The Virginia Tech–USDA Forest Service Housing Commentary: Section II
January 2023

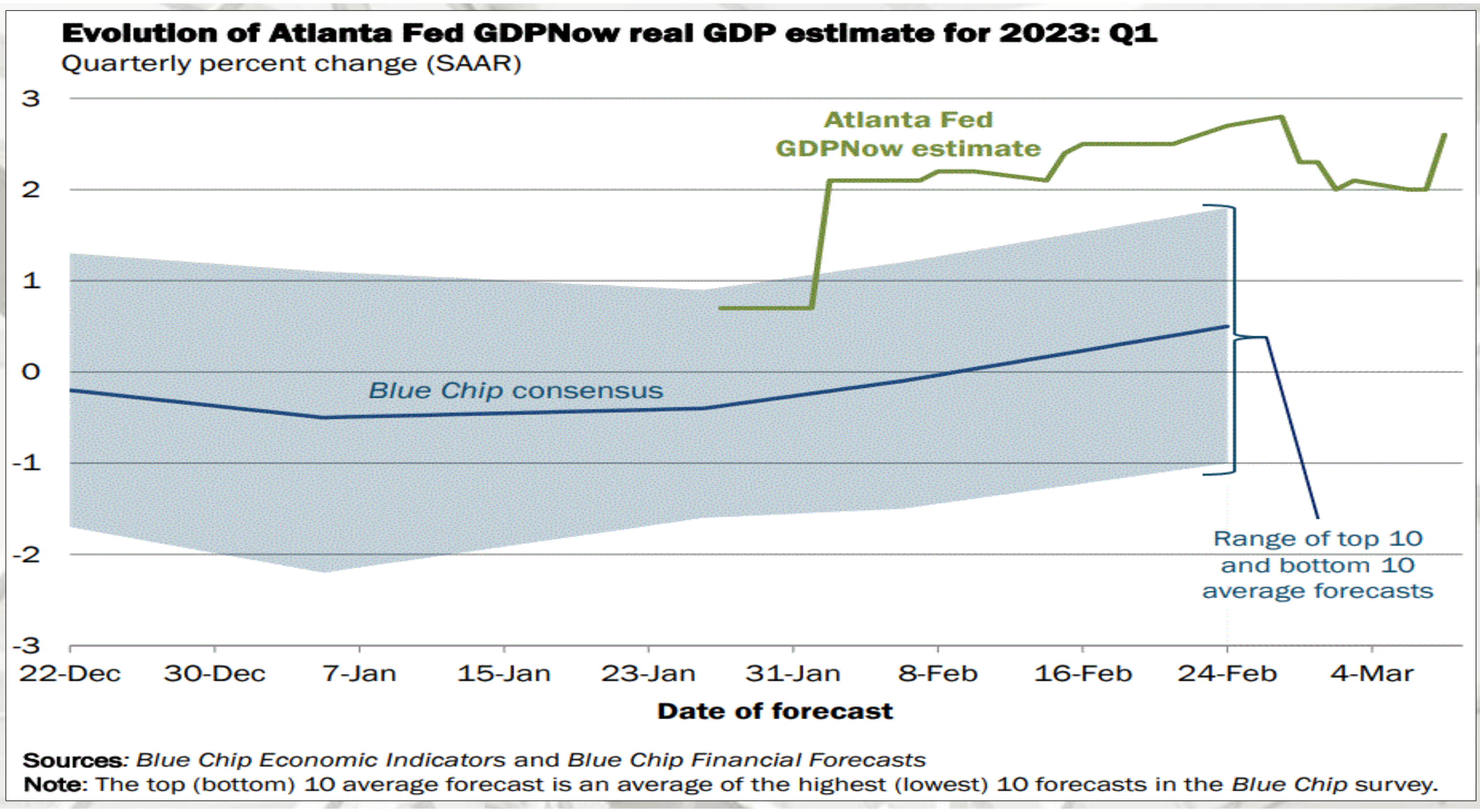
Delton Alderman
Acting Program Manager
Forest Products Business Unit
Forest Products Laboratory
USDA Forest Service
Madison, WI
608.259.6076
delton.r.alderman@usda.gov

Urs Buehlmann
Department of Sustainable Biomaterials
College of Natural Resources & Environment
Virginia Tech
Blacksburg, VA
540.231.9759
buehlmann@gmail.com

2023 Virginia Polytechnic Institute and State University VCE-ANR

Table of Contents

U.S. Economic Indicators



Atlanta Fed GDPNow™

Latest estimate: 2.6 percent — March 8, 2023

"The GDPNow model estimate for real GDP growth (seasonally adjusted annual rate) in the first quarter of 2023 **2.6 percent** on March 8, up from 2.0 percent on March 7. The nowcast of first-quarter growth in real personal consumption expenditures (PCE) on services increased from 3.8 percent to 5.2 percent after this morning's international trade report from the US Census Bureau and US Bureau of Economic Analysis, which includes data used by the model to estimate spending on international travel within this PCE subcomponent." – Pat Higgins, Economist, Federal Reserve Bank of Atlanta

Source: https://www.frbatlanta.org/cqer/research/gdpnow.aspx; 3/8/23

Return to TOC

The Federal Reserve Bank of Chicago: National Activity Index (CFNAI)

Index Suggests Economic Growth Picked Up in January

"Led by improvements in production-related indicators, the Chicago Fed National Activity Index (CFNAI) rose to +0.23 in January from –0.46 in December. Three of the four broad categories of indicators used to construct the index made positive contributions in January, and three categories improved from December. The index's three-month moving average, CFNAI-MA3, moved up to –0.26 in January from –0.34 in December.

The CFNAI Diffusion Index, which is also a three-month moving average, edged up to –0.10 in January from –0.15 in December. Fifty-one of the 85 individual indicators made positive contributions to the CFNAI in January, while 34 made negative contributions. Fifty-one indicators improved from December to January, while 33 indicators deteriorated and one was unchanged. Of the indicators that improved, ten made negative contributions.

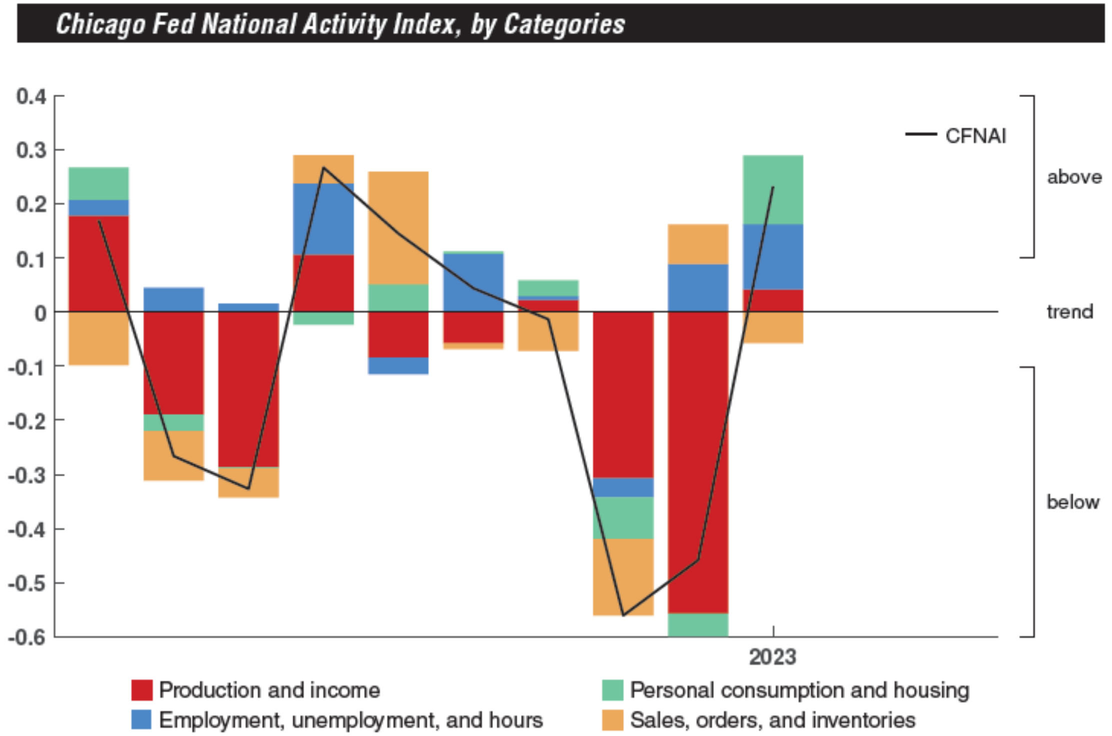
Production-related indicators contributed +0.04 to the CFNAI in January, up from –0.56 in December. Industrial production was unchanged in January after falling 1.0 percent in December. The contribution of the sales, orders, and inventories category to the CFNAI decreased to –0.06 in January from +0.07 in the previous month.

Employment-related indicators contributed +0.12 to the CFNAI in January, up slightly from +0.09 in December. The unemployment rate ticked down to 3.4 percent in January from 3.5 percent in December. The contribution of the personal consumption and housing category to the CFNAI increased to +0.13 in January from –0.06 in December." – Michael Adleman, Media Relations, The Federal Reserve Bank of Chicago

Source: https://www.chicagofed.org/publications/cfnai/index; 2/23/23

Return to TOC

The Federal Reserve Bank of Chicago: National Activity Index (CFNAI)



CFNAI, CFNAI-MA3, and CFNAI Diffusion for the Latest Six Months and Year-Ago Month

	Jan '23	Dec '22	Nov '22	Oct '22	Sep '22	Aug '22	Jan '22
CFNAI							
Current	+0.23	−0.46	−0.56	−0.01	+0.04	+0.15	+0.43
Previous	N/A	−0.49	−0.51	0.00	+0.07	+0.18	+0.48
CFNAI-MA3							
Current	−0.26	−0.34	−0.18	+0.06	+0.15	+0.03	+0.35
Previous	N/A	−0.33	−0.14	+0.09	+0.17	+0.03	+0.36
CFNAI Diffusion							
Current	−0.10	−0.15	−0.10	+0.12	+0.22	+0.11	+0.29
Previous	N/A	−0.13	0.00	+0.19	+0.31	+0.14	+0.29

Current and Previous values reflect index values as of the February 23, 2023, release and January 26, 2023, release, respectively.
N/A indicates not applicable.

Source: https://www.chicagofed.org/publications/cfnai/index; 2/23/23

Return to TOC

The Federal Reserve Bank of Chicago: Survey of Economic Conditions (CFSEC)

Survey Suggests Growth Picked Up in February

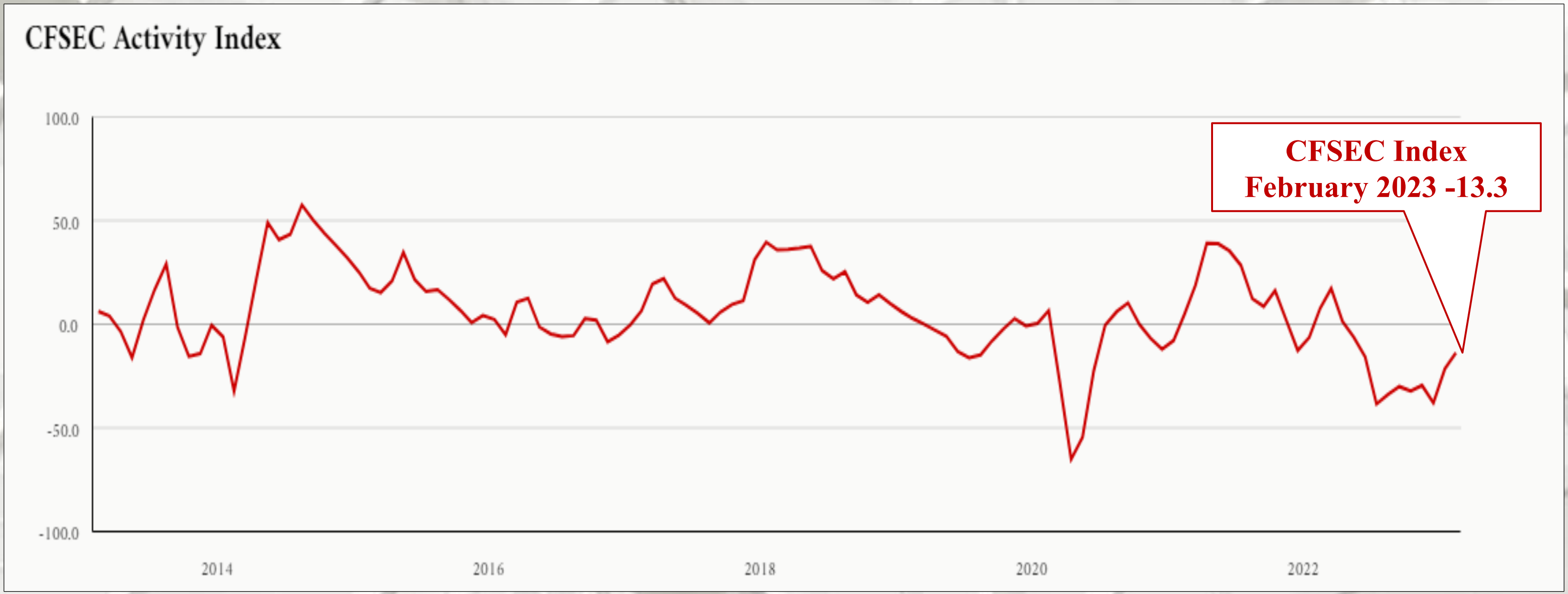
“The Chicago Fed Survey of Economic Conditions (CFSEC) Activity Index increased to –13 in February from –21 in January, suggesting that economic growth was below trend. The CFSEC Manufacturing Activity Index increased to +3 in February from –11 in January, and the CFSEC Nonmanufacturing Activity Index increased to –24 in February from –27 in the previous month.

- Respondents’ outlooks for the U.S. economy for the next 12 months improved, but remained pessimistic on balance. Forty-seven percent of respondents expected a decrease in economic activity over the next 12 months.
- The pace of current hiring decreased, but respondents’ expectations for the pace of hiring over the next 12 months increased. Both hiring indexes remained negative.
- Respondents’ expectations for the pace of capital spending over the next 12 months increased, but the capital spending expectations index remained negative.
- The labor cost pressures index decreased, as did the nonlabor cost pressures index. The labor cost pressures index remained positive, but the nonlabor cost pressures index moved into negative territory.” – Thomas Walstrum, Senior Business Economist, The Federal Reserve Bank of Chicago

Source: https://www.chicagofed.org/research/data/cfsec/current-data; 2/23/23

Return to TOC

The Federal Reserve Bank of Chicago: Survey of Business Conditions (CFSEC)

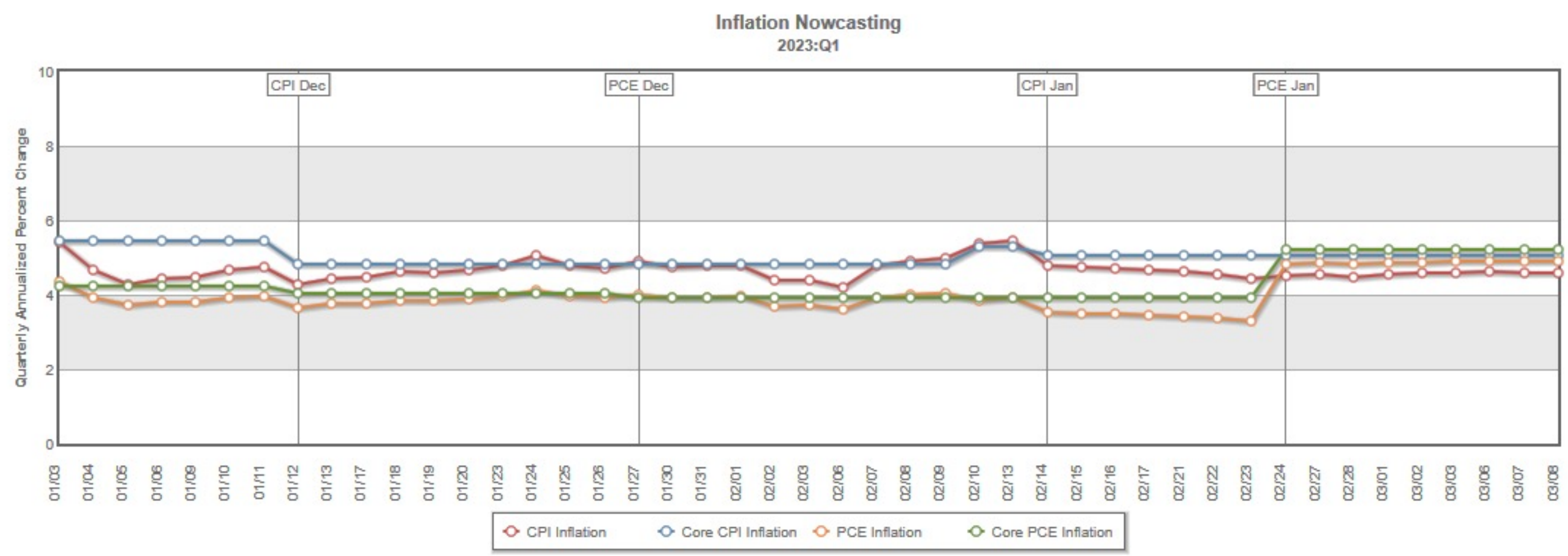


Source: https://www.chicagofed.org/research/data/cfsec/current-data; 2/23/23

Return to TOC

The Federal Reserve Bank of Cleveland:

Year: Quarter 2023:Q1



Source: Federal Reserve Bank of Cleveland calculations based on data from Bureau of Labor Statistics, Bureau of Economic Analysis, Energy Information Administration, Financial Times, and Haver Analytics

Source: https://www.clevelandfed.org/indicators-and-data/inflation-nowcasting; 3/8/23

Return to TOC

The Federal Reserve Bank of Dallas

Texas Manufacturing Outlook Survey

Texas manufacturing sector contracts slightly

"Texas factory activity declined in February for the first time since May 2020, according to business executives responding to the Texas Manufacturing Outlook Survey. The production index, a key measure of state manufacturing conditions, edged down from 0.2 to -2.8, a reading suggestive of a modest contraction in output.

Other measures of manufacturing activity also indicated contraction this month. The new orders index was negative for a ninth month in a row and moved down nine points to -13.2. The growth rate of orders index fell from -12.3 to -16.9. The capacity utilization index returned to negative territory after two positive readings, falling 10 points to -4.1, while the shipments index was largely unchanged at -5.0.

Perceptions of broader business conditions worsened in February as pessimism increased. The general business activity index pushed down from -8.4 to -13.5. The company outlook index has been negative for a full year and plummeted 15 points this month to -17.5. The outlook uncertainty index moved up to 25.0, a four-month high.

Labor market measures suggest relatively flat employment and longer workweeks. The employment index dipped below zero to -1.0 after tracking above average for more than two years. Fifteen percent of firms noted net hiring, while 16 percent noted net layoffs. The hours worked index held fairly steady at 4.9.

Price and wage pressures increased in February. The raw materials prices index moved up five points to 25.1, though it remained slightly below its series average of 28.0 for the fourth month in a row. The finished goods prices index rose from 9.9 to 15.8, elevated relative to its series average of 9.0. The wages and benefits index remained well above average and inched up two points to 32.7." – Emily Kerr, Business Economist, The Federal Reserve Bank of Dallas

Source: https://www.dallasfed.org/research/surveys; 2/27/23

Return to TOC

The Federal Reserve Bank of Dallas

“Expectations regarding future manufacturing activity were mixed in February. The future production index pushed further positive to 21.3, signaling output growth is expected over the next six months. The future general business activity index was slightly negative, moving up from -9.1 to -2.9. Most other measures of future manufacturing activity were positive this month.” – Emily Kerr, Business Economist, The Federal Reserve Bank of Dallas

Source: https://www.dallasfed.org/research/surveys; 2/27/23

Return to TOC

The Federal Reserve Bank of Dallas

Texas Service Sector Outlook Survey

Texas service sector activity continues to grow, price pressures remain elevated

"Growth in Texas service sector activity continued in February, according to business executives responding to the Texas Service Sector Outlook Survey. The revenue index, a key measure of state service sector conditions, edged up 1.7 points to 6.6, suggesting a slight pickup in activity growth.

Labor market indicators pointed to continued growth in employment and workweeks. The employment index fell two points from 10.5 to 8.8, while the part-time employment index rose three points to 4.0. The hours worked index improved from 0.9 to 1.8.

Perceptions of broader business conditions continued to worsen in February, though pessimism has been waning. The general business activity index moved up six points to -9.3. The company outlook index also improved from -8.3 to -1.7, while the outlook uncertainty index fell seven points to 12.9, just below its series average of 13.4.

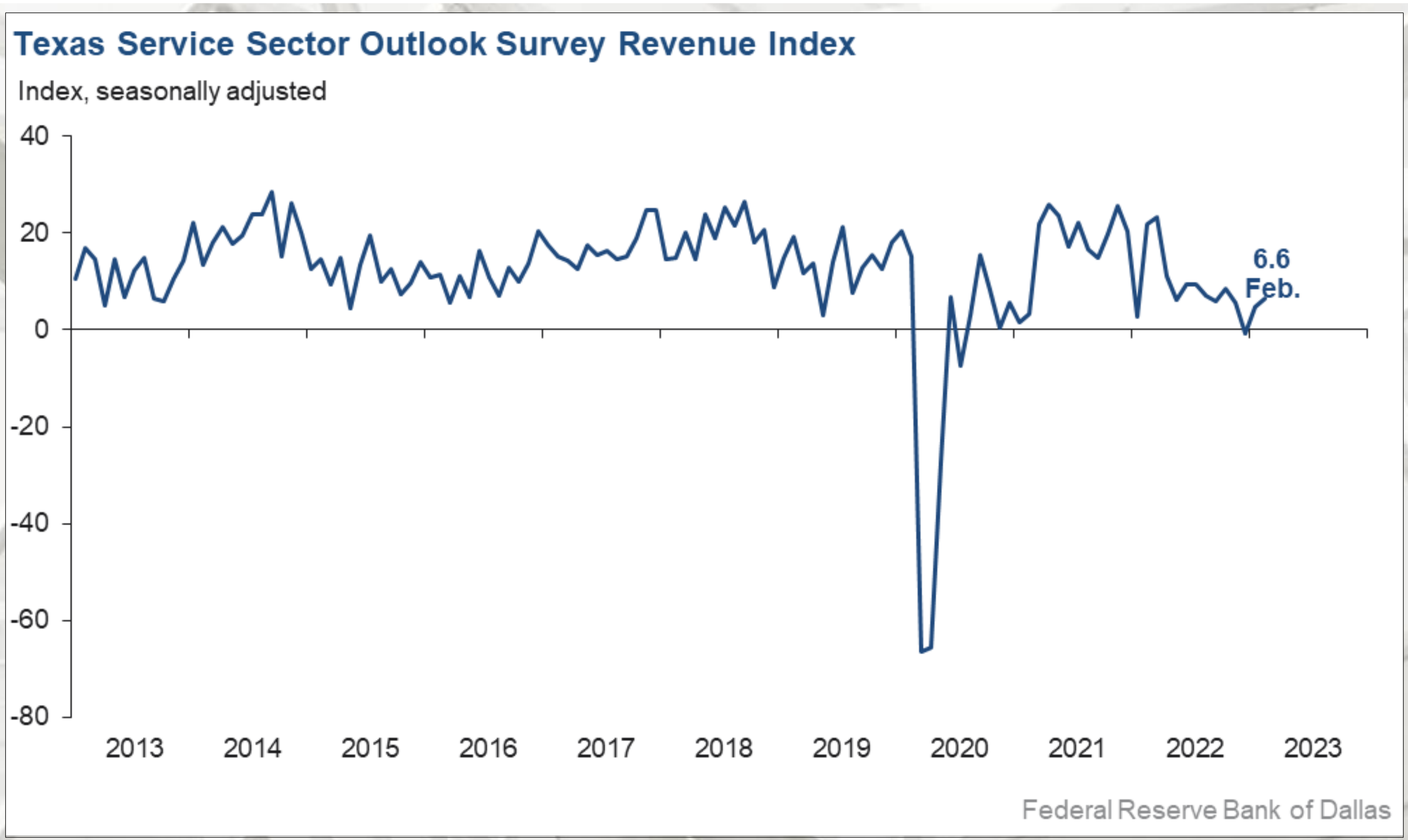
Price and wage pressures remained elevated, though there was some moderation in wage growth. The input prices index ticked up from 38.8 to 40.6, while the selling prices index remained mostly flat at 19.8. The wages and benefits index moved down two points to 19.4, still elevated relative to its average reading of 15.7.

Respondents' expectations regarding future business activity were mixed in February. The future general business activity index remained negative but mostly flat at -3.6. The future revenue index stayed positive, edging up three points to 42.2. Other future service sector activity indexes such as employment and capital expenditures remained in solidly positive territory, suggesting optimism for growth this year." – Amy Jordan, Assistant Economist, The Federal Reserve Bank of Dallas

Source: https://www.dallasfed.org/research/surveys; 2/28/23

Return to TOC

The Federal Reserve Bank of Dallas



Source: https://www.dallasfed.org/research/surveys; 2/28/23

Return to TOC

The Federal Reserve Bank of Dallas

Texas Retail Outlook Survey

Texas Retail Sales decline further

“Retail sales continued to weaken in February, according to business executives responding to the Texas Retail Outlook Survey. The sales index, a key measure of state retail activity, dropped from -3.0 to -19.9, suggesting sales fell at a much faster pace than in January. Retailers’ inventories increased at a faster rate than last month, with the index growing from 3.2 to 9.6.

Retail labor market indicators reflected higher employment growth and shorter workweeks in February. The employment index rose from 2.0 to 6.9, suggesting a pickup in employment growth. The part-time employment index improved from -1.1 to 1.7. The hours worked index increased five points to -1.6.

Retailers’ perceptions of broader business conditions continued to worsen in February as both the general business activity and company outlook indexes remained deep in negative territory. The general business activity index was largely flat at -18.7, while the company outlook index edged down to -18.4. The outlook uncertainty index increased eight points to 13.2.

Price and wage pressures eased in February. The selling prices index decreased six points to 17.2, while the input prices index was flat at 33.7. The wages and benefits index dropped 10 points to 16.6.

Expectations for future retail growth were mixed in February. The future general business activity index remained unchanged at -17.0, while the future sales index rose 10 points from 1.8 to 11.4. Other indexes of future retail activity such as employment and capital expenditures remained solidly positive, reflecting expectations for growth in retail activity later in the year.” – Amy Jordan, Assistant Economist, The Federal Reserve Bank of Dallas

Source: https://www.dallasfed.org/research/surveys; 2/28/23

Return to TOC

The Federal Reserve Bank of Dallas

Source: https://www.dallasfed.org/research/surveys; 2/28/23

Return to TOC

U.S. Economic Indicators

The Federal Reserve Bank of Kansas City

Tenth District Manufacturing Activity Was Flat in February

Regional factory activity was flat in February. However, firms expected steady growth in their average number of employees to continue in 2023.

Factory Activity was Mostly Flat

"Tenth District manufacturing activity was flat, and expectations for future activity were modest (Chart 1). Monthly and annual survey price indexes continued to increase slightly, and expectations for future raw material and finished goods prices also rose.

The month-over-month composite index was 0 in February, up slightly from -1 in January and -4 in December. The composite index is an average of the production, new orders, employment, supplier delivery time, and raw materials inventory indexes. The pace of factory was affected by decreased activity at nondurable goods plants in February, especially plastics, chemical, and food manufacturing. Month-over-month indexes remained mostly negative in February. Indexes for new orders, number of employees, exports, and delivery time increased from January's readings, while volume of shipments, order backlog, employment, materials, and finished goods indexes decreased slightly. Year-over-year factory indexes increased slightly, from a composite index of 4 to 5. The future composite index decreased from 3 to 1 in February with volume of new orders and capital expenditures indexes moving into negative territory this month." – Chad Wilkerson, Vice President and Oklahoma City Branch Executive, Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org; 2/23/23

Return to TOC

U.S. Economic Indicators

The Federal Reserve Bank of Kansas City

Factory Activity Declined was Mostly Flat in February

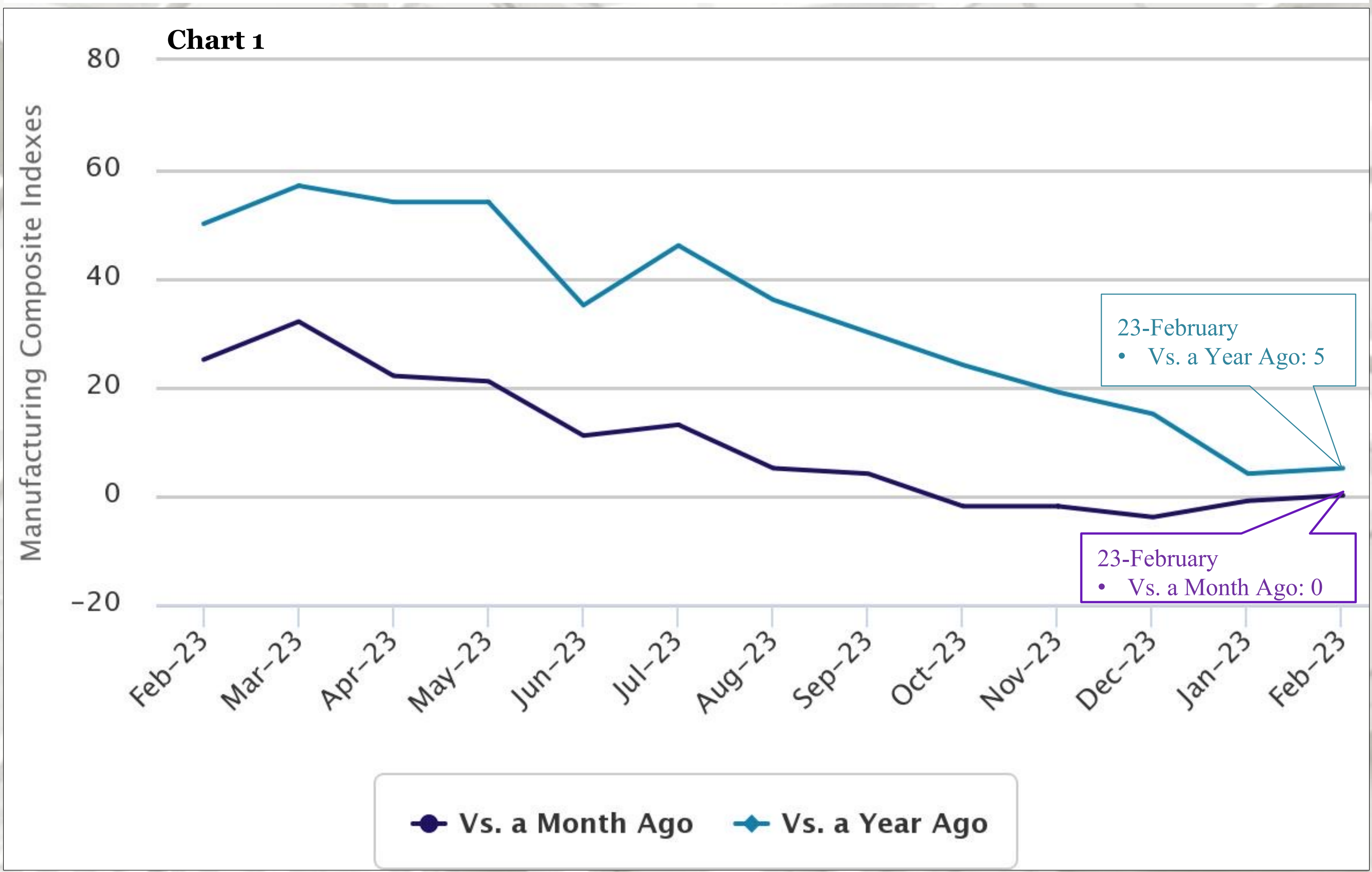
Special Questions

“This month contacts were asked special questions about their biggest hiring priorities and change in average number of employees over time. In February, 44% of firms expected their biggest priority in hiring over the next six months was for entry level workers, while 40% of firms expected to focus on mid-level workers, 9% of firms expected other workers, and 7% expected senior level workers. In 2022, firms’ year over year change in average number of employees was 2.6% and in 2023 firms expect the year over year change to remain at about that pace.” – Chad Wilkerson, Vice President and Oklahoma City Branch Executive, Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org; 2/23/23

Return to TOC

The Federal Reserve Bank of Kansas City



Source: https://www.kansascityfed.org; 2/23/23

Return to TOC

U.S. Economic Indicators

The Federal Reserve Bank of Kansas City

Tenth District Services Activity Improved in February

Regional services activity recovered in February after dropping somewhat in January. Firms also expected a slightly faster pace of job growth in 2023 than in 2022.

Business Activity Improved

"Tenth District services activity improved in February with expectations for moderately increasing activity over the next six months as well (Chart 1). Indexes for input and selling prices grew at a slightly faster pace in February compared to a month ago and prices remained well above year-ago levels for most firms. Firms expected input and selling prices to increase further over the next six months.

The month-over-month services composite index was 1 in February, up from -11 in January and 0 in December. The composite index is a weighted average of the revenue/sales, employment, and inventory indexes. The improvement in revenue and sales was driven by an increase in wholesale trade, transportation, and professional services activity. On the other hand, restaurants, tourism, and retail trade activity decreased in February. All month-over-month indexes increased in February except employment, inventory levels, and expenditures. The year-over-year composite index remained steady, but inventory levels had lower readings than last month. Expectations for future services activity increased in February, and the composite index increased from -2 to 13." – Chad Wilkerson, Vice President and Oklahoma City Branch Executive, The Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org; 2/24/23

Return to TOC

U.S. Economic Indicators

The Federal Reserve Bank of Kansas City

Business Activity Declined Slightly

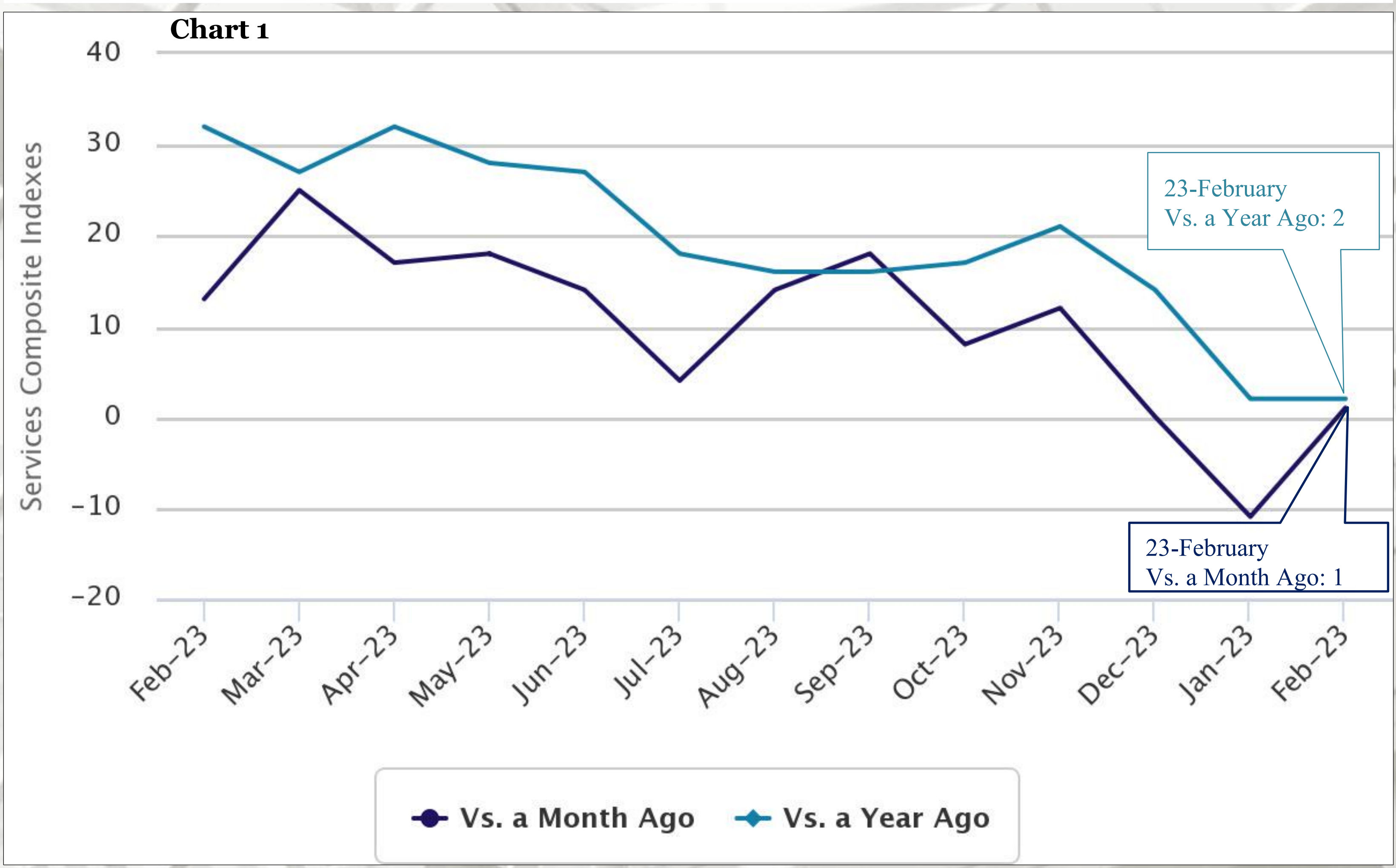
Special Questions

“This month contacts were asked special questions about their biggest hiring priorities and change in average number of employees over time. In February, 42% of firms expected their biggest priority in hiring over the next six months would be entry level workers, while 40% of firms expected mid-level workers, 9% of firms expected other workers, 6% expected senior level workers, and 4% expected temporary workers. In 2022, firms’ year over year change in average number of employees was 1% and in 2023 firms expect the year over year change to move up to 2%.” – Chad Wilkerson, Vice President and Oklahoma City Branch Executive, Federal Reserve Bank of Kansas City

Source: https://www.kansascityfed.org; 2/24/23

Return to TOC

The Federal Reserve Bank of Kansas City



Source: https://www.kansascityfed.org; 2/24/23

Return to TOC

The Federal Reserve Bank of New York

March Empire State Manufacturing Survey

Activity Continues to Contract

"Business activity continued to decline in New York State, according to firms responding to the March 2023 *Empire State Manufacturing Survey*. The headline general business conditions index fell nineteen points to -24.6. New orders dropped significantly, and shipments declined modestly. Delivery times shortened for a second consecutive month, suggesting supply availability improved, and inventories were steady. Both employment and hours worked declined for a second consecutive month. Input and selling price increases slowed somewhat. Looking ahead, businesses expect little improvement in conditions over the next six months.

Manufacturing activity continued to decline in New York State, according to the March survey. The general business conditions index fell nineteen points to -24.6, continuing the see-saw pattern of ups and downs within negative territory seen in recent months. Twenty percent of respondents reported that conditions had improved over the month, and forty-five percent reported that conditions had worsened. The new orders index fell fourteen points to -21.7, indicating that orders declined substantially, and the shipments index fell fourteen points to -13.4, pointing to a decline in shipments. The unfilled orders index came in at -6.7, a sign that unfilled orders continued to decline. At -7.6, the delivery times index was negative for a second consecutive month, indicating that delivery times shortened. The inventories index moved down eight points to -1.9, indicating that inventory levels held steady." – Richard Deitz and Jason Bram, The Federal Reserve Bank of New York

Source: https://www.newyorkfed.org/survey/empire/empiresurvey_overview; 3/15/23

Return to TOC

The Federal Reserve Bank of New York

February Empire State Manufacturing Survey

Labor Market Indicators Weaken

"The index for number of employees fell four points to -10.1, its second consecutive negative reading, indicating that employment levels continued to decline. The average workweek index fell six points to -18.5, its lowest level since early in the pandemic, indicating that hours worked shrank for a fourth consecutive month. Input prices and selling prices increased at a somewhat slower pace than last month: the prices paid index fell three points to 41.9, and the prices received index moved down six points to 22.9.

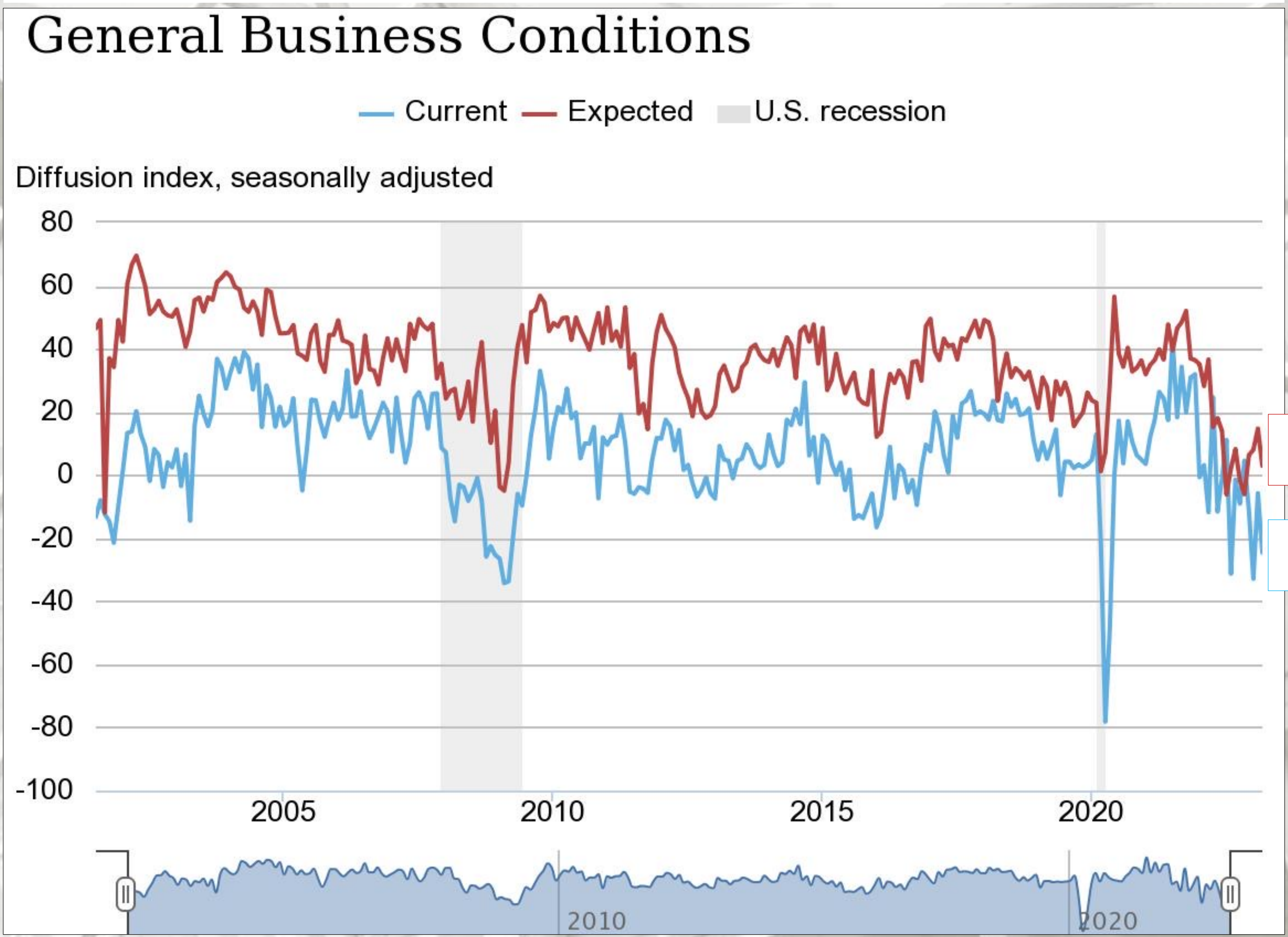
Little Improvement Expected

The index for future business conditions fell twelve points to 2.9, suggesting that firms do not expect activity to improve much over the next six months. New orders and shipments are expected to increase modestly, and employment is expected to be somewhat higher. The index for future prices paid fell a steep eighteen points, suggesting that, looking ahead, firms expect slower input price increases than they were anticipating last month. The capital spending index and technology spending index both fell to 13.3." – Richard Deitz and Jason Bram, The Federal Reserve Bank of New York

Source: https://www.newyorkfed.org/survey/empire/empiresurvey_overview; 3/15/23

Return to TOC

The Federal Reserve Bank of New York



March 2023
2.9

March 2023
-24.6

Source: https://www.newyorkfed.org/survey/empire/empiresurvey_overview; 3/15/23

Return to TOC

The Federal Reserve Bank of New York

February 2023 Business Leaders Survey (Services)

Activity Continues To Contract

“Activity continued to decline in the region’s service sector, though at a slower pace than last month, according to firms responding to the Federal Reserve Bank of New York’s February 2023 *Business Leaders Survey*. The survey’s headline business activity index climbed nine points to -12.8. The business climate index came in at -34.9, suggesting the business climate remains much worse than normal. There was a small rise in employment, and wage growth steepened. The pace of input price increases and selling price increases picked up somewhat. Looking ahead, firms expect conditions to improve modestly over the next six months.

Business activity declined in the region’s service sector for a fifth consecutive month, according to the February survey. The headline business activity index rose nine points but remained negative at -12.8. Twenty-seven percent of respondents reported that conditions improved over the month and forty percent said that conditions worsened. The business climate index moved up seven points to -34.9, suggesting that the business climate remains much worse than normal.” – Jason Bram and Richard Deitz, The Federal Reserve Bank of New York

Source: https://www.newyorkfed.org/survey/business_leaders/bls_overview; 2/18/23

Return to TOC

The Federal Reserve Bank of New York

February 2023 Business Leaders Survey (Services)

Activity Continues To Contract

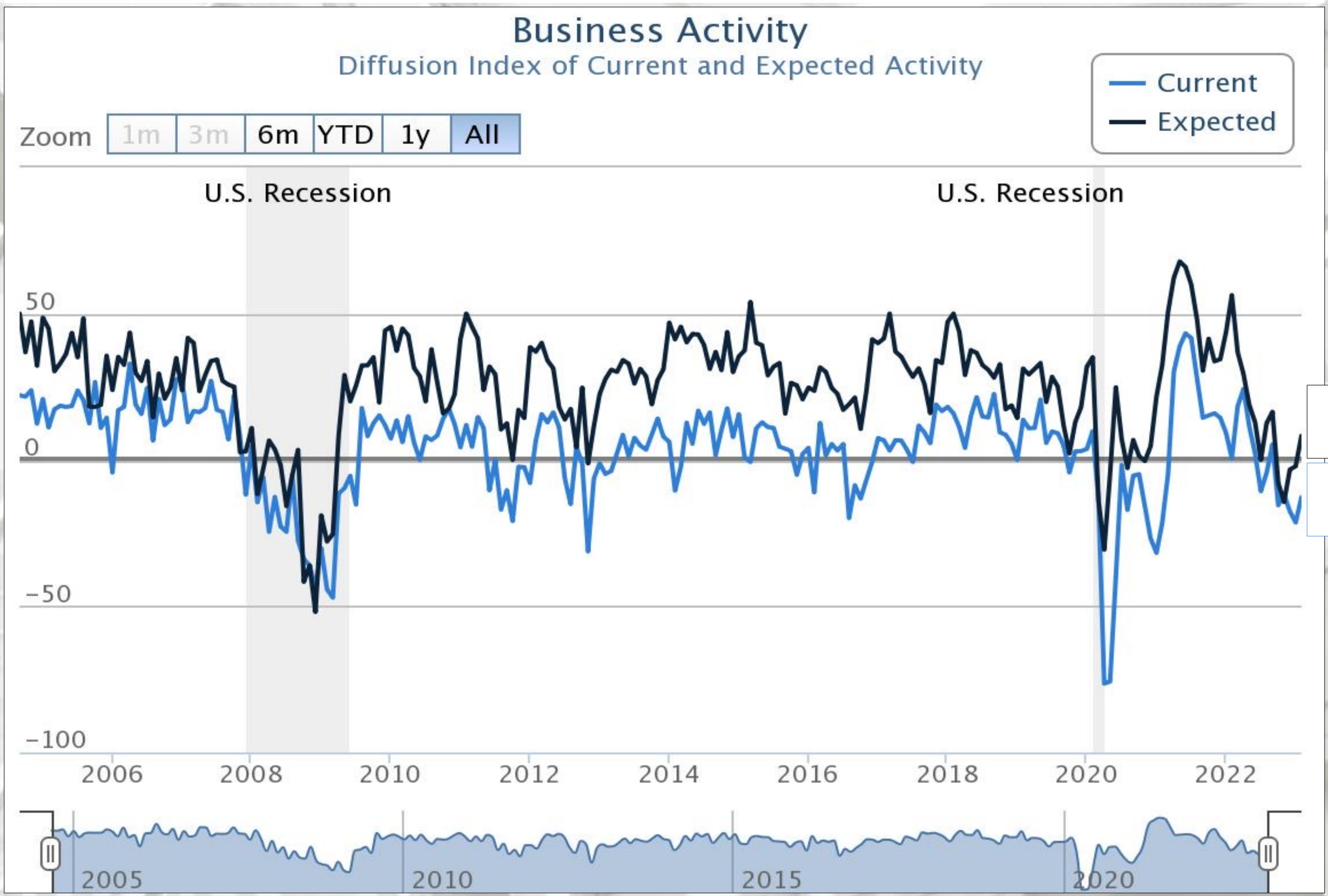
“Activity continued to decline significantly in the region’s service sector, according to firms responding to the Federal Reserve Bank of New York’s January 2023 *Business Leaders Survey*. The survey’s headline business activity index fell four points -21.4, its lowest level in nearly two years. The business climate index came in at -41.8, suggesting the business climate remains much worse than normal. Employment growth slowed to a crawl, though wage increases remained widespread. The pace of input price increases continued to trend lower, while the pace of selling price increases moved slightly higher. Looking ahead, firms do not expect conditions to be better in six months.

Business activity declined in the region’s service sector, according to the January survey. The headline business activity index fell four points to -21.4, its fourth consecutive negative reading and its lowest level since February 2021. Nineteen percent of respondents reported that conditions improved over the month and 41 percent said that conditions worsened. The business climate index edged up but remained staunchly negative at -41.8, with more than half of respondents viewing the business climate as worse than normal.” – Jason Bram and Richard Deitz, The Federal Reserve Bank of New York

Source: https://www.newyorkfed.org/survey/business_leaders/bls_overview; 1/18/23

Return to TOC

The Federal Reserve Bank of New York



February 2023
8.2

February 2023
-12.8

Source: https://www.newyorkfed.org/survey/business_leaders/bls_overview; 1/18/23

Return to TOC

The Federal Reserve Bank of New York

February 2023 Business Leaders Survey (Services)

Employment Growth Remains Scant

“The employment index inched up to 5.8, suggesting a small increase in employment levels. The wages index advanced ten points to 56.7, indicating that wage growth remained widespread. The prices paid index edged up three points to 69.0, and the prices received index rose four points to 33.7, pointing to slightly more rapid price increases than last month. Capital spending grew modestly.

Firms See Some Improvement Ahead

Conditions are expected to improve somewhat over the next six months. The index for future business activity climbed to 8.2, its first positive reading since September 2022, while the index for the future business climate moved up twenty-three points to -4.1. Employment is expected to grow in the months ahead, and wage and price increases are expected to remain widespread.” – Jason Bram and Richard Deitz, The Federal Reserve Bank of New York

Source: https://www.newyorkfed.org/survey/business_leaders/bls_overview; 1/18/23

Return to TOC

The Federal Reserve Bank of Philadelphia

February 2023 Manufacturing Business Outlook Survey

Current Indicators Remain Weak

"Manufacturing activity in the region continued to decline, according to the firms responding to the February *Manufacturing Business Outlook Survey*. The diffusion index for current activity fell from a reading of -8.9 last month to -24.3 this month. The new orders index remained negative, and the shipments index remained positive but low. The employment index declined but remained positive, and the price indexes continued to suggest overall increases but were in line with long-run averages. Most of the survey's future indicators were positive but low, suggesting tempered expectations for growth over the next six months.

The diffusion index for current activity fell from a reading of -8.9 last month to -24.3 this month (see Chart), its sixth consecutive negative reading and lowest reading since May 2020. Thirty-one percent of the firms reported decreases (down from 33 percent last month), exceeding the 7 percent reporting increases (down from 24 percent); 57 percent of the firms reported no change in current activity (up from 37 percent last month). The index for current new orders declined 3 points to -13.6, its ninth consecutive negative reading, and the current shipments index edged down 2 points to 8.7.

The current employment index remained positive but decreased from 10.9 to 5.1 this month. Most firms (61 percent) reported steady employment levels, 21 percent of the firms reported higher employment, and 15 percent reported lower employment. The average workweek index fell from 4.0 to -3.2." – Elif Sen, Research Department, The Federal Reserve Bank of Philadelphia

Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/mbos-2023-02; 2/16/23

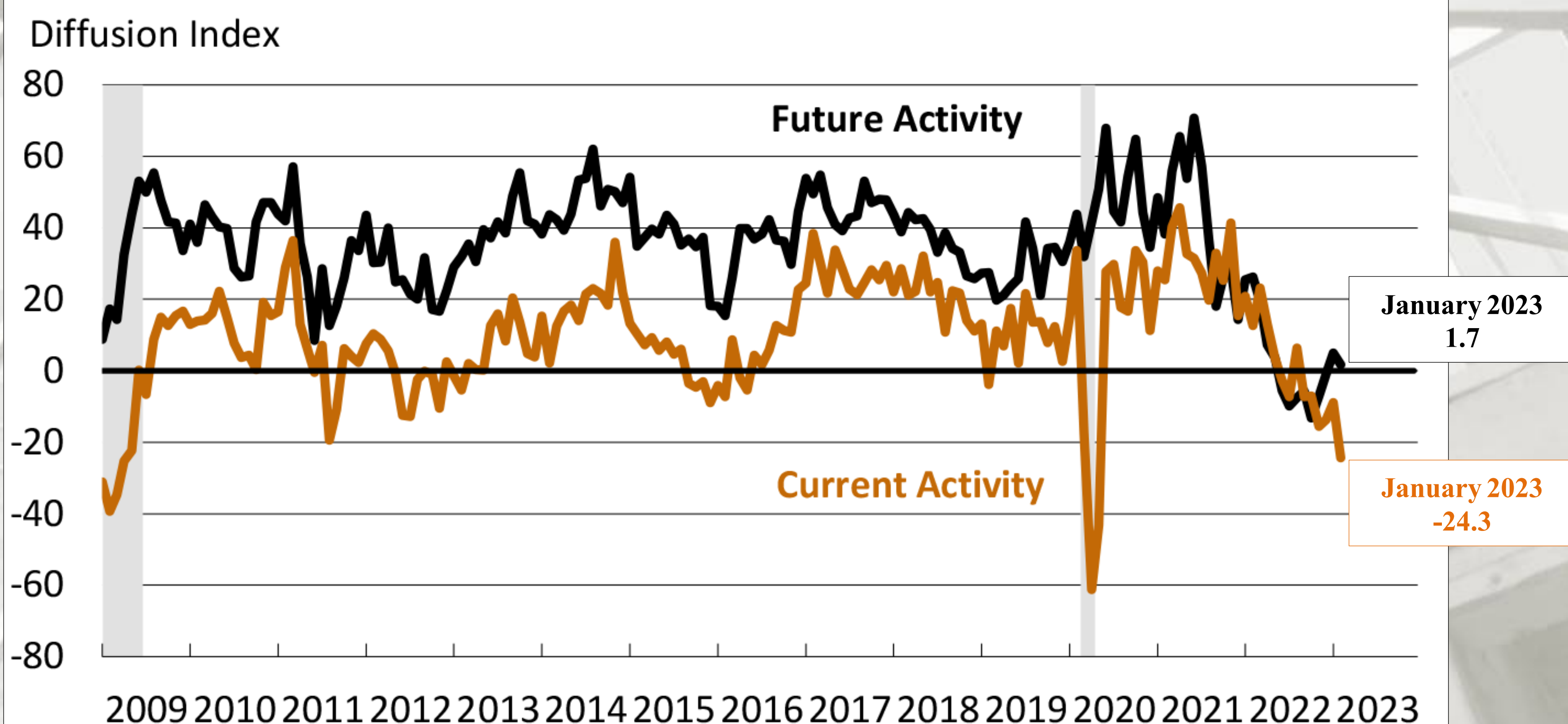
Return to TOC

The Federal Reserve Bank of Philadelphia

February 2023 Manufacturing Business Outlook Survey

Chart. Current and Future General Activity Indexes

January 2009 to February 2023



Note: The diffusion index is computed s the percentage of respondents indicating an increase minus the percentage indicating a decrease; the data are seasonally adjusted.

Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/mbos-2023-02; 2/16/23

Return to TOC

The Federal Reserve Bank of Philadelphia

February 2023 Manufacturing Business Outlook Survey

Price Indexes Near Long-Run Averages

"The prices paid diffusion index ticked up 2 points to 26.5, after reaching a two-and-a-half-year low last month. More than 34 percent of the firms reported increases in input prices, and 8 percent reported decreases; 55 percent reported no change. The current prices received index dropped 15 points to 14.9, its lowest reading since February 2021 and slightly above its long-run average. Almost 24 percent of the firms reported increases in the prices of their own goods, 9 percent reported decreases, and 65 percent reported no change.

Firms Expect Lower Increases in Prices from Last Quarter

In this month's special questions, the firms were asked to forecast the changes in prices of their own products and for U.S. consumers over the next four quarters. Regarding their own prices over the next year, the firms' median forecast was for an expected increase of 4.5 percent, down slightly from 4.8 percent when this question was last asked in November. The firms reported a median increase of 7.0 percent in their own prices over the past year, down from 7.5 percent in November. The firms' median forecast for the rate of inflation for U.S. consumers over the next year was 4.0 percent, down from 5.0 percent in November. Over the long run, the firms' median forecast for the 10-year average inflation rate was 3.0 percent, down from 4.0 percent in November." – Elif Sen, Research Department, The Federal Reserve Bank of Philadelphia

Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/mbos-2023-02; 2/16/23

Return to TOC

The Federal Reserve Bank of Philadelphia

February 2023 Manufacturing Business Outlook Survey

Future Indicators Remain Soft

"The diffusion index for future general activity declined 3 points but remained positive at 1.7 (see Chart). Almost 29 percent of the firms expect an increase in activity over the next six months, narrowly exceeding the 27 percent that expect a decrease. The future new orders index rose from 2.4 to 9.2, while the future shipments index declined from 9.1 to 4.6. The firms expect increases in employment overall, as the future employment index rose 10 points to 8.1, after dipping into negative territory last month. Both future price indexes were below their long-run averages. The future capital expenditures index edged down 3 points to 7.5.

Summary

Responses to the February *Manufacturing Business Outlook Survey* suggest continued overall declines in the region's manufacturing sector this month. The indicators for current activity and new orders remained in negative territory, while the shipments index remained positive but low. The firms continued to indicate overall increases in prices paid and received. The survey's future indexes continued to suggest tempered expectations for growth over the next six months." – Elif Sen, Research Department, The Federal Reserve Bank of Philadelphia

Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/mbos-2023-02; 2/16/23

Return to TOC

The Federal Reserve Bank of Philadelphia

February 2023 Nonmanufacturing Business Outlook Survey

Current Indicators Remain Positive

"Nonmanufacturing business activity continued to expand overall this month, according to the firms responding to the February *Nonmanufacturing Business Outlook Survey*. The index for general activity at the firm level increased, and the indexes for new orders and sales/revenues remained positive but declined. The indexes for full- and part-time employment decreased this month but remained positive. The prices paid and prices received indexes both rose this month. The respondents continue to expect growth over the next six months.

The diffusion index for current general activity at the firm level rose 3 points to 15.8, its third consecutive increase since December (see Chart). The share of firms reporting increases (42 percent) exceeded the share reporting decreases (27 percent). The new orders index fell 5 points to 6.2 this month. More than 33 percent of the firms reported increases in new orders (up from 31 percent), while 27 percent reported decreases (up from 20 percent). After a sharp increase last month, the sales/revenues index decreased from 20.3 to 14.5. Over 41 percent of the firms reported increases in sales/revenues, while 27 percent reported decreases. The current regional activity index rose to 3.2 in February, its first positive reading since July." – Elif Sen, Research Department, The Federal Reserve Bank of Philadelphia

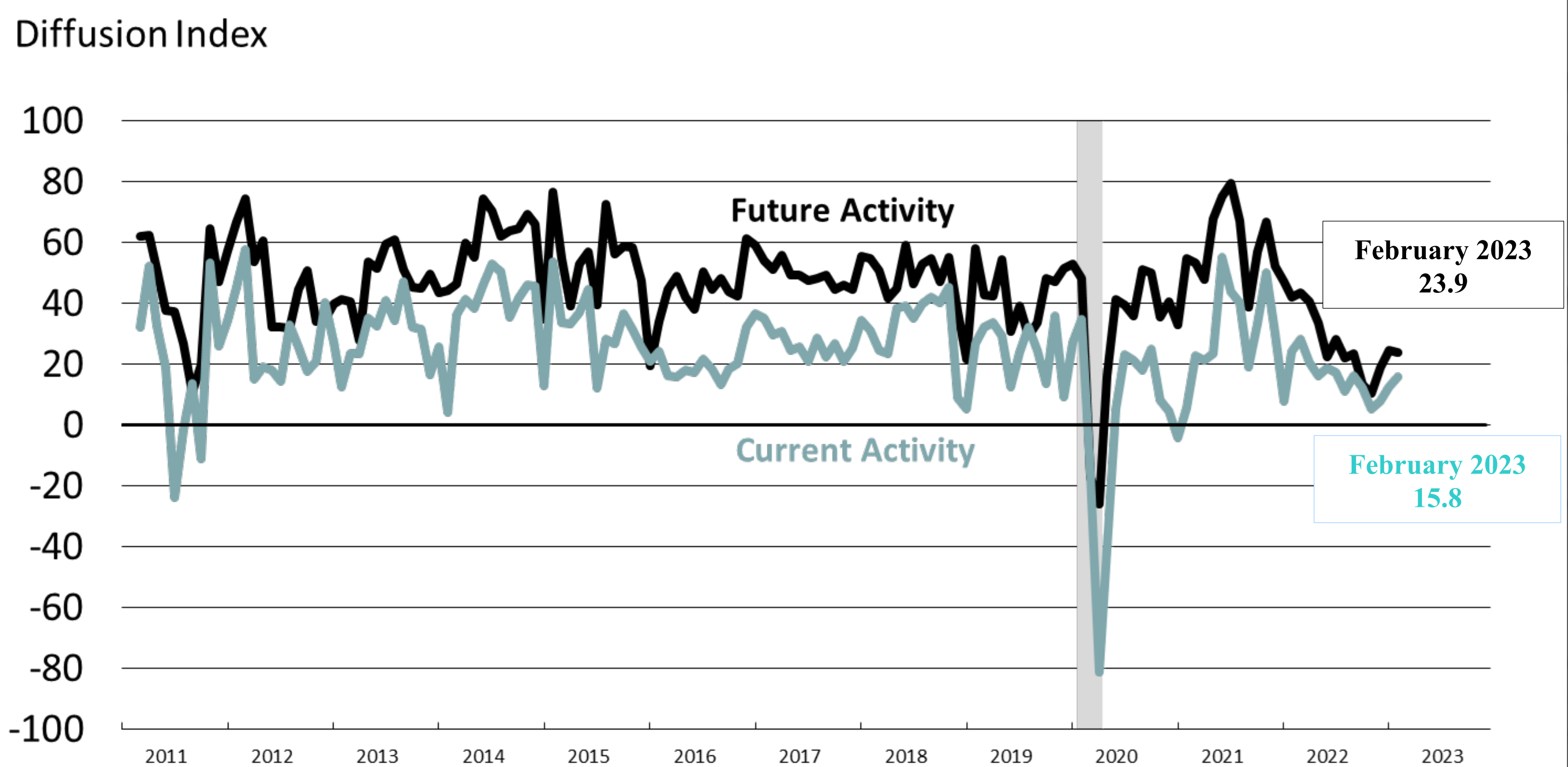
Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/nbos-2023-02; 2/23/23

Return to TOC

The Federal Reserve Bank of Philadelphia

Chart. Current and Future General Activity Indexes for Firms

March 2011 to February 2023



Note: The diffusion index is computed s the percentage of respondents indicating an increase minus the percentage indicating a decrease; the data are seasonally adjusted.

Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/nbos-2023-02; 2/23/23

Return to TOC

The Federal Reserve Bank of Philadelphia

February 2023 Nonmanufacturing Business Outlook Survey

Firms Report Overall Employment Increases

“The firms reported overall increases in both full- and part-time employment. The full-time employment index edged down 1 point to 15.9. The share of firms reporting increases in full-time employment (23 percent) exceeded the share reporting decreases (7 percent); most firms (68 percent) reported no change. The part-time employment index declined 2 points to 3.2. Most firms (63 percent) reported steady part-time employment, while 17 percent of the firms reported increases and 13 percent reported decreases. The average workweek index increased 8 points to 9.0.

Firms Continue to Report Price Increases

Price indicator readings suggest widespread increases in prices for inputs and the firms’ own goods and services, and both indexes increased this month. The prices paid index – which has declined more than 30 points since October – increased 2 points to 48.5 in February. More than 51 percent of the firms reported increases in input prices, while 3 percent reported decreases; 44 percent reported stable prices. Regarding prices for the firms’ own goods and services, the prices received index rose 8 points to 31.6 this month. More than 35 percent of the firms reported higher prices, 4 percent reported lower prices, and 52 percent reported no change.

Future Indicators Remain Positive

“The future activity indexes suggest firms expect growth at their own companies and in the region over the next six months. The diffusion index for future activity at the firm level ticked down 1 point to 23.9 this month (see Chart). The share of firms expecting increases (49 percent) exceeded the share expecting decreases (26 percent). The future regional activity index increased from 2.4 to 12.4 this month.

” – Elif Sen, Research Department, The Federal Reserve Bank of Philadelphia

Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/nbos-2023-02; 2/23/23

Return to TOC

The Federal Reserve Bank of Philadelphia

February 2023 Nonmanufacturing Business Outlook Survey

Firms Expect Lower Increases in Prices from Last Quarter

In this month's special questions, the firms were asked to forecast the changes in prices of their own products and for U.S. consumers over the next four quarters. Regarding their own prices, the firms' median forecast was for an increase of 3.5 percent, down from 4.0 percent when the question was last asked in November. The firms' reported own price change over the past year was 3.0 percent. The firms expect their employee compensation costs (wages plus benefits on a per employee basis) to rise 5.0 percent over the next four quarters, unchanged from November. When asked about the rate of inflation for U.S. consumers over the next year, the firms' median forecast was 5.0 percent, down from 6.0 percent in November. The firms' median forecast for the long-run (10-year average) inflation rate was 4.0 percent, down from 5.0 percent in November.

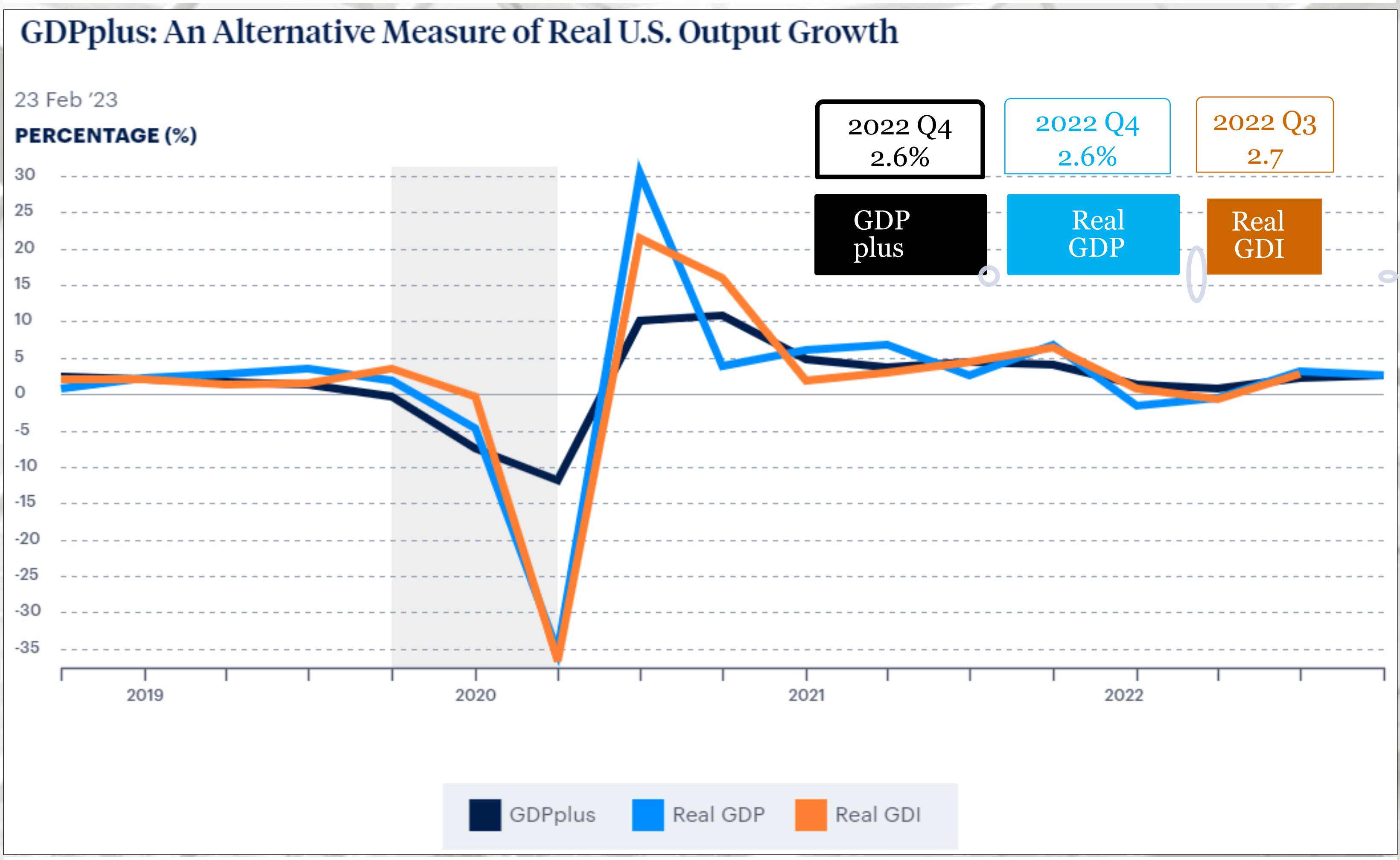
Summary

Responses to this month's *Nonmanufacturing Business Outlook Survey* suggest continued expansion in nonmanufacturing activity in the region. The indicator for firm-level general activity increased, while the indexes for sales/revenues and new orders both remained positive but decreased. The indexes for both full- and part-time employment continue to reflect overall increases in employment. Both price indexes increased this month. Overall, the respondents continue to expect growth over the next six months." – Elif Sen, Research Department, The Federal Reserve Bank of Philadelphia

Source: https://www.philadelphiafed.org/surveys-and-data/regional-economic-analysis/nbos-2023-02; 2/23/23

Return to TOC

The Federal Reserve Bank of Philadelphia: GDPplus



Notes: Shaded areas indicate NBER recessions. The data measure the quarter-over-quarter growth rate in continuously compounded annualized percentage points.

Sources: Bureau of Economic Analysis (BEA) and NBER via Haver Analytics. Federal Reserve Bank of Philadelphia.

Source: https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/gdpplus; 2/23/23

Return to TOC

The Federal Reserve Bank of Richmond

February 2023 Fifth District Survey of Manufacturing Activity

Manufacturing Activity Declined in February

“Fifth District manufacturing firms reported deterioration in business conditions in February, according to the most recent survey from the Federal Reserve Bank of Richmond. The composite manufacturing index decreased from −11 in January to -16 in February. Of its three component indexes, shipments saw the largest change, declining notably from −3 in January to −15 in February. The employment index declined from −3 to −7 in February, while the new orders index remained unchanged at −24.

Firms remained pessimistic about local business conditions, as the index remained at −13. However, the expectations index for future local business conditions increased notably and returned to positive territory for the first time since March 2022.

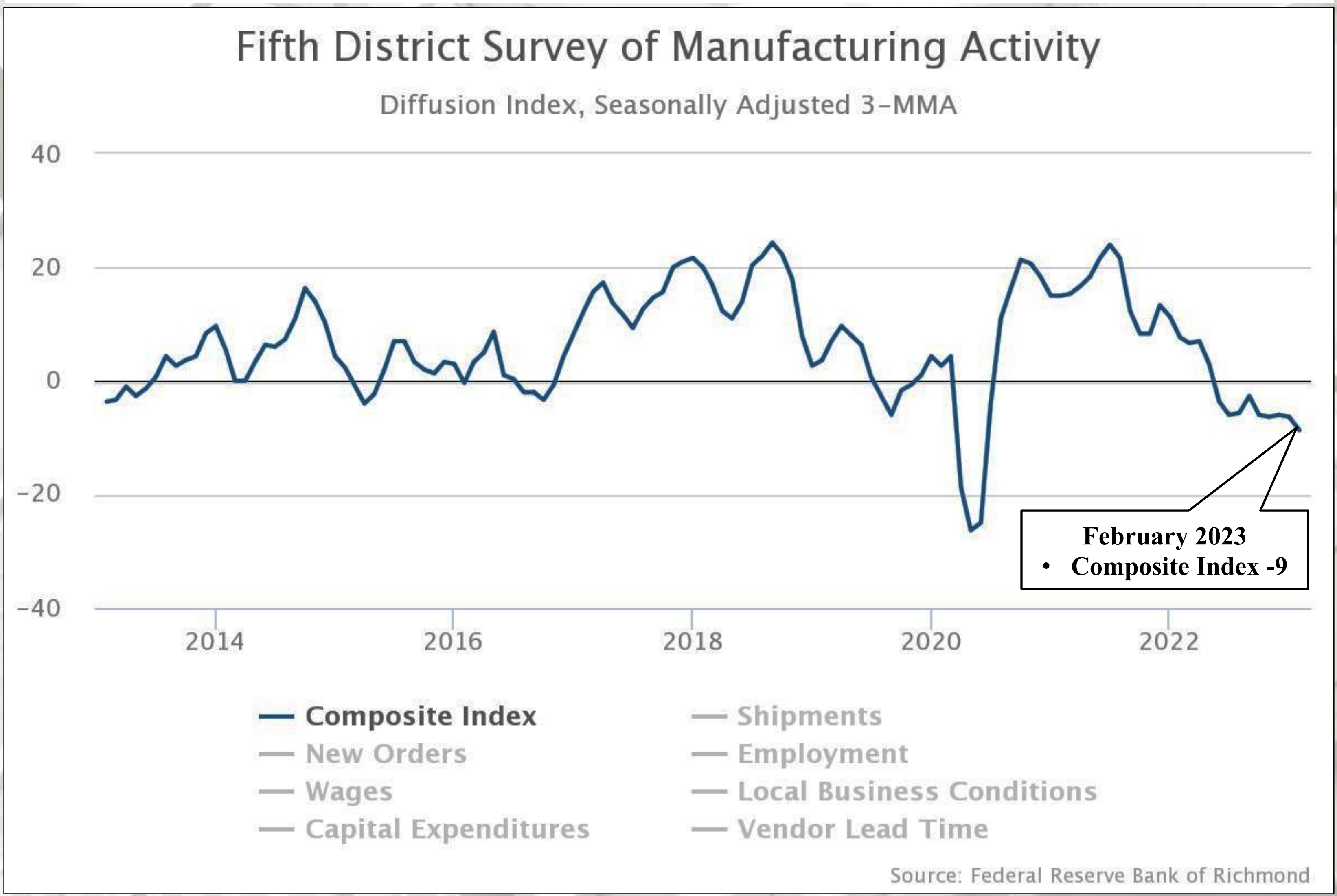
Businesses continued to see declines in backlogs and lead times as both indexes remained negative. However, the capacity utilization index fell notably from −7 in January to −17 in February.

The average growth rate of prices paid remained nearly unchanged, while the average growth rate of prices received decreased in February. Firms expect both to moderate over the next 12 months.”
– Jason Kosakow, Research Department, The Federal Reserve Bank of Richmond

Source: https://www.richmondfed.org/research/regional_economy/surveys_of_business_conditions/manufacturing; 2/28/23

Return to TOC

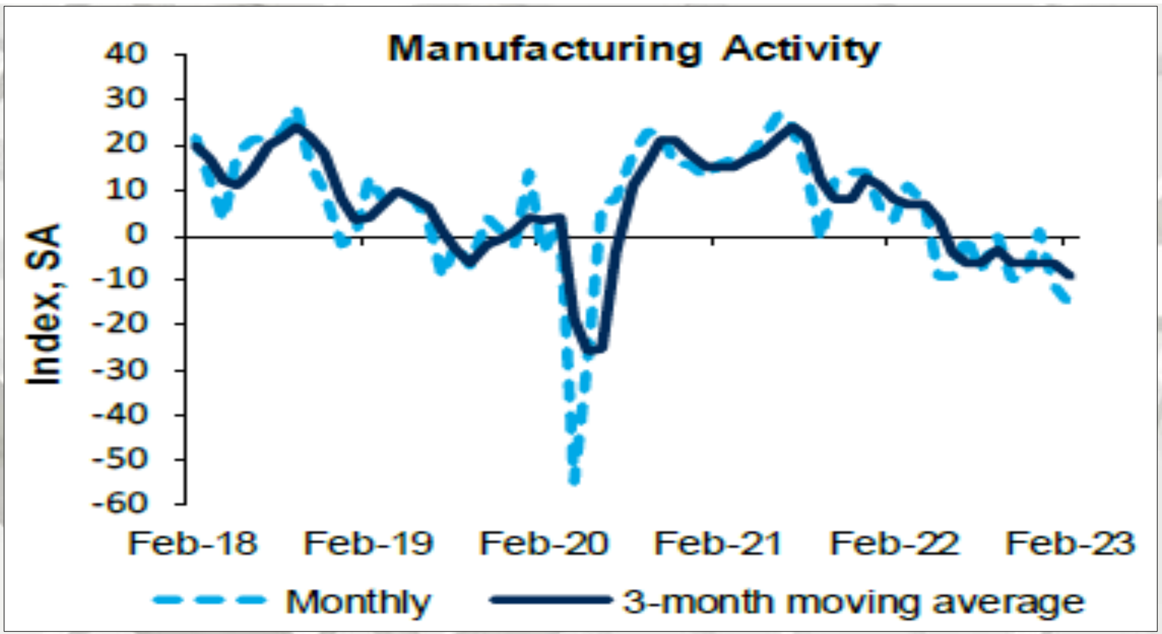
The Federal Reserve Bank of Richmond

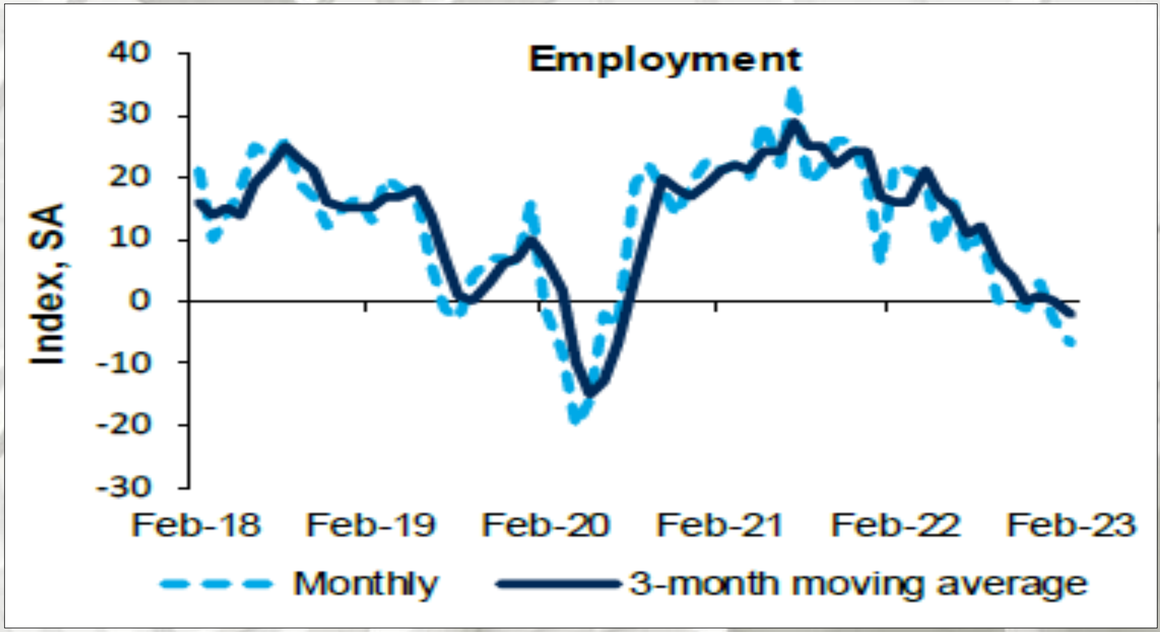


Source: https://www.richmondfed.org/research/regional_economy/surveys_of_business_conditions/manufacturing; 2/28/23

Return to TOC

The Federal Reserve Bank of Richmond

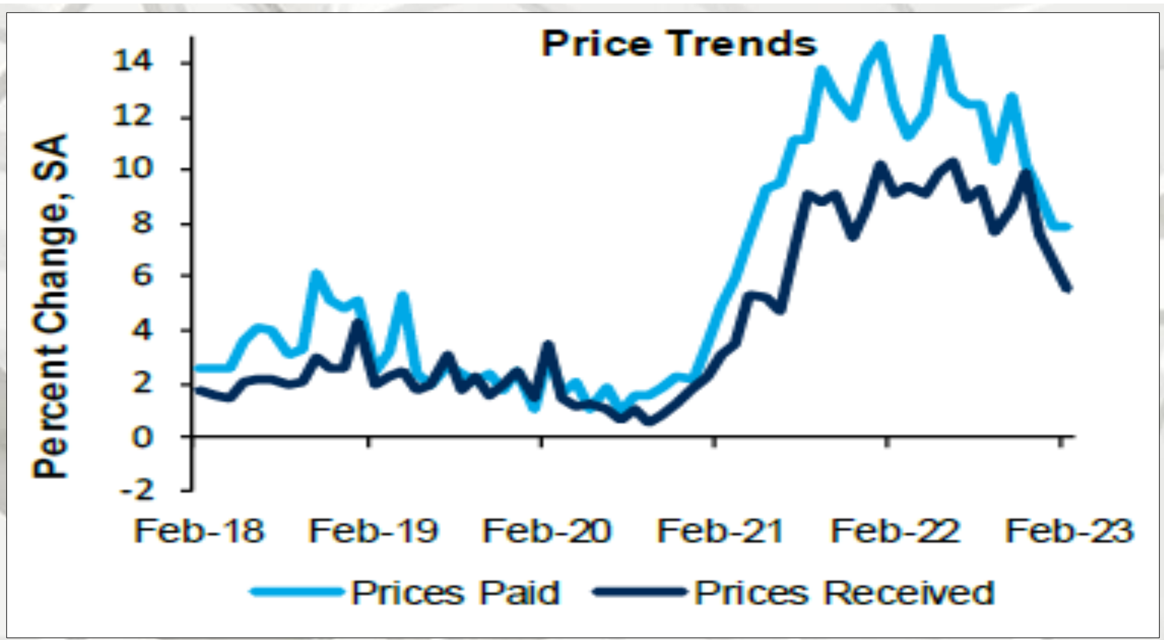




Source: https://www.richmondfed.org/research/regional_economy/surveys_of_business_conditions/manufacturing; 2/28/23

Return to TOC

The Federal Reserve Bank of Richmond



Source: https://www.richmondfed.org/research/regional_economy/surveys_of_business_conditions/manufacturing; 2/28/23

Return to TOC

The Federal Reserve Bank of Richmond

Fifth District Survey of Service Sector Activity

Service Sector Activity Improved Slightly in February

“Fifth District service sector activity improved slightly in February, according to the most recent survey by the Federal Reserve Bank of Richmond. The revenues and demand indexes rose to −3 and 6, respectively, both up from −6 in January. Firms' six months ahead revenue expectations softened mildly, while expectations for demand increased. The indexes for both current and anticipated local business conditions remained negative. The indexes for capital and services expenditures fell from 8 and 6 to −1 and −3, respectively, while the index for equipment & software spending remained relatively flat. All three of the spending expectations indexes were positive, suggesting that firms generally expect spending to increase over the next six months.

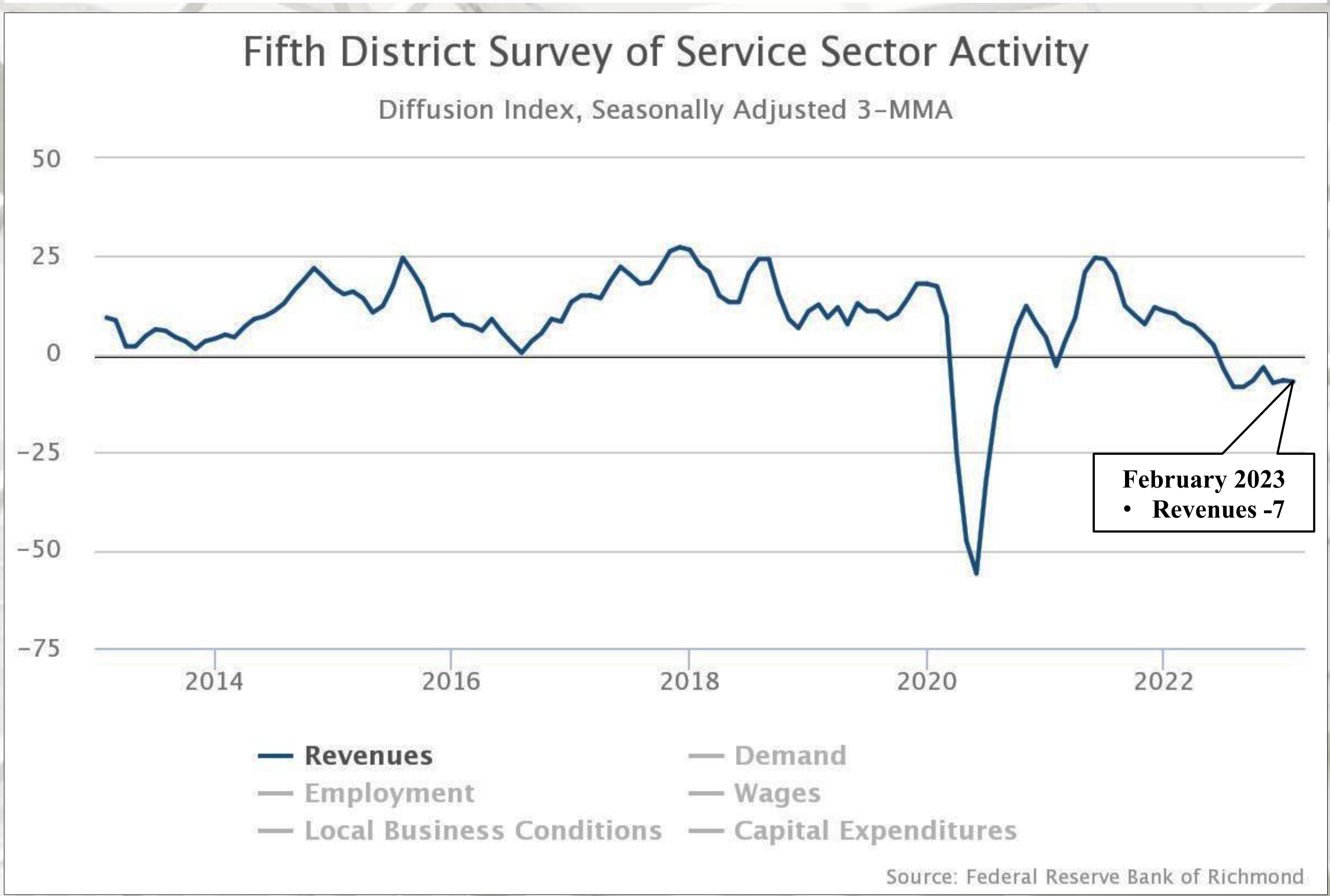
The employment index stayed in positive territory in February, indicating that firms, at large, continued hiring. They also reported wage increases in the last month and continued difficulty finding candidates with the desired skillsets. Over the next six months, firms expect to continue hiring and increasing wages, while also expecting some improvement in their ability to find workers with the right skills.

Average growth in prices paid over the last year decreased from January, while prices received nudged down slightly. Firms broadly expected both measures of price growth to moderate over the coming year.” – Roisin McCord, Economic Analyst, The Federal Reserve Bank of Richmond

Source: https://www.richmondfed.org/research/regional_economy/surveys_of_business_conditions/service_sector; 2/24/23

Return to TOC

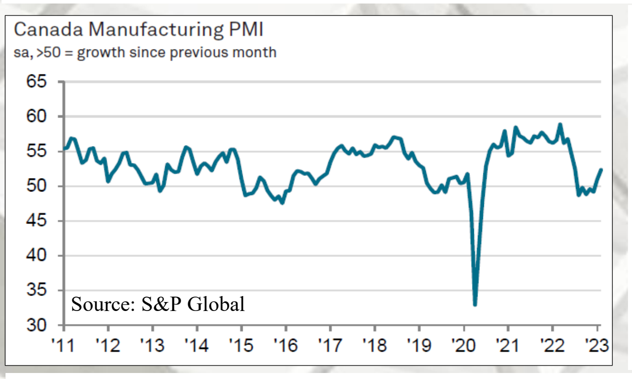
The Federal Reserve Bank of Richmond



Source: https://www.richmondfed.org/research/regional_economy/surveys_of_business_conditions/service_sector; 2/24/23

Return to TOC

Private Indicators: Global



S&P Global Canada Manufacturing PMI®

"Overall, the seasonally adjusted S&P Global Canada Manufacturing Purchasing Managers' Index® (PMI®) recorded 52.4 in February. That was up from 51.0 in January, and the highest reading recorded by the survey since last July. It was also the second month in a row that the index has recorded above the 50.0 no-change mark that separates growth from contraction. .

Growth accelerates in February

Growth of Canada's manufacturing sector picked up in February, building on the modest gains seen at the start of the year. Both output and new orders rose at their strongest rates since last May, whilst firms continued to add new jobs to their plants. Confidence in the future also improved, whilst inflation rates continued to ease amid reports of greater stability in supply chains.

Both manufacturing output and new orders continued to rise during February, with growth rates picking up from relatively modest levels seen in February to their highest since last May. There were reports of firmer market demand, linked in part to lower inflation and growing confidence in the outlook. However, foreign sales remained subdued, with exports down for a ninth successive month and suggestive that the current upturn in overall orders is being predominately led by the domestic market.

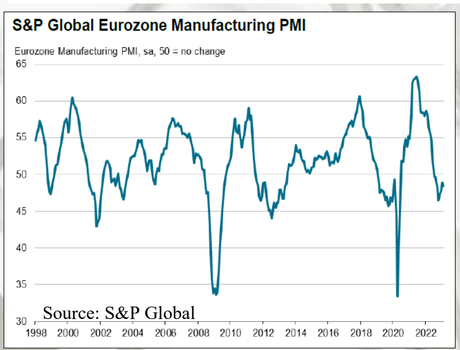
Firms nonetheless displayed growing confidence in the outlook, with this optimism expressed in the latest data on future output expectations. Overall, sentiment rose to its highest level since last July, with firms hopeful that the recent returns to growth in production and demand will be sustained. The planned start of new projects and release of new products were also reasons to be confident. …

February's data provided a relatively positive set of data concerning the health of the Canadian manufacturing economy. Growth rates for a range of variables improved, most notably for output and new orders amid reports of firmer market demand. Lower inflation was also seen as a supportive demand factor, and firms themselves experienced a drop of cost inflation since the previous month to a multiyear low. Amid signs of more stability in supply chains, these factors all helped to support an improvement in confidence over the month and partly explained another round of job creation in the sector." – Paul Smith, Economics Director, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/d072d04b95304e31b984f3a43cd57b95; 3/1/23

Return to TOC

Private Indicators: Global



Source: S&P Global

S&P Global Eurozone Manufacturing PMI®

"The S&P Global Eurozone Manufacturing PMI® fell slightly to 48.5 in February, from 48.8 at the start of the year. The index was pulled lower by the sub-components for suppliers' delivery times, which showed a considerable easing of supply-chain pressures (and typically is indicative of worsening manufacturing sector conditions), and stocks of purchases, which signalled the most marked decline in pre-production inventories since May 2021.

Euro area manufacturing production stabilises in February as supplier delivery times see most rapid improvement since 2009

Manufacturing production volumes across the euro area broadly stabilised in February, ending an eight-month sequence of contracting output. Manufacturers in Italy, Greece and Spain lent the greatest support to factory output across the euro area in February. According to survey respondents, easing supplier bottlenecks and improved raw material availability reduced the strain on production schedules. Indeed, supplier delivery times shortened to the greatest extent since May 2009. Consequently, cost pressures faced by goods producers eased considerably once again, with the overall rate of input price inflation slowing to a marginal pace that was the weakest in almost two-and-a-half years. …

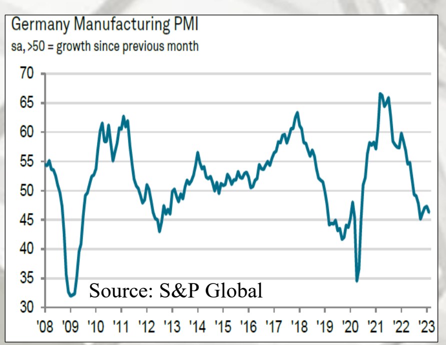
A marginal expansion of output reported by Eurozone manufacturers in February is welcome news in representing the first increase since last May and a further improvement in the underlying trend from the low seen back in October. The brighter production picture first and foremost reflects a broad-based improvement in supply chains, with deliveries of inputs into factories quickening on average to a degree not seen since 2009. Fewer supply shortages and delays have facilitated higher output, allowing companies to deal with backlogs of work accumulated during the pandemic.

Unfortunately, inflows of new orders continued to fall at a marked rate, reflecting persistent weak demand as customer spending remained subdued. Inventory reduction policies also led to falling demand for manufactured inputs. Demand will therefore need to rise further in the coming months if production growth is to be sustained, breaking the reliance on backlogs of work. In the meantime, the combination of improved supply and sustained weak demand – as well as lower energy prices – is helping bring inflationary pressures down sharply, with raw material input costs barely rising in February to signal the slowest rate of increase for around two-and-a-half years. Although factory selling prices continued to rise sharply, albeit with the rate of increase easing to a two-year low, this in part reflects the usual lagged effect of changes in costs feeding through to output prices. " – Chris Williamson, Chief Business Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/5bfa7b6357b84861bdedcda9624e8447; 3/1/23

Return to TOC

Private Indicators: Global



S&P Global/BME Germany Manufacturing PMI®

"The headline the seasonally adjusted S&P Global/BME Germany Manufacturing PMI® – a single-figure measure of sector performance derived from measures of new orders, output, employment, suppliers' delivery times and stocks of purchases – came in at 46.3 in February, down from 47.3 in January and its lowest for three months. A rapid improvement in supplier delivery times (the index for which is inverted in the calculation of the PMI) put downward pressure on the headline index, as did a decline in stocks of purchases. Notably, indices for output, new orders and employment each had a positive directional influence.

Easing supply-chain bottlenecks lift production in February, but new orders continue to fall

Germany's manufacturers recorded a first, albeit marginal, increase in output for nine months in February, as constraints on production from supply-chain bottlenecks showed further signs of easing, latest PMI® survey data showed. Supplier delivery times in fact showed a record improvement, with falling demand for materials also leading to a first decrease in average purchasing costs in almost two-and-a-half years. However, whilst there were positives on the supply-side, demand remained under pressure, with new orders continuing to fall. Manufacturers were slightly more optimistic about the outlook compared to January, marking a fourth straight monthly improvement in sentiment, but business confidence nevertheless remained low by historical standards. …

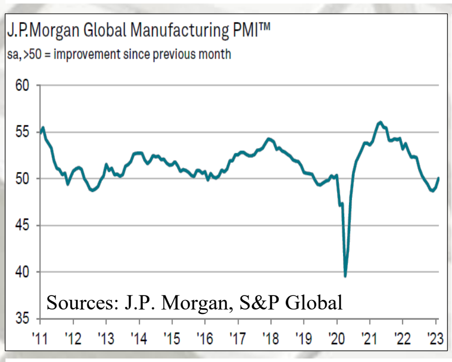
Latest PMI data showed a welcome uptick in production levels across the German manufacturing sector in February, the first in nine months, amid a substantial easing of supply-chain bottlenecks. However, thanks in large part to a sustained slump in new orders, the headline PMI remained firmly in sub-50 contraction territory, and even moved to a three-month low due to a fall in the stocks of purchases subcomponent and strong downward pressure from the supplier delivery times index (which is inverted in the calculation of the PMI, meaning any improvement in delivery times pulls the headline index lower). With businesses having scaled back their purchasing activity in line with falling demand, this has reduced pressure on supply chains and led to improved delivery times, which has in turn reduced the need for excess safety stocks and thereby compounded the downturn in demand for inputs. As a result, we're seeing particular weakness in demand at makers of intermediate goods, who went against the trend in February and recorded a further reduction in output.

The easing of supply chain pressures is not only underscored by a record improvement in delivery times, but also by a first drop in purchase prices for nearly two-and-a-half years, as the pendulum of pricing power swings back in the direction of buyers. Hopes for lower inflationary pressures helped brighten the outlook among German goods producers in February, although expectations are yet to return to the level prior to Russia's invasion of Ukraine." – Phil Smith, Principal Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/022e040486c6435385670fc08581eac5; 3/1/23

Return to TOC

Private Indicators: Global



J.P. Morgan Global Manufacturing PMI™

"At 50.0 in February, up from 49.1 in January, the J.P. Morgan Global Manufacturing PMI™ – a composite index produced by J.P. Morgan and S&P Global in association with ISM and IFPSM – posted a reading identical to the no-change mark, halting a five-month run of signalling contraction. The PMI level was impacted positively by increased production and employment and slower rates of decline in both new business and stocks of purchases.

Global manufacturing output returns to growth as supply chain constraints ease and mainland China reopens

The February PMI surveys signalled a return to growth for the global manufacturing sector. Output rose for the first time in seven months amid improving supply chains and China's re-opening as COVID restrictions were lifted. Business optimism also revived, rising to its highest level in a year. Manufacturing output rose for the first time since July 2022, as solid growth in the consumer and investment goods sectors offset the continued downturn at intermediate goods producers.

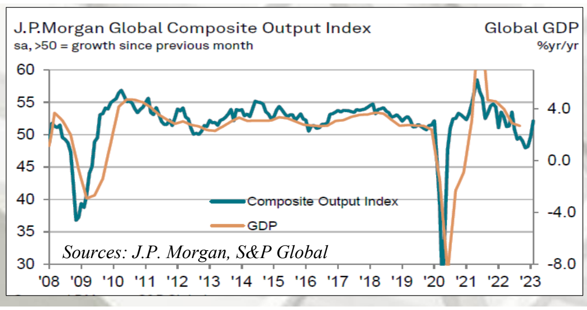
The performances of the North America, Europe and South America remained weak (on average) in comparison to Asia. Although the euro area saw output rise for the first time in nine months, the rate of growth was negligible. A steep downturn in France offset growth in nations such as Germany, Italy and Spain. The UK returned to growth, but the Czech Republic and Poland contracted. February saw manufacturing output decline in both the US and Brazil for the fourth month in a row. Aiding the return to growth for world manufacturing production was an easing of supply-chain constraints.

The February manufacturing PMIs point to a welcome return to growth for global industry, amid supply chains improvements and China's reopening. A bounce in new orders reinforces the signal from the output PMIs and should help to sustain the recovery in the coming months. While the supply chain disruptions of the past year continue to fade, the output price PMI has been stuck at an elevated level this year and somewhat raises the risk of goods inflation becoming entrenched." – Bennett Parrish, Global Economist, J.P. Morgan

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/cd93b7b0f36c4fd096045b4b93dd0fbc; 3/1/23

Return to TOC

Private Indicators: Global



J.P. Morgan Global Composite PMI™

"The J.P. Morgan Global Composite Output Index – produced by J.P. Morgan and S&P Global in association with ISM and IFPSM – posted 52.1 in February, up from 49.7 in January, to post a reading above the neutral 50.0 mark.

Global output and new orders expand for first time seven months in February

February saw global economic activity and new orders both return to growth, ending six-month sequences of contraction. The renewed upturn in output was led by the services sector and reinforced by the first expansion of manufacturing production since last July. Five out of the six sub-industries covered by the survey saw economic activity expand during February (business services, consumer goods, consumer services, financial services and investment goods). Although the downturn in the intermediate goods category continued, the rate of contraction eased to a six-month low.

Incoming new business rose for the first time since July 2022, as a solid increase at service providers more than offset a further (albeit slower) decrease at manufacturers. The uplift in demand was led by the household sector, with the consumer goods and consumer services industries seeing the fastest rates of growth in new business. New work received also rose in the business services, financial services and investment goods industries (the latter two seeing growth return following recent contractions). In contrast, new business fell at intermediate goods manufacturers. Measured overall, international trade flows declined to the least marked extent since June. …

The February PMIs provide a convincing signal that the global expansion is gathering steam early in the year. The global composite output PMI rose 2.4-pt to an eight-month high of 52.1 in February, consistent with global GDP growing at its potential pace. The new orders PMI also took an encouraging step up in February. This performance uplift is filtering through to the labor market and business confidence. With reduced recession risks, improving supply chains, and the reopening of the Chinese economy likely to boost demand in the immediate future, further gains in output are expected in the coming months." – Bennett Parrish, Global Economist, J.P. Morgan

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/d7c8dd93c26b4579b2a495d1d03438f8; 2/3/23

Return to TOC

Private Indicators
Associated Builders and Contractors

Nonresidential Construction Spending Dips 0.5% in January

“National nonresidential construction spending increased by 0.3% in January, according to an Associated Builders and Contractors analysis of data published by the U.S. Census Bureau. On a seasonally adjusted annualized basis, nonresidential spending totaled $968.7 billion for the month.

Spending was down on a monthly basis in seven of the 16 nonresidential subcategories. Private nonresidential spending was up 0.9%, while public nonresidential construction spending was down 0.6% in January.

“Nonresidential construction spending inched higher to start the year and is just below the all-time high established in November,” said ABC Chief Economist Anirban Basu. “On a year-over-year basis, spending in the nonresidential sector continues to outpace inflation. That’s largely attributable to strength in the industrial segment; manufacturing-related construction spending surged 5.9% in January and is up by an astonishing 53.6% since January 2022. With the CHIPS and Science Act directing $280 billion into semiconductor manufacturing and an ongoing desire to reshore manufacturing capacity, the segment should continue to thrive.

“Excluding manufacturing-related construction, nonresidential spending actually declined in January,” said Basu. “A combination of headwinds, including severely elevated borrowing costs, ongoing labor shortages and still-high input costs are likely to blame. Despite these factors and a gloomy economic outlook, a majority of contractors continue to expect their sales to increase over the next six months, according to ABC’s Construction Confidence Index.’”” – Erika Walter, Director of Media Relations, ABC

Source: https://www.abc.org/News-Media/News-Releases/entryid/19824/nonresidential-construction-spending-inches-higher-in-january-says-abc; 3/1/23

Return to TOC

Private Indicators
Associated Builders and Contractors

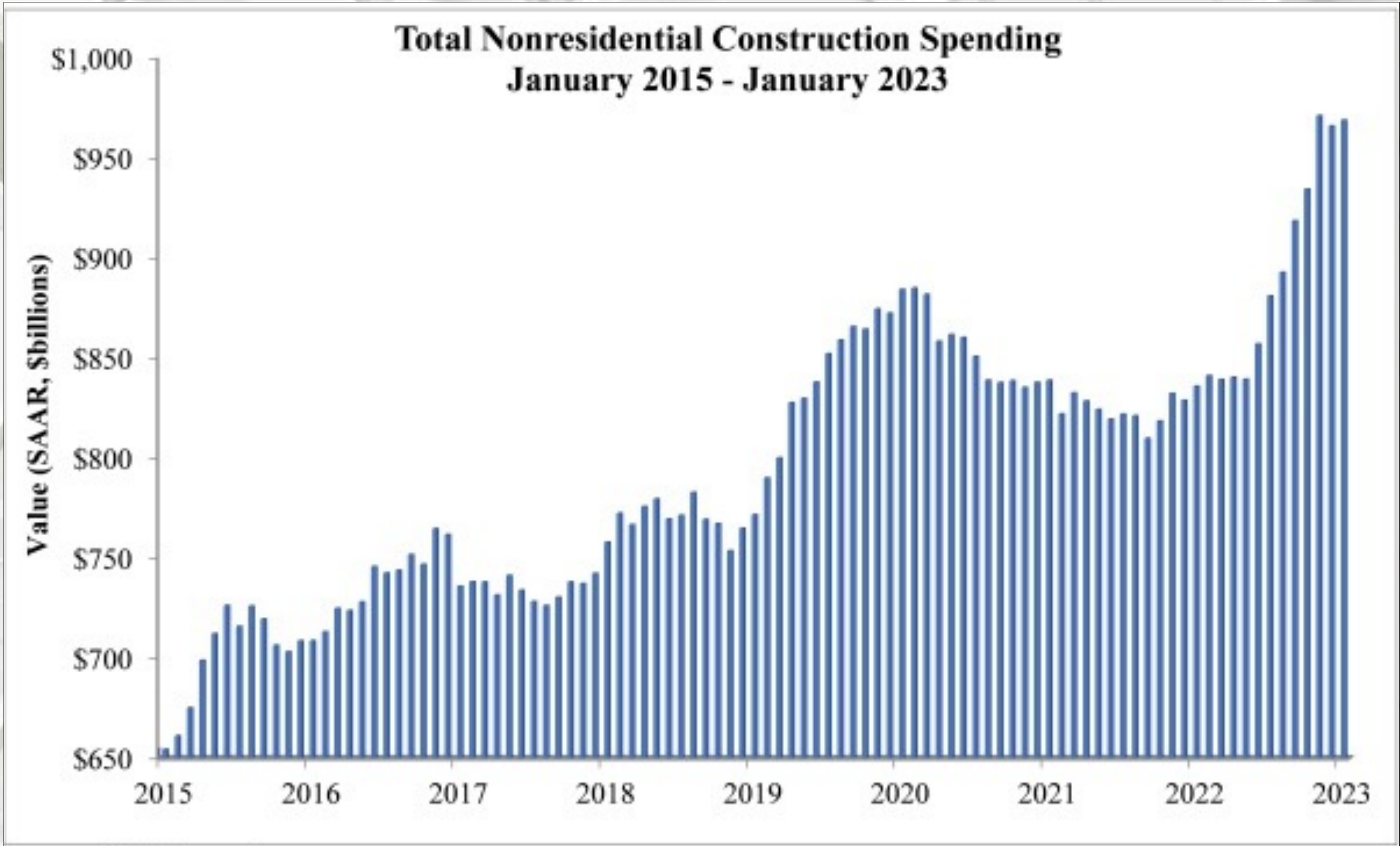
Nonresidential Spending Growth, Millions of Dollars, Seasonally Adjusted Annual Rate	January 2023	December 2022	January 2022	1-Month % Change	12-Month % Change
Total Construction	$1,825,653	$1,827,535	$1,726,585	-0.1%	5.7%
Residential	$856,912	$861,674	$890,763	-0.6%	-3.8%
Nonresidential	$968,741	$965,861	$835,822	0.3%	15.9%
Conservation and development	$10,427	$9,644	$8,567	8.1%	21.7%
Manufacturing	$139,770	$131,984	$91,021	5.9%	53.6%
Religious	$3,057	$2,920	$2,750	4.7%	11.2%
Transportation	$61,447	$60,447	$56,277	1.7%	9.2%
Power	$111,598	$110,610	$117,030	0.9%	-4.6%
Lodging	$21,930	$21,745	$15,699	0.9%	39.7%
Office	$96,022	$95,315	$84,401	0.7%	13.8%
Health care	$55,756	$55,646	$49,593	0.2%	12.4%
Communication	$24,980	$24,981	$24,161	0.0%	3.4%
Educational	$104,598	$105,281	$98,413	-0.6%	6.3%
Highway and street	$118,297	$119,473	$101,683	-1.0%	16.3%
Amusement and recreation	$28,786	$29,209	$25,967	-1.4%	10.9%
Public safety	$11,056	$11,282	$10,110	-2.0%	9.4%
Sewage and waste disposal	$33,390	$34,251	$28,456	-2.5%	17.3%
Commercial	$125,503	$129,564	$102,782	-3.1%	22.1%
Water supply	$22,125	$23,508	$18,913	-5.9%	17.0%
Private Nonresidential	$595,213	$589,900	$499,790	0.9%	19.1%
Public Nonresidential	$373,528	$375,961	$336,031	-0.6%	11.2%

Source: U.S. Census Bureau

Source: https://www.abc.org/News-Media/News-Releases/entryid/19824/nonresidential-construction-spending-inches-higher-in-january-says-abc; 3/1/23

Return to TOC

Private Indicators
Associated Builders and Contractors



Source: U.S. Census Bureau

Source: https://www.abc.org/News-Media/News-Releases/entryid/19824/nonresidential-construction-spending-inches-higher-in-january-says-abc; 3/1/23

Return to TOC

Private Indicators
Associated Builders and Contractors

ABC's Construction Backlog Indicator and Contractor Confidence Index Rise in February

"Associated Builders and Contractors reported today that its Construction Backlog Indicator increased to 9.2 months in February, according to an ABC member survey conducted Feb. 20 to March 6. The reading is 1.2 months higher than in February 2022.

View the historic Construction Backlog Indicator and Construction Confidence Index data series.

Backlog rebounded in February and for the past four months has hovered around highs not seen since the start of the pandemic. The Southern region continues to post the highest backlog of any region and, as of February, has had at least 11 months of backlog in four of the previous five months.

ABC's Construction Confidence Index reading for sales, profit margins and staffing levels increased in February. All three readings remain above the threshold of 50, indicating expectations of growth over the next six months.

"Despite a gloomy economic forecast and extraordinarily elevated borrowing costs, contractor backlog and confidence continue to rise," said ABC Chief Economist Anirban Basu. "This mirrors the broader economy, which has thus far proved resilient in the face of rising interest rates. While economic strength, particularly regarding labor demand, is surprising, interest rate increases typically take 12 to 18 months to affect the broader economy, and the first interest rate increase occurred in March 2022.

"While backlog remains at a historically elevated level, borrowing costs will continue to rise during the next several months, and contractors continue to struggle in the face of skilled labor shortages," said Basu. "If economic momentum fades this year, as a majority of forecasters continue to predict, then backlog and confidence may decline, especially for contractors working predominantly on privately financed projects.'"" – Erika Walter, Director of Media Relations, ABC

Source: https://www.abc.org/News-Media/News-Releases/entryid/19787/abcs-construction-backlog-indicator-down-to-start-2023-contractor-confidence-rises; 3/14/23

Return to TOC

Private Indicators
Associated Builders and Contractors

Construction Backlog Indicator

	Feb 2023	Jan 2022	Feb 2022	1-Month Net Change	12-Month Net Change
Total	9.2	9.0	8.0	0.2	1.2
Industry					
Commercial & Institutional	9.4	9.2	8.6	0.2	0.8
Heavy Industrial	10.4	8.4	6.6	2.0	3.8
Infrastructure	10.0	8.6	6.3	1.4	3.7
Region					
Middle States	8.3	8.1	7.7	0.2	0.6
Northeast	8.8	8.4	6.9	0.4	1.9
South	11.0	10.5	9.5	0.5	1.5
West	8.7	9.0	7.8	-0.3	0.9
Company Size					
<$30 Million	8.2	8.2	7.1	0.0	1.1
$30-$50 Million	8.8	9.9	9.6	-1.1	-0.8
$50-$100 Million	14.8	12.0	12.6	2.8	2.2
>$100 Million	12.4	12.0	11.5	0.4	0.9

ABC's Construction Backlog Indicator and Contractor Confidence Index Rise in February

"""While backlog remains at a historically elevated level, borrowing costs will continue to rise during the next several months, and contractors continue to struggle in the face of skilled labor shortages," said Basu. "If economic momentum fades this year, as a majority of forecasters continue to predict, then backlog and confidence may decline, especially for contractors working predominantly on privately financed projects."" – Erika Walter, Director of Media Relations, ABC

Source: https://www.abc.org/News-Media/News-Releases/entryid/19787/abcs-construction-backlog-indicator-down-to-start-2023-contractor-confidence-rises; 2/14/23

Return to TOC

Private Indicators
Associated Builders and Contractors

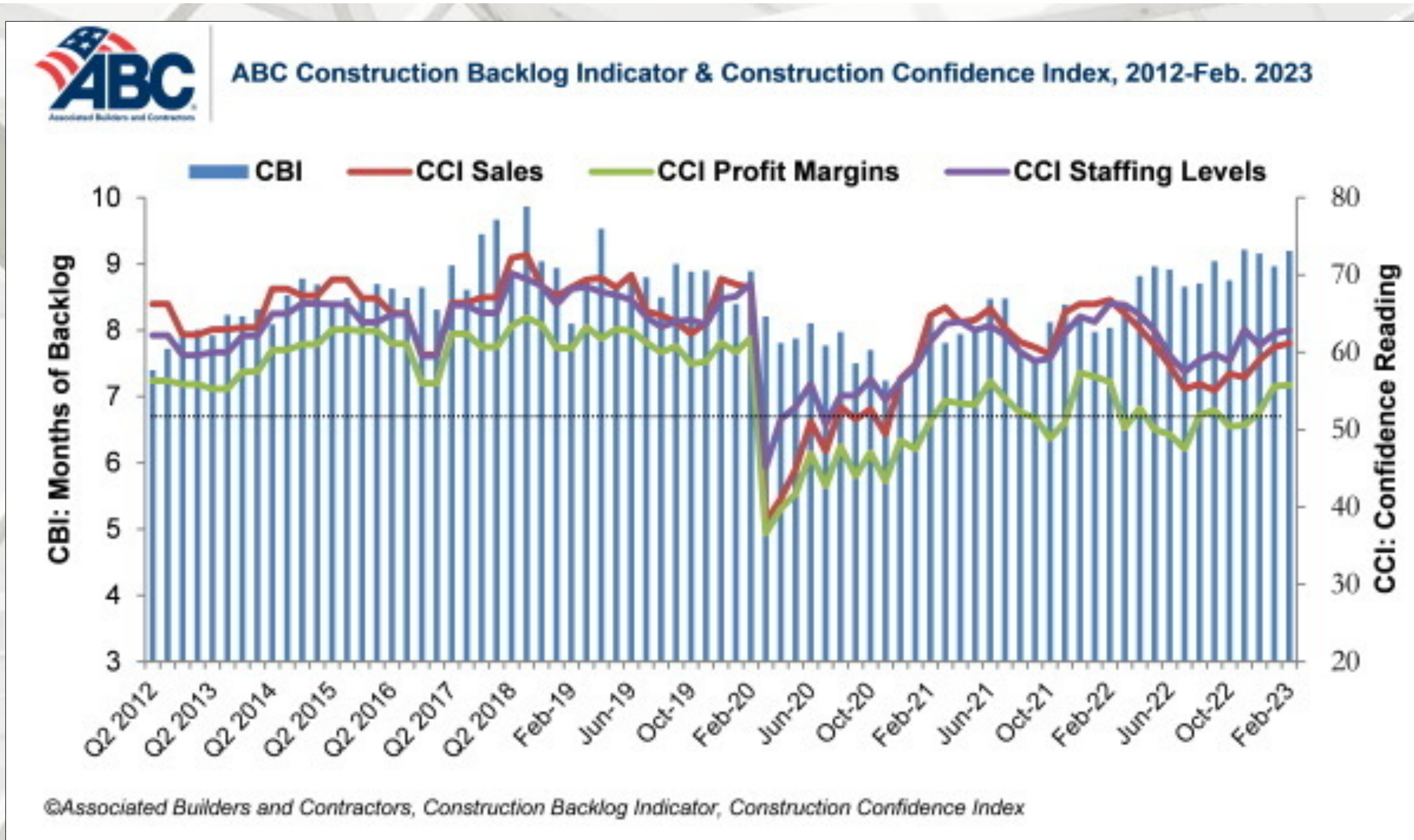
Construction Confidence Index

Response	Feb 2023	Jan 2023	Feb 2022
CCI Reading			
Sales	61.2	60.7	66.8
Profit Margins	55.8	55.6	56.2
Staffing	62.8	62.4	66.3
Sales Expectations			
Up Big	8.6%	6.9%	10.6%
Up Small	50.7%	49.7%	58.4%
No Change	20.4%	24.9%	19.3%
Down Small	17.8%	16.2%	11.2%
Down Big	2.6%	2.3%	0.6%
Profit Margin Expectations			
Up Big	3.9%	2.3%	4.3%
Up Small	37.5%	41.6%	39.8%
No Change	38.8%	34.1%	33.5%
Down Small	17.1%	20.2%	21.1%
Down Big	2.6%	1.7%	1.2%
Staffing Level Expectations			
Up Big	5.3%	3.5%	8.1%
Up Small	49.3%	49.1%	56.5%
No Change	37.5%	41.0%	29.2%
Down Small	7.2%	6.4%	5.0%
Down Big	0.7%	0.0%	1.2%

Source: https://www.abc.org/News-Media/News-Releases/entryid/19787/abcs-construction-backlog-indicator-down-to-start-2023-contractor-confidence-rises; 2/14/23

Return to TOC

Private Indicators
Associated Builders and Contractors



Source: https://www.abc.org/News-Media/News-Releases/entryid/19787/abcs-construction-backlog-indicator-down-to-start-2023-contractor-confidence-rises; 2/14/23

Return to TOC

Private Indicators
American Institute of Architects (AIA)

Architecture Billings Index January 2022

Architecture firm billings decline at slower pace

One in five firms have current international projects, or have had one in the last five years

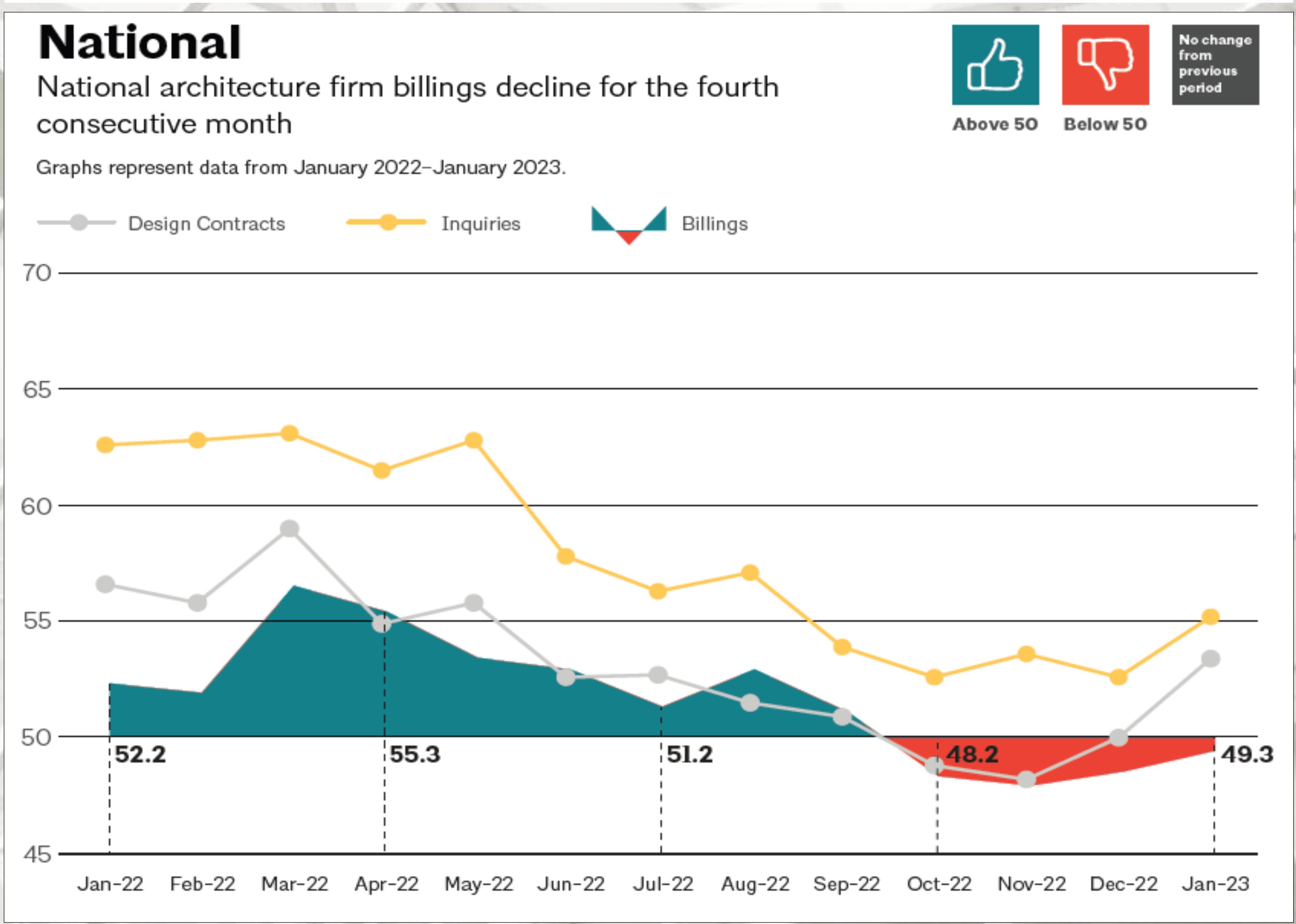
"While architecture firm billings declined for the fourth consecutive month in January, the pace of the decline continued to slow. The ABI score of 49.3 for the month indicates that fewer firms reported softening conditions this month than in December. In addition, inquiries into new projects and the value of new design contracts both strengthened in January, as firms reported an uptick of interest in new projects." – Katharine Keane, Senior Associate Editor, The American Institute of Architects

"While the downturn in design activity extended to four months in January, there are signs of easing. In particular, architecture firms reported that new project work has begun to increase, signifying that this decline in billings may reverse in the coming months." – Kermit Baker, Chief Economist, AIA

Source: https://www.aia.org/pages/6596717-abi-january-2023-architecture-firm-billing; 2/22/23

Return to TOC

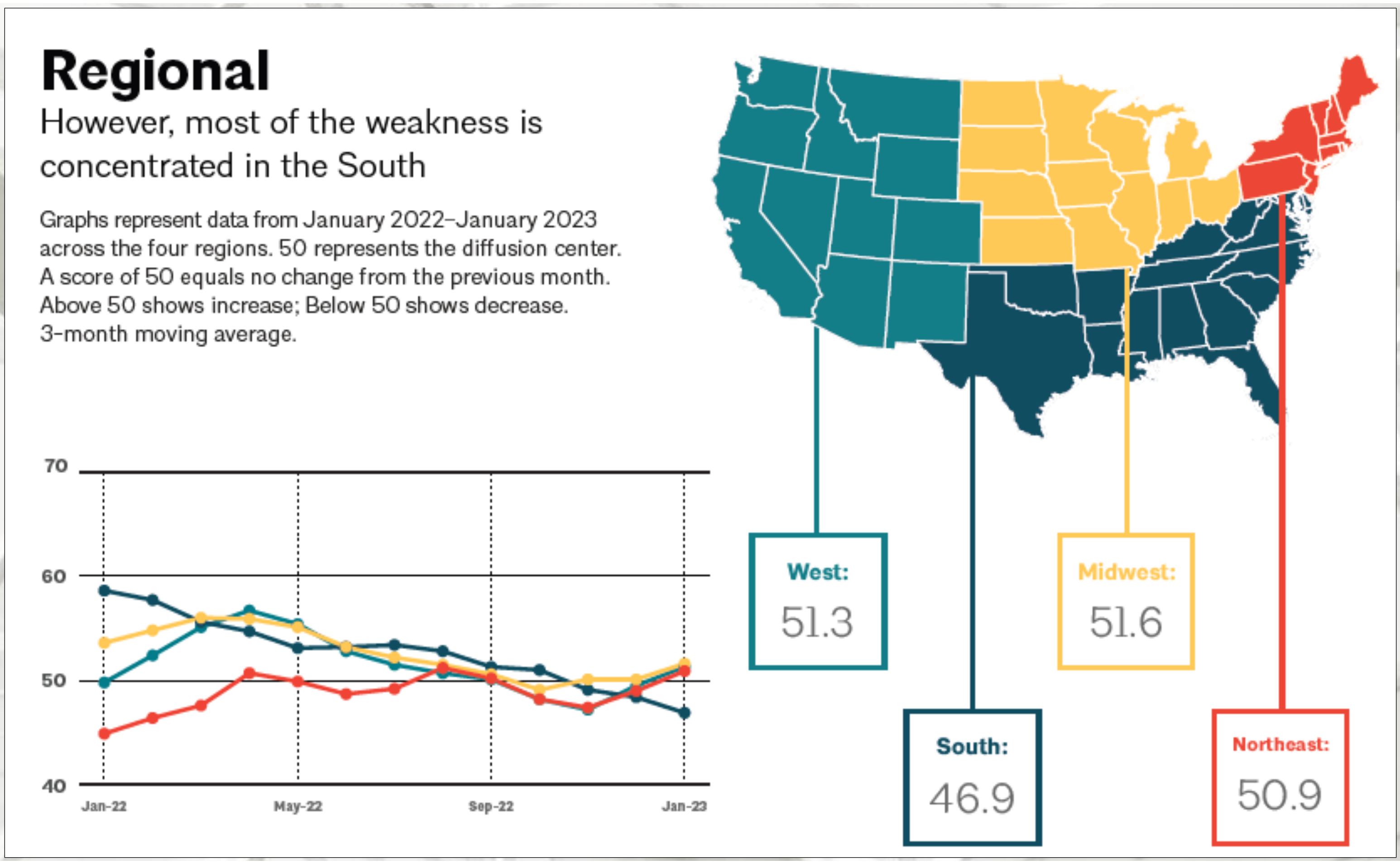
Private Indicators
American Institute of Architects (AIA)



Source: https://www.aia.org/pages/6596717-abi-january-2023-architecture-firm-billing; 2/22/23

Return to TOC

Private Indicators: AIA



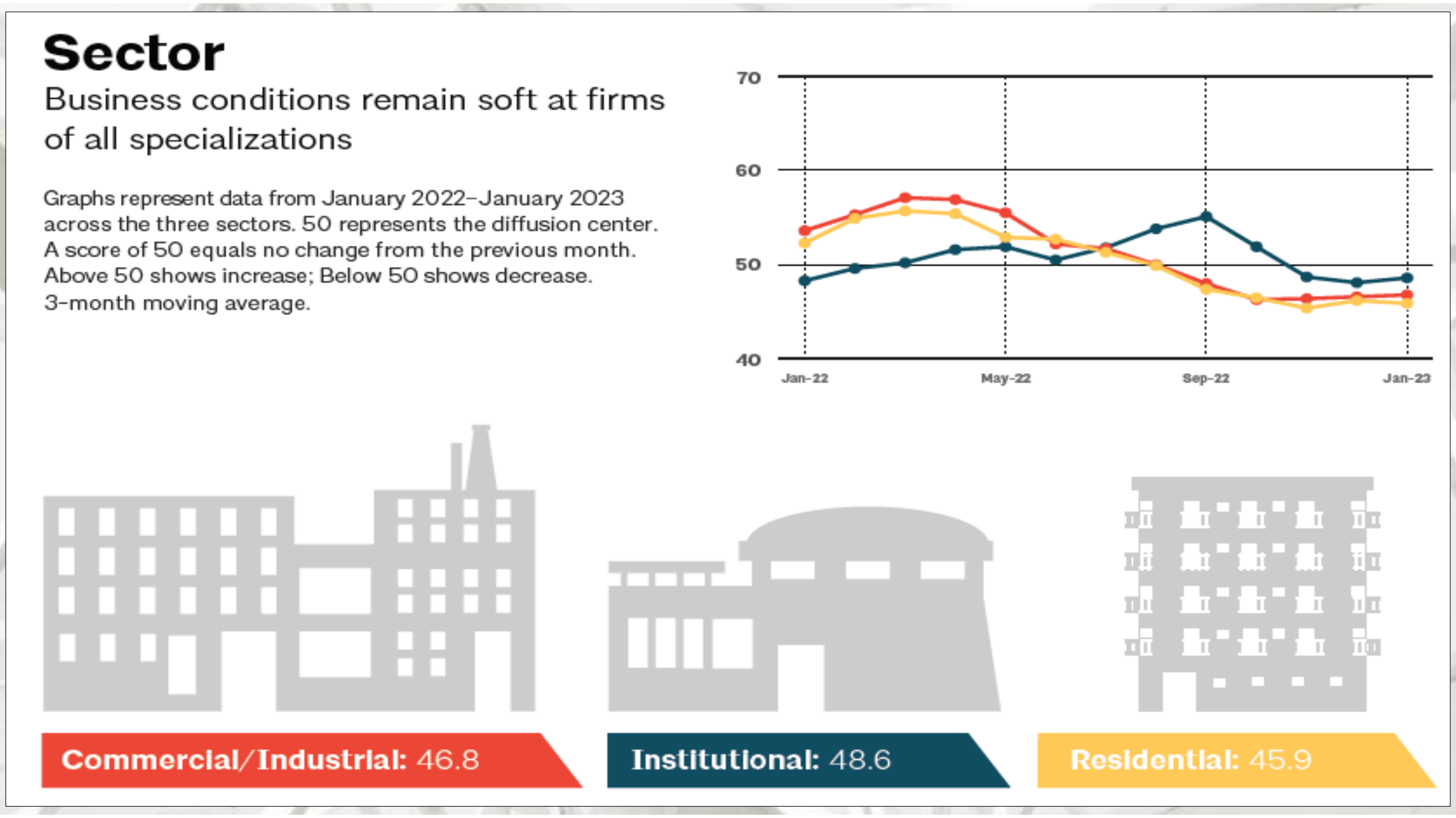
Region

"In addition, firms in nearly all regions of the country reported a slight uptick in billings, with only firms located in the South continuing to experience a decline in January." – Katharine Keane, Senior Associate Editor, The American Institute of Architects

Source: https://www.aia.org/pages/6596717-abi-january-2023-architecture-firm-billing; 2/22/23

Return to TOC

Private Indicators: AIA



Sector

"Business conditions were soft at most firm specializations, though, as only those firms with a mixed specialization – meaning that they do not have 50% or more of their annual billings from any of the one other categories (multifamily residential, commercial/industrial, institutional) – reported growth for the third month in a row. (Due to the fact that regional and sector data are reported as three-month moving averages, they may show more variability, and thus may not average out to the national billings number exactly.)" – Katharine Keane, Senior Associate Editor, The American Institute of Architects

Source: https://www.aia.org/pages/6596717-abi-january-2023-architecture-firm-billing; 2/22/23

Return to TOC

Private Indicators

Dodge Data & Analytics

Total Construction Starts Slip in January

New year begins with declines as fewer mega projects break ground

"Total construction starts fell 27% in January to a seasonally adjusted annual rate of $865.6 billion, according to Dodge Construction Network. During the month, nonresidential building starts fell 38%, residential starts lost 20%, and nonbuilding starts declined by 16%.

Comparatively, total construction was 14% lower in January 2023 than in January 2022. Nonresidential building starts were down 2%, nonbuilding starts rose 10%, and residential starts lost 34%. For the 12 months ending January 2023, total construction starts were 13% higher than the 12 months ending January 2022. Nonresidential starts were 36% higher, residential starts lost 6%, and nonbuilding starts were up 19%.

"January's decline in construction starts should not be taken as the beginning of a cyclical downturn in the industry," said Richard Branch, chief economist for Dodge Construction Network. "Numerous mega-projects have begun over the last few months, obscuring the underlying trend in construction activity. While some construction sectors will face stress as the year progresses, current fundamentals point to an industry that is fairly well positioned to weather the storm."" – Cailey Henderson, Account Manager, 104 West Partners

Source: https://www.construction.com/news/January-Starts; 2/21/23

Return to TOC

Private Indicators

Dodge Data & Analytics

- "**Nonresidential building** fell 16% in January to a seasonally adjusted annual rate of $237 billion. Behind the decline was a very large drop (-76%) in utility/gas plant starts following a brisk December. Elsewhere, environmental public works starts rose 22%, miscellaneous nonbuilding increased 17%, and highway and bridge starts rose 1%.

For the 12 months ending January 2023, total nonbuilding starts were 18% higher than the 12 months ending January 2022. Utility/gas plant starts rose 28%, and highway bridge starts were 20% higher. Environmental public works starts and miscellaneous nonbuilding starts were up 17% and 5% respectively on a 12-month rolling sum basis.

The largest nonbuilding projects to break ground in January were the $750 million High Banks wind farm in Belleville, KS, the $570 million first phase of the Highway 69 express toll lanes in Overland Park, Kansas, and the $492 million CEPP/EAA reservoir in Palm Beach, Florida.

- **Nonresidential building starts** lost 38% in January to a seasonally adjusted annual rate of $340 billion. Manufacturing starts led the pullback in January, falling 91% following the start of several large projects in December. In January, commercial starts dropped 11% with office being the only category to post a gain; while institutional starts increased by 3% thanks to a large gain in education starts.

For the 12 months ending January 2023, total nonresidential building starts were 36% higher than the 12 months ending January 2022. Manufacturing starts were 190% higher, commercial starts gained 22%, and institutional starts moved 17% higher on a 12-month rolling sum basis.

The largest nonresidential building projects to break ground in January were the $1 billion Prime Data Center campus in Elk Grove Village, Illinois, the $515 million Amazon data center in Hilliard, Ohio, and the $460 million CoStar Group corporate campus in Richmond, Virginia." – Richard Branch, Chief Economist, Dodge Data & Analytics

Source: https://www.construction.com/news/January-Starts; 2/21/23

Return to TOC

Private Indicators

Dodge Data & Analytics

“**Residential building starts** fell 20% in January to a seasonally adjusted annual rate of $289.2 billion. Single family starts lost 5%, and multifamily starts fell 37%. For the 12 months ending in January 2023, residential starts were 5% lower than the 12 months ending in January 2022. Single family starts were 16% lower, while multifamily starts were up 21% on a rolling 12 month basis.

The largest multifamily structures to break ground in January were a $200 million mixed-use building in Gowanus, New York, a $172 million mixed-use building in Greenpoint, New York, and the $150 million The Cove residential community in Sacramento, California.

Regionally, starts in January fell in all five regions.” – Richard Branch, Chief Economist, Dodge Data & Analytics

Source: https://www.construction.com/news/January-Starts; 2/21/23

Return to TOC

Private Indicators

January 2023 CONSTRUCTION STARTS

MONTHLY CONSTRUCTION STARTS

(Millions of Dollars, Seasonally Adjusted Annual Rate)

	Jan 2023	Dec 2022	% Change
Nonresidential Building	$339,616	$546,614	-38
Residential Building	289,222	359,474	-20
Nonbuilding Construction	236,757	282,162	-16
Total Construction	$865,595	$1,188,250	-27

YEAR-TO-DATE CONSTRUCTION STARTS

Unadjusted Totals, in Millions of Dollars

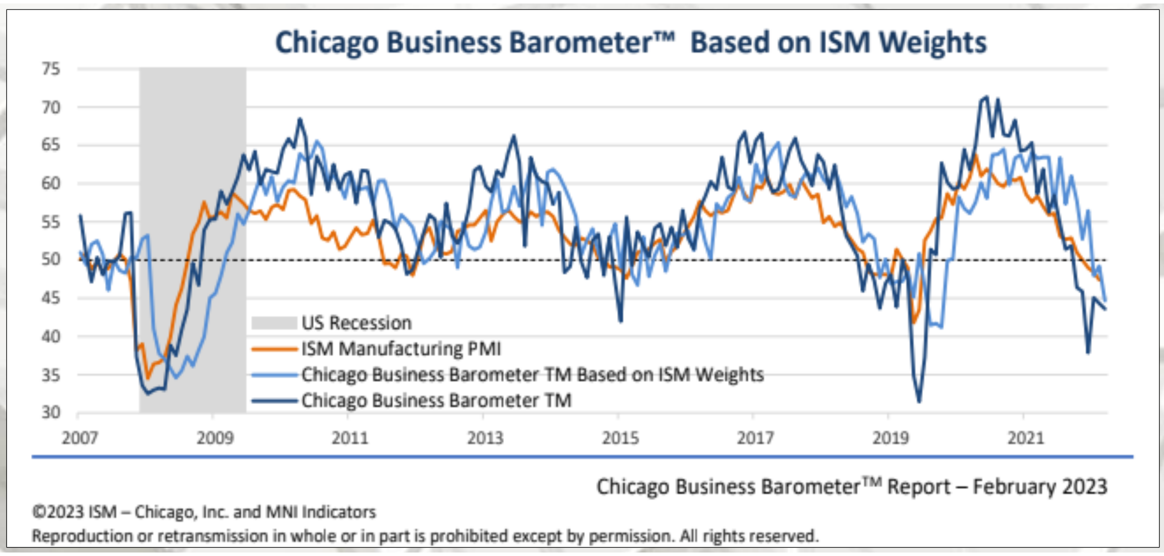
	1 Mos. 2023	1 Mos. 2022	% Change
Nonresidential Building	$25,506	$26,008	-2
Residential Building	23,162	34,921	-34
Nonbuilding Construction	18,189	16,512	10
Total Construction	$66,857	$77,441	-14

Source: Dodge Data & Analytics

Source: https://www.construction.com/news/January-Starts; 2/21/23

Return to TOC

Private Indicators



MNI Chicago
Chicago Business Barometer™ – Weakened to 43.6 in February
Month Chicago Report Signals Continued Contraction

"The Chicago Business Barometer™, produced with MNI, declined by a further 0.7 points in February to 43.6, the lowest since November '22. The headline index signalled a sixth consecutive month of contractionary business activity.

Production, Employment and Prices Paid indicators declined over the month in February, with Production recording the steepest deterioration. New Orders, Order Backlogs, and Supplier Deliveries increased, whilst the Inventories subcomponent was little changed. All indicators barring Supplier Deliveries and Prices Paid were in contractive territory (sub-50).

Employment weakened for a third month, slipping a further - 4.7 points into contractive territory. This was the weakest since June '20 and outside of the April-June 2020 period the weakest since 2009. Recruiting was challenging as firms struggled to find personnel. Over one-third of firms recorded lower February employment." – Les Commons, Senior Economist and Lucy Hager, Economist, MNI Indicators

Source: https://www.ism-chicago.org/index.cfm; 2/28/23

Return to TOC

Private Indicators

MNI Chicago

Chicago Business Barometer™ – Weakened to 43.6 in February

Month Chicago Report Signals Continued Contraction

"Prices Paid sank -7.2 points, returning to late 2022 levels after having briefly surged in January. Around 39% of firms paid higher prices in February, slowing from 54% in January. Production fell by 10.2 points in February, more than reversing last month's rebound. Approximately 40% of businesses flagged slowing activity

Production fell by 10.2 points in February, more than reversing last month's rebound. Approximately 40% of businesses flagged slowing activity.

New Orders increased by 3.0 points. Despite being the highest since August '22, the index remains contractive, signalling a ninth successive month of declining orders. Firms noted improved supply of key components boosting orders.

Order Backlogs grew by 4.5 points to 40.0 after diving 19.2 points in January as easing supply chain pressures allowed for significant backlog catch-up.

Supplier Deliveries gained 3.6 points in February. Logistics issues persisted and deliveries took largely the same time as the month prior.

The inventories subcomponent was little changed, after having declined into year-end. Supplier issues were again cited as grounds for higher stock levels." – Les Commons, Senior Economist and Lucy Hager, Economist, MNI Indicators

Source: https://www.ism-chicago.org/index.cfm; 2/28/23

Return to TOC

Private Indicators

The Conference Board Leading Economic Index® (LEI)

LEI for the U.S. Declined Again in January

"**The Conference Board Leading Economic Index®** (LEI) for the U.S. fell by 0.3 percent in January 2023 to 110.3 (2016=100), following a decline of 0.8 percent in December. The LEI is now down 3.6 percent over the six-month period between July 2022 and January 2023 — a steeper rate of decline than its 2.4 percent contraction over the previous six-month period (January–July 2022).

The US LEI remained on a downward trajectory, but its rate of decline moderated slightly in January. Among the leading indicators, deteriorating manufacturing new orders, consumers' expectations of business conditions, and credit conditions more than offset strengths in labor markets and stock prices to drive the index lower in the month. The contribution of the yield spread component of the LEI also turned negative in the last two months, which is often a signal of recession to come. While the LEI continues to signal recession in the near term, indicators related to the labor market — including employment and personal income—remain robust so far. Nonetheless, The Conference Board still expects high inflation, rising interest rates, and contracting consumer spending to tip the US economy into recession in 2023.

The Conference Board Coincident Economic Index® (CEI) for the U.S. increased by 0.2 percent in January 2023 to 109.5 (2016=100), after no change in December. The CEI is now up 0.7 percent over the six-month period between July 2022 and January 2023 — close to the 0.6 percent growth it recorded over the previous six months. The CEI's component indicators — payroll employment, personal income less transfer payments, manufacturing trade and sales, and industrial production — are included among the data used to determine recessions in the US. Three of these four CEI components improved in January, with only industrial production being virtually unchanged.

The Conference Board Lagging Economic Index® (LAG) for the U.S. increased by 0.2 percent in January 2023 to 118.5 (2016 = 100), following an increase of 0.6 percent in December. The LAG is up 2.8 percent over the six-month period from July 2022 to January 2023, slower than its growth of 4.1 percent over the previous six months." – Ataman Ozyildirim, Senior Director of Economic Research, The Conference Board

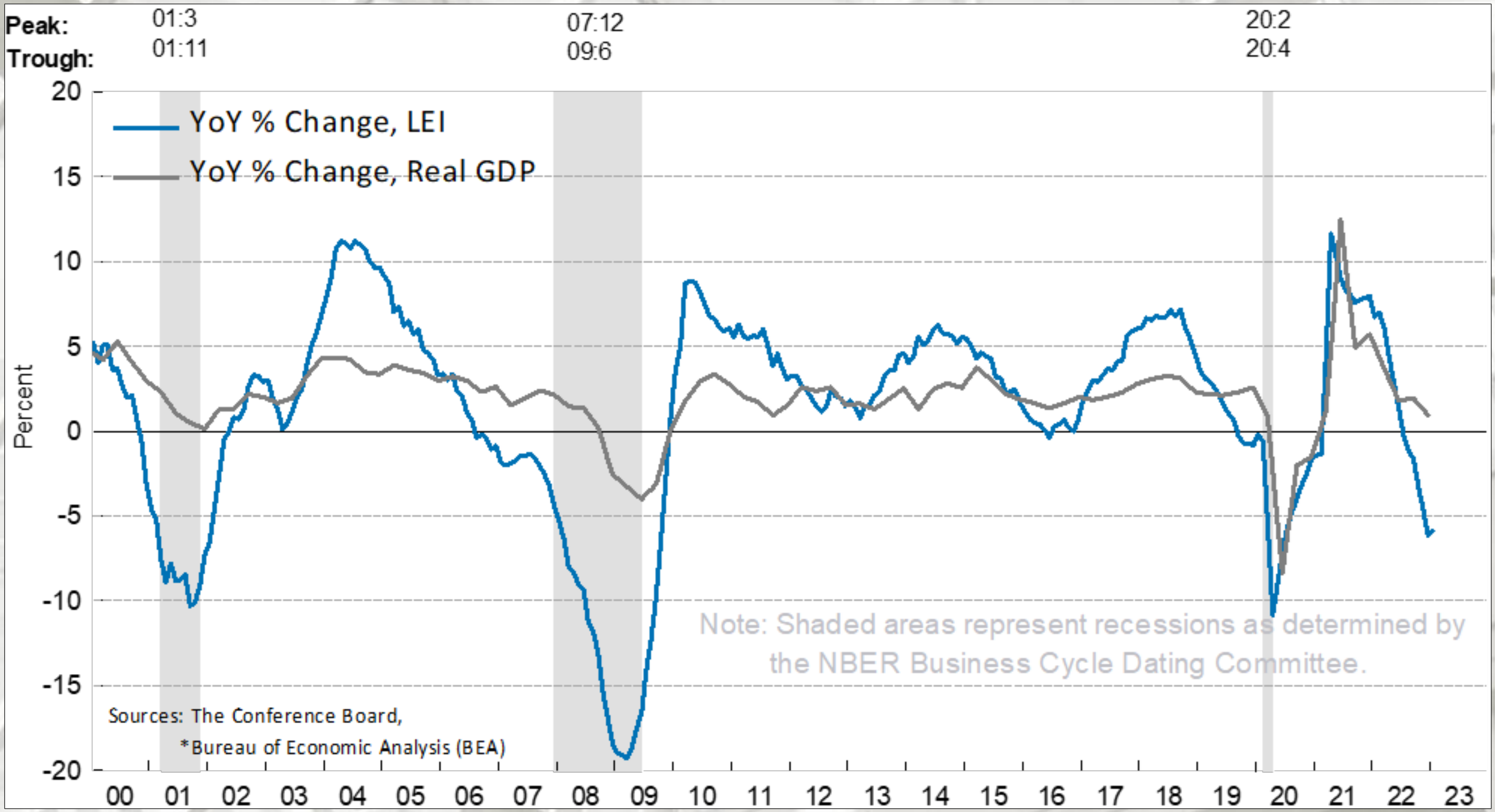
Source: https://www.conference-board.org/data/bcicountry.cfm; 2/17/23

Return to TOC

Private Indicators

The Conference Board Leading Economic Index® (LEI) for the U.S.

LEI for the U.S. Declined Again in January



Source: https://www.conference-board.org/data/bcicountry.cfm; 2/17/23

Return to TOC

Private Indicators

Equipment Leasing and Finance Association's Survey of Economic Activity: Monthly Leasing and Finance Index

January New Business Volume Up 6 Percent Year-over-year

"The **Equipment Leasing and Finance Association's** (ELFA) **Monthly Leasing and Finance Index (MLFI-25)**, which reports economic activity from 25 companies representing a cross section of the $1 trillion equipment finance sector, showed their overall new business volume for January was $8.8 billion, up 6 percent year-over-year from new business volume in January 2022. Volume was down 32 percent month-to-month from $12.9 billion in December following the typical end-of-quarter, end-of-year spike in new business activity.

Receivables over 30 days were 1.9 percent, up from 1.8 percent the previous month and up from 1.8 percent in the same period in 2022. Charge-offs were 0.34 percent, up from 0.26 percent the previous month and up from 0.17 percent in the year-earlier period.

Credit approvals totaled 75.1, down from 76.6 percent in December. Total headcount for equipment finance companies was down 4.3 percent year-over-year.

Separately, the Equipment Leasing & Finance Foundation's Monthly Confidence Index (MCI-EFI) in February is 51.8, an increase from the January index of 48.5." – Amy Vogt, Vice President, Communications and Marketing, ELFA

"The year gets off to a strong start with healthy new business volume in January. Business demand for equipment financing continues unabated despite uncertain and, in some cases, conflicting economic signals: inflationary pressures, rising interest rates, a hot labor market, and easing supply chain disruptions. Credit quality bears watching, as delinquencies and charge-offs creep up from historic lows." – Ralph Petta, President and CEO, ELFA

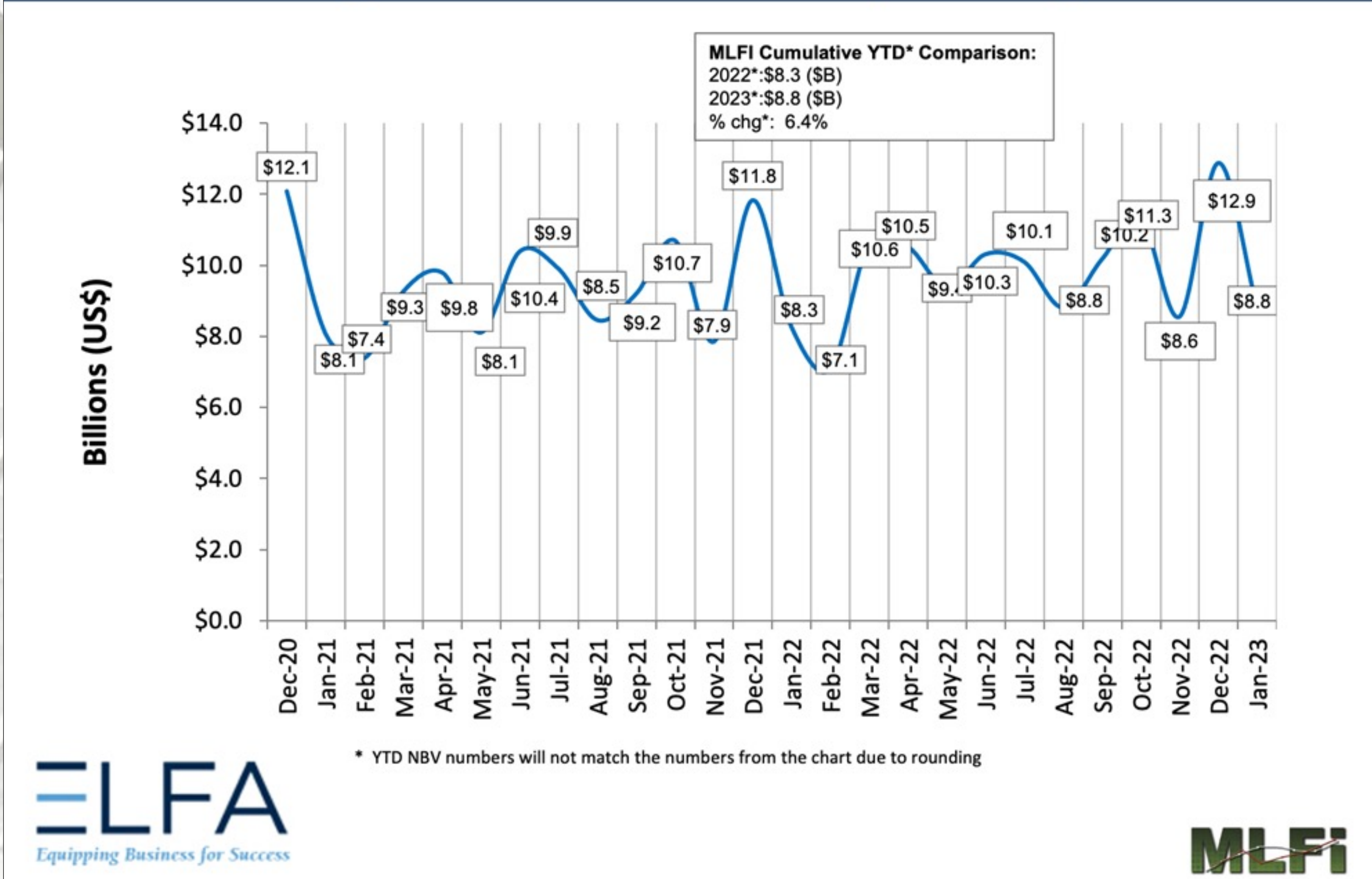
"Although new business volume and portfolio performance continue to be strong, uncertainty surrounding inflation and interest rates persists. This presents a bit of a dichotomy in that we see the confidence index increasing despite slight upward pressure on delinquencies and losses. This will drive continued discipline within credit and portfolio management until we see more stability and predictability in key economic indicators. In terms of new business, these same economic pressures will continue to drive strong demand for financial products in our industry. The reduction in headcount is reflective of the tight employment market, versus workforce demand, and we can expect to see this trend improve." – Nicholas Small, VP, Finance Shared Services, Cisco Systems Capital Corporation

Source: https://www.elfaonline.org/news/press-room/press-releases/details/2023/02/24/equipment-leasing-and-finance-association-s-survey-of-economic-activity-monthly-leasing-and-finance-index; 2/24/23

Return to TOC

Private Indicators

MLFI-25 New Business Volume (Year-Over-Year Comparison)



Source: https://www.elfaonline.org/news/press-room/press-releases/details/2023/02/24/equipment-leasing-and-finance-association-s-survey-of-economic-activity-monthly-leasing-and-finance-index; 2/24/23

Return to TOC

Private Indicators

S&P Global U.S. Manufacturing PMI™

Softest decline in output for three months as supply chain conditions improve

"The seasonally adjusted S&P Global US Manufacturing Purchasing Managers' Index™ (PMI™) posted 47.3 in February, up slightly from 46.9 in January, but down from the earlier released 'flash' estimate of 47.8. The latest data indicated a solid deterioration in the health of the goods-producing sector, despite the pace of decline softening to the slowest for three months.

US manufacturing firms signalled a solid decline in the health of the sector during February, according to the latest PMI™ data from S&P Global. The deterioration in operating conditions stemmed largely from further contractions in output and new orders, although rates of growth slowed in both instances. Weak domestic and foreign client demand reportedly drove a further drop in total new sales as firms adjusted their spending activity and inventory holdings down accordingly. Lower demand for inputs meanwhile helped spur the greatest improvement in vendor performance since May 2009. Manufacturers raised their workforce numbers at the fastest pace for five months, helping drive a further drop in backlogs of work.

At the same time, the rate of charge inflation accelerated again to a marked pace as firms sought to pass on higher costs to customers. Conversely, input costs increased at a softer rate.

A further drop in new order inflows contributed to the continued overall decline in manufacturing sector health in February. The rate of contraction was little-changed from that seen in January and was strong overall. Lower new sales were often attributed to destocking at customers, which weighed on client demand. Foreign demand conditions also weakened further, with new export orders falling for the ninth month running. The pace of decrease quickened from January and was solid overall." – Chris Williamson, Chief Business Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/f982d001dbbe4b4daec4f54d2260874e; 3/1/23

Return to TOC

Private Indicators

S&P Global U.S. Manufacturing PMI™

Softest decline in output for three months as supply chain conditions improve

“The dearth of client demand led to a fourth successive monthly fall in production across the manufacturing sector in February. The rate of contraction softened to the slowest in three months but remained steep by historical standards of the survey.

Input prices faced by manufacturing firms increased at a sharp pace midway through the first quarter, as higher raw material costs pushed operating expenses up. That said, the rate of cost inflation eased to the second-slowest since September 2020 amid reports that some items had fallen in price.

Nonetheless, firms sought to pass-through higher costs to clients via another rise in selling prices in February. The rate of charge inflation gathered pace for the second month running and was the quickest since November 2022. Although slower than those seen throughout the last two years, the pace of increase was well above the series trend.

Supporting a moderation in input costs was a solid improvement in supplier performance midway through the first quarter. Lead times were reduced to the greatest extent since May 2009 amid lower demand for inputs and a fall in logistic delays. Partially driving this improvement was a steep drop in input buying among manufacturers. Firms opted to deplete inventories instead, as stocks of purchases and finished goods contracted.

Despite a decrease in new orders, manufacturers recorded the fastest pace of job creation since September 2022. Firms reported an easing labor shortages as some long-held vacancies were filled.” – Chris Williamson, Chief Business Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/f982d001dbbe4b4daec4f54d2260874e; 3/1/23

Return to TOC

Private Indicators

S&P Global U.S. Manufacturing PMI™

"Meanwhile, goods producers registered a further fall in backlogs of work amid lower new order inflows. The rate of decline was the slowest in four months, however.

Finally, manufacturing firms remained upbeat in their expectations regarding the outlook for output over the coming 12 months. The degree of confidence was the second-strongest since May 2022 despite being below the series trend.

Comment

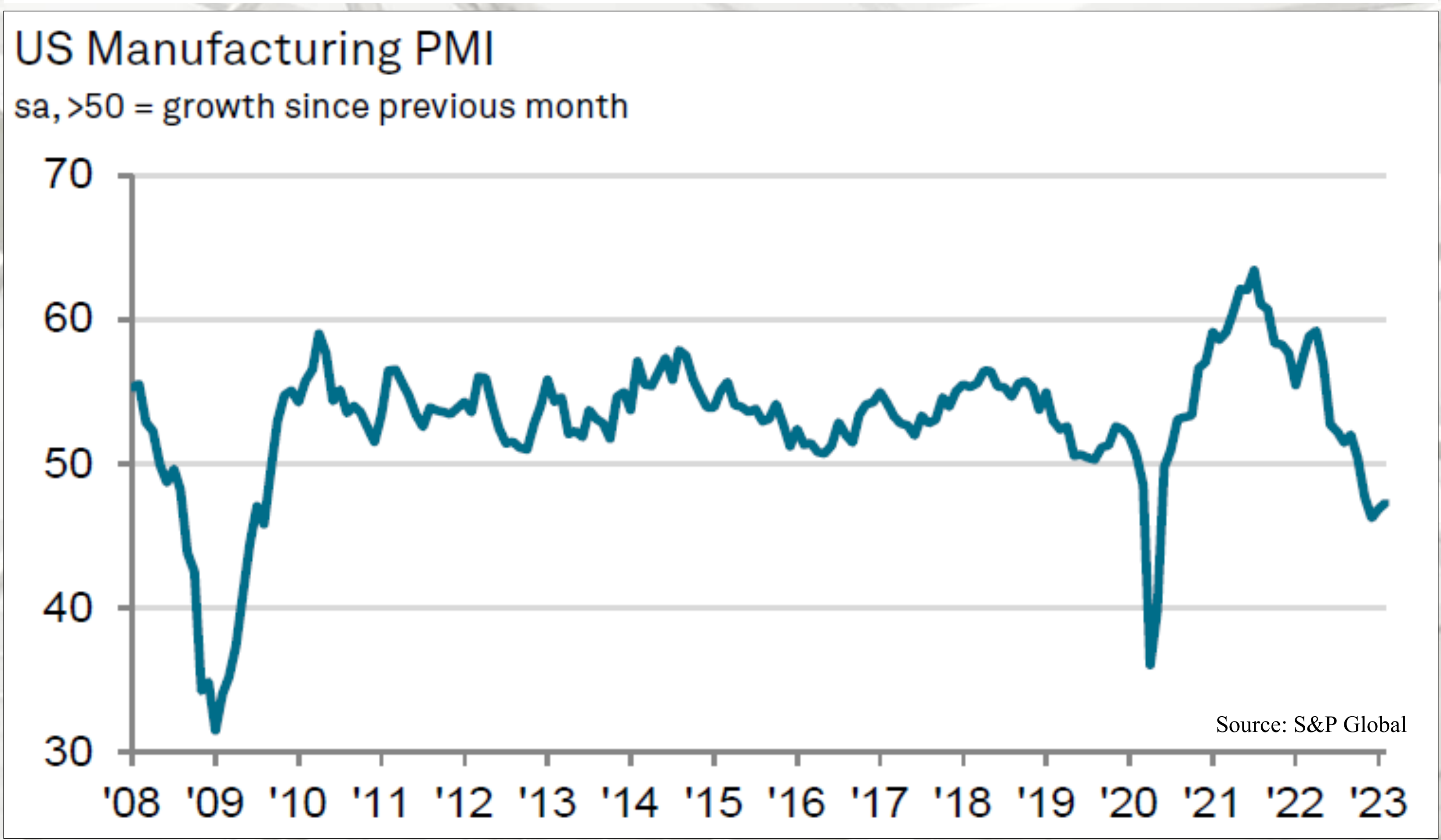
US manufacturing remained under intense pressure in February. Although the PMI rose slightly, it continues to signal the steepest downturn outside of pandemic lockdown months since 2009. Moreover, some of the improvement in output could merely be attributed to faster supplier delivery times, which quickened to the greatest extent since 2009 to facilitate higher production and enable factories to work through previously placed orders. The worry is that new order inflows continue to fall sharply as many companies report disappointing sales, linked in part to a sustained trend towards cost-saving inventory reduction and low levels of confidence at their customers, both at home and abroad. None of this points to a healthy economic situation.

There was some brighter news in that factory jobs growth picked up slightly amid reports of greater success in filling vacancies, and the improvement in supply chains helped reduce input cost inflation. However, rising wage pressures and efforts to raise margins meant average prices for goods leaving the factory gate rose sharply once again, the rate of inflation accelerating for a second straight month to hint at stubbornly high price pressures." – Chris Williamson, Chief Business Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/f982d001dbbe4b4daec4f54d2260874e; 3/1/23

Return to TOC

Private Indicators



Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/f982d001dbbe4b4daec4f54d2260874e; 3/1/23

Return to TOC

Private Indicators

S&P Global U.S. Services PMI™

Selling price inflation accelerates amid renewed upturn in output in February

"The seasonally adjusted final S&P Global US Services PMI Business Activity Index registered 50.6 in February, up notably from 46.8 in January and broadly in line with the earlier released 'flash' estimate of 50.5. The latest data signalled only a marginal uptick in business activity, but brought to an end a seven-month sequence of contraction. Where an increase in output was reported, firms linked this to signs of a pick-up in demand conditions and a slower fall in new orders, with some evidence of milder than usual weather also helping.

February data indicated a renewed expansion in business activity across the US service sector, according to the latest PMI™ data. The rate of growth was only marginal overall, however, as new business continued to decline amid subdued domestic and foreign client demand. Nevertheless, service providers increased employment at the fastest rate since September 2022 as spare capacity waned. Backlogs of work were unchanged on the month, following four successive monthly contractions. Signs of improved demand patterns sparked an uptick in business confidence. Output expectations regarding the year-ahead outlook were the strongest since May 2022.

Concurrently, firms registered a softer, albeit still marked, rise in input costs. Selling prices increased at the steepest pace for four months, as companies sought to pass higher costs on to customers.

New business across the service sector continued to decrease during February, albeit at a softer rate. The impact of higher interest rates and inflationary pressures remained a drag on customer spending, according to survey respondents. Some reports of improving demand conditions led new orders to fall at the slowest pace since last October, however." – Chris Williamson, Chief Business Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/e608e2be35cd44799c677b56b2d976fa; 3/3/23

Return to TOC

Private Indicators

S&P Global U.S. Services PMI™

"At the same time, new export orders declined for the ninth month running midway through the first quarter. Although falling at the slowest pace since last September, the pace of contraction was solid overall. Firms mentioned that challenging demand conditions and uncertainty in key export markets hampered any upturn.

Greater output spurred on a faster rise in hiring activity during February. The rate of job creation was the quickest since September 2022, despite being only marginal overall. Some companies noted that greater availability of candidates supported the upturn.

Backlogs of work were unchanged on the month in February, following four successive monthly declines. A number of service providers stated that the slower fall in new orders led to a reduction in spare capacity.

Meanwhile, service sector firms registered a marked rise in cost burdens midway through the first quarter. The uptick in input prices was driven by supplier price hikes, higher wage bills and increased expenses following interest rate changes. Nonetheless, the pace of cost inflation lost momentum and was the second-slowest since October 2020.

Despite a softer increase in cost burdens, service providers raised their selling prices at a sharper pace in February. The rate of charge inflation was the quickest since October 2022 and strong overall. Survey respondents commonly noted that higher output charges were due to the pass-through of greater costs to clients.

Business expectations at service providers strengthened in February, as the outlook for output over the coming year was the most upbeat since last May. Positive sentiment was pinned on hopes of reduced inflation, the acquisition of new clients and increased investment in marketing." – Chris Williamson, Chief Business Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/e608e2be35cd44799c677b56b2d976fa; 3/3/23

Return to TOC

Private Indicators

S&P Global U.S. Services PMI™

Comment

“A return to growth of US service sector business activity in February for the first time in eight months has offset a decline in manufacturing output, helping stabilize the economy and hopefully avert a downturn in the first quarter.

The upturn was led by a revival in spending on services by consumers and improved activity in the tech sector, but was also aided by a marked cooling in the recent downturn in financial services.

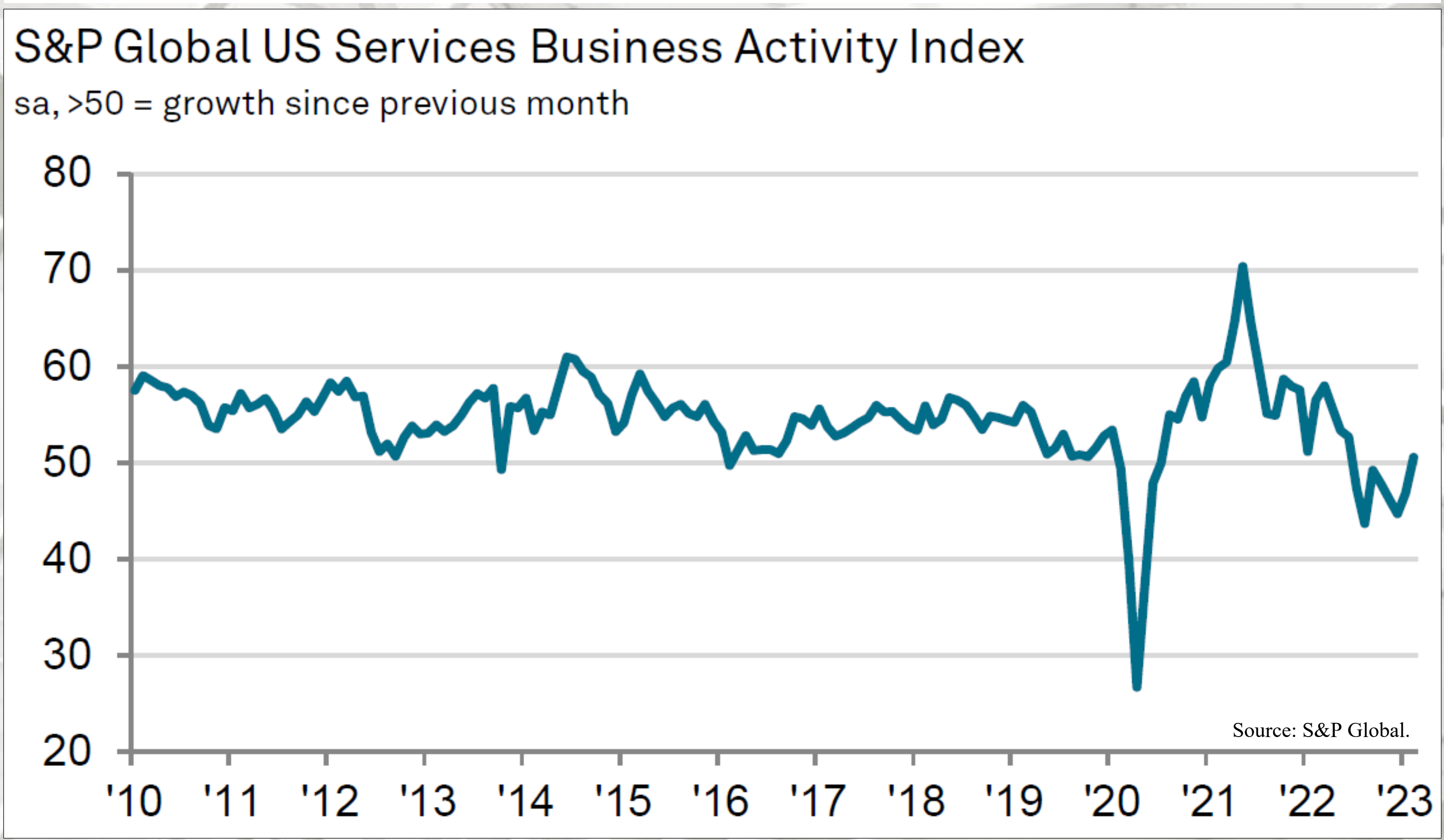
Across both services and manufacturing, jobs growth has risen to a five-month high as business confidence about the year ahead has perked up to its highest since last May, reviving further from the low-point seen last October. Clearly the gloom heading into the winter has been replaced with brighter prospects moving into the spring.

This improving picture has, however, added to firms’ pricing power. Having fallen to a 27-month low in January, the rate of inflation for goods and services reaccelerated in February to its highest since last October as companies reported greater success in passing higher costs on to customers.” – Chris Williamson, Chief Business Economist, S&P Global

Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/e608e2be35cd44799c677b56b2d976fa; 3/3/23

Return to TOC

Private Indicators



Source: https://www.pmi.spglobal.com/Public/Home/PressRelease/e608e2be35cd44799c677b56b2d976fa; 3/3/23

Return to TOC

Private Indicators

National Association of Credit Management – Credit Managers' Index

Report for February 2023: Combined Sectors

"The National Association of Credit Management's Credit Managers' Index (CMI) improved for the first time since October with a 1.1-point jump in February. The main driver was a large increase in sales, but respondents in the CMI survey expressed growing concern regarding trouble collecting payments, noting that customers had tied up working capital in inventory build-ups, said NACM Economist Amy Crews Cutts, Ph.D., CBE®.

"Like many other economic indicators for January, the February Credit Managers' Index, which looks back to activity in January, is showing a bit of a rebound," Cutts said. "It's nice to finally see a positive reading in the CMI, but I am cautious about reading too much into the headline number because several factors in the index continued to deteriorate. However, we cannot ignore that the Credit Managers' Index is indicating that the likelihood of recession starting in the near-term has diminished greatly."

"Retail and food services sales for January jumped 3.0% from December, blasting through the consensus expectation of 1.8%, sales of new single-family homes surged 7.2% month-over-month, and sales of passenger cars and light trucks leapt 17.7% in January," Cutts added. "Consumers continue to seemingly ignore the Fed's efforts to curtail their enthusiasm for spending, which may mean that the Fed will keep raising rates higher and for longer than originally hoped. Despite this good news from the consumer sector, there is an undercurrent of worry among businesses that the situation is not improving or is getting worse. All of the manufacturing activity indexes from the regional Federal Reserve Banks showed declines in January and wages and materials costs continue to rise while many shortages remain."" – Andrew Michaels, Editorial Associate, NACM

Source: https://nacm.org/cmi.html; 2/28/23

Return to TOC

Private Indicators

National Association of Credit Management – Credit Managers' Index

"The index of favorable factors improved by 2.9 points to 58.0, a level that is 8.8 points lower than a year ago. The favorable factor index had its most recent peak in March of last year at 69.8 points. The index of unfavorable factors lost 0.1 in the February CMI survey, coming in at 48.6 points, 3.1 points lower than a year ago and the lowest value recorded since May of 2020 when the index was at 47.2 points.

All of the components in the favorable factors list improved in the February CMI survey. The index for sales leads with a 6.7-point jump to 56.5, its best reading since September. The index for dollar collections gained 2.5 points to 59.8, a value that is 6.5 points lower than its 12-month high of 66.3 set in March. The index for new credit applications gained 1.6 points to 57.9, its third consecutive month of improvements. The index for the amount of credit extended rose 1.1 points to hit 57.9, a level that is 11.4 points lower than a year ago and 13.5 points lower than its twelve-month high.

Four of the six unfavorable factor indexes for the combined CMI deteriorated in the February survey. The largest decline was recorded by the index for dollar amount of customer deductions, which fell 1.7 points to 48.5, a value that is 1.4 points lower than one year ago. The indexes for disputes and filings for bankruptcies both lost 0.7 to come in at 48.1 and 49.8, respectively. The rejections of credit applications index declined 0.1 to a reading of 50.4. This index has stayed in a narrow range between 49.5 and 52.1 over the past year with no discernable trend.

The index for dollar amount beyond terms improved with a 2.2-point jump to 49.6, its highest level since June, though it is still indicating that respondents are seeing a net decline in accounts making timely payment. The index for accounts placed for collection is up 0.3 from last month but is down 7.1 points from a year ago when the index was at its highest level for the trailing twelve months.

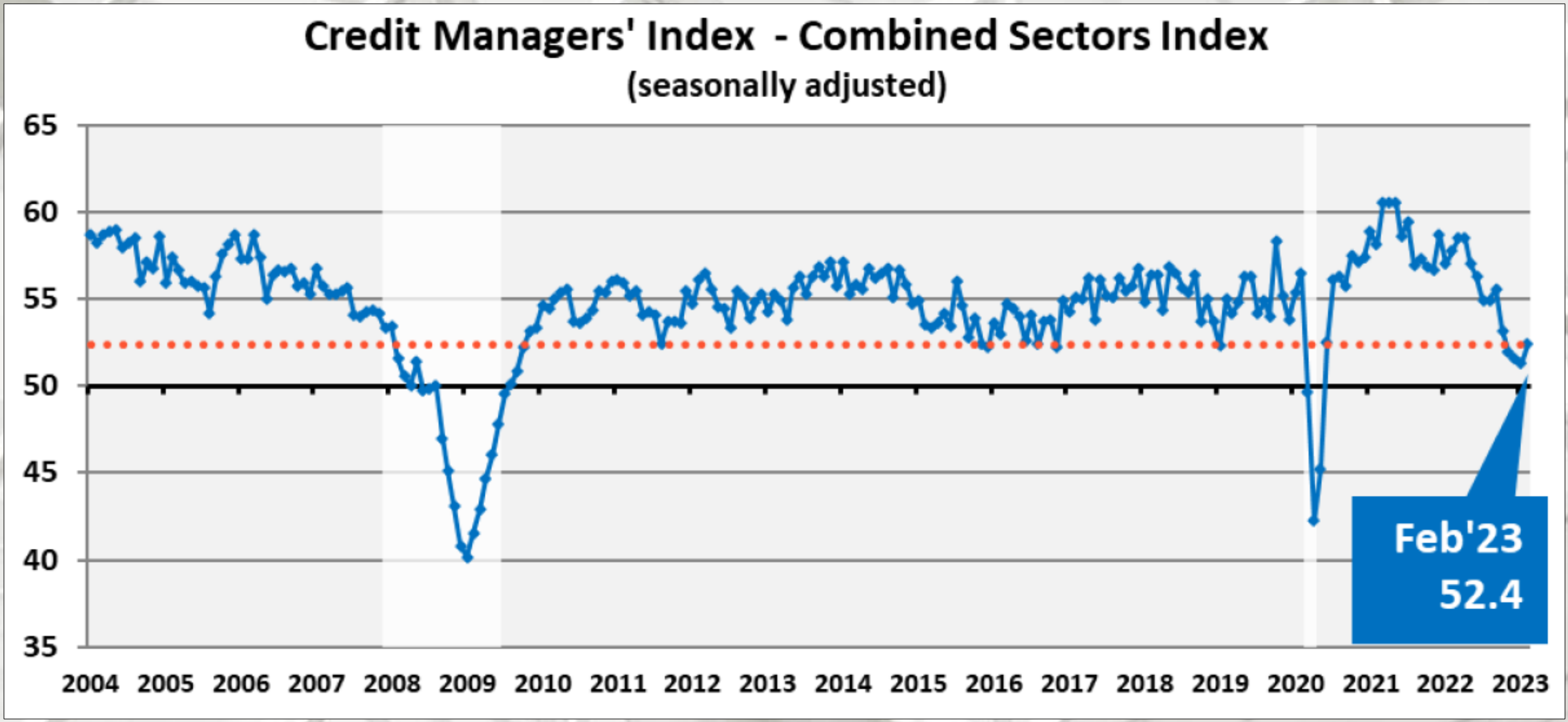
"The Combined CMI factor index for sales is little changed from where it was during the fourth quarter, but the past two months have been a wild ride," Cutts said. "In January, we saw a 5.0-point drop in sales and now we have a 6.6-point gain. Importantly, the sales index is down nearly 20% since last March, a stunning change in activity. Inventories are rising in part because sales have slowed enough for many firms to work through backlogs."… " – Andrew Michaels, Editorial Associate, NACM

Source: https://nacm.org/cmi.html; 2/28/23

Return to TOC

Private Indicators

National Association of Credit Management – Credit Managers' Index



Source: https://nacm.org/cmi.html; 2/28/23

Return to TOC

Private Indicators

National Association of Credit Management – Credit Managers' Index

Combined Manufacturing and Service Sectors (seasonally adjusted)	Feb '22	Mar '22	Apr '22	May '22	Jun '22	Jul '22	Aug '22	Sep '22	Oct '22	Nov '22	Dec '22	Jan '23	Feb '23
Sales	70.6	75.6	72.6	70.1	65.8	65.5	63.0	63.6	55.5	54.5	54.8	49.8	56.5
New credit applications	64.3	68.0	65.9	64.2	63.5	60.0	62.6	61.2	58.7	56.7	55.5	56.3	57.9
Dollar collections	62.9	66.3	64.6	64.2	60.5	60.3	58.0	63.4	54.9	56.2	57.8	57.3	59.8
Amount of credit extended	69.3	69.2	71.4	69.5	67.0	67.2	64.8	65.9	58.7	57.1	55.4	56.8	57.9
Index of favorable factors	**66.8**	**69.8**	**68.6**	**67.0**	**64.2**	**63.2**	**62.1**	**63.5**	**56.9**	**56.1**	**55.9**	**55.1**	**58.0**
Rejections of credit applications	52.2	51.6	51.2	50.5	50.4	51.0	49.5	52.1	52.0	51.1	51.0	50.5	50.4
Accounts placed for collection	52.3	50.9	50.3	50.7	49.6	47.3	49.5	49.3	47.6	46.5	46.2	45.0	45.3
Disputes	48.6	47.9	49.0	49.0	49.1	48.4	49.2	48.4	50.3	48.4	49.0	48.8	48.1
Dollar amount beyond terms	50.8	50.8	53.3	47.2	51.0	46.6	46.1	49.0	49.0	47.6	45.7	47.4	49.6
Dollar amount of customer deductions	49.9	49.0	50.7	48.6	50.4	49.2	49.4	49.4	51.3	49.3	49.3	50.2	48.5
Filings for bankruptcies	56.5	55.6	55.5	56.4	55.4	53.4	57.2	53.4	53.5	52.2	50.9	50.5	49.8
Index of unfavorable factors	**51.7**	**51.0**	**51.7**	**50.4**	**51.0**	**49.3**	**50.2**	**50.3**	**50.6**	**49.2**	**48.7**	**48.7**	**48.6**
NACM Combined CMI	**57.7**	**58.5**	**58.5**	**57.0**	**56.3**	**54.9**	**54.9**	**55.6**	**53.2**	**52.0**	**51.6**	**51.3**	**52.4**

Source: https://nacm.org/cmi.html; 2/28/23

Return to TOC

Private Indicators

National Federation of Independent Business (NFIB) February 2023 Report

Main Street: Expectations for Better Business Conditions Remain Low

“The **NFIB Small Business Optimism Index** increased 0.6 points in February to 90.9 but remains below the 49-year average of 98. Twenty-eight percent of owners reported inflation as their single most important business problem, up two points from last month. Owners expecting better business conditions over the next six months deteriorated two points from January to a net negative 47%.” – Holly Wade, NFIB

“Small business owners remain doubtful that business conditions will get better in the coming months. They continue to struggle with historic inflation and labor shortages that are holding back growth. Despite their economic challenges, owners are working hard to create new jobs to strengthen the economy and their firms.” – Bill Dunkelberg, Chief Economist, NFIB

Key findings include:

- “Forty-seven percent of owners reported job openings that were hard to fill, remaining historically very high.
- The net percent of owners raising average selling prices decreased four points to a net 38% (seasonally adjusted).
- The net percent of owners who expect real sales to be higher improved five points from January to a net negative 9%.” – Holly Wade, NFIB

Source: http://www.nfib.com/surveys/small-business-economic-trends; 3/14/23

Return to TOC

Private Indicators

National Federation of Independent Business (NFIB) February 2023 Report

"As reported in NFIB's monthly jobs report, 60% of owners reported hiring or trying to hire in February. Of those hiring or trying to hire, 90% of owners reported few or no qualified applicants for their open positions.

Sixty percent of owners reported capital outlays in the last six months. Of those making expenditures, 40% reported spending on new equipment, 26% acquired vehicles, and 12% spent money for new fixtures and furniture. Eighteen percent of owners improved or expanded facilities and 6% acquired new buildings or land for expansion. Twenty-one percent plan capital outlays in the next few months.

A net negative 6% of all owners (seasonally adjusted) reported higher nominal sales in the past three months, down two points from January. The net percent of owners expecting higher real sales volumes improved five points to a net negative 9%.

The net percent of owners reporting inventory increases declined seven points to a net negative 1%. Not seasonally adjusted, 13% reported increases in stocks and 19% reported reductions.

Twenty percent of owners recently reported that supply chain disruptions still have a significant impact on their business. Another 33% reported a moderate impact and 34% reported a mild impact. Labor supply problems are widespread.

A net negative 4% of owners viewed current inventory stocks as "too low" in February, down three points. By industry, shortages are the most frequent in manufacturing (10%), construction (9%), finance (9%), and wholesale (9%). A net negative 7% of owners plan inventory investment in the coming months." – Holly Wade, NFIB

Source: http://www.nfib.com/surveys/small-business-economic-trends; 3/14/23

Return to TOC

Private Indicators

National Federation of Independent Business (NFIB) February 2023 Report

"The net percent of owners raising average selling prices decreased four points from January to a net 38% (seasonally adjusted), the lowest since April 2021. Unadjusted, 12% of owners reported lower average selling prices and 50% reported higher average selling prices.

Price hikes were the most frequent in retail (64% higher, 9% lower), finance (63% higher, 16% lower), manufacturing (59% higher, 10% lower), and wholesale (57% higher, 9% lower). Seasonally adjusted, a net 25% plan price hikes.

Seasonally adjusted, a net 46% of owners reported raising compensation. A net 23% plan to raise compensation in the next three months. Twelve percent of owners cited labor costs as their top business problem and 21% said that labor quality was their top business problem.

The frequency of reports of positive profit trends was a net negative 23%. Among the owners reporting lower profits, 23% blamed weaker sales, 23% blamed the rise in cost of materials, 17% cited the usual seasonal change, 13% cited labor costs, 10% cited lower prices, and 3% cited higher taxes or regulatory costs. For owners reporting higher profits, 55% credited sales volumes, 14% cited higher prices, 13% cited usual seasonal change, and 5% cited lower labor costs.

Three percent of owners reported that their borrowing needs were not satisfied. Twenty-five percent reported all credit needs met and 62% said they were not interested in a loan. A net 5% reported their last loan was harder to get than in previous attempts.

The **NFIB Research Center** has collected Small Business Economic Trends data with quarterly surveys since the 4th quarter of 1973 and monthly surveys since 1986. Survey respondents are randomly drawn from NFIB's membership. The report is released on the second Tuesday of each month. This survey was conducted in February 2023." – Holly Wade, NFIB

Source: http://www.nfib.com/surveys/small-business-economic-trends; 3/14/23

Return to TOC

Private Indicators

Source: http://www.nfib.com/surveys/small-business-economic-trends; 3/14/23

Return to TOC

Private Indicators

Small Business Optimism

Index Component	Net %	From Last Month
Plans to Increase Employment	17%	▼ -2
Plans to Make Capital Outlays	21%	▬ 0
Plans to Increase Inventories	-7%	▲ 1
Expect Economy to Improve	-47%	▼ -2
Expect Real Sales Higher	-9%	▲ 5
Current Inventory	-4%	▼ -3
Current Job Openings	47%	▲ 2
Expected Credit Conditions	-6%	▲ 2
Now a Good Time to Expand	6%	▼ -1
Earnings Trends	-23%	▲ 3

NFIB NFIB.com/sboi

Source: http://www.nfib.com/surveys/small-business-economic-trends; 3/14/23

Return to TOC

Private Indicators

The Paychex | IHS Markit
Small Business Employment Watch

Small Business Job Growth Improved for the Second Consecutive Month While Wage Inflation Continues to Cool

Paychex index data also shows weekly earnings growth hit a new record as small business employees work more hours per week to increase their paychecks

"The rate of hiring for U.S. small businesses increased in February led by hiring in the leisure and hospitality industry according to the latest Paychex | IHS Markit Small Business Employment Watch. The Small Business Jobs Index, which measures national employment growth for businesses with fewer than 50 workers, continued to increase to 99.66 while the rate of hourly wage growth declined to 4.49 percent year-over-year in February. The one-month annualized hourly wage growth rate remained below four percent for the third consecutive month." – Lisa Fleming, Kate Smith, and Tess Flynn, Paychex, Inc.

"Small businesses have posted positive job gains to begin 2023. At the same time, hourly wage increases are moderating, which is in the right direction for a soft landing." – James Diffley, Chief Regional Economist, IHS Markit

"This employment growth and cooling wage inflation in February show small businesses are demonstrating resiliency as they navigate the current economic environment. Given the slowing wage increases, employees of small businesses seem to be contending with inflation by increasing their hours worked." – John Gibson, President and CEO, Paychex

Source: https://www.paychex.com/employment-watch; 3/7/23

Return to TOC

Private Indicators

The Paychex | IHS Markit Small Business Employment Watch

"In further detail, the February report showed:

- At 99.66, the pace of small business employment growth improved in January (0.18 percent) and again in February (0.10 percent) to begin 2023.
- The national index (99.66) is down 1.64 percent from the record level set last February (101.33).
- At 100.84, leisure and hospitality improved for the fourth straight month and reported its largest one-month gain since January 2022.
- At 99.86, the Midwest has had the strongest one-month change rate among regions for the past three months. The Midwest, led by Illinois, has gained 0.77 percent during the past quarter.
- North Carolina gained 0.37 percent in February to improve its index to 102.57. North Carolina has ranked first among states since June 2022 and has had an index above 102 since October 2021.
- Houston (103.16) leads metros in the rate of small business employment growth in February. The next strongest metros, Chicago (101.55), Atlanta (101.47), and Phoenix (101.41), all trail Houston by more than a point and a half.
- Construction trails only leisure and hospitality in growth for hourly earnings (5.11 percent), weekly earnings (5.98 percent), and weekly hours worked (0.69 percent).
- Hourly earnings growth slowed further to 4.49 percent in February as one-month annualized growth remained below four percent for the third consecutive month.
- Due to the positive momentum in weekly hours worked, weekly earnings growth reached a new record level in February (5.09 percent) since reporting began in 2011." – Lisa Fleming, Kate Smith, and Tess Flynn, Paychex, Inc.

Source: https://www.paychex.com/employment-watch; 3/7/23

Return to TOC

Private Indicators

The Paychex | IHS Markit
Small Business Employment Watch

Febuary Job Index	Febuary Wage Data
Index	Hourly Earnings
99.66	$31.24
12-Month Change	12-Month Growth
-1.64%	+4.49% (+$1.34)

Source: Paychex | IHS Markit Small Business Employment Watch

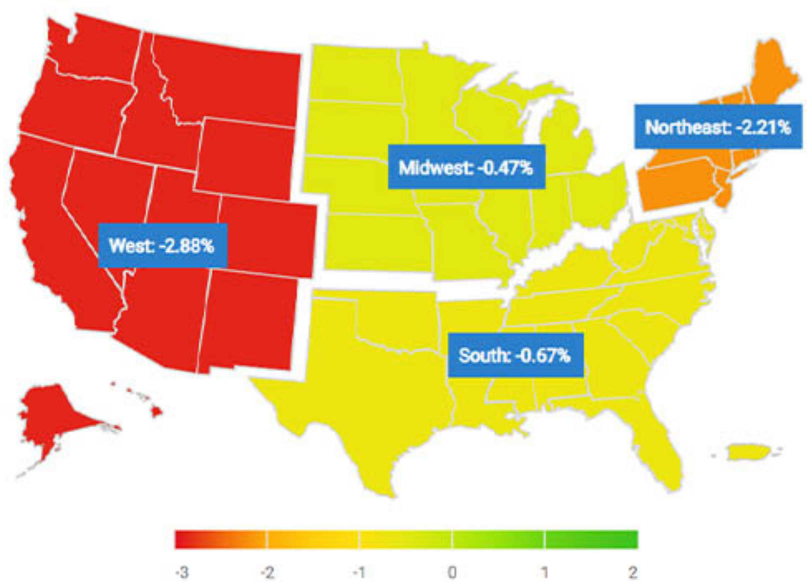
Source: https://www.paychex.com/employment-watch; 3/7/23

Return to TOC

Private Indicators

The Paychex | IHS Markit Regional Jobs Index

Regional Performance



Region	Index	Change
Midwest	99.86	-0.47%
Northeast	99.17	-2.21%
South	100.82	-0.67%
West	98.84	-2.88%

Change 12-Month

Source: Paychex | IHS Markit Small Business Employment Watch

Source: https://www.paychex.com/employment-watch; 3/7/23

Demographics

CoreLogic

Home Buyer Exodus From Big, High-Cost Coastal Metros Continued in 2022

Affordability and warmer metros continue to attract home buyers

"For home buyers, affordability, job opportunities and outdoor amenities are major driving factors for relocation. Our previous analysis showed that home buyers who relocated to another metro in recent years often chose metros adjacent to their current location and/or had a lower cost of living.

Although home buyers were weighing these considerations before COVID-19, the migration rate to cities featuring these factors grew during the pandemic. With the combination of low for-sale inventory, low interest rates and a shift to a more flexible working environment, more people moved out of expensive metros in search of affordability, outdoor amenities and warmer weather.

However, home buyers' location choice may shift again. As more employees returned to offices, homes sold for higher prices, interest rates climbed and uncertain economic conditions prevailed, these external economic forces may have influenced homebuyers' decisions in 2022. The following analysis uses CoreLogic loan application data from 2019 to 2022 to highlight trends in owner-occupant home buyer mobility and migration in 2022[1], focusing on metros with the greatest in- and out-migration of potential home buyers[2].

Figure 1 shows the OUT/IN ratio for the top 15 metros with the highest levels of out-migration loan applications[3]. The OUT/IN ratio for most of these metros remained relatively consistent over the four-year period." – Archana Pradhan, Principal, Economist, Office of the Chief Economist, CoreLogic

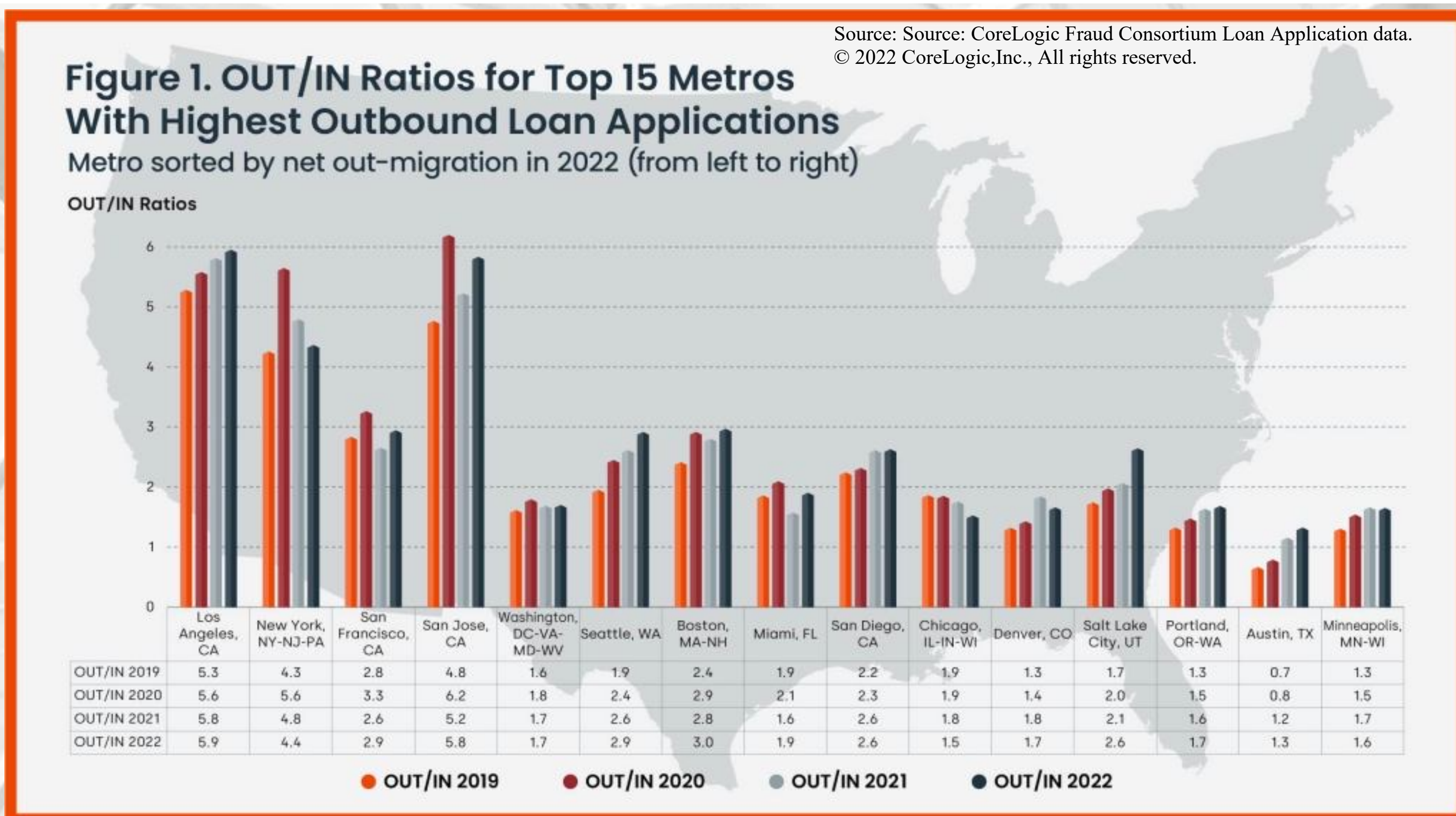
Source: https://www.corelogic.com/intelligence/homebuyer-exodus-from-coastal-metros-continued-2022/; 3/6/23

Return to TOC

Demographics

CoreLogic

Home Buyer Exodus From Big, High-Cost Coastal Metros Continued in 2022



	Los Angeles, CA	New York, NY-NJ-PA	San Francisco, CA	San Jose, CA	Washington, DC-VA-MD-WV	Seattle, WA	Boston, MA-NH	Miami, FL	San Diego, CA	Chicago, IL-IN-WI	Denver, CO	Salt Lake City, UT	Portland, OR-WA	Austin, TX	Minneapolis, MN-WI
OUT/IN 2019	5.3	4.3	2.8	4.8	1.6	1.9	2.4	1.9	2.2	1.9	1.3	1.7	1.3	0.7	1.3
OUT/IN 2020	5.6	5.6	3.3	6.2	1.8	2.4	2.9	2.1	2.3	1.9	1.4	2.0	1.5	0.8	1.5
OUT/IN 2021	5.8	4.8	2.6	5.2	1.7	2.6	2.8	1.6	2.6	1.8	1.8	2.1	1.6	1.2	1.7
OUT/IN 2022	5.9	4.4	2.9	5.8	1.7	2.9	3.0	1.9	2.6	1.5	1.7	2.6	1.7	1.3	1.6

Source: Source: CoreLogic Fraud Consortium Loan Application data.

"However, Austin made the list in 2022. In 2019 and 2020, more people moved into Austin than moved out, but that trend flipped in 2021 and 2022 as Austin became less affordable for many potential home buyers. Los Angeles ranks as the top market for the highest net out-migration among all the metros in 2022. New York had the second highest out-migration followed by San Francisco and San Jose, California. These four metro areas have ranked as top out-migration markets since at least 2019[4]." – Archana Pradhan, Principal, Economist, Office of the Chief Economist, CoreLogic

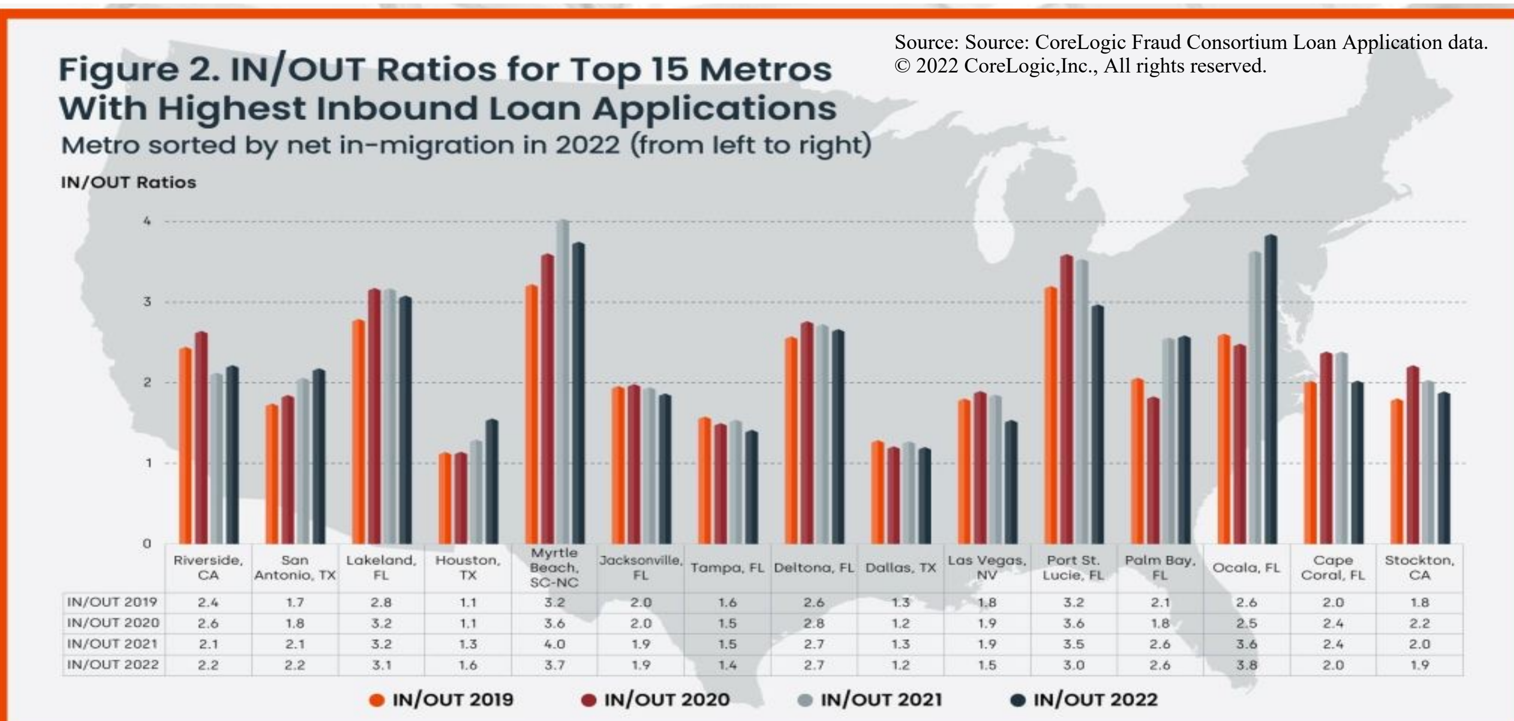
Source: https://www.corelogic.com/intelligence/homebuyer-exodus-from-coastal-metros-continued-2022/; 3/6/23

Return to TOC

Demographics

CoreLogic

Home Buyer Exodus From Big, High-Cost Coastal Metros Continued in 2022



	Riverside, CA	San Antonio, TX	Lakeland, FL	Houston, TX	Myrtle Beach, SC-NC	Jacksonville, FL	Tampa, FL	Deltona, FL	Dallas, TX	Las Vegas, NV	Port St. Lucie, FL	Palm Bay, FL	Ocala, FL	Cape Coral, FL	Stockton, CA
IN/OUT 2019	2.4	1.7	2.8	1.1	3.2	2.0	1.6	2.6	1.3	1.8	3.2	2.1	2.6	2.0	1.8
IN/OUT 2020	2.6	1.8	3.2	1.1	3.6	2.0	1.5	2.8	1.2	1.9	3.6	1.8	2.5	2.4	2.2
IN/OUT 2021	2.1	2.1	3.2	1.3	4.0	1.9	1.5	2.7	1.3	1.9	3.5	2.6	3.6	2.4	2.0
IN/OUT 2022	2.2	2.2	3.1	1.6	3.7	1.9	1.4	2.7	1.2	1.5	3.0	2.6	3.8	2.0	1.9

"In contrast, Figure 2 shows the IN/OUT ratio for the top 15 metros with the highest in-migration loan application activity. Almost without exception, in-migration metros are more affordable compared to the ones presented in Figure 1. Although California cities like Riverside and Stockton may not be affordable from a national perspective, relative to adjacent coastal California metros, they are more affordable. The metros in Figure 2 are sorted left to right by net in-migration in 2022, meaning that more people moved into these metros than moved out. Riverside, California, had the highest in-migration activity followed by Lakeland, Florida; San Antonio, Texas; and Houston, Texas. In general, metros in Florida tend to have relatively more incoming applications than outgoing ones." – Archana Pradhan, Principal, Economist, Office of the Chief Economist, CoreLogic

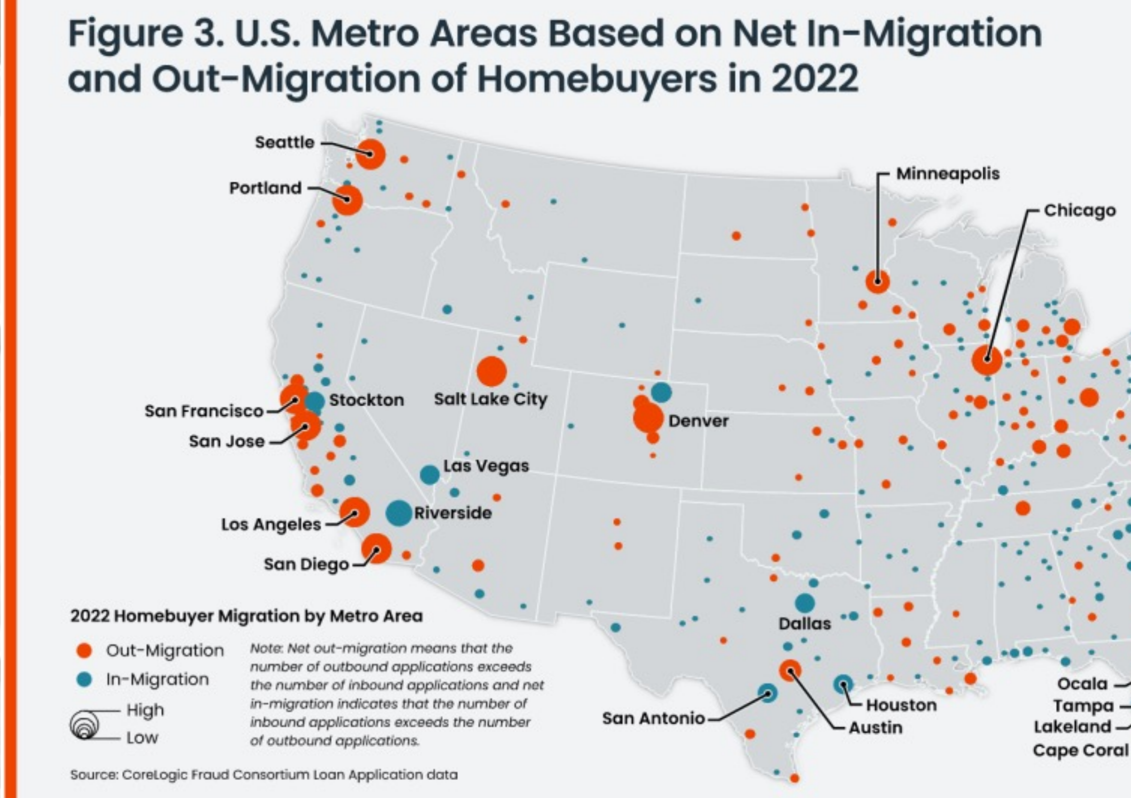
Source: https://www.corelogic.com/intelligence/homebuyer-exodus-from-coastal-metros-continued-2022/; 3/6/23

Return to TOC

Demographics

CoreLogic

Home Buyer Exodus From Big, High-Cost Coastal Metros Continued in 2022



Source: Source: CoreLogic Fraud Consortium Loan Application data.

"Figure 3 shows a map labeling the top 15 U.S. metros with the largest net in- and out-migration." – Archana Pradhan, Principal, Economist, Office of the Chief Economist, CoreLogic

Source: https://www.corelogic.com/intelligence/homebuyer-exodus-from-coastal-metros-continued-2022/; 3/6/23

Return to TOC

Demographics

CoreLogic

Home Buyer Exodus From Big, High-Cost Coastal Metros Continued in 2022

"In 2022, homebuyers continued to seek affordable metros both adjacent to their current place of residence as well as out of state. This is a trend that we observed in prior years and that has persisted since the pandemic.

Thanks to the flexibility of remote work, more people moved into affordable states such as Florida, Texas and South Carolina compared to pre-pandemic. However, the ratios of in-migration to out-migration for all these states were higher in 2022 compared to pre-pandemic levels.

Since remote work reduced the need to live near an employer, families have been able to broaden their home buying search and consider affordability and other external amenities, a trend that accelerated home buyers' migration rate. As affordability continues to be an important consideration for home buyers, we are likely to see more applicants buying in less expensive markets going forward." – Archana Pradhan, Principal, Economist, Office of the Chief Economist, CoreLogic

Endnotes

[1] January through December

[2] The analysis is based on all home purchase mortgage applications, accepted or not, from January 2022 through December 2022 and compared to applications in 2021 – 2020 (pandemic period) and 2019 (pre-pandemic). Investors and second-home buyers were excluded from the analysis. The metros are at the Core-Based Statistical Areas (CBSA)-level.

[3] OUT/IN ratio is the number of applications by residents buying outside the metro in which they currently live relative to the number of out-of-metro applications to buy into that same metro. For example, a ratio of six for Los Angeles means that there were six Los Angeles households buying outside of Los Angeles for every one out-of-Los Angeles resident buying into Los Angeles.

[4] Since the metros are sorted by counting the highest number of outbound loan applications, larger metros tend to have a lot of applications and rank on the top.

Source: https://www.corelogic.com/intelligence/homebuyer-exodus-from-coastal-metros-continued-2022/; 3/6/23

Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

Data and trends in US housing indicate that the current downturn in housing is more a cyclical one than being driven by structural deficiencies as happened during 2006–09

"As inflation reared its ugly head in the United States last year at a scale unseen since the 1980s, the monetary policy response was swift and strong.[1] Between March 2022 and February 2023, the United States Federal Reserve (Fed) raised the federal funds rate by 450 basis points (bps), including four hikes worth 75 bps each. The speed and scale of the Fed's response was unlike its previous bout of tightening between December 2015 and December 2018, which was more gradual. While strong tightening has brought down price pressures slightly – inflation fell to 6.5% in December from a peak of 9.1% in June – the move to thwart aggregate demand growth has arguably had its first casualty: housing.

Housing had been a bright star for the economy since the pandemic's initial impact. After a sharp dent due to lockdowns and social distancing measures in March and April of 2020, housing starts picked up and grew 92.4% to their peak in April of last year.[2] Existing home sales, too, grew sharply during this period.[3] With demand rising, home prices also went up. However, policy tightening by the Fed last year to counter inflation led to a rise in long-term borrowing rates – mortgage rates doubled last year. Demand for housing, therefore, got hit. Starts are down by 23.4% from April 2022, while prices have eased. Does this mean that housing is set for a repeat of the crisis in 2006–2009? We don't think so. While housing will feel the pressure of high mortgage rates this year, it will start recovering from 2024. And unlike the subprime crisis, which was primarily due to lax rules in the mortgage market, the current downturn is more a cyclical one." – Akrur Barua, Associate Vice President, Deloitte Services India Pvt. Ltd. and Patricia Buckley, Managing Director for Economics, Deloitte Services LP

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

A surge in housing hit two key roadblocks in 2022

"Housing outshone most other parts of the economy after the initial impact of the pandemic. Between Q2 2020 and Q4 2021, real residential investment went up by 20.8%, far higher than the 13% rise in business investment during this period.[4] In fact, within business investment, only investment in equipment grew more than residential investment during this period. This is also evident from housing starts, building permits, and home sales. After a hiccup in early 2020, housing starts went up to a seasonally adjusted annual rate of over 1.8 million units by April 2022. It's not just new housing that benefited after the initial wave of COVID-19. Sales of existing homes grew 59.5% between May 2020 and the recent peak of January 2022.[5]

The home run in housing, however, hit two major roadblocks last year. First, the cost of mortgages shot up, as figure 1 shows. The 30-year fixed rate mortgage ended January 2023 at 6.4%, more than three percentage points above the rate at the beginning of 2022. And this too after rates had been edging down since October. Rising borrowing costs also come at a time of high inflation, which has dented consumers' purchasing power. Real average weekly wages, for example, are still down 4.5% compared to December 2020 despite an 8.8% gain in nominal wages during this period.

Second, housing demand also came under pressure from home prices last year. Home prices hardly suffered during the initial days of the pandemic – a sharp contrast to some asset categories, such as equities, that were hit hard in the first half of 2020. According to the S&P CoreLogic Case-Shiller home price index, the national average of home prices went up by as much as 43.1% between December 2019 and the peak of June 2022 (figure 2).[6] Figure 2 also shows that much of this increase was in 2021 when prices went up by 18.9%. Similarly, data from the National Association of Realtors (NAR) shows that median sales prices of existing homes went up by 50.7% during this period.[7]" – Akrur Barua, Associate Vice President, Deloitte Services India Pvt. Ltd. and Patricia Buckley, Managing Director for Economics, Deloitte Services LP

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

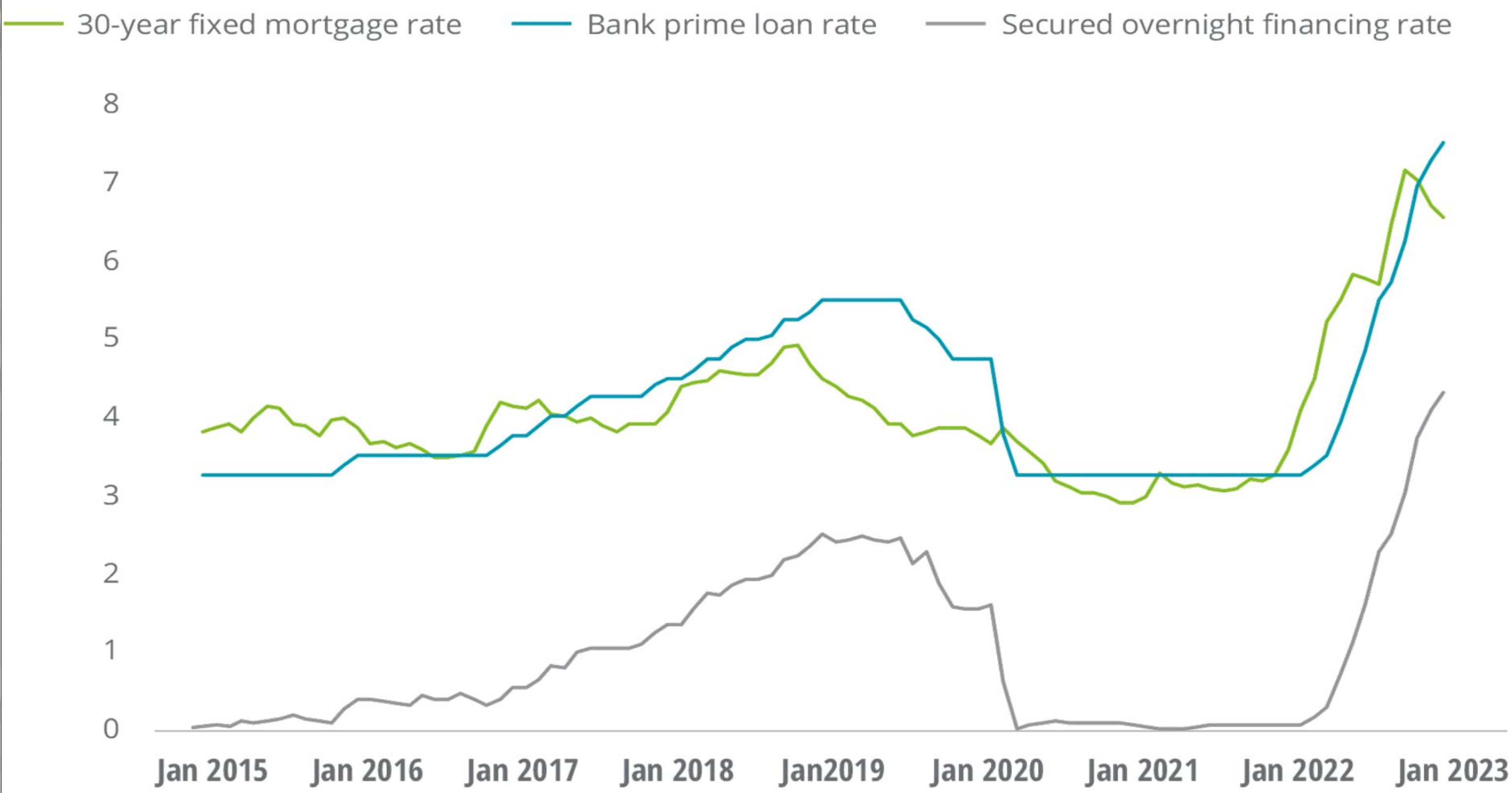
Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 1

Borrowing costs, including mortgage rates, went up sharply in 2022

Interest rate (% per annum)



Note: Interest rates in the chart are monthly averages of the daily rates.

Sources: Haver Analytics; Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

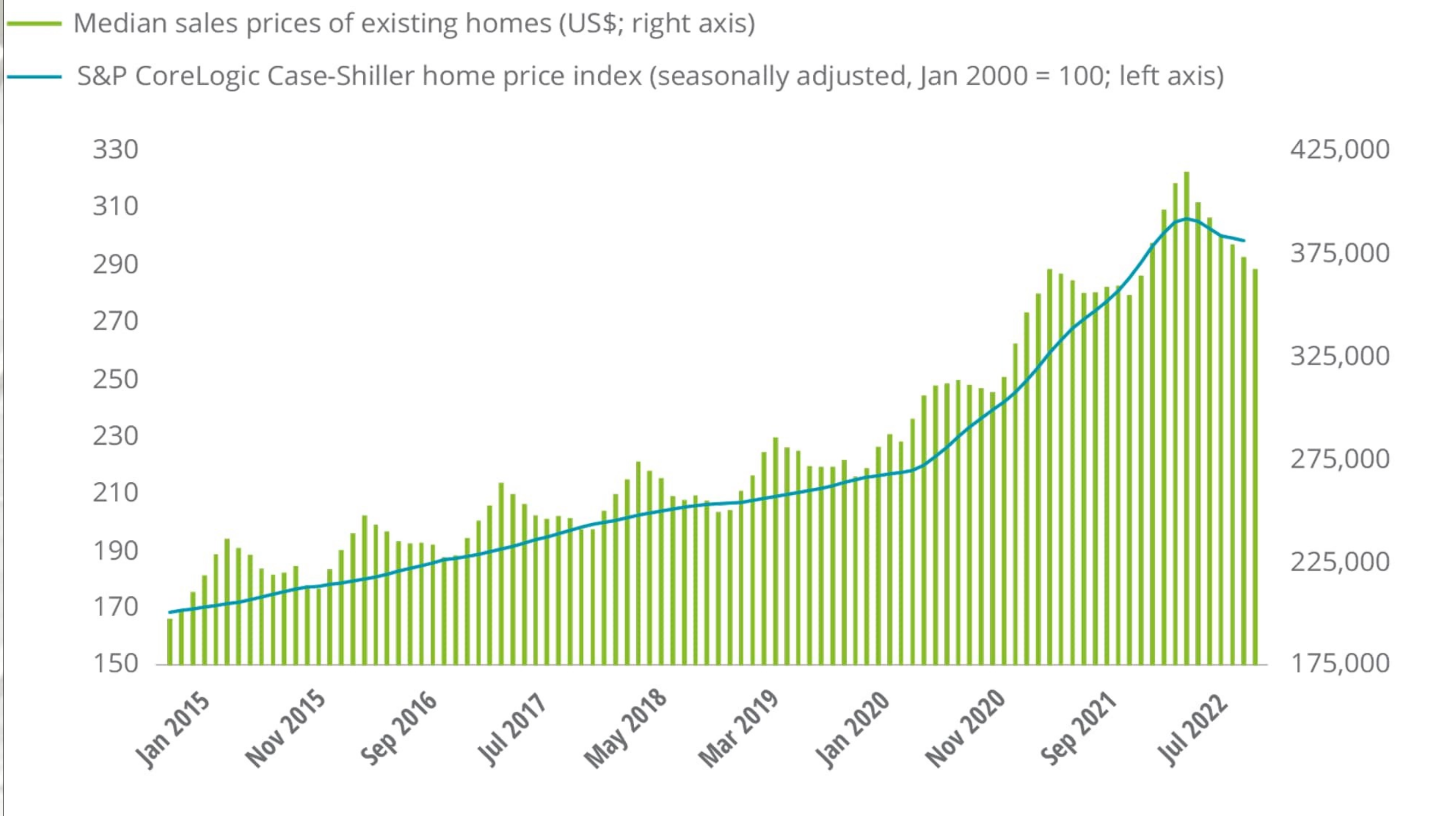
Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 2

Home prices have gone down slightly since the peak of June 2022



Sources: S&P Global; National Association of Realtors (sourced using Haver Analytics); Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

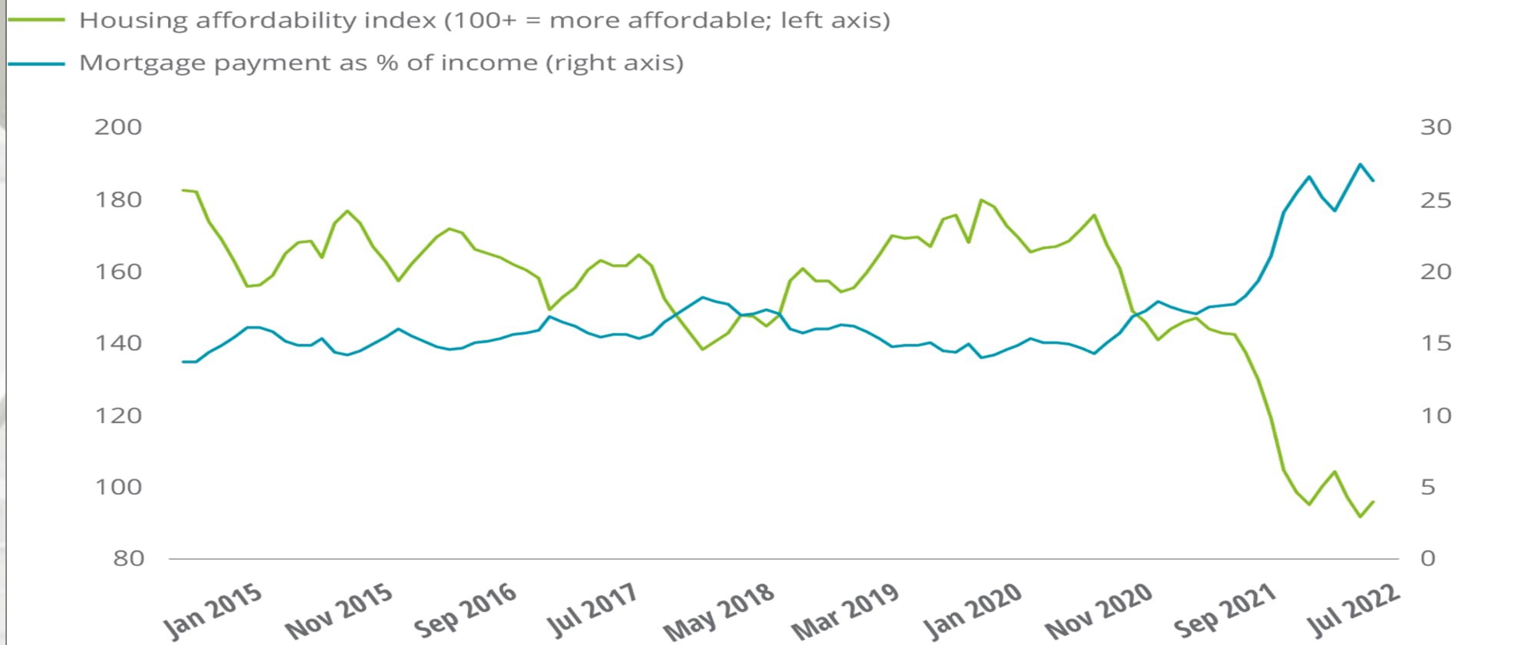
Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 3

As mortgage rates rise, housing affordability has gone down



Sources: National Association of Realtors (sourced using Haver Analytics); Deloitte analysis.

Deloitte Insights | deloitte.com/insights

A surge in housing hit two key roadblocks in 2022

"The rise in the cost of borrowing last year worsened housing affordability, which had already been under pressure in 2021 due to rising home prices (figure 3). Principal and interest payments as a share of income was 26.2% in November 2022, close to nine percentage points higher than a year before." – Akrur Barua, Associate Vice President, Deloitte Services India Pvt. Ltd. and Patricia Buckley, Managing Director for Economics, Deloitte Services LP

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 4

Housing starts have fallen by 23.4% since its most recent peak in April 2022

Note: SAAR stands for seasonally adjusted annual rate.

Sources: United States Census Bureau (sourced using Haver Analytics); Deloitte analysis.

Deloitte Insights | deloitte.com/insights

On its way down, but not uniformly

"As affordability took a hit, the housing sector suffered. Real investment in residential investment, for example, was 19.2% lower in Q4 2022 compared to the year prior. In contrast, business investment was 3.7% higher during this period. And, by December 2022, housing starts had fallen below a seasonally adjusted average annual rate of 1.4 million, more than 400,000 lower than the peak in April (figure 4). Permits have also gone down – by 29.5% compared to the recent peak in December 2021. It's not just new residential construction that has borne the brunt of decreasing housing affordability. Sales of existing homes also peaked in January last year at 6.5 million (seasonally adjusted annual rate); since then, sales have dropped by 38.1%, as figure 4 shows." – Akrur Barua, Associate Vice President, Deloitte Services India Pvt. Ltd. and Patricia Buckley, Managing Director for Economics, Deloitte Services LP

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

On its way down, but not uniformly

“There is, however, a fair amount of diversity in the way housing trends have played out. Data on starts shows that single-family homes fared much worse than multifamily for most of last year. Until November 2022, starts for single-family homes were down 29.5% since the peak of April, much worse than the 5.2% decline for multifamily starts. That changed suddenly in December with starts picking up for single-family homes while declining 19% for multifamily homes.

A look at housing starts by region reveals that peaks and the degree of contraction after respective peaks differs across regions. In the Midwest, starts have fallen by 61.5% from their peak in December 2021, while in the South, starts peaked in April 2022 and are down by 30% (figure 5). In the Northeast, starts have been volatile. Starts fell for three months after August, but then shot up in December by 135.6%. The data also shows that there seems to be some form of stabilization in starts since August in the West and to a degree in the South. Some stabilization in the two regions augurs well for the national figure given that these regions accounted for a little over 77% of total starts in the United States, on average, last year. Differences also crop up in the sales of existing homes relative to post pandemic peaks for different regions. Sales, for example, are down 49.3% from their peak in the West compared to a 34.4% decline in the Midwest.

Unlike starts and sales, prices have not gone down by as much, although there is quite a bit of difference in the degree of declines among metro areas. Figure 6 shows trends in home prices in 20 major metro areas as revealed by the S&P CoreLogic Case-Shiller index. The biggest decline from their respective price peaks has been in metro areas in the West region, in cities such as San Francisco (-11%), Seattle (-7.8%), and San Diego (-7%). In the South, Dallas witnessed a 5.1% decline in prices followed by Tampa and Washington DC. Cleveland and Chicago, in the Midwest, experienced the lowest declines. Figure 6 also shows that some of the metro areas that experienced a sharp rise in prices since December 2019 – for example, San Diego, Phoenix, and Dallas—have also seen strong price drops.” – Akrur Barua, Associate Vice President, Deloitte Services India Pvt. Ltd. and Patricia Buckley, Managing Director for Economics, Deloitte Services LP

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

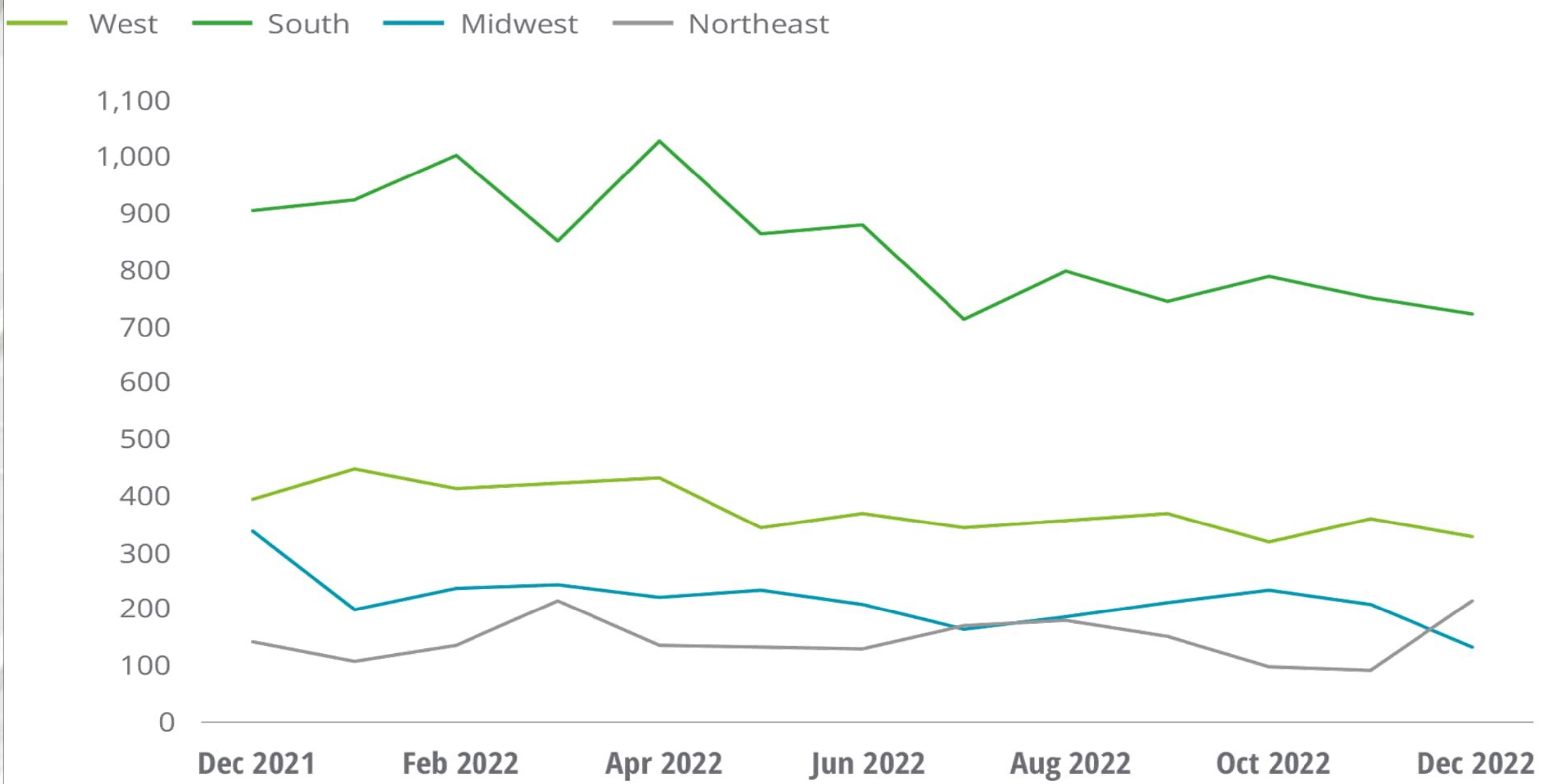
Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 5

In the Midwest, housing starts are down 61.5% from the peak of December 2021

Housing starts (SAAR, '000)



Note: SAAR stands for seasonally adjusted annual rate.

Sources: United States Census Bureau (sourced using Haver Analytics); Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 6

Metro areas in the West have seen the steepest decline in home prices since their peaks in 2022

Change in home prices as measured by S&P CoreLogic Case-Shiller home price index (%)

Metro area	Census region	Dec 2019 to peak in 2022	Peak in 2022 to Nov 2022
San Francisco	West	43.3	–11
Seattle	West	54.8	–7.8
San Diego	West	57.9	–7
Phoenix	West	70.4	–6.8
Las Vegas	West	51.9	–6
Los Angeles	West	44.4	–5.8
Dallas	South	56.9	–5.1
Denver	West	45.0	–4.9
Portland	West	39.4	–4.1
Boston	Northeast	38.1	–3.4
Tampa	South	69.7	–2.5
Washington, D.C.	South	29.9	–2.2
New York	Northeast	36.6	–2.1
Charlotte	South	54.4	–1.7
Minneapolis	Midwest	29.2	–1.7
Detroit	Midwest	33.6	–1.6
Atlanta	South	49.5	–1.1
Cleveland	Midwest	36.1	–0.9
Miami	South	64.7	–0.6
Chicago	Midwest	28.7	–0.3
S&P national average		**43.2**	**–2.5**

Sources: S&P Global (sourced using Haver Analytics); Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

This is not Ground Hog Day

"The current slowdown in housing has led many observers to wonder if this will be a repeat of the housing downturn of 2006–2009 and the global financial crisis during that time. That seems highly unlikely. Although the roots of the global financial crisis can be traced back to the bursting of the housing bubble starting in 2006, it was the problematic mortgage lending practices that created the bubble . It was also a general lack of understanding of how these questionable mortgages were packaged and dispersed across financial systems that touched off the recession of 2007–2009.

In the years leading up to the financial crisis, originations of subprime mortgages (mortgages originations to borrowers with a credit score below 620) and low prime borrowers (credit score between 620 and 659) were high. Many of them were receiving "Alt-A" loans – loans where employment, income, and net worth are not verified and/or their debt-to-income ratio is higher than acceptable for a conforming loan. These loans are inherently more risky than conventional loans. The combination of a high number of credit-shaky borrowers (figure 7) mixed with some amount of housing speculation led to a jump in foreclosures between 2006 and 2009 (figure 8). This led to panic in financial markets given the extensive use of mortgage-backed securities at that time. Fortunately, there hasn't been a sharp uptick in risky borrowers or a substantial rise in foreclosures in recent quarters. Although foreclosures may rise if the economy slips into recession in 2023, it won't be as severe as it was in 2006–2009 thanks to regulations on banks about lending, capital adequacy rules, and oversight on asset-backed securities enforced after the previous crisis remain in place.

Furthermore, the role of housing in the economy is smaller than what it was in 2006, and the slowdown in the sector to date is much smaller than in the period right before and during the global financial crisis. Housing starts fell by a staggering 79% between the peak of January 2006 and the through of April 2009. That figure is much higher than the dip in starts so far from their most recent peak." – Akrur Barua, Associate Vice President, Deloitte Services India Pvt. Ltd. and Patricia Buckley, Managing Director for Economics, Deloitte Services LP

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

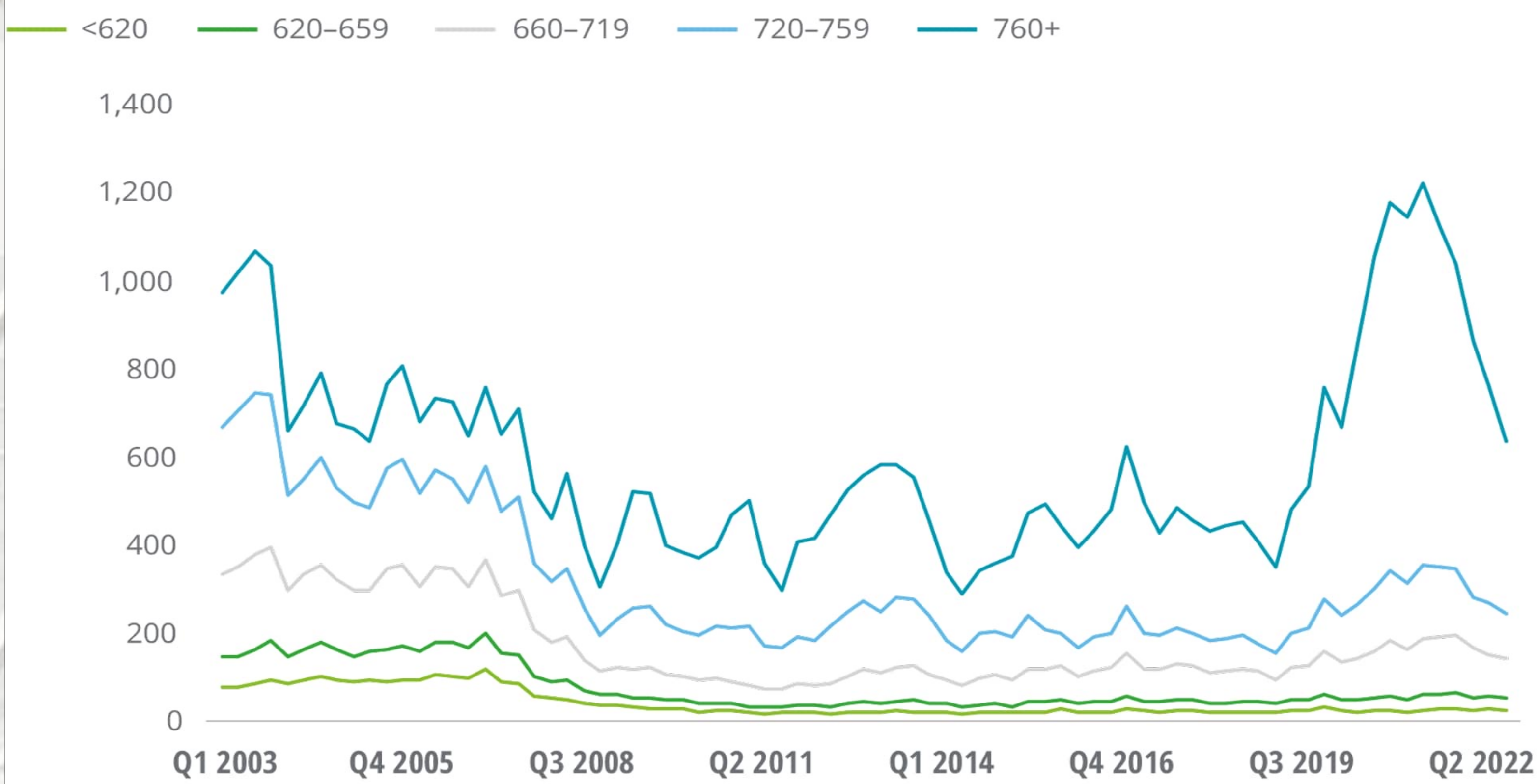
Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 7

The share of mortgage originations for risky borrowers is now much less than in 2003–2005

Mortgage origination volume by risk score in US$ billion (higher the score, less risky the borrower profile)



Sources: New York Fed Consumer Credit Panel; Equifax; Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

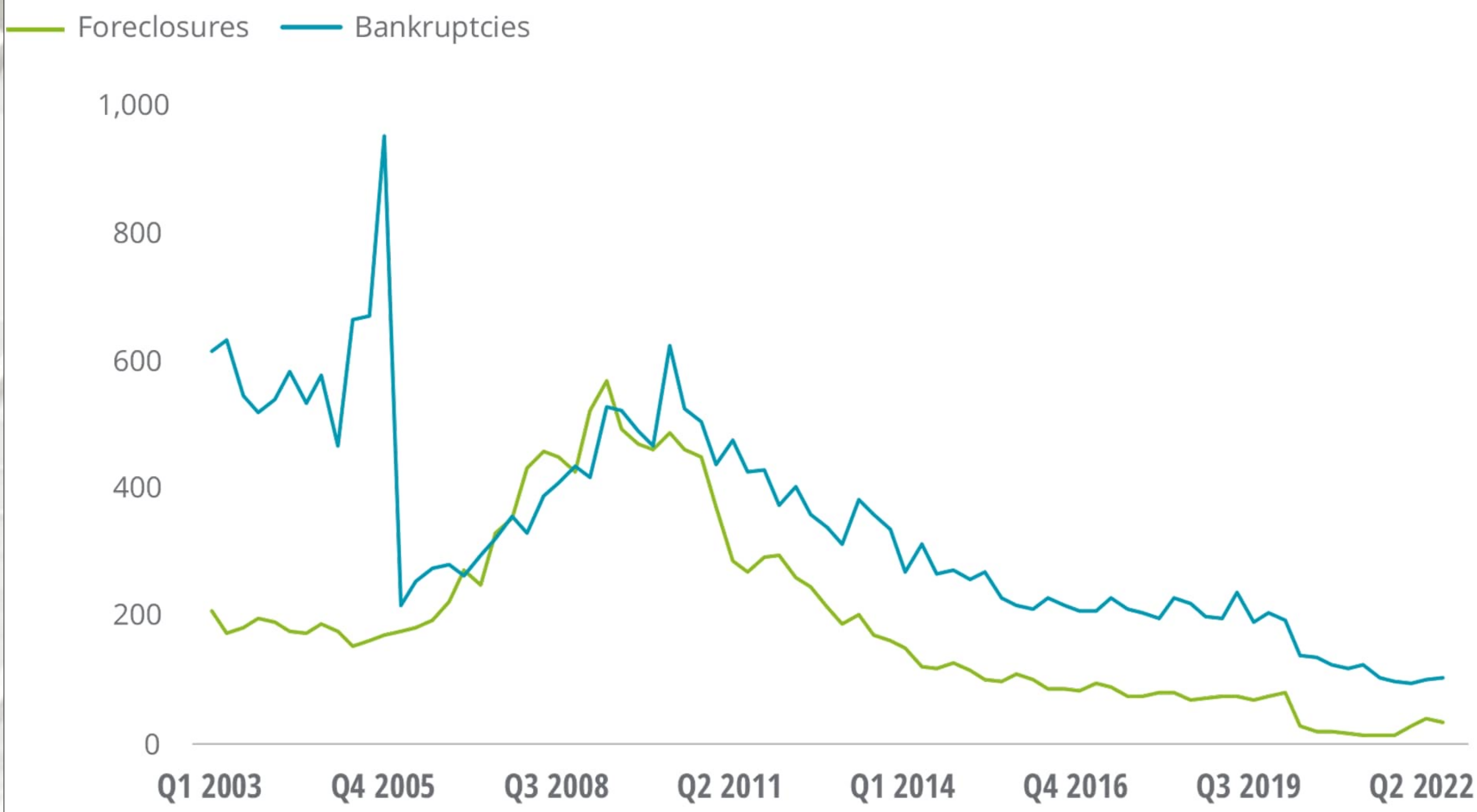
Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 8

The subprime crisis saw much higher foreclosures than the current downturn

Number of consumers with new foreclosures and bankruptcies ('000)



Sources: New York Fed Consumer Credit Panel; Equifax; Deloitte Services LP analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

It's not a long dark road ahead

"The housing sector is an interest-sensitive one – business cycles and changes in monetary policy impact housing more than other sectors, such as manufacturing. With mortgage rates more than doubling last year, affordability will continue to weigh on the housing market in the near term. Rates are unlikely to go down by much this year as the Fed keeps its focus on inflation, which may have eased a bit from the highs of June 2022, but nevertheless, is elevated compared to the Fed's target of 2%. And although home prices have declined, quantum of decline is hardly enough to offset high borrowing costs.

Yet, the current downturn in housing is more of a cyclical one than being driven by structural deficiencies as happened during 2006–2009. According to Deloitte's baseline forecast, real investment in private housing is expected to decline by 8.8% in 2023, following a slightly larger contraction in 2022. Residential investment is, however, expected to recover next year if the economy stabilizes, inflation goes down, and the Fed gradually moves away from its tightening stance. Housing starts, too, are expected to contract this year before recovering next year (figure 9). A recession, however, will have a bigger impact, with investment in private housing and housing starts likely to contract by more than in the baseline scenario; in such an economic downturn, any recovery is expected to start only in the second half of 2024.

Growth in housing, however, will face challenges over the long term from demographics. Population growth – a key driver of housing over the long-term in developed economies – has been slowing steadily in the United States and is likely to slip below an average of 0.5% by the end of the 2030s, according to projections by the Census Bureau (figure 10).[8] With home ownership relatively elevated at 66% – lower than the peak of 69.2% in Q1 2004 but higher than levels in the early 1990s – it is unlikely that slower population growth over the next decade will be able to support housing growth as strong as what has been seen in the post-war era." – Akrur Barua, Associate Vice President, Deloitte Services India Pvt. Ltd. and Patricia Buckley, Managing Director for Economics, Deloitte Services LP

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

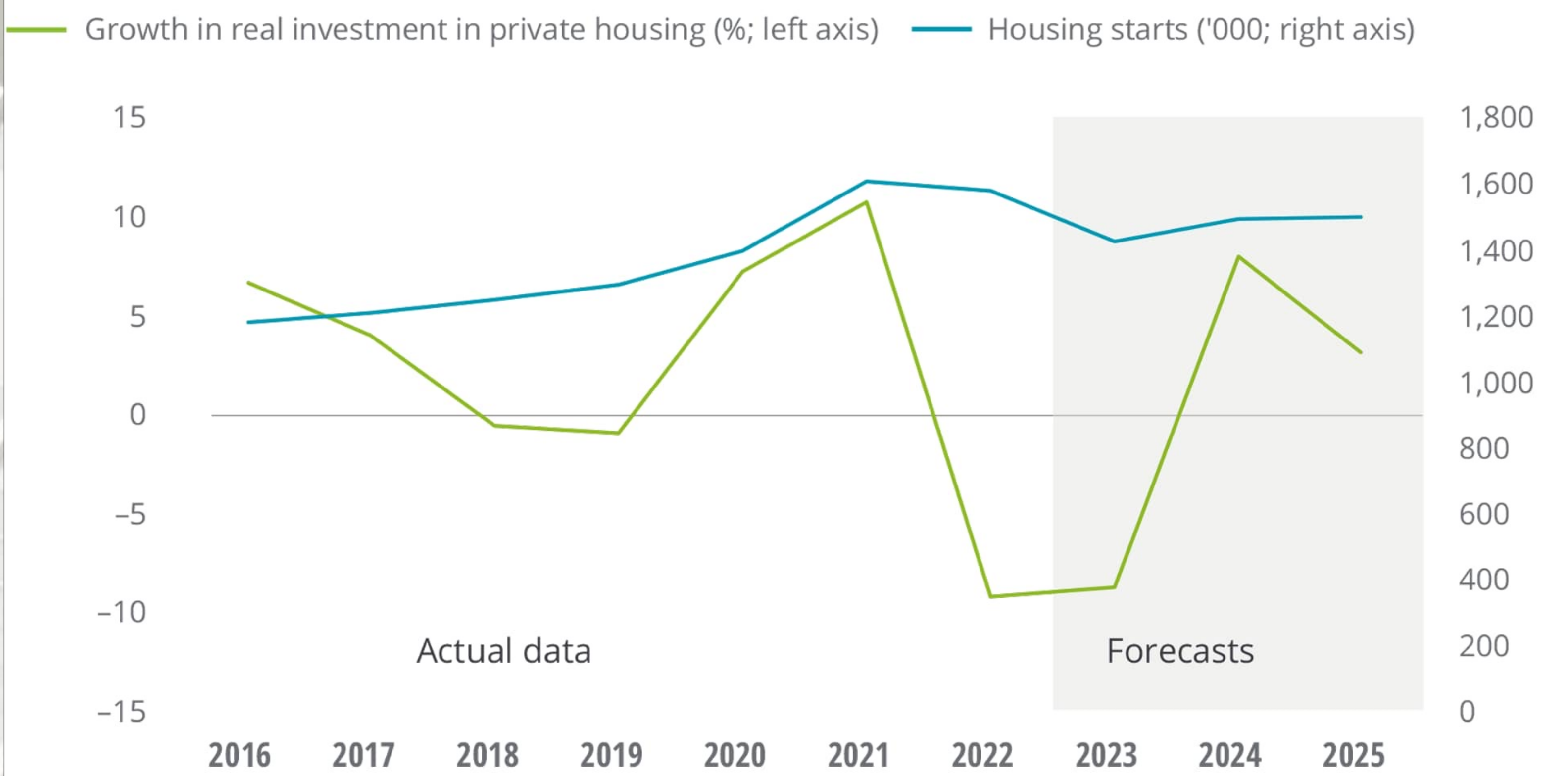
Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 9

Housing is likely to remain under pressure this year before recovering in 2024



Note: The forecasts are by Deloitte's US Economics team.

Sources: US Bureau of Economic Analysis and US Census Bureau (sourced using Haver Analytics); Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

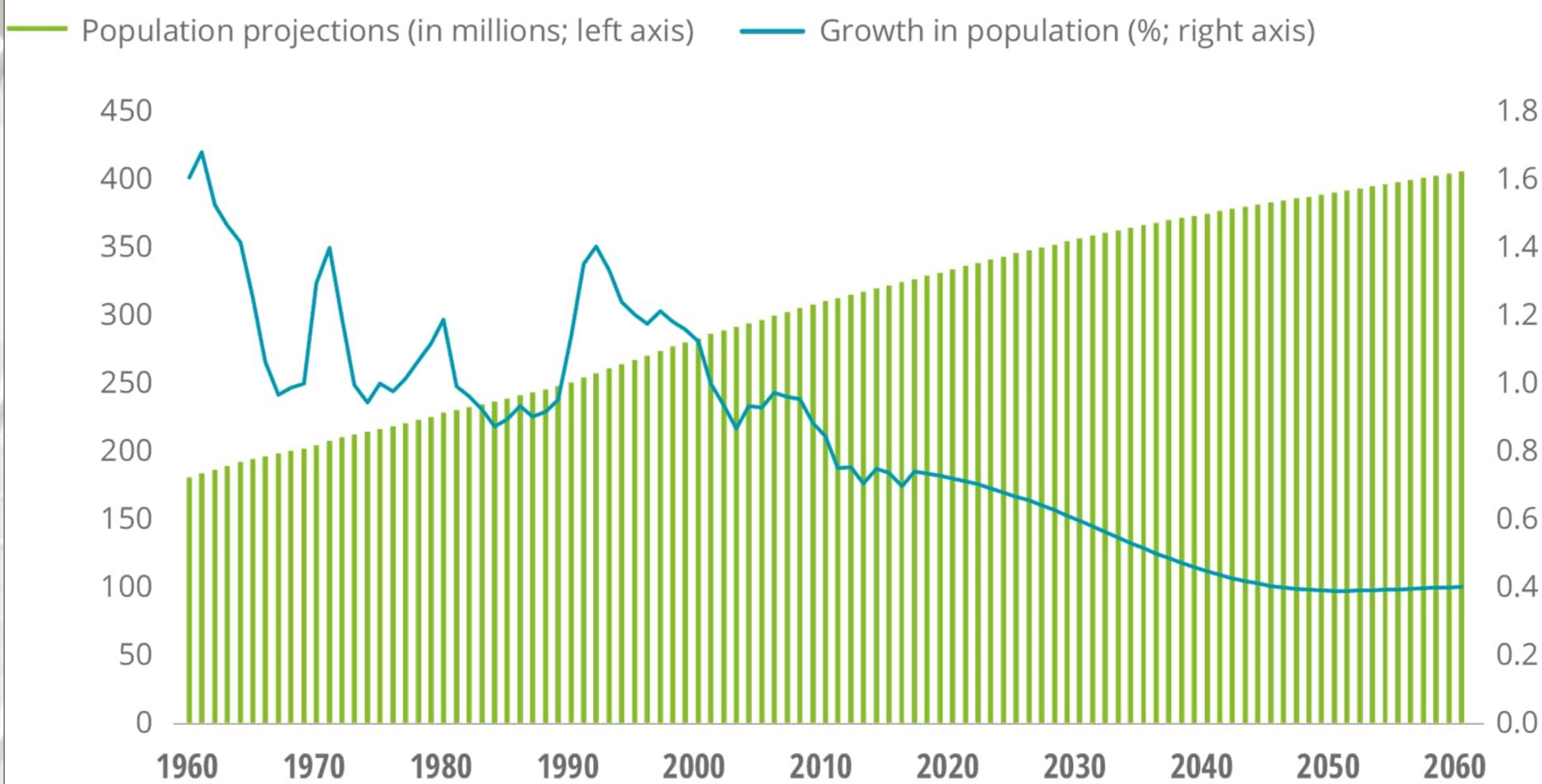
Economics

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

FIGURE 10

Slower population growth over the next few decades will weigh on long-term housing growth



Notes: The population projections are by the United States Census Bureau; projections start from 2017.

Sources: US Bureau of Economic Analysis; US Census Bureau (sourced using Haver Analytics); Deloitte analysis.

Deloitte Insights | deloitte.com/insights

Source: https://www2.deloitte.com/us/en/insights/economy/issues-by-the-numbers/us-housing-crisis.html?id=us:2em:3pa:economic-outlook:eng:di:030823; 3/8/23

Return to TOC

Deloitte® Insights

Housing takes a hit, but fears of a repeat of 2006–09 are unfounded

Endnotes

1. United States Bureau of Labor Statistics and United States Federal Reserve (sourced using Haver Analytics in January 2023). Unless otherwise stated, all data is sourced using Haver Analytics.
   View in Article
2. United States Census Bureau, "Housing data," sourced using Haver Analytics, January 2023. Unless stated otherwise, all data on housing is mostly from this source.
   View in Article
3. National Association of Realtors, "Total existing home sales," sourced using Haver Analytics, January 2023.
   View in Article
4. United States Census Bureau, National Accounts data, sourced using Haver Analytics, January 2023. All data on residential and business investment is from this source.
   View in Article
5. National Association of Realtors, "Total existing home sales."
   View in Article
6. S&P CoreLogic Case Shiller home price index, sourced using Haver Analytics, January 2023.
   View in Article
7. National Association of Realtors, sourced using Haver Analytics, January 2023.
   View in Article
8. United States Census Bureau, "Resident population projections," sourced using Haver Analytics, January 2023.
   View in Article

Economics

U.S. Census Bureau

NEW Business Formation Statistics

February 2023

BUSINESS APPLICATIONS

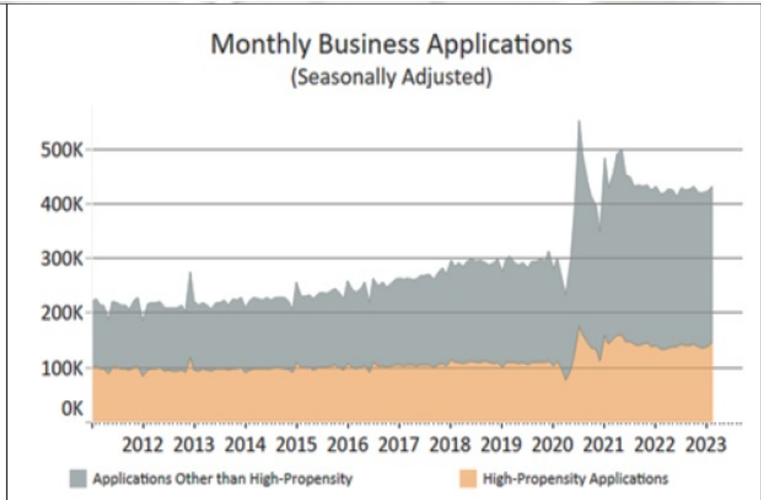
U.S. Business Applications:	FEB 2023	FEB 2023 / JAN 2023
Total	429,800	1.9%°
High-Propensity	144,868	4.8%°
With Planned Wages	48,844	3.9%°
From Corporations	48,966	1.7%°

Next release: April 17, 2023

(°) Statistical significance is not applicable or not measurable.

Data adjusted for seasonality.

Source: U.S. Census Bureau, Business Formation Statistics, March 10, 2023



Source: U.S. Census Bureau, Business Formation Statistics, March 10, 2023

Business Formation Statistics, February 2023

Business Applications

"The U.S. Census Bureau announced the following seasonally adjusted business application and formation statistics for February 2023. The Business Application Series describe the business applications for tax IDs as indicated by applications for an Employer Identification Number (EIN) through filings of the IRS Form SS-4. The Business Formation Series describe employer business formations as indicated by the first instance of payroll tax liabilities for the corresponding business applications. Business Applications for February 2023, adjusted for seasonal variation, were 429,800, an increase of 1.9 percent compared to January 2023." – U.S. Census Bureau

Source: https://www.census.gov/econ/bfs/pdf/bfs_current.pdf; 3/10/23

Return to TOC

Economics

U.S. Census Bureau

February 2023

BUSINESS FORMATIONS

U.S. Total Projected Business Formations:	FEB 2023	FEB 2023 / JAN 2023
Within 4 Quarters	31,888	3.7%°
Within 8 Quarters	41,331	4.2%°

Next release: April 17, 2023

(°) Statistical significance is not applicable or not measurable.

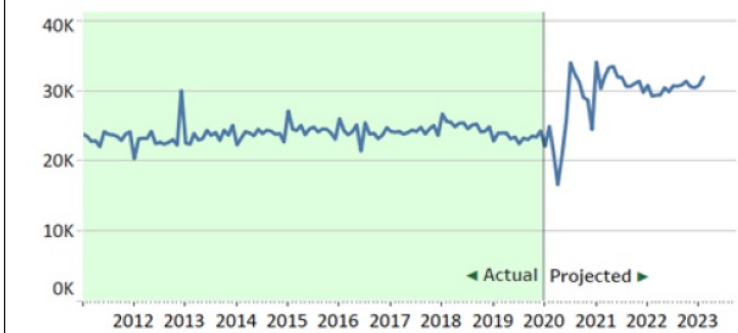
Spliced - Data adjusted for seasonality.

Source: U.S. Census Bureau, Business Formation Statistics, March 10, 2023

Monthly Business Formations within 4 Quarters

Spliced (Actual and Projected)

(Seasonally Adjusted)



Source: U.S. Census Bureau, Business Formation Statistics, March 10, 2023

Projected Business Formations - At a Glance

		US	Northeast	Midwest	South	West
Within 4 Quarters	FEB 2023	31,888	5,157	5,158	12,440	9,133
	FEB 2023 / JAN 2023	+3.7%	+4.7%	+3.4%	+0.5%	+8.2%
Within 8 Quarters	FEB 2023	41,331	6,682	6,627	16,314	11,708
	FEB 2023 / JAN 2023	+4.2%	+5.0%	+3.2%	+1.0%	+9.1%

Details may not equal totals due to rounding. Regions defined by Census Bureau Geography Program. Statistical significance is not applicable or not measurable.

Data adjusted for seasonality. Green Percentage changes are greater than zero (+). Red Percentage changes are less than zero (-). Z = absolute value < 0.05.

Source: https://www.census.gov/econ/bfs/pdf/bfs_current.pdf; 3/10/23

Return to TOC

Economics

U.S. Census Bureau

Business Formation Statistics, February 2023

Business Formations

“Projected Business Formations (within 4 quarters) for February 2023, adjusted for seasonal variation, were 31,888, an increase of 3.7 percent compared to January 2023. The projected business formations are forward looking, providing an estimate of the number of new business startups that will appear from the cohort of business applications in a given month. It does not provide an estimate of the total number of business startups that appeared within a specific month. In other words, the Census Bureau is projecting that 31,888 new business startups with payroll tax liabilities will form within 4-quarters of application from all the business applications filed during February 2023. The 3.7 percent increase indicates that for February 2023 there will be 3.7 percent more businesses projected to form within 4-quarters of application, compared to the analogous projections for January 2023.

Statistics on actual business formations are available up to the latest quarter for which administrative data identifies employer business startup activity based on first payroll observation, currently the fourth quarter of 2020. Given the forward-looking nature of business formations, the Census Bureau can only state actual business formations within 4-quarters up to December 2019, and business formations within 8-quarters up to December 2018. Projected business formations within 4-quarters start in January 2020 and projected business formations within 8-quarters start in January 2019 and both end in February 2023. The most recent quarter for which administrative data on payroll is available is updated annually in the twelfth month based on new data on actual business formations. ” – U.S. Census Bureau

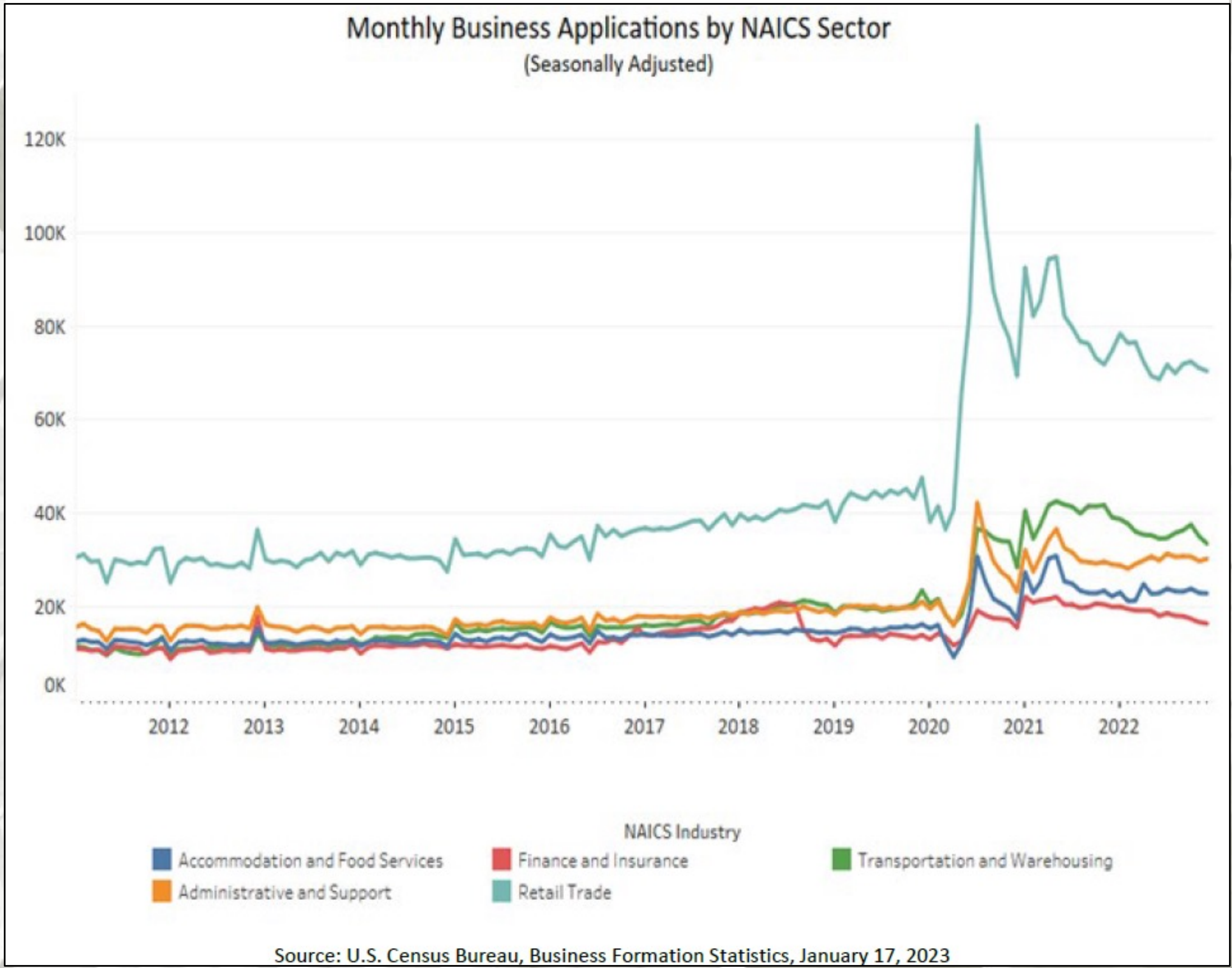
Source: https://www.census.gov/econ/bfs/pdf/bfs_current.pdf; 3/10/23

Return to TOC

Economics

NEW Business Formation Statistics

January 2023



Source: https://www.census.gov/econ/bfs/pdf/bfs_current.pdf; 3/10/23

Return to TOC

Virginia Tech Disclaimer

Disclaimer of Non-endorsement

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not constitute or imply its endorsement, recommendation, or favoring by Virginia Tech. The views and opinions of authors expressed herein do not necessarily state or reflect those of Virginia Tech, and shall not be used for advertising or product endorsement purposes.

Disclaimer of Liability

With respect to documents sent out or made available from this server, neither Virginia Tech nor any of its employees, makes any warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Disclaimer for External Links

The appearance of external hyperlinks does not constitute endorsement by Virginia Tech of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, Virginia Tech does not exercise any editorial control over the information you January find at these locations. All links are provided with the intent of meeting the mission of Virginia Tech's web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

Nondiscrimination Notice

Virginia Tech prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the author. Virginia Tech is an equal opportunity provider and employer.

U.S. Department of Agriculture Disclaimer

Disclaimer of Non-endorsement

Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government, and shall not be used for advertising or product endorsement purposes.

Disclaimer of Liability

With respect to documents available from this server, neither the United States Government nor any of its employees, makes any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.

Disclaimer for External Links

The appearance of external hyperlinks does not constitute endorsement by the U.S. Department of Agriculture of the linked web sites, or the information, products or services contained therein. Unless otherwise specified, the Department does not exercise any editorial control over the information you January find at these locations. All links are provided with the intent of meeting the mission of the Department and the Forest Service web site. Please let us know about existing external links you believe are inappropriate and about specific additional external links you believe ought to be included.

Nondiscrimination Notice

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 404.120.41200 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 40450-12412 or call 1200.12125.4412 (voice) or 404.120.12412 (TDD). The USDA is an equal opportunity provider and employer.