

Financial risk management for banks

Responding to the challenges presented by COVID-19

COVID-19 implications for credit, market, operational and liquidity risk

April 2020

The COVID-19 pandemic has enveloped the world within weeks, and continues to put severe strain on people and businesses in Hong Kong. The banking industry in particular is impacted by volatile market conditions, deteriorating credit quality and business continuity challenges among other things. The unexpected crisis also raises questions around banks' existing risk management frameworks in terms of their effectiveness and agility.

These are unprecedented times for CROs, risk functions and the business and key decision makers need to navigate their organisation through unchartered waters in these turbulent times. In our second COVID-related risk management paper¹, KPMG experts compiled some known and expected implications for the core financial risk types. These four risks have been materially impacted under the crisis and have direct implications for banks' capital management.

We set out some key action points to be considered by banks – both in the short term to support crisis management, but also in the medium- to long-term to support the way forward once the worst shock has passed.

The immediate issues that banks face on financial risks:



Credit Risk

- Deteriorating credit quality across certain sectors needs to be reflected with timely updates to credit ratings and analysis on impacts to RWA, refreshing of credit limits, and bolstering workout units.
- Government support programs and relief measures need to be reflected in credit provisions as this will have an impact on IFRS 9 ECL - relief measures and staging of loans, economic forecasts, disclosure.



Market Risk

- Due to the stressed market conditions, banks will need to re-allocate risk-based limits (especially on trading book sensitivity limit breaches), revise stress testing scenarios and back-testing methodologies.
- Fair value adjustments to account for liquidity discounts, close-out costs (bid-offer spread widening) and movements in credit valuation adjustment, funding spreads and greater volatility.



Operational Risk

- Uncertainties of COVID-19 impacts on operational processes putting strain on operational risks.
- Striking the right balance between cost cutting and smooth operations.
- Regulatory and business focus on operational resilience.



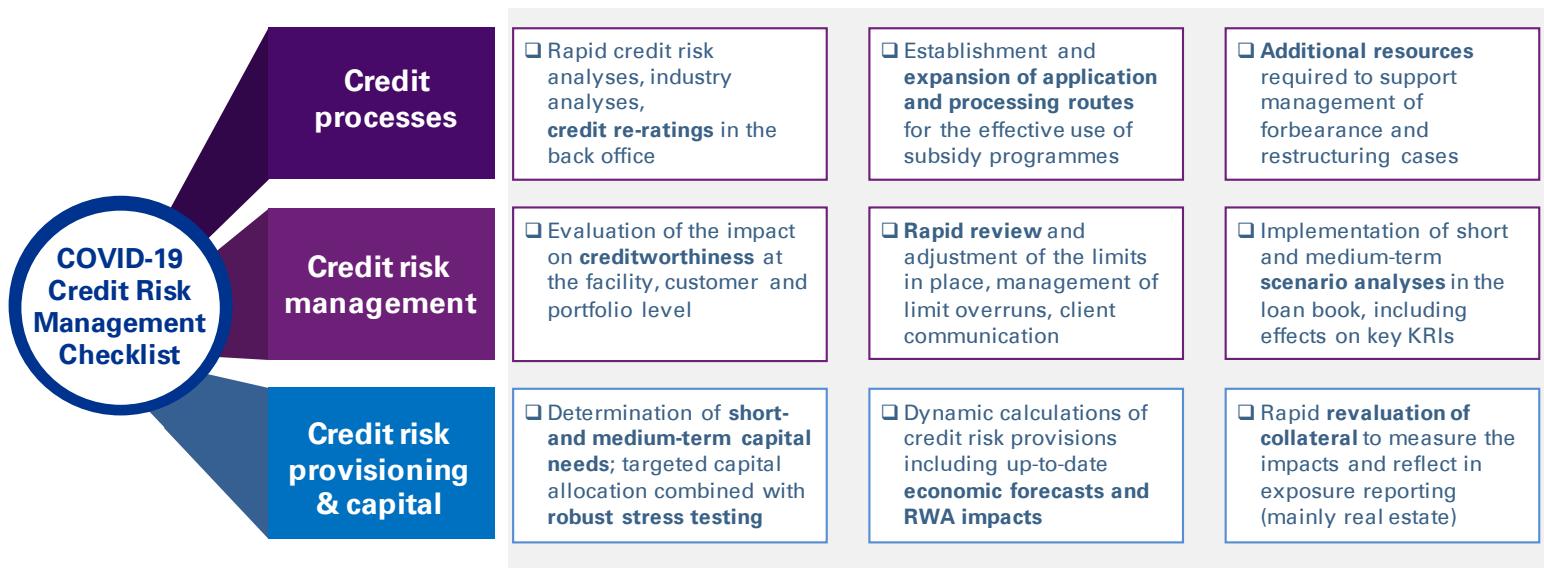
Liquidity Risk

- Underprepared for the unexpected liquidity constraints from heavy drawdowns and limited access to alternative funding sources.
- Challenges on practicability and flexibility of existing stress testing and liquidity risk framework.
- Lack of ad-hoc assessments and effective escalation protocol (e.g., timely reporting and decision-making).

¹ <https://home.kpmg/cn/en/home/insights/2020/02/stress-testing-loan-portfolios-in-times-of-crisis.html>

COVID-19 impacts for Credit Risk

- Obligors seeking **liquidity** and drawing down their credit facilities
- Early warning systems and internal rating systems are **downgrading credit**, less sensitive ratings of larger companies may need manual analysis on cash flows and ad-hoc treatments
- **Portfolio early warning triggers**: sectors like tourism, hotel, airlines, commodities, etc. will all be put on early warning lists that may have knock-on effects to ECL and RWA
- **Forbearance measures** are requested: banks need to analyse obligor cash flows and process applications in a short period of time
- Uncertainty about **IFRS 9 stage 2 migration** due to relief measures and interactions with SICR² as well as challenges modelling **economic scenarios** (including which forward-looking scenarios and probabilities to be used)
- **Default uncertainty about NPL identification, restructuring or recovery approaches**
- **Implementation and incorporation of the Hong Kong Government's** various relief measures such as the Pre-approved Principal Payment Holiday Scheme for Corporate Customers, the SME Financing Guarantee Scheme, and other support and payment holiday initiatives into the banks credit risk management



- Assistance with the application of **COVID-19 stress scenarios and simulations of creditworthiness** with our deep credit risk analytical expertise in credit ratings and stress test modelling.
- Assistance in carrying out ad-hoc sensitivity analyses in order to translate the dynamic development of the economic outlook into **credit risk-relevant indicators** (i.e. PD, LGD, ECL).
- Experienced **credit professionals** with know-how in the internal credit rating process to ensure the **timely execution of re-ratings**.
- **IFRS 9 impact assessments** and scenario analysis to understand the impact on Stage 2 migrations and the impact on IFRS 9 scenario adjustments.
- **Operational support** for your restructuring and workout units to relieve processing pressure and / or operational support for your front lines to relieve pressure on credit applications or credit monitoring.
- Setting up a **credit risk management COVID-19 task force**:
 - ✓ Support establishment of a database to track credit-related regulatory and legal changes
 - ✓ Carrying out routine analytics for RWA, capital and IFRS 9 provisions
 - ✓ Supporting the implementation of new requirements into existing credit risk processes
 - ✓ Supporting day-to-day operations, project management, and credit risk MIS reporting

² Significant Increase in Credit Risk

COVID-19 impacts for Market Risk

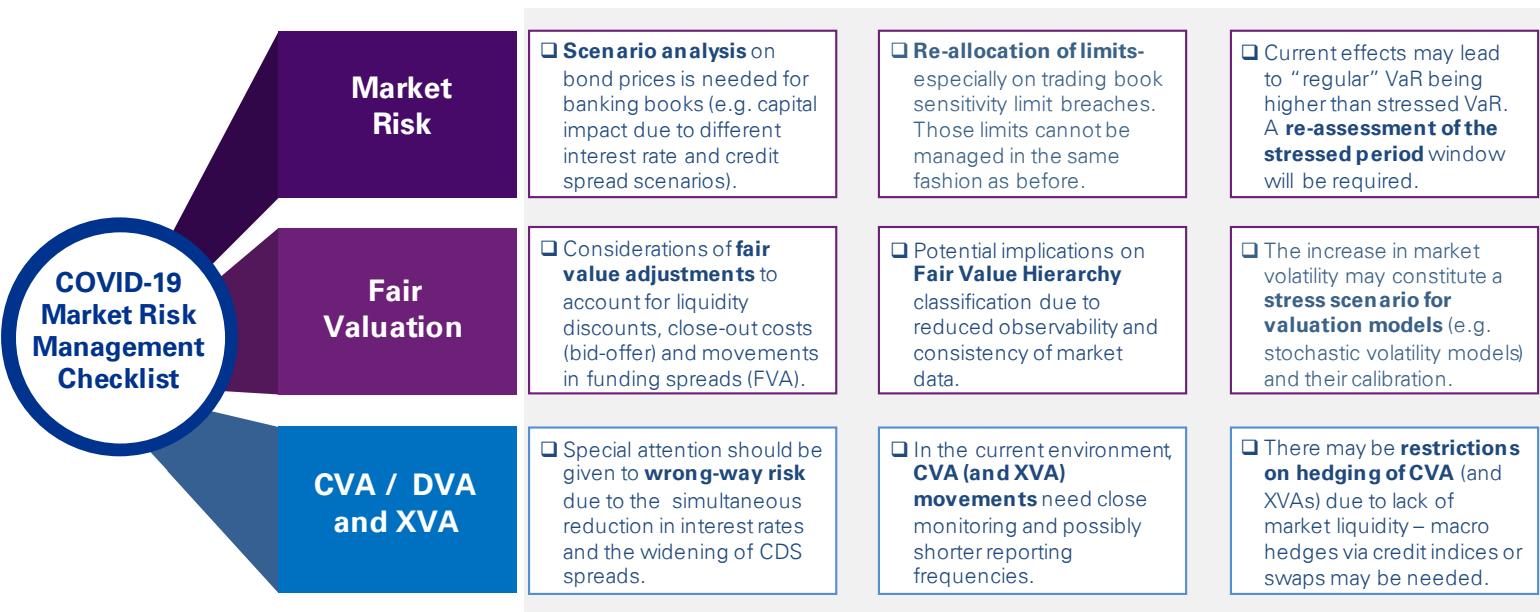
The COVID-19 pandemic has significantly affected financial markets, and market risk is one of the heavily impacted areas. Stock markets have declined sharply and volatility has increased. Treasury bond yields have reached record lows and credit-default-swap indices have been surging, reflecting concerns of increased corporate defaults. For many assets and liabilities, fair values may have changed significantly, reflecting changes in cash flow forecasts, greater uncertainty and elevated risks.

Market risk (general):

- High market volatility visible across all asset classes
- Lower prices for bonds impact P&L and capital, especially liquidity reserve bonds
- Limit breaches may occur due to higher exposures in the wake of rising market volatility and may arise due to inability to hedge certain exposures
- Inconsistencies in market data due to loss of liquidity affecting valuations and risk model parametrisation
- High volatility drives trading frequency and trading costs up, e.g. in delta hedge environments

Market risk (Internal Model Approach):

- New stressed scenarios drive VaR figures upward leading to increased RWAs
- Back-testing outliers occur due to a series of strong market movements possibly leading to higher regulatory scaling factors and thus increased RWAs

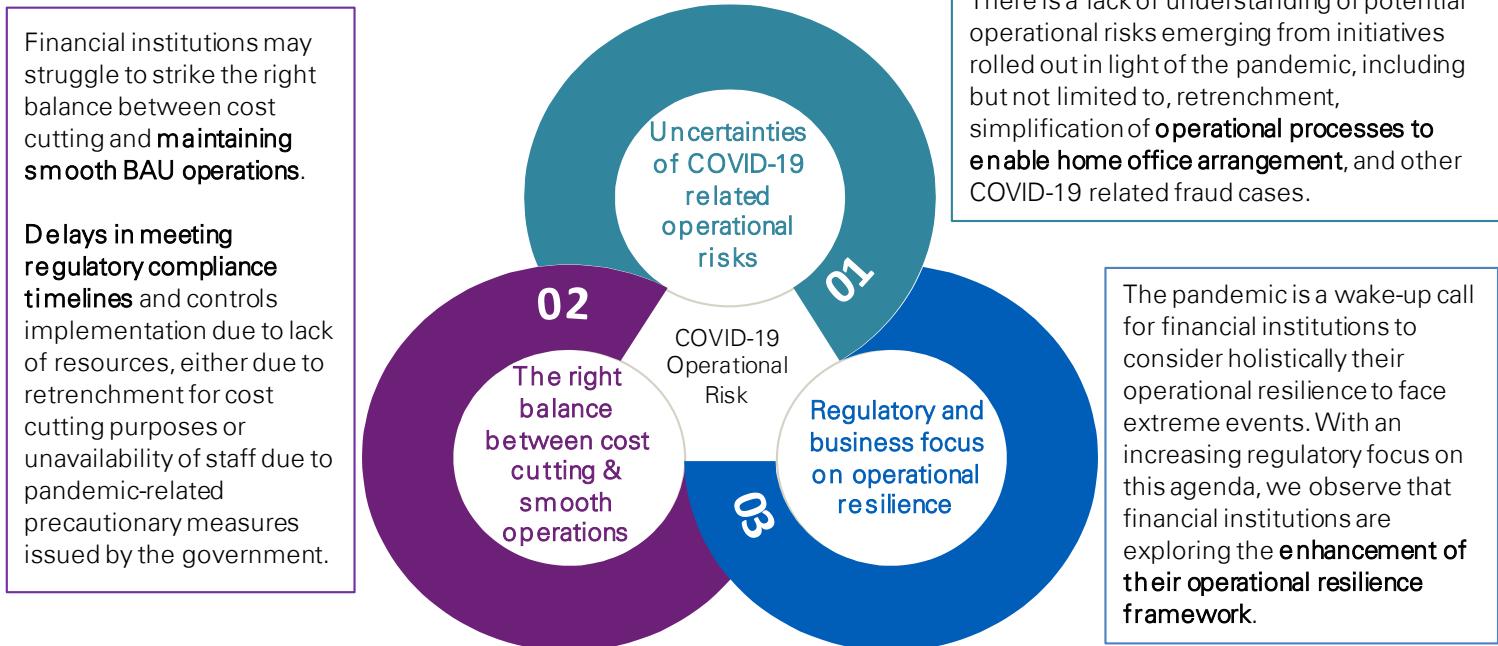


Assistance to banks as they implement the following responses to the current market conditions:

- Accelerate the **management of credit spread risk** in the banking book if not sufficient yet;
- Cater for the impacts of **interest rate and credit spread movements** on accounting P&L and capital management;
- Re-allocate **risk-based limits** to reflect new market conditions;
- Revise **stress testing scenarios** and back-testing methodologies;
- Adopt methodologies for **fair value adjustments** to account for liquidity discounts, close-out costs (bid-offer) and higher volatilities;
- Incorporate thorough **quality assurance of pricing feeds** and alternative data for valuation; and
- Enhance **CVA/ DVA/ XVA methodologies** and their monitoring framework.

COVID-19 impacts for Operational Risk

COVID-19 has undoubtedly placed financial institutions' capability to manage remote operations into an unprecedented stress test. With the prolonged impact from the disruptive waves of the pandemic, financial institutions have heightened the importance of having robust governance, processes, and system and controls to mitigate the potential operational losses. We observe the following COVID-19 related challenges faced by financial institutions which may give rise to potential operational risks:



- We can assist with the conduct of a rapid **risk and control self-assessment (RCSA)**:
 - ✓ Identify key risks inherent in changes to operational processes to enable home office arrangement as well as business processes related to new products launched as **relief measures for COVID-19**
 - ✓ Assess the adequacy of controls to mitigate risks arising from the new and revised processes
- We can facilitate the identification and assessment the impact of COVID-19 related stresses through a **scenario analysis** process:

1
Scenario Identification

2
Scenario Preparation

3
Scenario Assessment

4
Review, Validation & Approval of Scenario Outcome

5
Documentation
- Our in-house **regulatory compliance tool** can assist you with achieving **operational optimisation**. Key features of the tool are as follows:
 - ✓ Captures Hong Kong regulatory requirements applicable to your business
 - ✓ Assesses the transformational considerations impacting the business and operating model
 - ✓ Understands interdependencies between different regulatory requirements
 - ✓ Clear assignment of roles and responsibilities
 - ✓ Tracks the implementation of control processes to ensure regulatory compliance
 - ✓ Designs and implements a monitoring and testing approach which links to specific Hong Kong regulatory obligations
- We can review and provide tailored recommendations on the appropriateness of your **operational risk stress testing methodology**, taking into consideration regulatory expectations and peer practices. This includes review of scenario setting and stress testing approach, such as data selection, frequency, severity, parameters or multipliers, assumptions, justifications, model limitations, etc.
- We can support with **enhancing enterprise-wide operational resilience**:
 - ✓ Operational resilience governance and strategy
 - ✓ Operational resilience policy and framework
 - ✓ Design target operating model for operational resilience for third party risk management, resource management, cybersecurity management, as well as business continuity management

COVID-19 impacts for Liquidity Risk

The recent COVID-19 outbreak has created considerable strain and uncertainty in the global financial markets. Banks are experiencing liquidity risk management issues from deferred loan repayments, bridge financing needs, heavier drawdowns, constrained interbank borrowing, potentially higher deposit run-offs and margin calls due to increased volatility. In response to this, the **HKMA issued a letter regarding liquidity measures in response to the COVID-19 outbreak³**:

“While the financial markets and banking system in Hong Kong have continued to operate in an orderly manner, there has been occasional tightness in the Hong Kong dollar money market due to fluctuations in demand and supply of funding, seasonal factors as well as the recent strain in USD funding. Some bank customers also face financial dislocations due to the disruptions to economic activities both locally and internationally.”

The HKMA letter also highlighted **three aspects**: HKMA's Liquidity Facilities Framework, the Federal Reserve's Temporary FIMA Repo Facility, and supervisory expectation on the use of liquidity buffers under the liquidity coverage ratio (LCR) and liquidity maintenance ratio (LMR) regimes.

Banks are realising liquidity risk shortcomings:

- Are we **operationally ready** for utilisation of liquidity facilities and liquidity buffers?
- Can our existing **stress testing and models** adapt to the “**new reality**”?
- Do we have an actionable and organised **escalation and contingency plan**?
- **Immediate view on the real-time liquidity positions** – a worst case situation in a prompt and volatile crisis?
- Are the **current KPIs appropriate** for crisis management?

Focus areas under COVID-19

Operational Readiness



Banks need to ensure they have operational efficiency to have timely access to liquidity facilities and efficient utilisation of their liquidity buffers

Scenario Design and Models



Banks should incorporate the COVID scenarios in their stress testing and adjust models in order to assess the potential impacts and ensure appropriate action under the crisis

Contingency Funding Plan and Recovery Plan



Banks should revisit the contingency funding plan and recovery plan to adapt to the new reality

Reporting and Escalation



Banks should improve content, readability, and timeliness of their crisis reporting

KPMG offerings

- Support on establishing internal policies and procedures for using the HKMA's liquidity facilities, especially standby liquidity facilities (SLF)
- Preparing for upcoming drills for accessing the SLF by the HKMA
- We can support you on the utilisation of liquidity buffers under the LCR and LMR regime to ensure that the flexibility embedded in the regulatory liquidity framework is integrated into your relevant internal processes

- Reassess the existing stress scenarios to adopt the “new reality” and ensure that scenarios can be adaptable and “on-the-fly”
- We can help you recalibrate existing models to perform ad-hoc analyses under new scenarios which require ad-hoc data availability, flexibility of calculation engines and reporting
- Assist on analysing expected liquidity needs from clients (differentiated at a granular level by product/customer type, currencies, etc.)

- Assistance on enhancing governance and analysis of potential contingency measures
- Establish clear triggers, daily monitoring and detailed escalation protocols (e.g. standardised emails and management information) for senior management and regulators (if necessary)
- Ongoing refreshment of contingency funding plan and recovery plan measures – in light of current crisis

- Support ad-hoc reporting with clear and timely information on key liquidity metrics and banks' liquidity positions
- Engage key stakeholders based on actionable and timely information to facilitate decision making
- We can support ongoing internal / external communications around measures taken, measures to be executed and follow-up actions

³ <https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2020/20200403e1.pdf>

What's Next?

The outbreak of the COVID-19 pandemic presents a significant challenge for the Hong Kong economy. With the anticipation of a prolonged impact in addition to the technical recession in 2019, financial institutions have undertaken actions to further strengthen their internal controls and stress testing methodology to address the latest economic conditions. The following are examples of our existing tools and templates that can assist you to manage your risks.

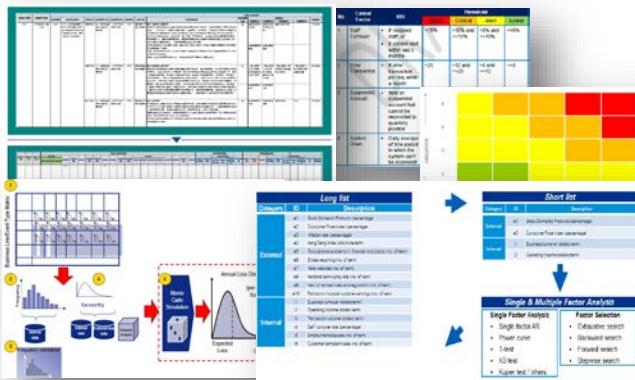
Credit Risk

We have a number of **easy to use credit risk tools** for stress testing, IFRS 9 calculations and modelling, Counterparty Credit Risk (CCR) EAD and stress testing as well as automated model validation.



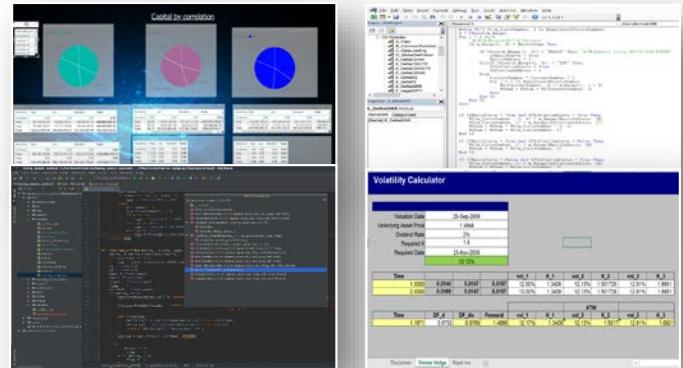
Operational Risk

Effective way to identify and assess your **existing operational risk and controls**, stress testing on **COVID-19 related scenarios** tailored to your **operational risk profile** and to analyse the impact of COVID-19 on your **operational risk capital**.



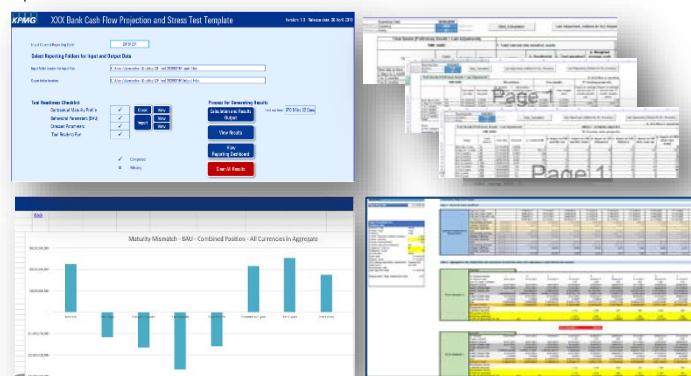
Market Risk

Market risk toolkit that **performs stress testing** with customisable stressed windows and scenarios, **valuation of multi-assets** under stressed scenarios (with simulation and calibration functionalities) and for market risk capital analysis.



Liquidity Risk

With our cash flow and **liquidity planning tool**, which can be **implemented quickly and easily**, you can calculate a reliable **12-month cash flow forecast**, run simulations and adjust various run-off and behavioural parameters.



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