



Covid-19 follow-up

Clinical newsflow and Economic
recovery tracking

Research team

13.11.2020



Treatment approach

Treatment approach / research	
Dexamethasone (low-cost steroid treatment) * First drug shown to reduce mortality *	June 16: The UK RECOVERY trial (11'500 patients - Randomised Evaluation of Covid-19 multiple therapies) demonstrated that dexamethasone reduces death by up to one third in hospitalised patients with severe respiratory complications of Covid-19
Remdesivir - antiviral (Gilead) * The drug shortens time to recovery by 4 days *	<ul style="list-style-type: none"> - June 29: Remdesivir will be priced at \$390 per vial (\$2'340 for a 5-day treatment) for governments in developed countries - June 13: Dr Reddy's has into a non-exclusive Licensing Agreement with Gilead that will grant Dr Reddy's the right to register, manufacture and sell remdesivir in 127 countries (in developing countries) - Gilead has donated the 1st wave of production (more than 280'000 treatment assuming a 5-day treatment duration) - Gilead has set a goal of producing at least 500'000 treatment by October and 1mio by December (assuming a 10-day treatment duration) - Antivirals should work best in recently infected patients (with viral load) and not in very late-stage of the disease caused by cytokine release syndrome (hyperinflammation)
Convalescent Plasma (CP)	<ul style="list-style-type: none"> - October 23: According to study (conducted in India) published in BMJ the treatment with convalescent plasma did not reduce the progression to severe disease or death - According to STAT news, some experts are pointing out that the CP treatment was administered possibly too late in the course of the disease or that the antibodies levels in plasma were too low - Data adds to the debate - August 23: FDA issued Emergency Use Authorization (EUA) in hospitalized patients based on early data from Mayo Clinic showing 37% reduction in mortality at 7 days in patients treated with high titer convalescent plasma vs patients treated with low titer convalescent plasma - Convalescent plasma should not be considered as a new standard of care - Given that the clinical evidence supporting this authorization was not obtained from a large prospective, well-controlled randomized clinical trials (no placebo arm), additional data are needed to evaluate efficacy and safety profile - Plasma transfusion from recovered patients for critically ill patients - Clinical studies ongoing worldwide - This therapy was successfully used in the treatment of SARS, MERS and 2009 H1N1
Neutralizing Monoclonal Antibody Eli Lilly * The drug showed risk reduction of hospitalization and emergency room visits * Regeneron/Roche AstraZeneca	For prevention and treatment of mild-to-moderate Covid-19 - Monotherapy or combination of two neutralizing antibodies <ul style="list-style-type: none"> - LY-CoV555 - FDA issued EUA for the treatment of mild-to-moderate Covid-19 in adults and pediatric (12 years of age and older, weighing at least 40kg) patients - The product is not authorized for patients who are hospitalized or require oxygen therapy due to Covid-19 Oct 28: The trial evaluating LY-CoV555 in hospitalized patients (at the advanced stage of disease) has been halted due to safety concerns - The other trials in patients with mild-to-moderate Covid-19 are not affected by this decision Oct 8: Lilly reported phase II interim data evaluating two neutralizing antibodies (LY-CoV555 + LY-CoV016) in recently diagnosed patients - Data showed relative risk reduction of 85% of hospitalization and emergency room visits vs placebo - REGN-COV2 - Oct 28: First data from the ongoing phase II/III showed REGN-COV2 significantly reduced viral load and patient medical visits - FDA is reviewing an EUA submission for the REGN-COV2 low dose in adults with mild-to-moderate Covid-19 who are at risk for poor outcomes Phase II/III (2'900 participants) trials for treatment of Covid-19 + phase III (2'000 participants) trial for prevention of Covid-19 Oct 30: The trial evaluating REGN-COV2 in the sickest hospitalized patients has been suspended because of safety concerns - It confirms the safety risk signal observed with LY-CoV555 in hospitalized patients (at the advanced stage of disease) - AZD7442 (combination of two neutralizing antibodies)- Oct 9: Phase III clinical trials initiation in more than 6'000 patients

Vaccine developments 1/2

Vaccines: potential approval for a public use H1 2021/mid-2021

Company	Phase/Timing
BioNTech/Pfizer/Shanghai Fosun * mRNA based vaccine * Two variants of BNT162 vaccine (b1, b2) * Front runner *	- BNT162b2 program update: first interim efficacy analyses - Efficacy of more than 90% 7 days after receiving the 2nd dose, implying protection 28 days after the start of the vaccination program (2 doses) - Efficacy is expected to decrease over time - EUA submission in the US soon after the safety milestone is achieved which is expected in the 3rd week of November - Phase II/III safety and efficacy ongoing (44'000 participants - two injections) with BNT162b2 (showing higher efficacy than BNT162b1) - Supply target has been revised downwards from 100mio to 50mio doses in 2020 / more than 1.3bn doses confirmed by the end of 2021 - The vaccine has to be stored at -70°C
Moderna * mRNA based vaccine * * Front runner *	Program update: Phase III study fully enrolled with 30'000 participants - First interim analysis expected in November - Post second dose 2-month median (15'000 participants) safety data available in 2nd half of November - Plan to file for EUA in the US upon 2-month median safety data - Rolling submissions ongoing in Canada and UK and received confirmation of eligibility in the EU - On track to supply up to 1bn doses per year from the end of 2021 / The vaccine has to be stored at -20°C - The Vaccine was generally safe and well tolerated - all adverse events observed were transient and self-resolving - If the virus mutates, they can modify and produce the new vaccine in 40 days without redoing clinical studies - The vaccine could be available in fall for healthcare workers - CEO expects an approval for summer 2021 for a public use - mRNA based vaccine --> shorter development than traditional vaccine but unproven technology at this stage
University of Oxford/AstraZeneca * Non-Replicating Viral Vector (Adenovirus vaccine vector) *	- The clinical trial resumed in the US (30'000 participants) - Trials in other regions had already resumed in September * - Positive preliminary phase I details (543 participants aged 18-55 years) - efficacy data only available for 35 patients who had received a single injection and 10 more patients who had received two injections - neutralizing antibodies was seen in 91% participants with single injection and in 100% participants with two injections at a similar level to the average seen in convalescent plasma - level remaining stable between day 35 and 42 - Immune response = vaccination elicited T-cell responses in all participants peaking at day 14 and maintained two months after injection AstraZeneca's CEO said the vaccine is expected to provide protection for 1 year - The vaccine will be distribute at cost during the pandemic phase - over 2bn doses expected between end-2020 and end-2021

- **FDA guidelines proposal for an Emergency Use Authorization (EUA) for Covid-19 Vaccines:**
 - Data from Phase 3 studies should include a median follow-up duration of at least two months after completion of the full vaccination regimen
 - The EUA submission will be reviewed by an Advisory Committee
- FDA held an Advisory Panel to discuss planned criteria to get initial EUA (Oct. 22): Some experts raised concerns about whether the FDA's guidelines are sufficiently rigorous to show effectiveness and safety of vaccines
- A. Fauci - vaccine timeline → 1st EUA for Covid-19 in January 2021 at the earliest / No return to normal until at least end-2021
- First EUA expected between December and January (should be restricted to certain groups) / Full FDA approval for a public use expected in Q2 2021

Vaccine developments 2/2

CanSino Biologics	Phase III trial ongoing (40'000 participants) - Global multicenter trial
* Non-Replicating Viral Vector (Adenovirus vaccine vector)	* Phase II data (508 participants aged 18 years and older) - neutralizing antibodies at day 28 and T-cell immune responses in c. 90% of participants - The vaccine has been approved for limited military use in China
JNJ	- Phase III trial resumed in the US after having been put on hold due to an unexpected illness in a study participant
* Non-Replicating Viral Vector (Adenovirus vaccine vector)	* - In April, CEO mentioned he expects the vaccine to be available for emergency use authorization in early 2021 - Proven technology - Supply target of more than 1 bn doses capacity - JNJ is committed to bringing an affordable vaccine to public on a not-profit-basis for emergency pandemic use
Inovio	- Phase II/III efficacy trial was expected to begin in September but FDA put the development on partial hold after U.S. regulators raised questions about a delivery device used in the inoculation
* DNA based vaccine *	- Phase I/II --> Phase I (40 participants - 2 doses) - Analyses to date have shown that 94% demonstrated overall immune response rates based on preliminary data assessing humoral (binding and neutralizing) and T cell immune responses - Safe and well-tolerated with no serious adverse events - Phase I will expand to enroll an additional 120 participants aged 19-64 years in the phase II portion - Target to provide at least 1mio doses in 2020 and 100mio doses in 2021 DNA vaccine --> shorter development than traditional vaccine - unproven technology at this stage
Sinovac - * Inactivated Covid-19 vaccine *	Phase III initiated in July in Brazil and in August in Indonesia - 2 doses
Novavax - * Protein Subunit vaccine *	- The company has delayed the start of the Phase III trial in the US and Mexico (30'000 participants) by more than a month until late November - Phase III trial initiated in the UK at the end of September - 10'000 participants between 18 and 84 years of age - Phase II trial ongoing - 1'500 participants with c. 50% between 60 and 84 years of age - interim data expected in Q4 2020 - Detailed Phase I data were published - 2 doses - Neutralizing antibodies were 4x greater than the level seen in plasma of symptomatic outpatients but half of the level seen in plasma of hospitalized patients - Interesting data showing significant differences among convalescent plasma sample, depending on the severity of symptoms - No serious adverse event - Target to provide up to 2bn doses by mid-2021
Sinopharm	- Phase III trial ongoing in China - 2 doses
* Inactivated Covid-19 vaccine *	- Phase I/II ongoing - 1'120 participants have received 2 injections - At the middle dose, all participants developed neutralizing antibodies that can defend a cell from infection
CureVac (private company) - * mRNA based vaccine *	Plan to initiate pivotal Phase IIb/III before the end of 2020 (2 doses) - The vaccine can be stored at 5°C during at least three months Phase I safety data - The vaccine was generally well tolerated (no serious adverse event) - Over 80% of patients experienced moderate to severe (headache, myalgia, chills, fever) adverse events - all had resolved over 72h
GSK/Clover/Dynavax - * Protein Subunit vaccine *	Phase I clinical trial ongoing - 2 doses - Phase III study start anticipated by year end
Genexine - * DNA based vaccine *	Phase I/II clinical trial ongoing - 2 doses
Medicago Inc - * Virus-Like Particle vaccine *	Phase I clinical trial ongoing - 2 doses - Phase III study start anticipated by year end
Sanofi/GSK	Phase I/II ongoing (440 participants in the US) - First results expected in early December and Phase III trial expected to begin also in December
* Protein Subunit vaccine *	Regulatory submission could come in H1 2021 Capacity to manufacture up to 1bn doses a year - The vaccine is likely to be priced at less than Eur 10
Sanofi/Translate Bio - * mRNA based vaccine *	Clinical trial expected to start end-2020 with a potential approval by H2 2021

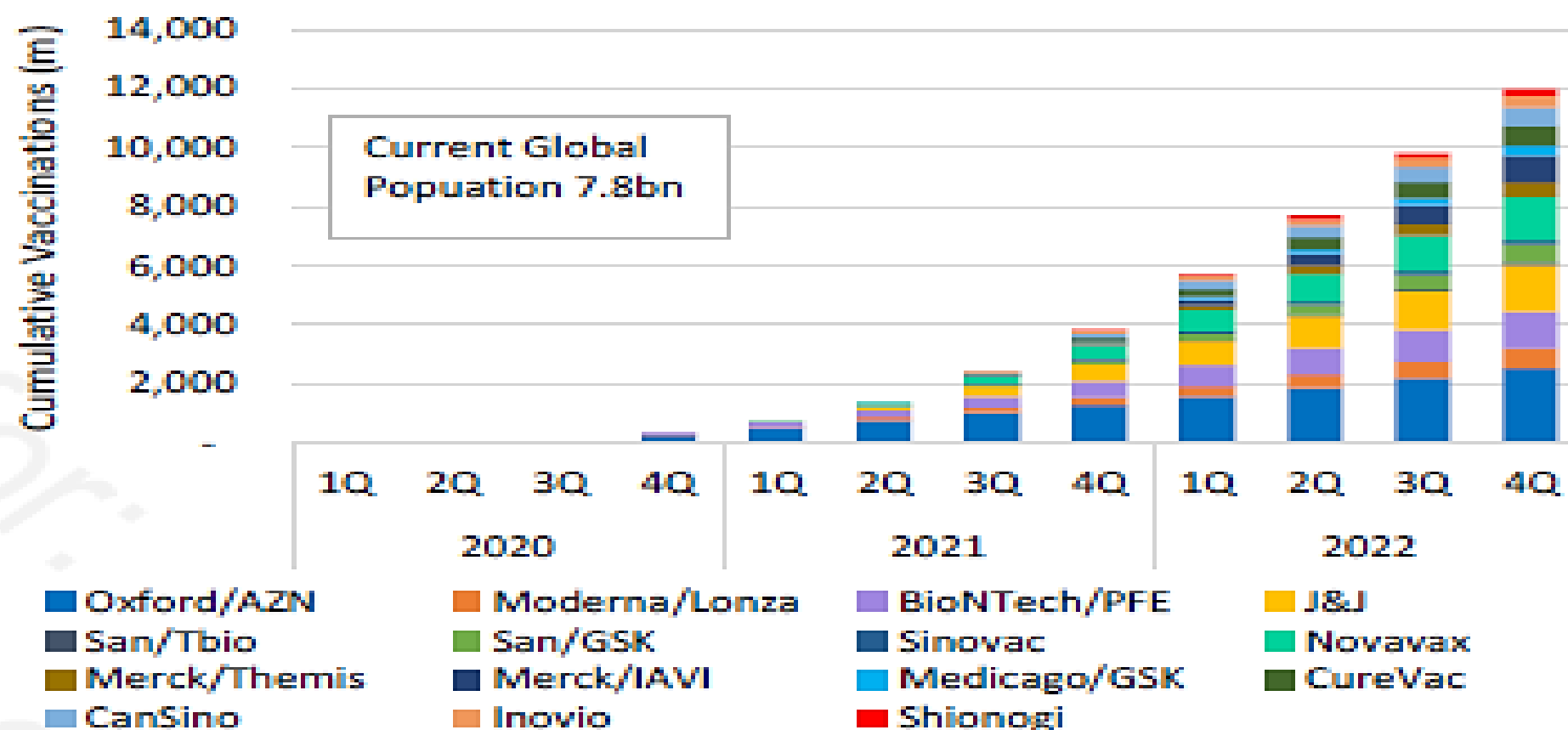
• **For the landscape of Covid-19 candidate vaccines, please find below the link to the draft of the World Health Organization:**

• <https://www.who.int/publications/m/item/draft-landscape-of-covid-19-candidate-vaccines>

Vaccine capacity – «blue-sky scenario»

Reality will depend on trial success rates, capacities ramp-up, distribution challenges

Figure 7: Blue-Sky cumulative vaccinations



Source: Company PRs and capacity commentary, Credit Suisse estimates

Vaccine - survey

Who is ready to receive the vaccine?

If a vaccine for COVID-19 were available, I would get it

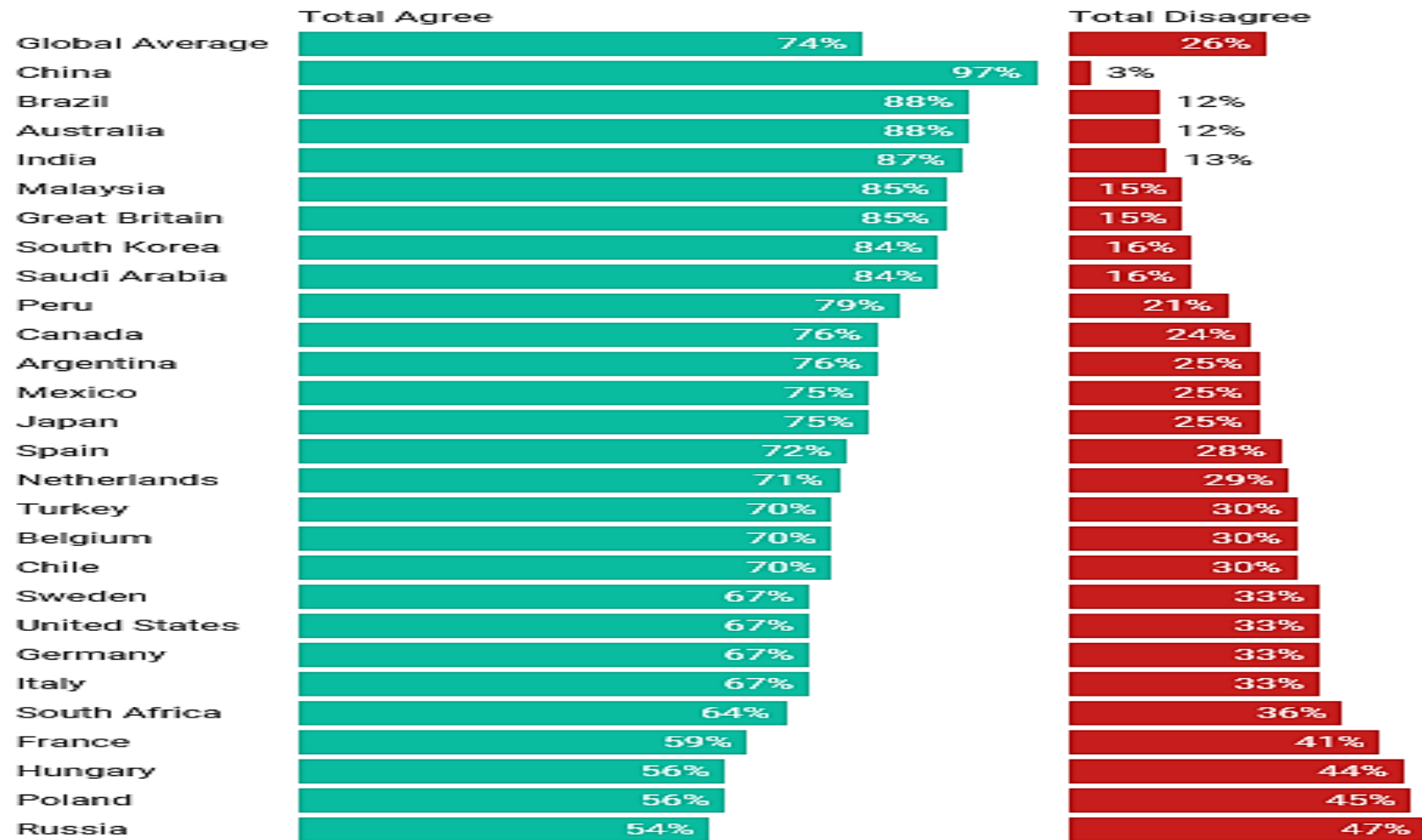
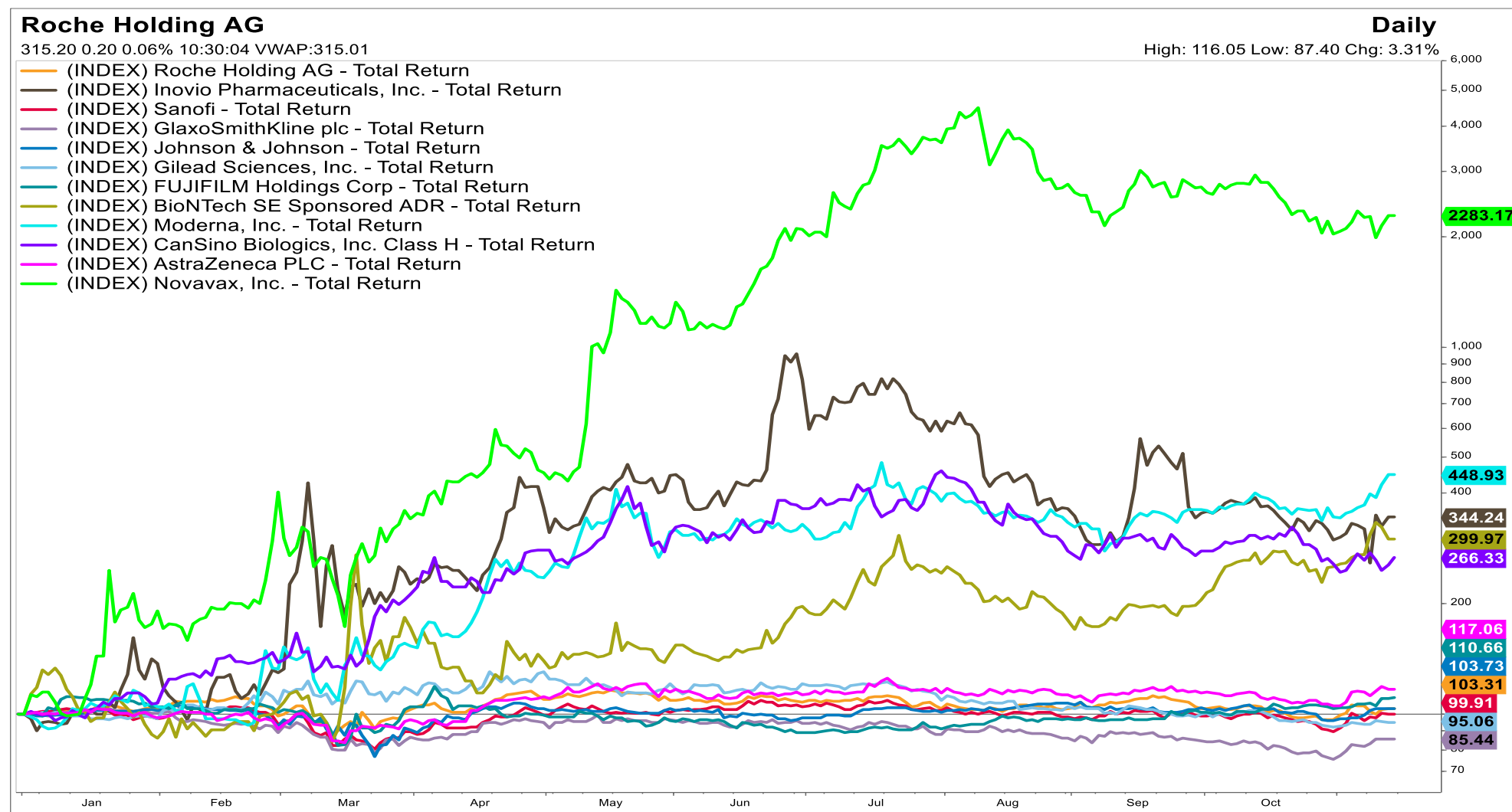


Chart: Ipsos • Source: [Global Advisor](#) • [Get the data](#) • Created with [Datawrapper](#)

Share price performance of main players

Year to date – local currencies



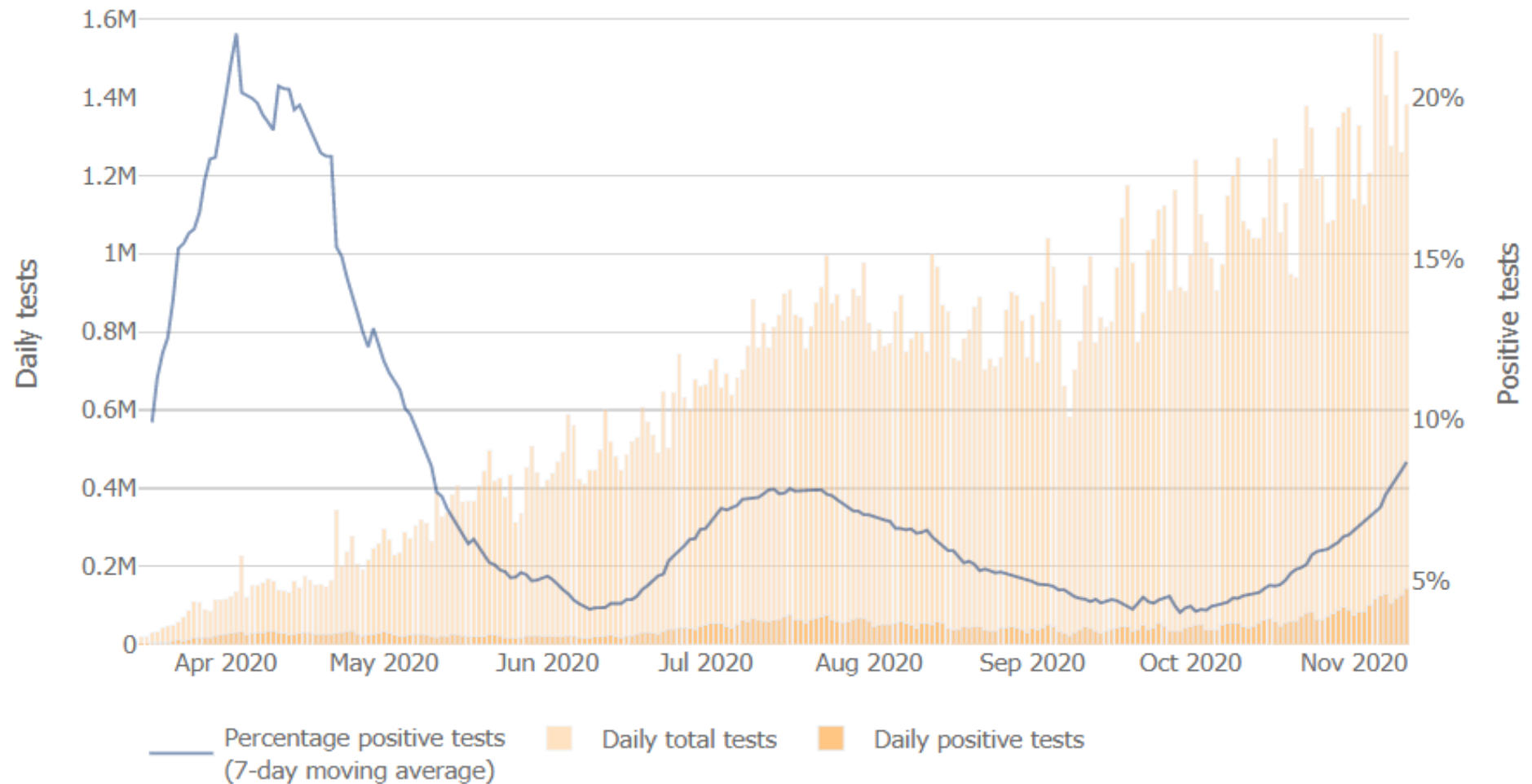
No return to normal before end-2021

Social distancing – protection measures – large-scale testing



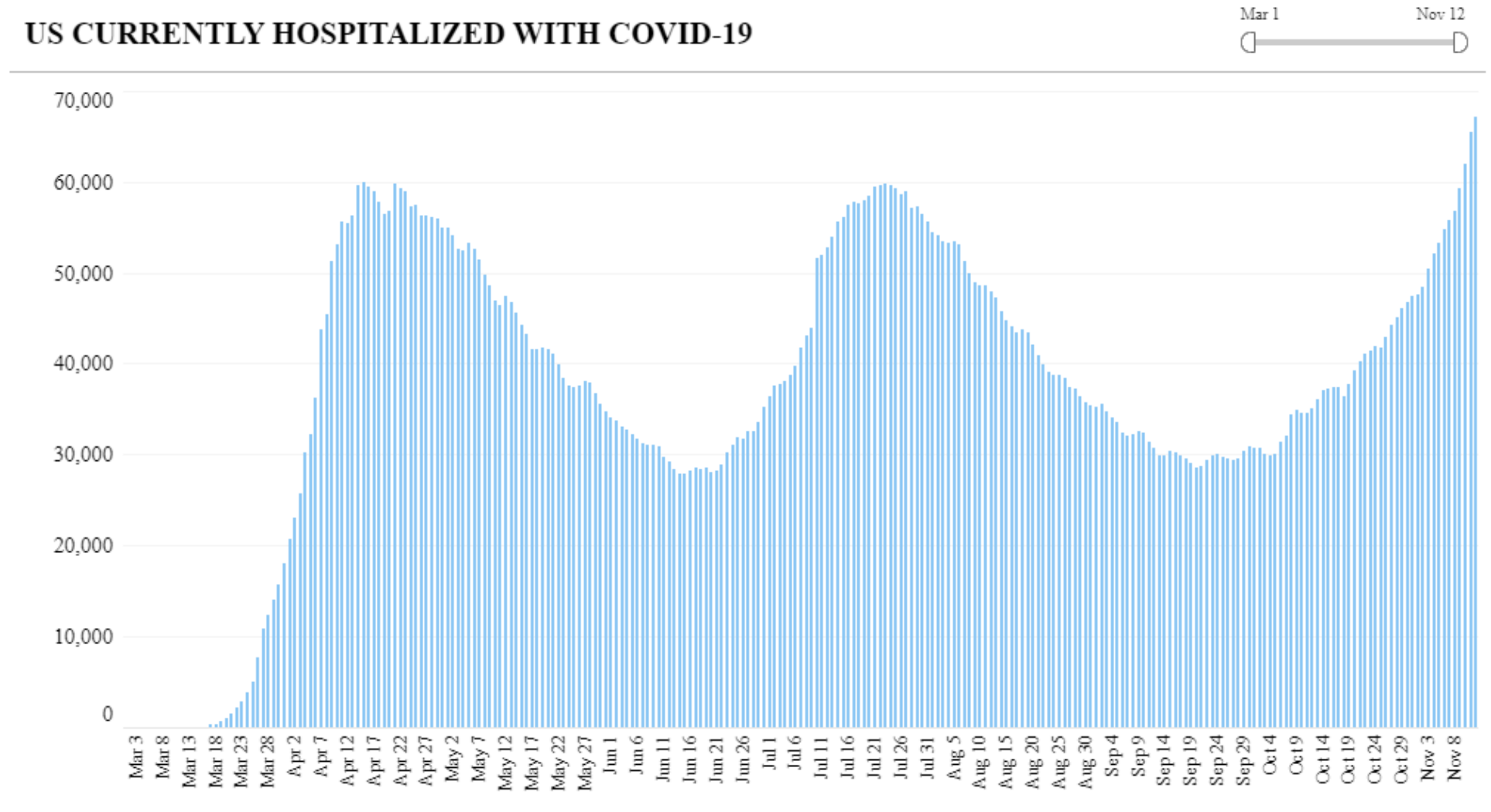
US – Daily testing tracker

Source: Johns Hopkins/The COVID Tracking Project – 12.11.2020



US – current hospitalization

Source: The COVID Tracking Project – 12.11.2020

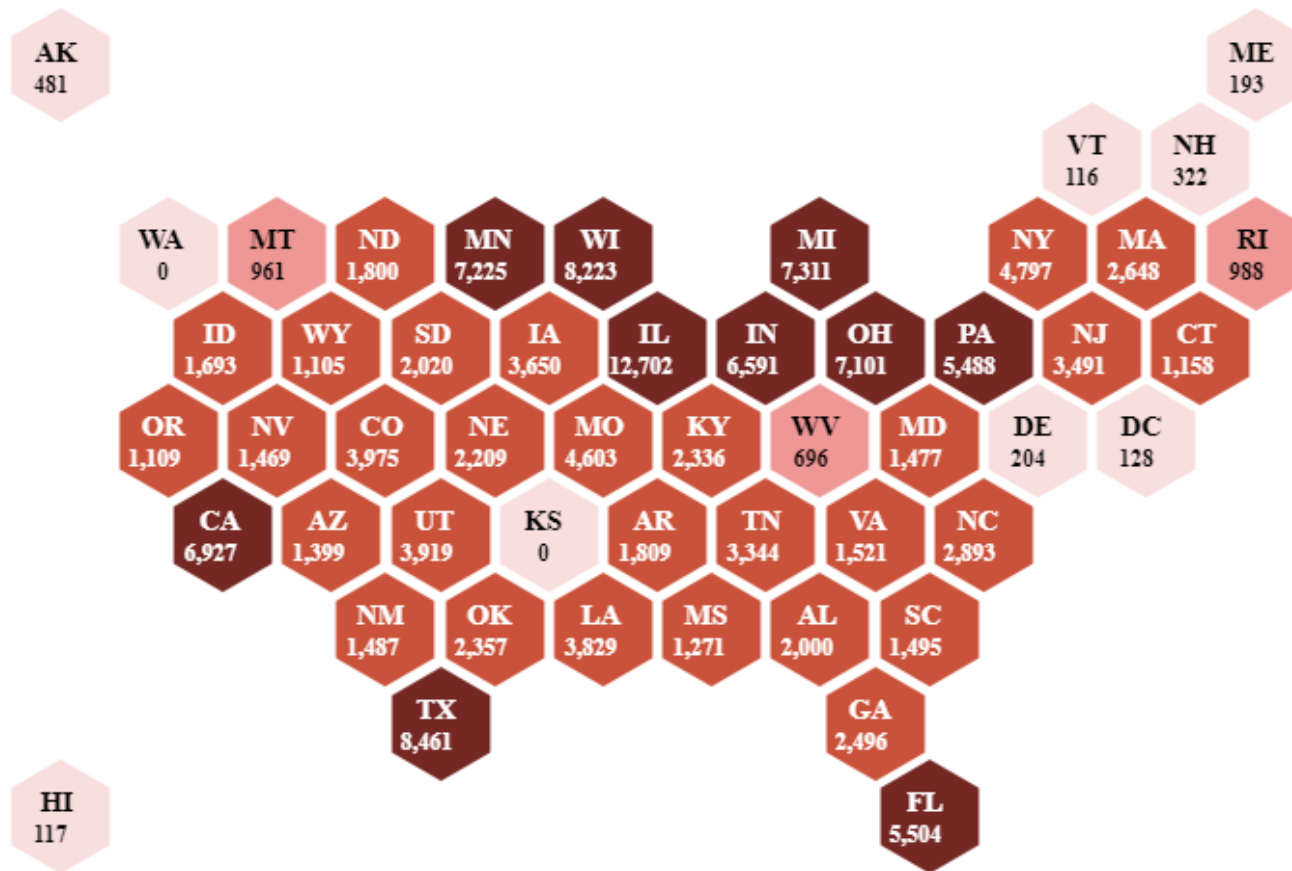


US – new cases map

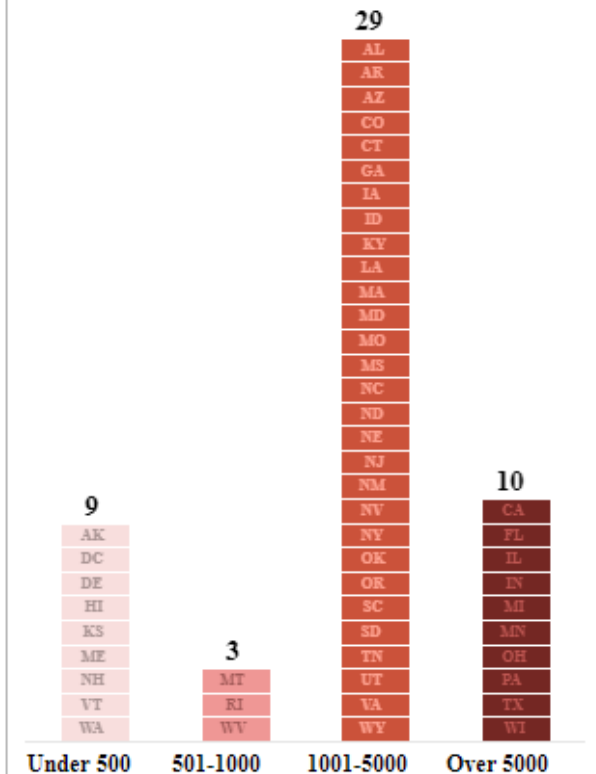
Source: The COVID Tracking Project – 12.11.2020

NEW CASES BY STATE

Nov 12 Nov 12

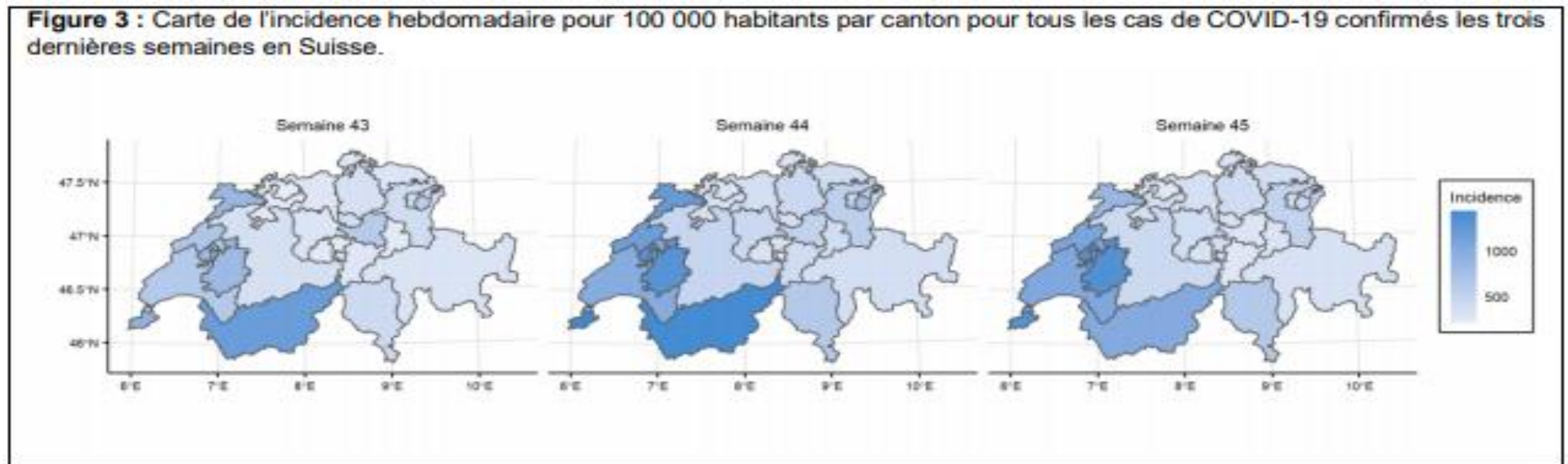


States By Number of New Cases

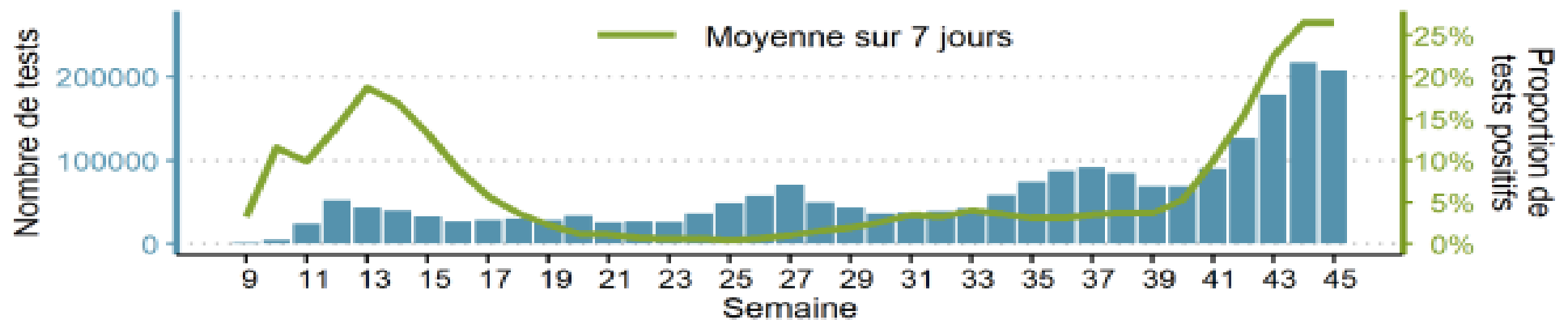


Switzerland – Cases map + weekly testing tracker

Source: OFSP – 11.11.2020



Tests PCR et proportion de tests positifs



Switzerland – Weekly new cases/deaths + breakdown by age

Source: OFSP – 11.11.2020

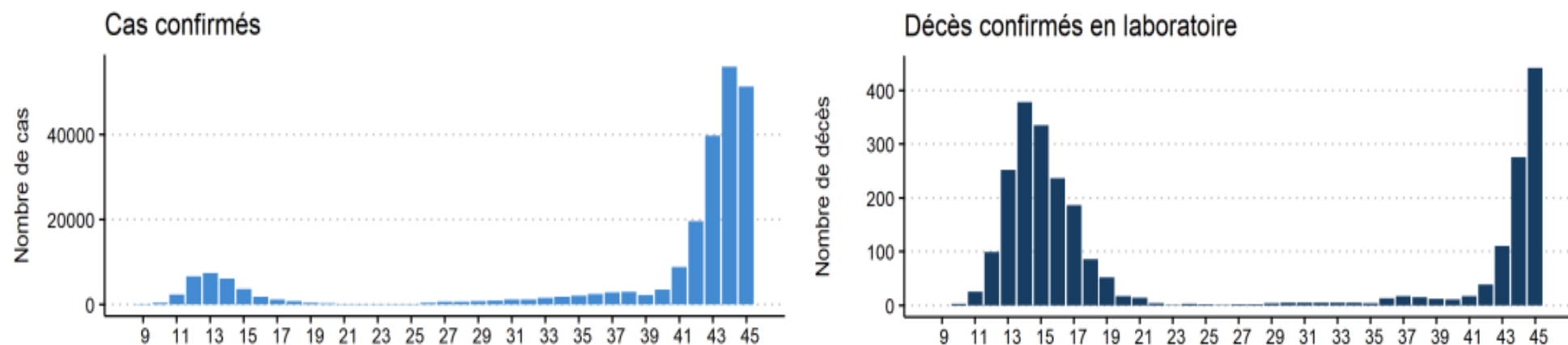
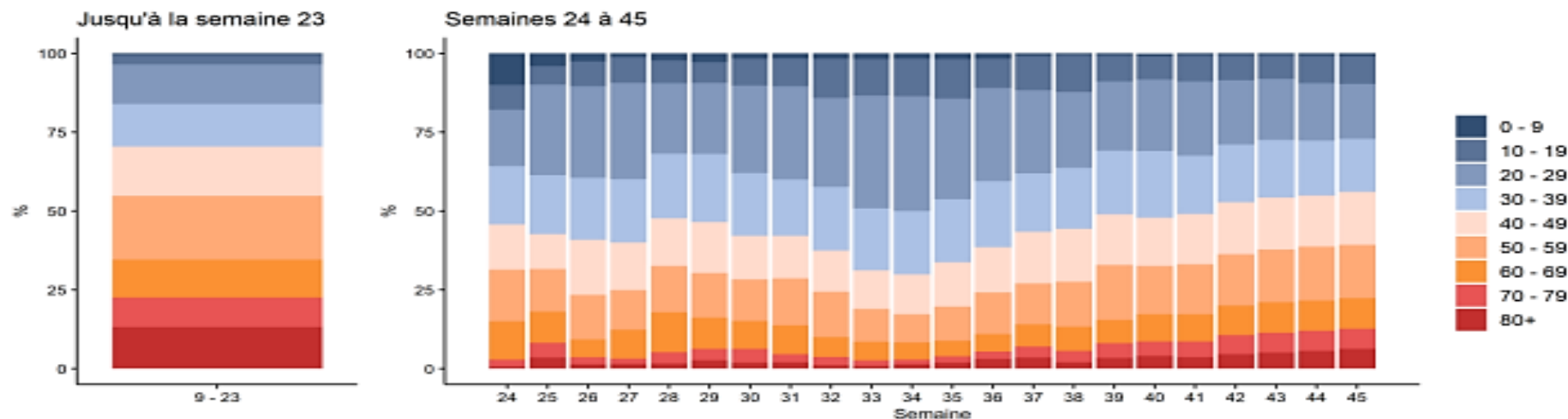


Figure 4 : Évolution temporelle de la structure par âge de tous les cas de COVID-19 confirmés en laboratoire, en Suisse et dans la Principauté de Liechtenstein.



OFSP, état des données au: 2020-11-11

Switzerland – Weekly hospitalization + ICU occupation

Source: OFSP – 11.11.2020

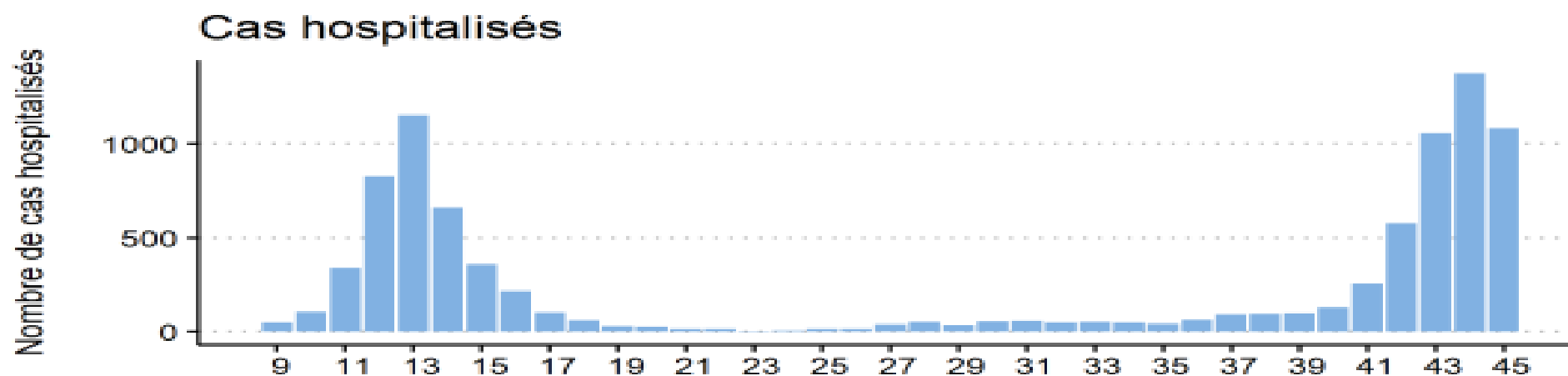
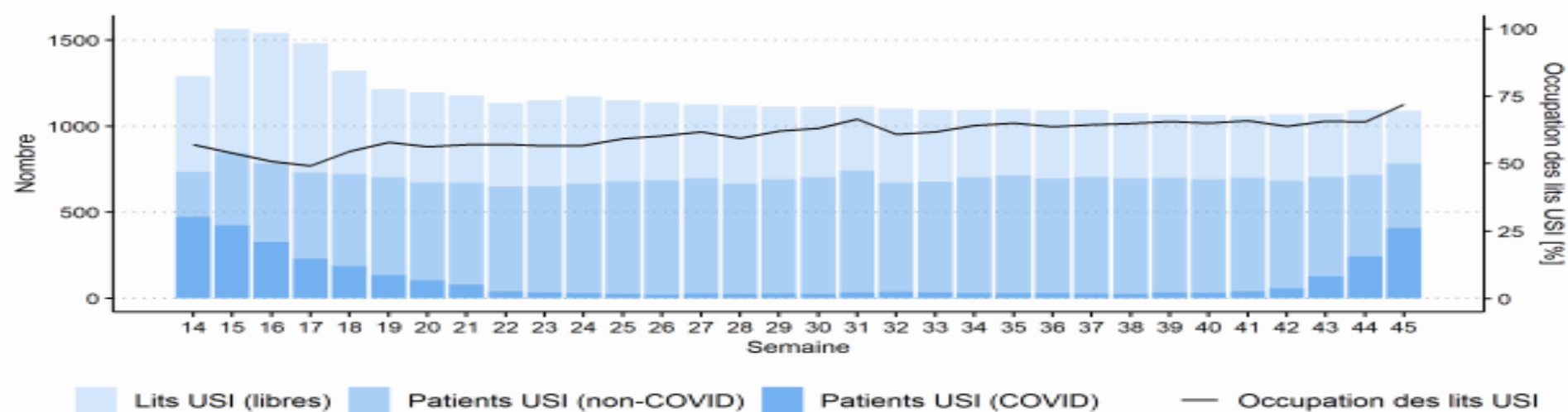


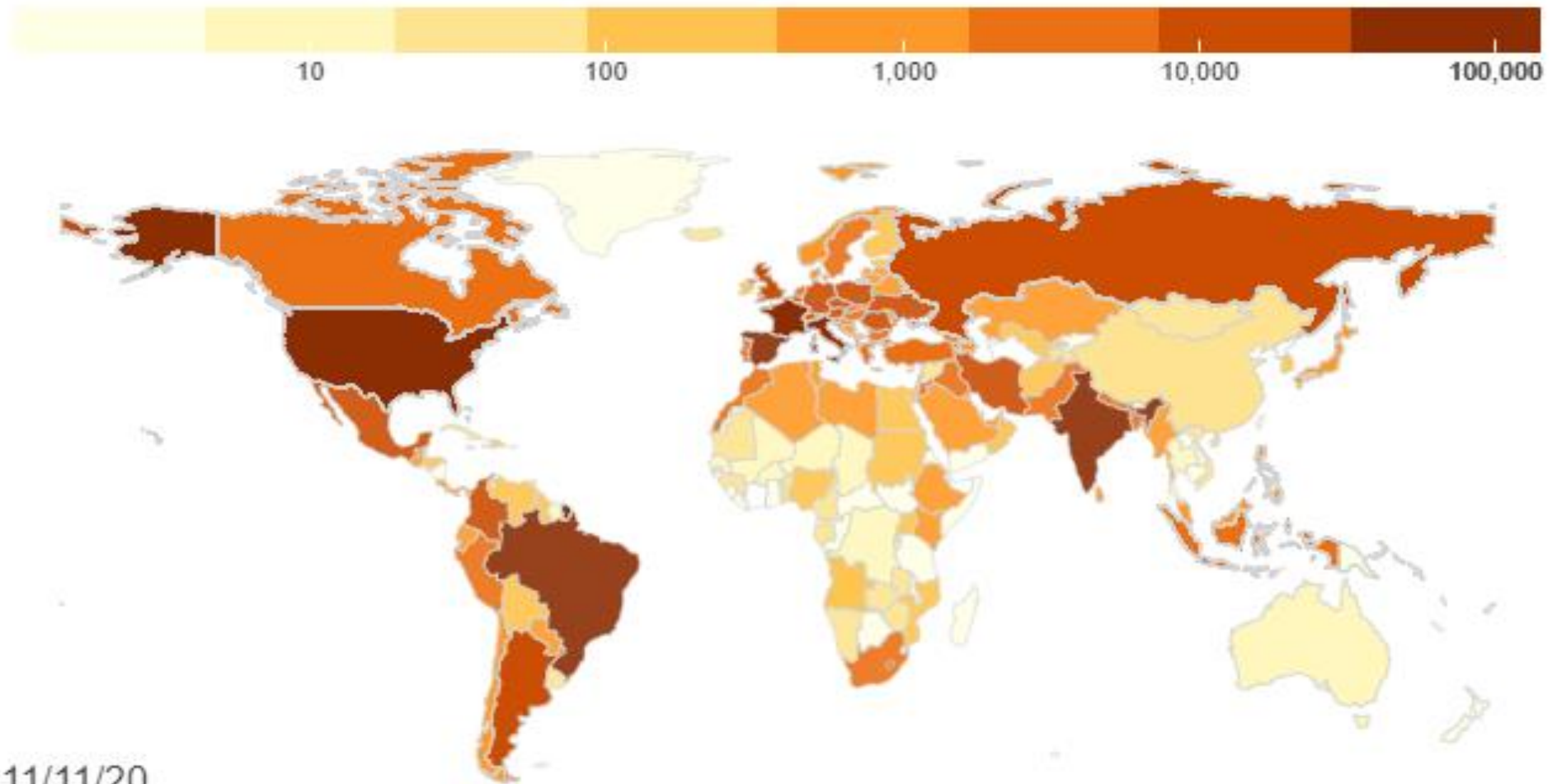
Figure 11 : Évolution temporelle de l'occupation des lits dans les unités de soins intensifs par type de patient, en Suisse et dans la Principauté de Liechtenstein. État : 11.11.2020.



Current outbreak activity by country

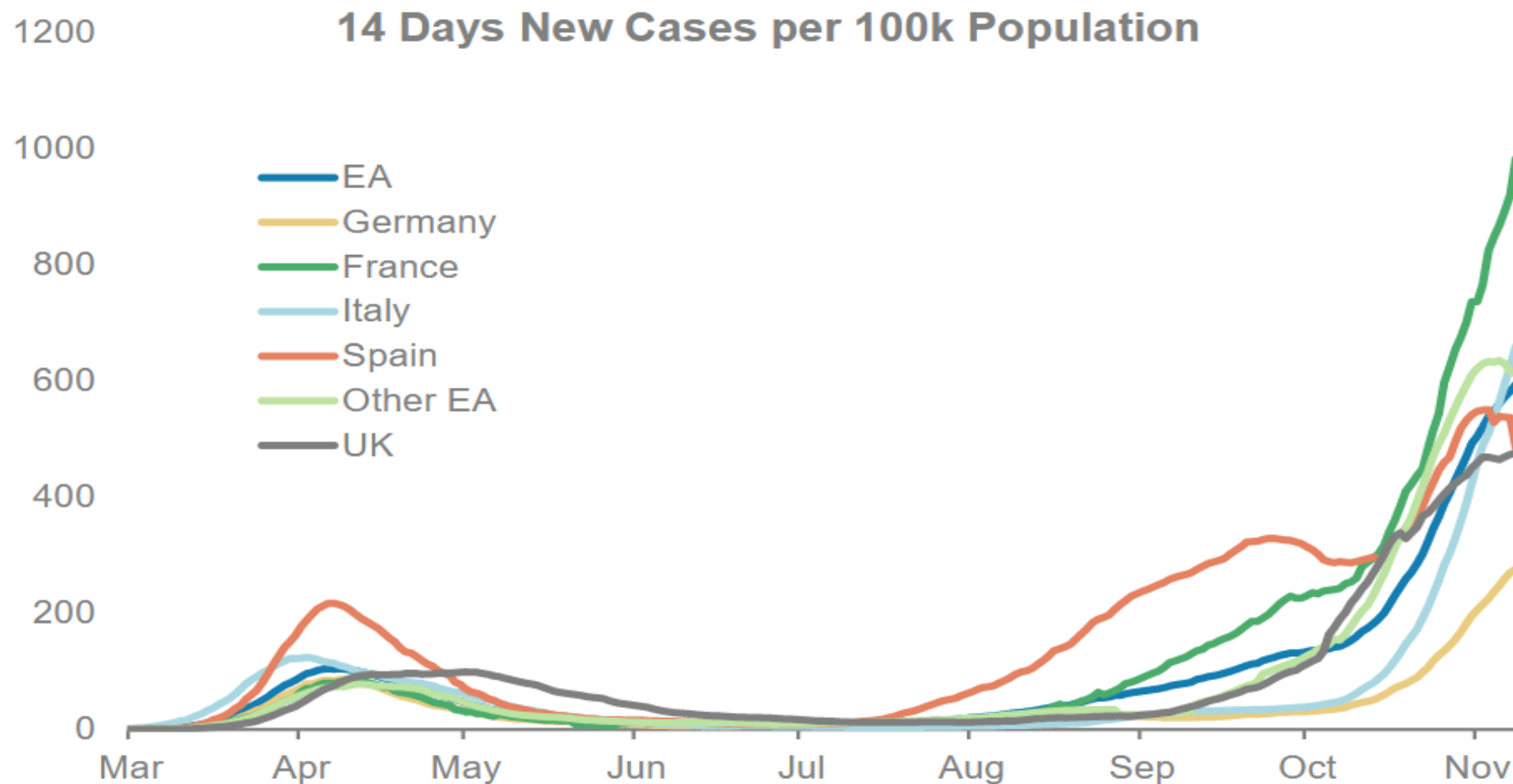
Source: John Hopkins – 11.11.2020

DAILY CONFIRMED NEW CASES



11/11/20

Pandemic – 2nd wave



Source: WHO, Morgan Stanley Research

World – New cases

Figure 2: Change in coronavirus cases over the last seven days per 10,000 of population across major affected areas of the world

Country /Territory	Confirmed Cases	Cases per 10K people	1D Chg. Cases	1D Chg Cases per 10K	7D Rolling Cases per 10K	Weekly Δ Cases per 10K	Weekly Cases per 10K on August 1	7D Rolling Tests per 1K People*
Switzerland	250,396	289	6,924	8.0	55.3	+2.6	1.3	2.9
France	1,898,710	291	33,172	5.1	45.6	-4.1	1.1	4.3
Belgium	520,393	450	12,918	11.2	45.1	-43.9	3.6	5.8
Italy	1,066,401	176	37,977	6.3	39.9	+3.5	0.3	2.6
Sweden	171,365	170	4,658	4.6	29.3	+4.9	1.4	2.4
United States	10,546,023	319	148,623	4.5	28.4	+7.1	13.4	3.5
Spain	1,437,220	307	19,511	4.2	28.0	+3.8	3.4	3.3
United Kingdom	1,293,715	191	33,517	4.9	24.6	+0.6	0.8	4.2
Netherlands	437,376	255	5,680	3.3	23.4	-11.0	1.2	
Germany	762,832	91	36,656	4.4	17.1	+2.1	0.6	2.3
Russia	1,843,678	126	21,333	1.5	9.9	+0.9	2.6	3.4
Canada	285,936	76	5,474	1.5	8.6	+2.9	0.8	3.0
Iran	726,585	87	11,517	1.4	8.5	+1.6	2.1	0.3
Brazil	5,781,582	272	33,922	1.6	7.9	+1.6	14.8	
Chile	526,438	276	1,634	0.9	5.2	+0.0	7.4	1.7
Mexico	991,835	77	5,658	0.4	3.3	+0.3	3.8	0.1
India	8,683,916	63	47,905	0.3	2.3	-0.1	2.6	0.9
Philippines	402,820	37	1,404	0.1	1.2	+0.1	1.8	0.3
Saudi Arabia	352,160	101	311	0.1	0.8	-0.1	3.6	1.5
Japan	113,655	9	1,644	0.1	0.7	+0.2	0.6	0.2
Africa	1,946,369	16	20,799	0.2	0.8	+0.1	0.9	
Worldwide	52,681,305	68	632,478	0.8	5.2	+0.3	2.4	

Source : Deutsche Bank, WHO, CDC, ECDC, JHU

Note: *Testing data is as of Oct-25 due to delays in reporting. Spain, Belgium, Switzerland and Sweden have not been releasing weekend data. Additionally, Sweden has stopped releasing the data on Monday as well. Spain's data has updated after a day's gap on JHU.

World – Changes in fatalities

Figure 3: Change in coronavirus fatalities over the last seven days per 1 million of population across major affected areas of the world

Country /Territory	Confirmed Fatalities	Fatalities per 1M	1D Chg. Fatalities	1D Chg. Fatalities per 1M	7D Rolling Fatalities per 1M	Weekly Δ in Fatalities per 1M	Fatalities per 1M on August 1
Belgium	13,891	1,200	330	28.5	134.7	+34.5	2.4
Switzerland	3,216	372	103	11.9	67.9	+18.5	0.5
Italy	43,589	721	636	10.5	56.2	+21.9	0.7
France	42,599	653	0	0.0	53.8	+7.4	1.1
Spain	40,461	865	356	7.6	42.2	-18.7	0.3
United Kingdom	51,020	752	563	8.3	41.4	+9.5	6.7
Iran	40,121	478	457	5.4	37.3	+3.1	17.8
Netherlands	8,375	487	89	5.2	31.4	+1.4	0.5
Mexico	97,056	753	626	4.9	25.5	+2.2	31.0
United States	242,621	733	1,002	3.0	23.3	+4.4	24.1
Russia	31,755	218	429	2.9	16.9	+2.0	5.9
Chile	14,699	769	66	3.5	15.4	+0.5	26.9
Germany	12,216	146	352	4.2	14.4	+6.1	0.4
Brazil	164,281	774	913	4.3	12.1	-0.8	33.5
Sweden	6,122	606	40	4.0	11.9	+5.1	4.6
Canada	10,828	287	80	2.1	10.5	+2.4	1.5
Saudi Arabia	5,605	161	15	0.4	3.3	-0.3	5.3
Philippines	7,721	70	11	0.1	2.8	+0.5	1.3
India	128,121	93	550	0.4	2.8	+0.0	3.7
Japan	1,854	15	7	0.1	0.4	-0.1	0.1
Africa	46,626	38	399	0.3	2.0	+0.5	2.2
Worldwide	1,291,837	166	9,041	1.2	7.7	+1.0	5.3

Source : Deutsche Bank, WHO, CDC, ECDC, JHU

Note: Spain, Belgium and Sweden have not been releasing weekend data. Additionally, Sweden has stopped releasing the data on Monday as well. Spain's data has updated after a day's gap on JHU.

Tracking the economic Recovery

Based on high frequency data (daily) from external sources

- **Rise in new** cases are triggering new restrictions measures (UK, France, Switzerland, Italy, Austria...)
- **Global GDP** rebound in Q3, better than expected, will turn negative in Q4 at least in Europe
- **China** leading the global recovery, the first region to unlock its economy
 - Many activity indicators in positive territory YoY. Currently the economy in the best shape globally
- **US:**
 - Generalized improvement in consumption ex travel and movie theaters. Retail sales growth positive YoY!
 - Improvement in industrial capacity utilisation has slowed
 - Uncertainties on renewed/prolonged stimulus post elections could affect short term confidence
- **Europe:**
 - Electricity consumption is back on track. Retail sales growth positive YoY.
 - Sentiment disappointed in October services PMI due to new restrictions in some areas. It will continue
 - Unemployment, lagging indicator, has started to rise
 - Mobility deteriorating due to renewed stringent measures
- **Global manufacturing PMI** (monthly data):
 - Most countries in expansion territory (>50 level) in October! Pace of improvement slowing if not disappointing (Europe) after early summer rebound. Services more impacted by new restrictions, and back below 50
 - Economic surprise indices starting to decline rapidly after a peak reached during the summer. Short term rebound in Europe is not expected to last

Europe – Lockdown #2

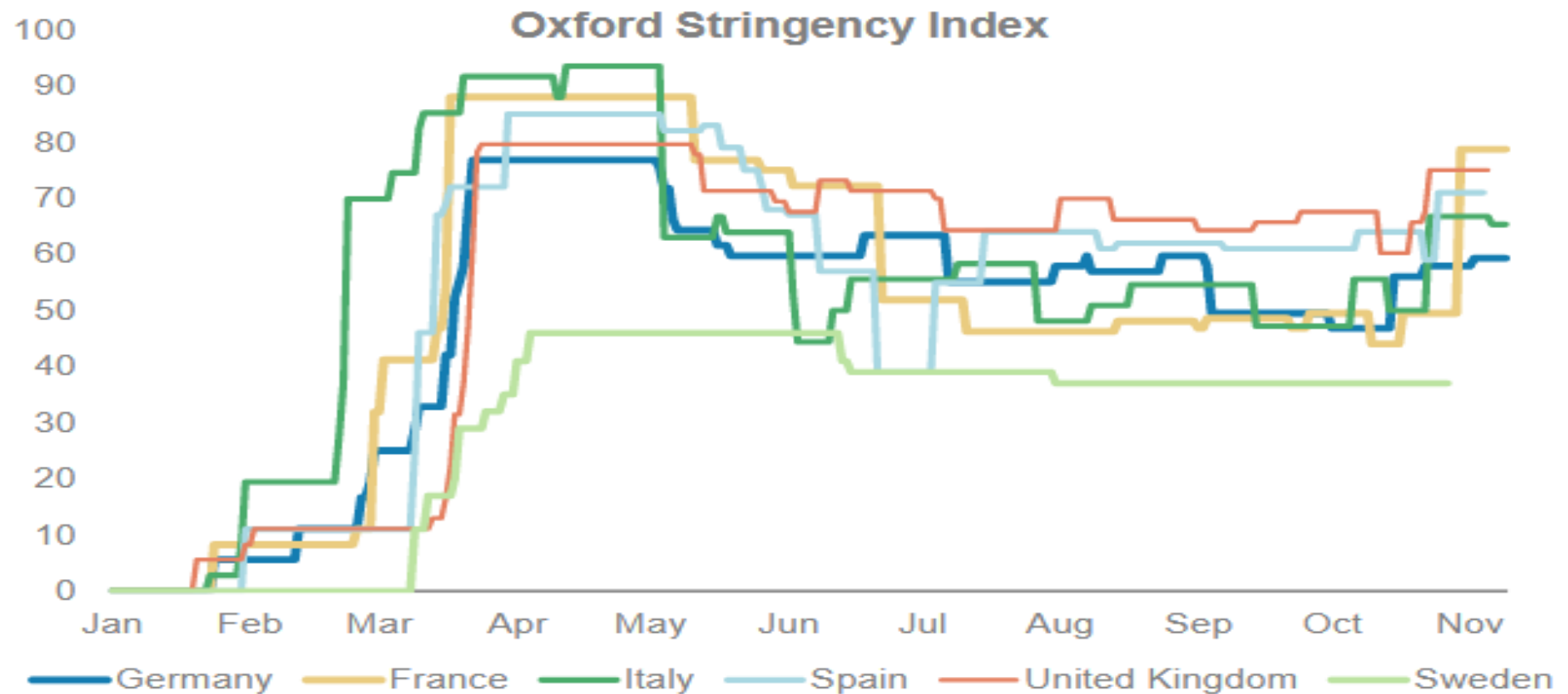
Exhibit 30: Lockdown#2: Some Key Dates and Details for the major European economies

Lockdown#2 Dates	Germany	France	Italy	Spain	UK
Restrictions on private gatherings	14 Oct	14 Oct	25 Oct	24 Oct	09 Sep
Restricted opening hours in hospitality	14 Oct (High risk areas)	14 Oct	16 Oct / extended 25 Oct	14 Oct (Regional)	22 Sep
Curfew		14 Oct (9 largest cities) / extended 23 Oct	04 Nov	24 Oct	
Restrictions					
Hospitality sector	Closed with delivery/food to go allowed	Closed with delivery/food to go allowed	Regional variations - from restricted opening hours to complete closures	Regional variations - from completely shut to under curfew + capacity constraints	Closed with delivery/food to go allowed
Construction sites	Open	Open	Open	Open	Open
Manufacturing	Open	Open	Open	Open	Open
Non-essential retail	Open (capacity limits in place)	Closed	Regional variations, depending on lockdown tier	Open, although regional variations on capacity limits/opening hours	Closed
Schools & public sector services	Open	Open	Open	Open	Open

Source: Government announcements, Morgan Stanley Research

Governments' reaction to 2nd wave

Europe more prone to implement new restrictions



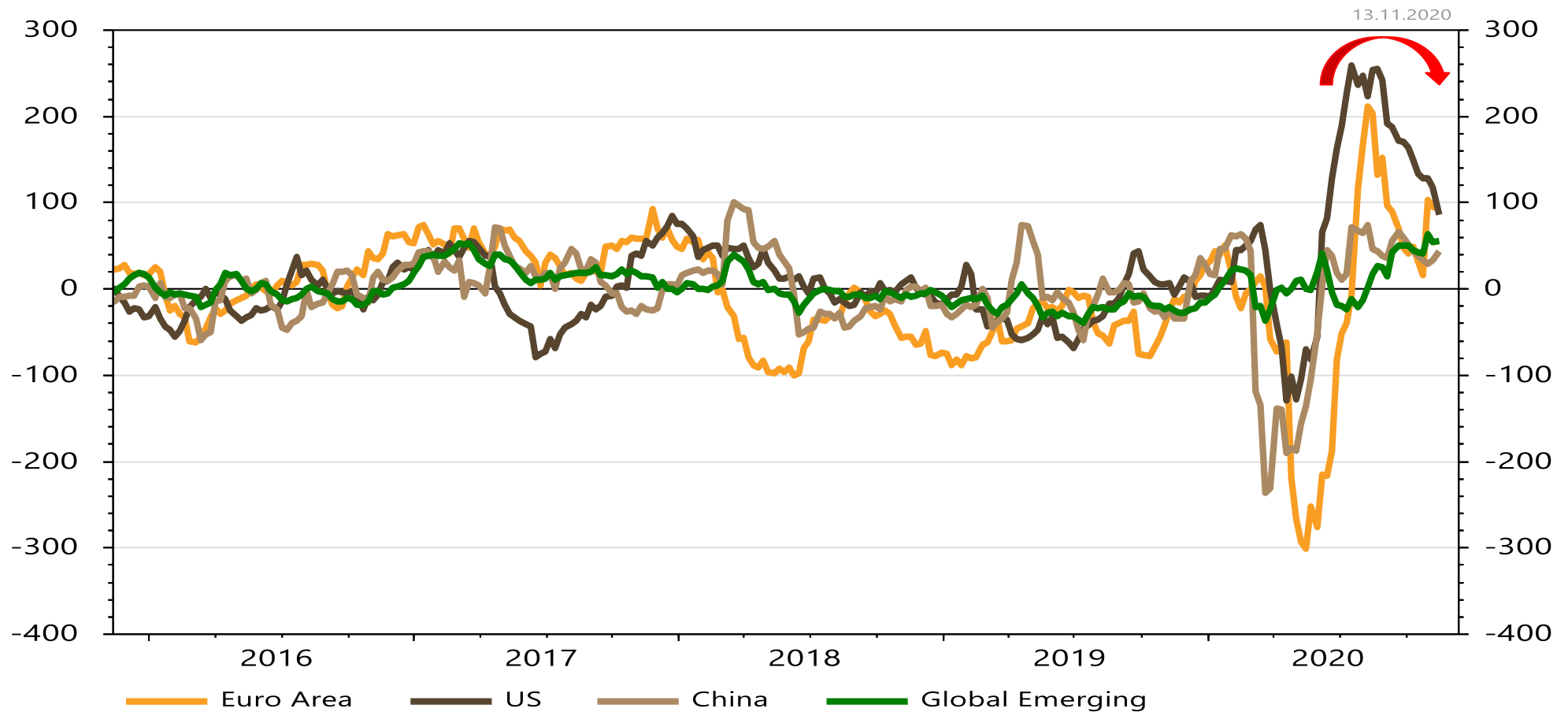
Source: Oxford University, Morgan Stanley Research

<https://www.bsg.ox.ac.uk/research/research-projects/coronavirus-government-response-tracker>

World – economic surprises

Economic Surprise Index

US - China - Euro Area - Global Emerging

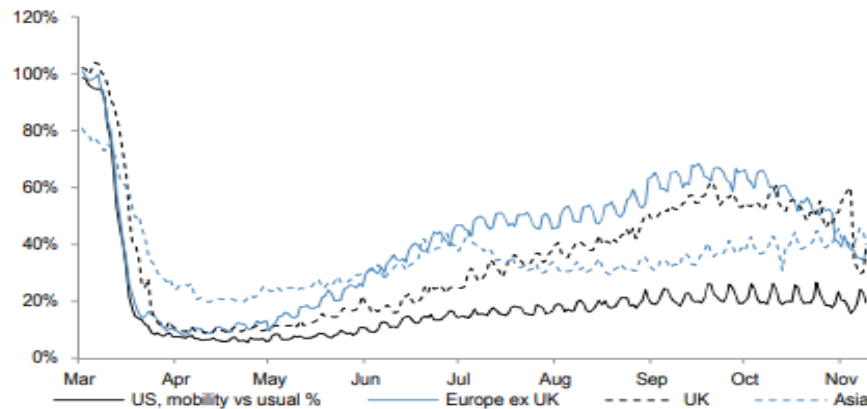


Source: Refinitiv Datastream, 13.11.2020

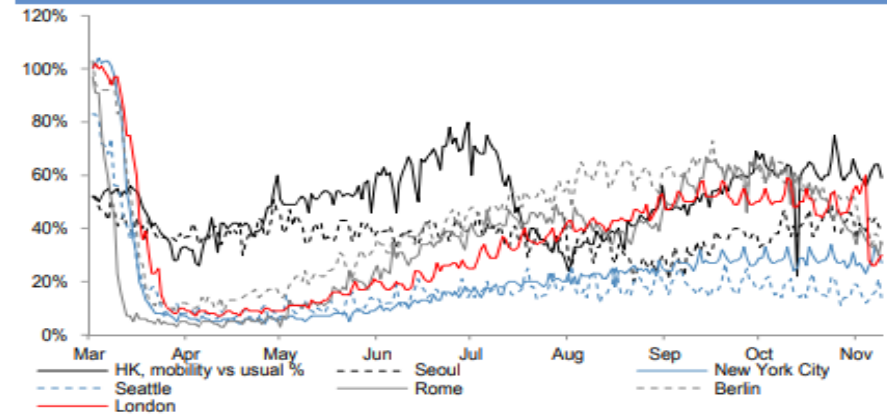
World – on-ground mobility

On-ground Mobility – Citymapper & TomTom

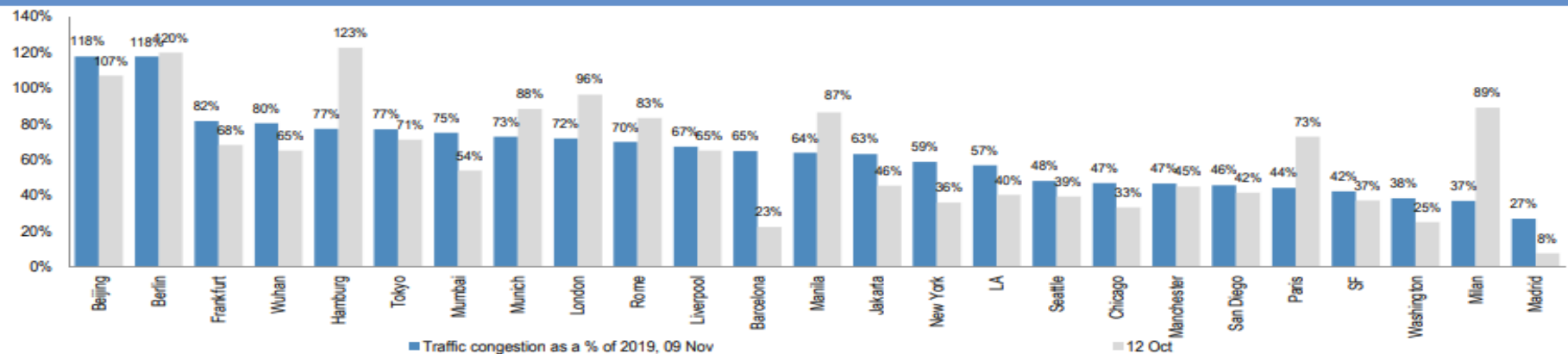
Mobility, as a share of normal - Regional aggregates



Mobility, as a share of normal - Key cities



Traffic congestion levels (as % of 2019)

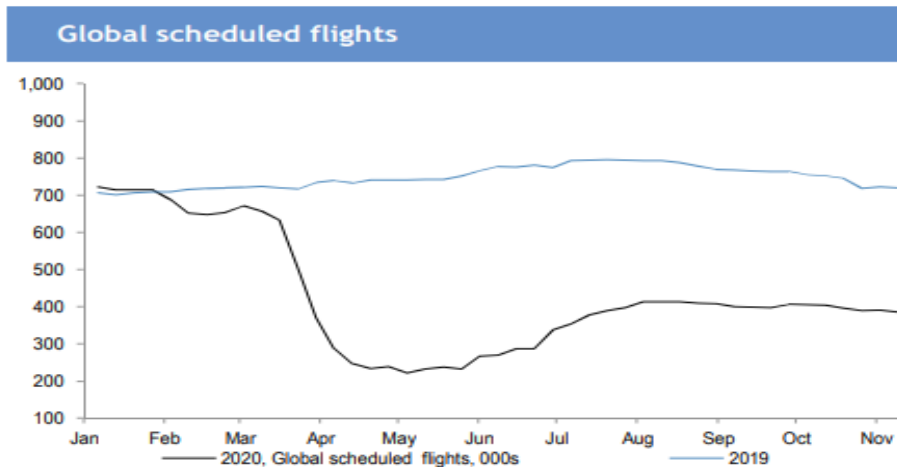


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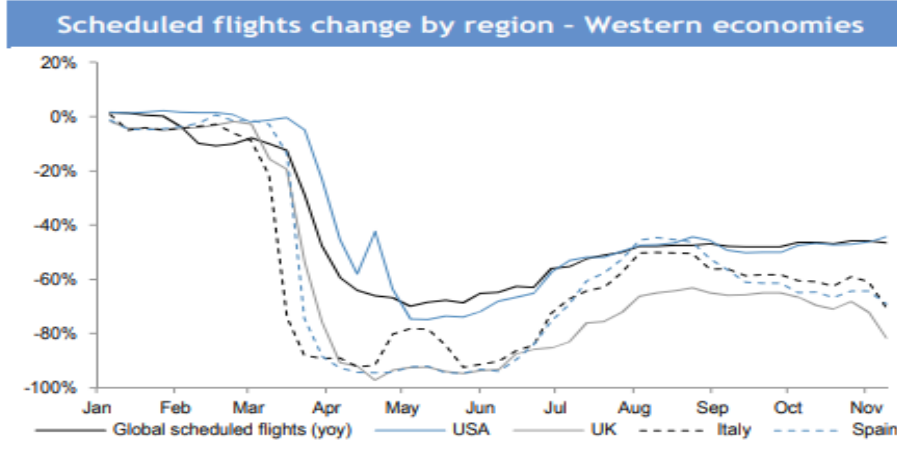
J.P. Morgan CAZENOVE

World – Air traffic

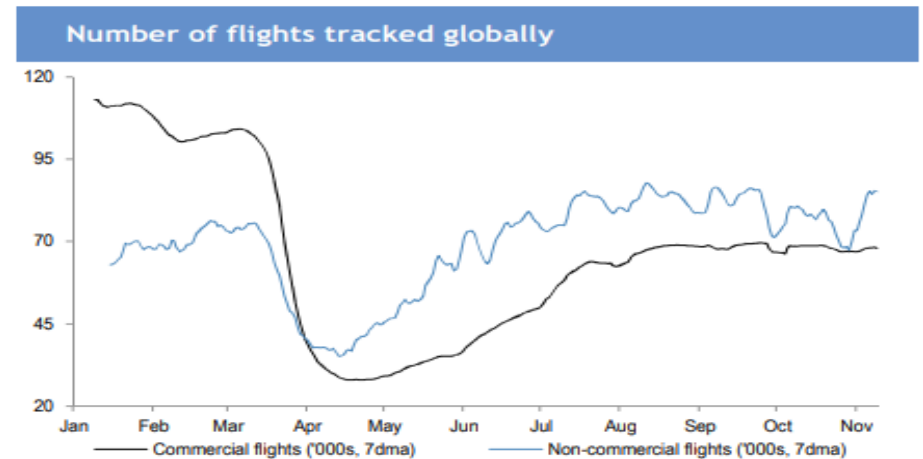
Air travel activity – FlightRadar24, OAG



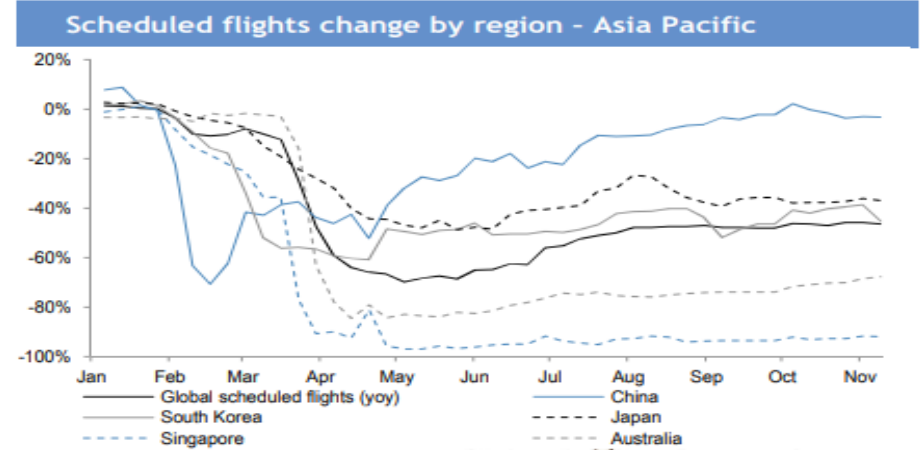
Source: OAG, As of 9th November



Source: OAG, As of 9th November



Source: FlightRadar24, As of 9th November

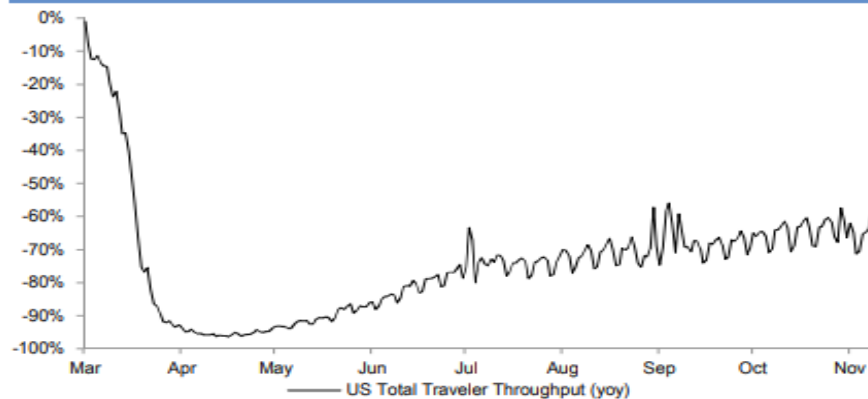


Source: OAG, As of 9th November

World – Air traffic

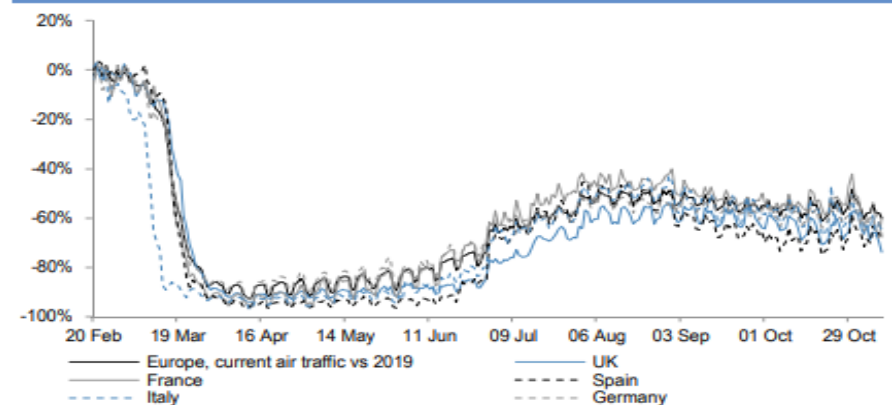
Air travel activity – TSA, EUROCONTROL

US air passenger throughput vs 2019



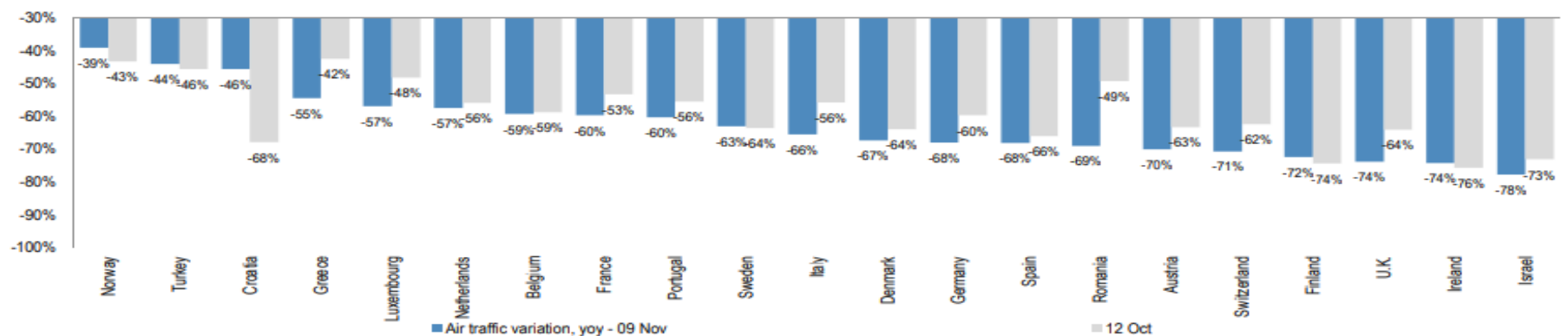
Source: TSA, Dept. of Homeland Security, As of 9th November

Europe daily variation in flights (yoy)



Source: EUROCONTROL, As of 9th November

Europe daily variation in flights (yoy)

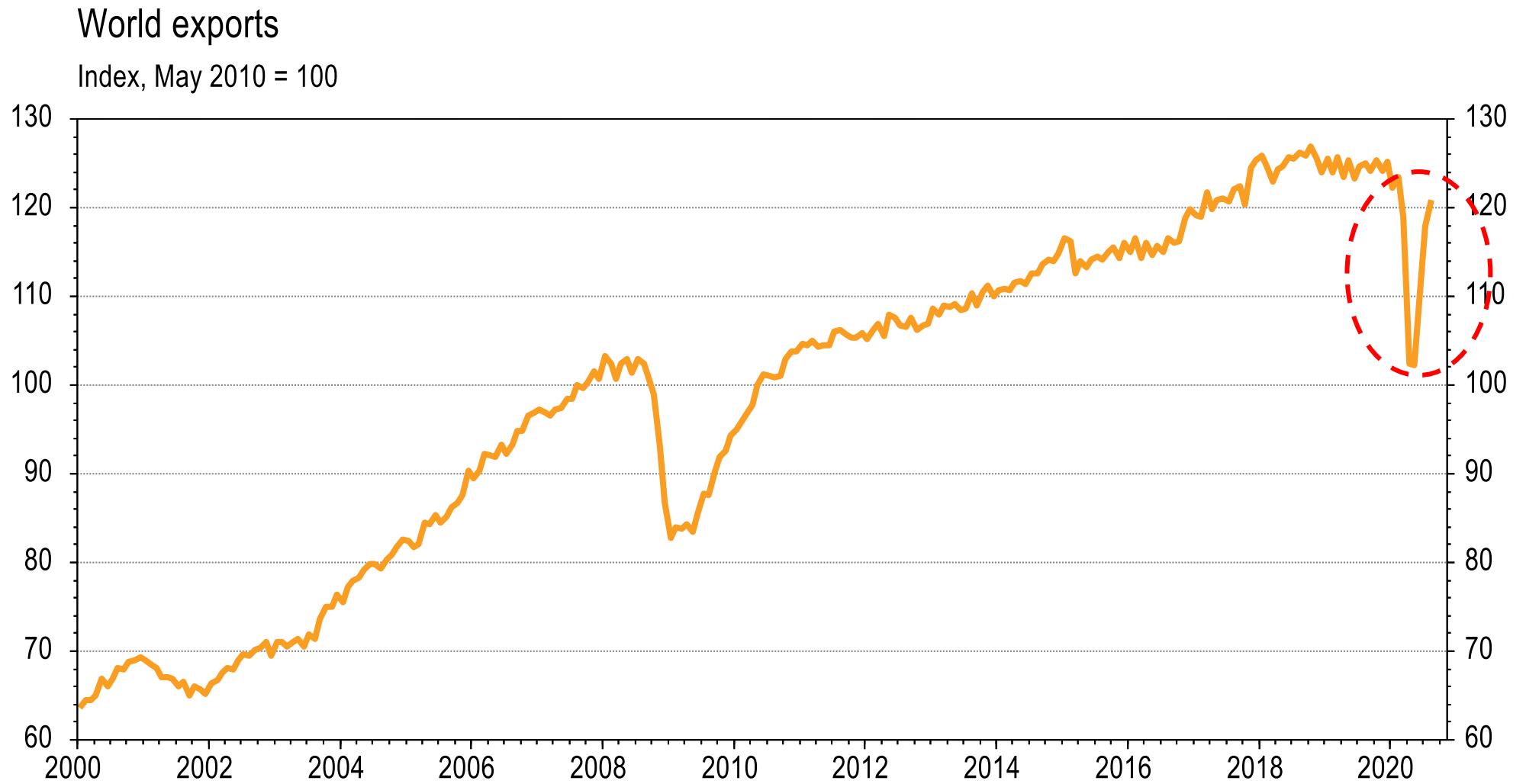


Source: EUROCONTROL, As of 9th November

11

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World exports



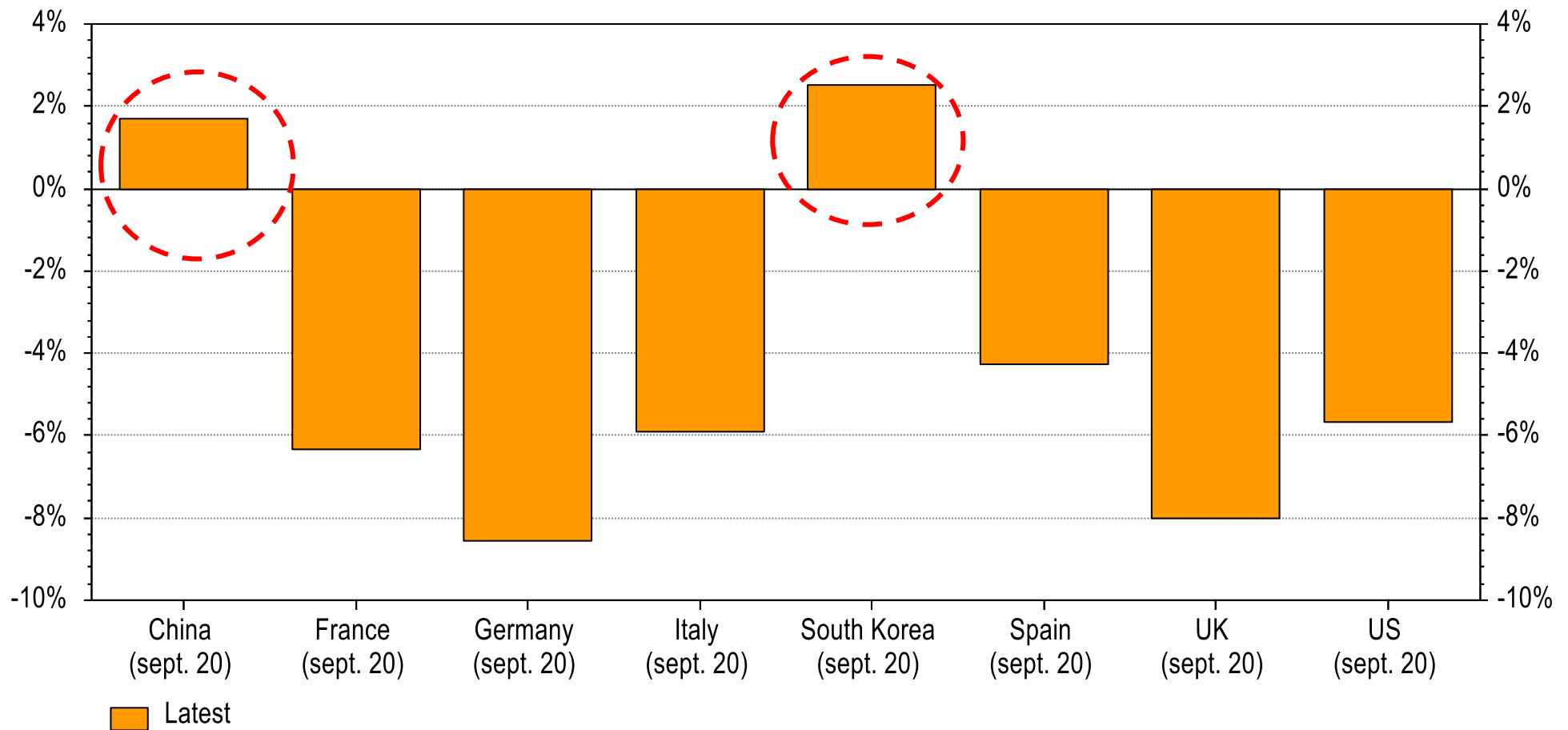
Source: Refinitiv Datastream, 13.11.2020

World – industrial production

Only China and South Korea (new) are back in positive growth YoY

Global manufacturing production

Twelve-month percentage changes



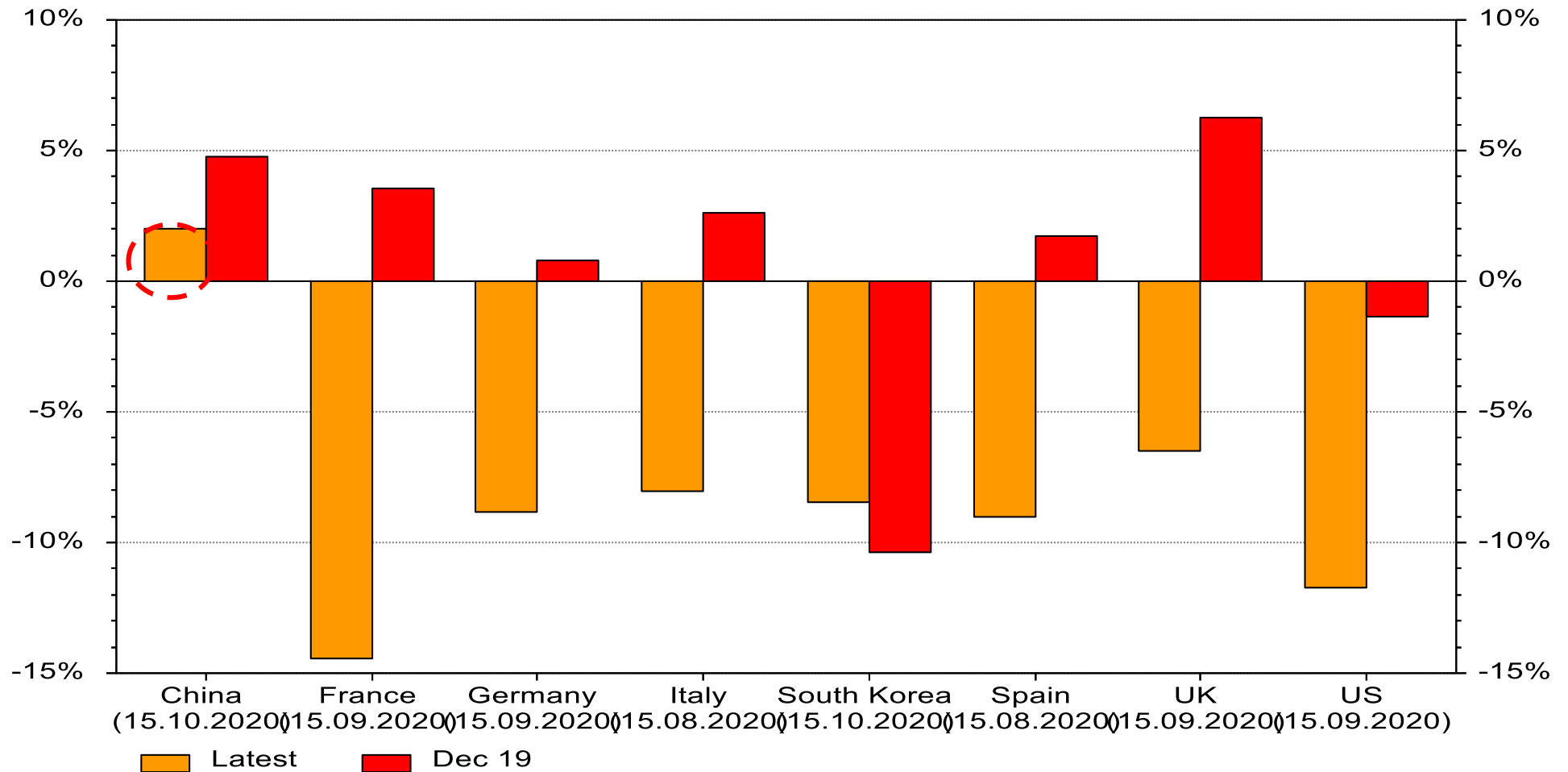
Source: Refinitiv Datastream, 13.11.2020

World – exports

Only China is back in postive growth YoY

Global exports

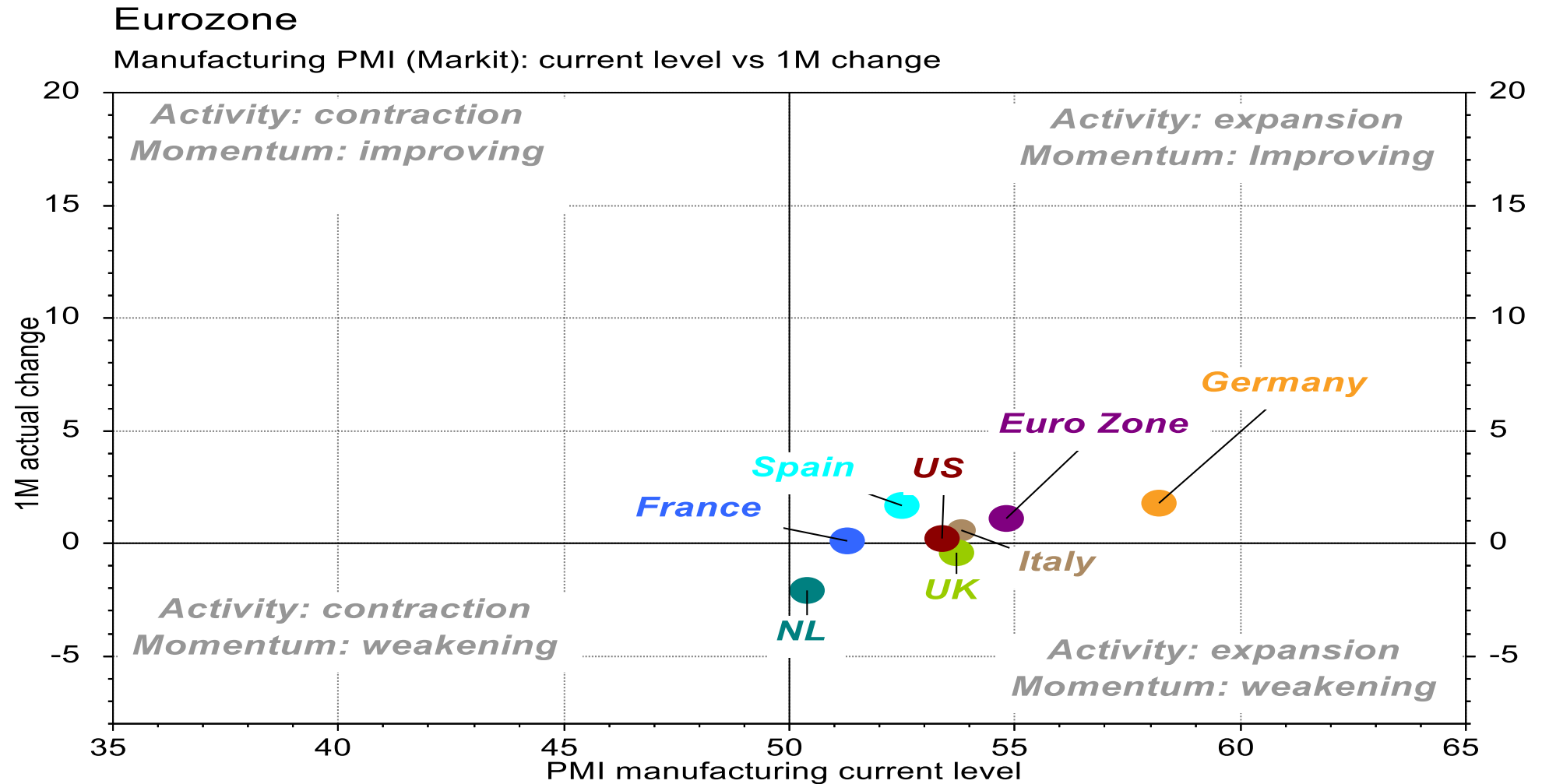
Twelve-month percentage changes in the twelve-month rolling sum



Source: Refinitiv Datastream, 13.11.2020

Manufacturing PMI – developed economies

Level vs one-month change (October vs September)



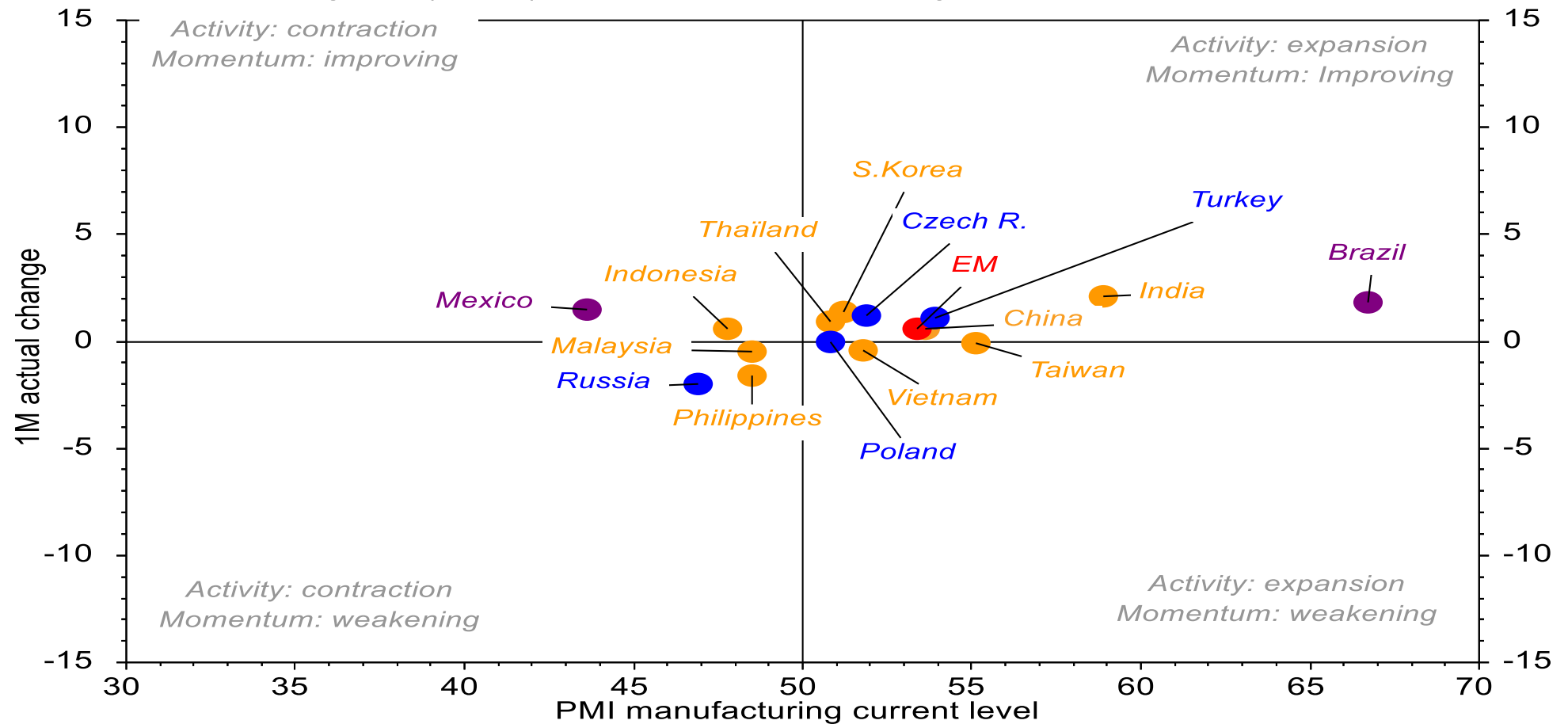
Source: Refinitiv Datastream, 13.11.2020

Manufacturing PMI – emerging economies

Level vs one-month change (October vs September)

Emerging economies

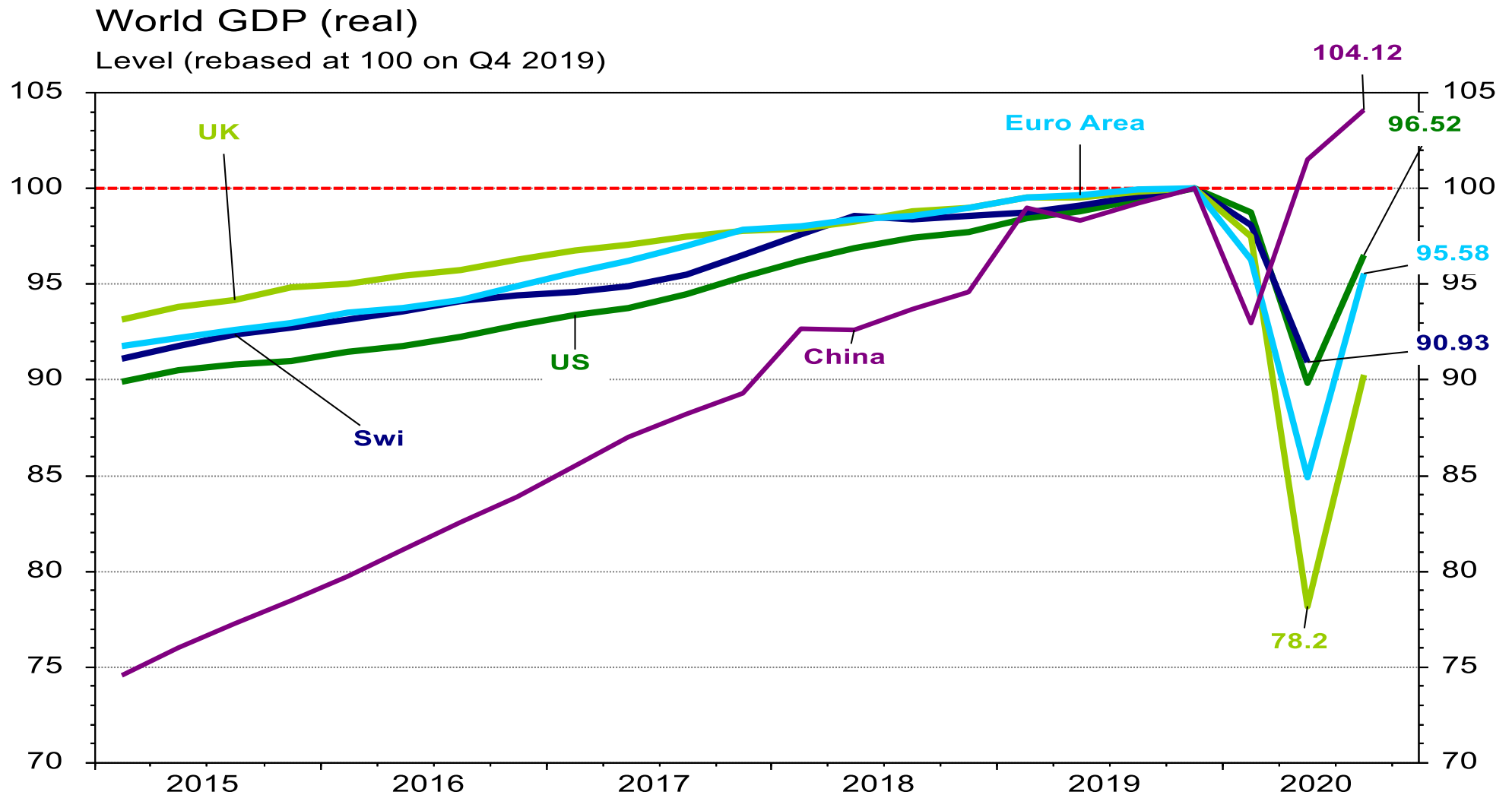
Manufacturing PMI (Markit): current level vs 1M change



Source: Refinitiv Datastream, 13.11.2020

World GDP – rebound in Q3 but Q4 will be negative...

China seems out of sample...

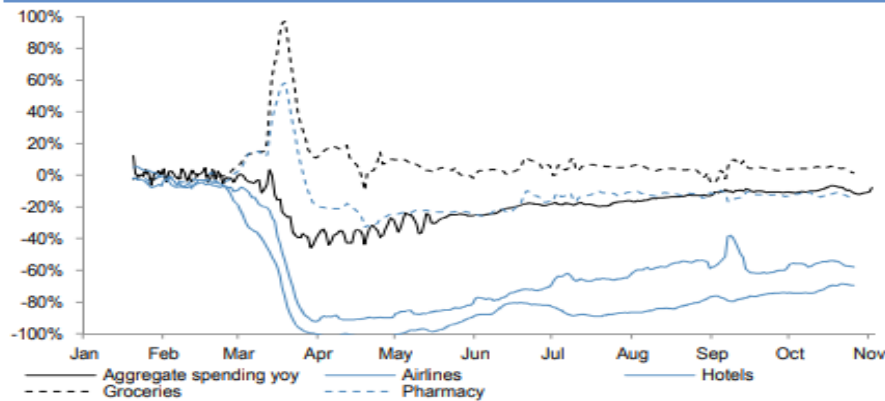


Source: Refinitiv Datastream, 13.11.2020

World – consumption data

Consumer activity – 1010, Facteus FIRST, OpenTable

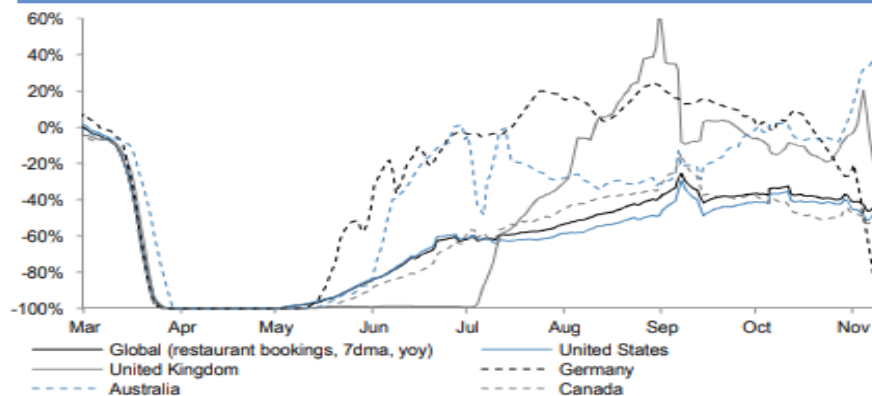
US aggregated credit and debit card spending



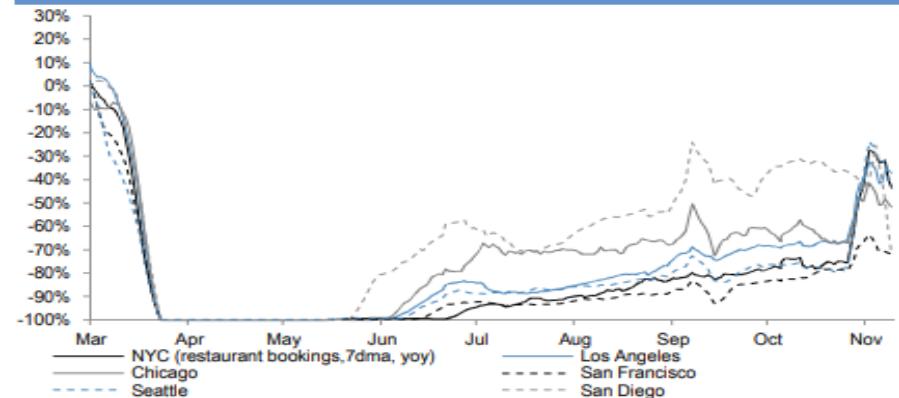
US consumer aggregate debit card spend



Restaurant bookings (online/phone reservations, walk-ins)

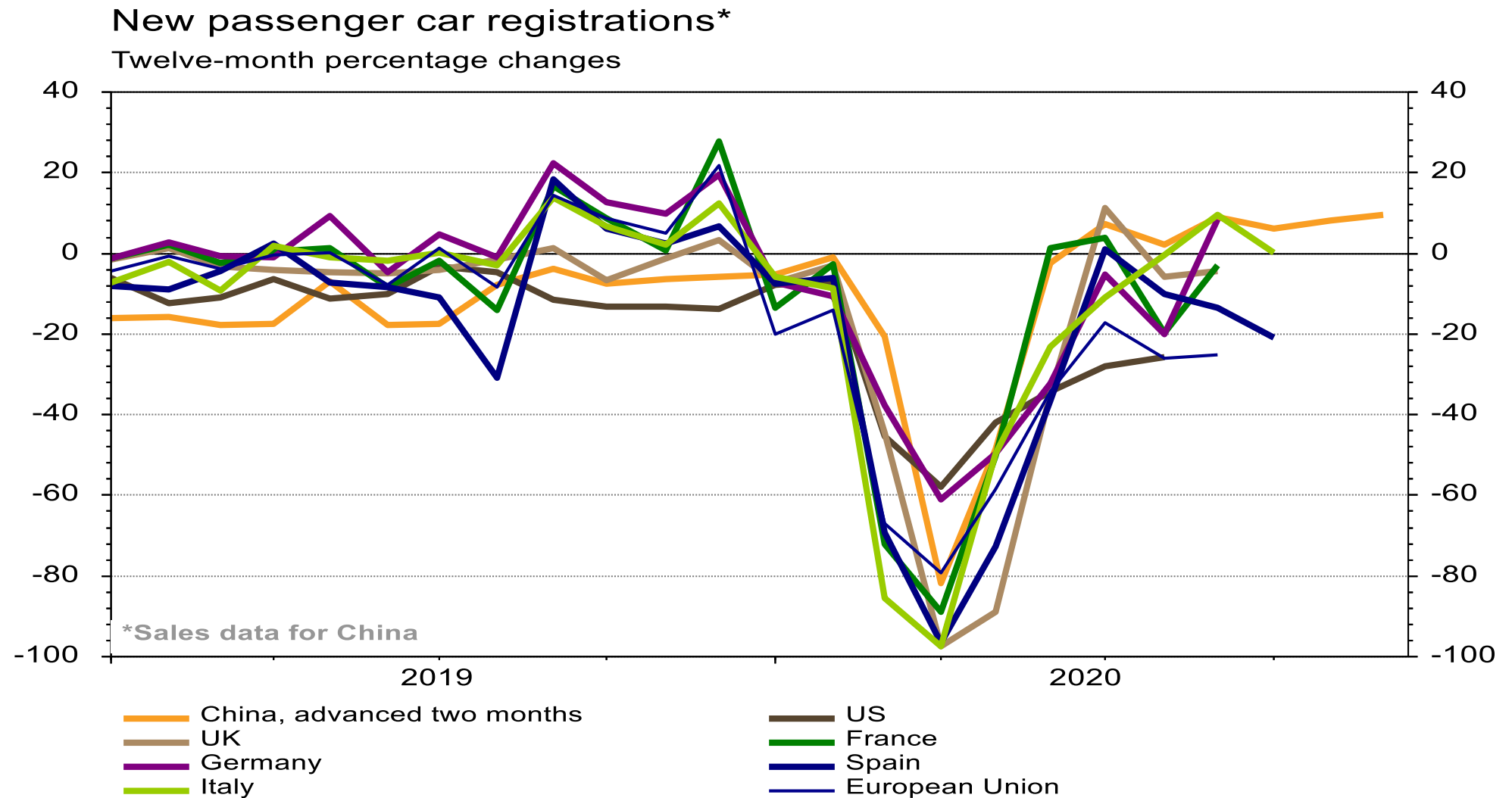


Restaurant bookings (US cities)



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World – New passenger car registrations

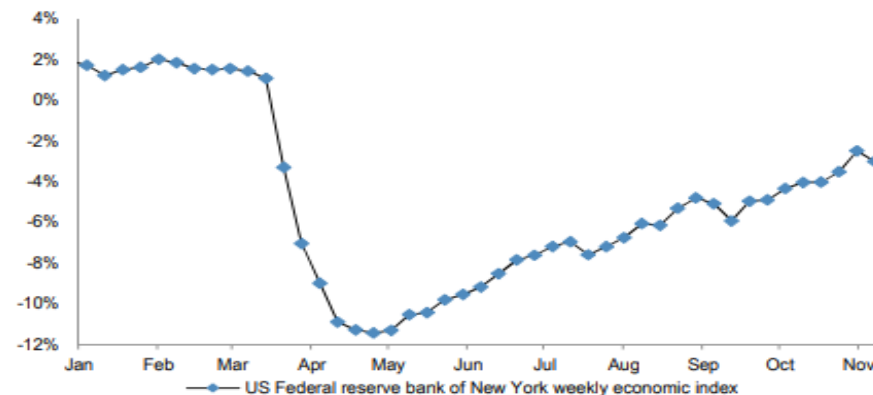


Source: Refinitiv Datastream, 13.11.2020

US – industrial activity

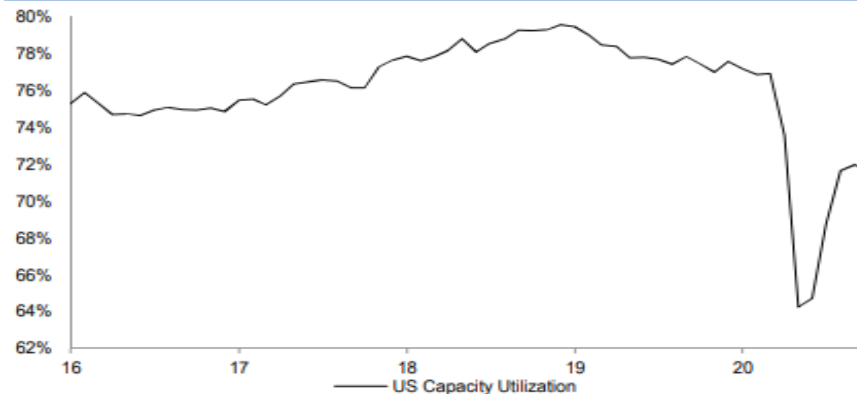
Industrial/manufacturing activity – US

New York FED weekly economic index



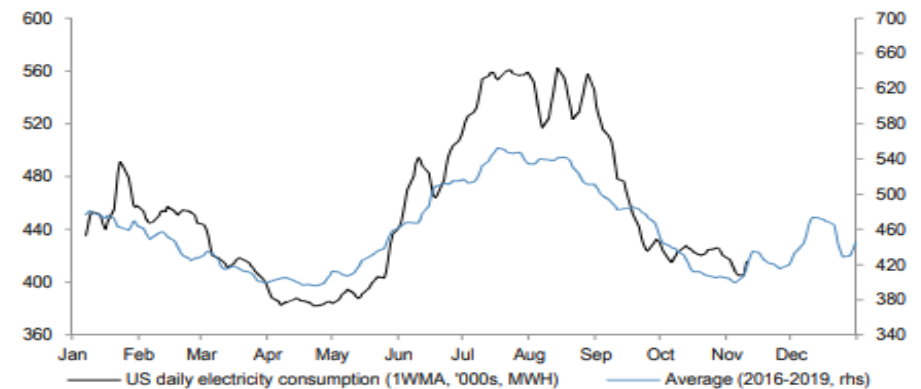
Source: Federal Reserve Bank of New York, Bloomberg. As of 5th November

US capacity utilization



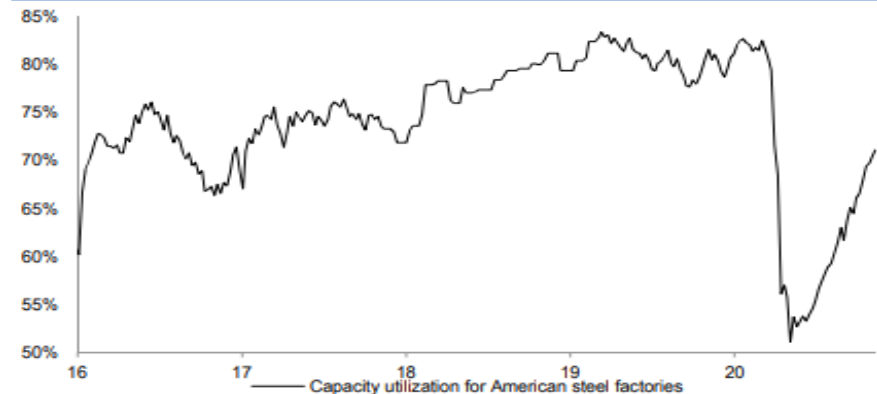
Source: Bloomberg

US daily electricity consumption (MWh)



Source: EIA, As of 27th October

Capacity utilization for US steel factories



Source: Bloomberg, As of 9th November

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US – consumption

Consumer activity – Facteus FIRST US Debit Card data

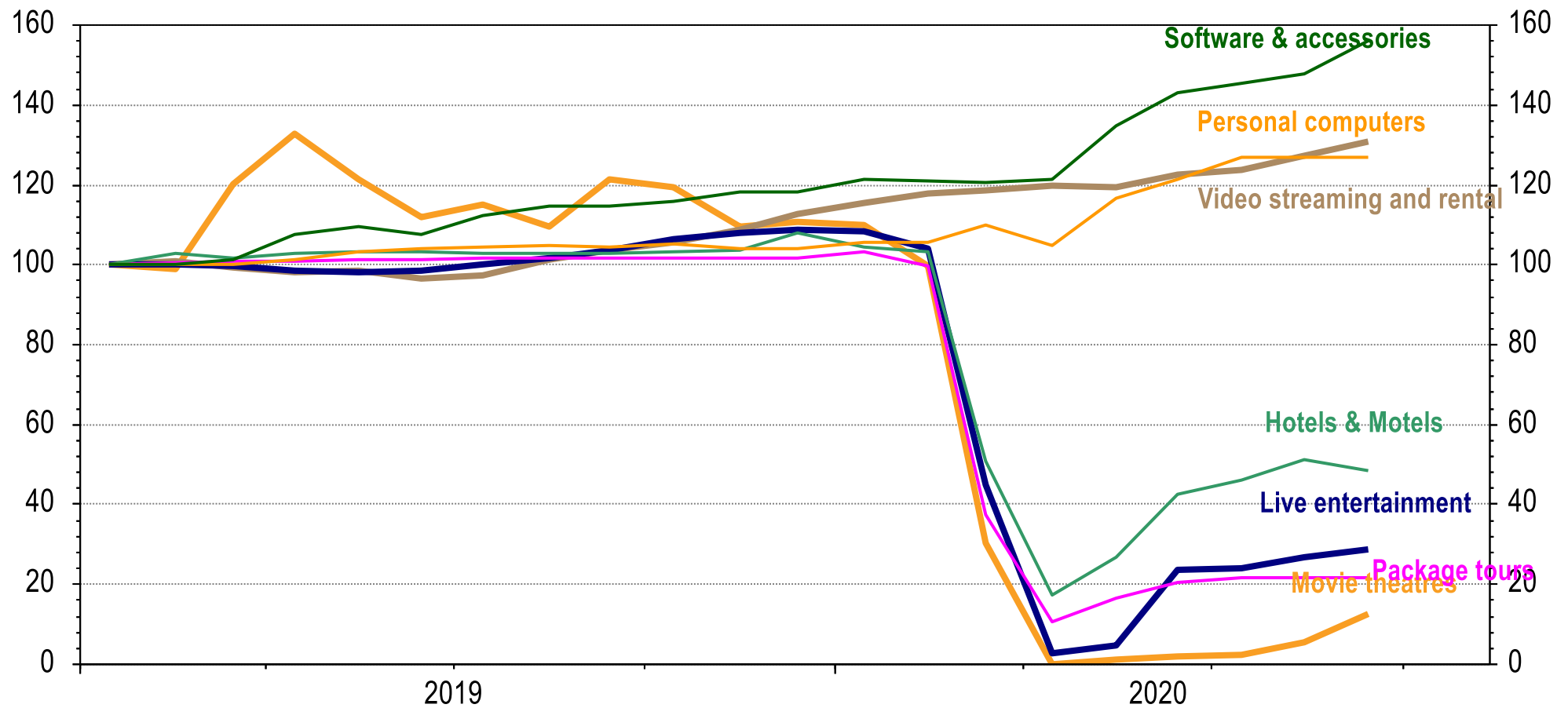
US consumer spending by category (yoy)										
	August -6% avg	September -3% avg				October -2% avg				November -9% avg
	30	6	13	20	27	4	11	18	25	1
Retail										
Department Stores	+6	+16	+26	+16	+19	+26	+12	+17	+8	+7
Discount Stores	+30	+34	+40	+49	+35	+45	+36	+41	+37	+30
Grocery Stores & Supermarkets	+12	+14	+18	+17	+17	+21	+15	+17	+16	+14
Misc. General Merchandise	+29	+36	+29	+39	+38	+36	+27	+31	+29	+20
Variety Stores	+23	+26	+32	+34	+31	+30	+21	+22	+23	+18
Wholesale Clubs	+24	+45	+43	+56	+32	+49	+42	+45	+45	+45
Retail Average	+21	+29	+31	+35	+29	+35	+26	+29	+26	+22
Entertainment										
Amusement Parks	-64	-49	-54	-56	-53	-53	-57	-51	-46	-44
Commercial Sports & Athletic Fields	-42	-15	-32	-15	-34	-17	-24	-15	-16	-23
Fast Food Restaurants	+14	+17	+12	+14	+14	+19	+15	+15	+14	+12
Movie Theaters	-80	-84	-83	-85	-84	-87	-88	-86	-86	-85
Restaurants	+2	+7	+4	+6	+7	+12	+7	+7	+7	+1
Tourist Attractions	-27	+22	+2	+7	+7	+5	+9	+40	0	-15
Video Games	+74	+41	+20	+43	+41	+57	+83	+51	+7	+32
Entertainment Average	-18	-9	-19	-12	-15	-9	-8	-6	-17	-17
Travel										
Airlines	-60	-57	-60	-55	-53	-50	-53	-48	-36	-54
Cruise Lines	-83	-81	-85	-82	-82	-79	-87	-83	-81	-84
Lodging	-10	+4	-15	-11	-11	-4	-9	-7	-14	-21
Travel Bookings	-22	-11	-25	-21	-20	-16	-17	-18	-21	-27
Travel Average	-44	-36	-46	-42	-42	-37	-42	-39	-38	-47
Healthcare										
Drug Stores and Pharmacies	+9	+15	+39	+11	+2	+15	+10	+11	+11	+8

Source: [Facteus FIRST](#)

US – consumer activity

US personal consumption expenditures

Index, Jan 2019 = 100

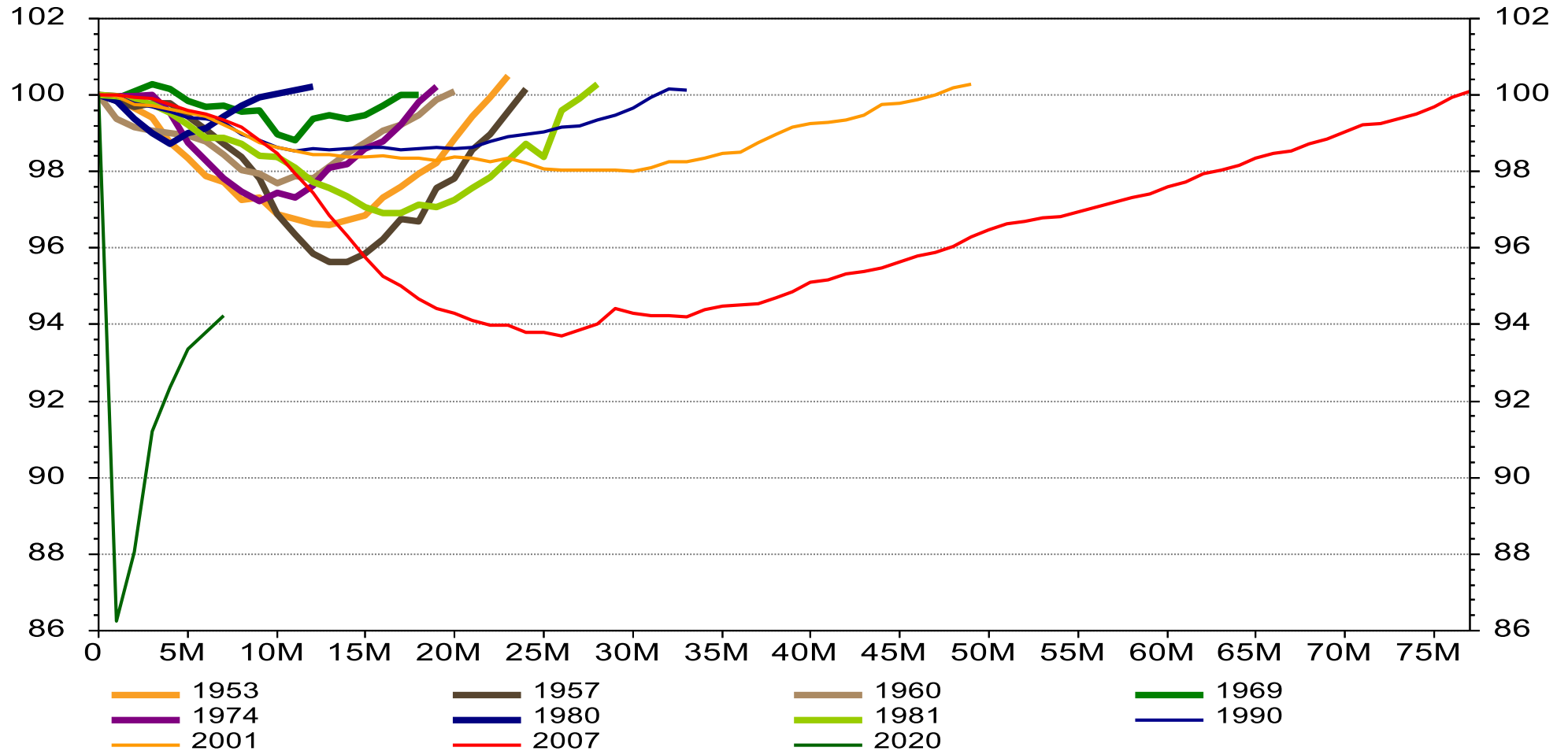


Source: Refinitiv Datastream, 13.11.2020

US employment – current vs previous recovery

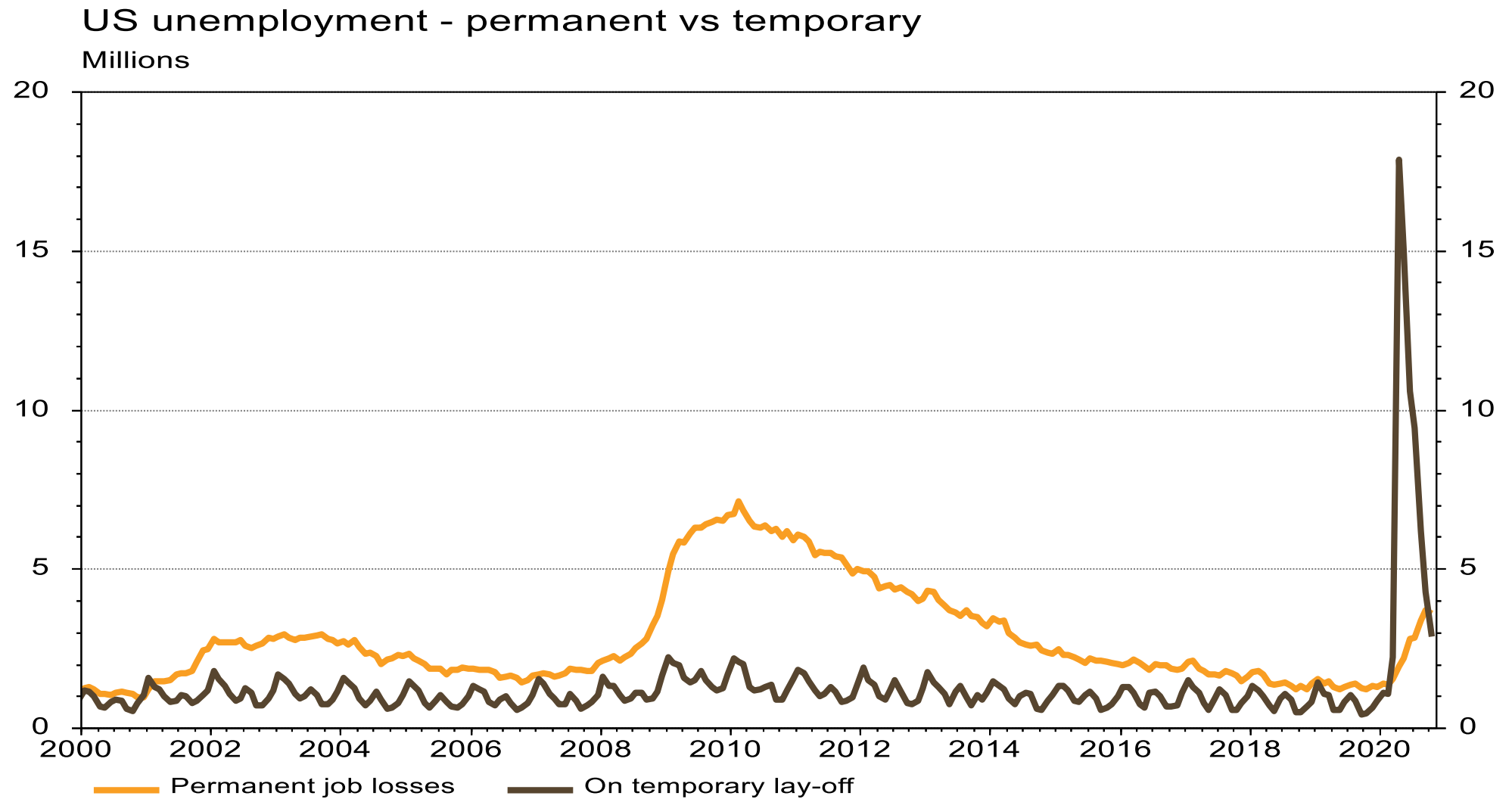
US employment during & after recessions

Index, 100 = beginning of recession



Source: Refinitiv Datastream, 13.11.2020

US unemployment – permanent vs temporary

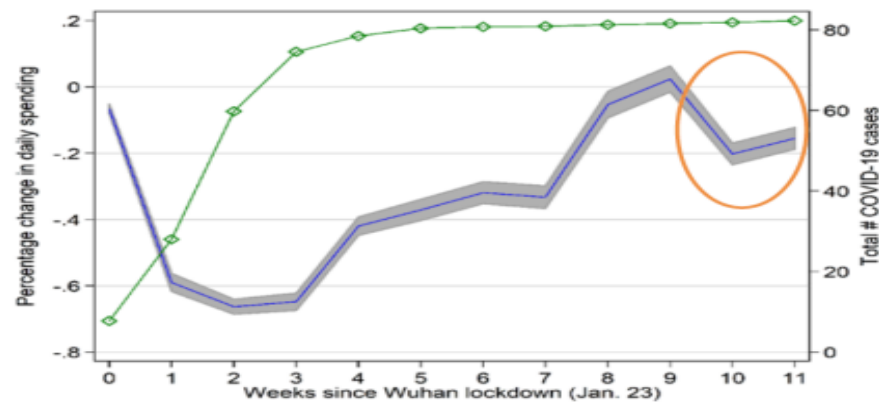


Source: Refinitiv Datastream, 13.11.2020

China – consumption

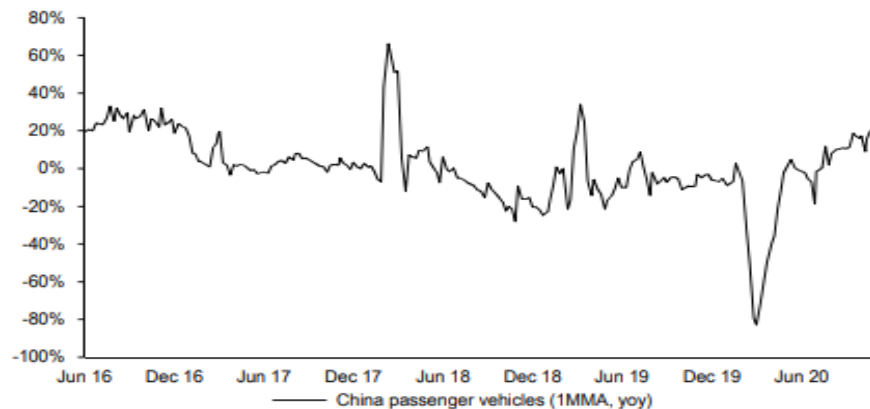
Consumer activity - China

China consumer spending



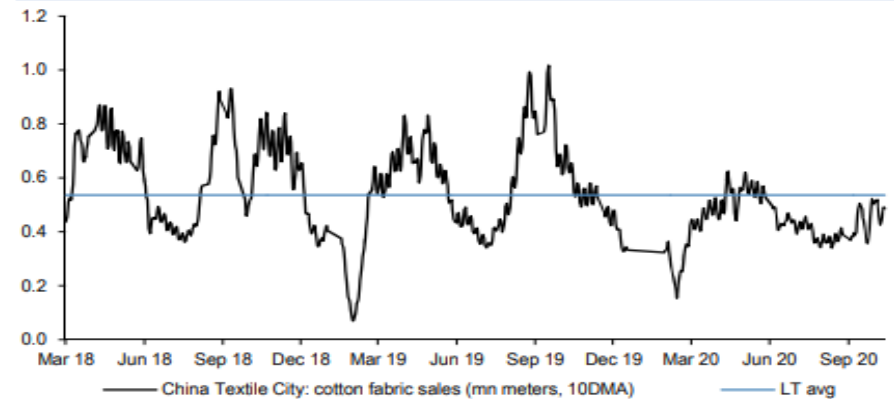
Source: NUS, ABFER

China auto sales



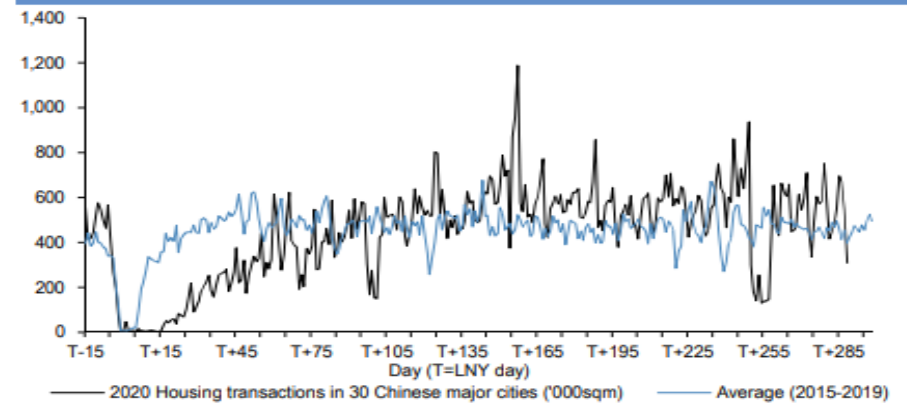
Source: Wind, JPM China Economic Research, As of 31st October

China textile city: cotton fabric sales



Source: Wind, JPM China Economic Research, As of 8th November
Note: China Textile City is the largest fabric trading hub in Asia.

Housing transactions in 30 major Chinese cities

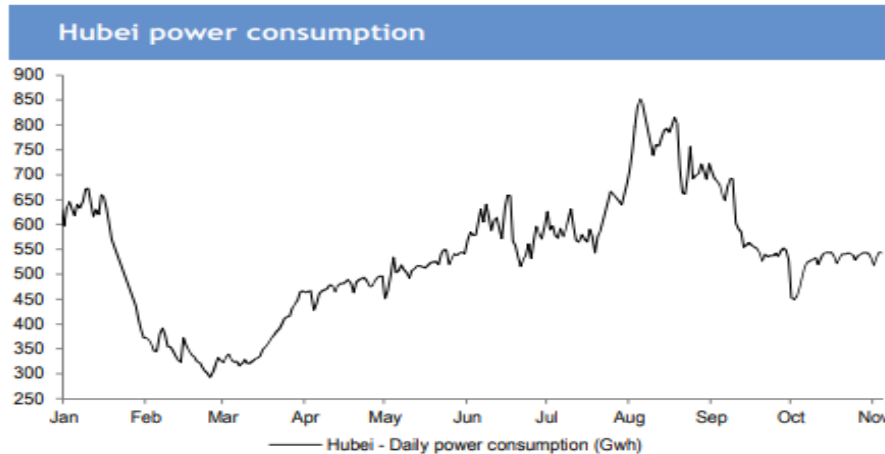


Source: Wind, JPM China Economic Research, As of 8th November

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China – industrial activity

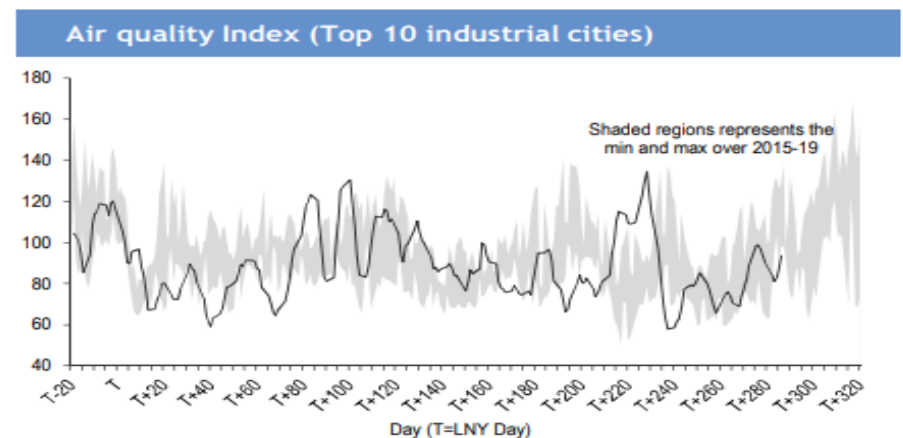
Industrial/manufacturing activity - China



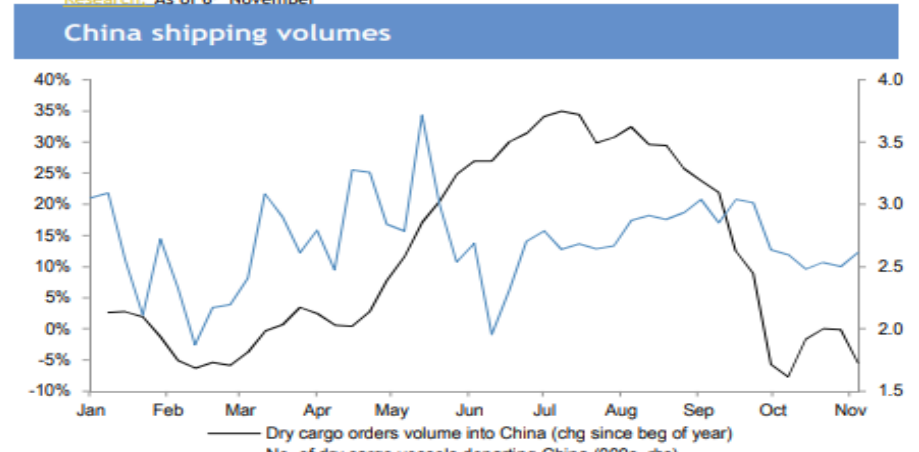
Source: Bloomberg. As of 4th November



Source: J.P. Morgan, MariTrace, JPM China Economic Research. As of 8th November



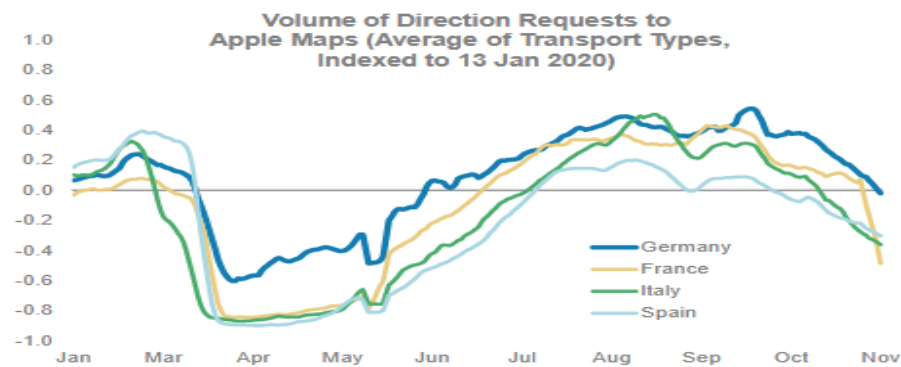
source: haver. simple average of top 10 cities includes Shenzhen, Shanghai, Suzhou, Tianjin, Chongqing, Chengdu, Guangzhou, Wuhan, Wuxi and Ningbo. JPM China Economic Research. As of 6th November



Source: Statista. As of 8th November

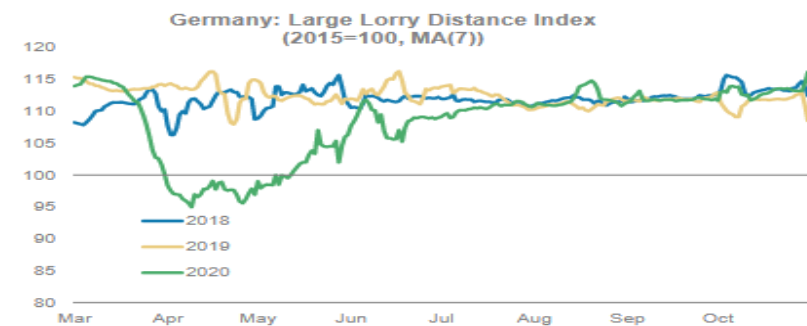
Eurozone – mobility

Exhibit 16: Apple Maps Navigation requests are down sharply...



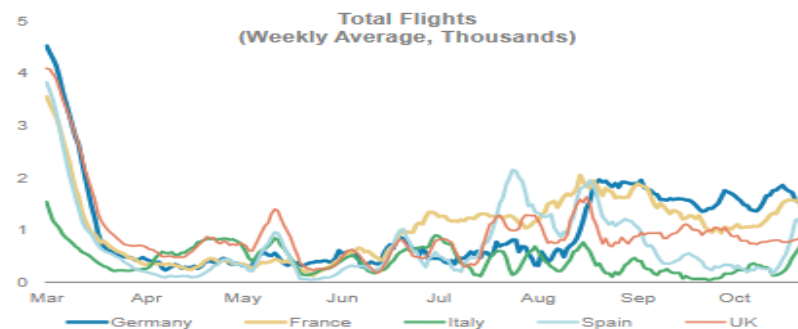
Source: Apple, Morgan Stanley Research

Exhibit 17: ... while German lorry milage continues to move sideways



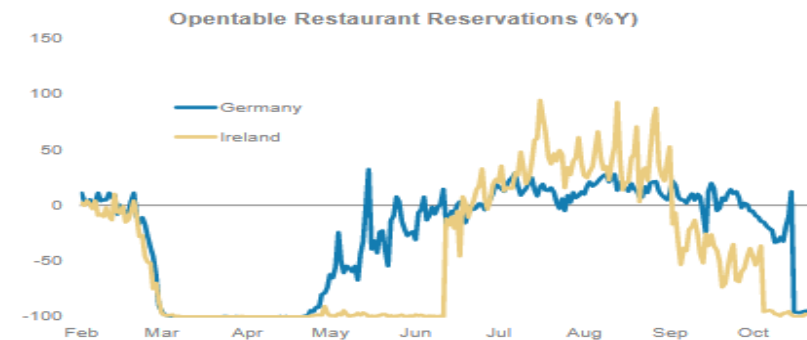
Source: Destatis, Morgan Stanley Research

Exhibit 18: Air traffic in Italy and Spain has seen a small rebound recently



Source: Flightaware, AlphaWise, Morgan Stanley Research; note: we look at the 10 busiest airports in each country

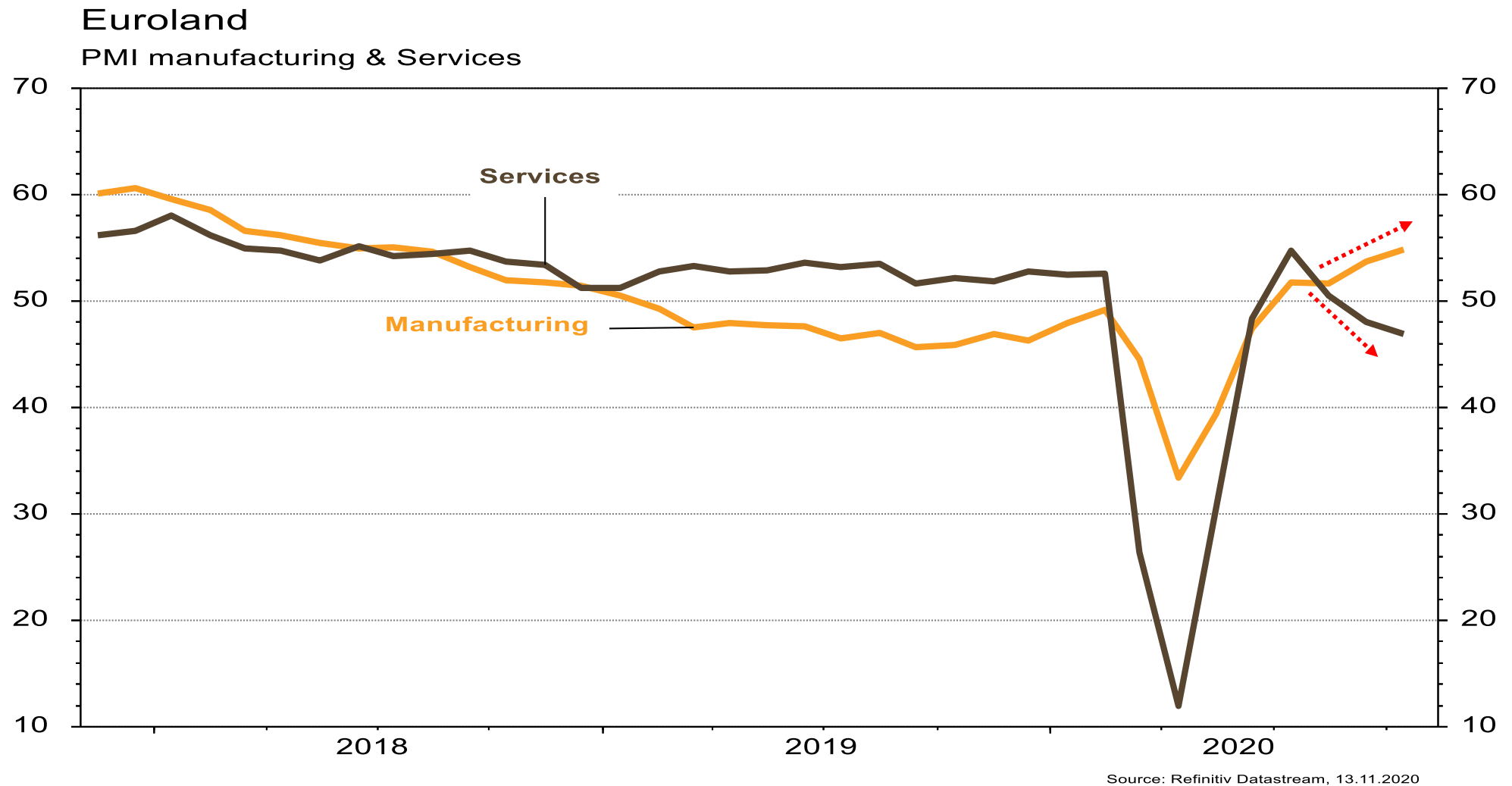
Exhibit 19: Restaurants in Germany and Ireland were shut as part of lockdowns



Source: Opentable, Morgan Stanley Research

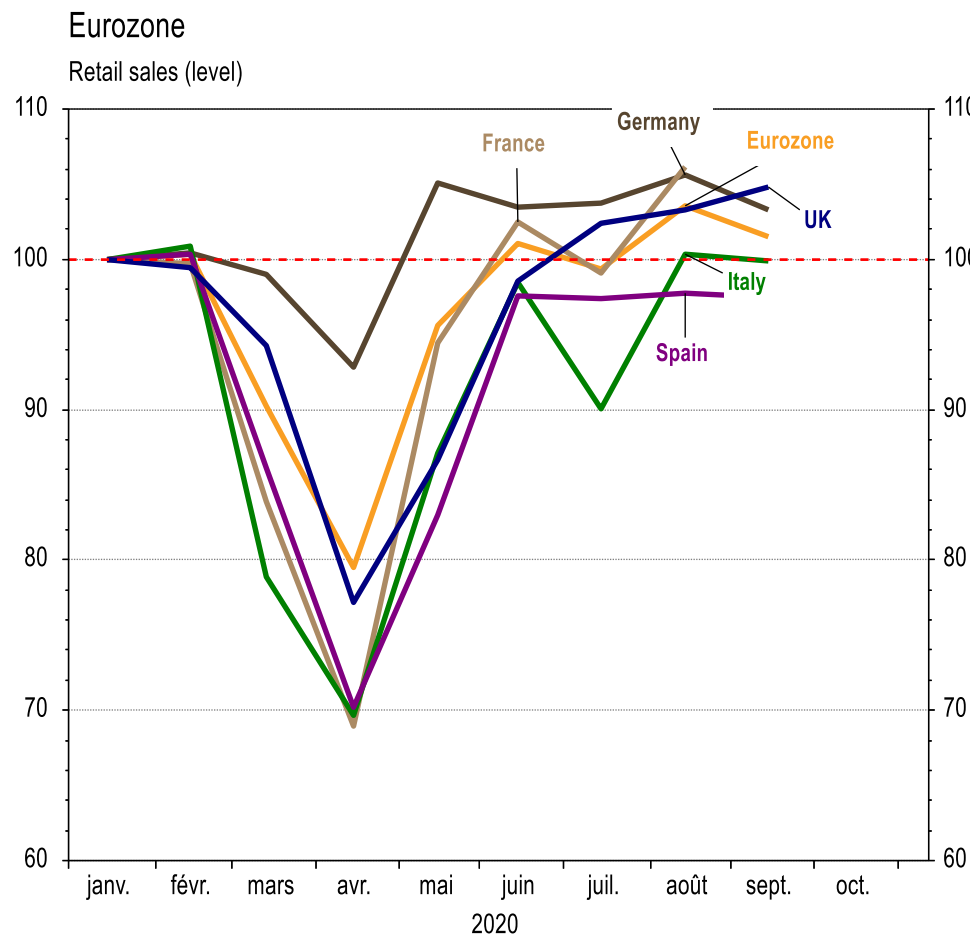
Eurozone – PMI manufacturing & services

New restrictions impact more the services sector

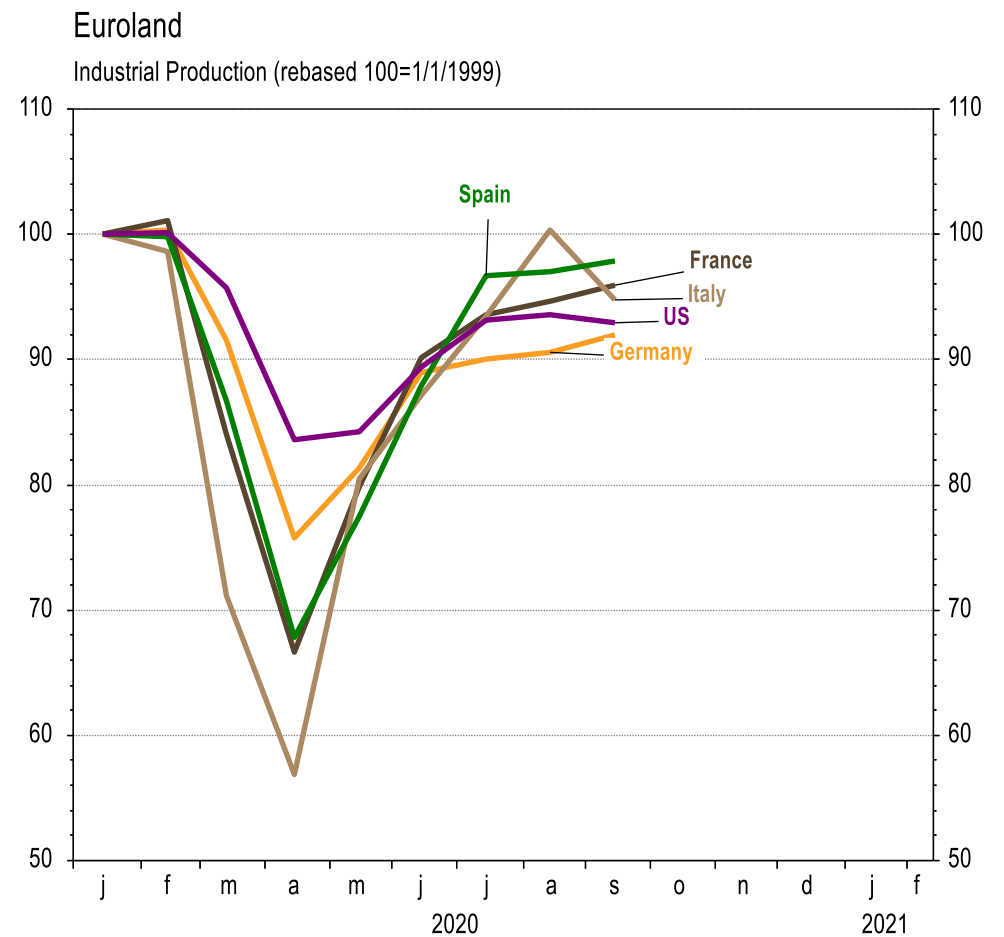


Eurozone – consumption and industrial production

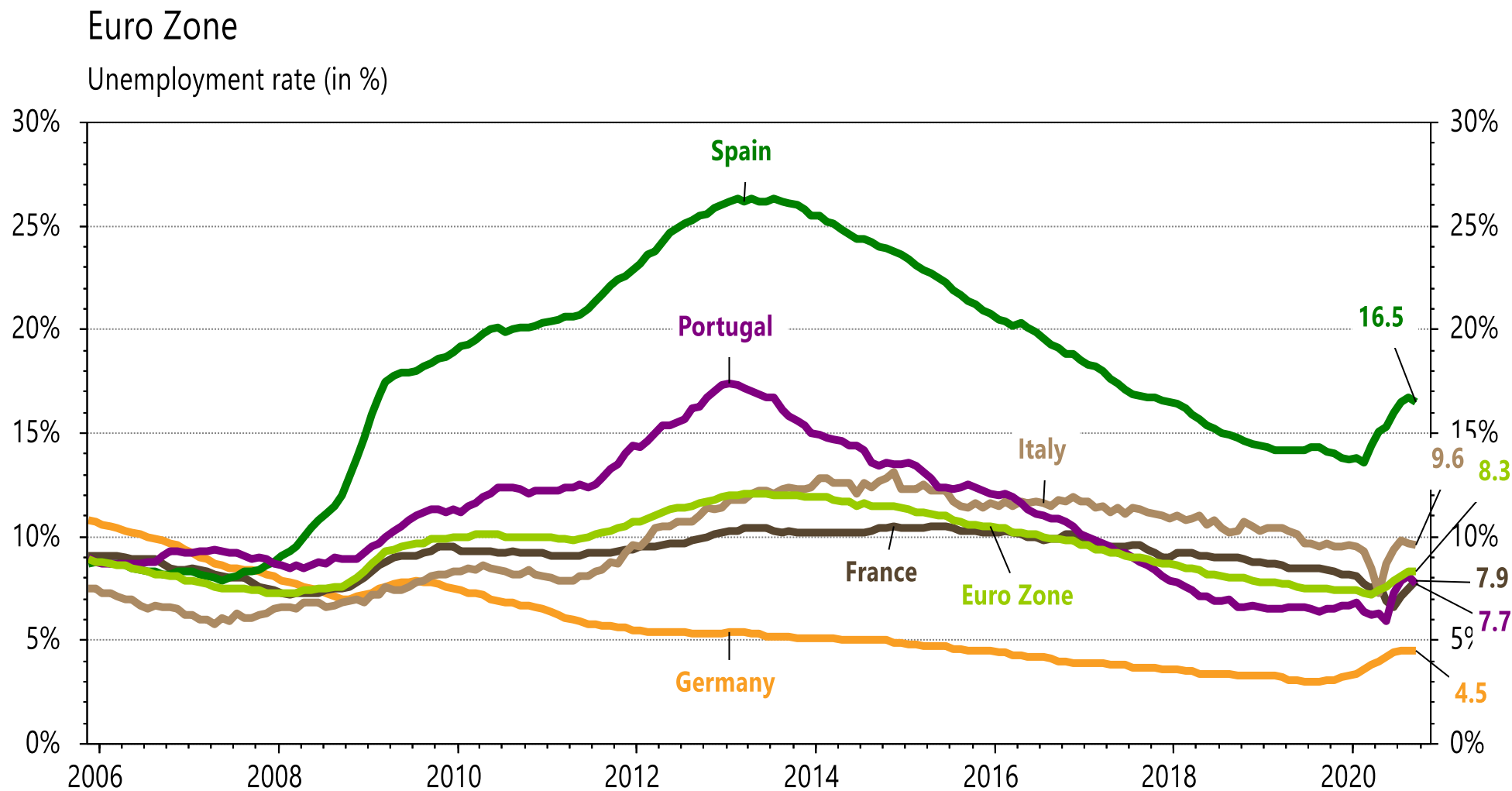
Eurozone: Germany leading retail sales recovery



Eurozone: Germany lagging industrial production recovery



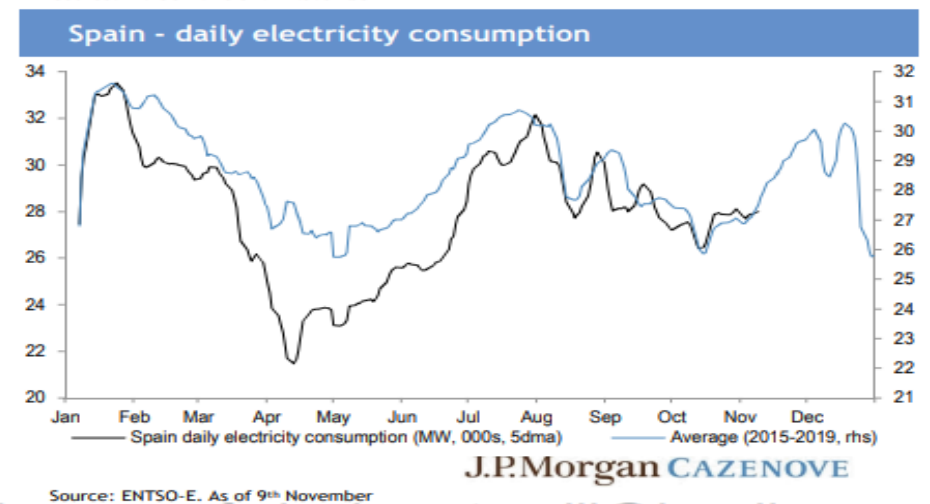
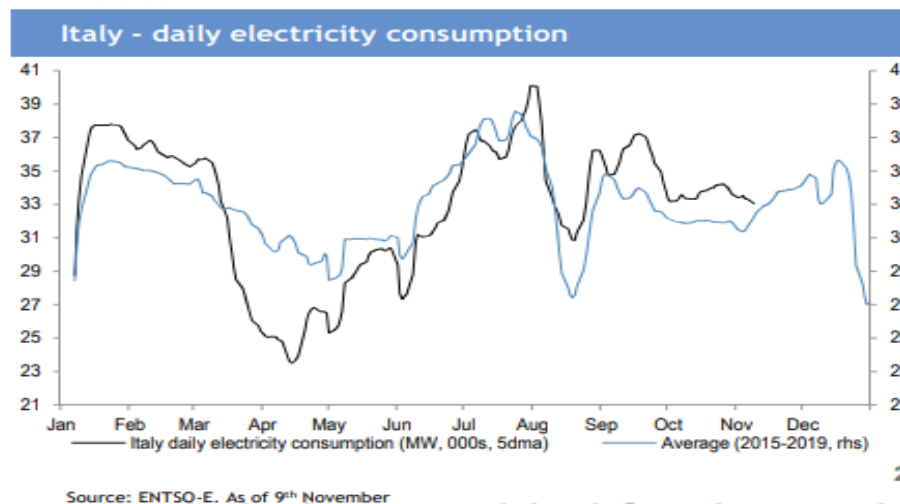
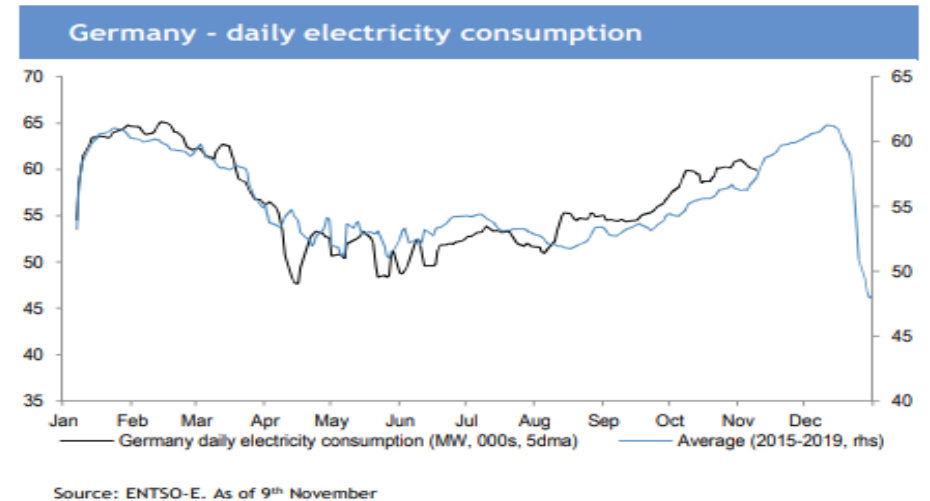
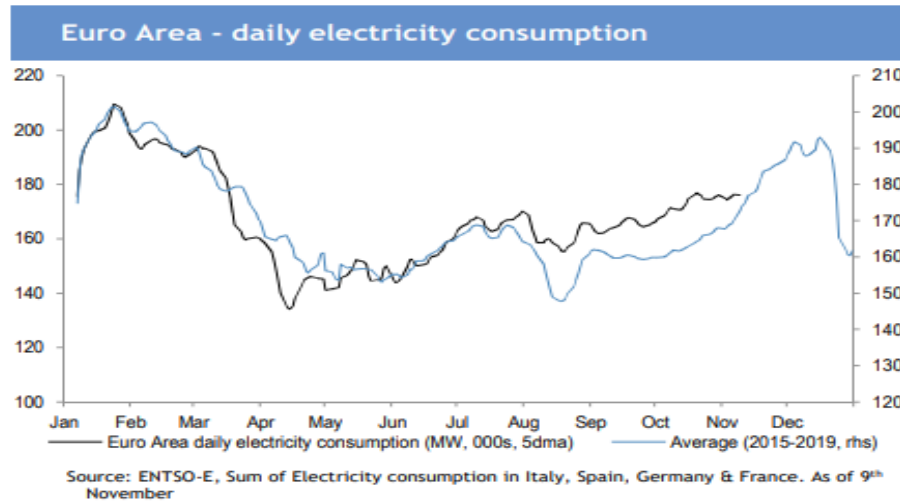
Eurozone – unemployment rate



Source: Refinitiv Datastream, 13.11.2020

Eurozone – industrial activity

Industrial/manufacturing activity – Europe – ENTSOE-E

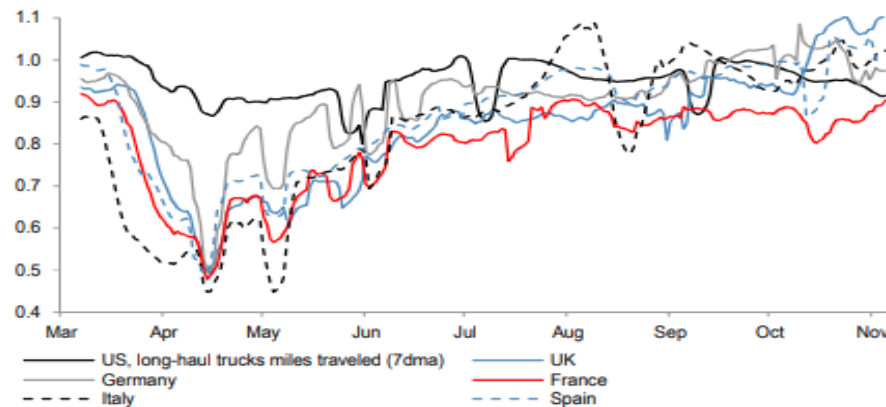


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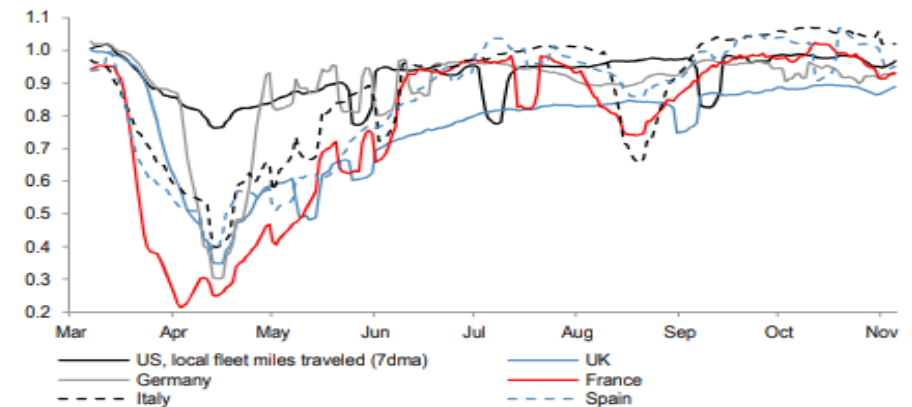
Eurozone – industrial activity

Industrial/manufacturing activity – Europe – INRIX, Geotab, Atlantia

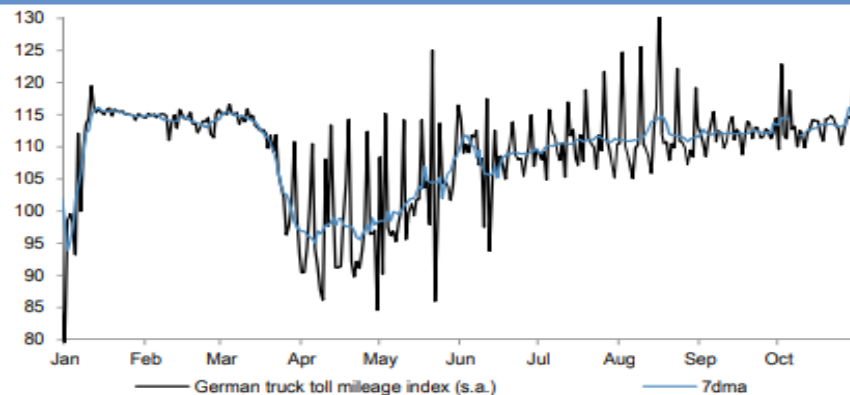
Long-haul trucks normalized vehicle miles traveled



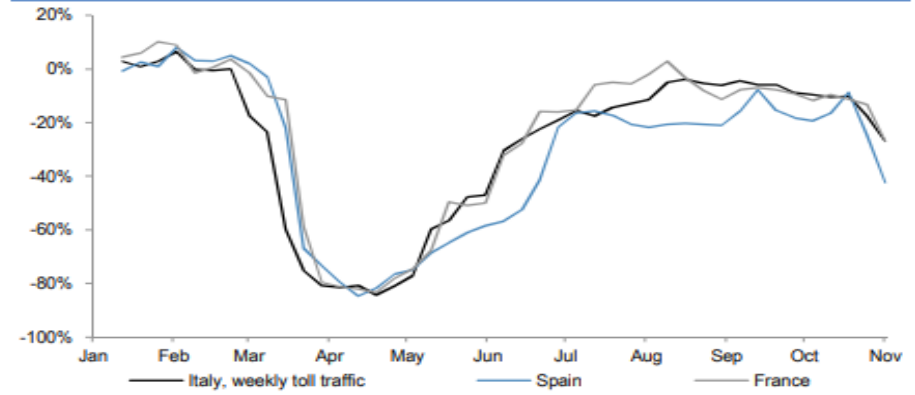
Local fleet normalized vehicle miles traveled



German truck toll mileage



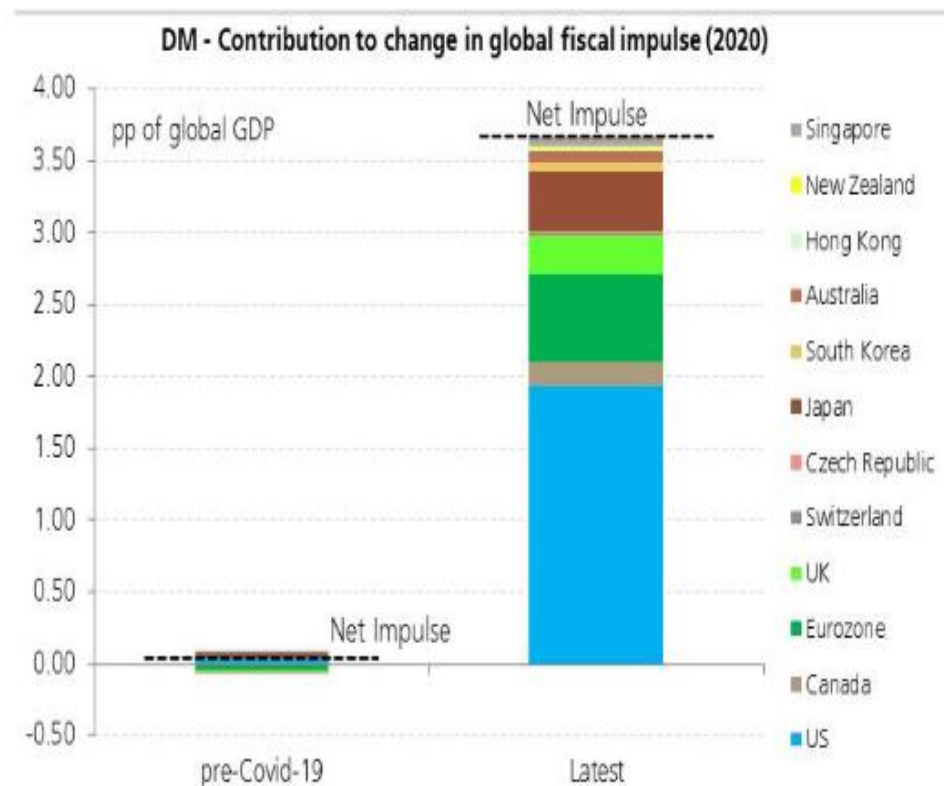
European weekly toll traffic



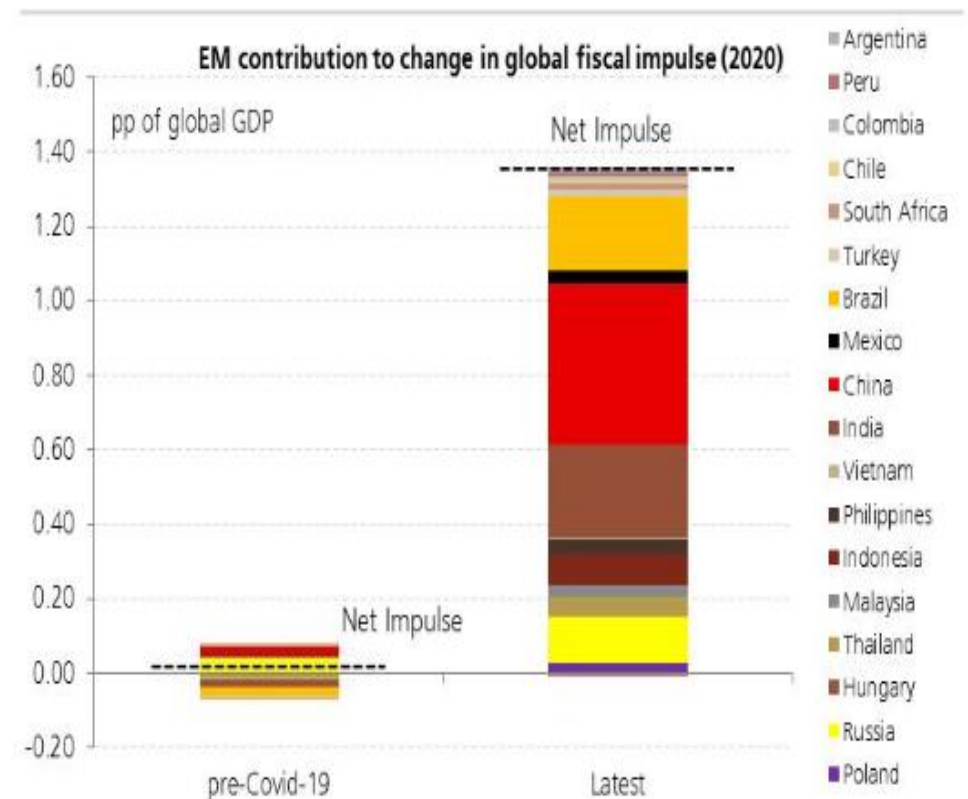
J.P.Morgan CAZENOVE

World – stimulus plans

Massive stimulus in developed economies, less so in emerging ones



Source: UBS, Haver, IMF, European Commission, CBO



Source: UBS, Haver, IMF

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