# COVID-19 Averting the Systemic Banking Crisis

## CONSTRUCTION OF CREDIT SCENARIOS UNDER ECONOMIC DOWNTURNS

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## Introduction

The impact of COVID-19 at time of writing has been profound. Each country of the world has had to face up to the challenge of overburdened health care systems compounded with an economic downturn as people's everyday lives are put on hold to ensure that people that do fall ill receive the best care available. The personal toll is considerable, with many people aware of someone who has fallen gravely ill or succumbed to the illness.

Governments around the world are keenly aware of the regional and global economic downturn underway. Governments have asked the banks to supply bridging finance to large and small companies over the periods of imposed lockdowns as all firms adapt to new working conditions or drastically scale back their business operations.

The extent and length of time of this economic adjustment could lead to significant impacts on the economy in the long-term. After the initial response, banks start to assess the longer-term impact on their balance sheets.

This note highlights some of the work taking place in Quant Foundry to understand the implications of different government scenarios to control the spread of the virus and choices to stimulate the economy. The note highlights the skills Quant Foundry has to help banks build viable economic scenarios to help in credit assessment of loans and mortgages related to COVD-19 infection rates and government containment policies.

We also discuss strategies governments may employ to "warm start" economies and control infection rates. While this work is purely exploratory, it provides an insight into what may help to keep the economy viable over the coming twelve months as the world waits for an effective vaccine.

## The Banking Challenge

Governments in the UK, EU and US have looked to the banks to be their economic lifeline. The governments have encouraged the banks to provide subsidies and loans to help fund small, and large companies retain staff and operations while whole populations are in lockdown.

The request naturally creates an immediate pressure on banks to process a considerable number of requests while simultaneously managing their current long-term exposures, liquidity and capital buffers. Uncertainty in the short-term policy choices of governments will send reverberations through time to future exposures. Simultaneously governments are looking to make the hard-balanced decisions on the long-term welfare of its citizens both in terms of their health and economic wellbeing.

Recent indications from China have shown that a short lock down period plus a managed release economies can rebound (see figure 1)

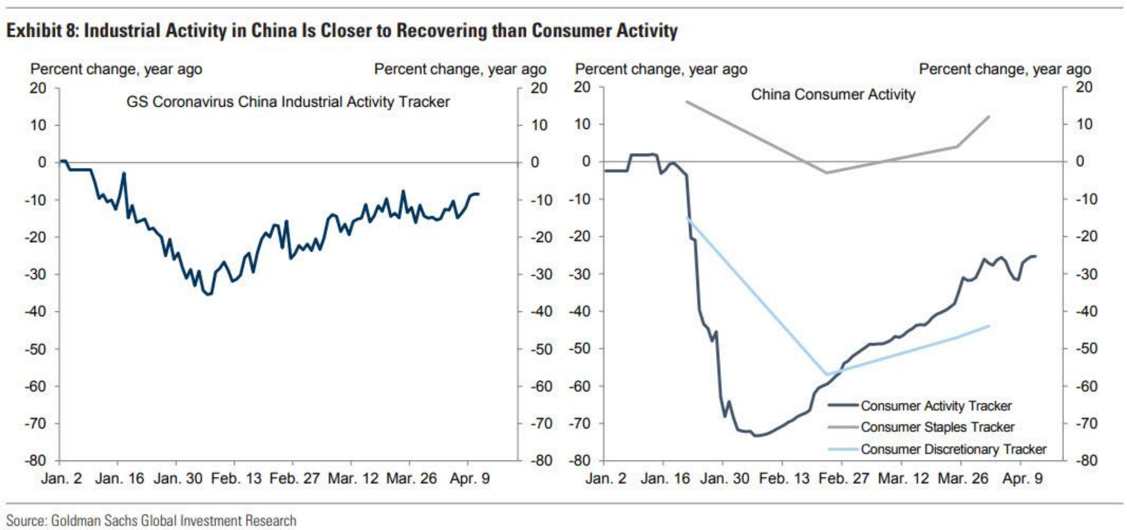


*Figure 1: Economic Activity in China (Source Goldman Sachs)*

Managing out of the lockdown is critical and require controlled observation and assessments within each region of a country. Limitations on the extent of travel within a country and well as foreign travel.

We have integrated the COVID-19 epidemic model from the Medical Research Council into our analysis package to allow us to start making judgment calls across industry sectors on potential government policy announcements on managing the choices after the lockdown. Many academic groups from around the world are touting scenarios and several different factors that help control the extent of social interactions. These we will discuss in future publications.

# Potential Scenarios

## BACK TO BUSINESS AS USUAL

Under this scenario after a period of 6 weeks governments release the lock down and encourage normal back to work practice across the whole economy. Though unlikely as a policy choice the outcomes of this scenario provide an insight into potential outcomes of partial release scenarios. The implications in terms of the number of infections from our illustrative model (with base line calibration to the number of COVID-19 cases in the UK) is shown in figure 2.

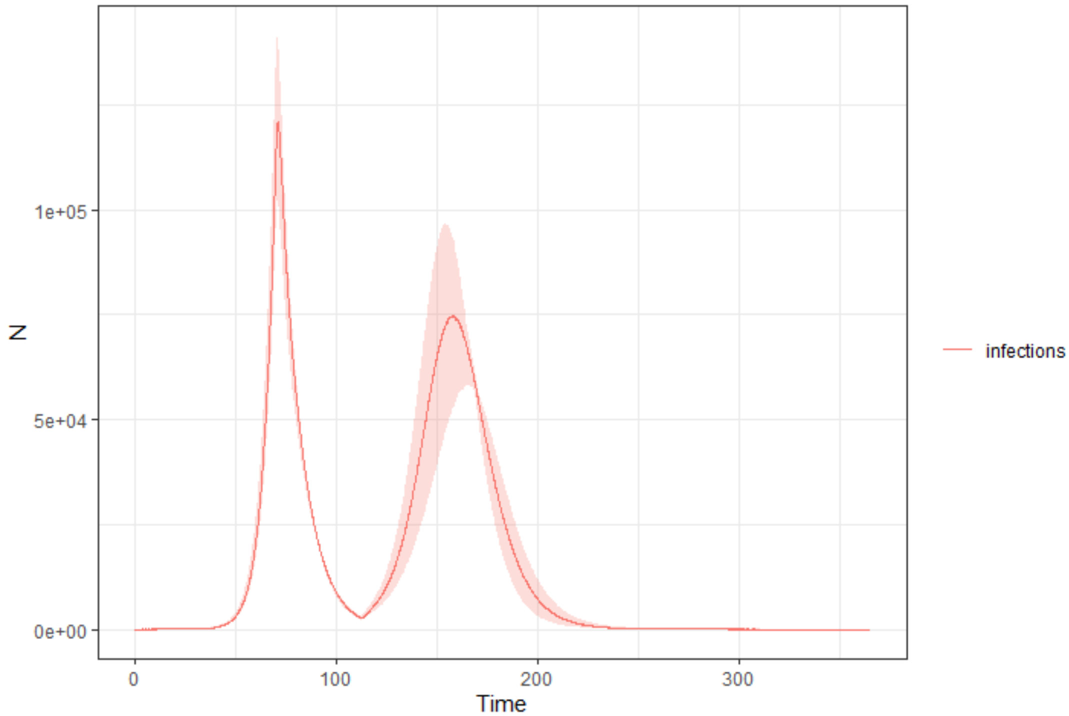


*Figure 2: Number of Infections over time from the start of the year with a 6 week lockdown imposed and full release.*

This shows that there will likely be a return to a rapid level of infection over a prolonged period. This will likely be intolerable for people and lead to further lockdowns and suppression of economic activity, extensive government bailouts and a large number of realized losses on mortgage and loan portfolios. Estimates of 8 – 20 % of SME loans becoming impaired along with an equivalent number of mortgages.

## EXTENDED LOCKDOWN

The choice of an extended lock down to 3 months will help suppress the level of infection however the model shows that there is a rapid return to infections later in the year. This would force a considerable number of small business to go bust with default rates > 20% and equivalent numbers for mortgage portfolios.

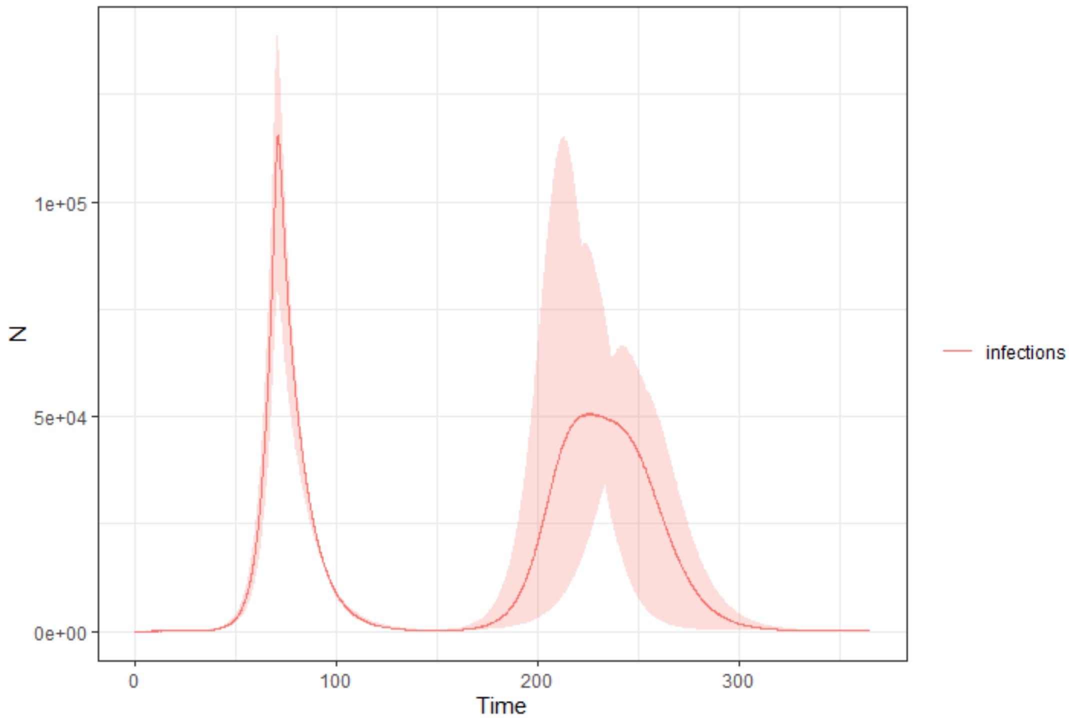


*Figure 3:Number of Infections over time from the start of the year with a 12 week lockdown imposed and full release.*

## 6 WEEK LOCK DOWN WITH GRADUAL RELEASE

In this final scenario we investigated the potential outcomes with a gradual release. The concept of gradual release can come in many forms however within the model framework this amounts to a set of social interactions that are the level of 50% of normal pre lock down levels. Managing the details of allowing different segments of the economy to function will play a crucial role in ensuring economic activity returns, the details of the proposal we have will be shared in a future note. The point that allowing retailers and a enough factories to begin operations with the right level of isolation as well as the restaurants to allow food deliveries with the right level of testing and certification of previous infection can allow the economy to grow and mitigate the impact to health care systems.

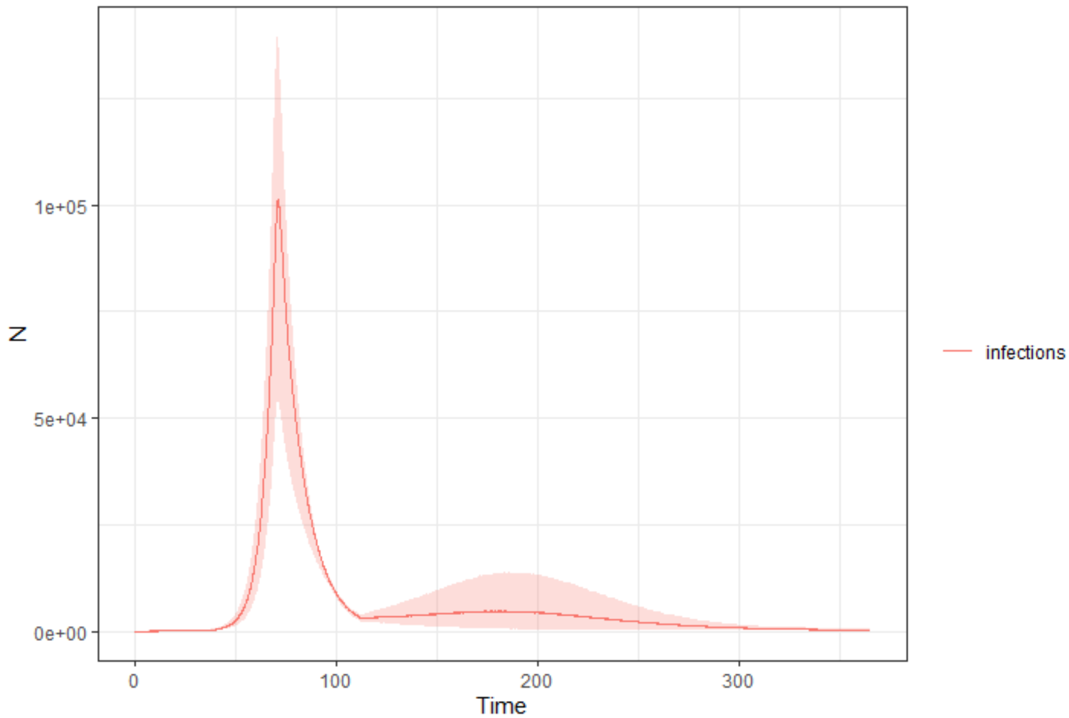


*Figure 4: Number of Infections over time from the start of the year with a 6 week lockdown imposed and around 50% of typical social interactions across the economy.*

## Summary

The path each country and regions in countries will take will have significant impacts on economies in the next 6 months. A lot useful analysis must take place banks are in a unique position to make direct assessments on the viability of their portfolios but will need some insights into the potential outcomes from government scenarios combining the diversity of different quantitative inputs.

## Quant Foundry Offering

With the COVID-19 model integrated into our analytics set and our extensive experience in credit modelling we can offer clients the ability to make sensible operational and credit risk assessments across loan and mortgage portfolios in light of potential outcomes.