In the last month, Federal Reserve Chairman Jerome Powell gave a highly watched speech suggesting rate hikes would begin to slow soon, noting that “slowing down at this point is a good way to balance the risks.” The financial markets have begun taking the view that inflation is dissipating and the Fed would soon start to pivot, suggesting rate hikes would diminish significantly after December. However, U.S. employment data for November suggests some inflationary pressures remain intact, at least when it comes to the labor market. Last month the data showed average hourly earnings grew at a 3.8% annual rate over the prior three month average. But the most recent data, coupled with revisions to prior months, now shows a 6% wage growth over the last three months.

Elsewhere, inflationary pressures are moderating as the global economy continues to cool down. Commodity prices have declined as demand has slowed. For example, global copper prices are down 22% over the last year. Prices are still 27% higher than pre-pandemic levels but prices are down from the all-time highs reached in spring 2022. The latest Drewry composite World Container Index of $2,284 per 40-foot container is now 78% below the peak of $10,377 reached in September 2021. Current levels are 15% lower than the 10-year average of $2,693, indicating a return to more normal prices, but rates remain 61% higher than average pre-pandemic rates in 2019 of $1,420. The New York Fed’s Global Supply Chain Pressure Index, which incorporates shipping and transportation costs, has fallen to 1, not quite back to pre-pandemic levels, but a significant improvement from the beginning of this year.

The manufacturing sector continues to hold up well, despite the economic slowdown. The slowdown has brought demand and production back into balance and enabled many manufacturers to focus on backlogs. New orders for durable goods rose 1% in October and are up 10.7% from a year ago. A surge in orders for commercial aircraft and machinery in October led to gains across nearly all major categories. Machinery orders, which were weak in September, shot back in October with a 1.5% gain. Revisions to Q3 GDP also showed stronger
business investment than previously expected, suggesting businesses are investing in domestic operations despite slowing demand. Orders for core capital goods were up 2.1% in October. Unfilled orders rose 0.6% in October and are up 7.1% in the past year, suggesting many manufacturers still have strong backlogs.

Despite solid growth, we continue to remain somewhat cautious about the economic outlook. Consumers continue to shift away from purchasing durable goods and return to services, and this trend is likely to continue. A meaningful portion of goods-related activity will likely continue to soften in the year ahead. The Institute for Supply Management manufacturing PMI fell to 49%, the first time it has dipped into contractionary territory since the early months of the pandemic.

The economic environment in Europe continues to be a challenging one but recent data adds a bit of optimism to an otherwise pessimistic outlook. The German economy grew slightly more in Q3 than earlier data suggested, thanks in large part to consumers who continue to spend. Europe’s largest economy expanded by 0.4% quarter-on-quarter and the German economy is up 1.3% on the year.

The broader European economy also held up better in Q3, outpacing early expectations by growing 0.2% quarter-on-quarter and 2.1% over the last year. Latvia was the only country to report economic decline during the third quarter. The European Commission expects the economy to shrink in the final quarter of 2022 and in the first quarter of 2023 because of surging energy prices and rising interest rates but it is by no means a foregone conclusion that the economy will shrink in Q4.

Inflationary pressures might also be easing in Europe sooner than previously expected. Euro area annual inflation is expected to be roughly 10% in November 2022, down from 10.6% in October. As expected, high energy prices are putting the highest pressure on overall prices. Energy prices in Europe were up an estimated 34.9% in November, compared with 41.5% in October. At the same time, food, alcohol and tobacco prices are up 13.6% in November, compared to 13.1% in October, suggesting food prices continue to rise. Non-energy industrial goods prices are up 6.1% over the last year, inline with last month.

The global economic slowdown continues to also play out in Asia. China’s zero-Covid policies remain a headwind for growth. China’s imports and exports both fell for the first time in more than two years. Slowing global demand is putting downward pressure on exports and restrictive policies are putting downward pressure on imports.

There continues to be significant economic uncertainty and this will continue to exert downward pressure on the economic activity of both consumers and businesses. The ongoing slowdown will continue in the coming quarters and we are looking closely at any change in the rate of that slowdown.

5.2%  
Global CPI inflation should drop from an estimated 7.2% in 2022 to a forecasted 5.2% in 2023, suggesting we are moving past peak inflation.

746  
China’s exports grew 5.7% in September compared to a year earlier, but this is the slowest pace since April.

5.25%  
We expect the Federal Reserve to raise rates by 125 basis points by March 2023, before moving to a neutral stance for the remainder of 2023.

€42B  
The European Union’s exports of hybrid and electric cars rose 69% last year to €42 billion euros.
U.S. OUTLOOK

ECONOMIC GROWTH
Real U.S. GDP growth in Q3 was revised higher from 2.6% to 2.9% annual growth. A downward revision to inventories was offset by upward revisions to consumer spending (0.3 percentage points), business investment (5.1% compared to 3.7% percent), government purchases, and net exports. Corporate profits for the third quarter were down 1.1% from Q2, but still up 4.4% from a year ago. GDP inflation was revised higher to an 4.3% annual rate in Q3 compared with the prior estimate of 4.1%. GDP prices are up 7.1% from a year ago, well above the Fed’s target of around 2-2.5%.

<table>
<thead>
<tr>
<th></th>
<th>2022 ECONOMIC GROWTH (GDP % Change)</th>
<th>2023 ECONOMIC GROWTH (GDP % Change)</th>
<th>2022 EXCHANGE RATE (v. USD)</th>
<th>2023 EXCHANGE RATE (v. USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED STATES</td>
<td>1.8%</td>
<td>0.2%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CANADA</td>
<td>3.2%</td>
<td>0.3%</td>
<td>1.36</td>
<td>1.32</td>
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<tr>
<td>MEXICO</td>
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<td>0.9%</td>
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<td>20.54</td>
</tr>
<tr>
<td>EURO AREA</td>
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<td>0.96</td>
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<tr>
<td>CHINA</td>
<td>3.2%</td>
<td>4.6%</td>
<td>7.31</td>
<td>7.00</td>
</tr>
</tbody>
</table>

EMPLOYMENT
Directly, the U.S. labor market is finally showing some signs of slowing, but the levels of employment suggest the labor market remains tight. There were 10.3 million job openings in October, doubt about 350,000 job openings from the prior month but still above August levels. The rate of layoffs and discharges in October was 1%, which is lower than the average of 1.3% in 2019. Workers are still showing relatively confidence to quit their jobs as well — 2.6% in October, versus 2.3% in 2019. The economy added 261,000 jobs in October. Payroll gains for August and September were also revised up by a total of 29,000, bringing the net gain, including revisions, to 290,000. The unemployment rate rose to 3.7% in October from 3.5% in September.
SENTIMENT
Consumer sentiment fell 5% in November, declining from 59.9 to 56.8. This decline is roughly one-third of the gains posted since the historic low in June. Consumer attitudes are weighed down by inflation, rising borrowing costs, declining asset values, and weakening labor market expectations. Buying conditions for durables, which had greatly improved last month, decreased sharply in November, falling 19%. The main reasons were high interest rates and high prices. With less firm financial conditions, consumers appear to be increasingly taking a wait-and-see approach. Long-term business conditions declined 6%, while short-term business conditions and personal finances were essentially unchanged. Inflation expectations remain stubborn, declining little in the last month. The median expected year-ahead inflation rate was 4.9%, down slightly from 5.0% last month.

TRADE-WEIGHTED U.S. DOLLAR INDEX
The U.S. dollar slumped to a 16-week lows against a group of major currencies as inflation appears to be moderating somewhat. In the last few weeks, policymakers have also signaled the Federal Reserve believes it is getting closer to an end of interest rate increases. Dollar strength has been driven by risk aversion and widening interest rate differentials. But a less aggressive Federal Reserve will narrow the interest rate differentials. Financial markets are beginning to expect yields to continue to come down and the dollar to weaken against other currencies.

MANUFACTURERS’ SENTIMENT (PMI)
U.S. manufacturing sentiment contracted for the first time in 29 months. The last month of contraction was May 2020. The Manufacturing PMI fell from 50.2 percent to 49 percent, a 1.2 percentage point drop. The New Orders Index contracted for the second consecutive month. Manufacturers are preparing for weaker future demand and lower future output as a result. At the same time, supply chains appear to be healing quickly in the face of weaker demand and lower production. The Customers’ Inventory Index rose 7.1 percentage points, likely getting within range of balanced inventory positions. The Prices Index has fallen sharply over the last two months. The Employment Index moved back into contractionary territory, suggesting firms are becoming more cautious when it comes to hiring.
U.S. END MARKETS FOR ELECTRONICS

U.S. industrial production fell 0.1% in October. The decline was 0.5% including revisions to prior months. Manufacturing increased 0.1% in October (-0.4% including revisions to prior months). The shift from goods and toward services has been ongoing so the downward revisions in today’s report are not overly surprising. With that being said, consumer goods production has increased by 2.5% in the last year, and business equipment production is up 7.6%.

AUTOMOTIVE PRODUCTS
Auto production rose 2%, while non-auto manufacturing remained unchanged. Auto production is up 10.7% in the past year, while non-auto manufacturing is up 1.8%.

TRANSIT EQUIPMENT
Transit equipment production rose 1% during the month. The sector is up 10% over the last year and 17.8% from pre-pandemic levels.

INFORMATION PROCESSING & RELATED EQUIPMENT
Production in the information processing and related equipment sector rose 0.9% during the month. The sector is up 2.2% over the last year against strong comps and is 3.9% higher than pre-pandemic levels.

INDUSTRIAL & OTHER EQUIPMENT
The industrial sector rose 0.7% during the last month, hitting a new high. The sector is up 8.9% over the last year and up 8.4% from the start of the pandemic.

DEFENSE & SPACE EQUIPMENT
The defense and space equipment segment rose 1.6% to another new all-time high. The sector is up 6.1% over the last year and 14.7% since the pandemic began.

Recession
Industrial Production: Manufacturing (Y/Y % Change)
12 per. Mov. Avg. (Industrial Production: Manufacturing (Y/Y % Change))

Manufacturing

Automotive Products

Recession
Industrial Production: Automotive products (Y/Y % Change)
12 per. Mov. Avg. (Industrial Production: Automotive Products (Y/Y % Change))
The image shows four graphs representing the annual percentage change in industrial production for different categories: Business Transit Equipment, Industrial & Other Equipment, Information Processing & Related Equipment, and Defense & Space Equipment. Each graph includes trends from 2000 to 2024, with shaded areas indicating recessions. The graphs illustrate the percentage change over time, with the years 2000, 2004, 2008, 2012, 2016, and 2020 marked as key years. The data is visualized using line graphs with moving averages shown in varying shades to highlight changes and trends. The percentage changes are shown for each category, with specific values indicated at particular points in time. The graphs provide a visual representation of how industrial production has fluctuated over the years, including periods of recession.
Overall capacity utilization declined to 79.9% in October from 80.1% in September. Manufacturing capacity utilization was unchanged at 79.5%. Computer and electronic production capacity utilization declined 0.3% to 71.1%. Electrical equipment, appliances and components utilization rose 1.9% to 83.7%. Utilization in the auto sector rose 2% to 77.1%. This is the highest level since August 2020. Capacity utilization in the aerospace and miscellaneous transportation equipment sector rose 1.9% to 75.5%.
**ECONOMIC GROWTH**

The Euro area economy grew 0.2% (quarter-on-quarter) in the third quarter, staving off the start of the recession. The economy was up 2.1% over the last year. The EU economy also grew by 0.2% quarter-on-quarter. The EU economy expanded 2.4% over the last year. The largest economies all grew during the quarter. Germany saw growth of 0.3% in the third quarter, an acceleration from 0.1% the prior quarter. The German economy has now surpassed its pre-pandemic level for the first time. France and Spain both expanded 0.2% while Italy grew by 0.5%. Latvia was the only EU country to experience a drop in GDP. The strongest year-over-year growth in Europe was in Cyprus (+5.4%), followed by Portugal (+4.9%), Romania (+4.7%), Poland (+4.4%) and Hungary (+4.1%). The European Commission expects the economy to shrink in the fourth quarter of 2022 and in the first three months of 2023 because of surging energy prices and rising interest rates which will deter spending and hinder borrowing power and confidence.

**EUROPEAN OUTLOOK**

<table>
<thead>
<tr>
<th>Q/Q PERCENTAGE CHANGE</th>
<th>Y/Y PERCENTAGE CHANGE</th>
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<tbody>
<tr>
<td></td>
<td>2021Q4</td>
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<tr>
<td>EURO AREA</td>
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<tr>
<td>EU (27)</td>
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<tr>
<td>GERMANY</td>
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<tr>
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<tr>
<td>ITALY</td>
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<tr>
<td>SPAIN</td>
<td>2.3%</td>
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</table>

**2022 ECONOMIC GROWTH (GDP % CHANGE)**  **2023 ECONOMIC GROWTH (GDP % CHANGE)**

<table>
<thead>
<tr>
<th></th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>EURO AREA</td>
<td>3.2%</td>
<td>-0.2%</td>
</tr>
<tr>
<td>GERMANY</td>
<td>1.6%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>FRANCE</td>
<td>2.5%</td>
<td>0.1%</td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>4.6%</td>
<td>0.2%</td>
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</table>
EMPLOYMENT
The unemployment rate for the euro area dropped 0.1 percentage points in October from the prior month. The euro area seasonally-adjusted unemployment rate was 6.5% in October, down from 6.6% in September 2022 and from 7.3% in October 2021. The EU unemployment rate was 6.0% in October 2022, down from 6.1% in September 2022 and down from 6.6% in October 2021. Only Lithuania, Luxembourg, Malta, Romania, and Slovenia experienced rising unemployment, and in each county the unemployment rate only rose 0.1 percentage points. Czechia unemployment fell to 2.1%, the lowest in the euro area. German unemployment remains just 3%. Poland also recorded 3% unemployment and Malta’s unemployment rate rose to 3.1%. Despite recessionary pressures in Europe, employment is holding up.

MANUFACTURERS’ SENTIMENT (PMI)
The S&P Global Eurozone Manufacturing PMI moved higher in November, increasing from 46.4 to 47.1, but remains in contractionary territory for the fifth consecutive month. All countries reported contractionary levels, suggesting sentiment remains subdued. The eurozone’s goods-producing sector is still declining, although the rates of decline in output and new orders appear less severe than October’s aggressive levels. Inflationary pressures are also easing due to weaker demand and less strain on suppliers. The level of new orders fell again, as the euro area and the broader global economy continues to deteriorate. Firms remain pessimistic about the outlook. Manufacturing output levels fell in November for a sixth straight month. Firms are cutting production levels as orders continue to moderate. Companies are showing some hesitation to place orders given the economic uncertainty, sufficient stock levels and high selling prices.
E.U. END MARKETS FOR ELECTRONICS

Manufacturing output rose in September for the second consecutive month. Output increased 1.5% (month-on-month). Production hit another all-time high. Output is up 6.2% over the year and up 5% since the start of the pandemic.

The electronics industry, which includes categories such as components, loaded boards, computers, communications equipment, and consumer electronics, increased output by 4.4% (month-on-month) in September. The sector is up 16.2% over the last year and up 24.3% from pre-pandemic levels.

Motor vehicle manufacturing saw output increase 12% in September. The sector is up 44.7% over the last year but currently down 15.7% from pre-pandemic levels.

The air and spacecraft manufacturing sector was roughly flat in September, rising just 0.1% from the prior month. The segment is up 9.9% over the last year but off 17.3% since the start of the pandemic.
E.U. Manufacture of Computer, Electronic & Optical Products (Y/Y % Change)

-30% 20% 10% 0% 10% 20% 30% 40% 50%

-30% 20% 10% 0% 10% 20% 30% 40% 50%

European Union Manufacture of computer, electronic and optical products (Y/Y % Change)
12 per. Mov. Avg.

E.U. Manufacture of Air & Spacecraft & Related Machinery (Y/Y % Change)

-40% 30% 20% 10% 0% 10% 20% 30% 40%

-40% 30% 20% 10% 0% 10% 20% 30% 40%

European Union Manufacture of air and spacecraft and related machinery (Y/Y % Change)
12 per. Mov. Avg.