



CSA Insurance Linked Strategies
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Update on Coronavirus – February 2020

We would like to update you in relation to the coronavirus outbreak in China and the global spread to about 25 countries. As of 3 February 2020, the global confirmed cases were 17'391 and mortalities related to the outbreak were estimated to be around 362. On 30 January 2020, the WHO responded with a declaration of the 2019-nCoV outbreak as a public health emergency of international concern (PHEIC). Numerous scientific papers have been published and there is research currently being conducted on the various angles of the outbreak to better understand the disease and control the spread globally. Many countries have taken severe steps to reduce the propagation of the outbreak.

So far, it is believed that the virus has quite a significant infection rate, which is higher than the influenza virus or the MERS and SARS viruses, which belong to the same family. There are studies proving that there is human-to-human infection even without symptoms, which makes the containment harder. Case Fatality Rates (CFR) are still under investigation but they are believed to be below SARS and MERS but significantly higher than influenza virus. The most cited rates are between 2% and 5%. There are hopes that the number of infected without symptoms is much higher and hence the CFR would be smaller or closer to 0.5% - but that needs to be proven over the next weeks and months. First indications also show that CFR is higher in Wuhan due to the strain on the health system, lower outside Wuhan, and even lower in the rest of China.

At Credit Suisse ILS we have developed a standard pandemic model and have tried to model the outbreak in China and across the globe. While it is early stages and some key factors are unknown at this point, we believe that our model accurately reflects what is occurring and that within magnitudes is quite accurate – as accurate as a model can be at this early stage. Our model seems to be approximately in line with those provided by the Imperial College of London and the Hong Kong University. Based on Credit Suisse ILS' model, as of today, there should be many more people infected by the virus than currently reported. The reason being not all infected persons show symptoms, however they are capable of transmitting the virus even if they are not severely ill and seeking care.

China has taken very severe actions by quarantining over 60 million people and almost the entire nation is at stand still. We believe that this measure will have a positive effect and will reduce the rate of spreading. In

our model, we considered this and reduced the spreading factor accordingly. One of the outcomes is, that this measure will delay the spread, therefore the number of cases and number of mortalities will arise later than expected. For example, if a person was infected on 26 January, the first day of the wider lockdown in China, then the average incubation time is 5 days observed and hence this person statistically turns ill on 31 January. From the onset of illness to mortality, there is about an average of 12 days observed and statistically that would be on 12 February. Based on our model, we expect the delay to be observable in about 6 to 7 days from now and it takes easily 2 to 3 weeks to see significant reduction of cases. Until then one would expect the cases to increase exponentially.

Furthermore, there is a lot of uncertainty around the reduction of spreading reached by the draconic measures taken in China. Of course, one hopes the measures bringing the reproduction numbers down significantly. The wider question is then, after weeks in standstill, to what level the transmission rate will increase again once the country goes back to normal life.

Based on our model, it can be assessed the extreme measures taken by the Chinese government make sense and the quarantine can hopefully eradicate the outbreak or at least impede and make it more manageable over time. This strategy buys time and time is of the essence in helping to find medications, treatments or vaccines. We share the optimism with financial markets that there can be treatment and potentially vaccine for that virus, we do however believe that this is all down to timing – timing of vaccine and effective treatment becoming available and safe to apply in large quantities. The other timing factor is how various countries and very importantly China can control and delay the outbreak.

We believe the next weeks will be crucial for the outbreak in China but also for the entire world. We will keep you posted and update you with the latest developments.

In the meantime, please do not hesitate to contact us if you have any questions.

Kind regards,
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