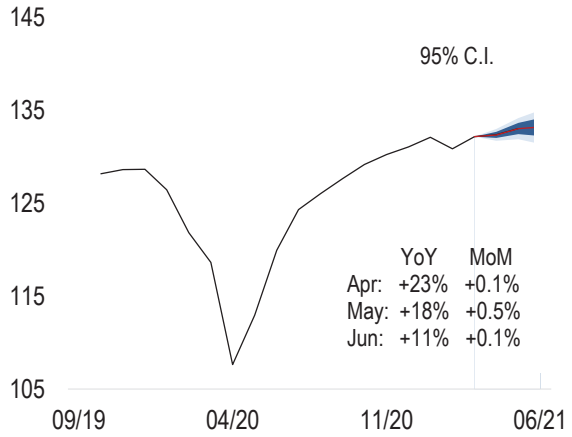
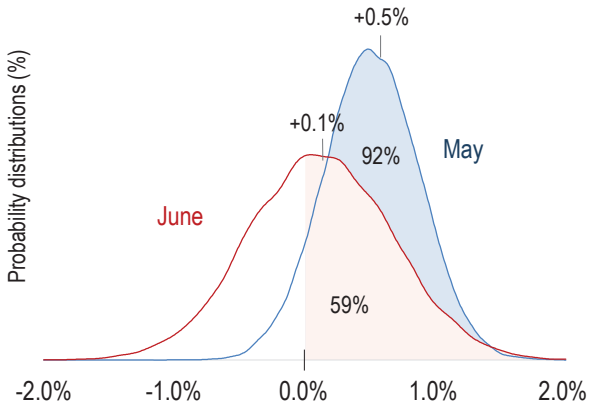
June 2021

F1: Global manufacturing output[1,2]
2010=100, SA



F2: Global manufacturing growth[1]
Month-over-month, SA (%)



Key takeaways

Numera's *advance* estimates for global manufacturing output point to growth easing to a more sustainable pace in the first half of 2021. After growing at double-digit rates since May 2020, the rate of growth in H1/21 slowed to +3.5% annualized. This reflects a normalization of production worldwide, fueled by exceptionally strong demand for both consumer and investment goods in developed markets. Rising consumer confidence and highly expansionary fiscal policy in most major DMs also underpin the rapid recovery in worldwide manufacturing production.

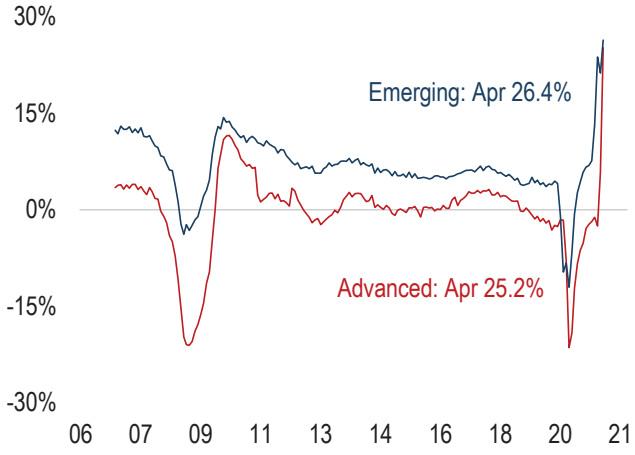
Capacity constraints, however, have prevented manufacturers in many industries (e.g. auto, consumer electronics) from meeting this booming demand for goods – creating a run-up in producer prices. Global PPI inflation rose 14% annualized in April, marking the fifth consecutive month of double-digit PPI inflation. High prices should encourage greater production, in turn relieving these supply constraints. In addition, rising mobility should result in a gradual normalization in consumer expenditure patterns (away from goods and towards services), again reducing the pressure on global supply chains.

Advance estimates[1]	June		May		6 months	
2010=100, SA	2021	% chg yoy	2021 (r)	% chg yoy	2021	% chg yoy
Global manufacturing	**133.2**	**11.1%**	**133.1**	**17.8%**	**132.3**	**12.2%**

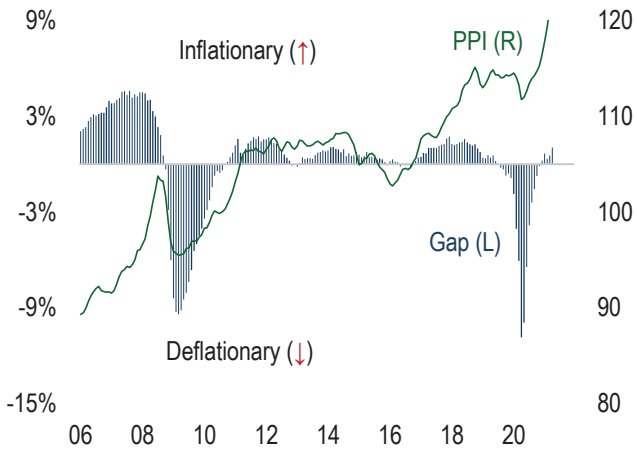
Final results [2]	April		March		4 months	
2010=100, SA	2021	% chg yoy	2021	% chg yoy	2021	% chg yoy
Global manufacturing	**132.4**	**23.0%**	**132.2**	**11.4%**	**131.9**	**11.2%**
Packaged Goods [3]	118.9	6.2%	118.9	3.4%	118.4	4.6%
Potential output [4]	131.0	8.5%	131.5	4.1%	131.1	4.2%
Output gap (%)	**1.1%**	**-**	**0.5%**	**-**	**0.6%**	**-**
PPI manufacturing [5]	122.8	9.9%	121.5	7.2%	120.4	6.1%
Raw material prices [6]	105.3	67.7%	102.1	51.0%	101.0	40.9%

Manufacturing, regional detail	April		March		4 months	
2010=100, SA	2021	% chg yoy	2021	% chg yoy	2021	% chg yoy
World	**132.4**	**23.0%**	**132.2**	**11.4%**	**131.9**	**11.2%**
Advanced	105.8	25.2%	105.4	5.9%	105.1	5.8%
Emerging	191.3	26.4%	191.6	21.3%	191.0	21.0%
North America	**105.9**	**23.5%**	**106.0**	**3.5%**	**105.4**	**4.7%**
Canada	-	-	107.2	4.1%	107.4	-0.8%
United States	105.8	22.8%	105.9	3.4%	105.3	4.6%
Latin America	**106.4**	**46.0%**	**106.3**	**11.5%**	**105.6**	**12.6%**
Brazil	85.4	36.1%	85.5	10.2%	86.4	12.4%
Mexico	120.8	50.2%	121.4	5.6%	120.1	9.6%
Western Europe	**106.1**	**37.9%**	**106.1**	**11.0%**	**105.7**	**8.6%**
France	98.1	49.2%	98.5	16.6%	99.2	10.7%
Germany	106.0	34.4%	106.7	5.4%	106.6	5.2%
Italy	97.8	89.0%	96.2	42.1%	96.5	22.5%
Spain	100.2	59.7%	98.8	14.9%	98.7	12.3%
United Kingdom	100.9	39.7%	101.2	4.8%	99.7	6.3%
Eastern Europe	**153.9**	**36.0%**	**153.5**	**10.9%**	**152.2**	**11.1%**
Poland	170.3	51.0%	172.2	17.1%	169.9	17.1%
Russia	155.3	14.2%	155.4	3.3%	154.0	5.1%
Asia	**169.6**	**21.8%**	**169.0**	**17.6%**	**168.6**	**17.7%**
China	241.3	17.8%	241.3	26.2%	240.7	25.0%
India	129.2	> 100%	130.8	28.3%	130.6	26.2%
Japan	98.2	15.9%	95.3	0.9%	95.6	2.5%
South Korea	122.7	9.4%	124.8	4.5%	123.4	6.4%
Turkey	193.8	71.7%	195.1	17.2%	194.3	23.3%

F3: Manufacturing by region
Year-over-year (%)

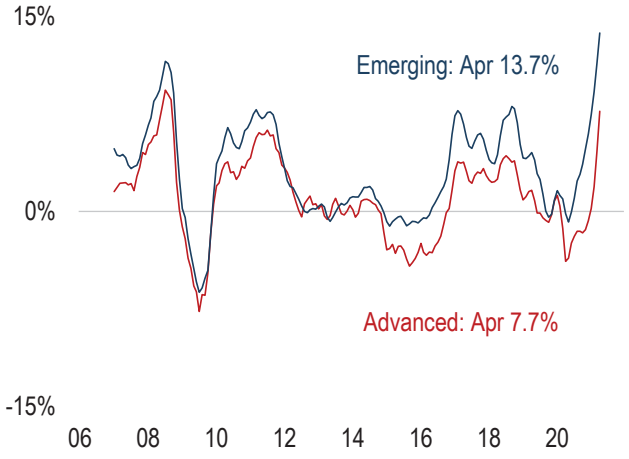


F4: Manufacturing output gap
Deviations from potential (%)

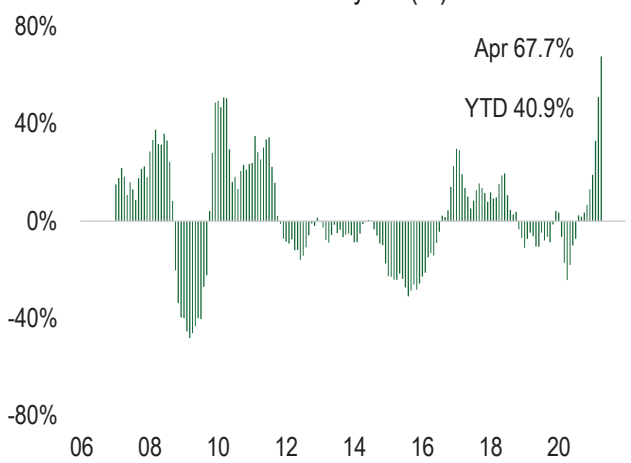


PPI manufacturing, regional detail	April		March		4 months	
2010=100	2021	% chg yoy	2021	% chg yoy	2021	% chg yoy
World	**122.8**	**9.9%**	**121.5**	**7.2%**	**120.4**	**6.1%**
Advanced	112.9	7.7%	111.9	4.6%	111.0	3.6%
Emerging	143.6	13.7%	141.4	11.4%	140.1	10.4%
North America	**120.3**	**12.8%**	**119.2**	**8.2%**	**117.6**	**6.7%**
Canada	130.6	14.3%	128.5	10.3%	127.0	9.0%
United States	119.5	12.6%	118.4	8.1%	116.9	6.5%
Latin America	**203.2**	**22.6%**	**199.6**	**21.9%**	**197.0**	**21.3%**
Brazil	250.5	43.8%	243.3	39.0%	239.5	37.9%
Mexico	166.2	2.5%	165.9	5.6%	164.1	5.5%
Western Europe	**111.9**	**4.7%**	**111.0**	**2.8%**	**110.4**	**1.9%**
France	107.0	4.7%	106.5	3.1%	105.8	1.8%
Germany	111.0	2.9%	110.2	1.7%	109.8	1.2%
Italy	110.0	4.5%	109.2	2.5%	108.8	1.8%
Spain	113.7	8.0%	112.8	5.3%	111.6	3.4%
United Kingdom	116.1	2.4%	115.9	0.8%	115.5	1.3%
Eastern Europe	**155.5**	**12.6%**	**152.9**	**9.0%**	**151.1**	**8.2%**
Poland	115.6	5.2%	114.9	3.7%	113.9	2.8%
Russia	212.7	19.6%	207.3	13.5%	204.4	12.8%
Asia	**118.2**	**9.0%**	**116.7**	**6.4%**	**115.9**	**5.5%**
China	106.5	6.9%	105.6	4.6%	104.8	3.5%
India	140.4	9.0%	138.8	7.8%	137.9	7.1%
Japan	103.9	4.2%	103.1	1.6%	102.8	1.2%
South Korea	102.6	8.9%	101.5	5.7%	100.5	4.2%
Turkey	395.9	38.1%	378.7	34.0%	373.8	32.6%

F5: PPI manufacturing by region
Year-over-year (%)



F6: Raw material price index
Year-over-year (%)



Notes:

1 The 'advance' estimates refer to preliminary figures for the current and previous month. Since many countries report manufacturing production data with a two month delay, these advanced estimates exhibit some degree of uncertainty. This uncertainty is captured by the 95% confidence intervals in F1, and by the probability distributions in F2. The shaded areas in F2 represent the probability of expansion versus the previous month.

2 Monthly sample represents ~93% of global manufacturing production. Split by region, the index accounts for 100% of manufacturing activity in advanced economies and 84% of output in emerging markets. For countries that have not reported the latest month, the last two columns present year-to-date results.

3 We proxy packaged goods with shipments of corrugated fibre boxes. Corrugated boxes are primarily used to store and transport non-durable goods (mainly FMCGs), facing limited competition from other substrates. In most countries, box shipments are a coincident indicator of non-durable goods manufacturing.

4 We define potential output as the maximum level of production the manufacturing sector can sustain without incurring inflationary pressures. While a measure of productive capacity, it should not be interpreted as a physical ceiling on manufacturing output. Demand shocks can cause production to deviate temporarily from this steady state level, creating an output gap. Both potential output and the output gap are Kalman filter estimates of a multivariate state-space model in which global manufacturing is benchmarked against a Phillips curve equation for producer price inflation. The inflation rate consistent with a closed output gap and no unexpected changes in commodity prices is currently estimated at ~1.7%.

5 The global producer price index captures the transaction price of goods sold by manufacturers to all consumers. For most countries in the sample, the reported indices consider both domestic and international transactions. Manufacturing PPIs can sometimes include prices paid by producers for intermediate goods. Reported prices generally exclude VAT and transportation charges and include discounts and rebates. Aggregation is based on a fixed base Laspeyres formula using manufacturing value added as weights.

6 The raw materials price index is a weighted average of energy and non-energy commodities used in manufacturing production. Non-energy commodities include both industrial and agricultural commodities, such as metals and unprocessed food and beverages. The index excludes precious metals. Commodity weights are based on cost shares for intermediate inputs in manufacturing, constructed from input-output tables for the world's largest economies.

Definitions:

Data measures physical production of manufactured goods. The sector coverage corresponds to category C of the International Standard Industrial Classification (ISIC Rev. 4). That is, the production indices capture aggregate supply of consumer, intermediate and investment goods but exclude mining, utilities and construction. All production series are seasonally and calendar adjusted.

Source:

Numera Analytics calculations based on publicly available information; current month for regional aggregates is nowcasted.