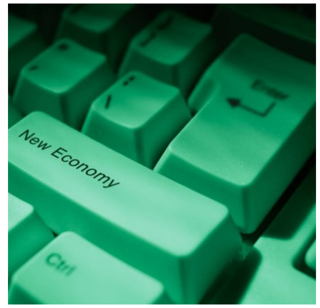
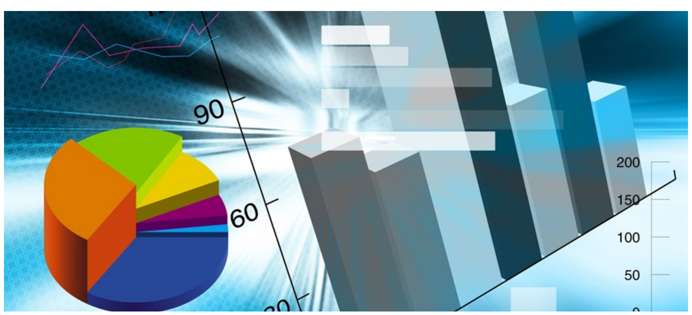


MTI
SINCE 1933



Forecast Report
February 2023

ITR ECONOMICS

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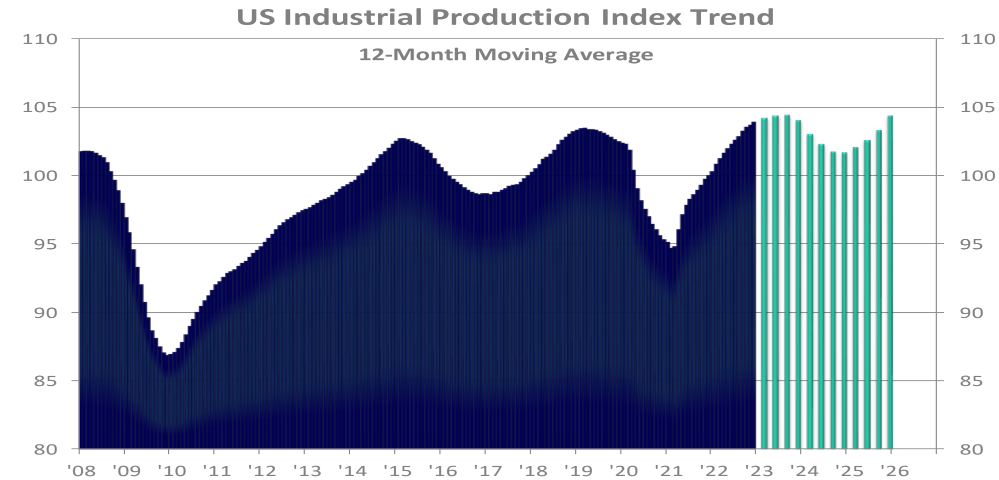
overview

Rain or shine, we constantly monitor our system of leading indicators for signs of improvement or deterioration. In the last quarter, we've seen broad-based weakness, coupled with a new signal: short-term interest rates, as measured by 3-month Treasury yields, are now higher than long-term interest rates, as measured by 10-year Treasury yields. This so-called "inverted yield curve" signals an 88% probability that recession is coming for US Industrial Production; the Federal Reserve has raised short-term interest rates too far, too fast.



We lowered our annual average US Industrial Production forecast by a slim 0.4% for 2023. Instead of the mild growth (+1.6%) previously forecast, we now expect activity to be virtually flat for 2023 (+0.1%) relative to 2022, with decline developing late in the year. 2024 is impacted more significantly. Prior to the extremely sharp and fast rate hikes by the Fed, we had been expecting growth for 2024. Now we expect decline to extend throughout 2024, with the year coming in 2.3% below the 2023 average, as it typically takes just over a year for yield curve inversions to translate to recession.

At the bottom of the cycle in the third quarter of 2024, we are calling for 2.6% year-over-year contraction. We've experienced a similar severity of decline in US Industrial Production three times in the last 30 or so years: the early 1990s macroeconomic recession, the early 2000s macroeconomic recession, and the 2015-16 recession. The 2015-16 recession only impacted the industrial sector and was particularly unrelenting for companies tied to oil prices. Expect this cycle to be more like the early 1990s or early 2000s.

Three main tailwinds – reshoring, backlogs, and a solid consumer balance sheet – will keep the recession relatively mild. Companies continue to be interested in positioning their supply chains closer to the North American consumer base, and backlogs will continue to be worked through as the supply chain continues to smooth. Meanwhile, our examination of consumer balance sheets revealed that the aggregate consumer debt-to-income ratio, particularly the credit card debt-to-income ratio, is in a healthy place. Simply put, consumers are not overleveraged, which is the opposite situation that the US economy found itself in going into the Great Recession.

It will be especially important to understand the degree to which your business will (or will not) be impacted by a macroeconomic recession. Use the forecasts in this report to help. In general, industries that benefited greatly from stimulus in 2020-21 (outdoor equipment, single-family housing in expensive areas, etc.) are most at risk of a pullback in 2023-24. In addition, discretionary markets like tech are likely to underperform essentials in the food industry, healthcare, and utilities, as consumers will prioritize deploying tighter dollars to where they are most needed. Meanwhile, there will be some loosening in the labor market – though not marked, given demographics – particularly in 2024. Take this as an opportunity to upgrade your talent pool in preparation for recovery and rise starting in 2025.

There are an elevated number of risks to our forecast, both to the upside and to the downside, because of the domestic and international political events at play in this cycle. The degree of monetary and fiscal stimulus that was deployed in 2020-21, now being withdrawn, is unprecedented. The war in Ukraine and general nationalist/protectionist sentiment around the world, coupled with a pandemic, only adds to the uncertainty. In spite of this, the labor market and consumer balance sheets look very strong, offering upside risk.

What can you do amid the uncertainty? First and foremost, make a plan and work the plan. Determine what impacts the recession will have on your business (reach out to us if you need help). After making those determinations, put baseline budgets and strategies in place to maximize your competitive advantages in the recessionary landscape. Get your employees excited and focused on implementing those strategies, but don't stop there. We will regularly be in contact with our clients and providing updates if the upside or downside risk factors lead us to change our baseline forecasts. You should have plans at the ready to adjust as things develop. Monitor your cash flow more carefully than before. Lastly, lead with confidence and be opportunistic. Your competitors may go into panic mode. Don't follow them there.

Terminology & Methodology

Data Trends:

Monthly Moving Total (MMT) vs Monthly Moving Average (MMA):

Totals are used when it makes sense to add the data together, as with units sold or total dollars spent. Averages are used when the data cannot be compounded, such as with an index, percent, price level, or interest rates.

3MMT/A and 12MMT/A:

A 3-month or 12-month moving total/average is the total/average of the monthly data for the most recent 3 and 12 months, respectively. The 3MMT/A illustrates the seasonal changes inherent to the data series. The 12MMT/A removes seasonal variation in order to derive the underlying cyclical trend. It is also referred to as the annual total or annual average.

Rates-of-Change:

A rate-of-change figure is the ratio comparing a data series during a specified time period to the same period one year ago. **Rates-of-change** are expressed in terms of the **annual percent change in a 12MMT/A, 3MMT/A, and actual monthly data.**

Rates-of-change reveal whether activity levels are rising or falling compared to last year. A rate-of-change trend illustrates and measures cyclical change and trends in the data.

ITR Economics' three commonly used rates-of-change are the **1/12**, **3/12**, and **12/12**, which represent the year-over-year percent change of a single month, 3MMT/A, and 12MMT/A (respectively).

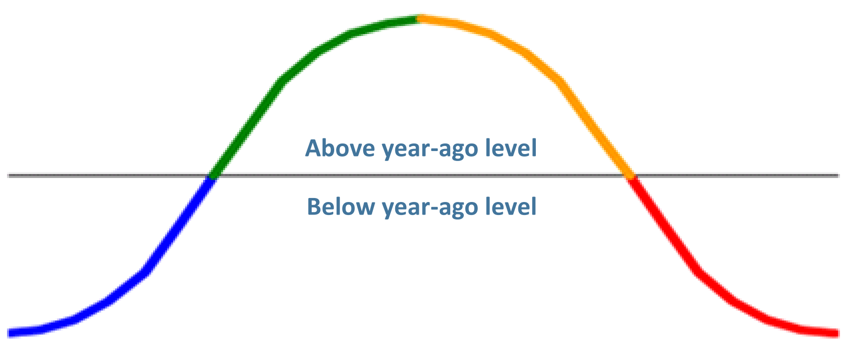
A rate-of-change above 0 indicates the data is higher than one year prior, while a rate-of-change below 0 indicates the data is below one year earlier.

Our video tutorials offer step-by-step instruction for

calculating rates-of-change and using leading indicators to see the future.

Business Cycle:

The data trends and rates-of-change identify positions in the business cycle. Those positions are:



Recovery (A): 12/12 is rising but is below zero; the data trend is below the year-ago level and is either heading toward a low or is in the early stages of rise. This is the first positive phase of the business cycle.

Accelerating Growth (B): 12/12 is rising and is above zero; the data trend is accelerating in its ascent and is above the year-ago level. This is the second positive phase of the business cycle.

Slowing Growth (C): 12/12 is declining but remains above zero; the data trend ascent is slowing or has stopped its rise, but it is still above the year-ago level. This is the first negative phase of the business cycle.

Recession (D): 12/12 is declining and is below zero; the data trend is below the year-ago level and the rate of decline is increasing. This is the second and final negative phase of the business cycle.

Business Cycle

Page Number	Industry	Phase	Current	2023	2024	2025
4	MTI Average Monthly Sales	B	14.6%	9.4%	-11.0%	6.9%
6	US Industrial Production Index	C	3.9%	0.1%	-2.3%	2.7%
7	US Nondefense Capital Goods New Orders (excluding aircraft)	C	9.1%	1.8%	-4.6%	5.5%
8	US Construction Machinery New Orders	C	15.5%	-6.5%	-11.5%	15.3%
9	North America Light Vehicle Production	B	9.6%	10.7%	-7.4%	10.4%
10	US Heavy Duty Truck Production	C	10.7%	10.2%	-7.9%	13.1%
11	US Oil and Gas Extraction Production	C	6.3%	3.5%	-1.3%	3.9%
12	US Medical Equipment and Supplies Production	C	8.3%	1.2%	-0.9%	3.5%
13	US Civilian Aircraft Equipment Production	C	7.9%	4.0%	-0.6%	10.7%
14	US Computers and Electronics New Orders	B	5.0%	2.0%	-1.5%	4.1%
15	US Farm Machinery Shipments	C	1.9%	0.6%	-6.1%	4.4%

A RECOVERY

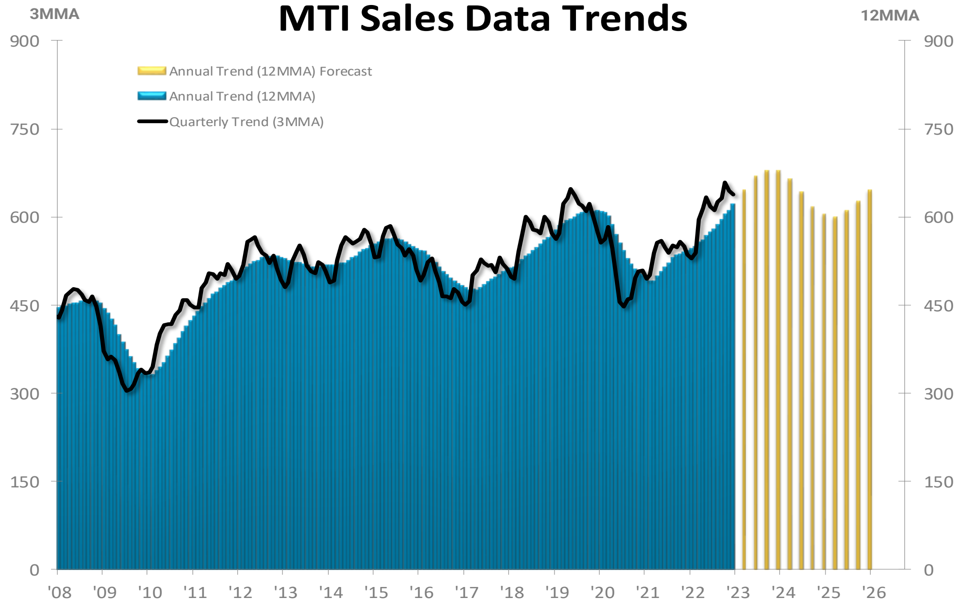
B ACCELERATING GROWTH

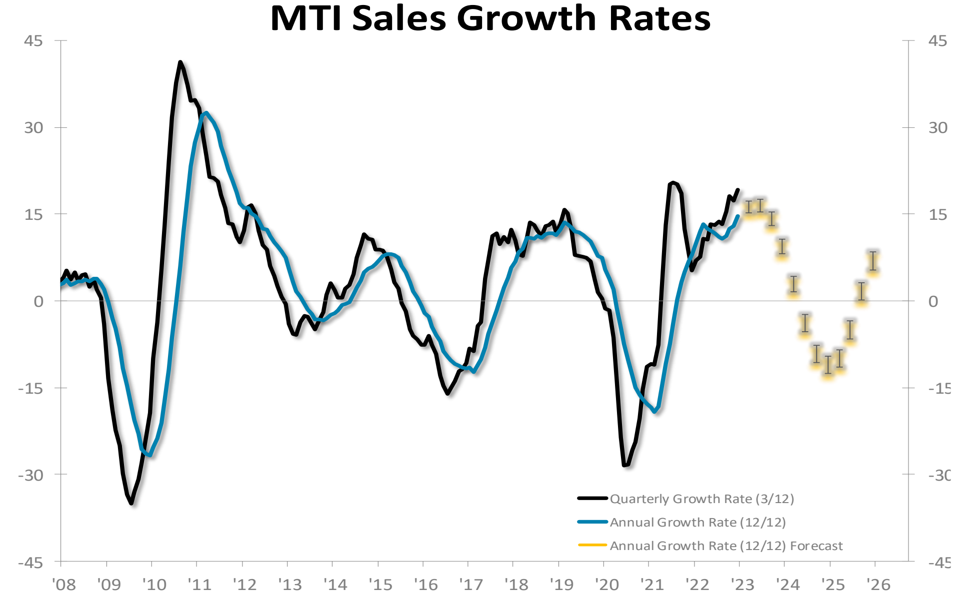
C SLOWING GROWTH

D RECESSION

MTI Average Monthly Sales

2023 Lifted on Auto, Truck, Aerospace Markets; 2024 Lowered on Macro Recession





Industry Outlook

2023: 9.4%

2024: -11.0%

2025: 6.9%

Outlook & Supporting Evidence

- The automotive, heavy truck, and aerospace markets, which were held back by input availability issues, are benefiting as the global supply chain improves. Backlogged demand in these sectors will likely support growth in MTI Sales in 2023 as the industrial sector trends relatively flat. We raised the MTI Average Monthly Sales outlook for 2023 by 11.6%.
- We lowered the MTI 2024 forecast by 3.1% for the annual average and by 13.5 percentage points for the annual rate-of-change due to a change to our macroeconomic outlook that is detailed in the Overview on page 1.
- The MTI Average Monthly Sales annual trend will peak in the second half of this year and decline into early 2025. Peak-to-trough decline is expected to be around 10%-13%. Rise is expected for at least the remainder of 2025.

Phase & Amplitudes

Phase B

Accelerating Growth

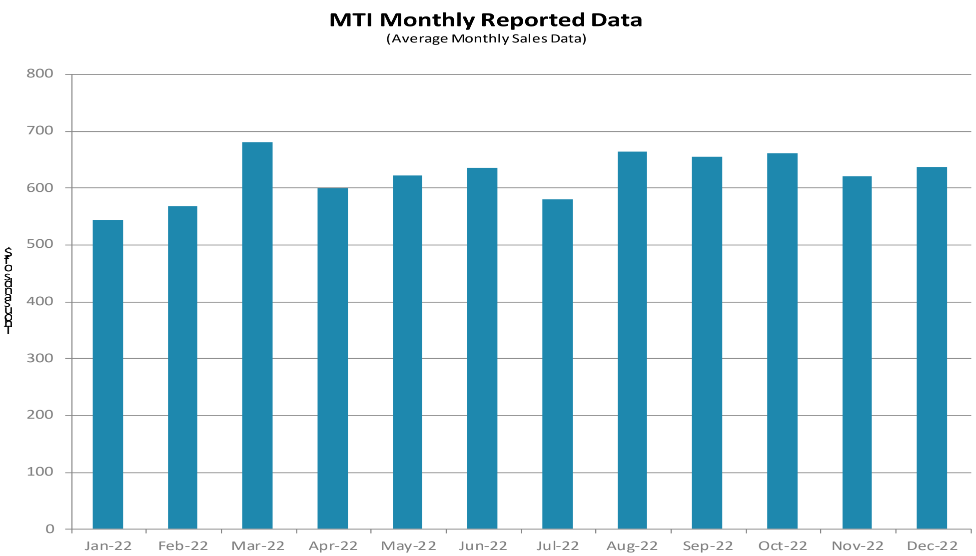
December 2022 Annual Growth Rate (12/12): 14.6%

December 2022 Annual Average (12MMA): $620.9 thousand

MTI Average Monthly Sales Forecast

	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25
3MMA*	698.5	707.0	675.0	637.2	642.5	616.7	575.0	584.6	621.8	661.2	643.2	659.4
3/12	**17.3%**	**14.4%**	**6.8%**	**-0.2%**	**-8.0%**	**-12.8%**	**-14.8%**	**-8.3%**	**-3.2%**	**7.2%**	**11.9%**	**12.8%**
12MMA*	646.7	668.9	679.7	679.4	665.4	642.8	617.8	604.7	599.5	610.7	627.7	646.4
12/12	**16.3%**	**16.5%**	**14.2%**	**9.4%**	**2.9%**	**-3.9%**	**-9.1%**	**-11.0%**	**-9.9%**	**-5.0%**	**1.6%**	**6.9%**

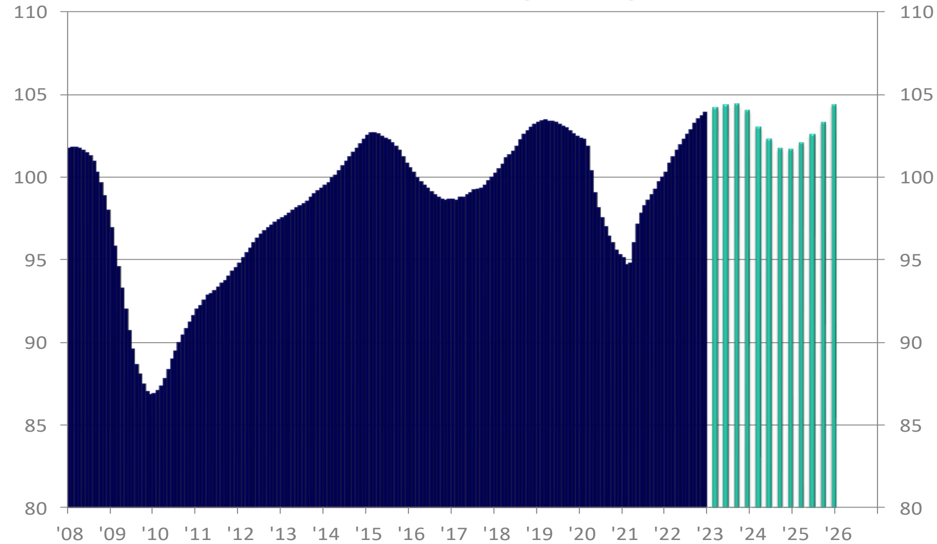
MTI Reported Average Monthly Sales Data

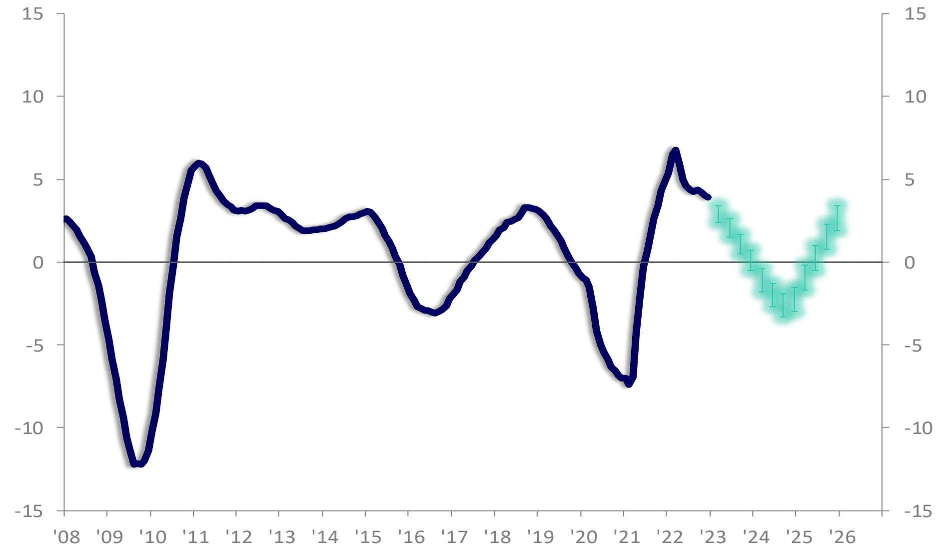


	Jan-22	Feb-22	Mar-22	Apr-22	May-22	Jun-22	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
Monthly*	542.0	566.0	678.9	598.3	621.4	634.5	578.3	663.2	654.0	659.5	619.1	636.1
1/12	**8.1%**	**10.0%**	**13.3%**	**8.0%**	**18.9%**	**12.5%**	**9.7%**	**17.4%**	**18.9%**	**18.0%**	**14.9%**	**25.3%**
3MMA*	529.5	538.5	595.6	614.4	632.9	618.1	611.4	625.3	631.8	658.9	644.2	638.2
3/12	**7.0%**	**7.6%**	**10.7%**	**10.6%**	**13.3%**	**13.0%**	**13.7%**	**13.3%**	**15.4%**	**18.1%**	**17.3%**	**19.3%**
12MMA*	545.3	549.6	556.3	560.0	568.2	574.1	578.3	586.5	595.2	603.5	610.2	620.9
12/12	**10.0%**	**12.1%**	**13.3%**	**12.4%**	**12.2%**	**11.7%**	**11.0%**	**10.7%**	**11.2%**	**12.5%**	**13.0%**	**14.6%**

US Industrial Production Index

Inverted Yield Curve Signals Recession in 2024; Forecast Revised Accordingly





Industry Outlook

2023: 0.1%

2024: -2.3%

2025: 2.7%

Outlook & Supporting Evidence

- Leading indicators continue to descend, confirming that 2023 will be a year of growth-rate decline. We expect Production will end 2023 relatively flat with 2022; this is a minor downgrade from our prior outlook.
- Aggressive rate hikes by the Federal Reserve and the resulting inverted yield curve suggest a hard landing on the horizon – not for 2023 but more likely for 2024 based on historical precedent. As a result, we pulled in a recessionary cycle that we had previously projected for 2025-26 into 2024. We were previously calling for 3.1% rise in 2024, but are now forecasting 2.3% decline that year. See the Overview on page 1 for more details on why we think the recession will be relatively mild. Rise is expected in 2025.
- We expect the Federal Reserve to shift from raising the federal funds rate to lowering it by the middle of this year. If this condition is not met, it would pose a risk to the forecast.

Phase & Amplitudes

Phase C

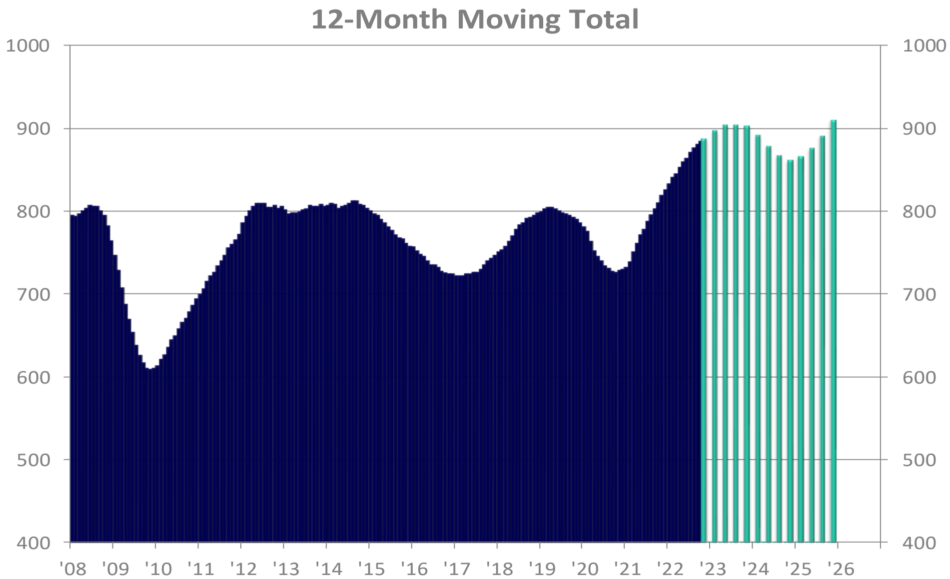
Slowing Growth

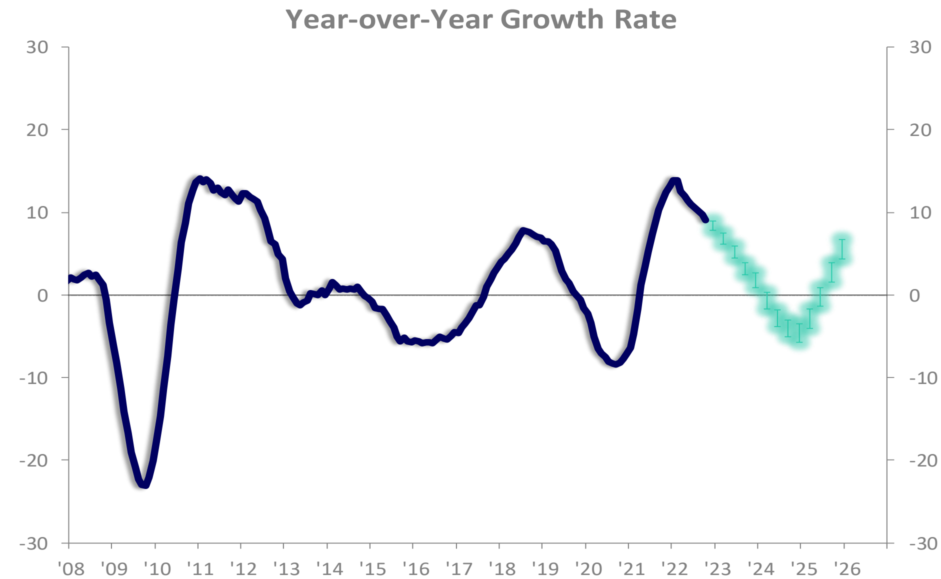
December 2022 Annual Growth Rate (12/12): 3.9%

December 2022 Annual Average (12MMA): 103.9

US Nondefense Capital Goods New Orders (excluding aircraft)

Forecast Revised; Annual New Orders to Decline From Late 2023 to Year-End 2024





Industry Outlook

2023: 1.8%

2024: -4.6%

2025: 5.5%

Outlook & Supporting Evidence

- Our outlook for the New Orders annual growth rate was changed by less than one percentage point for 2023. The primary change was to 2024 due to an elongated macroeconomic downturn. We had previously expected 2024 would come in 8.2% higher than 2023; the updated forecast now calls for 4.6% decline.
- Annual New Orders will rise into the latter half of 2023, then decline in 2024. During this recession, we expect New Orders to decline roughly 5%, relatively mild compared to other recessions. Rise is expected in 2025.
- Turmoil in China and concerns about supply chains have driven more movement to onshoring in recent years. If onshoring becomes even more popular in the next few years, it would pose an upside risk to the forecast. If the yield curve inversion lasts beyond 2023, it would be a downside risk to the forecast.

Phase & Amplitudes

Phase C

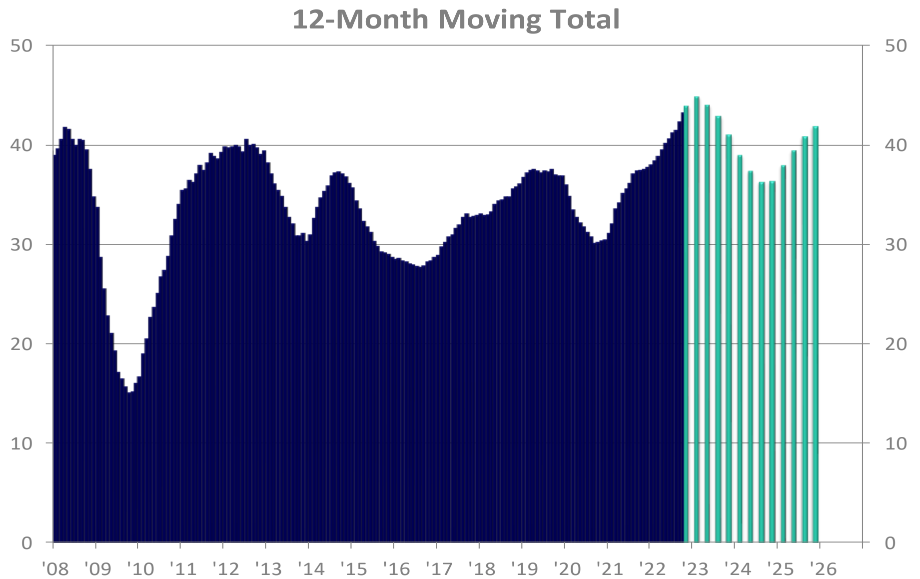
Slowing Growth

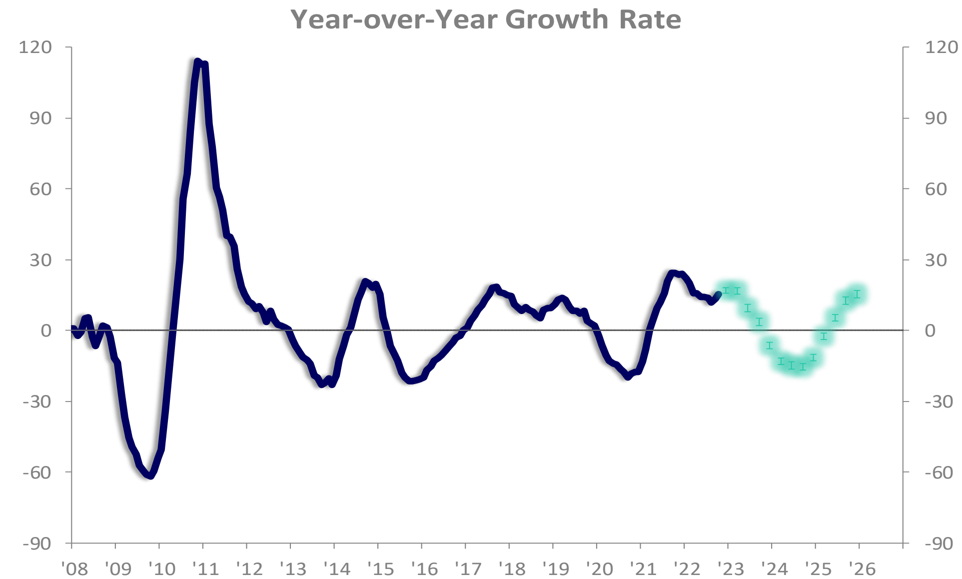
November 2022 Annual Growth Rate (12/12): 9.1%

November 2022 Annual Total (12MMT): $884.1 billion

US Construction Machinery New Orders

2023 Little-Changed; 2024 Lowered on Interest Rate Sensitivity, Macro Recession





Industry Outlook

2023: -6.5%

2024: -11.5%

2025: 15.3%

Outlook & Supporting Evidence

- The New Orders annual growth rate ticked up. However, the rise will likely be short-lived due to headwinds in construction markets and elevated interest rates. Residential construction is declining due to affordability constraints. Elevated interest rates and waning macroeconomic conditions are likely to impact future investment in machinery and nonresidential construction. Our New Orders outlook for 2023 is is little-changed, but we lowered 2024 by 19.1%.
- Annual New Orders will peak in the first half of this year and then decline into late 2024. Peak-to-trough decline will be around 18%-20%. Rise is expected for 2025.
- The New Orders outlook is denominated in nominal dollars. The forecast assumes broad-based disinflation in prices with pockets of deflation in commodities in the coming two years.

Phase & Amplitudes

Phase C

Slowing Growth

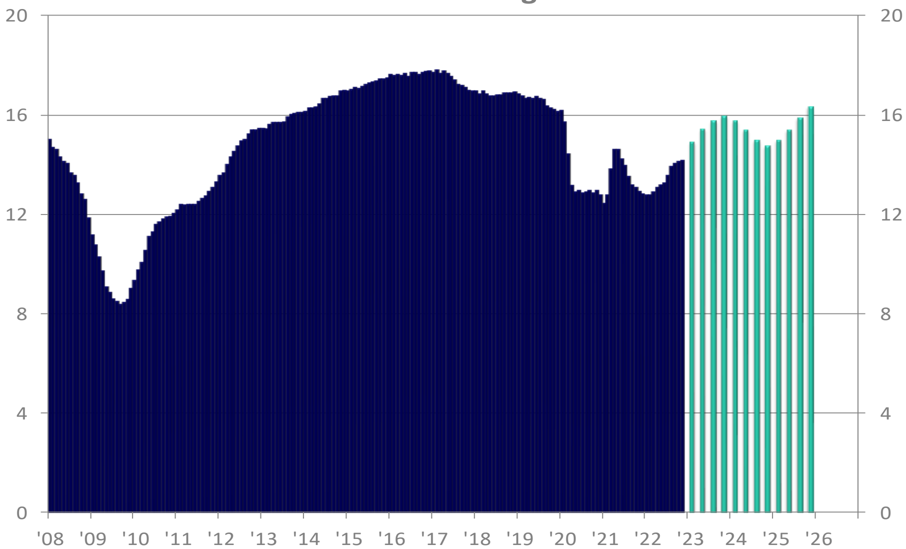
November 2022 Annual Growth Rate (12/12): 15.5%

November 2022 Annual Total (12MMT): $43.2 billion

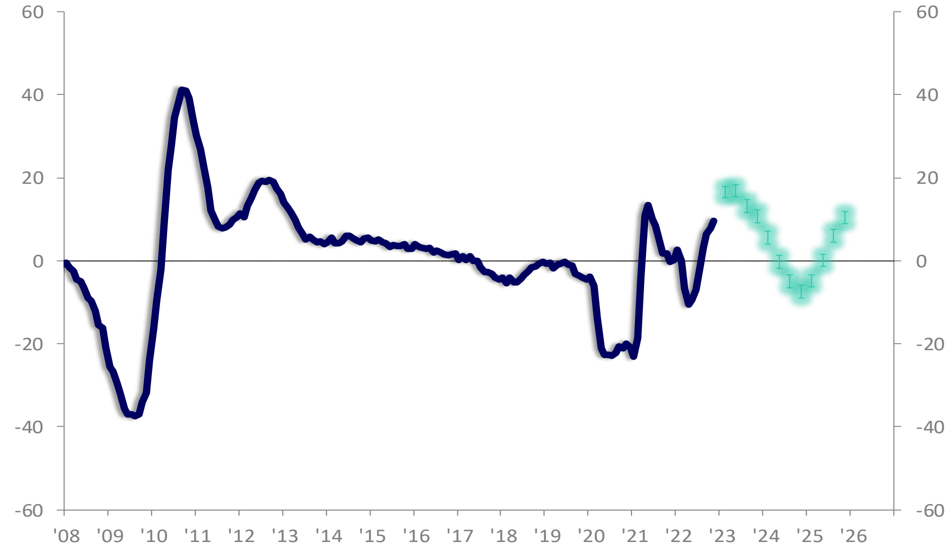
North America Light Vehicle Production

Forecast Revised: Backlogs to Drive Growth in 2023, 2024 Recession Spells Decline

12-Month Moving Total



Year-over-Year Growth Rate



Industry Outlook

2023: 10.7%

2024: -7.4%

2025: 10.4%

Outlook & Supporting Evidence

- Leading indicators point to further Phase B, Accelerating Growth, for Production for the coming two to three quarters. While a bearish stock market and high interest rates may hinder demand for vehicles, backlogs will continue to boost Production. As a result, we still expect annual Production to rise through 2023, though our expectations for the year as a whole were lowered by 2.3%.
- The larger change to our outlook was a 12.2% downgrade to 2024. We expect decline, driven by a contemporaneous recession in the US macroeconomy, will characterize Production in 2024. Rise will resume in early 2025 and extend through at least the remainder of that year as the US economy rebounds.

Phase & Amplitudes

Phase B

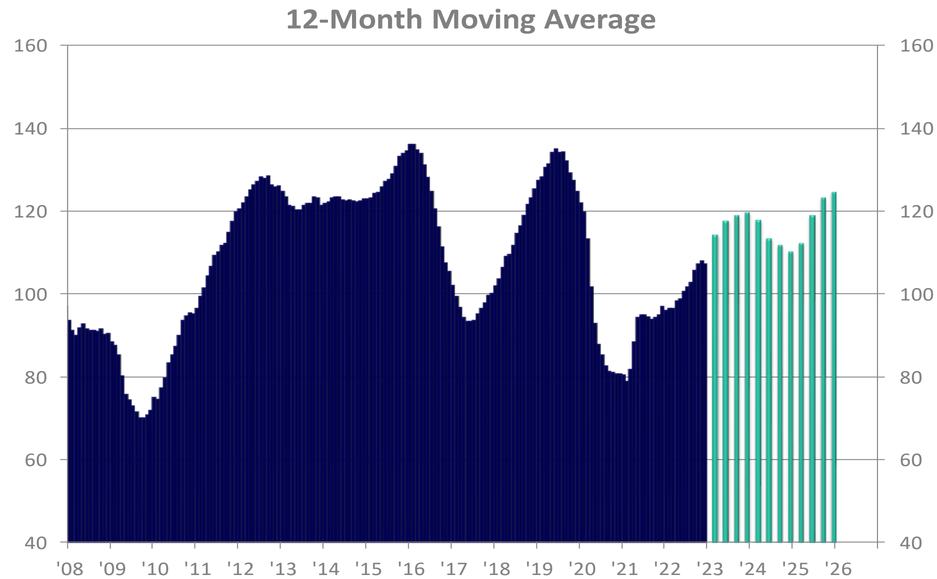
Accelerating Growth

December 2022 Annual Growth Rate (12/12): 9.6%

December 2022 Annual Total (12MMT): 14.2 million units

US Heavy Duty Truck Production Index

Forecast Revised; Stagnant Freight Demand and Interest Rates to Impact Demand



Industry Outlook

2023: 10.2%

2024: -7.9%

2025: 13.1%

Outlook & Supporting Evidence

- The 2023 forecast was little-changed, while 2024 was lowered 8.5% due to our revised macroeconomic outlook.
- Freight activity flattened out in 2022; congestion at ports has largely resolved and inventories have caught up from the shortages following the pandemic . As a result, truckers are facing declining pricing. Meanwhile, elevated interest rates mean higher borrowing costs. These are downside factors for demand for heavy trucks.
- Rise will resume in 2025 as the macroeconomy regains momentum.

Phase & Amplitudes

Phase C

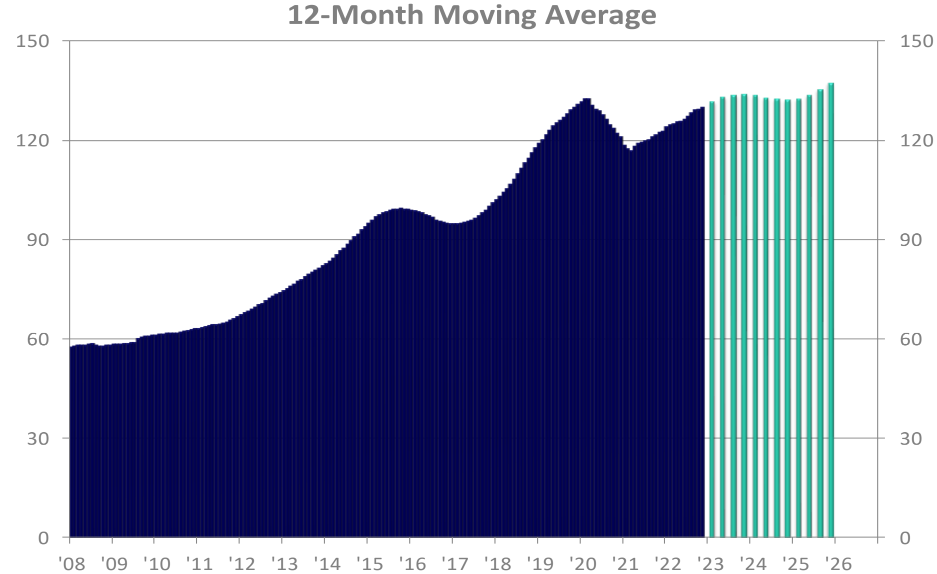
Slowing Growth

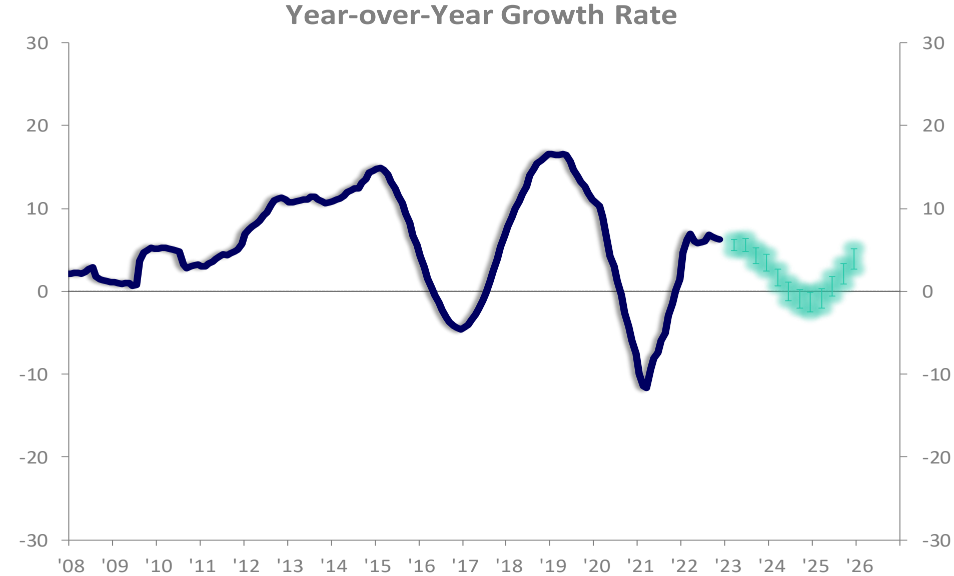
December 2022 Annual Growth Rate (12/12): 10.7%

December 2022 Annual Average (12MMA): 107.3

US Oil and Gas Extraction Production Index

Forecast Lowered; Expect Muted Growth in 2023, Mild Decline in 2024





Industry Outlook

2023: 3.5%

2024: -1.3%

2025: 3.9%

Outlook & Supporting Evidence

- We lowered our forecast for US Oil and Gas Extraction Production.
- The oil and gas industry is still facing headwinds, including labor shortages, supply chain issues, and a maturing asset base that will likely mute growth this year. Producers will likely have to accept lower prices as the year progresses, although we don't expect prices to drop below the breakeven price for the primary oilfields. We expect annual Production to rise through 2023, peaking around the March 2020 record.
- The previous draw-down on uncompleted wells and the difficulty of finding investors will be downside risks to the industry, especially as macroeconomic conditions worsen later this year and in 2024. We expect Production to decline, albeit relatively mildly, in 2024. Production will then rise in 2025 as the US macroeconomy regains momentum.

Phase & Amplitudes

Phase C

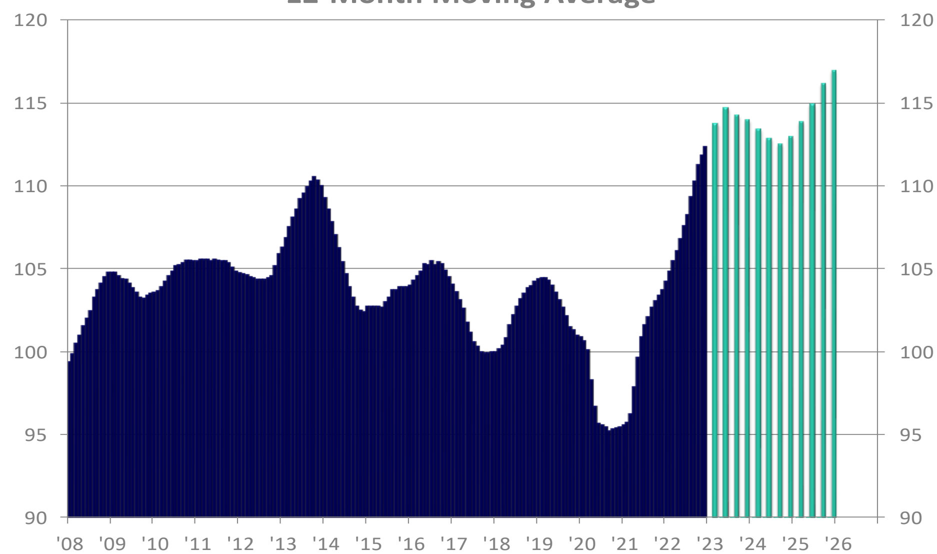
Slowing Growth

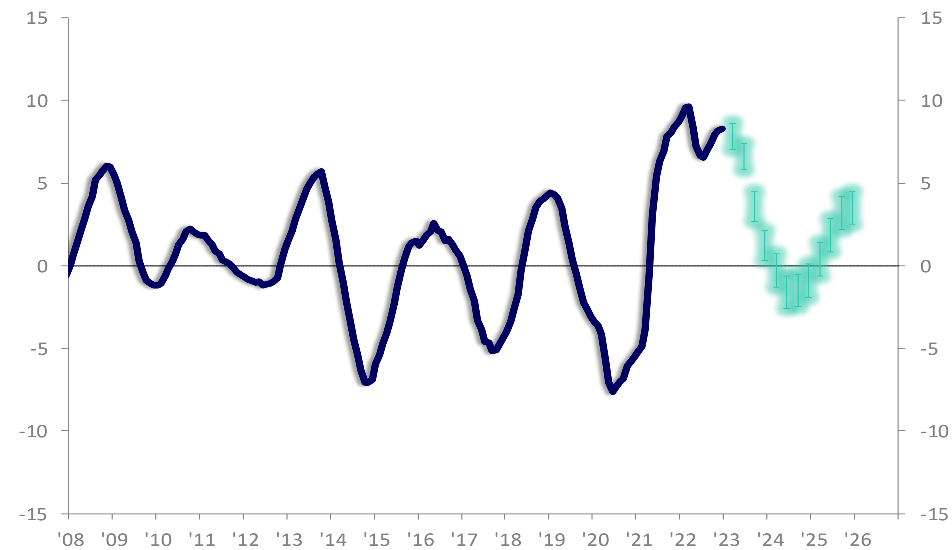
December 2022 Annual Growth Rate (12/12): 6.3%

December 2022 Annual Average (12MMA): 129.9

US Medical Equipment and Supplies Production Index

Forecast Revised on Longer Downturn and Interest Rate Sensitivity





Industry Outlook

2023: 1.2%

2024: -0.9%

2025: 3.5%

Outlook & Supporting Evidence

- Historically, US Medical Equipment and Supplies Production does not trend in sync with the macroeconomy; however, the market does have some sensitivity to interest rates. Consequently, we revised the forecast; the primary change is that we now expect a mild recession in 2024.
- The medical supplies industry has been benefiting from increased interest in domestic sourcing, demand for medical services that were put off earlier in the pandemic, and inventory restocking needs. However, the relatively strong US dollar may hinder demand for domestically produced supplies, and growth is slowing for medical care expenditures. Cyclical decline in Production will become more pronounced in 2023.
- Annual Production will rise into mid-2023, then mildly decline into the latter half of 2024. Rise is expected in 2025.

Phase & Amplitudes

Phase C

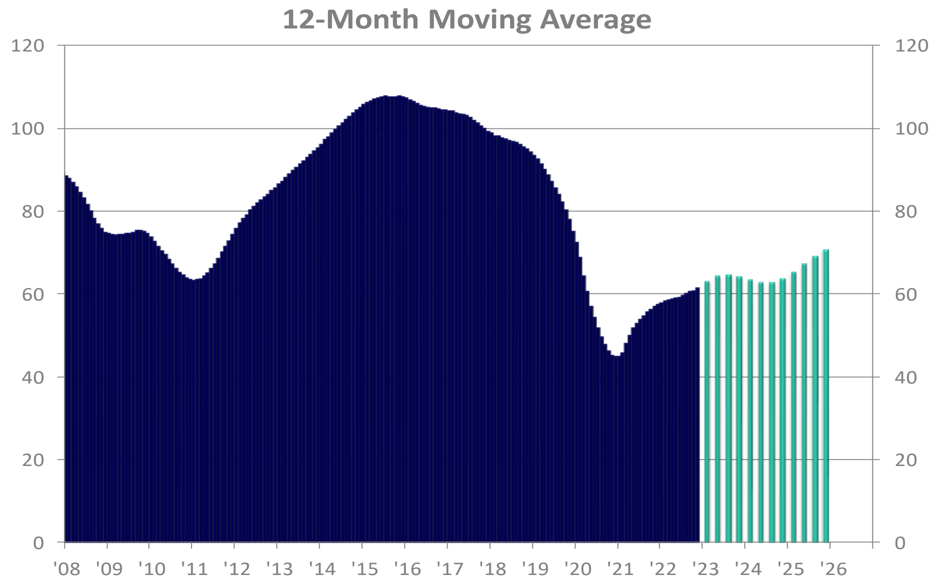
Slowing Growth

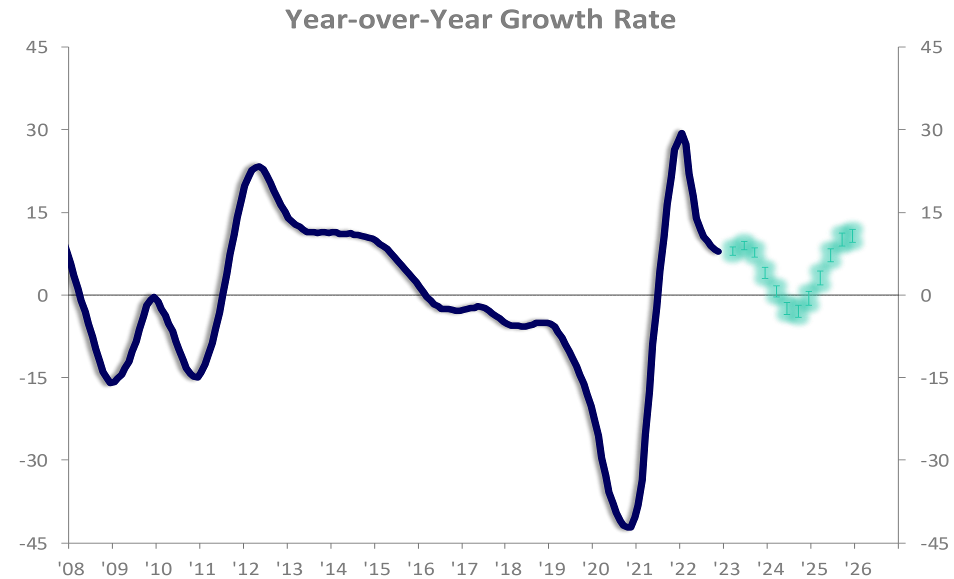
December 2022 Annual Growth Rate (12/12): 8.3%

December 2022 Annual Average (12MMA): 112.3

US Civilian Aircraft Equipment Production Index

Forecast Revised; Gradual Rise Will Be Interrupted by Mild Recession in 2024





Industry Outlook

2023: 4.0%

2024: -0.6%

2025: 10.7%

Outlook & Supporting Evidence

- The aerospace industry has significant backlogs, but labor shortages, supply chain issues, and regulatory headwinds have hampered rise. The gradual resumption of production for grounded aircraft models will contribute to rise during much of 2023. We lifted the annual US Civilian Aircraft Equipment Production forecast by 5.6% for 2023. Annual Production is expected to peak late this year.
- We lowered the 2024 Production outlook by 7.5%, as we now expect a mild macroeconomic recession that year. Elevated interest rates may also impact demand for aircraft. Annual Production will decline from late 2023 into mid-2024. Rise is then expected through at least 2025 as the macroeconomy rebounds. Production will trend below the 2013-19 levels during the forecast period.

Phase & Amplitudes

Phase C

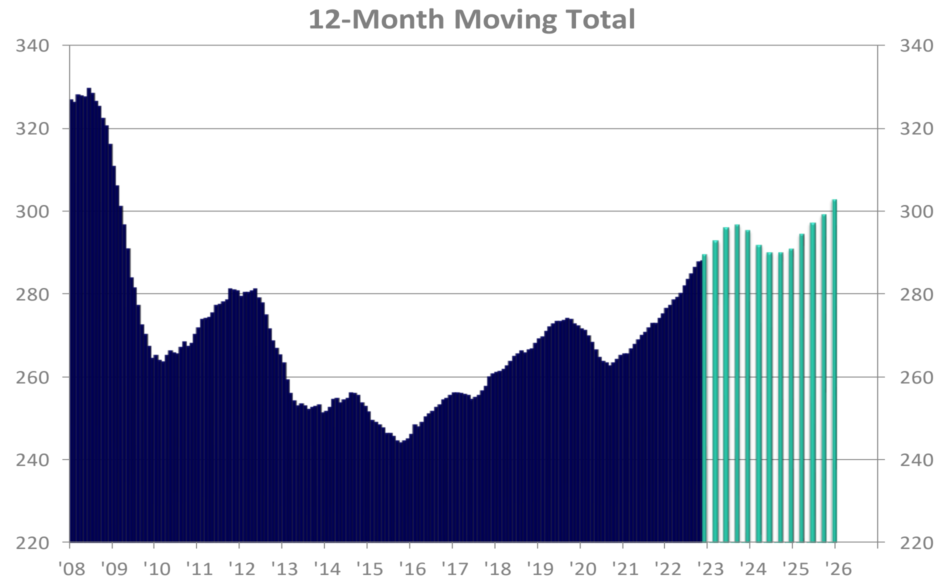
Slowing Growth

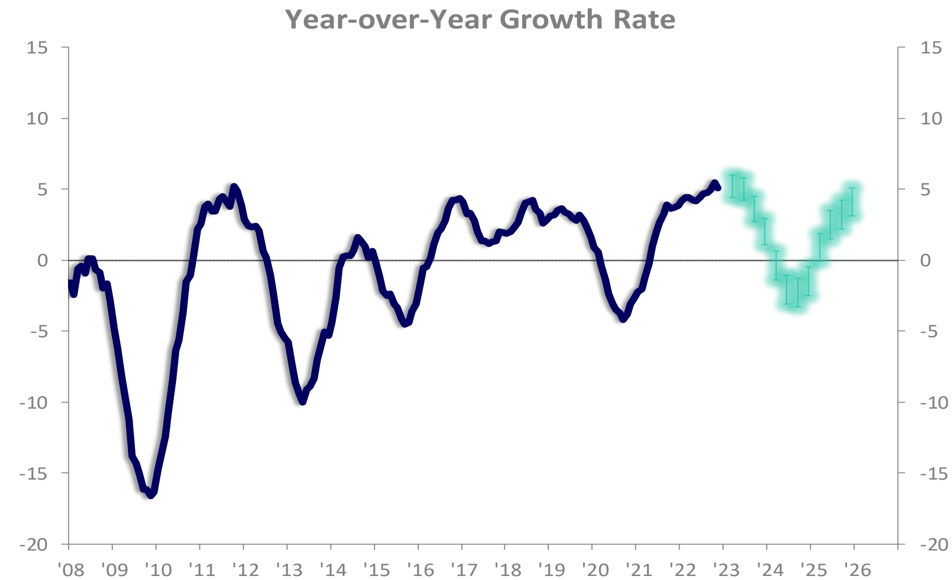
December 2022 Annual Growth Rate (12/12): 7.9%

December 2022 Annual Average (12MMA): 61.3

US Computers and Electronics New Orders

Forecast Revised; We Expect Recession to Be Mild Due to Relatively Strong Financial Metrics





Industry Outlook

2023: 2.0%

2024: -1.5%

2025: 4.1%

Outlook & Supporting Evidence

- We revised our New Orders forecast 3.1% upward for 2023 and 3.7% downward for 2024 based on our revised macroeconomic outlook. Annual New Orders will rise into the latter half of this year and subsequently decline into mid-2024. Rise is then expected through at least 2025.
- The atypical ascent in computer and electronics prices in 2021 and the first half of 2022 has tentatively ended, and prices are now moving lower. We expect the broader pricing environment exhibit of disinflation, with pockets of deflation, this year. This shift in pricing will impact dollar-denominated New Orders.
- Businesses and consumers are on relatively stable financial footing, with elevated profits and low debt-to-income ratios. This contributes to our expectation of a relatively mild recession in this market.

Phase & Amplitudes

Phase B

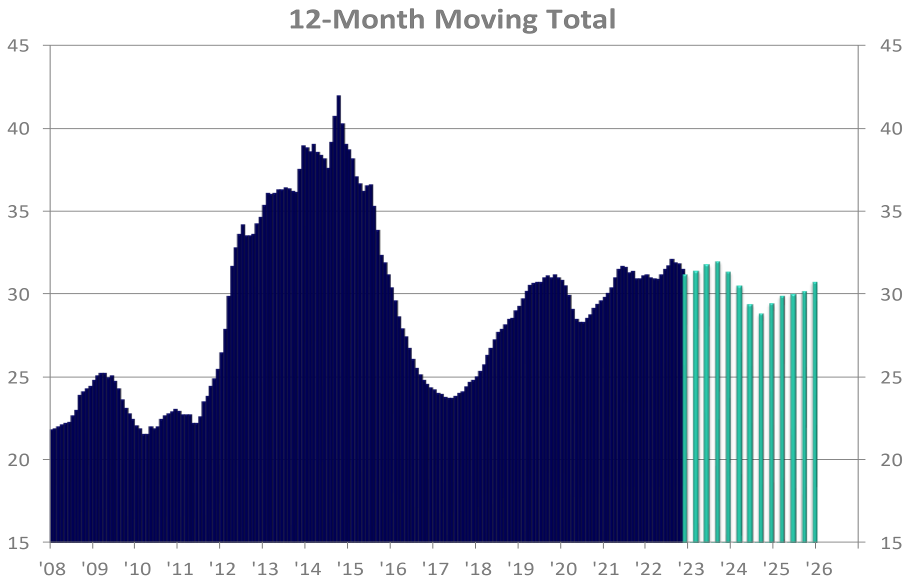
Accelerating Growth

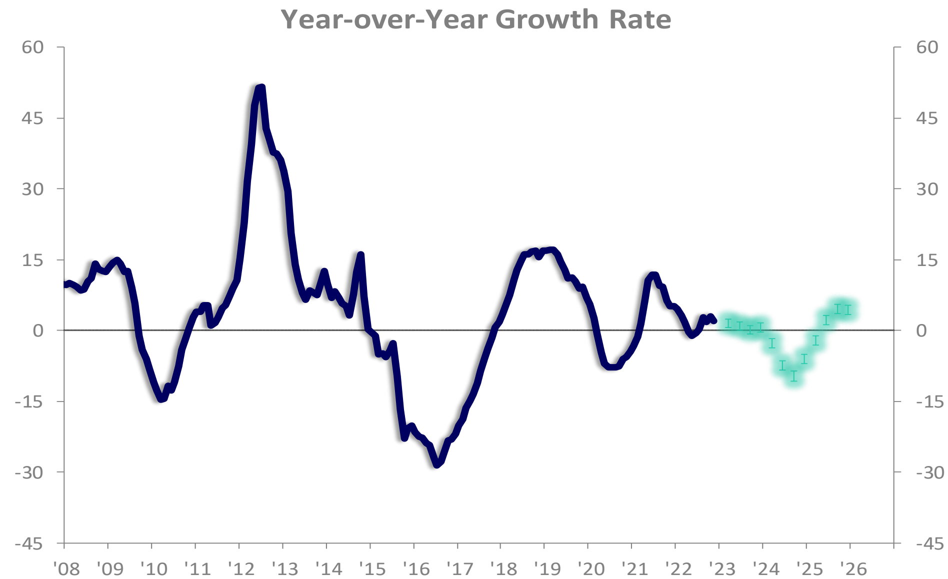
November 2022 Annual Growth Rate (12/12): 5.0%

November 2022 Annual Total (12MMT): $287.9 billion

US Farm Machinery Shipments

Forecast Lowered on Commodity Prices, Interest Rates, and Macro Outlook





Industry Outlook

2023: 0.6%

2024: -6.1%

2025: 4.4%

Outlook & Supporting Evidence

- We lowered the US Farm Machinery Shipments forecast to account for the latest commodity price trends, elevated interest rates, and our revised macroeconomic outlook. The annual Shipments outlook was lowered by 7.2% and 19.7% for 2023 and 2024.
- Annual Shipments will be relatively flat this year. Producers are still facing input and labor shortages, which are constraining production and resulting in backlogs However, softening commodity prices are likely to impact farmers' profits, and elevated interest rates mean higher borrowing costs, both of which will likely impact demand. Additionally, the relatively strong dollar is likely to benefit imports over US exports in at least the near term. We expect annual Shipments to decline from late 2023 to late 2024.

Phase & Amplitudes

Phase C

Slowing Growth

November 2022 Annual Growth Rate (12/12): 1.9%

November 2022 Annual Total (12MMT): $31.5 billion

INDICATORS

US Leading Indicators

Indicator	Direction		
	1Q23	2Q23	3Q23
ITR Leading Indicator™	●	●	N/A
ITR Retail Sales Leading Indicator™	●	●	●
US OECD Leading Indicator	●	●	●
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

- The leading indicators are overwhelmingly signaling ongoing downside pressure for the US industrial sector into at least the second half of 2023.

- The US ISM PMI (Purchasing Managers Index) 1/12 ticked up in December, but this is more likely normal volatility than the start of a rising trend.

- Given our overall macroeconomic expectations, we are likely to see further decline in the leading indicators through much of 2023.

- The ITR Retail Sales Leading Indicator™ points to lower growth rates for the US consumer sector through much of 2023.

Ongoing decline in the leading indicators signals tougher economic conditions in the quarters ahead. Make sure your sales goals are realistic given waning economic conditions and a shift in pricing due to disinflation. Consider building up a larger cash cushion for the likely recession in 2024.

Appendix — Market Definitions

US Industrial Production Index — Index of total industrial production in the United States; includes manufacturing, mining, and utilities. Source: Federal Reserve Board. 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, NSA.

US Construction Machinery New Orders — New Orders for construction machinery in the United States. This industry comprises establishments primarily engaged in manufacturing construction machinery, surface mining machinery, and logging equipment. Source: US Census Bureau. NAICS Code: 33312. Measured in billions of dollars, NSA.

North America Light Vehicle Production — Passenger car and light-duty truck production (classes 1-3) in the US, Canada, and Mexico combined, including transplants. A passenger car is a road motor vehicle, other than a motorcycle, intended for the carriage of passengers and designed to seat no more than nine persons (including the driver). Source: WardsAuto. Measured in millions of units, NSA.

US Heavy Duty Truck Production Index — Production index for heavy duty trucks in the US. This industry comprises establishments primarily engaged in (1) manufacturing heavy duty truck chassis and assembling complete heavy duty trucks, buses, heavy duty motor homes, and other special purpose heavy duty motor vehicles for highway use or (2) manufacturing heavy duty truck chassis only. Includes trucks weighing 14,000 pounds or more. NAICS code: 33612. Source: Federal Reserve Board. Index, 2017 = 100, NSA.

Appendix — Market Definitions

US Oil and Gas Extraction Production Index — Includes exploration and extraction of crude petroleum and natural gas; drilling, completing, and equipping wells; operating separators, emulsion breakers, desilting equipment, and field gathering lines for crude petroleum and natural gas; and all other activities in the preparation of oil and gas up to the point of shipment from the producing property. Also includes the production of crude petroleum, the mining and extraction of oil from oil shale and oil sands, and the production of natural gas, sulfur recovery from natural gas, and recovery of hydrocarbon liquids. Source: Federal Reserve Board. NAICS Code: 211. Index, 2017 = 100, NSA.

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, NSA.

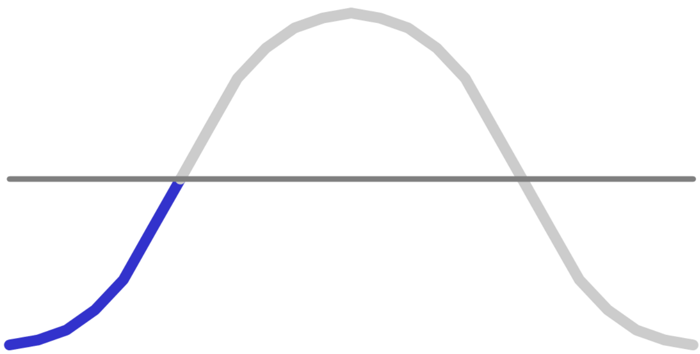
US Civilian Aircraft Equipment Production Index — Index for US establishments primarily engaged in one or more of the following: (1) manufacturing aircraft engines and engine parts; (2) developing and making prototypes of aircraft engines and engine parts; (3) aircraft propulsion system conversion (i.e., major modifications to systems); (4) aircraft propulsion systems overhaul and rebuilding (i.e., periodic restoration of aircraft propulsion system to original design specifications). Source: Federal Reserve Board. NAICS Code: 336412,3. Index, 2017 = 100, NSA.

US Computers and Electronics New Orders — New orders for computer and electronic products (excluding semiconductors) in the United States. Industries in the Computer and Electronic Product Manufacturing subsector aggregate establishments that manufacture computers, computer peripherals, communications equipment, and similar electronic products, and establishments that manufacture components for such products. Source: US Census Bureau. NAICS Code: 334. Measured in billions of dollars, NSA.

US Farm Machinery Shipments — Total shipments in the United States includes agricultural and farm machinery and equipment, and other turf and grounds care equipment, including planting, harvesting, and grass mowing equipment (except lawn and garden-type). Source: US Census Bureau. NAICS: 333111. Measured in billions of dollars, NSA.

Management Objectives™

Phase



A

1 Scrupulously evaluate the supply chain

2 Model positive leadership (culture turns to behavior)

3 Start to phase out marginal opportunities (products, processes, people); repair margins

4 Perform due diligence on customers and extend credit

5 Be on good terms with a banker; you will need the cash more now than in any other phase

6 Invest in customer market research; know what they value and market/price accordingly

7 Hire key people and implement company-wide training programs ahead of Phase B

8 Allocate additional resources to sales and marketing

9 Invest in system/process efficiencies

10 Make opportunistic capital and business acquisitions; use pessimism to your advantage

Management Objectives™

1 Ensure quality control keeps pace with increasing volume

2 Invest in workforce development: hiring, training, retention

3 Ensure you have the right price escalator; space out price increases

4 Maximize your profit margins through differentiation; stand out from the crowd and set yourself apart

5 Use improved cash flow to strategically position the business to beat the business cycle

6 Expand credit to customers

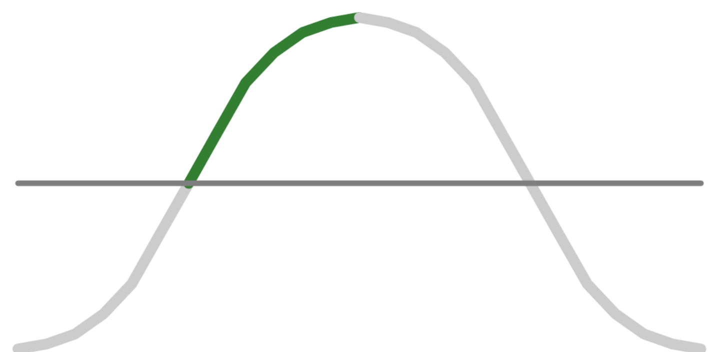
7 Improve corporate governance (rent a CFO; establish a board of advisors or board of directors)

8 Communicate competitive advantages; build the brand

9 Query users for what they want and what is important to them

10 Sell the business in a climate of maximum goodwill

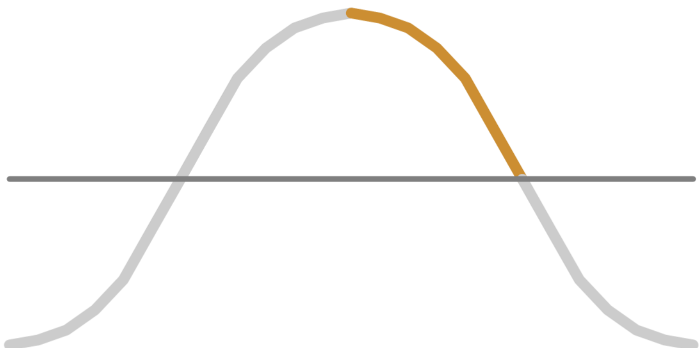
Phase



B

Management Objectives™

Phase



C

1 Know if your markets are headed for a soft landing or a hard landing

2 Cash is king; beware of unwarranted optimism

3 Stay on top of aging receivables

4 Revisit capital expenditure plans

5 Lose the losers: if established business segments are not profitable during this phase, eliminate them

6 Use competitive pricing to manage your backlog through the coming slowdown

7 Avoid committing yourself to long-term expenses at the top of the price cycle, but lock in revenue

8 Go entrepreneurial and/or counter-cyclical

9 Evaluate your vendors for financial strength; if needed, look for additional vendors as a safety net

10 If the cycle looks recessionary, cross-train key people to prepare for workforce attrition/reduction

Management Objectives™

1 Implement aggressive cost-cutting measures

2 Offer alternative products with a lower cost basis

3 Perform due diligence on acquisitions while valuations are falling

4 Reduce advertising as consumers become more price conscious

5 Enter or renegotiate long-term leases

6 Negotiate labor contracts

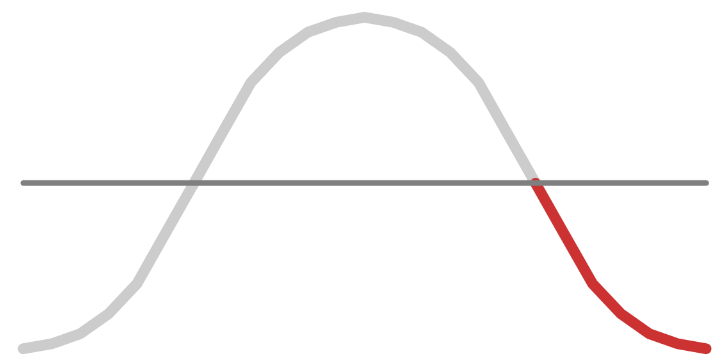
7 Consider capital equipment needs for the next cycle

8 Tighten credit policies

9 Develop programs for advertising, training, and marketing to implement in Phase A

10 Lead with optimism, remembering that Phase D is temporary

Phase



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