserve

Households Struggling with Expenses

"somewhat" or "very" difficult to afford expenses, %

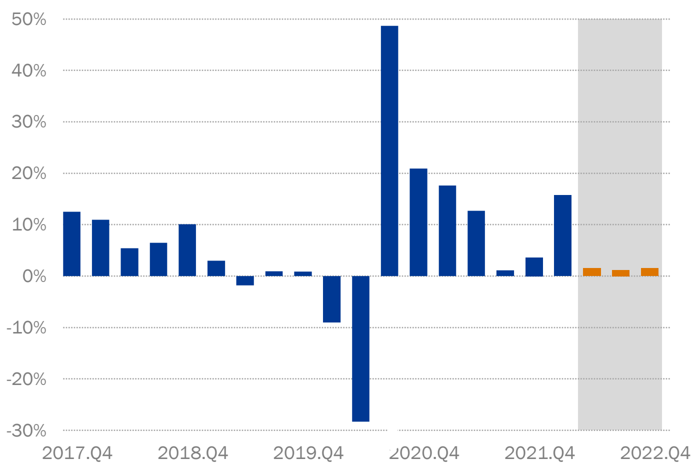
Source: Census Bureau Household Pulse Survey.
Gaps in the chart reflect changes to the survey's frequency over time.

Real GDP Growth (% SAAR)



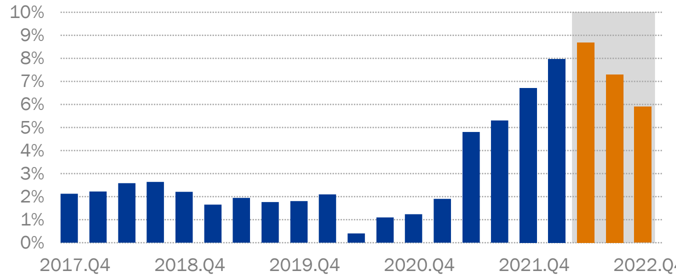
Source: Bureau of Economic Analysis; Keybridge LLC

Real E&S Investment Growth (% SAAR)



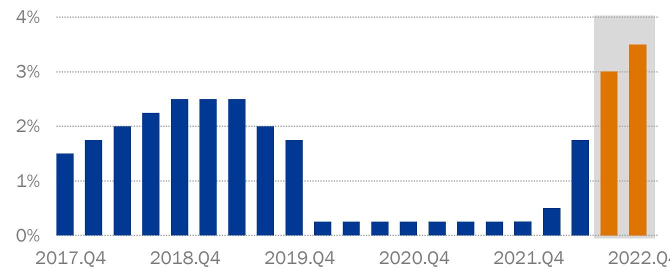
Source: Bureau of Economic Analysis; Keybridge LLC

CPI Inflation (year-on-year %)



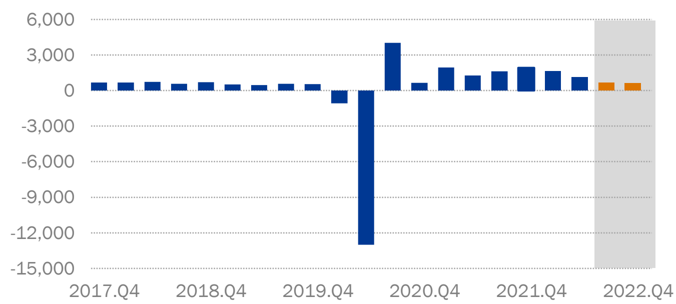
Source: Bureau of Labor Statistics; Keybridge LLC

Fed Funds Target (upper bound, end of period)



Source: Federal Reserve Board of Governors; Keybridge LLC

Total Payroll Growth (thousands)



Source: Bureau of Labor Statistics; Keybridge LLC

INDICATOR,	2020	2021	2022 QUARTERLY ESTIMATES				2022e
			Q1	Q2e	Q3e	Q4e	
Real GDP *(SAAR %)*	*-3.4%*	*5.7%*	-1.6%	-0.5%	0.8%	1.1%	**1.6%**
Real Investment in Equipment & Software *(SAAR %)*	*-4.1%*	*13.1%*	15.7%	1.5%	1.2%	1.5%	**5.9%**
Inflation *(year-on-year %)*	*1.2%*	*4.7%*	8.0%	8.7%	7.3%	5.9%	**7.5%**
Federal Funds Target Rate *(upper bound, end of period)*	*0.25%*	*0.25%*	0.50%	1.75%	3.00%	3.50%	**3.50%**
Total Payroll Growth *(thousands)*	*-9,292*	*6,743*	1,616	1,124	550	375	**3,665**

Note: SAAR % refers to the annualized rate of change in seasonally adjusted data from one quarter to the next, which is the Bureau of Economic Analysis' standard method for reporting growth in the national accounts data.

About the Momentum Monitor

Business leaders require actionable forward-looking intelligence to make strategic decisions. Accordingly, the Foundation commissioned Keybridge LLC to develop a series of custom leading indicators for the equipment sector. The Foundation-Keybridge Equipment & Software Investment Momentum Monitor consists of indices for 12 equipment and software investment verticals. These indices are designed to identify turning points in their respective investment cycles with a ~6-month lead time.

The Momentum Monitor is based on Keybridge's extensive research which shows that not all movements in economic data are reliable signals of future economic trends. Keybridge has operationalized its research by constructing indices, each comprised of between 15 to 20 high-frequency indicators. These indicators undergo rigorous testing to determine the optimal thresholds at which their short-term fluctuations are economically meaningful. In simpler terms, the Momentum Monitor sifts out the "noise" in the data and identifies the dominant trends. As a result, each Momentum Monitor index is statistically optimized to signal turning points in the investment cycle without giving false readings of shifts in momentum.

How to Read the Momentum Monitor

The Momentum Monitor Matrix summarizes the current values of each of the 12 Equipment & Software Investment Momentum Indices based on two factors: Recent Momentum (x-axis) and Historical Strength (y-axis):

- "Recent Momentum" indicates a vertical's recent acceleration or deceleration in the past month relative to its average movement during the previous 3 months. Ratings closer to "0" indicate rapid deceleration, while ratings near "10" represent rapid acceleration.
- "Historical Strength" reflects a vertical's strength in the past month relative to its typical level since 1999. Ratings closer to "0" represent an indicator that is weaker than average, while ratings closer to "10" represent an indicator that is stronger than average.

The matrix consists of four quadrants based on readings for each vertical's recent momentum and historical strength. If a vertical falls in the top-left quadrant, its momentum reading is higher than average, but positive movement has slowed (and perhaps reversed) in recent months — suggesting that Y/Y investment growth may slow over the next two quarters. Verticals in the bottom-right quadrant, however, have momentum readings that are below average, but recent movement shows promise — suggesting that Y/Y investment growth may increase over the next two quarters.