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2Q2023

Reports
ITR Economics

603.796.2500 itreconomics.com

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Economic Overview

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The State of the Economy Looking Forward

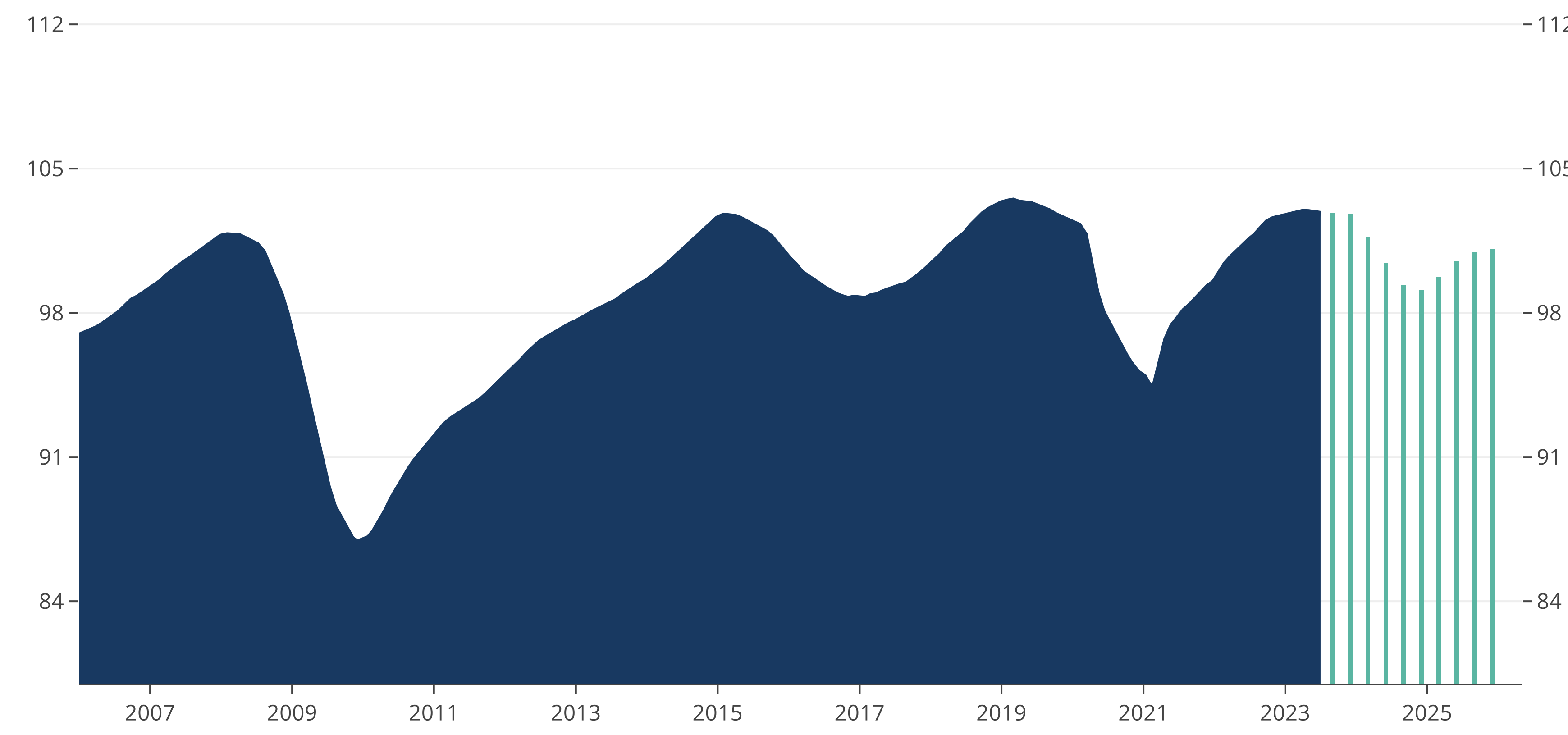
On the leading edge of the economy, we are seeing green shoots of recovery in single-family residential construction. The tight supply of existing homes supports strong demand, but affordability remains a constraint due largely to elevated interest rates. While more accommodating rates would be most impactful, inflation-adjusted income is rising and will help prospective buyers save.

Core metrics of the macroeconomy such as Industrial Production, capex, and consumer spending are in late Phase C, Slowing Growth, and will contend with Phase D, Recession, in 2024. While it can be daunting to face a year of contraction, recovery in the housing market serves as an encouraging reminder that this decline is temporary. Rise will resume for most industries in 2025. Opportunity can be found in countercyclical and nondiscretionary markets; those which have received federal funding, such as semiconductors and renewables; and younger industries, such as e-commerce.

The lagging nonresidential construction sector is near its peak growth rate for this cycle and will soon slow. Decline is slightly further out on the horizon for nonresidential construction, occurring in late 2024 and into 2025.

US Industrial Production Index

Annual Average (12MMA)



Leading Indicators Are Mixed, the Fed Remains Hawkish

The ITR Leading Indicator™, US ISM PMI (Purchasing Managers Index) monthly rate-of-change, and the US OECD Leading Indicator rate-of-change have moved higher in recent quarters. In a typical business cycle, this burgeoning upward movement would suggest near-term recovery and rise for both the US industrial sector and the broader macroeconomy. However, when broadening the analysis to other key drivers, the consensus breaks down.

Many metrics - from corporate profits to lower supply chain pressures to industry utilization rates - are still pointing to rate-of-change decline for US Industrial Production for the coming quarters at least. Major indicators of the upcoming downturn remain the inverted US Treasury yield curve and prior softening in inflation-adjusted consumer savings.

While we do not forecast what the Federal Reserve will do, their messaging remains hawkish as they try to tamp down inflation to their 2% long-run target. While many headlines suggest the US economy may be able to avoid a recession after all, our analysis suggests that is not likely. While the leading indicators remain mixed, the most convincing evidence still points toward a mild recession with a late-2024 low. The impact of contractionary monetary policy takes time to unfold, and further pursuit of this policy risks pushing out the timing of the business cycle low into early 2025.

Form Your Action Plan Looking at Least Half a Business Cycle Ahead

For 2024, have a plan for a median outcome and have contingency plans for both the upside and downside. In addition, think back to previous economic booms – what do you wish you had done during the downturn to set your business up for success? Time those actions so you can capitalize on the general rise during 2025 and much of the second half of this decade. Look for ways to lean into your competitive advantages and take the time to address any competitive disadvantages you may have. Extra time may afford an opportunity for system upgrades or efficiency improvements. Lastly, we expect the labor market to remain relatively tight. Look to retain and cross-train key, high-performing employees to keep the business running, and look for ways to minimize your dependency on labor through efficiency gains.

Terminology and Methodology

Data Trends: Moving Averages and Totals

Quarterly Average *(Three-Month Moving Average, or 3MMA)*
The average of the latest three months of data, updated every month. In the example, $57.79 is the quarterly average for the three months ending in March 2021 (i.e., the average for January, February, and March 2021).

Example: Monthly US Crude Oil Spot Prices averaged $57.79 in the first quarter of 2021, a 26.3% increase from the first quarter of 2020.

Quarterly Total *(Three-Month Moving Total, or 3MMT)*
The total of the latest three months of data, updated every month. In the example, $257.8 billion is the quarterly total for the three months ending in February 2021 (i.e., the total for December 2020, January 2021, and February 2021).

Example: Quarterly US Capital Goods New Orders totaled $257.8 billion in February 2021.

Annual Average *(12-Month Moving Average, or 12MMA)*
The average of the latest 12 months of data, updated every month. In the example, 119.0 million is the annual average for February 2021 (i.e., the average for the 12-month period from March 2020 through February 2021).

Example: US Private Sector Employment averaged 119.0 million workers during the 12 months through February 2021, down 7.5% from one year earlier.

Annual Total *(12-Month Moving Total, or 12MMT)*
The total of the latest 12 months of data, updated every month. In the example, $5.849 trillion is the annual total for February 2021 (i.e., the total for the 12-month period from March 2020 through February 2021).

Example: US Wholesale Trade totaled $5.849 trillion during the 12 months through February 2021.

Growth Rates

Monthly Growth Rate *(1/12 Rate-of-Change)*
The percentage change between a given month and the same month one year earlier. In the example, 79.3% is the monthly growth rate for March 2021.

Example: Monthly US Copper Futures Prices were at $4.00 per pound in March 2021, 79.3% above the March 2020 level of $2.29.

Quarterly Growth Rate *(3/12 Rate-of-Change)*
The percentage change between a three-month period and the same three-month period from one year earlier. In the example, 26.3% is the quarterly growth rate for March 2021.

Example: US Crude Oil Spot Prices averaged $57.79 in the first quarter of 2021, a 26.3% increase from the first quarter of 2020.

Annual Growth Rate *(12/12 Rate-of-Change)*
The percentage change between a 12-month period and the same 12-month period from one year earlier. In the example, -7.5% is the annual growth rate for February 2021; that is, US Private Sector Employment during March 2020 through February 2021 came in 7.5% below Employment from March 2019 through February 2020.

Example: US Private Sector Employment averaged 119.0 million workers during the 12 months through February 2021, down 7.5% from one year earlier.

Business Cycle Phases

Recovery (A)

The annual growth rate (12/12) is rising, but the rate of growth is still negative. We denote this phase with blue (for improving).

Accelerating Growth (B)

The annual growth rate (12/12) is rising, and the rate of growth is positive. We denote this phase with green (for go).

Slowing Growth (C)

The annual growth rate (12/12) is positive, but the rate of growth is declining. We denote this phase with yellow (for caution).

Recession (D)

The annual growth rate (12/12) is declining, and the rate of growth is negative. We denote this phase with red (for warning).

IMEC Markets Dashboard

		Current		Annual Growth Rate Forecast (12/12), Year-End*		
Page Number	Indicator	Growth Rate**	Phase	2023**	2024**	2025**
4	US Industrial Production Index	1.3%	C	0.2%	-3.6%	2.0%
5	US Nondefense Capital Goods New Orders (excluding aircraft)	3.2%	C	0.3%	-3.3%	3.8%
6	US Machinery New Orders	2.1%	C	0.2%	-3.0%	4.7%
7	US Food Production Index	0.1%	C	0.8%	-0.1%	0.9%
8	US Medical Equipment and Supplies Production Index	5.1%	C	1.2%	-0.9%	3.5%

**Coloring denotes the business cycle phase at year-end. For example, if a value in the 2021 column is colored blue, the corresponding indicator is forecasted to be in Phase A, Recovery, at year-end 2021. Green denotes Phase B, yellow Phase C, and red Phase D.*

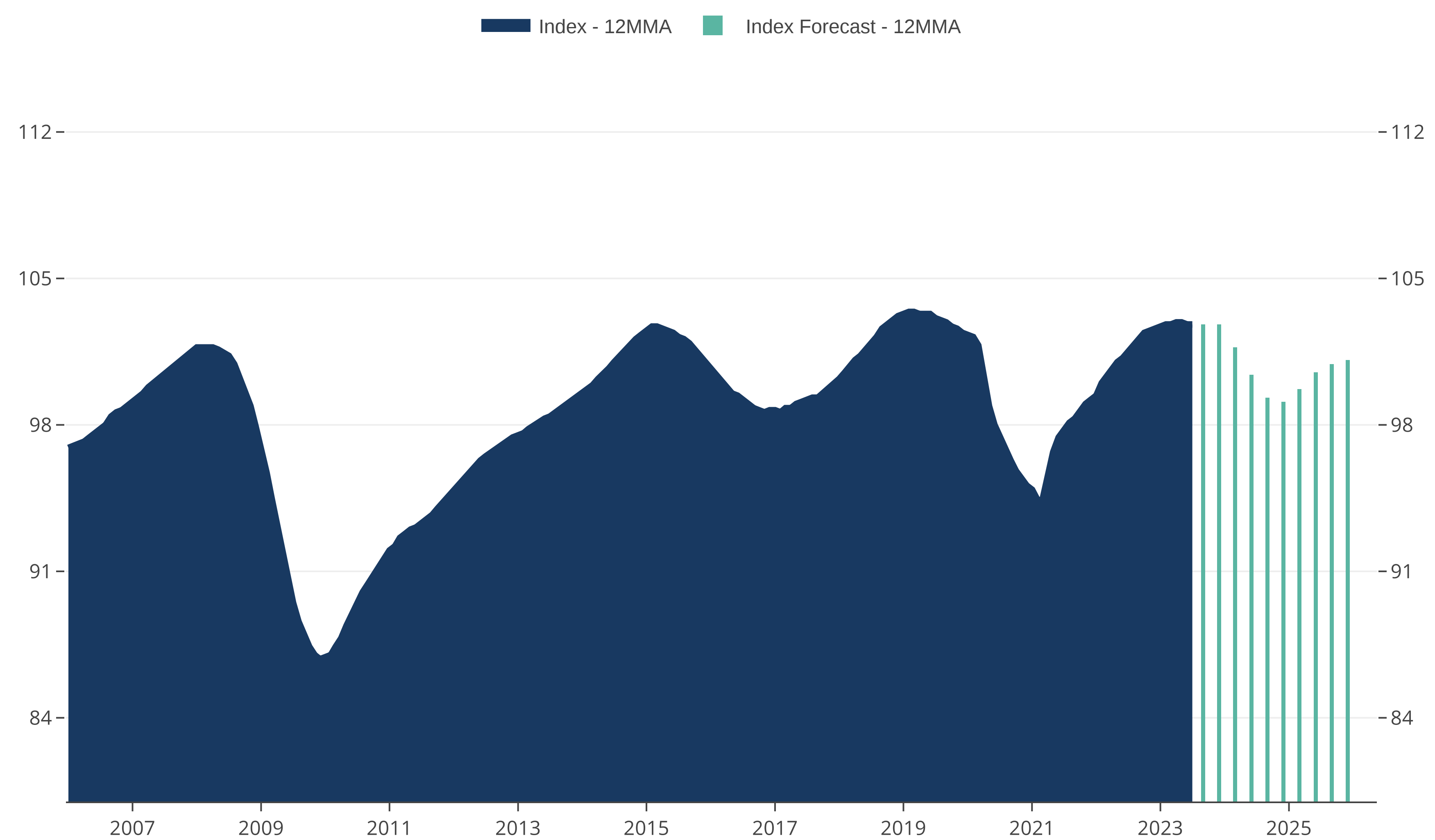
***Annual growth rate (12/12) except where otherwise noted.*

Recovery (A) Accelerating Growth (B) Slowing Growth (C) Recession (D)

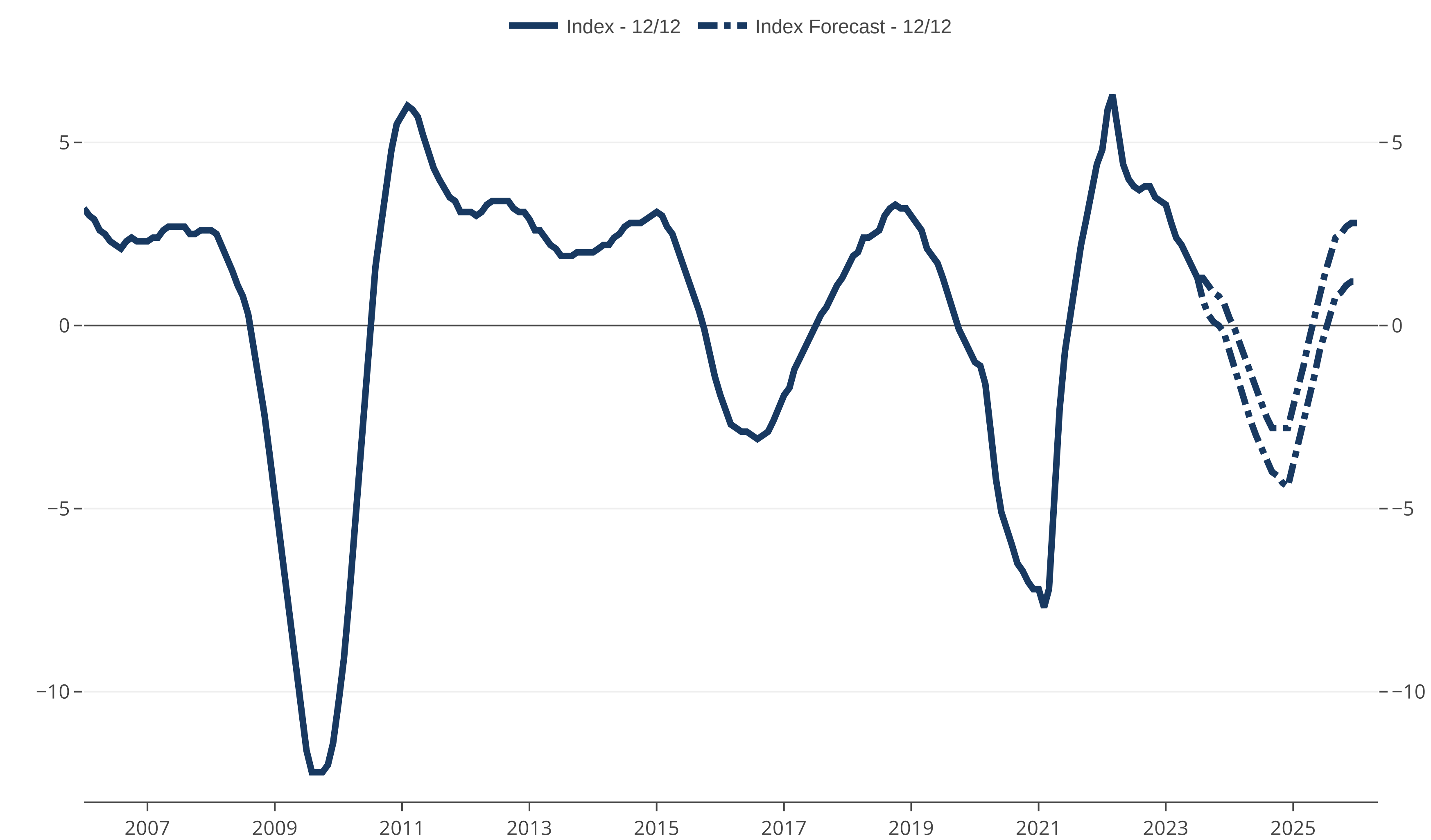
US Industrial Production Index

Hawkish Fed Policy and an Inverted Treasury Yield Curve Signal Annual Production Decline in 2024

Annual Average (12MMA)



Annual Growth Rate (12/12)



Current Phase

Phase C
Slowing Growth

Current Indicator Amplitude

- July 2023 Annual Growth Rate (12/12): 1.3%
- July 2023 Annual Average (12MMA), 2017=100: 102.8

Industry Outlook

Year	Annual Growth Rate
2023	0.2%
2024	-3.6%
2025	2.0%

Outlook & Supporting Evidence

- US Industrial Production in the 12 months through July was 1.3% above the same period last year.
- We lowered the forecast by 1%-2% for 2024 and 2025, but our expectations are little-changed overall.
- We expect annual Production will trend around the current level in the near term. Elevated interest rates, a declining money supply, and built-up inventories continue to weigh on Production, which will contribute to decline starting late this year and lasting throughout 2024.
- A low around year-end 2024 remains the most likely outcome; however, leading indicators are showing mixed signals. Rise in the US OECD Leading Indicator monthly rate-of-change and the ITR Leading Indicator™ suggest the US macroeconomy could resume a cyclical rising trend by early 2024, nearly a year earlier than we are forecasting. However, the evidence is stronger for a late 2024 to early 2025 low point, especially given the ongoing inversion of the Treasury yield curve. A hawkish Federal Reserve points to higher probability of downside pressure from elevated interest rates and further contraction in the money supply. The effects of monetary policy are typically delayed and are therefore likely to be felt into 2024.
- Rise is expected to take hold in 2025 as some of the economic ripples from the pandemic will have dissipated. The Fed is likely to change their policies to be more accommodating in reaction to contraction during 2024.

US Nondefense Capital Goods New Orders (excluding aircraft)

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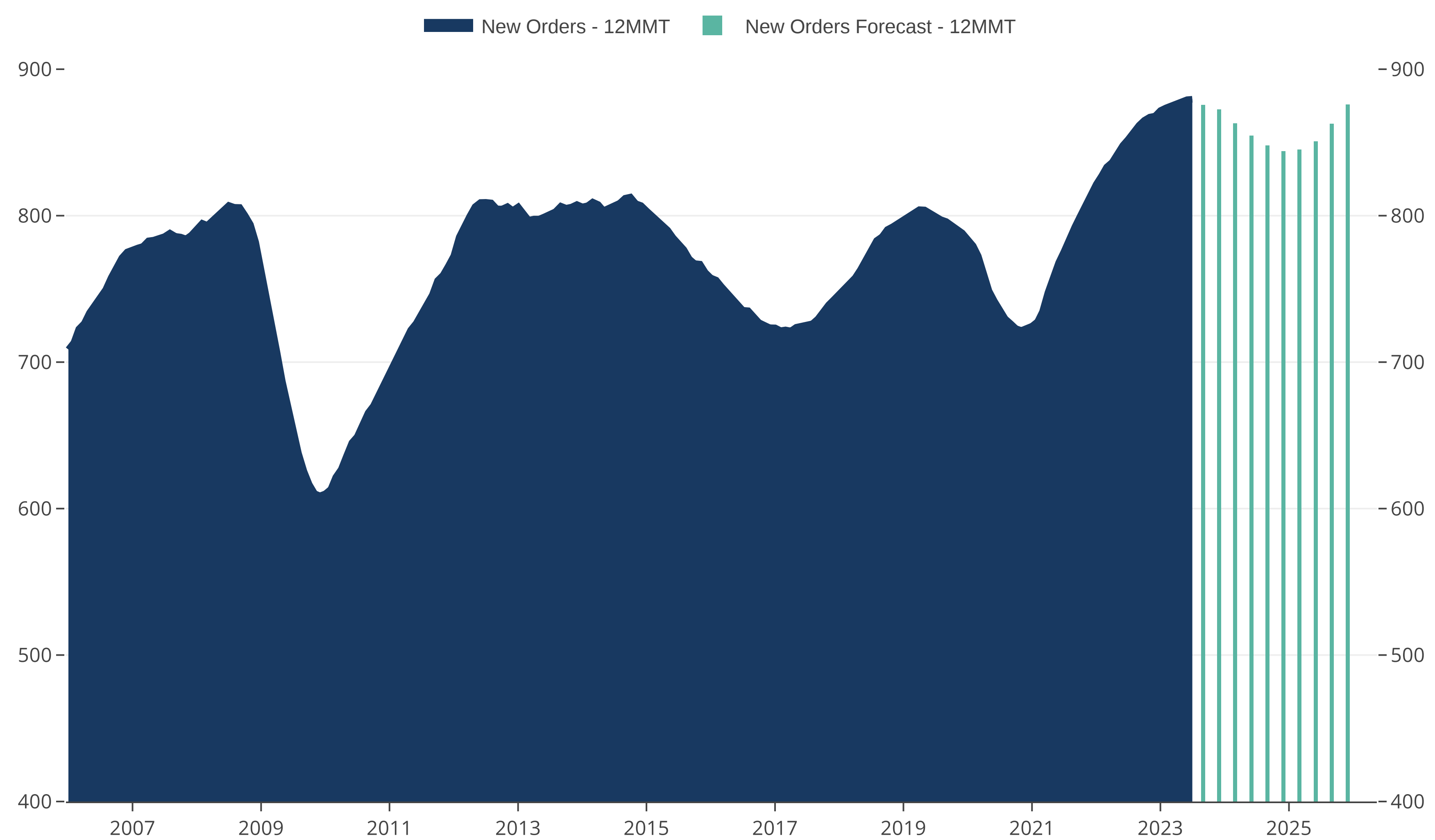
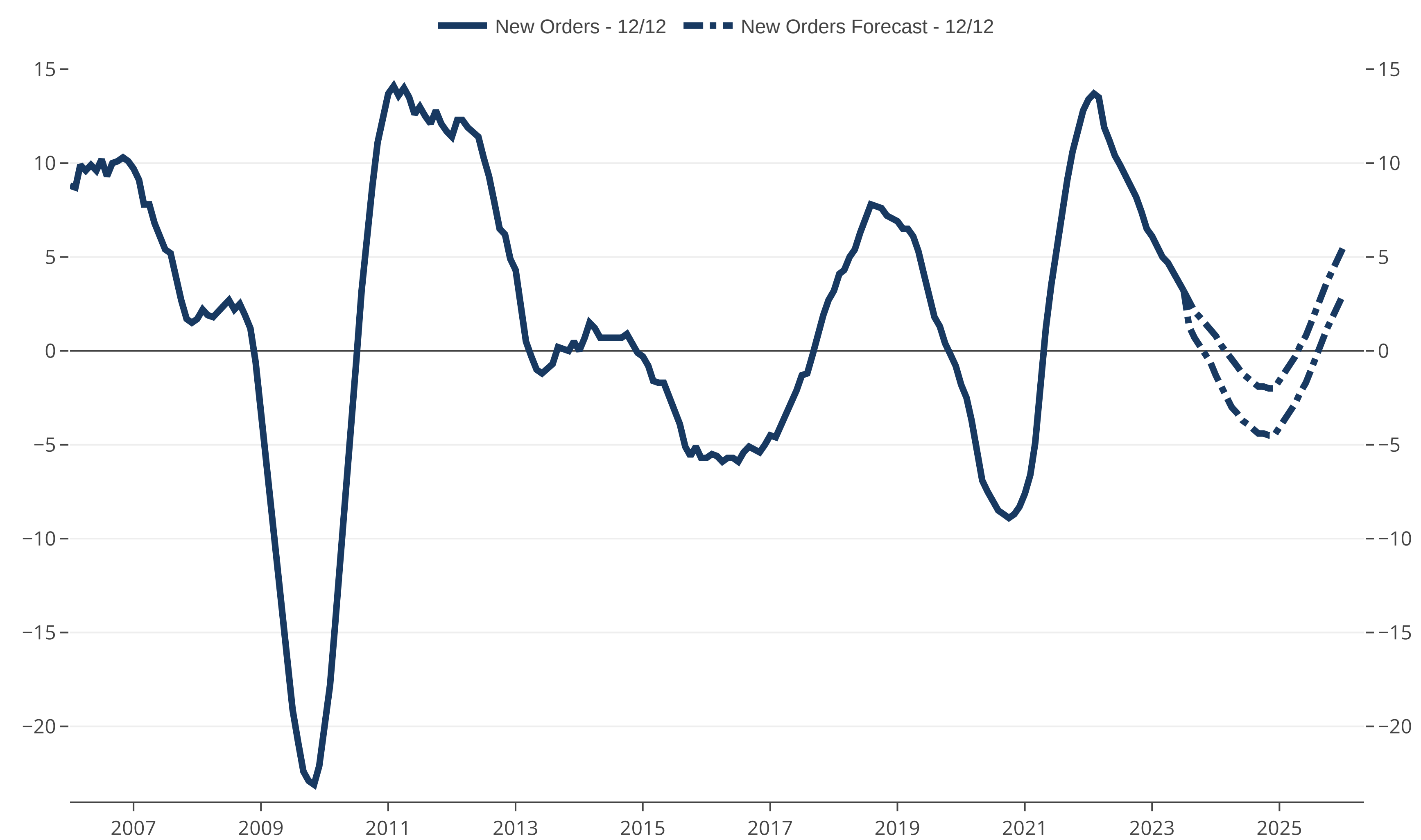
Annual New Orders to Peak Imminently and Decline in 2024 Due to Pricing and Volume Headwinds

Annual Total (12MMT)



Annual Growth Rate (12/12)



Current Phase

Phase C
Slowing Growth

Current Indicator Amplitude

- July 2023 Annual Growth Rate (12/12): 3.2%
- July 2023 Annual Total (12MMT), Billions of USD: $879.5

Industry Outlook

Year	*Annual Growth Rate*
2023	0.3%
2024	-3.3%
2025	3.8%

Outlook & Supporting Evidence

- Annual US Nondefense Capital Goods New Orders (excluding aircraft) totaled $879.5 billion in July, 3.2% above one year ago.
- New Orders will peak in the near term and then decline throughout 2024. New Orders continue to be hindered by credit tightening, elevated interest rates, declining profits, and underlying softening in consumer demand. These factors will hamper demand for new capital goods.
- New Orders face changing pricing dynamics and similar headwinds to US Industrial Production. Annual average US Producer Prices are tentatively declining, and we expect this to continue into late 2024. This will put downward pressure on dollar-denominated New Orders and contribute to its forthcoming decline.
- Rise will characterize 2025 and, by year-end, New Orders will be near the current level. However, downside pressure from further contractionary monetary policy poses a risk of a slightly weaker rising trend in 2025.

US Machinery New Orders

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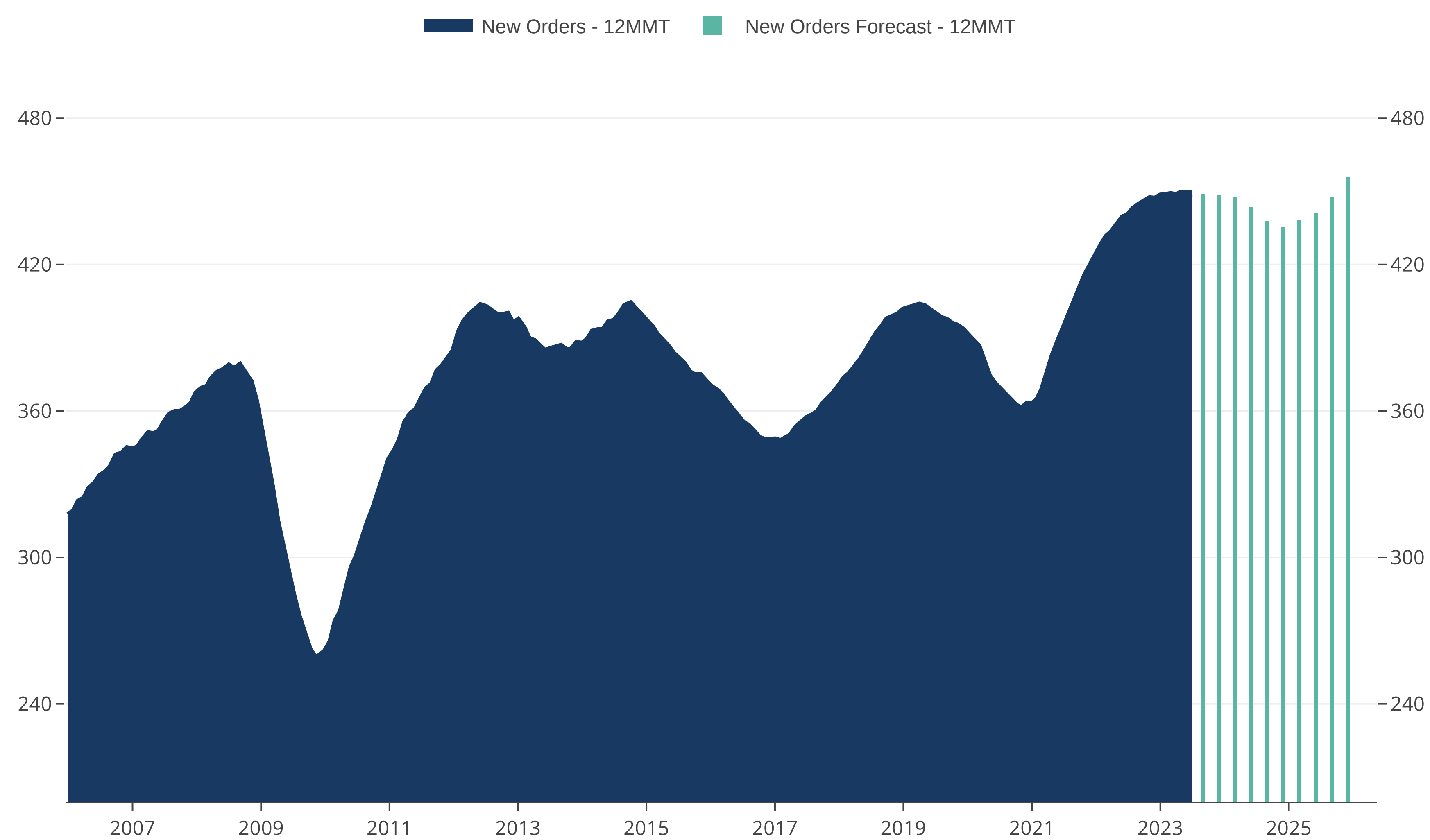
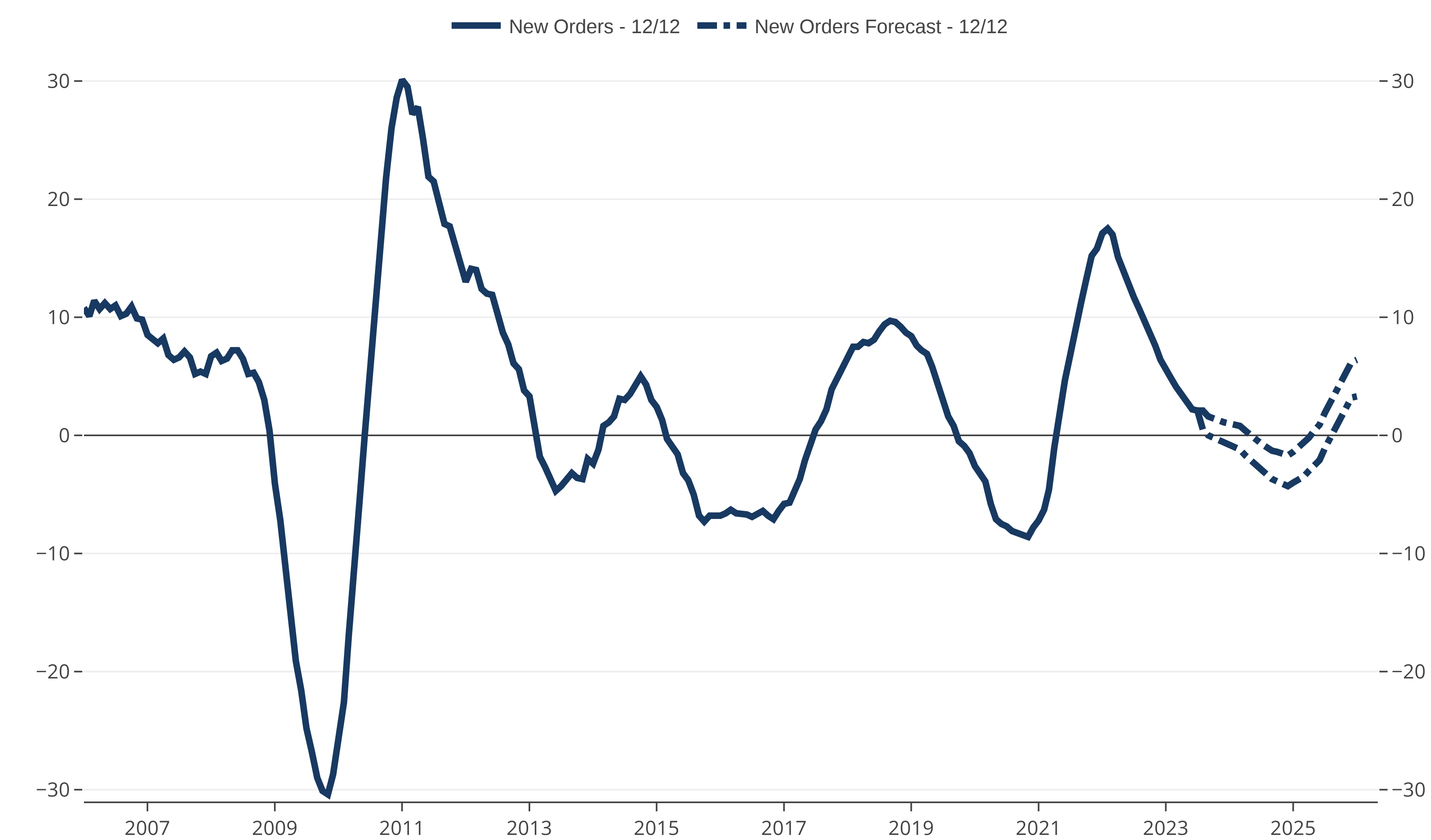
Investment in New Machinery to Decline in 2024 Given Financial Conditions and Lower Production Needs

Annual Total (12MMT)



Annual Growth Rate (12/12)



Current Phase

Phase C Slowing Growth

Current Indicator Amplitude

- July 2023 Annual Growth Rate (12/12): 2.1%
- July 2023 Annual Total (12MMT), Billions of USD: $449.2

Industry Outlook

Year	*Annual Growth Rate*
2023	0.2%
2024	-3.0%
2025	4.7%

Outlook & Supporting Evidence

- Annual US Machinery New Orders totaled $449.2 billion in July, 2.1% above the year-ago level.
- New Orders will hold relatively flat for the remainder of the year before declining throughout 2024. This decline is attributable in part to the lagged effect of higher interest rates and tightening credit requirements. The impact will be more acute for typically financed machinery.
- Additionally, the US Manufacturing Utilization Rate is generally declining, suggesting there is less need for New Orders during this time as businesses utilize the capacity they already possess. Performance will vary by manufacturing sector. Deeper troughs are likely for machinery used in interest-rate-sensitive sectors, such as residential construction, and sectors that are correcting from a pandemic-driven sugar rush. Markets that will fare better include those that are benefiting from reshoring; those with relatively inelastic demand, such as consumer staples like food and medical supplies; and those that are benefiting from government investment, such as semiconductors and renewable energy.
- Macroeconomic conditions will improve and industrial activity will resume growth in 2025, which will translate to a rise in New Orders throughout that year.

US Food Production Index

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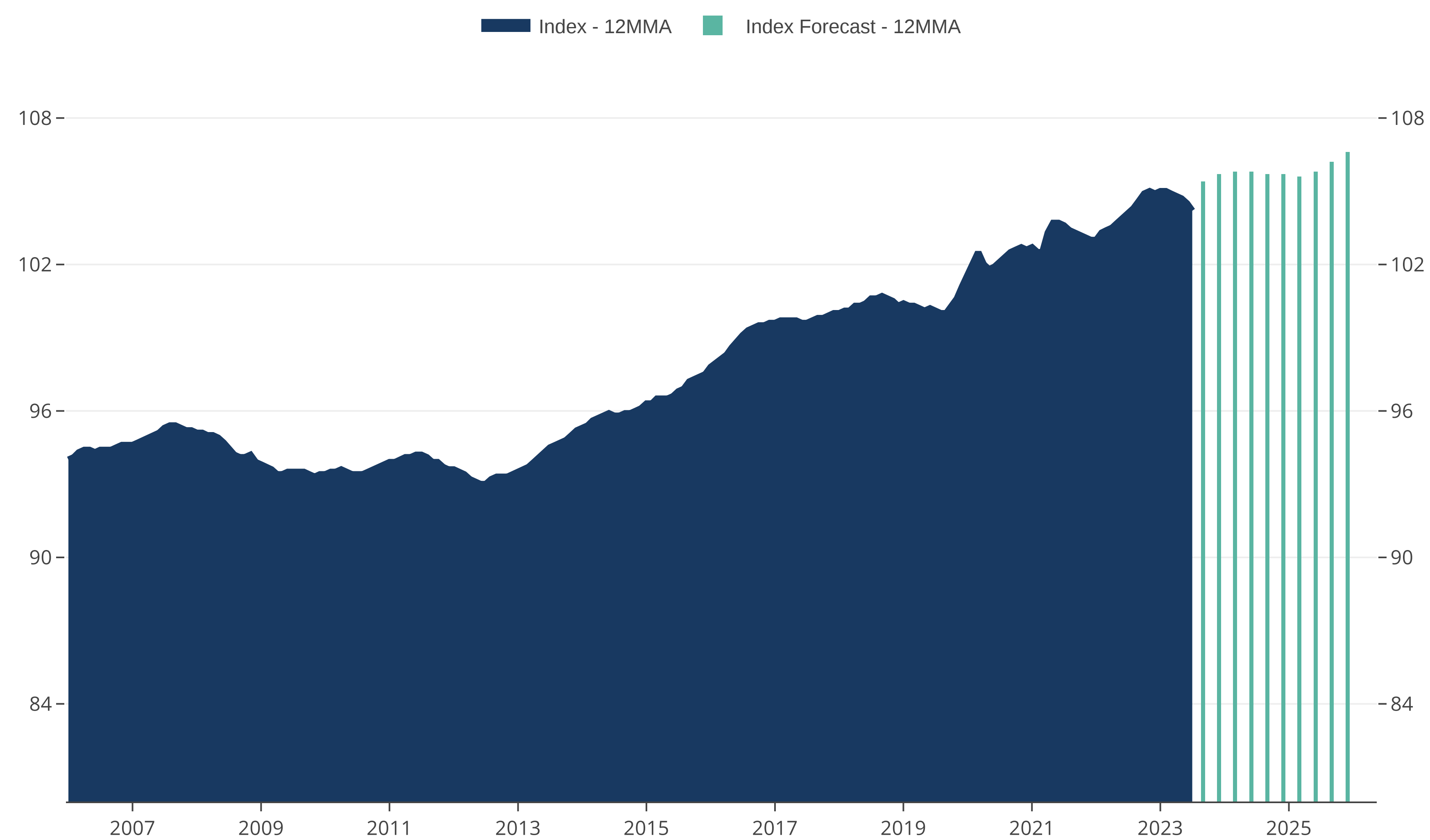
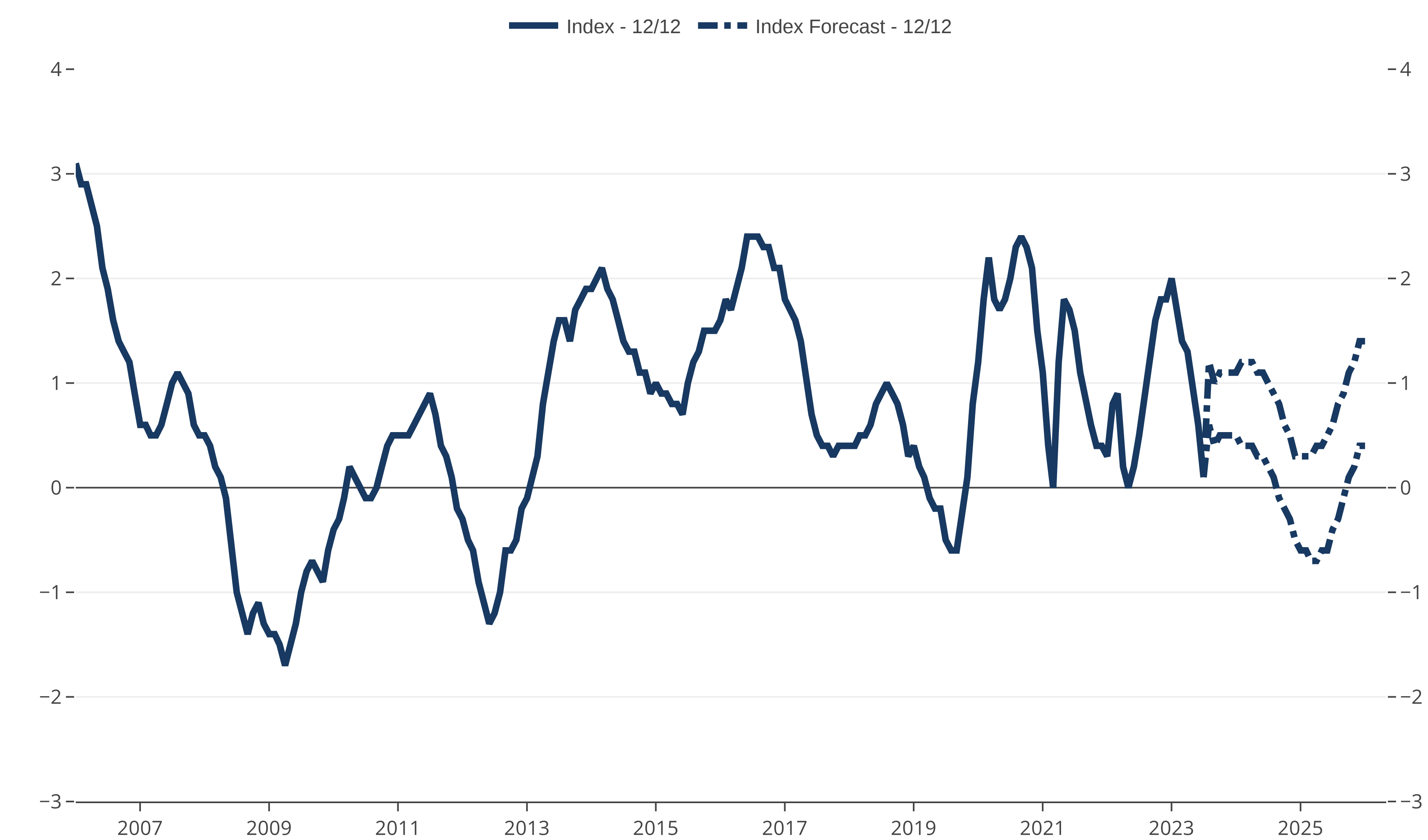
Food Production Was Weak Mid-Year, a Plateau Is Most Probable Through 2024

Annual Average (12MMA)



Annual Growth Rate (12/12)



Current Phase

Phase C
Slowing Growth

Current Indicator Amplitude

- July 2023 Annual Growth Rate (12/12): 0.1%
- July 2023 Annual Average (12MMA), 2017=100: 104.2

Industry Outlook

Year	*Annual Growth Rate*
2023	0.8%
2024	-0.1%
2025	0.9%

Outlook & Supporting Evidence

- Annual US Food Production is declining and virtually equal to the year-ago level. Production is trending slightly below our forecast range due to an abnormally weak second quarter, followed by a soft July. The economic evidence still points to a relatively flat trend for Production this year and next; the forecast is unchanged.
- Production was negatively impacted in recent months by adverse weather events. Searing heat across the majority of the United States impacted crops and stressed supply chains. Further harmful weather events would present a downside risk to our forecast.
- Food industry profits have been rising and record-high food prices are affording the sector the ability to invest in capital that would expand production capacity, integrate automation, and improve processes. However, elevated interest rates may put a damper on investment in new machinery. When making capacity decisions, factor in that the longer-run trend of rise is likely to resume in 2025 and that labor is likely to remain expensive.
- As the macroeconomy recovers in 2025, we expect Production to start to rise in the second half of that year.

US Medical Equipment and Supplies Production Index

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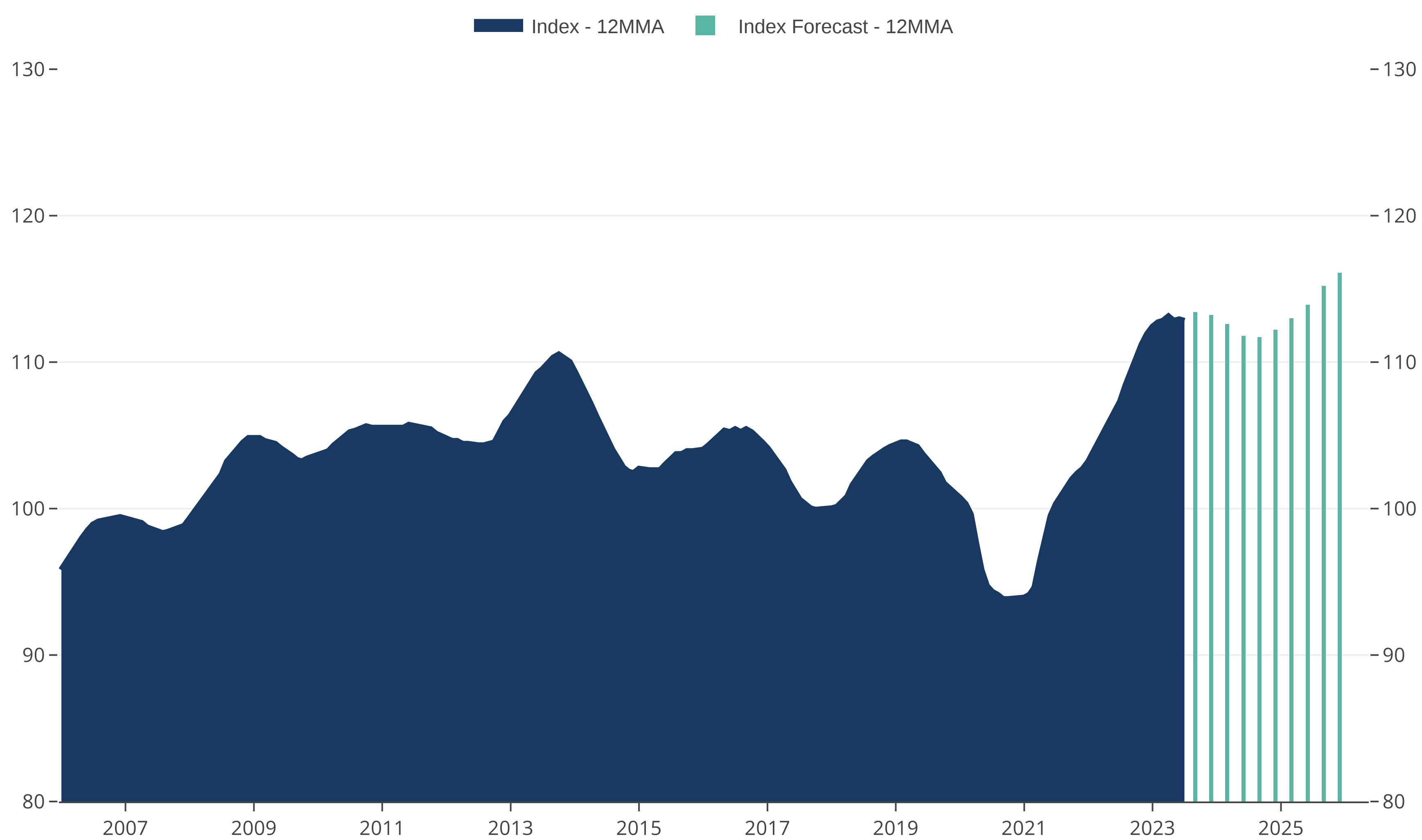
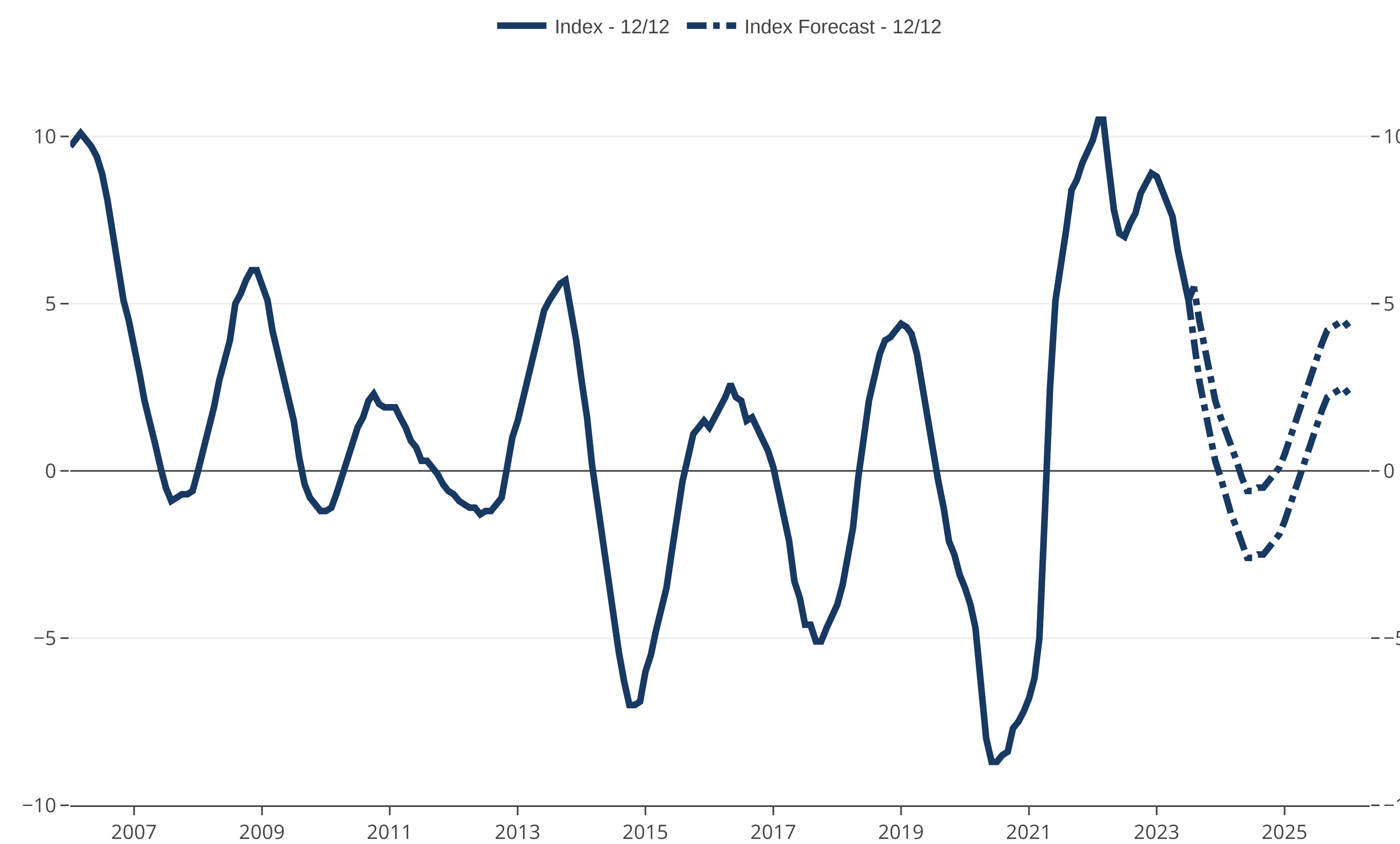
Increasing Financial Strain on Medical Industry to Dampen Demand for Equipment in 2024

Annual Average (12MMA)



Annual Growth Rate (12/12)



Current Phase

Phase C
Slowing Growth

Current Indicator Amplitude

- July 2023 Annual Growth Rate (12/12): 5.1%
- July 2023 Annual Average (12MMA), 2017=100: 112.8

Industry Outlook

Year	*Annual Growth Rate*
2023	1.2%
2024	-0.9%
2025	3.5%

Outlook & Supporting Evidence

- Annual US Medical Equipment and Supplies Production was 5.1% above the year-ago level in July. Production has held relatively flat in recent months and is expected to continue that trend through year-end.
- In 2024, decline in Production is expected to take hold, with the majority of decline coming from a reduction in medical equipment. Over the last year, there has been an increase in input and labor costs, which is weighing on medical sector margins. Additionally, there was the rollback of pandemic-era Medicaid enrollment. These financial pressures may make medical establishments more hesitant to invest in new equipment. Medical supplies and consumables are likely to have relatively steadier demand. On net, overall Equipment and Supplies Production will decline only mildly next year.
- Rise will take hold in 2025 and persist through the year, ending in a record high.

US Leading Indicators

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Indicator	Direction 4Q23	1Q24	2Q24
ITR LEADING INDICATOR™	🔴	🟢	N/A
ITR RETAIL SALES LEADING INDICATOR™	🔴	🔴	🔴
US OECD LEADING INDICATOR	🟢	🟢	N/A
US ISM PMI (PURCHASING MANAGERS INDEX)	🔴	🟢	🟢
US TOTAL CAPACITY UTILIZATION RATE	🔴	🔴	N/A

Green denotes that the indicator signals cyclical rise for the economy in the given quarter. Red denotes the opposite.

What It Means for the US Economy

•Both the ITR Leading Indicator™ and the US OECD Leading Indicator rose mildly in August. We still expect cyclical decline in US Industrial Production into at least late 2024, especially considering the yield curve is still inverted and the Federal Reserve has signaled that further rate hikes are possible.

• The ITR Retail Sales Leading Indicator™ ticked down in August but is trending above June. More data is needed to determine whether June can be considered a tentative low. We still expect general decline in the US Total Retail Sales 12/12 rate-of-change for at least the next year.

•The US Total Industry Capacity Utilization Rate 1/12 rose slightly in August, but the upward movement may be regular volatility. A general descending trend in this leading indicator suggests that the US industrial sector will remain on the back side of the business cycle into at least the first quarter of 2024.

Leading indicators are mixed, but overall evidence suggest recession ahead for the US economy. While contraction can be stressful, maintain a focus on the longer term and communicate your plans openly and regularly with your team. What can you do now to prepare for the next rising trend? Can you improve your competitive advantages and address your competitive disadvantages? How can you improve your margins in the longer term?

Market Definitions

US Industrial Production Index

Index of total industrial production in the United States; includes manufacturing, mining, and utilities. Source: Federal Reserve Board (FRB). 2017 = 100, not seasonally adjusted (NSA).

US Machinery New Orders

New orders for machinery in the United States. Industries in the machinery manufacturing subsector create end products that utilize mechanical force, for example, the application of gears and levers, to perform work. Some important processes for the manufacture of machinery are forging, stamping, bending, forming, and machining, which are used to shape individual pieces of metal. Processes such as welding and assembling are used to join separate parts together. Although these processes are similar to those used in metal fabricating establishments, machinery manufacturing is different because it typically employs multiple metal forming processes in manufacturing the various parts of the machine. Moreover, complex assembly operations are an inherent part of the production process. Measured in billions of dollars, not seasonally adjusted (NSA). Source: US Census Bureau.

US Medical Equipment and Supplies Production Index

Medical equipment and supplies manufacturing index for the United States. Examples of products made by these establishments are surgical and medical instruments, surgical appliances and supplies, dental equipment and supplies, orthodontic goods, ophthalmic goods, dentures, and orthodontic appliances. Source: Federal Reserve Board. NAICS Code: 3391. Index, 2017 = 100, not seasonally adjusted (NSA).

US Nondefense Capital Goods New Orders (excluding aircraft)

New orders for nondefense capital goods, excluding aircraft, in the United States. Includes farm machinery and equipment, construction machinery, mining machinery, nondefense small arms and ordnance, industrial machinery, commercial and service industry equipment, other general purpose machinery, photographic equipment, metalworking machinery, turbine and generator manufacturing, power transmission equipment, pumps and compressors, material handling equipment, electronic computers, computer storage devices and peripheral equipment, communications equipment, nondefense search and navigation equipment, electrometrical equipment, electrical equipment, heavy duty truck manufacturing, railroad rolling stock, nondefense ship and boat building, office and institutional furniture, and medical equipment and supplies. Source: US Census Bureau. Measured in billions of dollars, not seasonally adjusted (NSA).

US Food Production Index

Industries in the US Food Manufacturing subsector transform livestock and agricultural products into products for intermediate or final consumption. The industry groups are distinguished by the raw materials (generally of animal or vegetable origin) processed into food products. The food products manufactured in these establishments are typically sold to wholesalers or retailers for distribution to consumers. Source: Federal Reserve Board. NAICS Code: 311. Index, 2017 = 100, not seasonally adjusted (NSA).

Management Objectives™

Phase A

Recovery

- Scrupulously evaluate the supply chain
- Model positive leadership (culture turns to behavior)
- Start to phase out marginal opportunities (products, processes, people); repair margins
- Perform due diligence on customers and extend credit
- Be on good terms with a banker; you will need the cash more now than in any other phase
- Invest in customer market research; know what they value and market/price accordingly
- Hire key people and implement company-wide training programs ahead of Phase B
- Allocate additional resources to sales and marketing
- Invest in system/process efficiencies
- Make opportunistic capital and business acquisitions; use pessimism to your advantage

Phase B

Accelerating Growth

- Ensure quality control keeps pace with increasing volume
- Invest in workforce development: hiring, training, retention
- Ensure you have the right price escalator; space out price increases
- Maximize your profit margins through differentiation; stand out from the crowd and set yourself apart
- Use improved cash flow to strategically position the business to beat the business cycle
- Expand credit to customers
- Improve corporate governance (rent a CFO; establish a board of advisors or board of directors)
- Communicate competitive advantages; build the brand
- Query users for what they want and what is important to them
- Sell the business in a climate of maximum goodwill

Phase C

Slowing Growth

- Know if your markets are headed for a soft landing or a hard landing
- Cash is king; beware of unwarranted optimism
- Stay on top of aging receivables
- Revisit capital expenditure plans
- Lose the losers: if established business segments are not profitable during this phase, eliminate them
- Use competitive pricing to manage your backlog through the coming slowdown
- Avoid committing yourself to long-term expenses at the top of the price cycle, but lock in revenue
- Go entrepreneurial and/or counter-cyclical
- Evaluate your vendors for financial strength; if needed, look for additional vendors as a safety net
- If the cycle looks recessionary, cross-train key people to prepare for workforce attrition/reduction

Phase D

Recession

- Implement aggressive cost-cutting measures
- Offer alternative products with a lower cost basis
- Perform due diligence on acquisitions while valuations are falling
- Reduce advertising as consumers become more price conscious
- Enter or renegotiate long-term leases
- Negotiate labor contracts
- Consider capital equipment needs for the next cycle
- Tighten credit policies
- Develop programs for advertising, training, and marketing to implement in Phase A
- Lead with optimism, remembering that Phase D is temporary

