Background

The world is currently in the middle of a health crisis. COVID-19 virus is spreading at an exponential rate globally leading to the World Health Organization (WHO) declaring this disease a pandemic. It has already caused 13,000+ casualties and has infected over 300,000+ people globally. So far, India has reported fewer cases of Coronavirus compared to Europe and North east Asian countries, but it is very vulnerable, given the high population density and a modest healthcare infrastructure.

The spread of COVID-19 has caused disruptions to both demand and supply. Consumer spending has gone down significantly as malls, restaurants and other public places have started to shut down. In addition, it has jolted financial markets causing a sharp decline in bond yields, equities and commodity prices. In UK, FTSE 100 has fallen 31% between 18th Feb to 18th Mar, while S&P 500 has fallen 29% during the same time frame. In Asia, NIKKEI has fallen almost 28%.

Though the banking industry is not directly impacted by disruption in consumer spending, it has been affected indirectly as many industries facing losses are heavily leveraged, for instance the airlines industry. Consequently, NASDAQ Bank index is down by 44% while EUROSTOXX Bank Index has dropped almost 50% in the last month.

Indian markets are also facing a huge sell off due to this pandemic. The country’s major indices - NIFTY 50 and Sensex have both fallen more than 25% from their respective peaks. Major sectors that are impacted are telecom, banking, power, realty and capital goods index. Indian banking industry has dropped nearly 33% since last one month. An increase in the number of Covid-19 positive cases in India and associated disruption in businesses led to India’s GDP growth forecasts being downgraded by S&P. All this, coupled with a weak Indian economy and the recent Yes Bank crisis, makes the banking sector more vulnerable to the current situation.
Regulatory response

Due to the huge sell-off in stock markets globally and decrease in overall consumer demand, fears of a global recession are becoming real. Regulators around the world have started to intervene proactively to instil confidence in the markets. The US Federal Reserve has recently cut Fed Rates to a target range of 0-0.25% as a first emergency move since the 2008 recession. The Fed also relaunched their bond-buying program worth USD 700 billion to inject liquidity into the markets. Similar steps are being taken by Bank of Japan (BoJ), Bank of England (BoE) and European Central Bank (ECB).

Reserve Bank of India (RBI) has asked banks to take measures and put business continuity plans in place to prevent any disruption in services. Also, RBI has asked financial institutions to assess impact on their balance sheets, asset quality, and liquidity arising out of potential outbreak of COVID-19 in India. The RBI governor mentioned that trade channels could be affected. He also said that growth momentum of country might be impacted due to the virus.

Stress scenarios

Given the above guidance from the RBI, we have come up with potential three scenarios on how the spread of COVID-19 and its impact can pan out in the future. We have already seen unprecedented market movements in the last two to three weeks, the below scenarios are built after reflecting on current market information.

Narratives for each scenario is detailed below:

► **Scenario 1** is a mild and optimistic scenario which assumes that Covid-19 may be contained by governments’ efforts. Also, a medical solution/vaccine may be developed which can eliminate the threat to public health. In this case, there is no reason to expect a significant long-term investment effect. Also, lower oil price will give RBI/government a headroom to take recovery measures. However, a lock down will result in temporary slowdown in growth and earning of the corporates. The impact is to be restricted to the next 3-6 months.

► **Scenario 2** is a moderate scenario which assumes no immediate breakthrough with a vaccine/medicine. However, it considers that people will develop immunity over the period. Covid-19 will become endemic like regular cold and cough. Medical advances would reduce the frequency and severity of the infection. However, the economy would suffer huge losses and fall into recession (economic activities decline for two consecutive quarters). The impact is considered to spread across a horizon of one year. In this scenario, unemployment rate will be more prominent in unorganised sectors and small industries.

► **Scenario 3** is a severe scenario which assumes that Covid-19 will prolong for an extended period with no sign of containment and cure. The infection and mortality rate would continue to increase which makes an irreversible disruption to global supply chains. Coupled with current oil price war and low interest rate (reducing ability of central bank to take any further measures to increase liquidity), the global economy falls in to depression (economic activities decline for several years). Unemployment is assumed to be at all-time high in both organized and un-organized sectors. The time horizon of the scenario to be considered is three years or more.

Keeping these scenarios in mind, the following are some of the risk factors for the banks that they may consider while designing and expanding scenarios. Severity of shocks will increase as we move from scenario 1 to scenario 3.
**Market risk**

Market risk for scenario 1 is already reflected in current market and we do not expect further deterioration in financial market.

For other scenarios, banks should assume continued erosion in the financial market. Accordingly, the banks need to provide for further drop in equity market and high volatility for the next three to six months as the scenario unfolds. It is suggested that banks factor in impact of volatility by using full revaluation methodology rather sensitivity-based approach.

A bank can consider evaluating profit and loss (P&L) impact of interest rate derivatives under low interest scenario. Scenarios should also reflect reduction in Government bond yields and widening of spread between government bonds and corporate bonds. Due to the widening of credit spreads, there would be mark-to-market (MTM) loss for all long credit positions. The central bank is expected to inject liquidity in the market by buying government bonds which will further reduce the yield. Further, banks need to factor in increase in bid-ask spread arising from lower liquidity in corporate market.

With respect to currency, we see multiple balancing trends in place. Factors causing depreciation of INR include, flight to safer heaven by foreign institutional investors, weak Indian economy and lower export due to poor global economy. On the other side, low crude oil price saves India in import bill and help in managing Current Account Deficit (CAD). Further, reduced interest rates in US would typically send the dollar lower and rupee relatively higher. In scenario 2, we can assume that RBI will also support INR by using its $480bn forex reserves and ensure stability in forex rate. However, for scenario 3, sharp depreciation in USD/INR should be considered to factor in dipped forex reserves, reducing ability of RBI to support, and no improvement in Indian economy. We are already seeing USD/INR exchange rate going down steeply.

With respect to commodities, we see a lot of uncertainties. Along with COVID, geopolitical developments may further impact them. Accordingly, we suggest that, before defining shocks banks must assess their net overnight open position (NOOP). Basis that, direction of shocks could be decided to reflect adverse results in commodity positions.

**Credit risk**

In the Indian economy, there is already a stress due to bad loans for the entire banking sector. COVID-19 will make it worse depending on how long it goes. The slowdown in international trades has already prohibited import of various inputs which caused an immediate impact in many sectors, including auto, pharma, and electronics. Also, due to the restriction of movement, industries like tourism and aviation are also severely affected. The current scenario not only restricts customers’ ability to service loans but also to refinance them.

Based on this, we expect an increase in NPAs across the board. Due to disruptions across the world, banks should also evaluate risk on their international trade finance assets/obligations.

Given that the corporate portfolio has been in stress for some time, banks have shifted their focus on retail portfolio to diversify the risk. We believe, under these scenarios the retail portfolio will also undergo undue stress due to increase unemployment and reduced growth in personal earning. We expect that digital lending will be more vulnerable in these scenarios.

Furthermore, we expect that value of underlying collateral will diminish for secured loan. For unsecured loan, reduced financial capacity will lower the recovery rate. Accordingly, along with probability of default (PD), banks should stress out their loss given default (LGD) parameters specifically in scenario 3.

We believe another crucial factor to stress in these scenarios is portfolio correlation. The impact of these scenarios spreads across sectors and geographies. Further, though the retail portfolio is generally uncorrelated, it will show a contagion effect like subprime crisis of 2008-09 leading to high correlation. Hence, banks will not get any advantage of diversification and should factor this in their stress scenarios.
Banks should look into financial covenants closely to avoid any unintended stress on borrowers and provide waiver on time. They should also evaluate clause for cancellation of undrawn commitments in a stress scenario.

In scenario 1, we expect credit risk to be more pronounced in small and medium enterprises (SMEs), low-rated corporate customers and retail customers with low CIBIL scores. However, scenario 2 and scenario 3 will have impact across rating classes. It is a general practice to use internal/external rating to define stress scenarios. Depending upon the frequency of rating update, banks should ensure that the ratings are adjusted to reflect existing information in the market before a stress scenario can be applied on them.

In both scenarios 2 and 3, due to the overall increase in credit risk, we expect higher risk weighted assets (RWA) resulting in fall of capital adequacy. In some cases, it may fall even below the minimum regulator prescribed capital adequacy requirement which would require banks to go into the market to raise fresh capital. It would be extremely challenging to raise capital in the current market environment. Further, dip in capital adequacy may send a wrong signal to sceptical depositors which may result in run on deposits as discussed in liquidity risk.

**Liquidity risk**

In all the scenarios, banks are susceptible to liquidity risk. There are multiple risk factors which can create liquidity crisis for them. They should evaluate stress on following cash flows keeping in mind the above scenarios:

1. **Run on deposits:**
   Due to the recent Yes Bank crisis, depositors have become sceptical about safety of their deposits. This has made other private banks (especially small ones) very sensitive to any adverse news. We suggest that, private banks should put themselves to test against severe run on deposits. The impact should be applicable to both retail and corporate deposits. Wholesale deposits should be considered more sensitive than retail deposits. In all the scenarios, the banks should not consider inflows into fixed deposits from other banks as well as from risky investments like equities due to flight to safety.

2. **Funding risk:**
   Recently two public sector banks have shelved their plans to raise capital due to tepid markets. Private banks will find themselves at a further disadvantage. In scenario 1, it should be assumed that RBI will use several tools to tackle issue of funding risk in the form of slashing cash reserve ratio (CRR), statutory Liquidity ratio (SLR), repo rate, and buybacks. In scenario 2, the banks should consider that availability of these tools will start getting limited due to longer time horizon (one year). Finally, in scenario 3 (depression scenario), it should be assumed that RBI will exhaust all the available tools at its disposal. For firms with significant reliance on long-term wholesale funding, an adjustment to the funding plan need to be devised.

3. **Intraday:**
   Banks are a primary provider of intraday liquidity to equity market participants like mutual fund/broking houses. In the current volatile market, liquidity position of these firms may get impacted which will have contagion effect on these banks. We recommend that banks should factor in this risk while designing all three scenarios.

4. **Loan repayment:**
   On the asset side, banks should consider delay/failure of interest and principal payment by corporates and retail customers. Prepayment behaviour may also alter during this period. From a liquidity standpoint, this may partially offset by lower growth in loan books.

Lastly, banks should also revalue its collateral received/posted and factor in any liquidity impact due to margin requirements.
Operational risk

All the scenarios should capture the following operational risk factors:

1. **Cyber risk:**
   Social distancing is currently considered to be the only measure to contain the virus. In line with this, companies are allowing employees to work from home (WFH). WFH has to be extended to sensitive operations (like trading activities, departments handling client data) which were previously well-monitored and guarded within the premises. Enhanced risks stem from insecure Wi-Fi connections, open printer ports and documents shared on cloud databases. Cyber opportunists are out in full force, creating an uptick in cyber scams, phishing emails and ransomware attacks. Given this, companies are likely to be affected by plausible internal data breaches and impact on their business and reputation.

2. **Internet shutdown:**
   Concurrent usage of WFH at this scale is unprecedented. With lock down of other activities, residential usage of internet is also at its peak. Aggregate that across cities and across country, internet pipes are probably reaching the limits. Accordingly, we suggest these scenarios should factor in outage of internet facilities. This may halt all the operations and can also create a panic among customers.

3. **Keyman risk:**
   It is important that the banks factor in key persons getting infected with COVID-19. Such cases can trigger idiosyncratic event and should be captured in all the scenarios.

To conclude, there is lot of uncertainty around COVID-19 and it is very important that banks are prepared for all possible scenarios. This will help in planning and ensuring they maintain adequate capital and liquidity in advance. This will also enable banks to re-strategies their investment and credit policy to tackle this crisis.
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