

Global Strategy

Special Report

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Vaccines and Valuation

It was just after Chinese New Year in 2020 (54 weeks ago), that China went into full lockdown, we sharply downgraded our global growth forecasts and began to think seriously about the potential consequences of COVID sweeping the world. And this Friday will be the one year anniversary of the pre-COVID peak in global equity markets. Readers may recall the mood in global equity markets during the interregnum: strongly bullish despite elevated valuations and the new virus threat.

Sound familiar? Only this time round we are building towards a different kind of “crash”: the stars are now aligning for US bond yields to get back to their pre-COVID level – and maybe a bit beyond - much sooner than anybody expected. And for the level of global output to go solidly above trend over the coming year for the first time since the GFC. That will have major consequences for many other asset prices, but we don’t think it’s an immediate recipe for equities crashing “back to earth”. To begin with capital will flow differently within riskier assets rather than from risk to safety. Here are the key points behind our outlook:

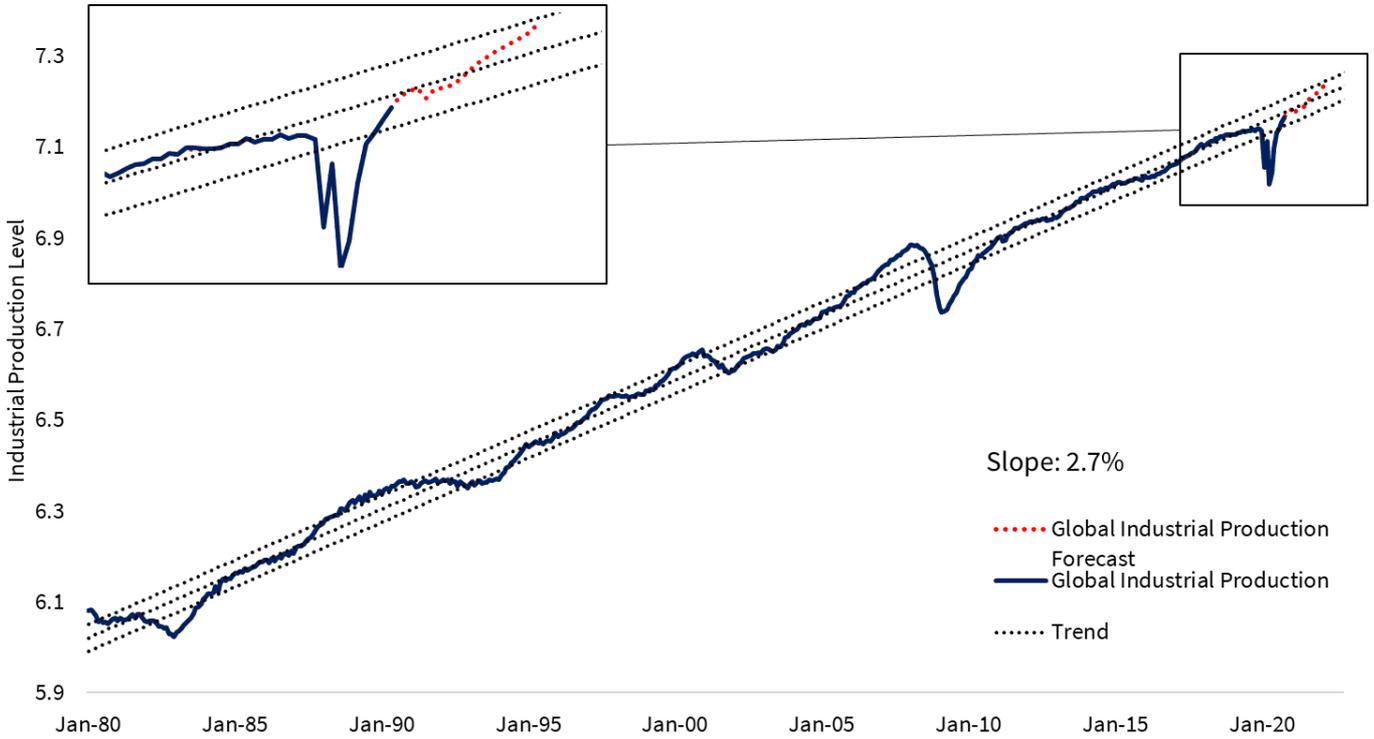
- 1) The Fed is not your friend if you own longer-dated bonds. Their priorities now align with those of the Biden economic team: to get back to super-full employment (the “high pressure” economy) as soon as possible. Inflation can go hang for now. This isn’t just academic wonkery it’s seen as a moral duty (that happens also to be politically convenient for the new administration).
- 2) The new mutant strains of the virus will have the paradoxical effect of accelerating the global vaccine rollout and, on balance, fuelling a stronger renaissance in global growth. There will almost certainly be a burst of “transitional” inflation to with the coming boom.
- 3) The political dynamics of the pandemic are changing. Pent up demand for a return towards more “normal” life in the West is colossal and palpable, even if not precisely measurable. It will likely overwhelm the residual caution of the epidemiologists, who we think are still using overly conservative assumptions in their modelling of future cases and deaths.

In Part I we explain some of our pandemic reasoning and why those who have coped best with COVID so far will be the slowest to normalise and vice versa. In Part II we will look more closely at past overshoots in World Wealth versus trend given that asset prices are already far ahead of the real economy.

Investing in 2020 was all about imagination, courage and speed in reacting to an unprecedented and totally unexpected crash in global growth. We expect 2021 to be the year in which the suppressed longings of lockdown get unleashed, and we need to imagine how different assets will react to the coming boom.

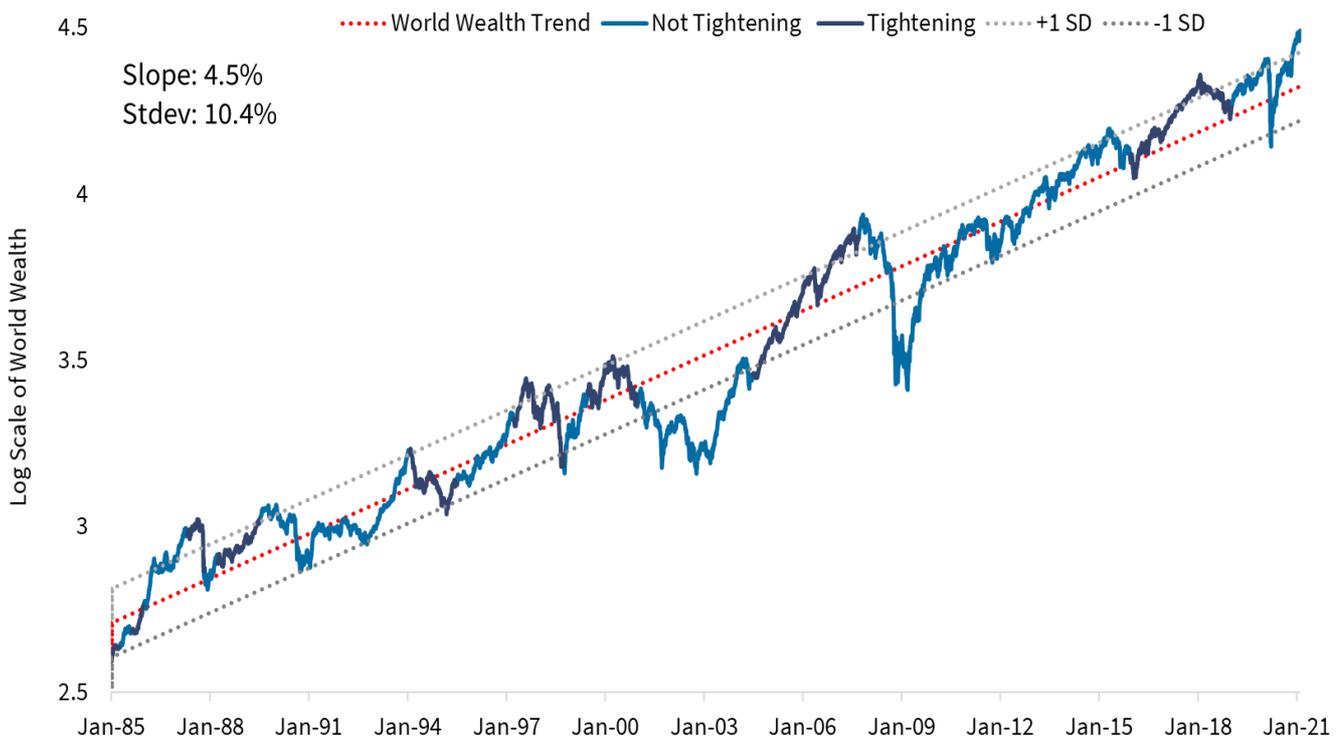
Happy Year of the Ox. There are likely to be plenty of surprises.

FIGURE 1: GLOBAL IP VS TREND WITH FORECAST



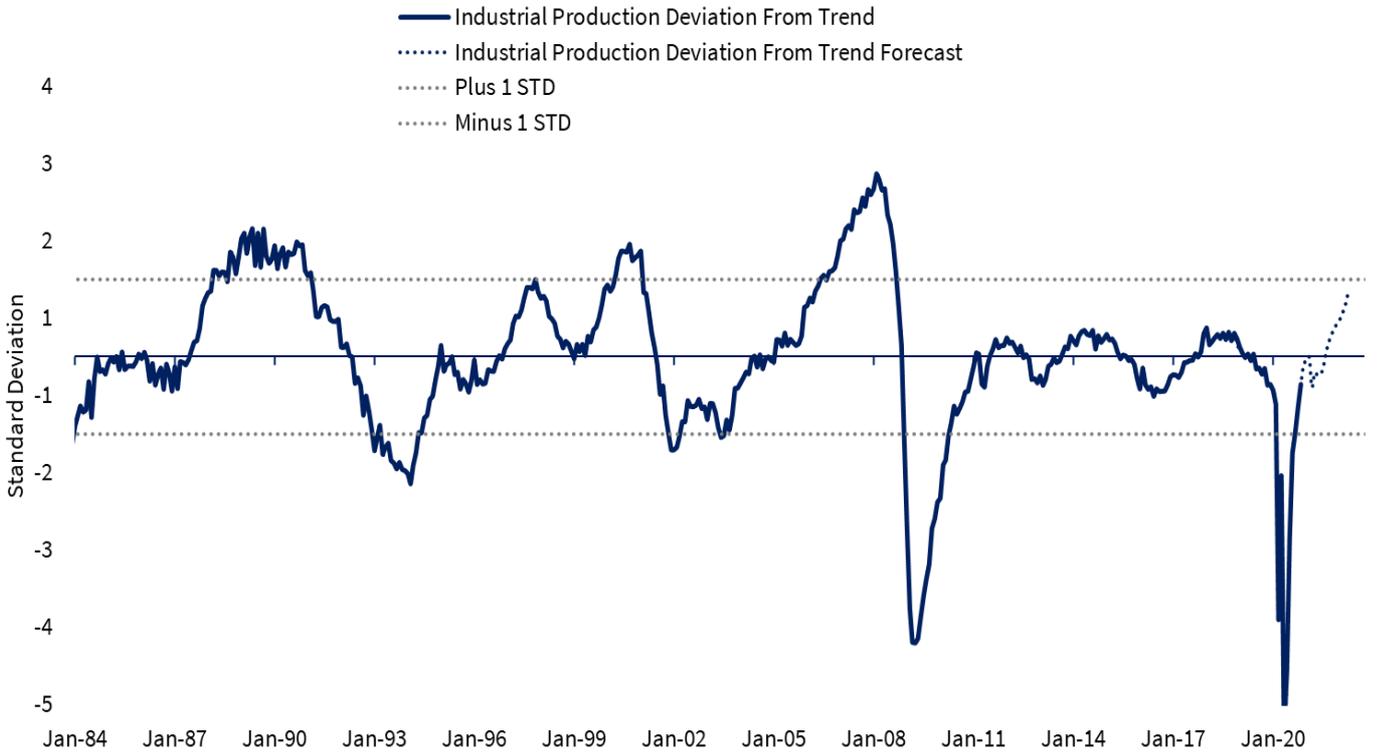
Source: WilmotML, Refintiv

FIGURE 2: WORLD WEALTH VS TREND



Source: WilmotML, Refintiv

FIGURE 3: GLOBAL IP DEVIATION FROM TREND



Source: WilmotML, Refintiv

FIGURE 4: WORLD WEALTH DIVERGENCE FROM TREND



Source: WilmotML, Refintiv

Break Dancing

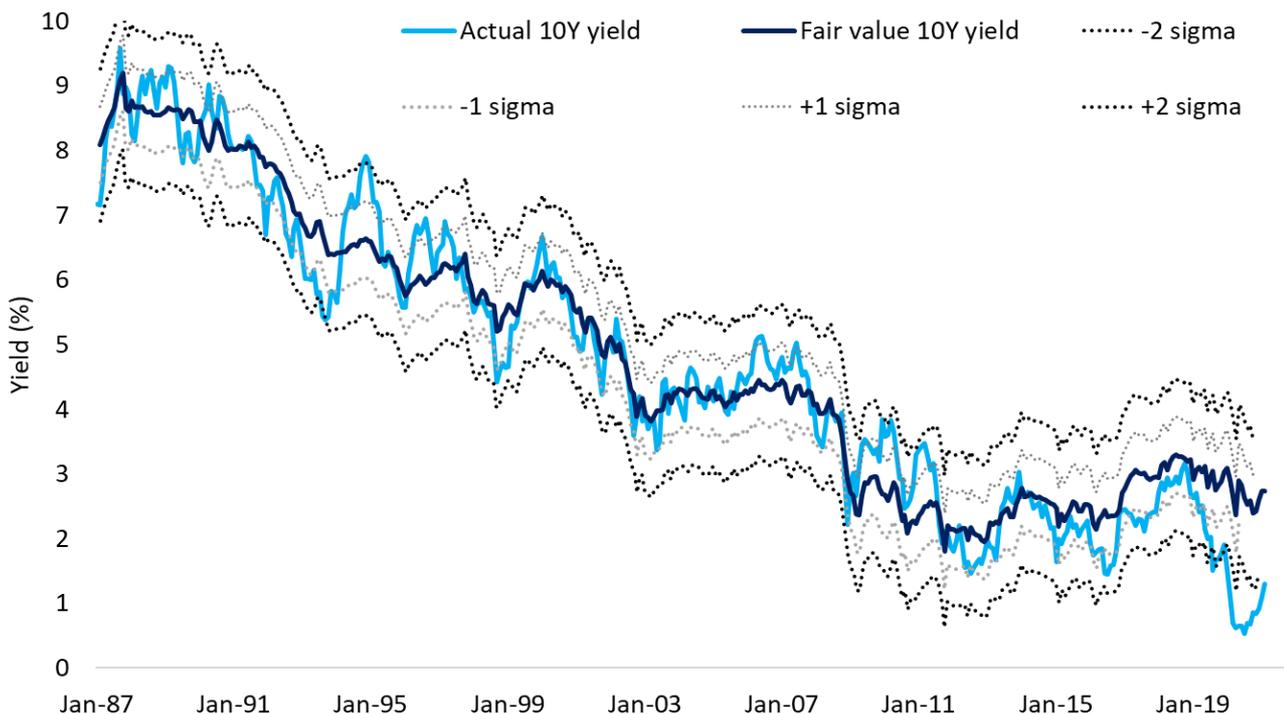
After drifting very slowly higher since early August, US bond prices are suddenly breaking lower/yields breaking higher. While positioning and flows may explain the precise timing we think this is a watershed moment. Somewhat analogous to the dawning realisation in mid-to late February 2020 that COVID would sweep the world and deliver an unprecedented shock to global growth. But in reverse.

Since the GFC bond investors have learned four things, often the hard way: recoveries in growth will always disappoint; inflation will always undershoot; the Fed will always have to do more easing/less tightening than they expect; and there is seemingly no limit to the demand for safe assets in that kind of world. In our view, It is this deeply embedded belief structure that is just starting to break down.

The specific realisation, however, is that the stars are now aligning to push the level of US and global output significantly above trend over the next 12-18 months, for the first time since the GFC. And that this renaissance in growth will bring with it a good burst of inflation.

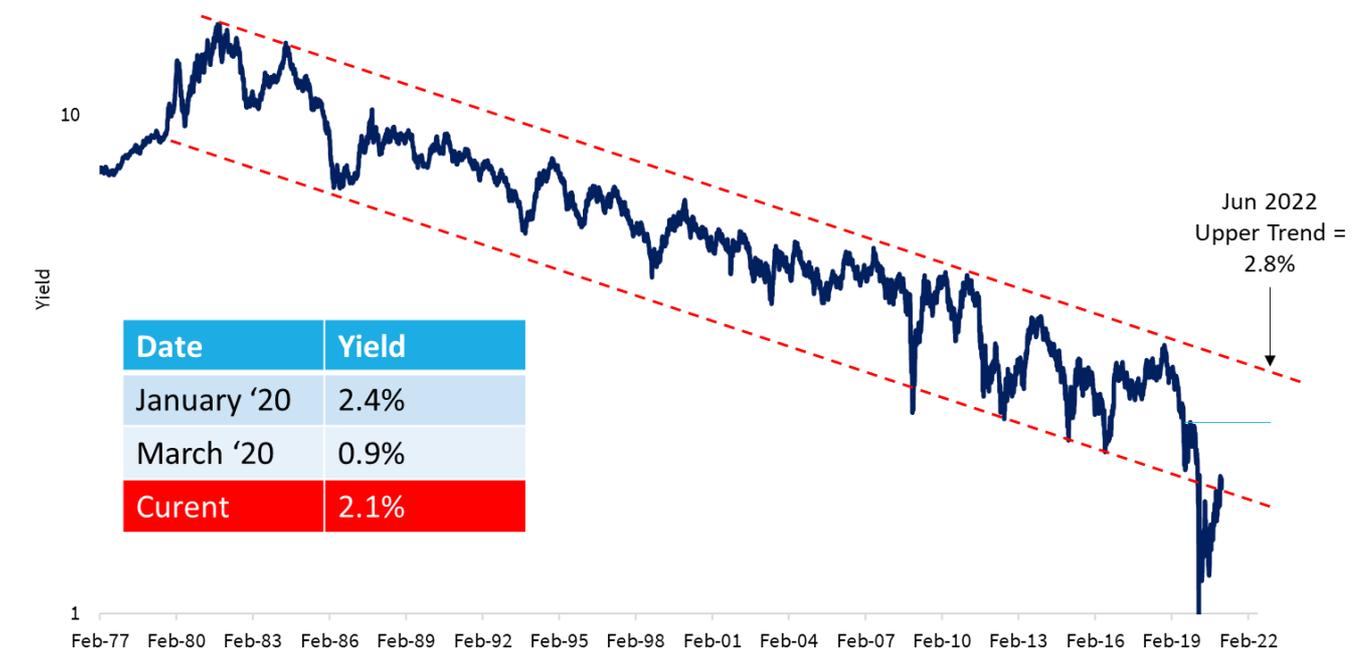
Our working assumption is that 10-year Treasury yields are heading back to the 1.5 to 2.0% trading range that prevailed between July 2019 and the week before the COVID crash last February. And ultimately somewhat higher than that before the normalisation boom is over. As usual when bonds re-price in a hurry carry and roll down positions need to be cut, convexity hedging adjusted and risk parity exposures reduced, yields will likely overshoot a bit before settling back in to the new trading range for a while. So if bonds do follow the script of recent cyclical bear markets, then by late-May or early-June we might see that that 10-year yields have traded at 2 to 2 ¼ % before they drift back down to the bottom half of the range again.

FIGURE 5: US10Y VS FAIR VALUE



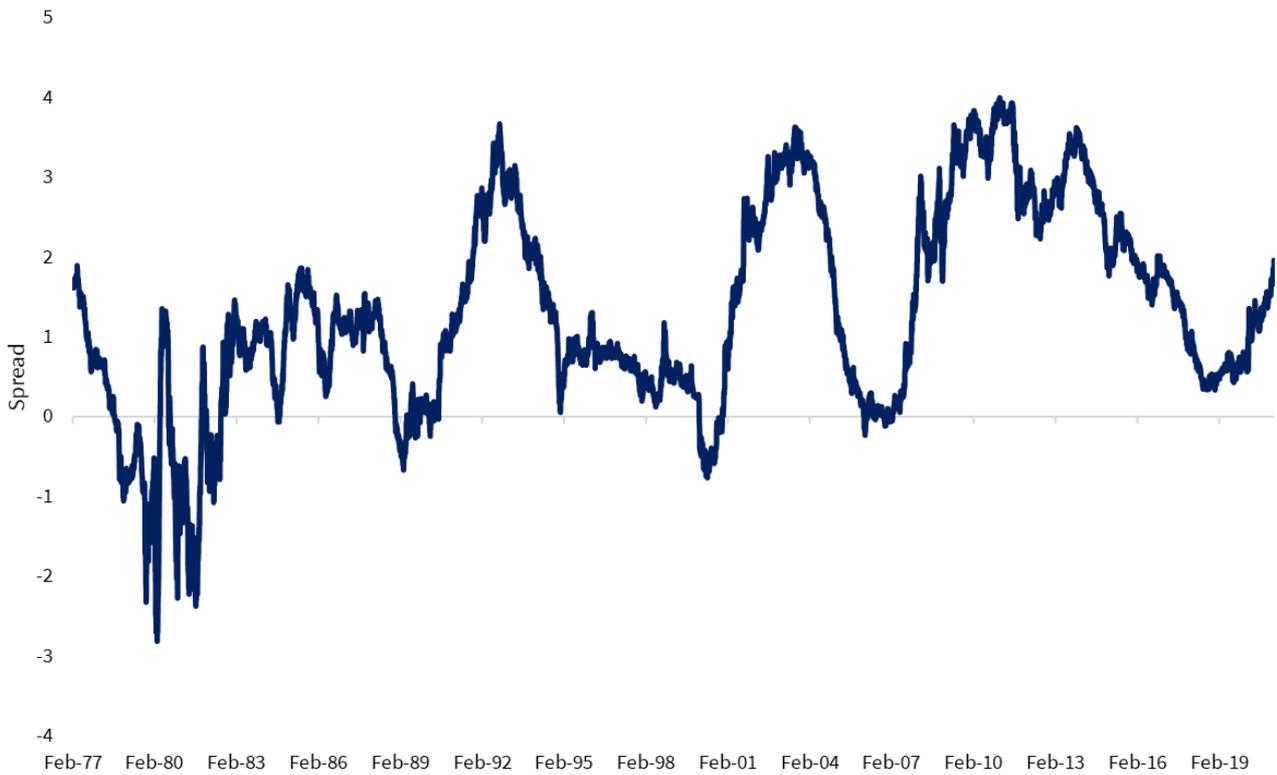
Source: WilmotML, Refinitiv

FIGURE 6: US 30Y TREASURY (LOG SCALE)



Source: WilmotML, Refintiv

FIGURE 7: US 30Y - 2Y SPREAD



Source: WilmotML, Refintiv

The Fed Is Not Your Friend

If you are a bond investor, that is.

The Fed and the US treasury under Janet Yellen are now more aligned than at any time in living memory, a rather extraordinary meeting of minds that reflects a profound change in the political context of monetary policy. Both now seem to believe that there is an opportunity and indeed a moral duty to pursue what you might call “super-full employment”. Or to use Yellen’s language from 2015 to restore the “high pressure economy” as soon as possible, in order to deduce income and racial inequality in the labour market.

That is possible because of inflation expectations are well anchored and the Phillips Curve is flat. (At least that is the new consensus)

It is necessary because of the havoc created by the COVID shock, and the mandate that won Joe Biden the election. It’s not really MMT in its crude form but it does mean that US fiscal and monetary policy will now work towards the same goal, giving priority to economic growth and employment over inflation.

So US policy will now be geared towards creating the conditions whereby the longer term neutral policy rate is higher than it was before (aiming at 2% inflation over the cycle not 1.5%) and creating the conditions that will make it possible for equilibrium real rates to rise somewhat from current depressed levels. Or to put it differently, to target the kind of economy where the next cyclical peak in the Fed Funds rate can be considerably higher than the market is currently pricing.

Provided that the vaccine rollout works (see below) and we do get a \$1.5trillion+ fiscal package (increasingly likely) they are likely to get their wish.

That this will lead to a burst of higher inflation seems very likely.

Much of that will be transitional – the result of temporary bottlenecks and supply disruptions, some of it will represent one time increases in the price level (not unlike the effect of Brexit).

But some of it may reflect longer-term forces; a shift in the pricing power of labour; the less efficient global trade system as China and the US drift apart and the likely pressure on carbon prices and certain commodities from the accelerating green transition. Other long-term forces will remain strongly disinflationary, notably the likely effect of innovation on prices for food, clean energy, quality health care and education.

The current belief, shared by Yellen and the Fed is that the Fed has plenty of tools to prevent any cyclical uptick in inflation getting out of hand. Which provides the last bit of justification for taking a relaxed view just now.

The paradox is that this meeting of minds will create – and probably sooner rather than later – a challenge to the view that the Fed can wait to taper or raise rates. And in that world the yield curve will likely go on steepening (between 2 and 30 year bonds) until the Fed is pressured into making its plans to tighten policy clearer.

There will be other paradoxes aplenty in this unfamiliar new normal, some of which we discuss below.

Mutations Will Accelerate Vaccine Rollout

In the late summer of last year it seems that 15 significant new COVID mutations arose simultaneously in different parts of the world. Up to that point scientists had identified only 2-3 meaningful mutations per month across the entire globe. No one

knows why this super-cluster of mutations occurred just then, but by early January global cases were surging and 3 of the 15 had become VOCs (variants of concern): either much more transmissible such as the B.1.1.7 variant originally identified in the UK, or potentially more resistant to current vaccines, such as the so called South African variant. Plus a Brazilian variant that drove a new wave of cases even in areas which were thought to be close to herd immunity thresholds, raising the possibility that people infected in the past were now being reinfected – which would also raise serious doubts about vaccine effectiveness. On top of that, at least two of these three VOCs are associated with higher rates of symptomatic infection and mortality.

These relatively new mutations change the logic of pandemic response, and on the face of it imply a much slower return to near normal social distancing.

But as with everything COVID, nothing is ever quite what the scientists and media make it out to be.

With a more contagious virus, the economic and human cost of containment escalates sharply, all the more so if that variant is also more virulent (driving more hospitalisations and deaths). There is already evidence that the B1.1.7 variant has become the dominant form of the virus in the UK, and has spread rapidly round the world including to most of continental Europe, as well as parts of the US and many Asia/Pacific countries including China. Given its transmissibility it may well become the dominant form of COVID just about everywhere.

In the short-run, this means that more brutal mobility and contact restrictions have been imposed in many places, notably the UK itself. But even in China, this New Year has been anything but normal, with most migrant workers not allowed to return to their villages and families. Arriving visitors to China have also been forcibly quarantined for longer periods, even if they have recent PCR test results saying they are disease free. The new mutations are partly responsible for that.

For the longer term, though they mean that the optimal policy response shifts drastically towards accelerating the vaccine rollout as much as humanly and logistically possible. Starting of course with the elderly, the vulnerable and key workers in health and elderly care, but moving on rapidly to cover the whole population at “warp speed”.

Which is exactly what we are seeing now. Just about every country in the world is urgently trying to secure more vaccine supply, improve the logistics of distribution, and find ways to boost production and overcome supply bottlenecks. There will be minor setbacks along the way no doubt, but the major trend is clear.

So the paradox is that the new mutations are actually shortening the path towards vaccinating most of the global population, as well as the path towards new vaccines or booster shots tailored to cope with the more troubling new mutations.

The Last Shall Be First

The countries who managed the first year of the pandemic best are mostly in Asia-Pacific. Most importantly China of course, where aggressive suppression polices not only kept deaths and infections low but allowed the economy to rebound strongly. Both Industrial production and GDP are now above their pre-crash levels, whereas the US and Europe are still a little below, despite massive stimulus.

But those with the best suppression track record have – logically enough – put much less emphasis on a rapid vaccine rollout. The newer mutations make suppression less viable so they are shifting priorities rapidly, including in Japan where the public tend to be sceptical about new vaccines. Even so, most of Asia/Pacific will lag well behind in the global vaccination race. And will have to be extra vigilant about stamping out new infection clusters, and aggressive about inbound travel for several months more at least.

The EU has a different problem: bureaucratic inertia means they were slow to order vaccines and plan for rollout, so will have to wait till Q2 before ramping up properly. Extra embarrassing that some 70% of developed world vaccines are produced in the EU, but 70% of current production is contracted to non-EU countries, leaving the EU short of supply just when they need it most. This fiasco, and her reaction to it, might just cost Ursula von Leyen her job, and has poisoned post-Brexit relations with the UK (and absolutely incensed the Irish). But for all that, the EU has now moved aggressively to secure extra vaccine supply from Q2 onwards, so will likely be 2 -3 months behind the UK and the US, whereas most Asia/Pacific countries will be more like 6-12 months behind.

So the second paradox is that the last shall be first and the first shall be last in terms of pandemic response and the path back to “normality”. In terms of incremental recovery potential the US is by some distance better positioned than continental Europe and Asia/Pacific. They have plentiful supplies of the most effective vaccines, are rolling out quickly (by end-March it looks like all over 65s and key health care workers will have had their second doses of vaccine) and are likely to have the biggest fiscal stimulus to support recovery.

What About the Worst Case?

if one or more of the new mutations is much more contagious, somewhat more deadly AND highly vaccine resistant, or capable of evading natural immunity acquired through infection, the implications for normalisation and global growth could be devastating. In a worst case scenario, the consensus view on global growth would be entirely wrong.

That has been our biggest single concern since the beginning of the year.

What we know for sure at this stage is limited. But it seems clear that most current vaccines are somewhat less efficacious against the South African variant (and probably against a few other mutations with similar modifications to the spike protein). That effect appears more pronounced for the Oxford/Astra Zeneca shot than for the Moderna and Pfizer vaccines and the forthcoming ones from Novovax and Johnson and Johnson. The better news is that all the current and proposed vaccines, can be quickly modified to protect against new variants, including the one with the E348 gene shift. Approval for use of these newer vaccines should be possible within 2-3 months, rather than the year it took to create and approve the stage one shots. By autumn, there should be good availability, and moreover, mixing vaccine types does not appear to be a problem. So if you start with Astra Zeneca, getting a booster shot of mutation modified Moderna or other vaccine in the Autumn or Winter should be just fine.

Efficacy is the Wrong Concept

Over the next couple of months we should get a much clearer picture of how the South African variant and its cousins affect vaccine efficacy as larger studies get published. But we already know that efficacy is the wrong concept to focus on when judging how safe it is to open up the economy.

Throughout the pandemic many if not most scientists have focused on what we can measure fairly easily – the production and duration of antibody presence in an infected or vaccinated individual. But while antibodies can prevent infection in the first place it's the T-cell response (fighting the virus once it is in your system) that is at least and probably more important in preventing severe disease, hospitalisation and death.

Which is what should really drive the debate about opening up the economy.

It's clear how important T-cell defences are from the age distribution of fatalities and severe disease, from the higher fatality rate for those with severe Vitamin-D deficiency or co-morbidities that reduce T-cell counts.

Unfortunately measuring T-cell response is much more expensive and difficult than measuring antibody response. But we know that infection and vaccines stimulate a T-cell response as well as the production of antibodies, and that T-cell memory tends to be (much) longer lasting than antibody production. Moreover, T-cells respond not only to the spike protein but also other parts of the virus.

So there is a strong *a priori* reason for thinking that past infections will help reduce – and maybe completely prevent - severe disease and death if people do get infected with *any* of the new mutations. That is maybe a little less clear for those that have been vaccinated, but it's still more likely than not that vaccines will be (highly) effective in reducing the Infection Fatality Rate (IFR) and the Hospitalisation Rate (HR).

In short, vaccine efficacy is the wrong statistic to be using when thinking about how safe it is to open up the economy, and certainly not a reason for prolonging lockdowns way beyond the point at which the most vulnerable have been vaccinated. At best, somewhat reduced vaccine efficacy is a reason for moving progressively through the stages of normalisation while monitoring closely the HR and IFR among those who have been vaccinated but still get infected with one of the new variants.

More Mutations To Come?

Fortunately COVID strains do not mutate freely like flu or some other viruses. But mutation is still a numbers game: the more people that get infected the more chances the virus gets to replicate itself, and thus the more chances that mutations will arise. Many people argue that it is very risky to open up the economy once the vulnerable have been vaccinated because that will allow the virus to rip through the young and healthy population and risk many new VOCs that could evade current vaccines, perhaps even more so than the ones we know about already.

But this argument is very questionable. What evidence we have is that where people are infected for a short period of time (as most people are) it's very unlikely that the virus will acquire multiple mutations. But that's not true for those with compromised immune systems in which the virus can linger – and go on replicating - for many

weeks or even months. That is exactly how the B.1.1.7 variant (with 17 gene alterations) arose.

Keeping everyone in lockdown would be an unbelievably inefficient (and cruel) way to guard against other significant mutations. Strict isolation of those relatively few individuals in which the virus keeps on replicating for weeks or months is a fairer and more sustainable answer. (Admittedly that may be less possible in EM countries with limited resources, but that isn't a great argument for blanket lockdowns in the developed world).

Herd Resistance Comes Before Herd Immunity

The global new case count for COVID has been dropping fast since early January. That's not true for every country by any means, but it is happening in multiple places at once: the US, the UK, Germany, Japan and South Africa – to name just a few. India's case count has been dropping for months. In the process, Rt values have come down below 1 across a wide range of regions and countries. Hospitalisations and deaths are following with a lag.

That also means the stock of active (symptomatic) cases has plummeted. In the UK, for example, estimated symptomatic cases are down by roughly 2/3rds from the January peak, and in my local area where B.1.1.7 is well established, they are down 90%. And yet we were told with much confidence that the government's new restrictions announced before and after Xmas would not be enough to reduce the active case count significantly because of the new more contagious variants.

What's going on?

It's clearly not vaccines, (though they are starting to help in some places now) and it's hard to attribute entirely to new lockdowns or mobility restrictions given the variety of countries with different policies showing the same trend. Moreover, it's particularly striking given the spread of more contagious variants.

We know that the actual number of cumulative cases is higher than the number officially recorded: we just don't know with certainty how much higher. For the US, by way of a different example, we think a plausible range would be 3-5 times recorded infections. Some highly respected people would put it higher than that but in round numbers our range would put the true number of cases at between 25 and 40% of the population, corresponding to an IFR of between 0.6 to 0.3%, which fits the more recent estimates produced by John Ioannidis.

If we add to that total roughly half of those that have already had a first dose of vaccine, you come to the conclusion that perhaps 30-50% of the population are either immune or highly resistant to the virus (that is to say extremely unlikely to become severely ill).

Now that doesn't mean that all of that total are people incapable of getting infected and passing the disease on to others, but it is not an outlandish presumption to think that most of the already infected or vaccinated are unlikely to be able to carry high viral loads if they get infected at all. And many will continue with mask-wearing, hand washing and caution about close indoor exposure.

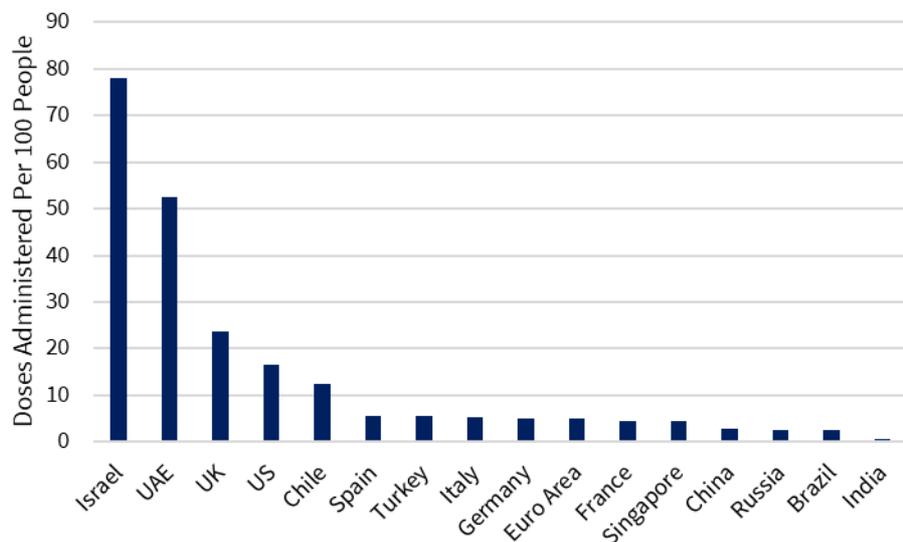
We also know that community transmission can fall sharply when infection rates are well below the theoretical levels needed for herd immunity (65-75%), depending on

the pattern of social mixing and how many of the most social individuals have already been infected.

There are a number of papers which suggest that *de facto* herd resistance (radical reduction in transmission and severe disease) can kick in at much lower levels of infection than the theoretical herd immunity threshold based on R0 estimates. So a 20-40% share of the population that has already been infected or vaccinated may well have taken the US to a position of substantial herd resistance. Meaning that new cases, and especially hospitalisations, will not rise sharply as progressive opening-up takes place.

Or to put it differently, the vaccine rollout is probably pushing on a half-open door.

FIGURE 8: VACCINE DOSES PER 100 PEOPLE



Source: WilmotML, OWID

Hunger to Be Free

There’s plenty of anecdotal evidence that the latest phase of lockdowns and restrictions is taking a heavy psychological toll on the population, specially perhaps on the young. But there is some more concrete evidence too. For example, in the UK YouGov run a weekly UK Mood Tracker survey which clearly shows less fear, more boredom and more frustration with current conditions than earlier in the pandemic. Life satisfaction scores have fallen overall, and so has support for government policy.

Moreover, many people are hanging on because they expect the vaccine roll out to help get the kids back to school, and allow simple social pleasures such as seeing friends and family again. Not six months from now, but a month or two from now. Expectations have been raised.

In our view, once you have vaccinated the vulnerable and relieved pressure on the health care system, the political risks of maintaining most current restrictions for more than 3-6 weeks become much greater than they were in the first lockdown phase.

The pressure to open-up progressively and quite quickly is already rising and will likely become a tidal wave. In our view. All the more so given the sharp drop in case counts more recently.

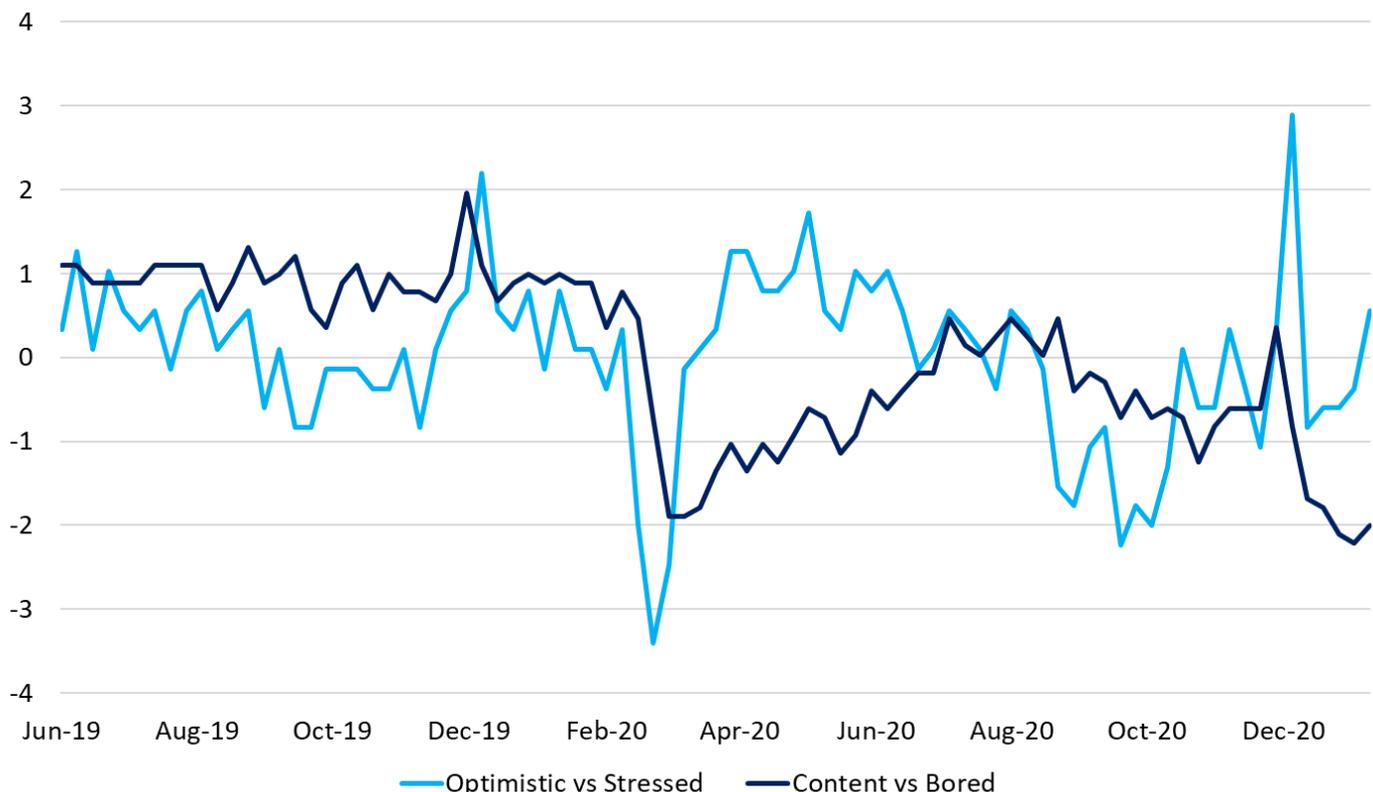
We also know is that when things first start to normalise, lack of demand will not be the problem. The Chief Economist of the Bank of England recently described the economy as like a “coiled spring”. We agree completely, and it’s not just the UK economy.

So we expect the coiled spring to start to unleash during the Spring for the US and UK, and from early to mid-summer onwards in mainland Europe. And once that process starts it will create substantial ongoing momentum as excess savings are spent and lost service sector jobs start to return. While the multipliers on fiscal “stimulus” will be low, the multiplier effect from returning service sector jobs may be substantial.

Overall, it’s probably a good assumption that GDP growth will be roughly double its long-run trend for the first year after we start to open up in the US and eurozone, but with the countries or regions that have fallen the most during the pandemic doing better than that. Meanwhile, we expect a much smaller or very little effect on growth in Asia/Pacific, except perhaps via the export channel.

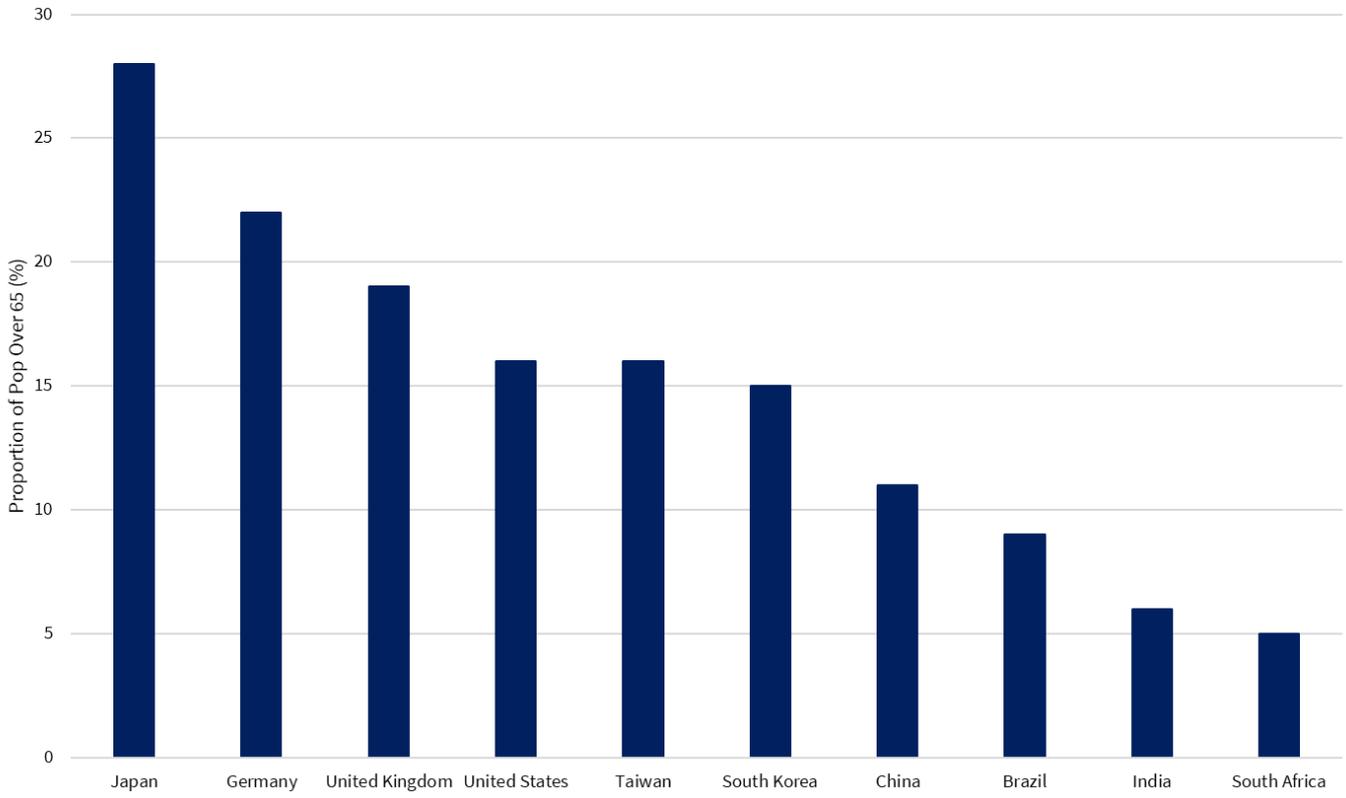
This prospect does not mean we expect the opening up process to go smoothly and without incident. For one thing most international travel will remain highly restricted for quite some time, as countries try to ensure they don’t import existing or new VOCs from abroad. And mass rapid testing will be needed to identify and suppress new infection clusters. In addition, we are likely to see a spike in bankruptcies among smaller businesses as governments dial down their emergency credit and income support schemes (accompanied by a very high rate of new business formation most likely).

FIGURE 9: YOUNG MOOD TRACKER: HUNGER TO BE FREE



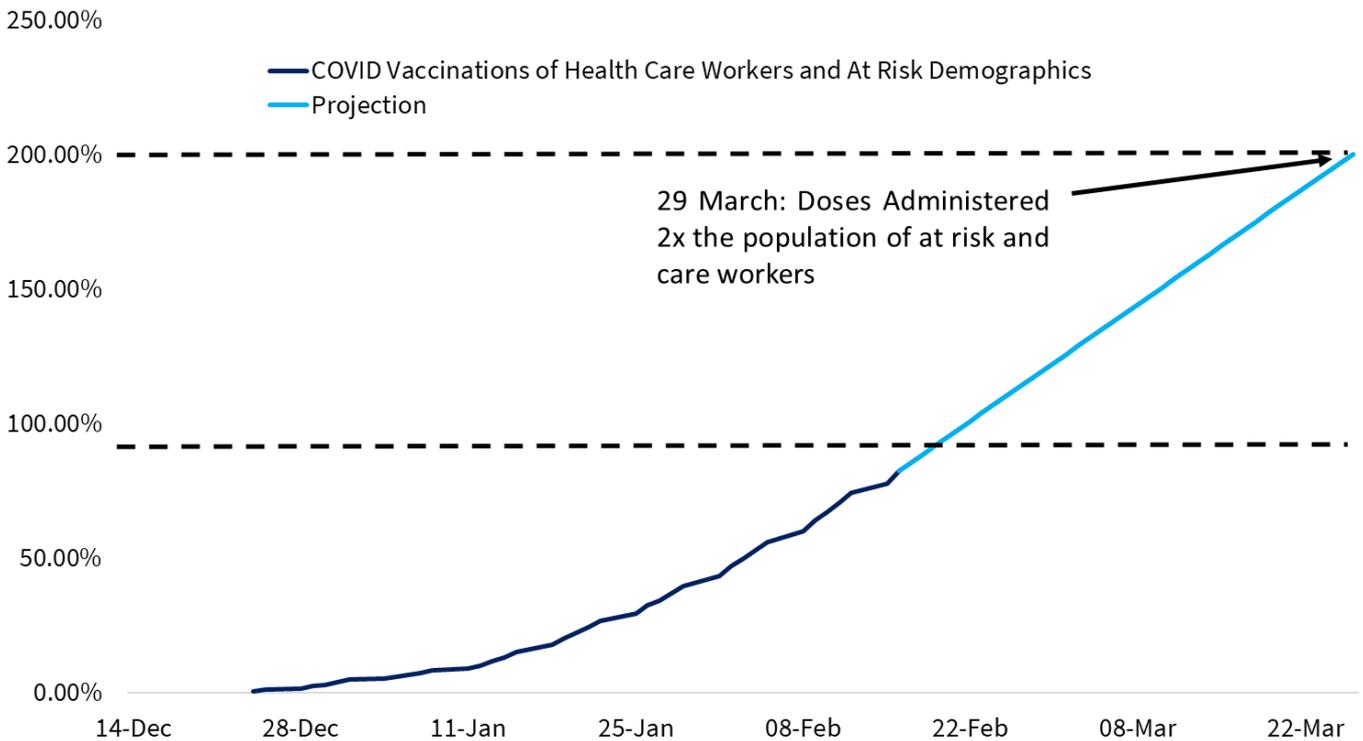
Source: WilmotML, YouGov

FIGURE 10: PROPORTION OF POPULATION OVER 65



Source: WilmotML, Refintiv

FIGURE 11: US VACCINE PROGRESS FORECAST



Source: WilmotML, Refintiv

Check Your Assumptions Please

As we have argued in the past there is an inbuilt bias towards caution in the way that most epidemiologists construct and run the models that are used as input to government policy. It's visible again today, for example, in the modelling being used to advise the UK government on how and how fast to open up the economy following the vaccination drive. So far the advice seems to be go very slowly indeed or risk another big wave of infections and deaths later in the year.

In financial markets we are used to dealing with a high degree of uncertainty, the need to update priors, build dynamism into models and account for random events. And the idea that small changes in model assumptions can make vast differences to model output. Moreover, a very simple set of equations can generate non-linear or non-stationary behaviour like that seen in asset markets: for example, combining a simple momentum equation with a simple mean reversion equation can generate "price" patterns very similar to that observed in markets.

One consequence is that we are suspicious of models that aim at spurious precision or try to be excessively granular, at least for forecasting horizons beyond the very short-run. (The relatively short-run is what we concentrate on in our Machine learning platform).

For longer time horizons we tend to prefer relatively simple models whose limitations can be understood, and where it's clear what effect that changing your baseline assumptions or initial conditions might have. And where one can think about whether the models are less or more relevant under current conditions.

The basic structure of SIR models is pretty simple but the end results are massively dependent on both initial conditions and the underlying assumptions. Moreover, it is difficult to incorporate dynamic changes to a growing pandemic, whether that be consumers adapting their behaviour to the number of local cases or deaths, or governments ramping up their vaccine roll outs in response to new mutations.

The early models of COVID produced by Imperial College sought to model aspects of human interaction so granular they were almost certain to confuse results and deflect attention from the key underlying assumptions used in the model. This spurious granularity was a great selling point but not germane to their headline conclusions. But it did make their code excessively complicated and to accusations that it was a "buggy mess". And when we looked at their "rolling recession" paper published back in March it turned out that their key assumptions all tended towards worst case outcomes that were not very plausible at the time, but were presented as if they were a central case. One of those was that vaccine development would occur on a typical timeline even though the severity of the pandemic meant that the response and funding for vaccine development would be completely unprecedented. Another was to assume an implausibly high IFR that did not change over time, even once better treatments were likely to become available.

Just this week they have published a new set of predictions which lean heavily towards the pessimistic side and published some of the model online. Thankfully, spurious granularity has gone but other features of the model are hard to fathom. The IFR is set at a constant 1% "for the UK demographic". They don't say so but it's seems likely that they assume that the remaining susceptible population is 1 minus reported infections plus reported vaccinations. So they are almost certainly over-estimating the number of people still susceptible to severe disease and death.

Importantly, the model also limits vaccinations to either completely preventing transmission or doing nothing to prevent transmission (the latter being the base case). The truth may lie somewhere in between but there is little reason to think that it lies closer to zero than 100%. If you switch the toggle to allow vaccines to be 100% effective in preventing transmission, you of course get massively lower numbers of potential future cases and deaths. But that is not what has been reported in the press or social media.

So they have again chosen – in effect – to make a normative judgement: emphasise the worst case outcomes in order to slow down the exit from lockdown to cut COVID risks to a minimum. Never mind the people who are desperately hanging on, the potential costs to taxpayers, to treatment and deaths from other conditions, and the psychological damage that might create.

To cut a long-story short we think that the politics of slow normalisation just won't work as hospitalisations and deaths decline further, and particularly if new case counts and the number of known infections continue to decline. Our bet is that in the US as well as the UK mobility and ultimately across Europe, the easing of restrictions will start slowly and then accelerate under popular pressure. Or simply that compliance rates will drop drastically. Or both.

Hence our assumption that US and UK growth will rebound strongly already in Q2, and from late Spring to early Summer in Europe. The normalisation boom is coming. In Part II we look more closely at the challenge that will present to equity valuations.

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