

ALLIANZ RESEARCH

COVID-19: QUARANTINED ECONOMICS

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EXECUTIVE SUMMARY



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- The COVID-19 outbreak has forced governments to put the world on an unprecedented pause, for at least three months, to flatten the contagion curve. In December 2019, when writing our last economic and capital markets outlook, What to expect in 2020-21: Defending growth at all costs, we did not know the title would be so ominous. Since January, the impact of the outbreak has unfolded from a China-centered supply shock, which sent shockwaves across global trade and disrupted supply chains, to an unraveling of financial markets as investors realized the unavailability of recession, to a violent demand shock hurting consumption and investment in China, Europe, and the U.S..
- Policymakers have taken extraordinary measures in extraordinary times to flatten the recession curve. In our central scenario, we expect a sharp global recession in H1 2020 in the vast majority of developed and emerging economies, followed by a U-shaped recovery. From the ECB's EUR1.1tn to the Fed's USD1.5bn liquidity provisions, to business-friendly fiscal responses across the globe providing 0.5-1.2pp of growth relief depending on the country, the aim has been to weather the cash-flow crisis, avoid a more severe liquidity crisis and protect the web. However, the cost of containment could be as much as a 20-30% shock to each economy for a month, if we draw lessons from the Chinese situation. In addition, the cost of a full quarter of disruption to global trade should be USD1064bn as more economies adopt strong confinement measures, including severe border restrictions. The recovery, starting in H2 2020, will certainly be commensurate with the shock, with temporary inflationary overshoot.
- For capital markets, it will get worse before it gets better. For companies, we expect insolvencies to increase by +14% worldwide in 2020. Markets are not yet fully pricing in the negative news flow coming with lockdowns affecting more than 50% of the world's GDP. We expect short-term volatility to bring down equity markets by an additional 10- 20%, a 30-50bps downside correction in long-term sovereign yields and a 100bps widening trajectory in corporate credit investment grade spreads. However, we expect capital markets to gradually reverse the losses towards year-end as policymakers' credibility and the U-shaped recovery unfold. As for companies, 2020 will be the fourth consecutive year of rising bankruptcies and though policymakers pledged to do whatever it takes to avoid unemployment and defaults, a wave of insolvencies when business starts again is very likely.
- What could go wrong? There are three canaries in the coal mine: corporate stress, liquidity and policy mistakes. In addition, we also run an alternative scenario of a protracted economic and financial crisis due to a 12-18 month health crisis (with possible reinfection). Regarding downside risks, sharp downward price movements in goods and equity markets would generate liquidity stress and credit events, unearthing fundamental weaknesses in the global economy just like in 2008-2009, including substantial stress on the corporate bond markets. Also, mind the risk of policy mistakes: as central banks and treasuries unwind unmatched level of support, the risk of relapse is high. This scenario would mean a continued recession into 2021, and an L-shaped recovery with debt monetization, systemic equity/credit/liquidity issues and more direct actions by policymakers that would disrupt market roles for years to come, with difficulty to restart the engines.
- Too early to draw lessons? The COVID-19 crisis will certainly change how we see: investments in health and define inclusive capitalism; China's soft power; globalization; the fight against climate change, another exponential, probabilistic and collective challenge ahead of us and maybe how we save for life events

Figure 1: Real GDP growth (% , y/y)

	2017	2018	2019	2020	2021
World GDP growth	3.3	3.1	2.5	0.5	3.1
United States	2.4	2.9	2.3	0.5	2.7
Latin America	0.9	1.0	0.1	-1.8	1.6
Brazil	1.1	1.3	1.1	-1.5	1.9
United Kingdom	1.8	1.3	1.4	-0.9	1.3
Eurozone members	2.7	1.9	1.2	-1.8	2.1
Germany	2.8	1.5	0.6	-1.8	2.2
France	2.4	1.7	1.3	-1.3	2.2
Italy	1.7	0.7	0.3	-3.5	1.7
Spain	2.9	2.4	2.0	-0.8	2.0
Russia	1.6	2.3	1.3	1.2	1.8
Turkey	7.5	2.8	0.9	2.5	4.0
Asia	5.4	4.9	4.4	2.3	4.7
China	6.9	6.7	6.1	4.0	5.8
Japan	2.2	0.3	0.7	-2.0	2.5
India	7.3	6.2	5.3	3.8	5.8
Middle East	1.2	1.1	0.6	0.1	2.2
Saudi Arabia	-0.7	2.4	0.2	1.2	2.0
Africa	3.1	2.7	1.9	0.4	2.4
South Africa	1.4	0.8	0.3	-0.5	0.7

* Weights in global GDP at market price, 2019

NB:

Fiscal year for India

Sources: Euler Hermes, Allianz Research

COVID-19: FROM A HEALTH CRISIS TO A TRIPLE SHOCK ON THE GLOBAL ECONOMY

Trade recession, overvaluations and a fragmented world: 2020 started off on a weak note. First, global trade in goods and services had grown at its slowest pace since 2009 and the manufacturing sector had been in recession since Q3 2019. Trade grew at a bare +1.4% in volume terms and contracted in value terms, owing to the U.S.-China trade feud, the resulting manufacturing recession and shocks in the automotive and electronics sectors. The U.S.-China phase one trade deal partially dissipated uncertainty but failed to significantly decrease tariffs – duties remained on USD250bn of Chinese imports. Second, different markets were in over-valuation territory. In such circumstances, any shock of uncertainty could have a brisk impact on prices and liquidities, disrupting financing conditions for companies. Lastly, multilateralism had taken a blow as retrenchment policies were flourishing in the U.S. and neo-authoritarian emerging markets; 2019 saw the highest number of new protectionist measures adopted in ten years (1066

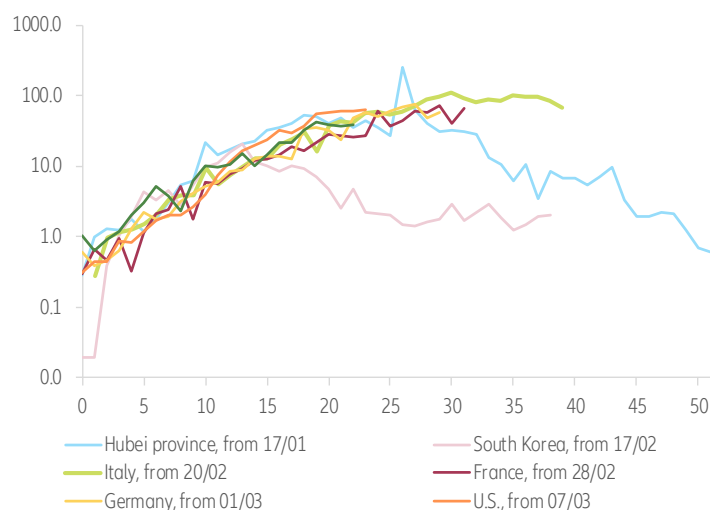
against 1049 in 2018 and only 284 in 2009). Receding multilateralism impaired the potential of coordination in the case of a major shock hitting the world economy

Pockets of resilience included savings and policy activism. Despite the high level of uncertainty, demand- and service-oriented activities were resilient in 2019. Gross domestic saving levels remained high: above 45% of GDP in China, close to 25% in the Eurozone and 15% in the U.S. Companies were still enjoying solid profitability: While margins had started edging downwards, they ended 2019 close to their long-term averages. Lastly, 2019 had also brought back policy activism, especially monetary policy easing, which helped cushion the blow of trade tensions.

The coronavirus outbreak came as a black swan. At the time of writing, there were around 700,000 confirmed cases of COVID-19 worldwide. The pandemic first appeared in the Hubei province

of China in late-December 2019. Official responses started in earnest in mid-January, and the first confinement measures were put in place on 23 January 2020. From then, it took around one month for the spread of the virus to slow, and another month for the beginning of a gradual lifting of confinement measures. Up until 26 February, the epidemic was vastly concentrated in China (more than 95% of confirmed cases). It has since spread to the rest of the world, with, for e.g., around 50% of cases located in Europe, as of 26 March. Confinement measures were put in place in Italy, Spain and France on 10, 14 and 17 March, respectively, i.e. between 1.5-2 months after China. Drawing from the Chinese experience, this means that the global pandemic could last until June at least.

Figure 2: Daily change in number of confirmed cases per 1mn people



On top of a unique health crisis, economic impacts coalesce: trade, finance, and consumption. The COVID-19 crisis created a three-stage shock for the world:

1. We estimate that each month of confinement around the world would lead to USD538bn of export losses at the global level. Drastic confinement measures initially centered solely on China soon sent immediate shockwaves through global trade in goods and services (travel and transport) and disrupted manufacturing supply chains all over the world. As confinement measures are rolled out in Europe and the U.S., too, trade will be quarantined in 2020. Over a quarter, taking into account a progressive come-back to normal levels of activity, the losses would reach USD1064bn. Therefore, we expect a recession in trade in goods and services (Q1 and Q2 in contraction), which will bring the annual trade growth figure to -4.5% in 2020. As a consequence, we have revised down our 2020 oil price forecast to USD 41/bbl avg on the grounds of further demand forecast reduction globally on prolonged lockdowns lasting well into, if not the entire, Q2.
2. The MSCI World index of equities lost 30% of its value in 90 days, its sharpest correction since the 2008-09 subprime crisis. Global monetary supply signaled much tighter financial conditions. The sudden stop in the physical circulation of people, goods, services and therefore money, and the challenges it poses to the effectiveness of monetary policy (compared to social distancing), have bewildered market actors. Volatility went back to record levels. Following a liquidity gradient, all asset classes have been impacted sequentially.
3. An unprecedented confinement shock across the world will lead to the most severe recession of the century. Accruing effects matter. COVID-19 has become a seclusion crisis, i.e. the realization by governments of the necessity of imposing drastic confinement measures, implying significant sacrifices in terms of growth, as private consumption and investment as put on hold. As of the time of writing, more than 50% of global GDP (and population) is in lockdown of some sort, thereby creating second- and third-round effects on investment-savings loops, and behaviors as the shock has been exponential, probabilistic, and collective.



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EXCEPTIONAL POLICIES FOR EXCEPTIONAL TIMES

Policymakers have focused on mitigating the severity of the cash-flow crisis, avoiding a more severe liquidity crisis and protecting the web. Fiscal policies were designed to: (i) alleviate companies' cash-flow pressures via credit lines and public guarantees, as well as the deferral of expenses (taxes, interest, utilities etc.) and (ii) support household income by strengthening social safety nets and implementing income subsidies. Monetary policies have moved from "whatever it takes" to "bring it on" mode, providing extraordinary liquidity measures and backstopping. Fiscal measures will provide between 0.5pp (Spain) to 1.5pp (Germany) and more than 2.0pp (the U.S.) points of growth to countries, mitigating the trough of the recession. Monetary measures aim at preserving monetary policy transmission and preventing COVID-19 from creating second-round effects on the financial system.

In China, authorities have been quick to react with policy support. On the monetary side, since early February, liquidity injections in the form of open-market operations (RMB1.7tn), medium-term lending facilities (RMB300bn) and cuts in the reserve requirement ratios

(RMB550bn) amount in total to RMB2550bn (or 2.4% of nominal GDP). The Loan Prime Rate was cut by 10bp and banks were asked to provide favorable credit terms for companies in need. On the fiscal side, local governments have been allowed to increase bond issuance and we estimate that fiscal costs on companies this year will be reduced by RMB1.5tn through cuts in tax burden and social insurance payments. Overall, we expect the fiscal support package in 2020 to amount to 4.4% of GDP, compared to 5.7% over 2018-2019. At this stage, fiscal support seems more forceful than the monetary easing, which remains targeted. We think the priority of Chinese policymakers is to help soften the economic blow of the epidemic and not to engineer a rebound, as they're still concerned with controlling the debt bubble.

In Europe, governments have rolled out public guarantees to the tune of EUR1tn for the Eurozone alone (EUR500bn in Germany, EUR300bn in France, EUR100bn in Spain) to avert a spike in corporate bankruptcies, and increased fiscal spending by EUR250bn+. Measures include tax moratoriums, partial unemployment and sup-

port from national public banks. The ECB has launched on top of monthly QE purchases a new temporary Pandemic Emergency Purchase Program (PEPP) worth EUR750bn (around 6% of Eurozone GDP), on top of monthly purchases to the tune of EUR20bn and the EUR120bn QE envelope announced a week ago. This brings the total to be purchased for the remainder of the year to EUR1.1t, saying good-bye to the issuer limit constraint. However, European institutions have disappointed as they have not managed to set up sufficient supranational interventions.

In the U.S., the White House has announced a fiscal package worth USD2tn (close to 10% of GDP), including cash payments to households, guaranteed paid sick leave, food aid, corporate loan guarantees, loan forbearance, income tax holidays and infrastructure & healthcare spending. The Fed cut interest rates to 0-0.25bps, and tackled liquidity issues by announcing USD700bn of new securities purchases, and the injection of USD1.5tn of liquidity via Repo operations.

Table 1: Cost of fiscal stimulus measures, impact on GDP growth and fiscal deficit

	Fiscal stimulus (EURbn)	Share of GDP	Impact on GDP growth (in pp)	Impact on fiscal balance (in pp)
Germany	123	3.6%	1.3	-2.8
France	45	2.0%	0.8	-1.3
Italy	25	1.4%	0.7	-0.9
Spain	18	1.4%	0.5	-1.1
UK	60	2.7%	1.1	-1.8
US	2000	9.3%	2.3	-8.4

Sources: Euler Hermes, Allianz Research

In Emerging Markets, some could use fiscal space and Quantitative Easing on top of emergency rate cuts ; more vulnerable ones will count on IMF support. In Asia, moderate public debt burdens (except for India) provide fiscal policy leeway and South Korea, Taiwan, Hong Kong, Singapore and Malaysia have already announced fiscal stimulus measures. Generally, healthy fiscal positions in Emerging Europe and substantial Sovereign Wealth Funds in the larger GCC states will allow governments to step up spending as well. The larger economies in these regions have announced substantial stimulus packages. However, this will boost fiscal deficits and public debt burdens; spreads on the sovereign debt of those economies with weaker fundamentals have already increased, making financing of additional spending more expensive. Caution is warranted in Romania, Hungary, Turkey, Oman and Bahrain. Elsewhere, South Africa, Brazil and crisis-ridden Argentina have less room for fiscal stimulus, while the rest of Latin America has some leeway. Countries with limited room for maneuvering, however, can request help from the IMF and the World Bank, which have announced that they will stand ready with support for countries hit by

COVID-19 worth USD50bn and USD12bn, respectively. With regard to monetary policy, the impact of recent currency weakening on inflation is expected to be moderate in most EMs, in particular as the fall in oil prices will be (partially) offsetting upward pressures on prices. And with inflation generally in check in Asia and Latin America, the monetary easing mode in these regions is likely to continue in the next months. In Emerging Europe, there is in principle less monetary policy leeway as policy rates are already low and real interest rates are negative in many places. Nonetheless, central banks have begun to lower rates and some have also announced QE measures. This will be supportive for the economies in the short term but downward pressures on currencies are already evident, so that some countries in this region are likely to see a stronger rise in inflation than elsewhere.

The policy arsenal resembles “war economics” and more could come. From calls to the Economic Stability Mechanism (ESM) for unconditional support, to Coronabonds, to a Government-Backed Credit Facility by the Fed to directly support the flow of credit to households and businesses, ideas are flourish-

ing to provide timely and efficient responses to an unmatched crisis. At the time of writing this report, we expect even more direct interventions (nationalization, direct monetary transactions, cash handouts) and a larger share of the global economy to be under life support from policymakers. The question is how to exit such a situation once sanitary risks are under control.

OUR BASELINE: A SEVERE RECESSION IN 2020 AND A U-SHAPED RECOVERY IN 2021

In our baseline scenario, we modeled a three-month shock with a full lockdown for one month and partial activity thereafter. We also took into account the mitigating effects of policy bazookas. To estimate the size of the shock, we looked into Chinese data for January-February where a month of confinement triggered a -13% fall in consumer spending, a -20% fall in investment and a -16% fall in exports.

Our results suggest that for every month of confinement, real GDP could fall -7% to -10%. We integrate this for half of the month of March and the whole of April while assuming a gradual return to normal levels of activity by the end of June, with half of the monthly losses restored in May and 80% to 90% of the losses restored in June. Overall, after a negative Q1 in the Eurozone and the U.S., driven by the impact of confinement measures on economic activity in China (-4.7pp deviation), and the first containment policies also implemented in most European economies, we expect the trough to be reached in Q2. Real GDP would be down by -2% to -4% q/q (or 8% to -12% q/q annualized) depending on the country. The world looks set to experience a violent recession in H1 2020, and our 2020 global GDP growth estimate has been revised down to +0.5%, from +2.4%. By country, we find recessionary effects ranging from -1.0pp to -

4.0pp of GDP growth in 2020. In this context, we expect GDP growth of +0.5% in the U.S. and a GDP contraction of -1.8% in the Eurozone. Like in every recession, the role of private savings behaviors should be carefully monitored.

Millions of jobs at risk. The U.S. job market is highly flexible. This means that the current shock will be visible immediately in terms of job destructions. We estimate that the cumulated amount of job losses between February and August could reach more than 4 million. All in all, we expect the U.S. unemployment rate to reach a peak of 6.5% in January 2021, compared with 3.5% today. It will increase to 5.4% as early as end Q2 2020. In Europe, the necessary pause on economic activity in an effort to contain the COVID-19 outbreak puts 65 million employees across the EU at risk of needing assistance. In an effort to preserve jobs and skills, provide income support and avoid longer-lasting damage to the economy, governments across the Eurozone have extended and eased access to short-work schemes, the cost of which could reach EUR120 bn. Given that the economic crisis is very sharp but of temporary nature, the unemployment rate in the Eurozone is expected to rise by only 1pp to just above 8% with up to 1.5 million jobs lost over the next 12 months. The loss of employment will concern in particular workers with temporary con-

tracts, as well as the self-employed.

Assuming containment measures are successful, we expect a rebound in economic activity in H2 2020. Do not underestimate the recovery; a temporary overshoot, especially of inflation, is likely. This scenario of a U-shaped recovery would mean +1% q/q in Europe and more than +3% q/q in the U.S., with some sectors (retail, tourism) taking more time to recover. The exit from the recession will continue to pose serious challenges to some companies, especially to those overly indebted and poorly capitalized as the losses in turnover growth during the crisis (around -20% y/yat trough in the Eurozone) will be hard to compensate by year-end. For households, the loss of income during the crisis could be a drag on their willingness to spend during the recovery and feed into higher savings, but income protection measures will certainly prove helpful.

Uncertainty could spike back again in the second half of the year as the U.S. elections, the sequel of Brexit, and a complex mix of higher inflation and higher taxes, to absorb the unmatched transfer of liabilities from the private sector to the public sector in times of crisis, would change the way economies operate in the foreseeable future.

Table 2: Growth elasticity to confinement

Real GDP growth (%)	1 month confinement		2 months confinement	
	2020	2021	2020	2021
Eurozone	-1.8	2.1	-4.4	2.1
Germany	-1.8	2.2	-5	2.2
France	-1.3	2.2	-3.1	2.3
Italy	-3.5	1.7	-6.1	1.7
Spain	-0.8	2	-3.8	1.5
UK	-0.9	1.3	-3.5	1.4
USA	0.5	2.7	-1.9	2.6

ALTERNATIVE SCENARIO: A PROTRACTED CRISIS (AND L-SHAPED SCENARIO)

A 12-18 month sanitary crisis with possible reinfection cannot be ruled out. It would also mean borders to stay closed and intermittent domestic confinement prevail. This would mean an L-shaped scenario with debt monetization, systemic equity/credit/liquidity issues and direct actions by policymakers would disrupt market roles for years to come, with difficulty to restart the engines.

Downside risks continue to loom large. Sharp downward price movements in goods and equity markets would generate liquidity stress and credit events, unearthing fundamental weaknesses in the global economy, just like in 2008-2009. One more month of lockdown in France, for example, would see consumer spending fall by -8% q/q (instead of -3%), investment decrease by

-12% q/q (instead of -6%) and the drop in exports double to -10% q/q. In this case, the contraction in 2020 Eurozone GDP growth could exceed -4%.

Table 3: U-shaped and protracted crisis scenarios for growth and capital markets

Scenario Description		U Shape Scenario			Protracted crisis			
Covid19 assumptions		Peak in May. Exit by September. Containment lasts three months in Europe and US. Border closure lifted by June.			12-18 months sanitary crisis with possible reinfection. Borders stay closed and intermittent domestic confinement prevail.			
Scenario in a nutshell		Technical recession in H1 in most of Europe and Asia. Recovery is U-shaped and inflationary. Unprecedented policy mix to mitigate shock and help protect the web.			U-shaped recovery with debt monetization, systemically/credit/liquidity issues and direct actions by policy makers disrupt market roles for years to come. Hard to restart engines.			
year-end figures	Latest Value	Unit	2020			2021		
			1 month confinement	2 months confinement	Lowest point q/q annualized (mostly Q2)	Protracted crisis	U Shape scenario	Protracted crisis
Macroeconomics								
Real GDP								
Global	25	%	05	-15	-22	-25	31	15
Eurozone	12	%	-18	-44	-28	-72	21	-18
Germany	06	%	-18	-50	-28	-77	22	-17
France	13	%	-13	-31	-23	-63	22	-14
Italy	03	%	-35	-63	-28	-87	17	-21
Spain	20	%	-08	-38	-24	-60	20	-15
UK	14	%	-09	-35	-27	-70	13	-20
USA	23	%	05	-19	-33	-30	27	-01
China	61	%	40	12	-4	-02	58	30
Japan	07	%	-20	-73	-32	-102	25	-21
CEE	37	%	04	-16	-	-40	31	10
Turkey	09	%	25	05	-	-33	42	14
Inflation								
Eurozone	12	%	03	01	-	-06	16	02
Germany	16	%	02	00	-	-05	16	04
France	16	%	04	01	-	-05	19	03
Italy	03	%	00	-03	-	-09	04	-02
Spain	09	%	02	-05	-	-08	15	02
UK	18	%	06	00	-	-05	23	04
USA	25	%	03	24	-	-39	30	-04
CEE	28	%	26	25	-	35	20	22
Turkey	124	%	120	122	-	100	100	105
Unemployment Rate								
Eurozone	75	%	85	95	-	110	80	115
Germany	53	%	58	65	-	80	52	75
France	86	%	90	95	-	110	85	115
Italy	100	%	112	118	-	135	104	140
Spain	138	%	160	175	-	195	145	180
UK	38	%	48	50	-	58	44	63
USA	40	%	45	50	-	100	63	130
CEE	43	%	47	55	-	70	44	80
Turkey	133	%	130	150	-	160	110	155
Cost Indicators								
Global trade	14	%	-45	-300	-	-150	-	-
Global business insolvencies	90	%	140	2025	-	3540	-	-
year-end figures	Latest Value	Unit	2020		2021			
			U Shape Scenario	Protracted crisis	U Shape Scenario	Protracted crisis		
Eurozone								
Sovereign Rates								
10y yield "risk-free" sovereign (Bunds)	-0.4	%	-0.5	-0.9	-0.3	-0.6		
10y Swap Rate	0.1	%	0.0	-0.4	0.3	-0.3		
20y Swap Rate	0.3	%	0.3	-0.2	0.7	0.0		
10y yield other sovereign (Italy)	1.2	%	1.7	2.7	1.4	1.7		
Italy - Germany spread (10y)	161	bps	220	360	170	230		
10y yield other sovereign (France)	0.0	%	0.4	1.0	0.1	0.5		
France - Germany spread (10y)	39	bps	90	190	40	110		
10y yield other sovereign (Spain)	0.6	%	0.6	1.2	0.4	1.0		
Spain - Germany spread (10y)	94	bps	110	210	70	160		
Corporate Credit Spreads								
Investment grade credit spreads	241	bps	180	230	150	190		
High yield credit spreads	765	bps	750	850	600	700		
Equities								
MSCI EMU: total return p.a. (Reference point 31.12.2019)	-23	%	-22	-39	10	-10		
Expected Recovery from latest traded value		%	2	-20	-14	-45		
United States								
Sovereign Rates								
10y yield "risk-free" sovereign (Treasury)	0.8	%	1.0	0.5	1.4	0.9		
10y US - 10y Bund Rate Difference	117.7	bps	150	140	170	160		
Investment grade credit spreads	333	bps	230	280	180	220		
High yield credit spreads	929	bps	800	900	650	750		
Equities								
MSCI USA: total return p.a. in USD (Reference point 31.12.2019)	-17	%	-20	-35	15	-3		
Expected Recovery from latest traded value		%	-4	-22	-8	-37		
Emerging Markets								
Sovereign Rates								
Hard Currency Yield (USD)	6.7	%	5.5	7.0	5.1	5.7		
Hard Currency Spread (USD)	572	bps	450	650	370	480		
Equities								
MSCI EM: total return p.a. in USD (Reference point 31.12.2019)	-24	%	-24	-42	20	-8		
Expected Recovery from latest traded value		%	-3	-26	-9	-47		

Source: Allianz Research

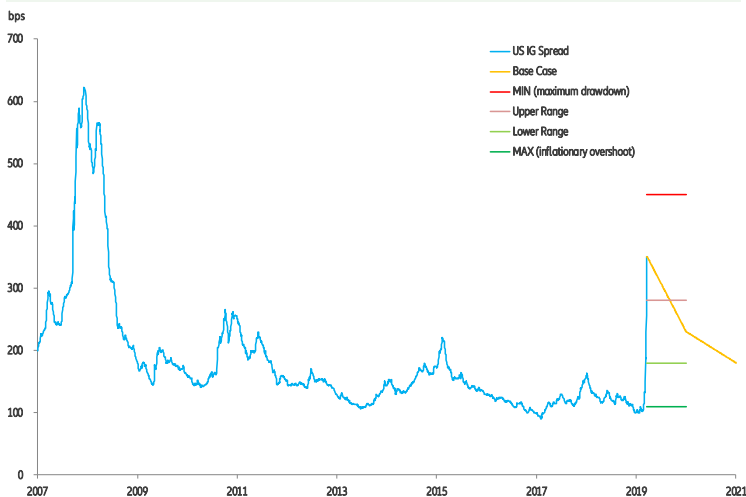
FOR CAPITAL MARKETS IT WILL GET WORSE BEFORE IT GETS BETTER

The ground lost since February will not be fully recouped by year-end. To calm down markets, there should be convincing evidence that the outbreak has stabilized in all key economies of the world – at the time of writing, only China, South Korea and Japan are passing this test. This stabilization should be the result of drastic prevention measures, combined with credible economic and financial packages. Markets would need be close to fair value or even under-valued, in other words, they should be desensitized to bad news, and investors should have significantly increased the share of cash they hold in their portfolios.

Acknowledging that equity markets have experienced one of the biggest corrections in recorded history, it is complicated to impose a fundamental-based recovery trajectory. However, at this point in time and consistent with our valuation approach, we expect U.S. equity markets to post a -20% yearly performance for 2020 and to gradually start recovering to previous levels (although not managing to reach previous peaks) within 2021. Similarly, we expect European equity markets to follow the exact same path but with a -22% performance for 2020.

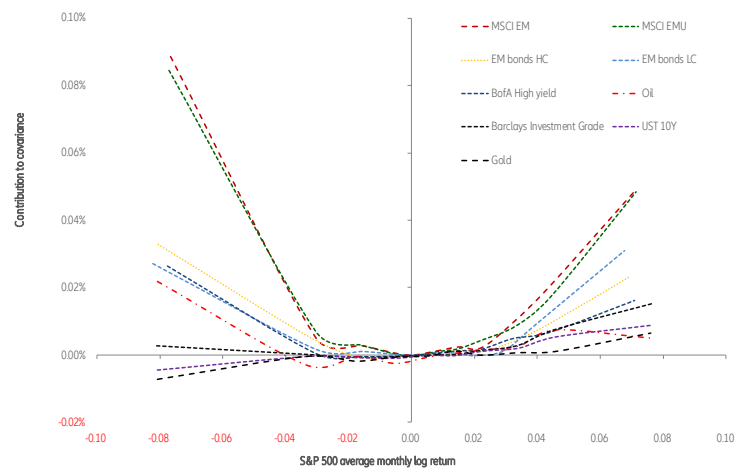
With equity returns likely to stay at the extreme of their distribution's left tail, the spike in cross asset classes correlation should continue. All asset classes will thus post strongly negative returns, regardless of their relative valuation.

Figure 3: U.S. equities outlook



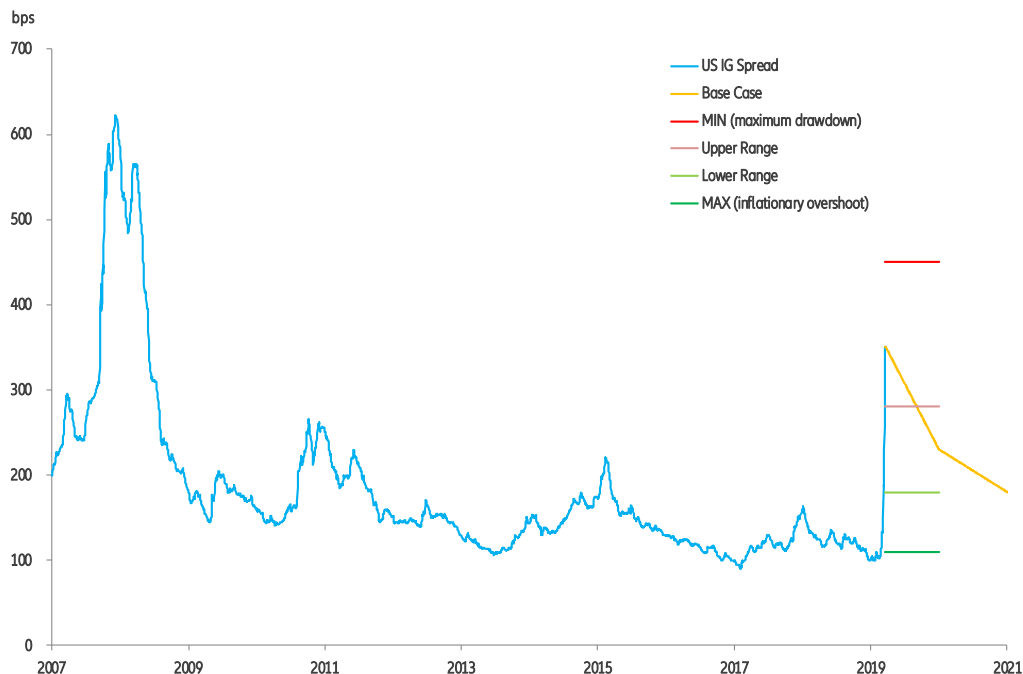
Source: Allianz Research

Figure 4: Asset class correlations



Source: Allianz Research

Figure 5: U.S. investment grade spreads



Source: Allianz Research

Global long-term sovereign markets have been moving in an erratic manner since the beginning of the COVID-19 outbreak. The mix of bad and good news both from a pandemic and fiscal and monetary perspective has led markets to a perpetual hunt for their anchor or fundamental forward-looking value. At this point in time, we expect U.S. long-term bond yields to finish 2020 at around 1.0% (0.5%-1.5% range), bearing in mind that there is a non-negligible probability of USTs remaining within the 0-0.5% (0% being the lowest point) range for a long portion of 2020. Similarly, there is also a chance that yields experience a sharp increase that leads 10y UST yields to a 1.5%-2.0% range for a short period of time. Beyond 2020, we expect long-term U.S. yields to converge to pre COVID-19 fair-value levels (1.4%) by the end of 2021. Similarly, 10y Bund yields are expected to remain trading around -0.5% (-0.3% / -0.7%) with the possibility of a downside intra-year tick to a -0.9% / -1.1% range and an upside inflationary driven

shock to a -0.1% / 0.1% range. Mirroring the U.S., we expect long-term German yields to converge towards -0.3% in 2021.

Global corporate credit has been one of the most affected asset classes during this recent period of extreme volatility. Moreover, despite the non-issuer differentiation at the beginning of the outbreak, certain sectors have been put under an increasing level of pressure as the COVID-19 outbreak advanced. Travel & leisure, air transportation and oil & gas (although not COVID-19 related) have been the specific sectors that have experienced the biggest widening, both within the investment grade and the high yield universe. Building on that, we expect corporate credit spreads to follow a similar trajectory as the one described for sovereign yields, with the caveat that some companies within the above-quoted sectors may become unwanted casualties from the COVID-19 effect. From a scenario perspective, we expect investment grade corporate spreads to

experience a mild structural widening, leading year-end spread levels higher than at the beginning of the year (230bps for the U.S. and 180bps for EUR denominated corporate debt). However, as it is the case for sovereigns, it is to be acknowledged that both investment grade and high-yield spreads may revisit 2008-like levels from an intra-year perspective, while greatly compressing to beginning of the year values, should a positive shock become market relevant. Following on this rationale, we expect the high-yield credit space to experience a similar trajectory as the one for investment grade denominated corporate credit, with the remarkable difference that the mild structural widening is expected to be more pronounced as some companies are expected to remain under pressure for a prolonged period of time. Looking at 2021, we expect corporate credit spreads to slowly but steadily start readjusting to previous historical lows (150bps for EUR Credit and 180bps for U.S. Credit).

FOR COMPANIES, EXPECT A DELAYED WAVE OF DEFAULTS IN SPITE OF POLICY MEASURES

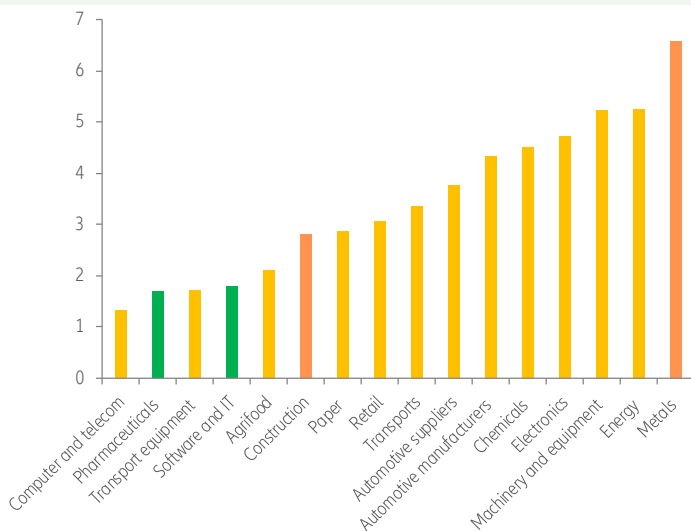
Hardly any sector will be spared by the various impacts of COVID-19. The first stage of the crisis (supply shock) already massively hit all the Chinese sectors, starting with the B2C ones but expanding rapidly to the B2B ones, and then all global sectors with interconnections with China as a key market (demand shock) or key supplier (supply chain shock). These include notably transportation, automotive, energy, metal, electronics, computers and non-food retail. The second stage of the crisis hit the sectors with the most fragile companies, in financial terms, due their exposure to liquidity risks, notably in relation to their leverage or already weak level of profitability. This second shock weakened the energy sector, in particular in North America, and machinery. The cur-

rent stage of the crisis is now pushing up the risk of insolvencies in all the sectors most exposed to the global economic cycle. Energy, metals, machinery and automotive are on the top of the list. The less exposed and most resilient sectors would be telecom, pharmaceuticals and IT services.

In the Eurozone, we estimate that 13,000 zombie SMEs (7% of total) are at risk, accounting for more than EUR500bn of turnover (or 4% of Eurozone GDP). The firms at risk are mostly concentrated in three sectors: construction, agri-food and services. The concentration in the top five sectors is highest in France (67%) and the Netherlands (67%), followed by Belgium (64%), Spain (63%), Germany (57%) and Italy (56%).

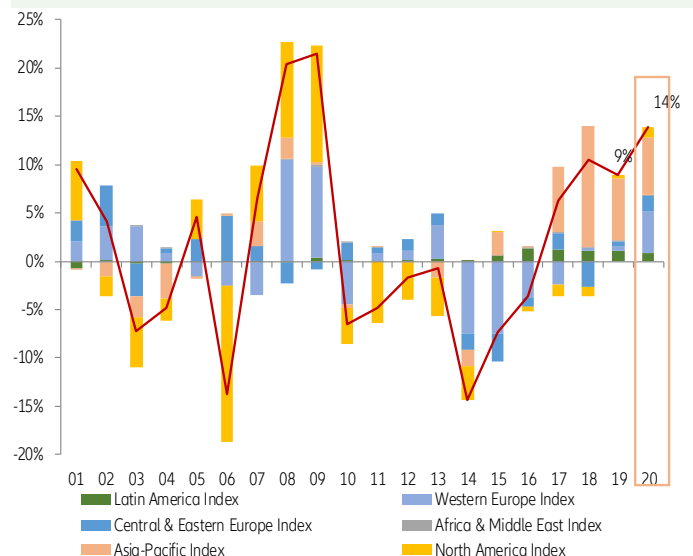
Global insolvencies are likely to increase by +14% in 2020 but large bankruptcies could be avoided by state interventionism – at least for now. Looking at historical sensitivity to economic cycles and government interventions to support corporates (tax deferrals, state loans and guarantees), this would be the fourth consecutive year of rising bankruptcies. States seem determined to avoid large insolvencies. We nonetheless doubt the delayed insolvency wave to H2 2020, once the economy exits temporary pause. For the U.S., the increase would be +7%, in Europe +16%, and in China +15%. Note that without fiscal stimuli, we would have seen an additional 4-6pp of increasing insolvencies.

Figure 6: Global sector vulnerability to economic cycle* and sector risk ratings at end 2019



(* based on the coefficient of regression of global turnover and GDP over the long-run Sources: Oxford Economics, Euler Hermes, Allianz Research

Figure 7: Global and Regional Insolvency Indices (yearly changes in %)



Sources: National statistics, Euler Hermes, Allianz Research

CANARIES IN THE COAL MINE

On top of the two scenarios we modelled, a watch list of “what could go wrong” has become a must:

1. **Rerating wave of corporate bonds:** A major credit event triggering a vast movement of re-rating, in particular for BBB rated companies, whose weight in the credit market has significantly increased over the last few years. Borderline issuers (BBB-) account for 11% of the global index for corporate bonds, which corresponds to a volume of USD1.3tn. If this were to be shifted due to downgrades, this would mean huge flows in a market segment with already fragile liquidity.
2. **Risk of a liquidity crisis.** The longer the COVID-d19 shock lasts, the more the current liquidity stress could morph into a full-fledged debt crisis engulfing corporates and household debtors, their private lenders and the public authorities – treasuries or central banks – ultimately backing the latter. A number of market indicators show that investors fret about this risk: corporate spreads have widened and so has the Libor-OIS spread; CDS rates have spiked and so have yields on commercial paper; bank shares have been amongst the worst performers and so have asset manager shares. There are increasing signs that the liquidity supply in financial markets is seriously impaired (capacity to convert assets into liquidity quickly at low cost). This is particularly true for the bond market, where the supply is mainly provided by financial intermediaries (market makers). Liquidity crises usually first appear in peripheral market segments, for example the government bonds of small euro countries. The volatility of the spread has increased. Now, investors seem to be unwinding physical positions but face very little supply of liquidity. This highlights the risk of liquidity bifurcation, with more liquid segments becoming more liquid and more illiquid segment more illiquid. For the euro area, this could have similarly disruptive effects than spread increases due to fiscal risk, as for smaller sovereigns it implies the risk of losing market access. Weakness of specific actors, especially in the asset management space, should be monitored.
3. **Difficulty to restart the world and tail risk of policy mistakes.** An invariant of the response to this crisis is the systematic crowding out of private actors by credible institutions; albeit temporarily, states and central banks are ready to do whatever necessary, even cross policy frontiers. As a result, restarting engines from a large share of GDP administered will require precise, collaborative and transparent moves to allow for price discovery on markets and supply chains. Trust will be paramount to reopen borders and exchanges, and exit extraordinary policy actions.

LONG-TERM CONSEQUENCES: THE LEGACY OF A CRISIS

This Health, Financial and Economic (HFE) crisis will not leave the world unscathed in the medium-term, just like the Global Financial Crisis (GFC) beforehand. Here are five ideas to explore to understand possible structural changes, after the world had been on pause for several months:

- **Investments in the health system could be back in the spotlight after years of underinvestment, helping ground years of vain invocation and little action on “inclusive capitalism”.** Global public goods, including health, will need to be scoped out. Let’s not forget that the budget of the World Health Organization (WHO) was USD4bn before the COVID-19 outbreak.
- **Secondly, China’s soft power may be reinforced as the first-in-first-out of the COVID-19 outbreak and its generosity to other countries.** By controlling the epidemics, progressively rebooting its economy and now sending help and expertise to Europe and the U.S., China’s influence will have grown.
- **Third, it will be another strong blow to globalization.** The U.S. has already announced it intends to reduce its reliance on Chinese generic drugs, while calls to reestablish borders and better control the flow of goods and people have multiplied. Companies could be tempted, after being taken by surprise by President Trump’s escalating trade war and a deadly virus in less than two years, to shorten their supply chains.
- **Fourth, it could change the way we fight other exponential, probabilistic and collective shocks such as climate change.** The urgency of action is commensurate, not the resources.
- **Lastly, successive stock market crashes could affect the future of investments after the crisis: will a shift to more defensive strategies be visible?** On top of changing how we shop, how we work and how we travel for years to come, the COVID-19 outbreak will certainly change how we save. If surrenders in the savings management space are visible, trust will need to be restored as with the banking sector in the aftermath of the 2008-9 crisis. Similarly, regime changes could apply to a series of asset classes and new product developments could emerge.

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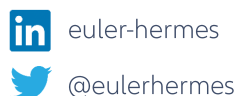
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