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ECONOMIC OUTLOOK

The global economy continues to improve, in many ways recovering better than anticipated.

In the U.S., we had been expecting a slowdown in the fourth quarter of last year and the early months of 2021. And while we did see indications of that slowdown in a variety of variables that we track, we did not see a slowdown to the extent that we feared we might. GDP in the fourth quarter came in at four percent, our forecast headed into the fourth quarter was 3.6 percent. There was some risk that GDP might be negative, as it was Europe. Just a month ago we anticipated that first quarter GDP would come in around two percent, as stimulus waned. Our current forecast is for nearly three percent growth in the first quarter and there's a good chance that our forecast for the first quarter, and all of 2021, will increase in the coming months. Incoming data has been solid.

The most important development over the last month has been the now downward trajectory of new COVID cases, hospitalizations, and deaths. Vaccine distribution started slow, but continues to accelerate. The U.S. is on target to have vaccines widely available by the middle of the year. Vaccine availability is also finally starting to pick up in Europe. The European Commission recently announced they would have 100 million doses delivered by the end of March.

Despite still high unemployment numbers in both the U.S. and Europe, households appear ready to spend. Households are sitting on a tremendous amount of excess savings that have accumulated during the last year. I estimate in the U.S. that savings is about $1 trillion higher than it was prior to the pandemic. There is growing optimism that people will start to spend some of these excess savings starting in the summer as COVID vaccines become more widespread. This potential wave of spending, affectionately called "revenge spending," should boost economic growth in the second half of the year.

The industrial economy continues to improve, and in many ways, is the star of the recovery. Several of the sub sectors that we watch, notably the auto and defense sectors, have both had V-shaped recoveries. There are other sectors, like aerospace, that are looking at very long recoveries given the particular nature of this recession and how it has adversely affected industries like commercial air travel.

There is continued weakness in the labor market. The U.S. economy added only 49,000 new jobs in December. And while the unemployment rate has improved, the arithmetic was driven by fewer people looking for work. Europe has done a good job of styming layoffs by supporting aid programs like short-time work initiatives that incentivize companies to retain workers. But some of these programs are also set to expire this year, which could put upward pressure on unemployment. We continue to expect a prolonged recovery in the labor market, that will be shallow at times.

There are of course exceptions to this general thesis. The electronics industry in particular has done quite well. In the U.S. for example, manufacturing employment fell nearly 11 percent peak-to-trough. And manufacturing employment is still down nearly five percent from pre-pandemic levels. The overall labor market fared much worse of course. It declined nearly 15 percent and is still down 6.3 percent. We don't anticipate employment to move above pre-pandemic levels until 2024. On the other hand, the electronics industry could very well move above pre-pandemic levels of employment by the end of this year. Electronics industry employment is down just 0.7 percent over the last year.

The risk to our forecast has been to the downside, and we had been baking in low probability events like a double dip recession in the U.S. and a more severe drop in Europe. The risks to our forecasts are increasingly materializing on the upside now. The economy is recovering quicker than we had anticipated, as already noted. At the same time the federal government is pushing forward additional fiscal stimulus. Much of that stimulus will show up in the back half of 2021 and even 2022. Presumably, after the recovery is intact and we are more firmly putting COVID behind us.

This additional stimulus will help fuel an already burning fire and there are risks of overheating. At the same time the Federal Reserve continues to maintain their dovish perspective that inflation is not a near-term concern and that getting back to full employment should be the overriding priority. This creates an environment where inflation can quickly become problematic. And inflation has been accelerating. Consumer prices are up 1.4 percent from last year, but that will increase to 2.5 by the end of the year. Inflation is not yet in a troubling area, but the tricky thing about inflation is that it is hard to precisely handle and can quickly get out of control.

We are seeing prices go up almost everywhere. In some instances it is significant. Manufacturing input prices are moving high. Transportation prices have already risen significantly and are continuing to rise. We're seeing capacity constraints in a number of areas that are pushing prices is higher. Commodity prices are also up. Copper for example, is moving towards all-time high. Oil prices have reinflated off lows seen in the midst of the pandemic. Accelerating prices are probably the number one factor facing electronics manufacturers right now.

32%

The global price of copper is up 32 percent over the last year. Crude oil prices are up 14 percent.

0.4%

The European economy fell less sharply than expected in the final quarter of the year. GDP for the EU fell 0.4 percent and fell 0.6 percent for the Euro area.

4.9%

The US economy will grow 4.9 percent in 2021, Europe will increase 3.5 percent and China will expand by 8.4 percent.

6.3%

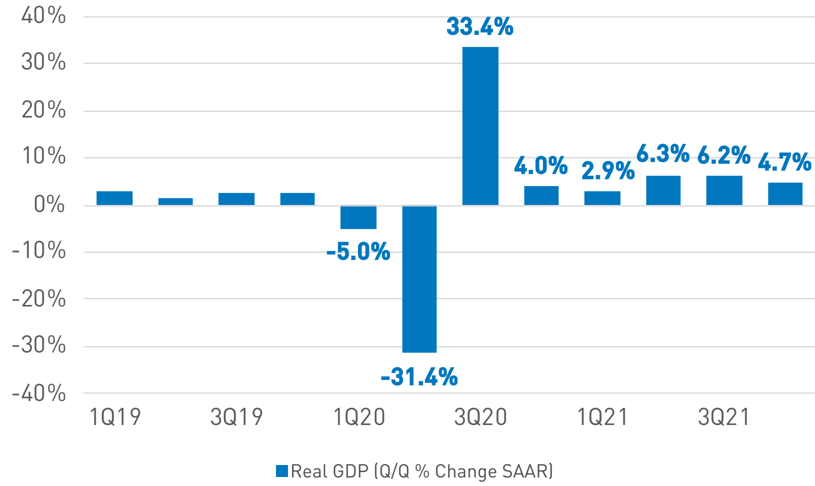
New orders for durable goods in the US are up 6.3 percent from a year-ago.

U.S. OUTLOOK

ECONOMIC GROWTH

The economy grew four percent during the fourth quarter, avoiding the double dip recession that is currently hitting Europe. For the full year, the economy slipped 3.5 percent, much better than anticipated in the early months of the pandemic. For example, our June 2020 forecast had the economy declining six percent for the year. GDP fell 2.5 percent from Q4 2019 to Q4 2020.

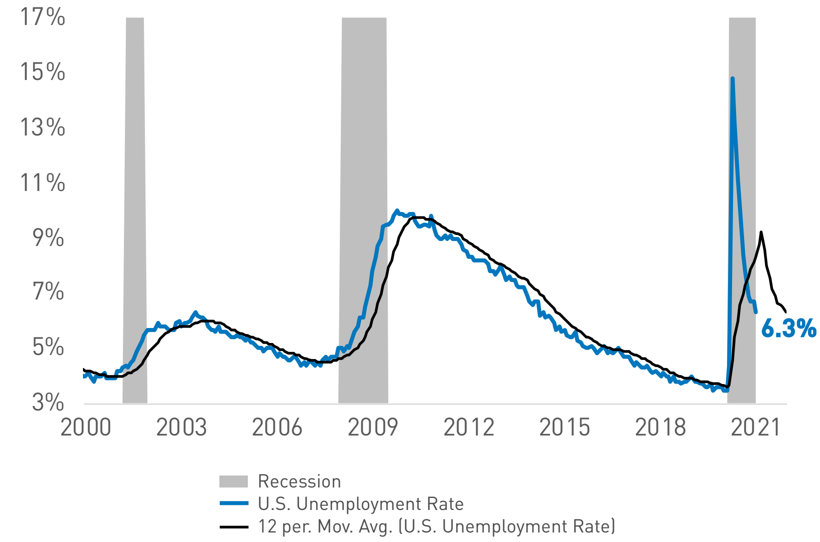
The first quarter of 2021 is looking much stronger than our forecast last month. We've increased our forecast to 2.9 percent from 2.3 percent and incoming data suggests we will likely raise our forecast again in the coming weeks. Additional stimulus will drive growth higher. As a result, we've increased our forecasts for 2021 and 2022.



	2021 ECONOMIC GROWTH (GDP % Change)	2022 ECONOMIC GROWTH (GDP % Change)	2021 EXCHANGE RATE (v. USD)	2022 EXCHANGE RATE (v. USD)
UNITED STATES	4.9%	3.8%	N/A	N/A
CANADA	4.6%	3.5%	1.28	1.26
MEXICO	4.0%	3.0%	19.89	19.59
EURO AREA	4.4%	4.0%	1.21	1.25
CHINA	8.4%	5.6%	6.47	6.52

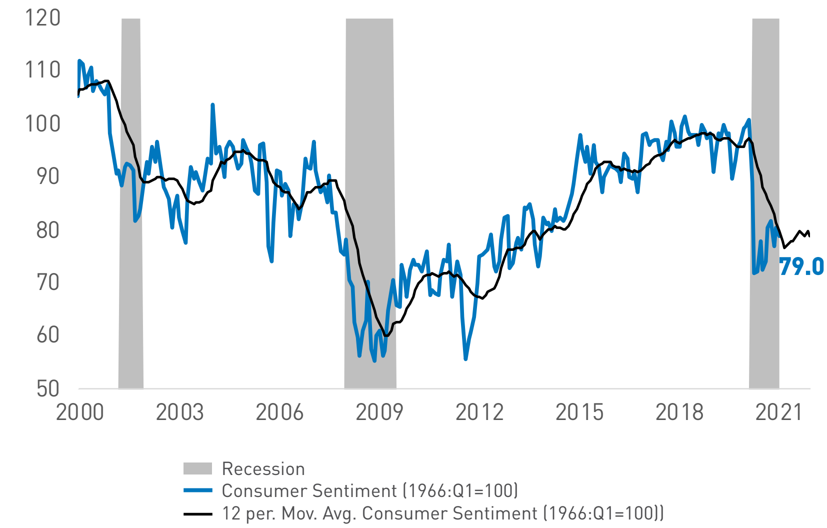
EMPLOYMENT

While the economy continues to improve, last month's employment report was mediocre. The U.S. economy added 49,000 jobs in January after losing 140,000 in December. The unemployment rate fell from 6.7 percent to 6.3 percent, but this was largely driven by individuals leaving the labor force and not actively looking for work, not a sign of the labor market strengthening in a material way. There were some bright spots in last month's report. Civilian employment, an often-used alternative measure for the labor market because it includes small-businesses and start-ups, added 201,000 new jobs during the month. Average weekly hours rose to 35 hours, compared to 34.7 hours in December. This is the highest level since 2006 and suggests the demand for workers is strong, which could, in turn, translate into higher levels of hiring in the coming months.



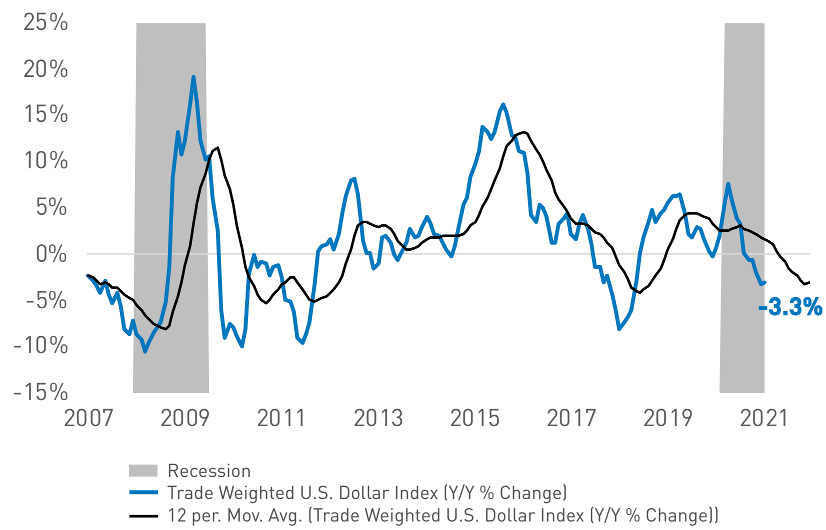
SENTIMENT

The Consumer Sentiment Index was little changed last month, falling 1.7 points from 80.7 to 79. The decline was driven by declines in both the current economic conditions index and the consumer expectations index. The Sentiment Index has changed very little during the length of the pandemic, averaging 77.9 since March 2020, roughly inline with the currency level. Despite the sudden and deep nature of the recession, the index has stayed above previous cyclical lows. Inflation expectations appear to be picking up somewhat. One-year inflation expectations rose to three percent from 2.5 in December. The five-year inflation expectations increased to 2.7 percent from 2.5 percent.



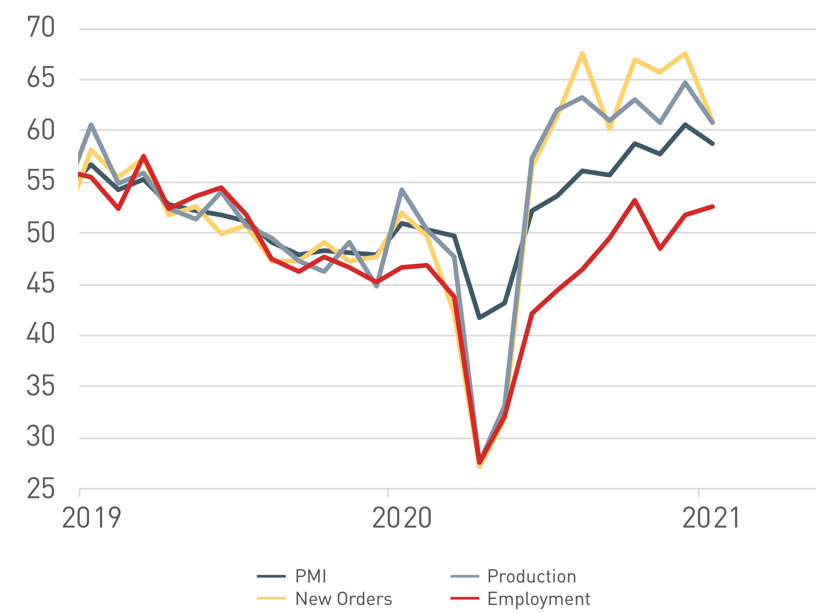
TRADE-WEIGHTED U.S. DOLLAR INDEX

The trade-weighted dollar index fell 0.3 percent in January, after a two percent decline in December. The trade-weighted dollar index is down 3.1 percent over the last year. In recent testimony, Federal Reserve Chairman Jerome Powell reaffirmed the Fed's commitment to accommodative monetary policy which should keep interest rates low for an extended period. The interest rate differentials between the U.S. and the rest of the world will put downward pressure on the dollar. The Federal Reserve has nearly doubled the size of its assets from under $4.2 trillion in February to $7.59 trillion today. Moreover, counter-cyclical government support has pushed greenbacks into the global economy, placing downward pressure on dollar valuation.



MANUFACTURERS' SENTIMENT (PMI)

The manufacturing sector continued to expand, marking the ninth consecutive month of expansion. Manufacturing sentiment deteriorated somewhat last month, with the PMI index decreasing from 60.7 to 58.7. The New Orders Index decreased to 61.1, but remains solidly in expansionary territory. The employment index slipped to 52.7, but suggests firms are still hiring. The inventory index slipped to 50.8, just barely in expansion territory. Inventories remain tight and capacity also appears constrained. Supplier deliveries slowed during the month and the backlog of orders grew. Tight inventory and growing backlog is helping to drive prices higher.



U.S. END MARKETS FOR ELECTRONICS

Industrial Production continues to recover. After rising 1.3 percent in December, overall production increased 0.9 percent in January. Industrial production is now down just 1.8 percent from a year ago. Remember, Industrial Production had fallen 16.5 percent from February to April. The manufacturing component increased one percent during the month and is just 0.8 percent below last January's levels.

AUTOMOTIVE PRODUCTS

Auto production declined 0.2 percent in January. December's results were revised higher, but still showed a 0.4 decrease in production. Auto production is up 4.2 percent, a strong v-shape recovery.

TRANSIT EQUIPMENT

Transit equipment production decreased 0.6 percent during the month. The sector is down four percent from last year.

INFORMATION PROCESSING & RELATED EQUIPMENT

Production in the information processing and related equipment sector decreased 0.6 percent during the month. December's results were revised higher, but still showed a small 0.1 percent decline. The sector is down 0.9 percent over the last year.

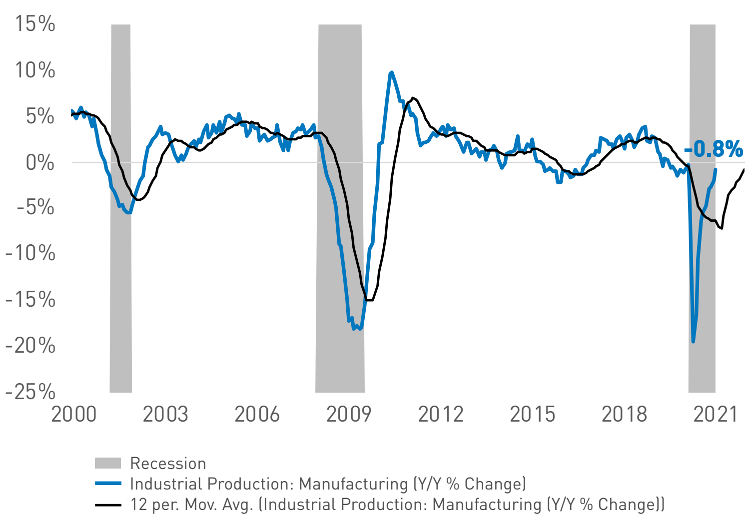
INDUSTRIAL & OTHER EQUIPMENT

The industrial segment grew 1.3 percent, after growing 1.1 percent in the prior month. The sector is down 5.1 percent over the last year.

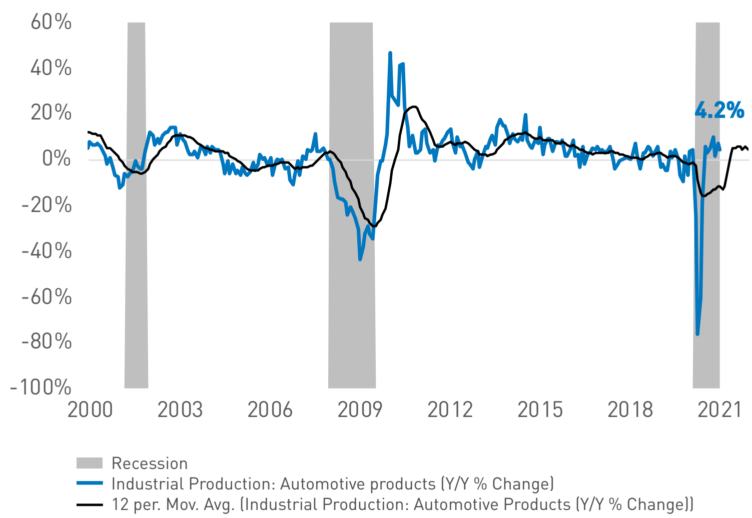
DEFENSE & SPACE EQUIPMENT

The defense and space equipment segment increased 1.5 percent in January, after a gain of 1.4 percent in December. The sector is now up a strong 4.7 percent over the last year.

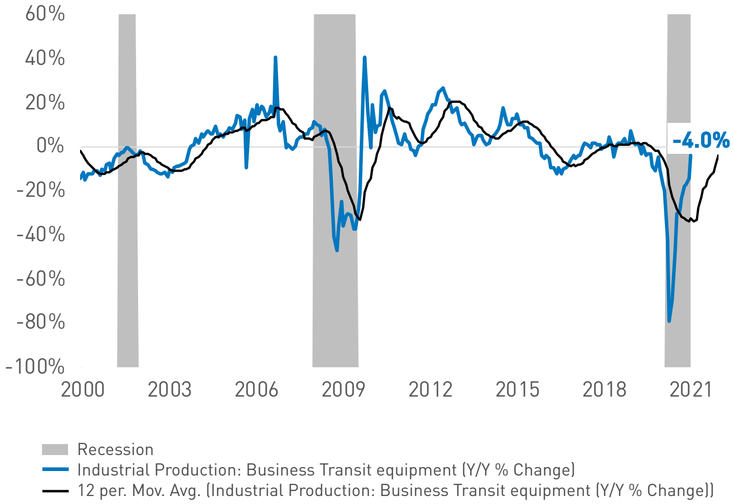
Manufacturing



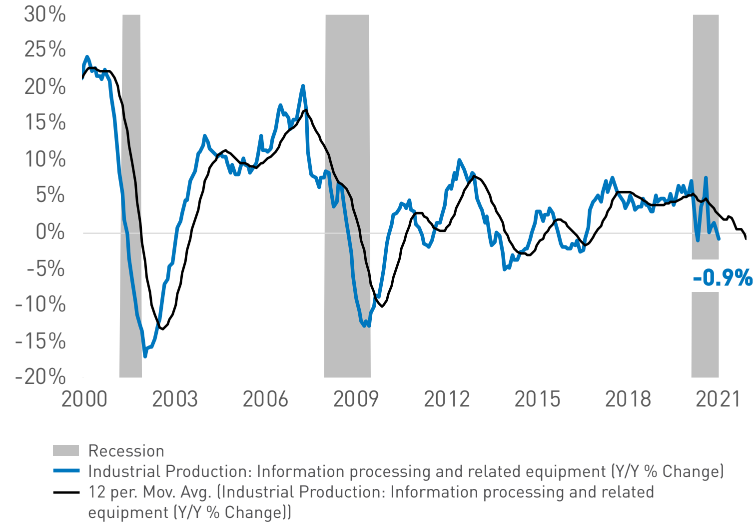
Automotive Products



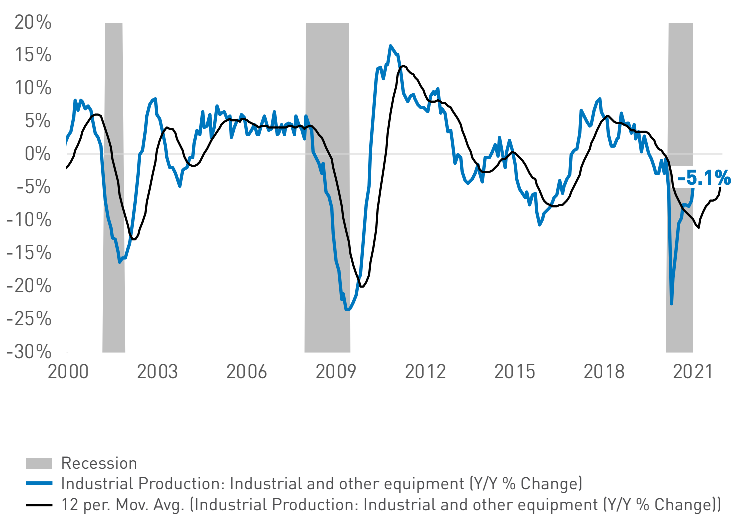
Business Transit Equipment (Y/Y % Change)



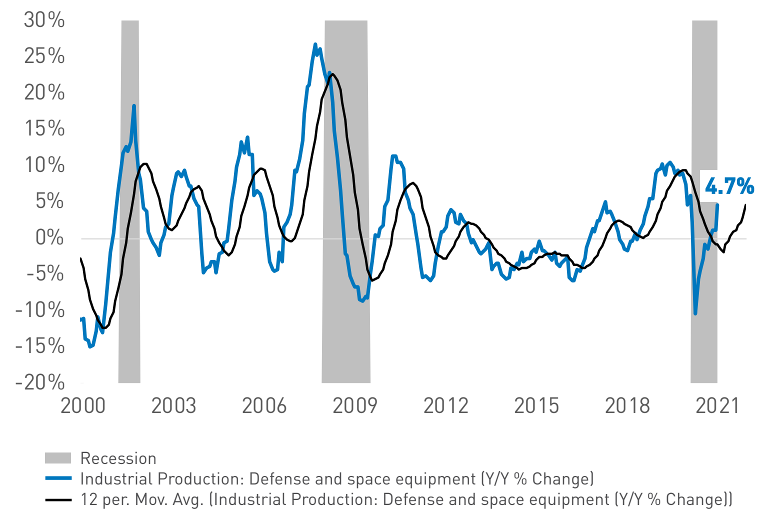
Information Processing & Related Equipment (Y/Y % Change)



Industrial & Other Equipment (Y/Y % Change)



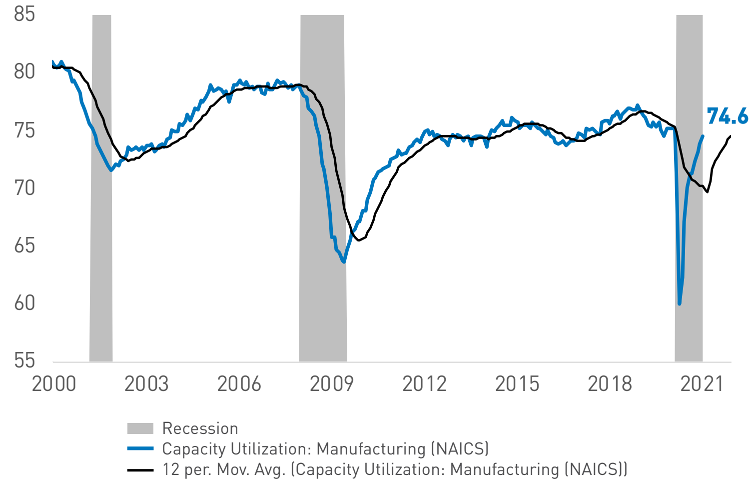
Defense & Space Equipment (Y/Y % Change)



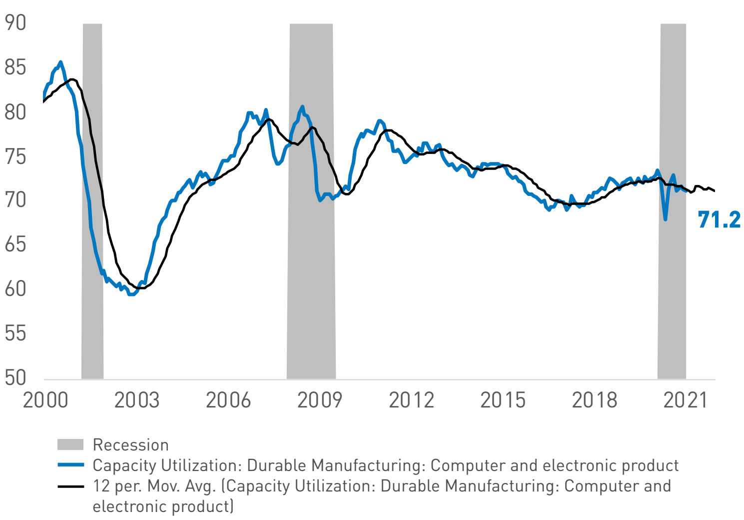
MANUFACTURING CAPACITY UTILIZATION

Recovery in the industrial and manufacturing sectors continued in January. Overall, capacity utilization increased to 75.6 percent in January, up from 74.6 percent. Manufacturing capacity increased to 74.6 during the month, an increase of 0.73 percentage points. Computer and Electronic Product capacity was essentially flat during the month, declining from 71.4 percent to 71.2 percent. Capacity utilization in Electrical Equipment, Appliance, and Components increased 1.66 percentage points to 73.9. Utilization in the Motor Vehicles and Parts sector fell slightly, dropping from 77.4 to 76.8. Finally, Aerospace and Miscellaneous Transportation Equipment sector saw utilization rates improve 1.5 percentage points to 71.9.

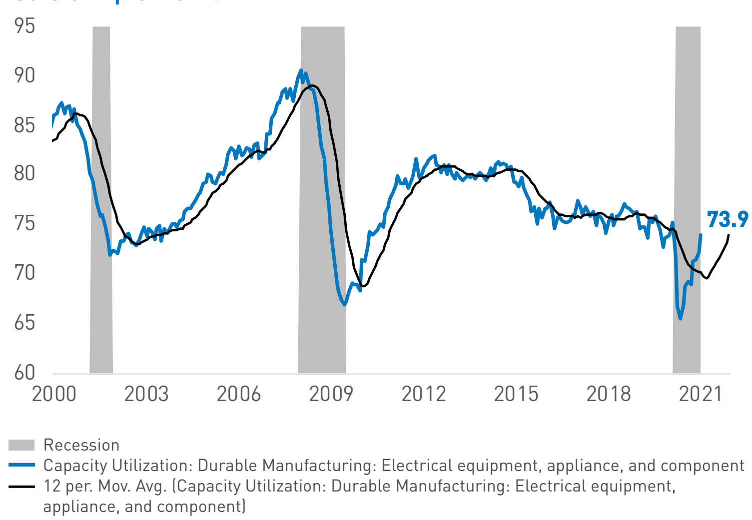
Manufacturing (NAICS)



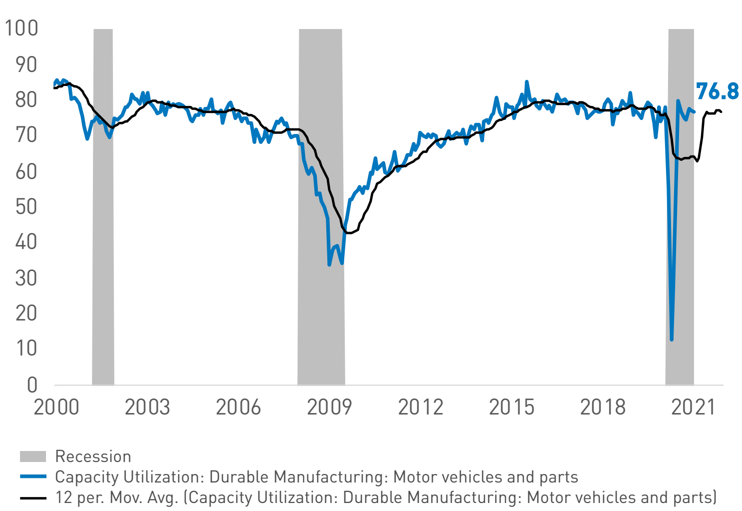
Computer & Electronic Product



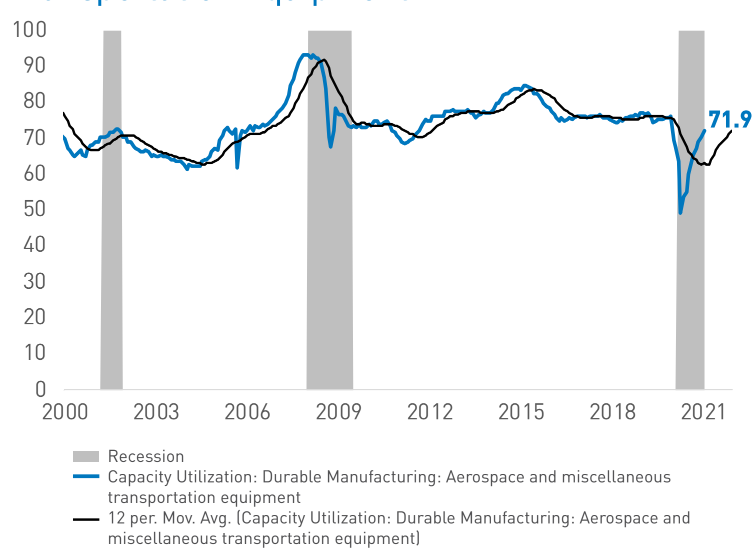
Electrical Equipment, Appliance, & Component



Motor Vehicles & Parts



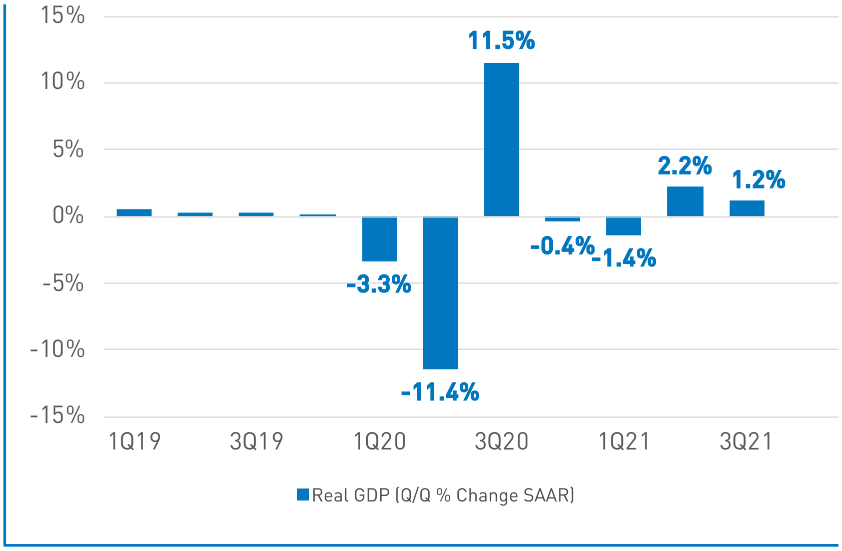
Aerospace & Miscellaneous Transportation Equipment



EUROPEAN OUTLOOK

ECONOMIC GROWTH

The European economy fell less sharply than expected in the final quarter of the year. GDP for the EU fell 0.4 percent and fell 0.6 percent for the Euro area. This compares to a one percent increase in the United States during the same time period. Compared with the same quarter of the previous year, GDP was down five percent for the Euro area, down 4.8 percent for the EU, and down 2.5 percent in the United States. Germany was barely positive at 0.1 percent, while France declined by 1.3 percent and Italy by two percent. The mediocre results were due in part to renewed COVID-related restrictions and shutdowns that curtailed economic activity. According to the first estimate of annual growth for 2020, GDP fell by 6.8 percent in the euro area and 6.4 percent in the EU.



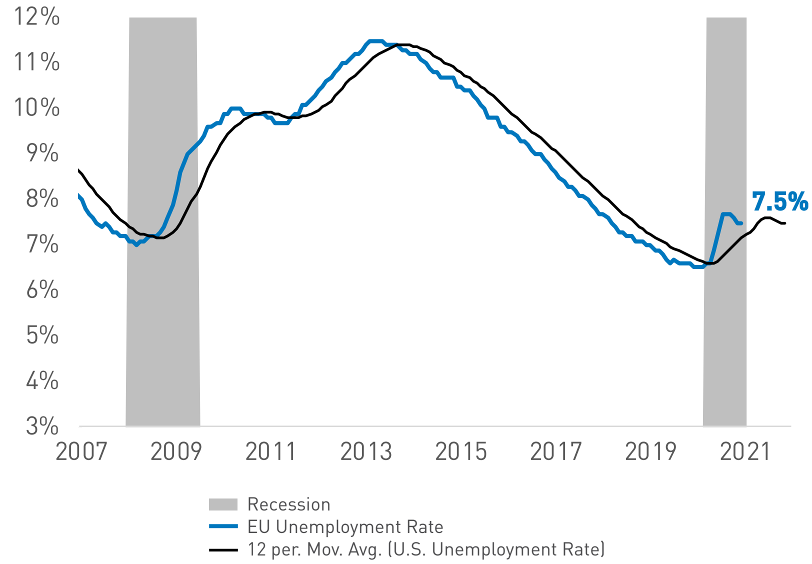
Looking ahead, the decline in economic growth will continue, and even accelerate, in the first quarter. I'm currently forecasting the Eurozone to decline 1.4 percent during the first quarter, driven by a -0.8 percent decline in Germany and a -2.7 percent decline in France. Italy will decline 0.6 percent and Spain will fall by three percent.

	Q/Q PERCENTAGE CHANGE				Y/Y PERCENTAGE CHANGE			
	2020Q1	2020Q2	2020Q3	2019Q4	2020Q1	2020Q2	2020Q3	2020Q4
EURO AREA	-3.7%	-11.7%	-12.4%	1.0%	-3.2%	-14.7%	-4.3%	-5.0%
EU (27)	-3.3%	-11.4%	11.5%	1.3%	-2.6%	-13.9%	-4.2%	-4.8%
GERMANY	-2.0%	-9.7%	8.5%	0.4%	-2.1%	-11.2%	-4.0%	-3.9%
FRANCE	-5.9%	-13.7%	18.5%	0.8%	-5.7%	-18.8%	-3.9%	-5.0%
ITALY	-5.5%	-13.0%	16.0%	0.1%	-5.6%	-18.1%	-5.1%	-6.6%
SPAIN	-5.3%	-17.9%	16.4%	1.7%	-4.2%	-21.6%	-9.0%	-9.1%

	2021 ECONOMIC GROWTH (GDP % CHANGE)	2022 ECONOMIC GROWTH (GDP % CHANGE)
EURO AREA	-4.4%	4.0%
GERMANY	-3.5%	4.1%
FRANCE	-5.6%	4.1%

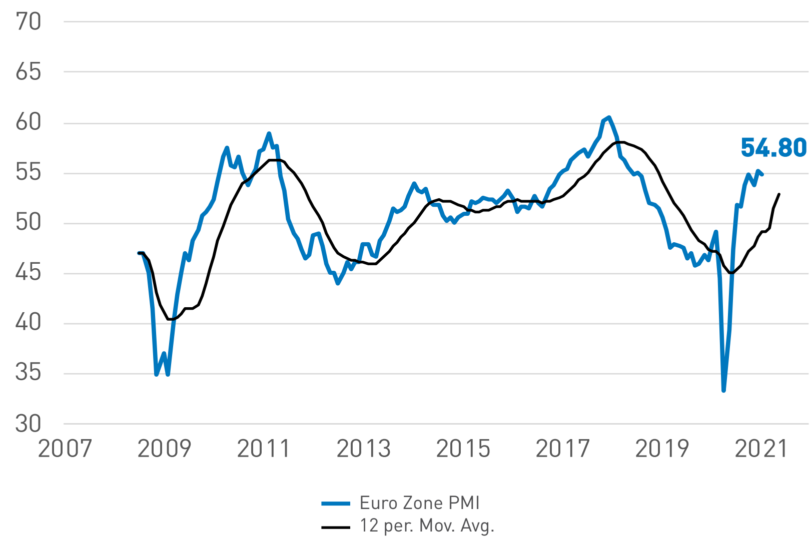
EMPLOYMENT

The unemployment rate in the Euro area was unchanged in December at 8.3 percent. The EU also reported unchanged unemployment at 7.5 percent. For the fourth quarter, employment increased 0.3 percent from the third quarter in both the EU and Euro area. Compared to the year-ago period, employment fell by two percent in the Euro area and by 1.7 percent in the EU. Employment in the Eurozone had fallen 2.3 percent in the third quarter, while it fell 2.1 percent in the EU over the same period. For the year, employment declined 1.8 percent in the euro area and 1.6 percent in the EU. Europe avoided massive declines in employment like the United States because it implemented government programs to keep workers in place. Most notably, short-time work programs helped to mitigate the impact of the pandemic on employment. These programs are expected to taper this year so even as the economy recovers, we'll likely see a small rise in unemployment.



MANUFACTURERS' SENTIMENT (PMI)

Like the United States, the Eurozone manufacturing sector started the new year off on solid footing. The Eurozone's manufacturing PMI decreased slightly to 54.8 in January, but remember that anything above 50 percent is considered expansionary territory. This is the seventh straight month of expansion. Export-focused countries like the Netherlands and Germany, saw some of the best manufacturing growth last month, suggesting the global recovery is aiding the manufacturing sector beyond what a recovery in the domestic market is bringing. This will likely continue to be the story through at least the first half of the year. New orders increased rapidly during the month. We also saw an increase in backorders and a worsening of supplier delivery times, suggesting some constraints on capacity. Prices paid for inputs rose significantly as supply-side tightness intensified.



E.U. END MARKETS FOR ELECTRONICS

Stricting COVID-related restrictions reduced economic activity at the close of 2020. The manufacturing output index for the EU declined 1.4 percent for the month, after rising a revised 2.9 percent in November. Despite the decline from the prior month, manufacturing output in Europe is now higher than it was a year ago by 0.7 percent.

COMPUTER, ELECTRONIC & OPTICAL PRODUCTS

The electronics industry, which includes categories such as components, loaded boards, computers, communications equipment, and consumer electronics, increased a reported 34.2 percent in November. The sector is now up 24 percent from last year. December data is not yet available.

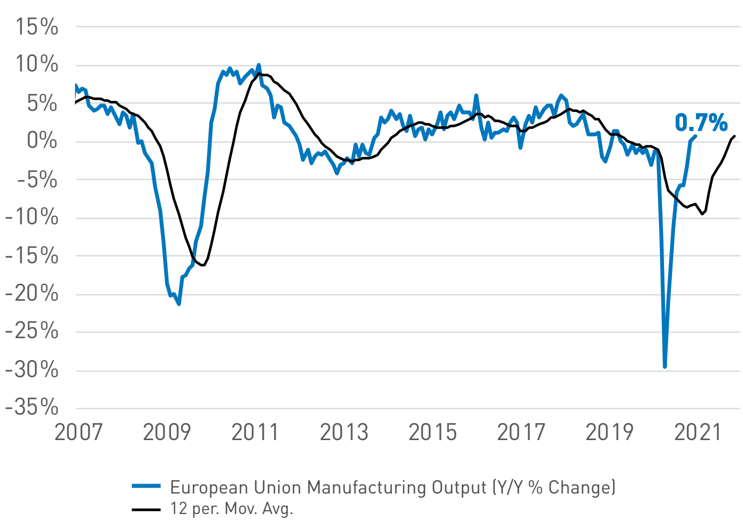
MOTOR VEHICLES

The Motor vehicle manufacturing production index declined 2.1 percent in December, after two months of strong output growth. Auto production in the EU is off 4.6 percent from a year ago.

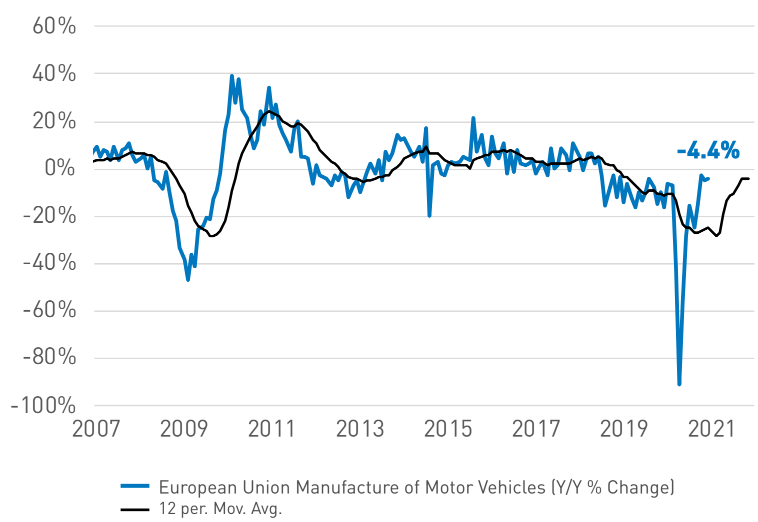
AIR & SPACECRAFT & RELATED MACHINERY

The air and spacecraft manufacturing sector continues to struggle. Not surprising given the collapse in air travel. The production index decreased 2.7 percent in December. The sector remains down significantly, off 22.8 percent from last year. The category is looking at a prolonged recovery.

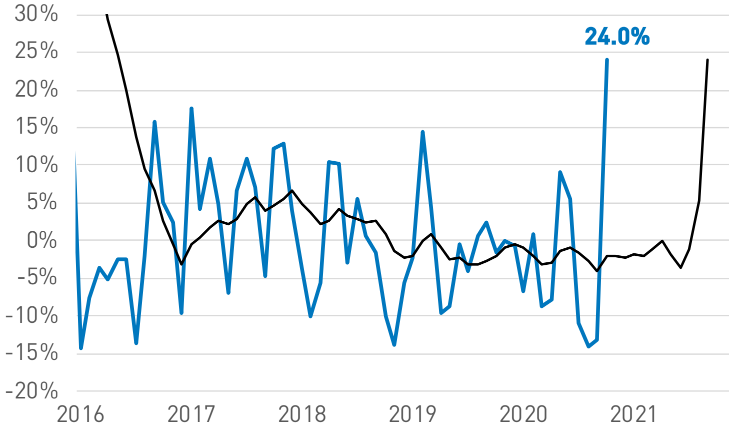
E.U. Manufacturing Output



E.U. Manufacture of Motor Vehicles

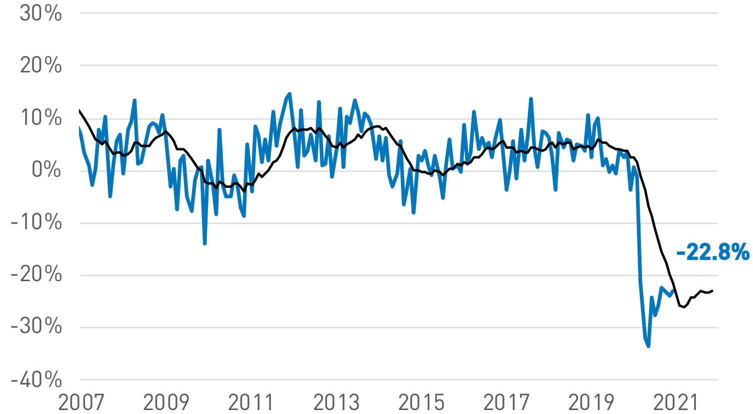


E.U. Manufacture of Computer, Electronic & Optical Products (Y/Y % Change)



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)



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