JDA RESEARCH

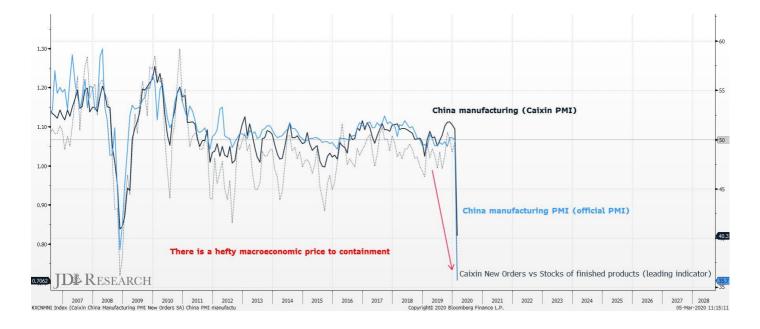
Covid-19: A macroeconomic plague

Note that the charts are now updated as of 6pm London on March 9th.

This was initially going to be sent as part of a full JDI Research report but I am sending it to you now as a stand-alone, you will easily understand why.

There are two ways for authorities to deal with a pandemic: **containment and miti-gation.**

Aggressive containment is the strategy that China has adopted and it has been successful -- so far -- but at a hefty economic price:

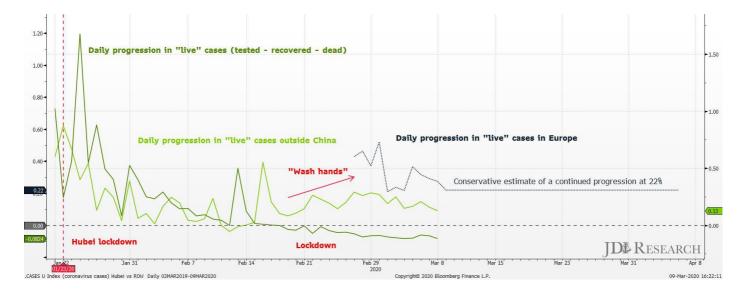


No real surprise there, containment has failed in the rest of the world, mostly because it was only half-hearted containment. It is much easier to enact an effective lockdown in a dictatorship for ideological reasons: the Western world is very attached to freedom.



In Europe, the initial focus has been on reducing the intensity of the outbreak and flattening out the epidemic curve. **The aim was to avoid an implosion of the health system.** Accordingly, authorities have focused on individual behaviours (hand hygiene, self-isolation when sick...) and limited social distancing (closing schools, encouraging home working and discouraging public gatherings).

Unfortunately, those measures proved worthless against an aggressive virus whose transmissivity is now estimated to be above 4 and possibly as high as 6.6 vs 1.28 long-term R₀ average for the seasonal flu. The bottom line is that the virus has been in the wild for a few weeks and progressing exponentially outside China at a 15-20% daily rate which is certainly underestimated due to a lack of tests, a lack of testing and the growing reluctance to report cases (Italy is no longer counting asymptomatic positive tests as confirmed cases and UK was reportedly considering stopping daily updates!):



With any other lowish-mortality virus, the developed world's strategy would have succeeded. The relatively "low" 3.4% mortality rate should have been determinant and the economic and social costs of containment should have quickly been too much to bear. Human beings are resilient and would have quickly learnt to live with



Covid-19, supply chains come back to life and an inventory correction begin. This the reason I was initially sanguine about the outbreak and the reason why the vast majority is still very complacent about it.

I was wrong to believe that the "low" mortality rate was determinant for the global economy. What is determinant is not the 3.4% mortality rate (which quite frankly is not that low) but the serious complication rate which is estimated around 15-20%.

Of those 15-20% requiring an <u>acute</u> care bed in a hospital, 5% will actually require a <u>critical</u> care bed in an ICU.

From an economic/ investment point of view, the 15-20% is much more important than the 3.4% statistic.

Why?

Because containment is markets' worse fear as it freezes activity through broken supply chains, collapsing tourism and plunging consumer confidence. The problem is that mitigation, a strategy which aims to keep calm and carry on, treat patients as they come, is NOT possible with Covid-19 because of the high serious complication rate.

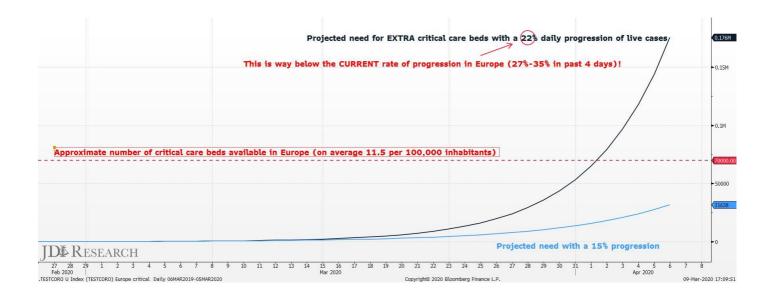
With the caveat that I am way out of my depth here so please do not hesitate to revert to me if you feel that any of my findings are flawed.

I have used Europe as my case study because I trust the data there and have been able to speak directly with ICU heads in France. It should however be noted that Italy's



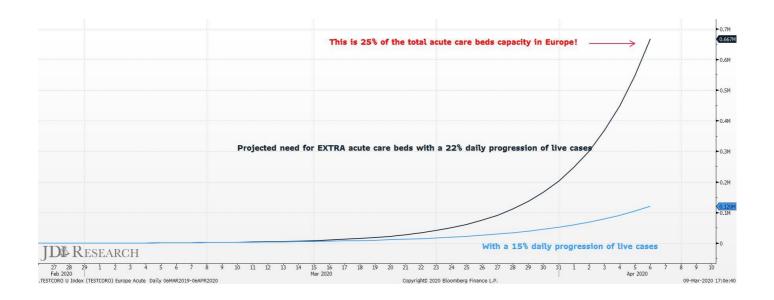
decision to omit asymptomatic cases from their statistics (despite them being equally relevant because of asymptomatic transmission) might be followed by other countries. The point is that case counts reported in coming weeks should be taken with a pinch of salt, like in the US (where testing remains extremely limited), the number of deaths will become more relevant in defining the progression of the disease and resulting government decisions.

Assuming a 22% daily exponential progress in live cases (the current stable rate in the past week which is way below the 27%-35% range in the past 4 days), the projected need for <u>extra</u> critical care hospital beds due to the Covid-19 disease (5% of total cases) will outstrip the total ICU beds available in Europe in early April at the end of March (remember the current small number of cases and deaths gets compounded geometrically NOT arithmetically). No wonder Italy is shutting down schools and universities and UK and France are considering bringing in the army! Remember even if the number of cases eventually get hidden, governments are well aware of those facts and will act accordingly:



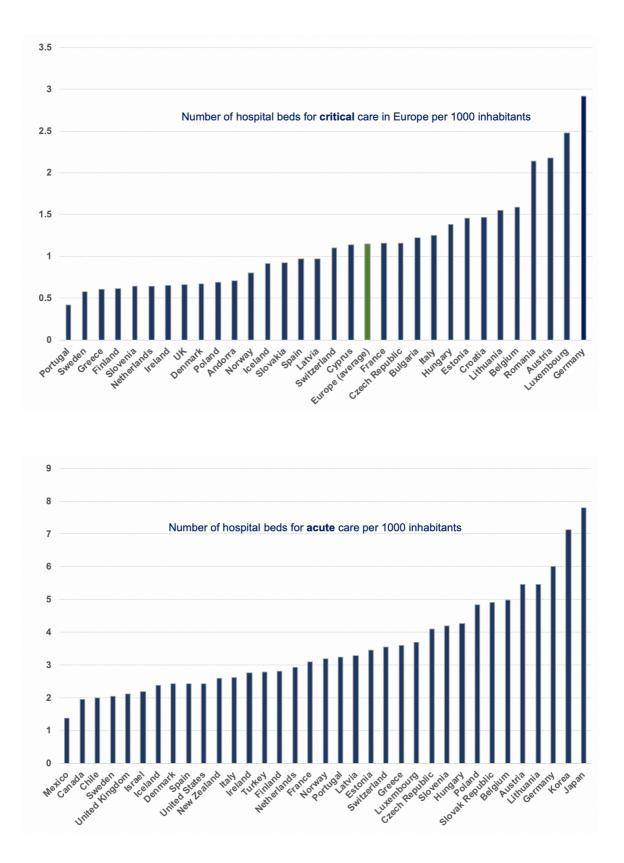


At the current pace of progression, the projected number of acute care beds needed (15-20% of cases) will reach $\frac{25\%}{1/3}$ 1/3 of Europe's total capacity in early April:



To be clear, I <u>hope</u> that the above projections will not be realised. If they were, it would dramatically increase the mortality rate of the disease because hospitals would be totally swamped. They are already running close to capacity in UK. Also note that the variability of critical care bed numbers in Europe and in the rest of the world is very large, which means that some government will have to panic before others:

JD Research



If governments let the above projections be realized they would be directly responsible for deaths that were <u>not</u> inevitable and this is the real twist of the



virus: it gives responsible governments no other choices but to contain it more aggressively, saving lives but at the expense of the economy.

I am not really worried about my or my family's health and neither should you <u>unless</u> you are old or weak and fear getting no access to a good quality medical care (a worry that will eventually creep in everyone's mind). However, I am very worried about governments being forced to shut the global economy down, starting in Europe. They will have no choice but to resort to drastic social distancing including forbidding even small gatherings, consumer confidence will plummet. Global demand will take a lethal hit.

We are talking about a 2008-like recession. Remember, asset prices were resilient because of their attractiveness to government yields AND a mediocre but stable macro outlook.

At current prices, US assets look priced for a recession but a plunge in corporate earnings would collapse earning yields and cause a further drop in equity prices (the below ERP is calculated on last year's earnings). Meanwhile, corporate yields are still extremely complacent. There will be a time to pick up value but it is not now:

JD Research



In the US, outbreaks have been confined to Seattle but I have no doubts that the same thing is happening there on a timeframe lagged behind Europe by a few weeks. President Trump is in complete denial, hoping and praying that the crisis will not cost him the election. He will get the 0 Fed funds he has been pining for so long but will it help? The US consumer will soon realise -- like his European counterpart -- that lower mort-gage rates are largely offset by depressing retirement prospects.

The real Covid-19 crisis is still ahead of us in my opinion and we should expect increased economic shutdown. Stay super defensive via long UST 2yr (from 1.59%) and long EUR/BRL (from 4.28 for USD/BRL and 1.1113 for EUR/USD). Stay liquid. Use Biden victory type rallies to offload risk. Look to add to our defensive portfolio by re-selling USD/JPY at 106.75.

Juliette Declercq

This report is a piece of research ("JDI research") provided by JDI Research Limited a private limited company registered in England and Wales, company number 09977951 ("JDI research limited").

JDI research is provided only to investment professionals who have been pre-qualified to receive it by JDI research limited. Each piece of JDI research is sent to one or more investment professionals who have requested that JDI research limited provides research to them. Each piece of JDI research is intended for the use of the person to whom it is addressed (the "Addressee") and the colleagues affiliated to the same entity as the Addressee as agreed in writing

JD Research

between the Addressee and JDI research from time to time (the "Additional Addressee(s)"), if any. If you are not the Addressee or an Additional Addressee, please delete this piece of JDI research and destroy any copies. Please also email or telephone Juliette Declercq at JDI research (+44) 7769724879 or <u>juliette.declercq@jdiresearch.com</u> so that JDI research can take steps to see that you do not receive further JDI research.

JDI research is not an offer to buy or sell any specific investment. JDI research is and is intended to be a general market view. It is not and is not intended to be general or specific investment advice nor a personal recommendation concerning a specific investment, investment product or investment service. JDI research limited expects that all investment decisions taken by Addressees or Additional Addressees will be decisions made by the Addressee or Additional Addressee based on specific advice or specific recommendations made by an investment adviser or taken by an investment manager. Since JDI research limited does not provide investment advice nor carry on any other investment business it is not regulated by the U.K Financial Conduct Authority nor by any other regulator of investment business. JDI research is based on publicly available information, obtained from sources that JDI research limited considers to be reliable. However, JDI research limited does not represent that it is accurate and it should not be relied on as such. The opinions and conclusions expressed in any piece of JDI research are current as of the date of publication and JDI research limited does not accept any responsibility to update any such opinions or conclusions in the light of developing events or circumstances. All forward looking statements, even if they appear to be presented as fact, must be treated as opinions or judgements, and JDI research limited accepts no liability or responsibility if any opinion or judgement proves to be inaccurate in whole or in part. Without limitation of the foregoing, JDI research limited shall not be not liable for any loss or damage of any kind resulting in any way from or alleged to result in any way from JDI research or the use of JDI research by any Addressee or Additional Addressee or by any other person.