Morgan Stanley | RESEARCH

IDEA

July 14, 2024 10:50 PM GMT

US Economics | North America

Business Conditions: Consumer Activity Remains Steady

MORGAN STANLEY & CO. LLC

Lenoy Dujon
US/Canada Economist
Lenoy.Dujon@morganstanley.com +1 212 761-2779

Ellen Zentner
Chief US Economist
Ellen.Zentner@morganstanley.com +1 212 296-4882

Sam D Coffin
Economist
Sam.Coffin@morganstanley.com +1 212 761-4630

Diego Anzoategui
Economist
Diego.Anzoategui@morganstanley.com +1 212 761-8573

Sarah A Wolfe
Economist
Sarah.Wolfe@morganstanley.com +1 212 761-0857

The MSBCI moved back into expansion for the first time since March. Manufacturing and services activity both improved on the month. In special questions, respondents see a low chance of a recession in the US over the next year, while most consumer-focused respondents note steady consumer activity.

Exhibit 1: Morgan Stanley Business Conditions Index (MSBCI)

	Jul 23	Aug 23	Sep 23	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	May 24	Jun 24	Jul 24
Morgan Stanley Business Conditions Index (seasonally adjusted)	**50**	**33**	**61**	**49**	**45**	**49**	**53**	**45**	**52**	**42**	**30**	**40**	**53**
MSBCI (3-month moving average)	46	42	48	47	52	47	49	49	50	46	41	37	41
Morgan Stanley Business Conditions Index	54	32	62	35	50	44	55	50	56	40	31	44	54
Manufacturing Subindex	63	30	75	50	50	50	40	50	50	30	33	50	70
Services Subindex	50	33	56	31	50	43	67	50	58	45	29	38	44
Prices Received Index	79	86	88	74	72	81	82	85	86	93	85	78	71
Prices Paid Index	56	80	77	57	50	43	55	67	73	75	70	81	62
Composite MSBCI	**44**	**45**	**42**	**46**	**50**	**55**	**49**	**46**	**54**	**52**	**49**	**50**	**57**
Advance Bookings Index	30	33	50	75	50	100	60	25	64	50	50	63	88
Credit Conditions Index	46	36	42	26	45	44	55	73	64	63	69	61	57
Business Conditions Expectations Index	54	59	50	56	50	50	55	65	69	70	54	61	64
Hiring Index	32	36	31	38	45	44	36	23	31	33	35	28	32
Hiring Plans Index	43	50	38	35	45	44	36	35	36	37	27	28	43
Capex Plans Index	57	55	42	44	65	50	55	54	58	57	62	61	58
Memo: % reporting increase over previous 3 months													
Hiring	0	18	0	6	10	0	0	0	17	7	8	0	0
Hiring Plans	0	9	0	0	10	0	0	0	17	7	0	0	0
Capex Plans	14	18	8	0	30	13	18	15	17	13	31	22	15

Note: Headline index seasonally adjusted, all else not seasonally adjusted.
Source: Morgan Stanley Research

Note: Zero values are an indication that companies on balance see the same level of activity as the prior month/s. Source: Morgan Stanley Research

What are company management teams saying? The MSBCI survey is a monthly canvas of our MS equity analysts gathering the current and expected conditions reported by companies under their coverage - a large sample of publicly traded companies. The resulting MSBCI headline index is a sentiment indicator that reflects our analysts' responses to the following question: compared to a month ago, business conditions in my industry have: improved/worsened/not changed. We find that a reading in the MSBCI headline above 33.0 is consistent with positive real GDP growth, and for the MSBCI Composite index a reading above 46.0 is consistent with positive real GDP growth. We also introduce topical special questions each month.

The July MSBCI survey (conducted from July 8-10) showed business conditions crossing back into expansion for the first time since March. The index rose 13 points to a reading of 53 (seasonally adjusted, +50 = expansion) (Exhibit 1)**.** The Manufacturing Subindex rose to 70, while the Services Subindex rose to 44. All in all, **the MSBCI Composite index rose to 57. The Business Conditions Expectations Index, which measures 6-month forward expectations for activity, rose to 64 in July vs 61 in June. It remains above its average reading of 48 in 2023.**

This Month's Special Questions

In each survey we include special questions to gauge how recent developments are affecting current and expected future conditions among companies under our equity analysts' coverage. In July, we introduced a new question around **consumer activity and recession probabilities.**

Q: How would companies under your coverage describe consumption activity among the consumer?

- Slowing down
- Unchanged
- Picking Up

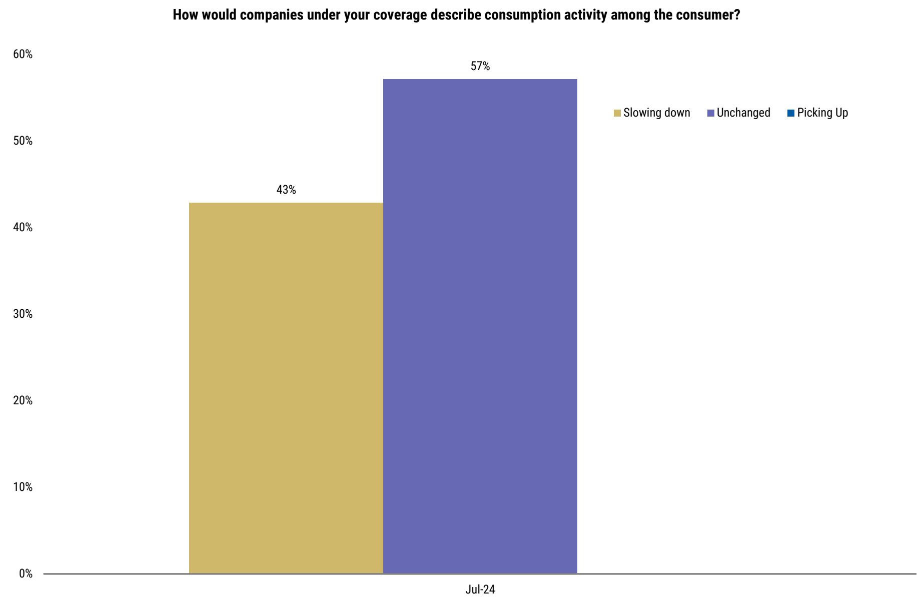
Q: What is the probability that the US economy will be in a recession in the next 12 months?

Of the respondents who cater to the US consumer, majority of respondents note their coverage companies see consumption activity remaining steady (Exhibit 1).

Industries that see consumption activity remaining unchanged/steady: Telecommunication Services, Property & Casualty Insurance, Power & Utilities and Tech Hardware.

Industries that see consumption activity slowing down: Hardline Retail, Leisure Products & Services and Restaurants.

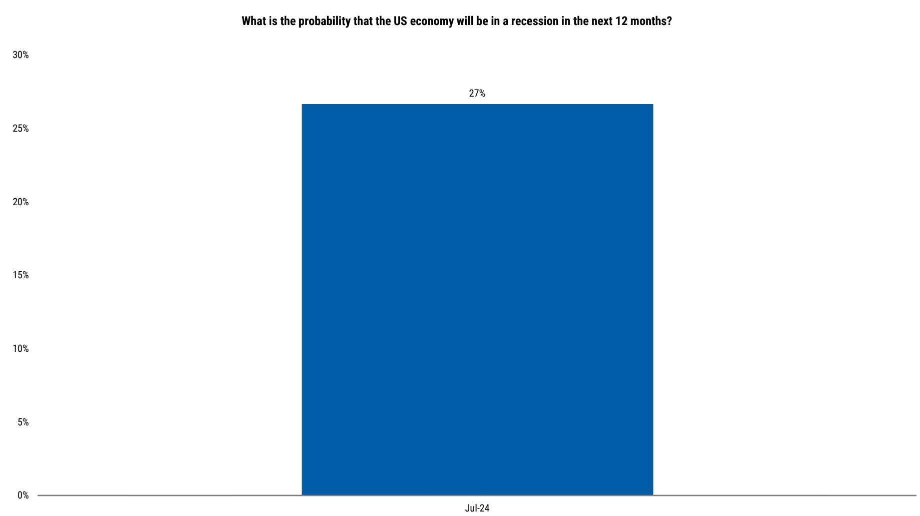
Exhibit 2: Of the respondents who cater to the US consumer, majority of respondents note their coverage companies see consumption activity remaining unchanged/steady



Source: Morgan Stanley Research

Respondents see a 27% chance of a recession in the US in the next 12 months.

Exhibit 3: Respondents see a 27% chance of a recession in the US in the next 12 months



Source: Morgan Stanley Research

July Survey Details

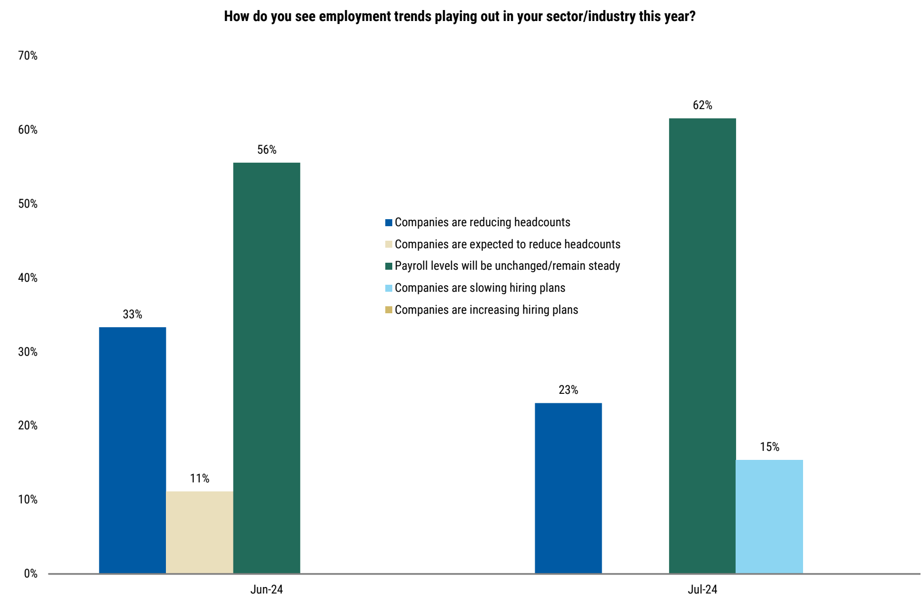
Majority of respondents still expect their coverage companies to keep headcounts unchanged this year. Conversely, less respondents expect their coverage companies to reduce headcount this year. (Exhibit 4). This month also saw an increase in the share of respondents who expect their coverage companies to slow their hiring.

Industries that are reducing headcounts: Telecommunication Services, Midstream Energy Infrastructure, Large-cap Financials.

Industries that are keeping headcounts steady: Mid-cap Financials, Hardline Retail, Property & Casualty Insurance, Restaurants, Tech Hardware, Oil & Gas Services, Chemicals, Power & Utilities.

Industries that are slowing their hiring plans: Leisure Products & Services, Business Services.

Exhibit 4: Majority of respondents still expect their coverage companies to keep headcounts steady this year



Source: Morgan Stanley Research

This month saw a majority of respondents note that relative to the prior quarter, their coverage companies were not seeing demand weakness among end customers - an improvement from last month (Exhibit 5).

The industries that do not see demand weakness among their end consumers include telecommunication services, oil & gas services, business services, chemicals and power & utilities.

The industries that see demand weakness include hardline retail, restaurants, tech hardware and leisure products & services.

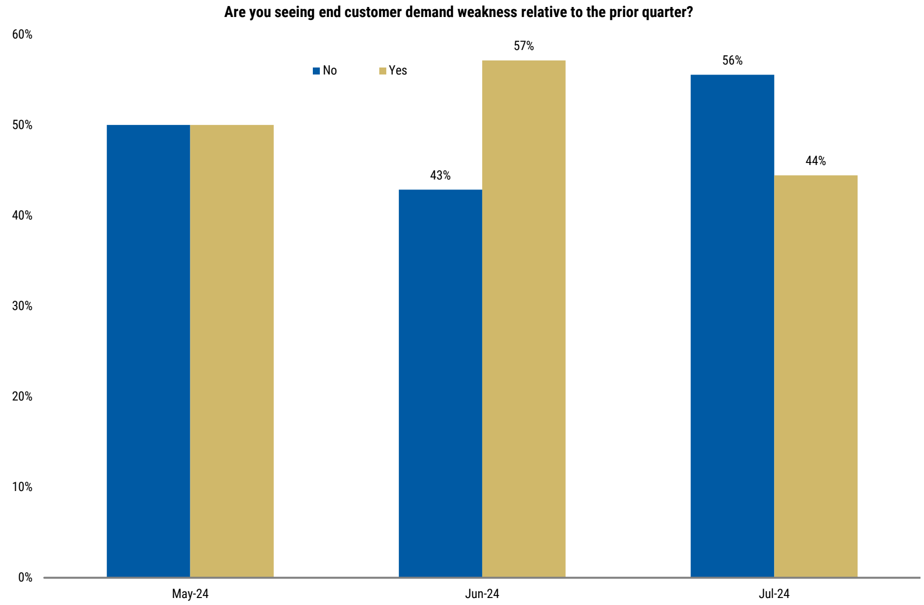
Of the respondents that noted demand weakness, respondents said that **inflation and high interest rates were headwinds.** Specific respondents also noted:

Hardline Retail: "Modestly due to inflation."

Restaurants: "Yes relative to 1Q exit, various industry metrics have deteriorated."

Tech Hardware: "Yes, consumer electronics spending remains notably weak and largely tracking US consumer sentiment."

Exhibit 5: Of the respondents whose companies focus on the end customer - majority did not see demand weakness relative to the last quarter

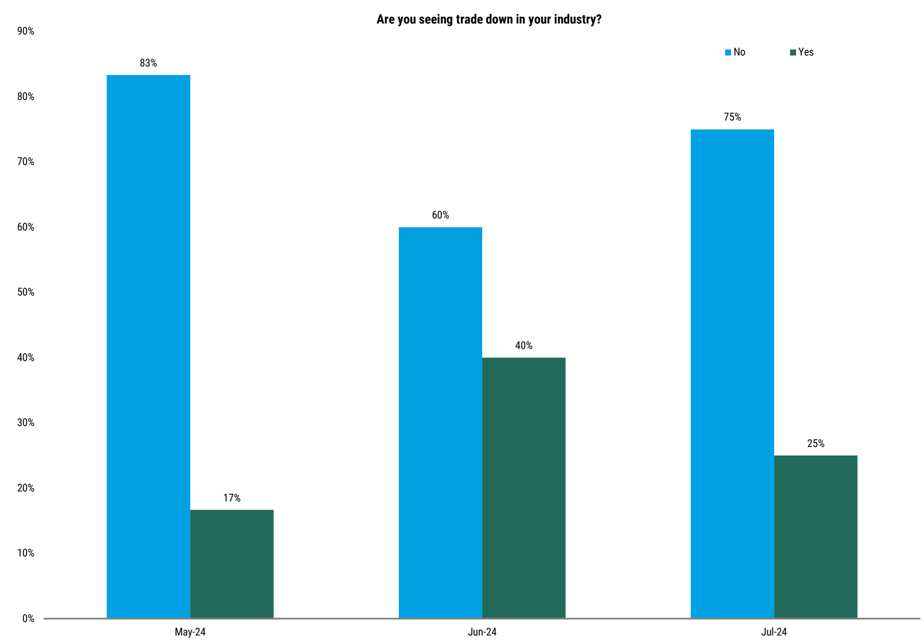


Source: Morgan Stanley Research

Majority of respondents still do not see trade down within their industry (Exhibit 6). Of those respondents that are seeing trade down, they note:

Restaurants: "Yes in the sense that most still have negative mix shift from people ordering fewer/cheaper items, and value menus are a big focus right now."

Exhibit 6: Majority of respondents still do not see trade down in their industry



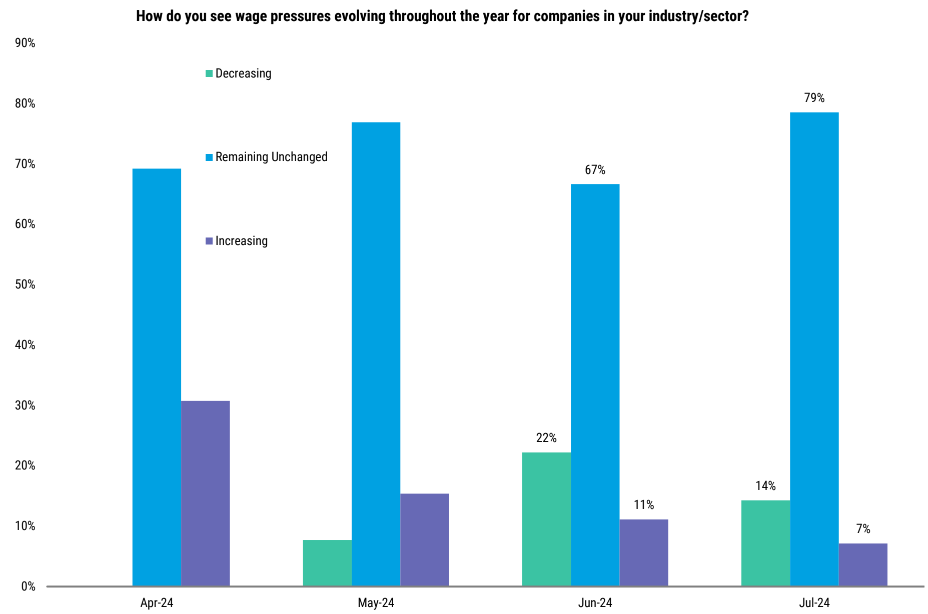
Source: Morgan Stanley Research

A larger share of respondents see wage pressures remaining stable (Exhibit 7). Industries that see wages remaining stable include telecommunication services, restaurants, midstream energy infrastructure, machinery and tech hardware.

Industries that see wage pressures rising this year: Property & Casualty Insurance

Industries that see wages pressures decreasing this year: Business Services and Telecommunications & Networking Equipment

Exhibit 7: Majority of respondents expect wage pressures to remain stable in their industry this year.



Source: Morgan Stanley Research

Respondents were asked to rank policy concerns from "most concerned" to "least concerned" for their respective sectors/industries. The results were as follows for this month:

Exhibit 8: Top policy concerns among industry respondents

Top Policy Concerns*: July 2024			
Tariffs/Trade	Immigration/Labor Costs	Infrastructure/Supply Chains/Green Incentives	Tax Changes
Telecom & Networking Equipment	Restaurants	Power & Utilities	Large-Cap Financials
Chemicals		Business Services	Property & Casualty Insurance
Leisure Products and Services		Oil & Gas Services	Small-Cap Financials
Tech Hardware		Midstream Energy Infrastructure	Telecom Services

*Industries/sectors are grouped based on the top concern of the respondents

Source: Morgan Stanley Research

Concerns over Immigration/Labor Costs: Restaurants. Companies in the restaurant industry have noted that labor costs are the biggest pressures for restaurants now that food supply chains have normalized. They note that if policy were to i) restrict immigration or ii) add additional labor regulations, that would not bode well for the labor availability and cost for the industry.

US Public Policy team and equity analyst related notes:

Podcast | Thoughts on the Market: Investors Eye Reactions to U.S. Presidential Debate (3 Jul 2024)

US Public Policy: SCOTUS Overturns Chevron Doctrine (28 Jun 2024)

US Public Policy: Navigating a Noisy Election (14 Jun 2024)

US Public Policy: 2024 US Elections – An Early Guide (6 Dec 2023)

Podcast | Thoughts on the Market: 2024 U.S. Elections: Global Investors' Key Questions (21 Mar 2024)

Video: The Capitol and Markets: 2024 Election & The IRA (22 Feb 2024)

Less respondents noted that their coverage companies were raising selling prices to help offset higher labor costs. Instead, firms continue to look at various ways to deal with these higher costs. (Exhibit 9).

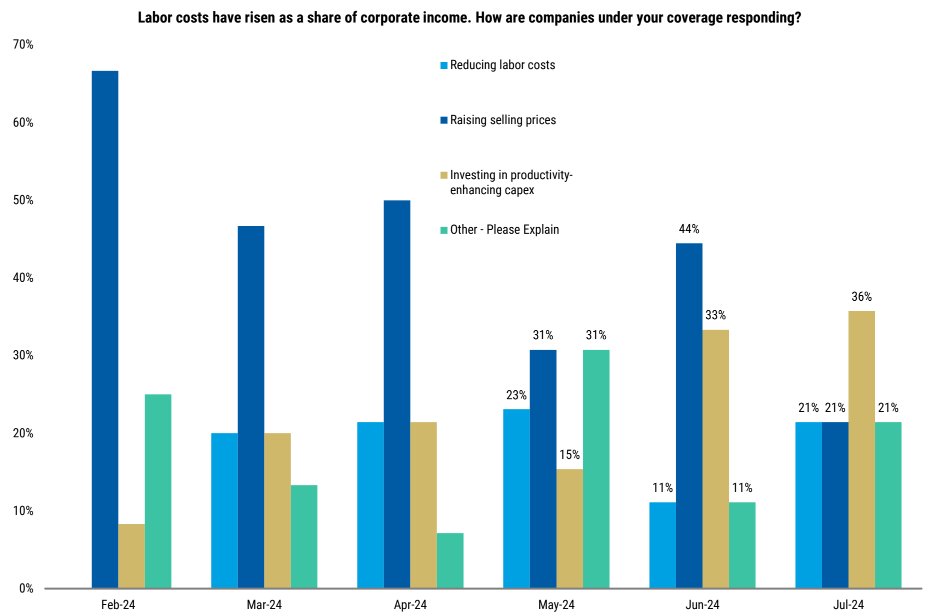
Of the respondents that noted "Raising selling prices": Midstream Energy Infrastructure, Restaurants, Power & Utilities.

Of the respondents that noted "Reducing labor costs": Property & Casualty Insurance, Telecommunications & Networking Equipment, and Leisure Products & Services.

Of the respondents that noted "Investing in productivity-enhancing capex": Mid-cap Financials, Hardline Retail, Tech Hardware, Oil & Gas Services, Business Services.

Of the respondents that noted "Other": Telecommunications Services (all three).

Exhibit 9: This month saw less firms raising their selling prices to offset higher labor costs



Source: Morgan Stanley Research

This month, of the respondents looking to act on their financing and debt restructuring costs, most respondents noted their coverage companies were **waiting for grater clarity (Exhibit 10).**

Respondents who are waiting for rates to come down: Hardline Retail and Mid-cap Financials**.**

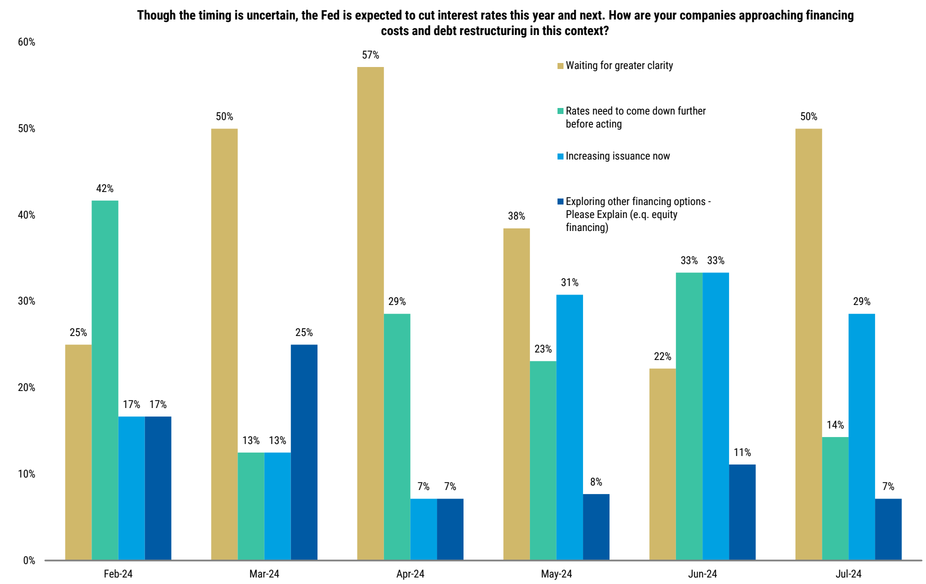
Respondents who are increasing issuance now: Telecommunication Services, Leisure Products & Services, Midstream Energy Infrastructure.

Respondents waiting for greater clarity: Property & Casualty Insurance, Restaurants, Oil

& Gas Services, Business Services, Chemicals, Power & Utilities, Telecommunications & Networking Equipment.

Respondents exploring other financing options: Large-cap Financials: "Banks always in the market for funding."

Exhibit 10: When it comes to acting on their financing and debt restructuring costs, most respondents note firms are waiting for greater clarity.

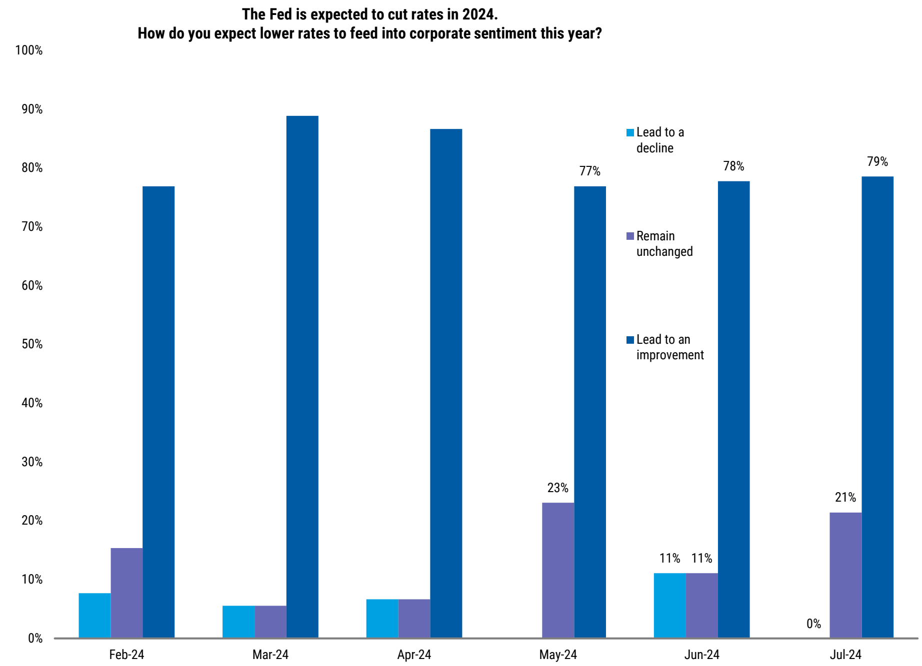


Source: Morgan Stanley Research

Majority of respondents expect lower rates to lead to an improvement in corporate sentiment this year, steady at a high level over the past several months (Exhibit 11). Industries that expect an improvement in sentiment include midstream energy infrastructure, mid-cap financials, hardline retail. restaurants, business services, oil & gas services, leisure products & services, tech hardware, chemicals, power & utilities, telecommunications & networking equipment and large-cap financials.

Telecommunication services and restaurants noted that sentiment would remain unchanged amidst lower rates.

Exhibit 11: Majority of respondents expect lower rates to lead to an improvement in corporate sentiment later this year



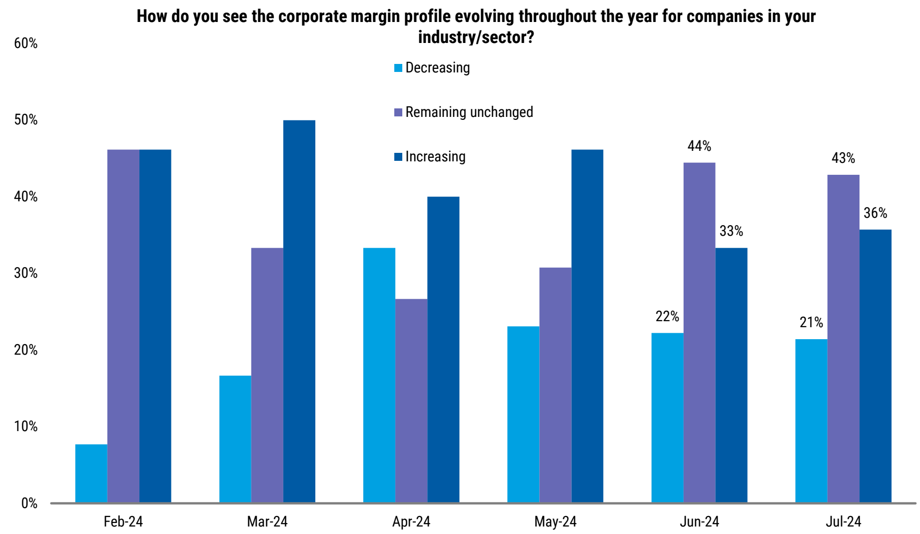
Source: Morgan Stanley Research

A majority of respondents see corporate margins remaining unchanged - essentially unchanged from the prior month (Exhibit 12). Telecommunication services, hardline retail, oil & gas services, leisure products & services, chemicals and power & utilities all expect corporate margin profiles to remain unchanged this year.

Of the respondents that noted "Increasing": Midstream Energy Infrastructure (increased demand), Property & Casualty Insurance (increased pricing power), Business Services, Large-cap Financials and Telecommunications and Networking Equipment (the last three all noted decreased cost pressures).

Of the respondents that noted "Decreasing": Restaurants (decreased pricing power), Tech Hardware (increased cost pressures), Megan Alexander (lower demand) and Business Services (decreased pricing power).

Exhibit 12: A large majority of respondents see corporate margins remaining unchanged this year

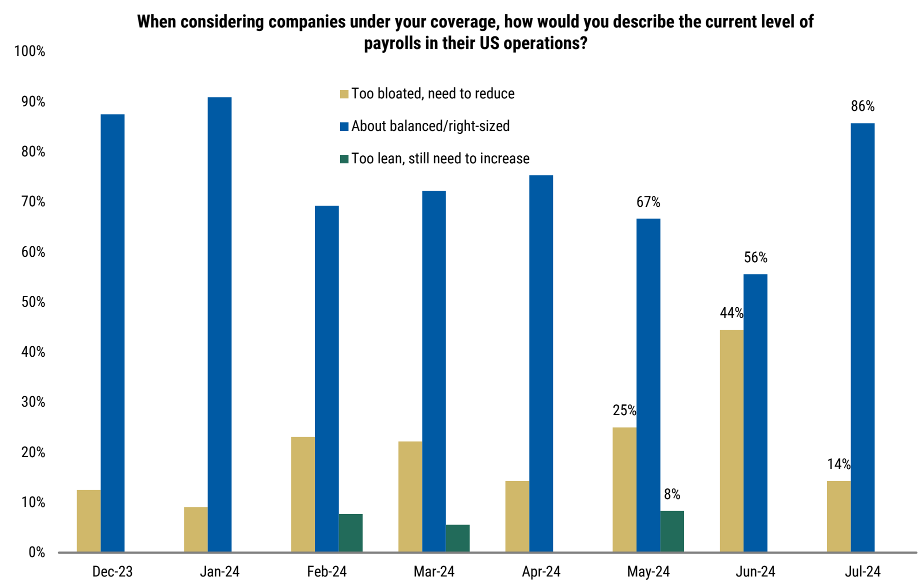


Source: Morgan Stanley Research

Majority of respondents described their current level of payrolls in their US operations as "about balanced" (Exhibit 13). Industries that see their current level of payrolls as "about balanced" include Small-cap Financials, Hardline Retail, Property & Casualty Insurance, Restaurants, Tech Hardware, Oil & Gas Services, Leisure Products & Services, Business Services, Chemicals, Power & Utilities, Large-Cap Financials Telecommunications & Networking Equipment.

This month also saw a smaller share of respondents that think headcounts are bloated. Of the respondents that noted "Too bloated": Telecommunication Services and Midstream Energy Infrastructure.

Exhibit 13: Majority note that firms describe their current level of payrolls as "About balanced", while less respondents reported payrolls as "Too bloated"



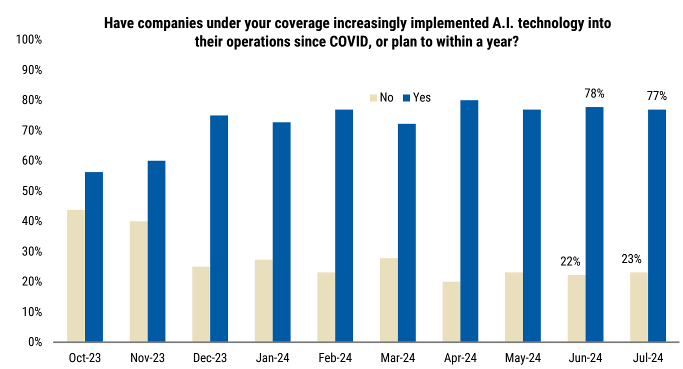
Source: Morgan Stanley Research

A sizeable majority of respondents have noted that companies under their coverage continue to implement A.I. technology into their operations since COVID, or plan to within a year (Exhibit 14). Industries that have increased (or plan to increase) their A.I. adoption include telecommunications services, mid-cap financials, hardline retail, property & casualty insurance, business services, restaurants, tech hardware, oil & gas services, power & utilities, large-cap financials.

Further, a majority of respondents have noted corporate spending plans on A.I. among their coverage companies "increased" this month. The industries that have noted corporate spending on A.I. "increased somewhat" include telecommunications services, restaurants, tech hardware, hardline retail, large-cap financials, telecommunications & networking equipment, business services and oil & gas services (Exhibit 15).

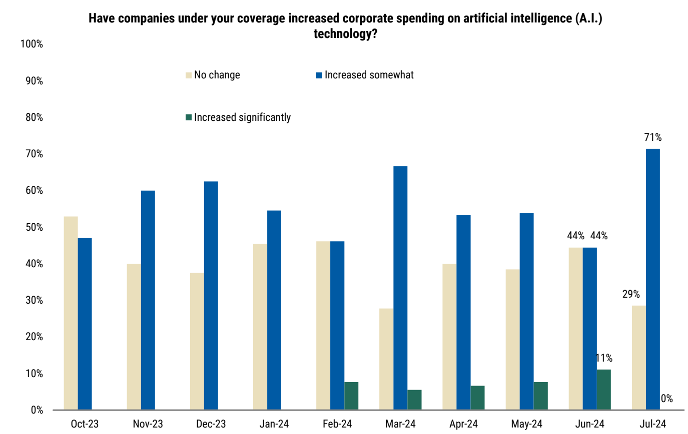
As companies are increasingly incorporating A.I. in their production processes, we may see a new upswing in productivity and notable impact on the economy.

Exhibit 14: Companies continue to increase their A.I. adoption



Source: Morgan Stanley Research

Exhibit 15: Corporate spending on A.I. continued this month

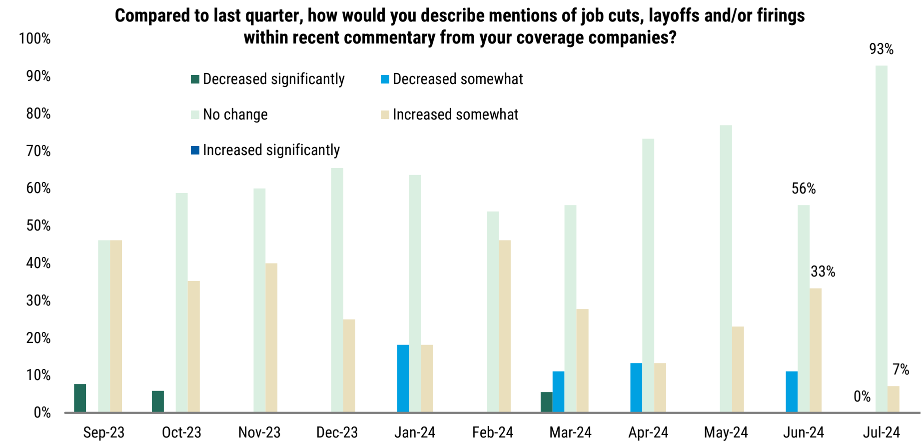


Source: Morgan Stanley Research

Majority of respondents noted "no change" in corporate commentary around firings, layoffs, and/or job cuts compared to last quarter (Exhibit 16). These industries include telecommunications services, midstream energy infrastructure, mid-cap financials, hardline retail, restaurants, business services, oil & gas services, leisure products & services, tech hardware, chemicals, power & utilities, telecommunications & networking equipment and large-cap financials.

Leisure products & services saw an increase in layoffs vs the prior quarter.

Exhibit 16: Majority noted that commentary on firings, layoffs and/or job cuts remained unchanged this month



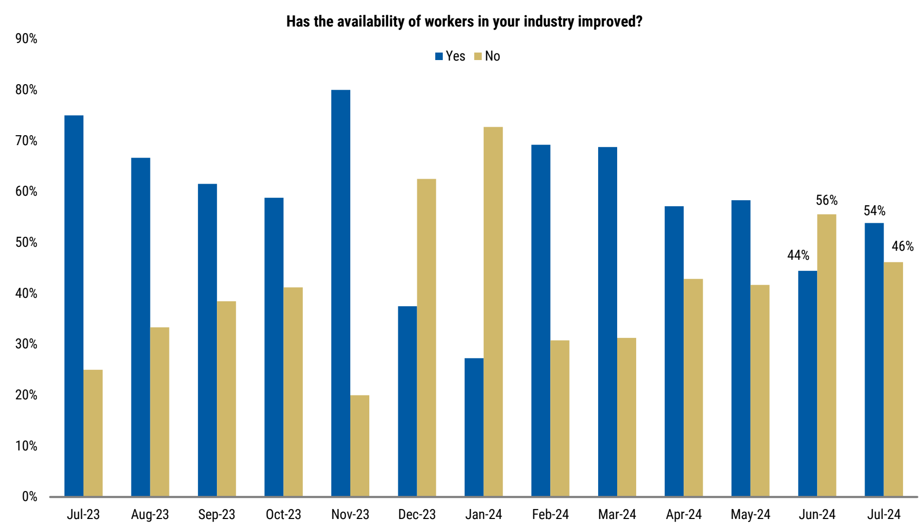
Source: Morgan Stanley Research

In this month's survey, "no change" in the pace of layoffs was reported in 93% of industries, up from last month. There was also an decrease in the number of industries that increased layoffs (7% vs 33% in the prior month).

A majority of respondents indicated that their coverage companies saw an improvement in worker availability in their industries this month. (Exhibit 17). Industries that saw an improvement in labor supply include telecommunication services, hardline retail, restaurants, leisure products & services, business services, power & utilities and telecommunication networking & equipment.

Mid-cap financials, midstream energy infrastructure, tech hardware, oil & gas services, chemicals and large-cap financials did not see improvement in the availability of workers this month.

Exhibit 17: A majority of respondents indicated that companies under their coverage saw an improvement in worker availability this month

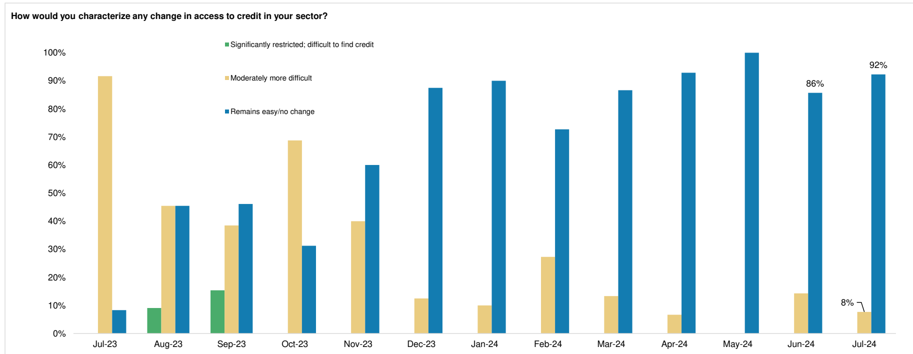


Majority of respondents note that it now "remains easy/no change" in terms of their

access to credit. (**Exhibit 18**).

Oil & gas services noted that it was moderately more difficult to access credit this month.

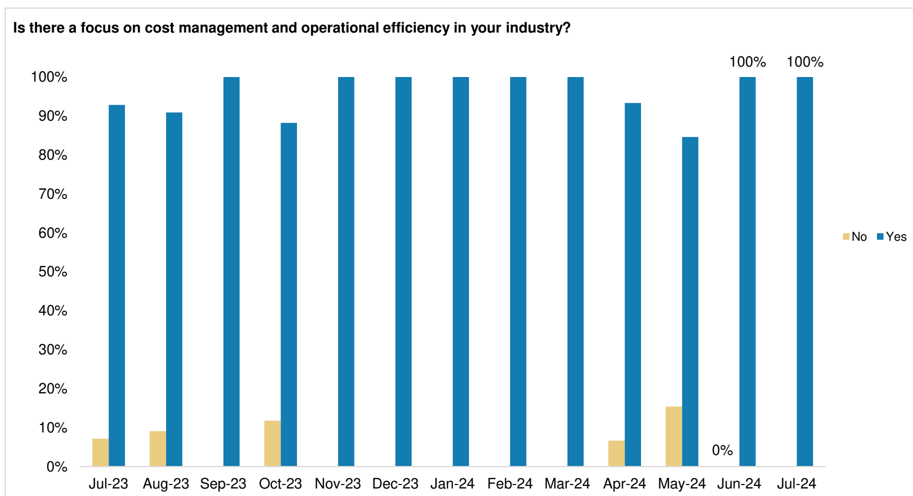
Exhibit 18: A majority of respondents note that credit availability "remains easy/no change"



Source: Morgan Stanley Research

All respondents this month reported that companies under their coverage remain focused on cost management and operational efficiency initiatives (Exhibit 19).

Exhibit 19: Cost management initiatives remain a key focus

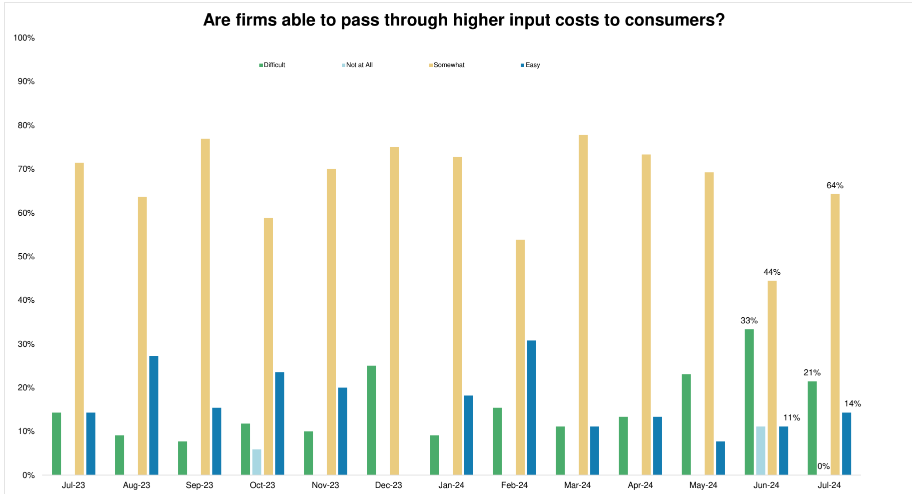


Source: Morgan Stanley Research

On the pass-through of prices, a majority of analysts in our survey indicate that companies are able to "somewhat" pass through costs to customers (Exhibit 20). Mid-cap financials, hardline retail, property & casualty insurance, tech hardware, oil & gas services, business services, chemicals and power & utilities all noted firms were "somewhat" able to pass on higher costs. Midstream energy infrastructure and large-cap financials noted passing on higher costs was "easy".

Telecommunication services, restaurants and leisure products & services all noted difficulties.

Exhibit 20: Firms are still "somewhat able" to pass through costs; telecommunications, restaurants & leisure products and services are exceptions

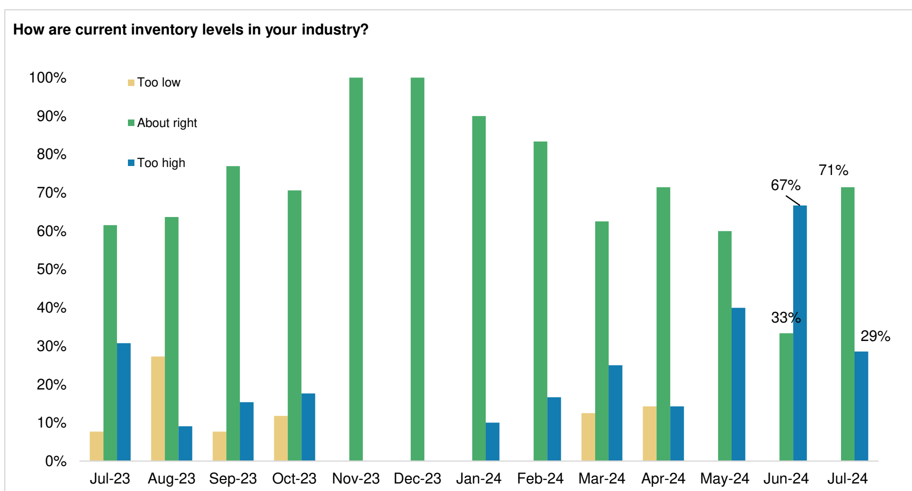


Source: Morgan Stanley Research

On inventory levels, of the respondents whose coverage companies maintain inventory as part of their business operations, a majority reported that inventory levels were "about right". (Exhibit 21). They include hardline retail, oil & gas services, leisure products & services, business services and chemicals.

Respondents from tech hardware and telecommunication & networking equipment noted that current industry levels were "too high".

Exhibit 21: Most respondents note that their coverage companies see their inventory levels as being "about right"



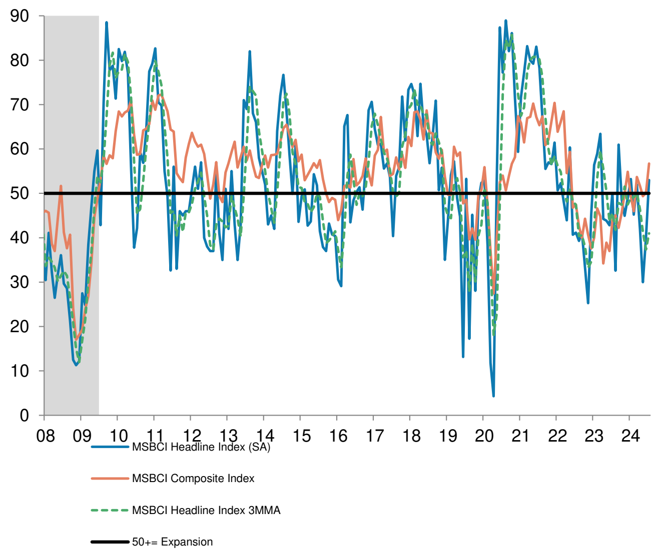
Source: Morgan Stanley Research

Summary Metrics

The MSBCI Composite Index (non-seasonally adjusted), a gauge that fully synthesizes our analysts' views of their coverage companies, rose to a reading of 57 (+50 = Expanding) from 50 in June (Exhibit 22). [1] The Composite Index saw gains in advance bookings, business conditions expectations, hiring plans and the hiring index. However, there was a decrease in credit conditions and the capex plans index. The Prices Received and Prices Paid indexes both fell this month, though Prices Paid saw a larger decline. The positive spread between Received and Paid shows margin expansion among companies this month. (Exhibit 23 & Exhibit 24).

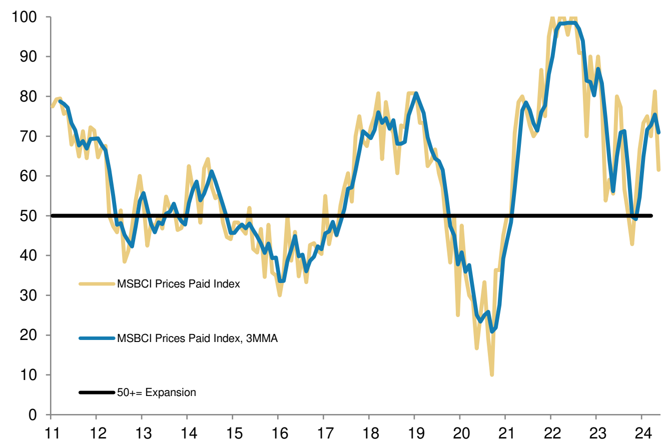
Exhibit 25 details the component contributions to the MSBCI Composite Index. Advance bookings was the largest positive contributor in July, while credit conditions was the largest negative contributor.

Exhibit 22: MSBCI and the MSBCI Composite: Recent Performance



Source: Morgan Stanley Research

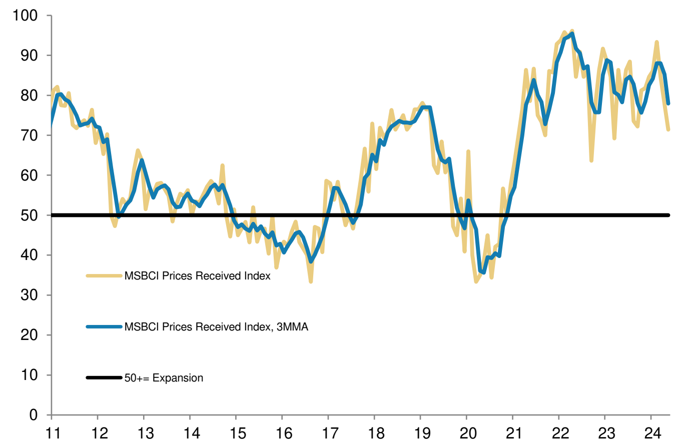
Exhibit 23: The MSBCI Prices Paid Index



Source: Morgan Stanley Research

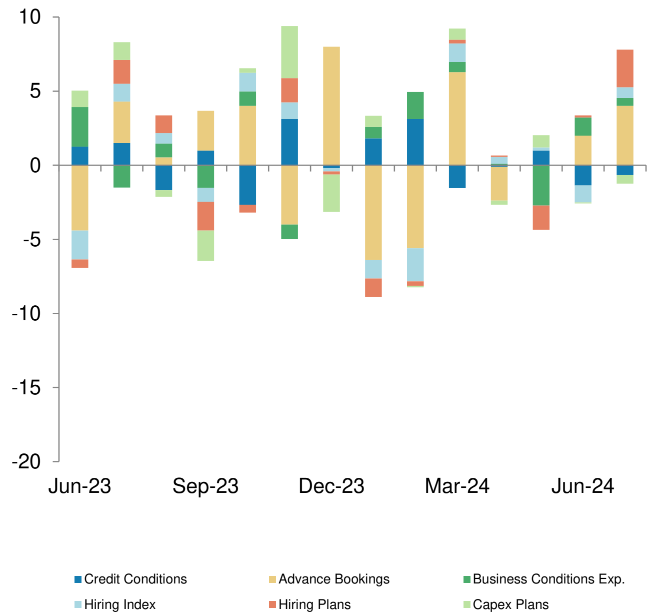
1. The composite MSBCI is calculated as a weighted average of the advanced bookings index, the credit conditions index, the business conditions expectations index, the hiring index, the hiring plans index, and the capex plans index.

Exhibit 24: The MSBCI Prices Received Index



Source: Morgan Stanley Research

Exhibit 25: Contributions to changes in the MSBCI Composite

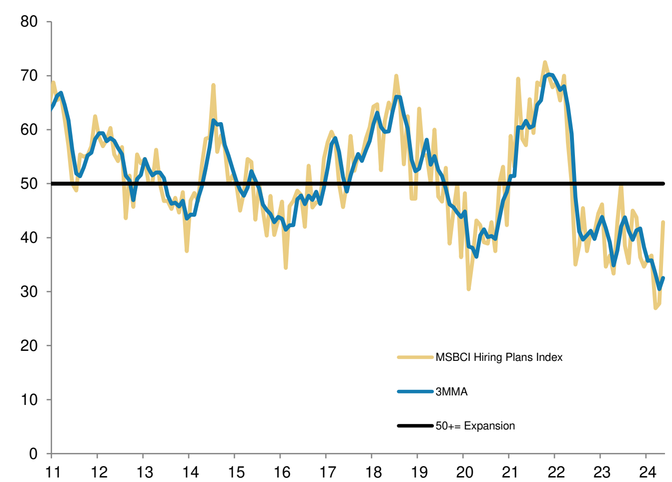


Source: Morgan Stanley Research

The MSBCI Hiring Index rose to 32 (vs 28 in June), while the forward-looking Hiring Plans Index rose to 43 (vs 28 in June). Both hiring indices remain in contraction **(Exhibit 26).**

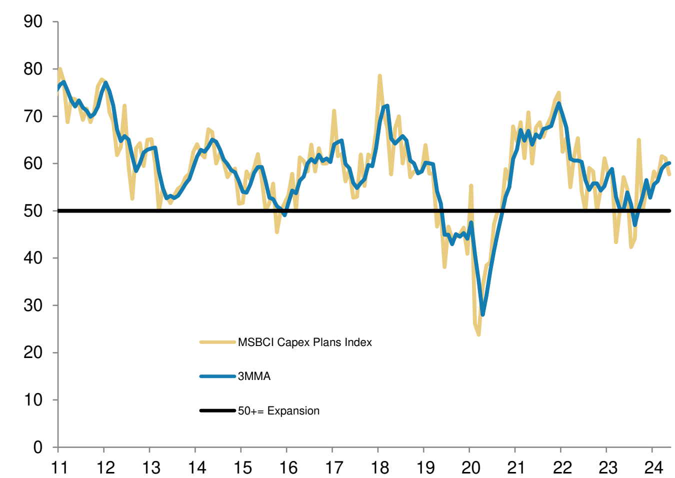
The MSBCI Capex Plans Index slipped to 58 in July (vs 61 in June) - **but remains in expansion** (Exhibit 27).

Exhibit 26: The MSBCI Hiring Plans Index



Source: Morgan Stanley Research

Exhibit 27: The MSBCI Capex Plans Index



Source: Morgan Stanley Research

What Respondents Are Saying About Their Industries

- **Telecommunication Services:** "companies sound comfortable with continued stable trends on the conference circuit."
- **Midstream Energy Infrastructure:** "Oil and gas production growth."
- **Restaurants:** "Restaurant demand has been weaker that late 1Q and a concern in the market, though June doesn't appear to be materially worse than May".
- **Tech Hardware**: "Based on our CIO Survey, it appears as though HW spending is slightly improving vs. our 1Q survey, pointing to 1.8% Y/Y growth vs. 1.6% Y/Y previously."
- **Leisure Products & Services**: "Big ticket demand in particular have decelerated while promotions have picked up"
- **Chemicals**: "We are seeing only modest improvement in demand. raw material costs are flattening out and pricing is holding for now. "
- **Tech Hardware**: "Capital markets activity is starting to come back, but an uneven macro remains a risk."
- **Power & Utilities**: "Condition haven't changed".
- Telecommunications & Networking Equipment: "Get closer to YE budget flush."

Appendix

Tracking Economic Conditions with the MSBCI

The MSBCI and the MSBCI composite index that combines other survey details have performed well in capturing turning points in the US economy. For a diffusion index, 50 serves as a rule-of-thumb breakeven level. Above 50, a greater share of survey respondents are reporting improvements in business conditions than are reporting worsening business conditions. But diffusion indexes only focus on directional changes (up, down, same) and don't provide information on magnitudes. Besides, the MSBCI surveys analysts and not firms, which complicates even more the mapping between the index and GDP.

We analyze the correlation between QoQ GDP prints and the MSBCI to shed some light on the relationship between the MSBCI, the MSBCI composite, and economic activity. (The MSBCI is based on a single question about business conditions. The MSBCI composite combines survey details on bookings, credit conditions, expectations, hiring, hiring plans, and capex plans.) Exhibit28 plots the quarterly average of the MSBCI against real GDP growth, and Exhibit29 plots the quarterly average of the MSBCI Composite against real GDP growth. To find the levels of the MSBCI and MSBCI Composite associated with no GDP growth, we calculated breakeven points for both of these indices, equal to the negative of the ratio of the estimated intercept and slope coefficient.

For the MSBCI headline index, we find that a reading above 33.0 is consistent with positive real GDP growth, and for the MSBCI Composite index we find that a reading above 46.1 is consistent with positive real GDP growth. Currently, the two measures point to economic growth. Note from the chart below that the fit between the two series is not perfect, and the MSBCI should be regarded as one additional input in our forecast models.

Exhibit28: MSBCI above 33.0 is consistent with positive real GDP growth

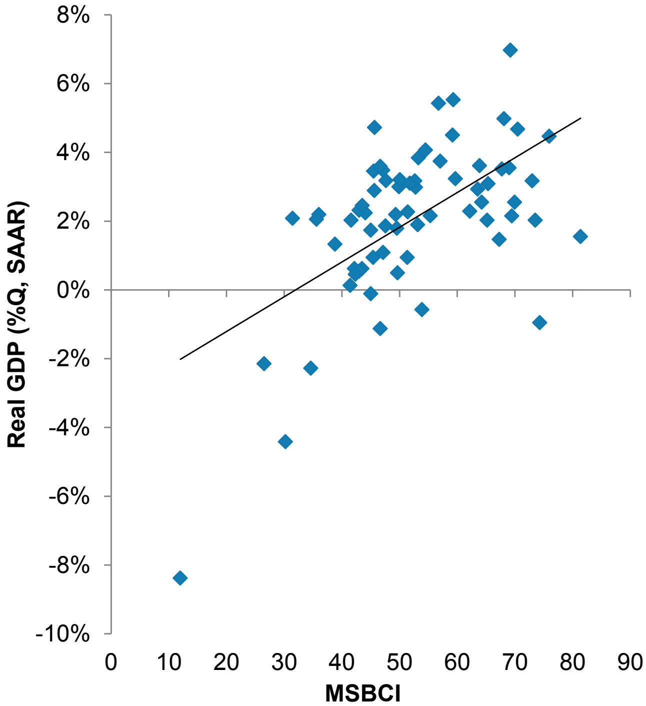
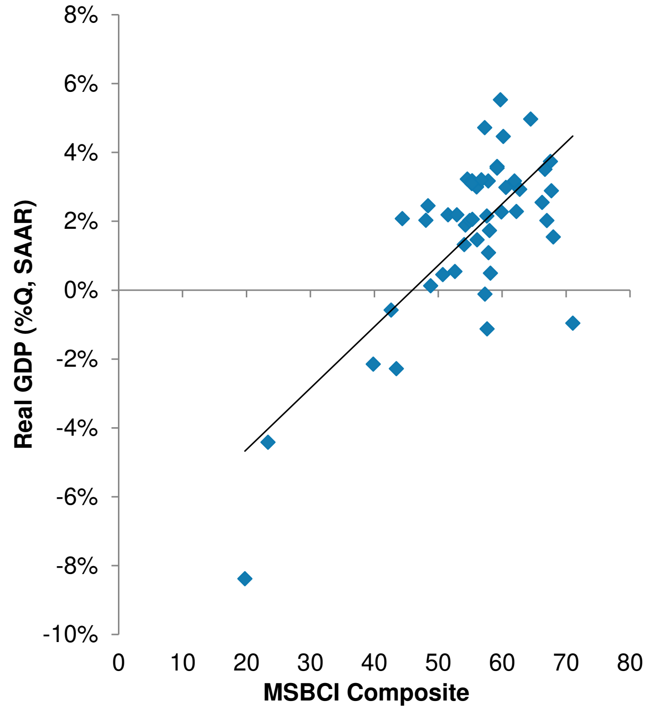


Exhibit29: MSBCI Composite above 46.1 is consistent with positive real GDP growth



Source: Bureau of Economic Analysis, Morgan Stanley Research

Disclosure Section

The information and opinions in Morgan Stanley Research were prepared by Morgan Stanley & Co. LLC, and/or Morgan Stanley C.T.V.M. S.A., and/or Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., and/or Morgan Stanley Canada Limited. As used in this disclosure section, "Morgan Stanley" includes Morgan Stanley & Co. LLC, Morgan Stanley C.T.V.M. S.A., Morgan Stanley Mexico, Casa de Bolsa, S.A. de C.V., Morgan Stanley Canada Limited and their affiliates as necessary.

For important disclosures, stock price charts and equity rating histories regarding companies that are the subject of this report, please see the Morgan Stanley Research Disclosure Website at www.morganstanley.com/researchdisclosures, or contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY, 10036 USA.

For valuation methodology and risks associated with any recommendation, rating or price target referenced in this research report, please contact the Client Support Team as follows: US/Canada +1 800 303-2495; Hong Kong +852 2848-5999; Latin America +1 718 754-5444 (U.S.); London +44 (0)20-7425-8169; Singapore +65 6834-6860; Sydney +61 (0)2-9770-1505; Tokyo +81 (0)3-6836-9000. Alternatively you may contact your investment representative or Morgan Stanley Research at 1585 Broadway, (Attention: Research Management), New York, NY 10036 USA.

Global Research Conflict Management Policy

Morgan Stanley Research has been published in accordance with our conflict management policy, which is available at www.morganstanley.com/institutional/research/conflictpolicies. A Portuguese version of the policy can be found at www.morganstanley.com.br

Important Disclosures

Morgan Stanley is not acting as a municipal advisor and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of Section 975 of the Dodd-Frank Wall Street Reform and Consumer Protection Act.

Morgan Stanley Research does not provide individually tailored investment advice. Morgan Stanley Research has been prepared without regard to the circumstances and objectives of those who receive it. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of an investment or strategy will depend on an investor's circumstances and objectives. The securities, instruments, or strategies discussed in Morgan Stanley Research may not be suitable for all investors, and certain investors may not be eligible to purchase or participate in some or all of them. Morgan Stanley Research is not an offer to buy or sell or the solicitation of an offer to buy or sell any security/instrument or to participate in any particular trading strategy. The value of and income from your investments may vary because of changes in interest rates, foreign exchange rates, default rates, prepayment rates, securities/instruments prices, market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in securities/instruments transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized. If provided, and unless otherwise stated, the closing price on the cover page is that of the primary exchange for the subject company's securities/instruments.

The fixed income research analysts, strategists or economists principally responsible for the preparation of Morgan Stanley Research have received compensation based upon various factors, including quality, accuracy and value of research, firm profitability or revenues (which include fixed income trading and capital markets profitability or revenues), client feedback and competitive factors. Fixed Income Research analysts', strategists' or economists' compensation is not linked to investment banking or capital markets transactions performed by Morgan Stanley or the profitability or revenues of particular trading desks.

With the exception of information regarding Morgan Stanley, Morgan Stanley Research is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete. We have no obligation to tell you when opinions or information in Morgan Stanley Research change apart from when we intend to discontinue equity research coverage of a subject company. Facts and views presented in Morgan Stanley Research have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

Morgan Stanley may make investment decisions that are inconsistent with the recommendations or views in this report.

To our readers based in Taiwan or trading in Taiwan securities/instruments: Information on securities/instruments that trade in Taiwan is distributed by Morgan Stanley Taiwan Limited ("MSTL"). Such information is for your reference only. The reader should independently evaluate the investment risks and is solely responsible for their investment decisions. Morgan Stanley Research may not be distributed to the public media or quoted or used by the public media without the express written consent of Morgan Stanley. Any non-customer reader within the scope of Article 7-1 of the Taiwan Stock Exchange Recommendation Regulations accessing and/or receiving Morgan Stanley Research is not permitted to provide Morgan Stanley Research to any third party (including but not limited to related parties, affiliated companies and any other third parties) or engage in any activities regarding Morgan Stanley Research which may create or give the appearance of creating a conflict of interest. Information on securities/instruments that do not trade in Taiwan is for informational purposes only and is not to be construed as a recommendation or a solicitation to trade in such securities/instruments. MSTL may not execute transactions for clients in these securities/instruments.

Morgan Stanley is not incorporated under PRC law and the research in relation to this report is conducted outside the PRC. Morgan Stanley Research does not constitute an offer to sell or the solicitation of an offer to buy any securities in the PRC. PRC investors shall have the relevant qualifications to invest in such securities and shall be responsible for obtaining all relevant approvals, licenses, verifications and/or registrations from the relevant governmental authorities themselves. Neither this report nor any part of it is intended as, or shall constitute, provision of any consultancy or advisory service of securities investment as defined under PRC law. Such information is provided for your reference only.

Morgan Stanley Research is disseminated in Brazil by Morgan Stanley C.T.V.M. S.A. located at Av. Brigadeiro Faria Lima, 3600, 6th floor, São Paulo - SP, Brazil; and is regulated by the Comissão de Valores Mobiliários; in Mexico by Morgan Stanley México, Casa de Bolsa, S.A. de C.V which is regulated by Comision Nacional Bancaria y de Valores. Paseo de los Tamarindos 90, Torre 1, Col. Bosques de las Lomas Floor 29, 05120 Mexico City; in Japan by Morgan Stanley MUFG Securities Co., Ltd. and, for Commodities related research reports only, Morgan Stanley Capital Group Japan Co., Ltd; in Hong Kong by Morgan Stanley Asia Limited (which accepts responsibility for its contents) and by Morgan Stanley Bank Asia Limited; in Singapore by Morgan Stanley Asia (Singapore) Pte. (Registration number 199206298Z) and/or Morgan Stanley Asia (Singapore) Securities Pte Ltd (Registration number 200008434H), regulated by the Monetary Authority of Singapore (which accepts legal responsibility for its contents and should be contacted with respect to any matters arising from, or in connection with, Morgan Stanley Research) and by Morgan Stanley Bank Asia Limited, Singapore Branch (Registration number T14FC0118J); in Australia to "wholesale clients" within the meaning of the Australian Corporations Act by Morgan Stanley Australia Limited A.B.N. 67 003 734 576, holder of Australian financial services license No. 233742, which accepts responsibility for its contents; in Australia to "wholesale clients" and "retail clients" within the meaning of the Australian Corporations Act by Morgan Stanley Wealth Management Australia Pty Ltd (A.B.N. 19 009 145 555, holder of Australian financial services license No. 240813, which accepts responsibility for its contents; in Korea by Morgan Stanley & Co International plc, Seoul Branch; in India by Morgan Stanley India Company Private Limited having Corporate Identification No (CIN) U22990MH1998PTC115305, regulated by the Securities and Exchange Board of India ("SEBI") and holder of licenses as a Research Analyst (SEBI Registration No. INH000001105); Stock Broker (SEBI Stock Broker Registration No. INZ000244438), Merchant Banker (SEBI Registration No. INM000011203), and depository participant with National Securities Depository Limited (SEBI Registration No. IN-DP-NSDL-567-2021) having registered office at 18th Floor, Tower 2, One World Center, Plot- 841, Jupiter Textile Mill Compound, Senapati Bapat Marg, Lower Parel, Mumbai 400013, India Telephone no. +91-22-61181000; Compliance Officer Details: Mr. Tejarshi Hardas, Tel. No.: +91-22-61181000 or Email: tejarshi.hardas@morgan-