Global Markets Overview Asset Research Team 8 April 2020

Understanding and managing the implications of COVID-19

In the next week we will be issuing a podcast, which discusses the latest moves in financial markets, our outlook and the investor implications. Here we provide an edited transcript of the conversation.

Market update

How severe has the downturn been, relative to history or as a 1-in-X event?

The number I would like to start with is 10%. This is our expectation for falls in the level of real GDP by the end of this Quarter in the US and Europe. Just to repeat that, we expect their levels of real GDP to fall by 10-13% by the end of June as a direct consequence of the economic shutdown. To put this in context, the GDP fall in the 2008/9 global financial crisis was about -5%. So we are looking at something that is 2 to 3 x worse than that and happening more quickly. So this is an extraordinary number relative to economic conditions in the last 60 years. But it is not unprecedented, for example the 1930's and 1940's saw bigger and long-lasting falls in US GDP of 27% and 15% respectively.

It may not have felt it in recent weeks but the equity moves (so far) have been less severe than the expected fall in growth. Some of the daily or weekly moves in equity prices have been record breaking. But looking at the last two months as a whole, the fall in equities has been well within expectations so far relative to typical value at risk assumptions and history. The peak-to-trough fall in equities has been around 35%, which occurred a week or so ago (markets have bounced a bit since then). Looking back at history there have been nine event driven or cyclical equity bear markets (that's where equities

fall by more than 20%) and on average these see equity falls of around 30%. In fact, the current 35% peak-to-trough fall would not be the worst we have seen (but by far and away the quickest). It's also worth highlighting that structural bear markets (those more consistent with extended financial crisis) see falls in equities of 50-60%. So this gives an idea of potential downside risk if economic and financial system conditions were to worsen.

Why have stock markets fallen so much, for maybe a temporary disruption? How uneven is the experience across companies and sectors?

The impact on company earnings in the next few quarters is going to be very large. In 2020, earnings for large US companies could fall by 30-40% compared with earnings in 2019. That's a very significant fall and is caused by both the magnitude of the economic contraction and the speed with which it has occurred. So there are good fundamental reasons for the fall in prices.

The other main reason is much higher uncertainty – not just risk but real unpredictability – for future outcomes – how deep the economic contraction will be, how long it will last, and what the recovery will look like. And this uncertainty is not just macroeconomic or financial but is also heavily linked to the virus spread. This has caused a big move into cash and other low-risk assets such as government bonds.

Let me give you a bit more detail on the equity moves we have seen. Market capitalization has declined across sectors. However, there have been significant variations by sector in the size of their decline. Even within sectors, there has been

significant variance between companies. The hardest hit sectors – travel, hotels, leisure – have been most directly impacted by social distancing and the economic shutdown and will likely take longer to restart. On the flip side, healthcare, pharmaceuticals and consumer staples have outperformed.

Why have government bond yields moved around so much?

As is always the case in economic contractions, central banks have cut interest rates and again this time they have started printing money. And as I mentioned before, the demand for high quality assets increases as uncertainty and economic risk rises. So ultimately we have government yields that are lower.

But bond yields have been very volatile in recent weeks and that's because there has been a massive demand for cash. This makes sense. In an environment when earnings and asset values are falling swiftly, businesses or investors need capital. And to raise this you typically sell the assets that are most liquid or easiest to sell. And this includes government bonds. That's why we saw bond yields rising even as the economic bad news was rising quickly and equities were falling.

This has been reversed by equally massive liquidity provision from central banks. For example the US Federal Reserve has announced unlimited buying of US treasuries. And this policy also makes sense. In an environment of acute economic contraction and large scale government borrowing and spending, you don't want interest rates – which are the borrowing costs for the economy – to be rising. And so we expect central banks to do everything they can to keep government bond yields low and indeed other borrowing costs in the economy, e.g., the US has also announced it will buy the bonds of investment grade companies.

The central bank and government numbers are extraordinarily large. The US government has announced a \$2trn loans and transfer package to households and businesses. That's 10% of US GDP.

And the Federal Reserve has announced a set of liquidity and loan measures that could double the size of its balance sheet from \$4trn to \$8trn. That's 40% of US GDP. These are necessary short-term responses but will likely have important long-term implications for businesses and investors.

Helping to understand the outlook from here

If COVID-19 is unpredictable and has clearly already had a very large impact, how do we manage economic, business, and investment risk given such unpredictability?

Looking at the possible impacts of COVID-19 on economic, business and financial market conditions in 2020, we seek to manage unpredictability and uncertainty through using broad economic scenarios.

We won't go through all the medical and economic assumptions and impacts here — I'll summarise some of the key messages. We'll be publishing a description of these scenarios, their key input assumptions and financial market impacts next week. Alongside this, we'll have a dashboard of important medical, economic and market metrics, which will help track which scenario we are in and throw-up a red flag if we are moving towards a different scenario.

The three scenarios we have defined are a Q3 economic recovery, a deeper and more extended recession that lasts until the end of Quarter 3, and a credit squeeze, high rates of default and financial crisis that lasts into early 2021 where the recovery is also structurally weak. Ultimately, we are trying to answer three questions: How far will GDP fall, how long will the disruption and downturn last, and what does the recovery look like. The medical, economic and financial conditions in these scenarios are built around two drivers: the effectiveness of the public health response and the scale and implementation of the economic policy response.

Assumptions and expected impacts Global recovery in Q3 Extended global recession Credit squeeze and defaults Public health policy Problem cases occur Problem cases occur measures are highly in localised areas up in localised areas into to Q3 - public health effective - new case early 2021 counts peak by endpolicy is partially Public health policy is April in US/Europe effective less effective and new **Epidemiology** and declines Control of the virus cluster cases continue significantly by June and full easing of in localised waves social distancing in Social distancing through the northern measures start to be US/Europe only hemisphere winter eased in c. 2 months occurs after August Recovery in factory Full recovery in Full recovery in output is largely factory output is factory output is slower (late Q3) slower (late Q3/Q4) complete by early-tomid Q2 Supply chain issues Supply chain issues Consumer confidence impact manufacturing impact manufacturing China recovers in Q3 and slower recovery Consumer confidence in exports recovers in O4 Consumer confidence recovers in Q4 US and Europe have Global recession over US and Europe an acute contraction Q1 to Q3; US and contract through to until mid-to-late Q2 -Europe contract Q1 2021 real GDP levels fall by significantly A shock to throughout Q2 and 10-13% employment, Q3 Highly effective incomes, and global government credit Acute, sustained and trade drives broad-based decline support for deleveraging given households and in corporate earnings high debt levels in 2020 businesses Company funding and US and Small and mid-sized Large-scale credit conditions are **Europe** enterprises (SMEs) government policy acutely affected are most affected; support for leading to very high service sectors households and largedefault rates (aviation, travel, cap businesses; but Policy is large-scale tourism) will be implementation but insufficient to significantly affected problems cause offset the huge and moderate defaults in Energy sector sustained fall in **SMEs** affected by lower oil incomes; economic Consumer confidence price to Q3 recovery is weak from does not start to Q2 2021 recover until Q4

Is any scenario consistent with "markets moving back to previous levels"?

Yes. That's a really important question. Both of the first two scenarios are consistent with economies and growth-related assets moving back to previous levels. However, the time it takes is a bit different. For example, in the Q3 recovery scenario this occurs in 2021 in advanced economies but with an extended recession this is pushed back to 2022.

Let me say a few words on the Q3 recovery scenario – here China starts to recover in Q2 and the US and Europe contract in Q2, but recover in Q3 – this would affect small and midsize companies in advanced economies most acutely. And less developed economies would also suffer more than advanced economies.

And not all sectors are affected equally in this scenario. Service sectors, including aviation, travel, and tourism, are likely to be hardest hit. In consumer goods, the steep drop in consumer demand will likely mean delayed demand. This has implications for the many consumer companies (and their suppliers) that operate on thin working capital margins.

In addition, geopolitics have also caused an oil supply and oil price shock, which is compounding the impact on oil and other energy companies.

What are the likelihood of the different scenarios?

Unpredictability and uncertainty are important factors – it's important to understand what we don't know. And we are not scientists or medical experts and, therefore, we are not trying to forecast the pathway for the number of cases.

However, we are tracking the things we know are important on the medical side, e.g., time to implement social distancing, the number and rate of change of cases and deaths, test count per million people, utilisation of hospital capacity, etc.

And, of course, we are also tracking key short-term economic and financial indicators – travel reduction, claims for unemployment, spending on durable goods, recovery speeds in countries such as China and Taiwan, and market liquidity. One of the main

economic risks we are focusing on is whether the fiscal policies and government support can be successfully implemented at the individual small-and-medium sized business level. These companies make up a high proportion of employment and escalating liquidity and default risks would add materially to potential falls in incomes and spending.

Based on these metrics and allowing for uncertainty, we think the Recovery in Q3 and Extended Recession scenarios are very roughly equally likely, while the severe Credit Defaults scenario has a low likelihood. Therefore, stress testing or financial planning using at least the first two scenarios is prudent.

How did you come up with the scenarios – on a spectrum from "a few colleagues bouncing ideas around" to "based on some scientific evidence / analysis from elsewhere"?

The starting point is to identify and prioritize the key macro and financial risks that matter for investors and work back from there. Once we have that understanding we can develop a set of scenarios that are most relevant for investors based on the possible range of outcomes with the highest priority risks.

What we are also then doing is building a set of metrics – medical, economic, financial – to help us monitor where we are and which scenario we might be moving into.

Can we expect some "catch-up" period when demand is higher than normal?

The number I would like to give you for this is 2/3rds. Not a very exciting number but an important one. That's how much Chinese production and consumption have recovered from their decline in January/February. This is because China has been able to contain the virus (so far). This means that even in more extended recession in advanced economies, geographic, economic and financial asset performance is likely to show wide variation, which supports geographic as well as asset class diversification.

Is the world permanently changed when we come out the other side?

What does the next normal look like when we start to recover? We have already started looking at this and will be publishing on it soon. It is the case that the big picture long-term implications may become a bit clearer in the next few months but here's a few things that are top of our minds:

Investor-related:

- Asset risk premia are higher and risk free rates are lower and this has implications for investment strategy;
- What the high level of government debt and much bigger central bank balance sheets mean for inflation, market price setting and investment:

Business-related:

- High government involvement could lead to changes to the regulatory environment across sectors or the bailouts of sectors may come with conditions that meaningfully change the operating and financial environment of that sector in the future;
- Global supply chains may be simplified, accelerating the trend that was occurring due to geopolitical risks and trade tensions.

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