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Marketing Material

RESPONSES TO THE PANDEMIC

Covid-19 uncertainty cuts both ways. We remain cautiously optimistic that catastrophic outcomes can be avoided, partly due to swift fiscal and monetary-policy responses.

- _ The spread of the novel coronavirus continues to cause immense uncertainty.
- _ A growing number of European countries have imposed curfews, effectively putting whole nations under lockdown. So has California, ordering 40 million people to stay indoors.
- The most likely area for quick medical progress may be in testing for Covid-19. Making reliable tests widely available could be a game-changer with regards to limiting the containment measures and related economic costs.

The events of the last four weeks have been unprecedented, and not just in financial markets. The spread of the novel coronavirus (Covid-19) continues to cause immense uncertainty in a growing number of countries. We won't bother you with the current number of infections in Germany or anywhere else. By the time you read this, they will probably be out of date. Financial markets did not react initially, seeing it only as a problem in far-away China. But they have certainly made up for lost time. In Germany, the Dax lost over 5,200 index points (or almost 40% from its peak) since the beginning of the stock-market crash in February and is trading close to its book value. In the United States, the S&P 500 is down by over 30%.¹

A growing number of European countries have imposed curfews, effectively putting whole nations under lockdown. So has California, ordering 40 million people to stay indoors. California, together with the states of New York and Washington, account for approximately two-thirds of U.S. Covid-19 deaths so far. The UK has seen slower growth rates than most of its continental neighbors, but fears are running high that this may simply reflect time lags in how quickly new cases appear in the statistics.

HISTORICAL CONTEXT

Compared to previous stock-market crashes, the ongoing coronavirus can already be described as historic. The speed at which this correction unfolded is unprecedented. For many of the world's stock markets, only the bursting of the so-called "dotcom bubble" just after the turn of the millennium in 2000 and the financial crisis, which started with the bankruptcy of Lehman Brothers in 2007, were worse. And in terms of the speed of the decline, you would have to invoke the series of crashes of 1929 to find examples of declines of similar speed, which paved the way to what came to be known as the Great Depression.

MONETARY AND FISCAL RESPONSES

We remain cautiously optimistic that such a catastrophic outcome can be avoided, partly because of the swift reactions by fiscal and monetary policymakers around the world. Markets were underwhelmed, interpreting the latest actions of the U.S. Federal Reserve (Fed) (bond purchases worth 700 billion dollars) and the European Central Bank (ECB) (Pandemic Emergency Purchase Programme of 750 billion euros) as signals of helplessness. However, the real test of such measures is not whether the U.S. or European stock markets react positively or negatively the next day. It is how they will impact the real economy, in weeks and months to come, especially after the crisis begins to fade. On this, we are cautiously optimistic. Partly, that is because of the fiscal packages accompanying monetary policy that appear commensurate to the Covid-19 challenge. Already, we have seen such packages in the United States, the UK, Germany, Italy, China and Japan. Several leading politicians in various countries have also intentionally repeated - implied or literally - Mario Draghi's famous statement during the euro crisis that the ECB would do "whatever it takes." The ECB has also made it clear that if there are self-imposed limits that affect the ECB's measures to fulfill its mandate, the central bank would revise them. In other words, the ECB will buy wherever there is a fire, including Greek bonds.

Will any of this work? We think that, at best, it buys some time. Under an optimistic scenario, the quarantine could be gradually relaxed from May onward and the global economy would have a good chance of a noticeable recovery. The alternative scenario, of the crisis lasting longer, leaving a

¹ Source: Bloomberg Finance L.P. as of 3/23/20

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wave of bankruptcies or a sovereign-debt crisis in its wake, is certainly likely to continue to spur policy makers into action.

MARKET REACTIONS

Even after the recent announcement of U.S. Secretary of the Treasury Steven Mnuchin that the government will spend a total of 850 billion dollars to support citizens and businesses, the Russell 2000 Index did not recover from a loss of almost 45%. This may partly be due to the fact that it features smaller companies, which historically have had a significantly higher risk of defaulting.

For the same reason, the spreads of high-yield corporate bonds denominated in euro and dollar have gone up. The ICE BofA Merrill Lynch Euro Non-Financial High Yield Constrained Index spiked from some 300 to over 850 basis points, within one month. During the same period, yields for 10-year Greek sovereign bonds increased from 1% to over 3%. The spreads on U.S. energy bonds have widened a lot under the pressure from the ongoing oil-price war between Saudi Arabia and Russia: this is especially true on the highyield side where they have increased from 700 basis points (last month) to over 2000 basis points. A quick resolution to this political conflict within OPEC+² is not in sight.

In the wake of the price war, which sparked concerns about export incomes of oil-dependent nations, the Norwegian krone and the Russian ruble both lost against the U.S. dollar. The euro lost its recent gains against the Greenback and now trades at 1.07.

COVID-19 DEVELOPMENT

Uncertainty, as always, cuts both ways. In terms of new infections, a positive scenario would see the number of infections peak in April in Europe, and a few weeks later in the United States. Economic policies would prevent a wave of bankruptcies until then.

As observers, we would caution that reality is likely to be somewhere in between what optimists are hoping and pessimists are fearing. In some ways, reality might also turn out to be messier than either group is expecting. For example, we have barely begun to see indirect effects in the countries of the Southern hemisphere that are currently experiencing very early phases of the Covid-19 outbreak. Together with the oil price collapse, this could lead to political instability, refugee crises, or both.

On a more positive note, we think it is fairly likely that medical progress will be swift, notably on making quick, cheap and reliable tests for the ribonucleic acid (RNA) of Covid-19 widely available. Unlike tests for antibodies, such a RNA

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test would correctly identify carriers before the patients feel sick or show any symptoms. Such a test would be a gamechanger, as far as the economic costs of containment measures are concerned. It would mean that most people i.e. those currently not carrying the virus - could carry on with daily life and economic activities with far fewer restrictions than the ones that are currently in place. Progress on treatments and vaccines will probably take longer, but that too should eventually materialize.

Until then, there are a few things participants may be able to do themselves to alleviate the situation, other than, of course, following official health advice. As for their portfolios, technical factors, as much as Covid-19 itself, may be partly to blame for the speed with which risk assets have sold off. It also seems all too plausible that the increased use of algorithmic trading, stop-loss orders³ even in private portfolios and other relatively new financial innovations have exacerbated the situation. If and when markets, even if only temporarily, recover, such practices should come under scrutiny, not least as investors may realize they can pose a risk to their own portfolios in times of crisis - as well as making the situation worse for everybody else.

Another key driver should not be overlooked or forgotten any time soon. We may be seeing the end of an era in both politics and finance, which future historians might well describe as irrational complacency. Medical experts have been warning for years that eventually, something like Covid -19 was quite likely to happen. Indeed, some of the warnings look oddly prescient.4

That market participants on Wall Street should have ignored such risks until the middle of February, when thousands of cases had already been reported in China, suggests a spirit of complacency, which is not unusual in the late stages of a long bull market. We had all gotten used to low volatility and simple rules of thumb, such as "buying the dip," that have generally served many well in the 2010s. In the process, we forgot the lessons of history, and just how uncertain a place the world is, in ways that are sometimes a lot more difficult to hedge and quantify than a simple spike in market volatility.

CONCLUSION

Volatility, as reflected by the CBOE Volatility Index (Vix), has certainly picked up in recent weeks. It remains near its all-time high as institutional investors sell equities in order to comply with risk standards and restructure their portfolios. Instead of acting as a safe haven, gold has fallen by about 14%, since investors were forced to sell to increase their liquidity. This takes us to the first of three rules we think are worth keeping in mind, well beyond the current crisis:

² OPEC+ is an informal alliance of OPEC members and other oil-producing countries, led by Russia, aiming to coordinate their production strategies ³ Orders that are executed when the price of a security falls to a specified stop price

⁴ In a pandemic planning scenario the US Department of Health and Human Services conducted last year, a virus manages to cross the species barrier from an animal to humans. The first outbreak probably occurs in China or elsewhere in South East Asia, where animals and people live in close proximity. From there, it spreads first within the country and then to the rest of the world, by infected air travelers. The test found that the country was wildly unprepared, according to press reports. For details, see: https://www.nytimes.com/2020/03/19/us/politics/trump-coronavirus-outbreak.html

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- In some storms, there is no such thing as a safe haven. Rather than relying on past correlations, think through what might happen in times of stress, paying particular attention to recent innovations and changes in market architecture.
- _ When the going gets tough, one should revisit cash levels. No financial instrument, no matter how liquid in normal times, is truly a cash equivalent.
- Cash is also king on the company side. Insolvency is not just a theoretical risk.

The coronavirus has already changed the world. Some changes may well be permanent. There is little that an investor can do about the potential prospect that international air traffic might never recover, or that cruise ships might be idle for a long time and under new ownership once business picks up again. However, we can all maintain a better sense of what can go wrong, the next time markets get shaky again. That, at least, would certainly be a healthy development.

APPENDIX: PERFORMANCE OVER THE PAST 5 YEARS (12-MONTH PERIODS)

	02/15 - 02/16	02/16 - 02/17	02/17 - 02/18	02/18 - 02/19	02/19 - 02/20
Dax	-16.7%	24.6%	5.1%	-7.4%	3.3%
S&P 500	-6.2%	25.0%	17.1%	4.7%	8.2%
Euro high yield	-4.5%	14.1%	3.9%	0.9%	4.0%
Russell 2000	-15.0%	36.1%	10.5%	5.6%	-4.9%
10-year Greek bonds	3.6%	33.3%	18.9%	10.1%	23.1%

Past performance is not indicative of future returns. Sources: Bloomberg Finance L.P., DWS Investment GmbH as of 3/23/20

GLOSSARY

One basis point equals 1/100 of a percentage point.

Net value of a company's physical and intangible assets

A bull market is a financial market where prices are rising - usually used in the context of equities markets.

The CBOE Volatility Index (Vix) is a trademarked ticker symbol for the Chicago Board Options Exchange Market Volatility Index. It is a popular measure of the volatility of the S&P 500 as implied in the short term option prices on the index.

Correlation is a measure of how closely two variables move together over time.

The Dax is a blue-chip stock-market index consisting of the 30 major German companies trading on the Frankfurt Stock Exchange.

Default is the failure to meet the legal obligations of a loan, for example when a corporation or government fails to pay a bond which has reached maturity. A national or sovereign default is the failure or refusal of a government to repay its national debt.

The dotcom bubble refers to the rapid rise and eventual collapse of equity market valuations of technology stocks from the late 1990s to 2001.

The euro (EUR) is the common currency of states participating in the Economic and Monetary Union and is the second most held reserve currency in the world after the dollar.

The term euro crisis refers to the multi-layered crisis of the European Monetary Union starting in 2010.

The European Central Bank (ECB) is the central bank for the Eurozone.

The financial crisis refers to the period of market turmoil that started in 2007 and worsened sharply in 2008 with the collapse of Lehman Brothers.

Fiscal policy describes government spending policies that influence macroeconomic conditions. Through fiscal policy, the government attempts to improve unemployment rates, control inflation, stabilize business cycles and influence interest rates in an effort to control

the economy.

The Great Depression was the deepest and longest-lasting economic downturn in the history of the Western industrialized world.

Greenback is a commonly used expression for the U.S. dollar.

A hedge is an investment to reduce the risk of adverse price movements in an asset.

High-yield bonds are issued by below-investment-grade-rated issuers and usually offer a relatively high yield.

The ICE BofA Merrill Lynch Euro Non-Financial High Yield Constrained Index tracks the performance of euro-denominated below investment-grade corporate debt publicly issued in the eurobond or euro-domestic markets by non-financial issuers, capping issuer exposure at 3%.

Monetary policy focuses on controlling the supply of money with the ulterior motive of price stability, reducing unemployment, boosting growth, etc. (depending on the central bank's mandate).

The Russell 2000 Index is an index that captures the 2,000 smallest stocks of the Russell-3000 index, which again comprises 3,000 small- and mid-cap U.S. listed stocks.

The S&P 500 is an index that includes 500 leading U.S. companies capturing approximately 80% coverage of available U.S. market capitalization.

A safe-haven investment is an investment that is expected to retain or even increase its value in times of market turbulence.

Sovereign bonds are bonds issued by governments.

The spread is the difference between the quoted rates of return on two different investments, usually of different credit quality.

The U.S. Federal Reserve, often referred to as "the Fed", is the central bank of the United States.

Volatility is the degree of variation of a trading-price series over time. It can be used as a measure of an asset's risk.

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