Loan portfolios may be abruptly impacted due to the coronavirus outbreak, which could lead to correlated increases in default risk, higher provision rates, and an overall increase in credit risk. Although specific guidance on targeted stress tests due to the outbreak has not been issued by the regulator\(^1\), we would recommend banks to run targeted stress tests to identify vulnerable credit, sectors and supply chains, and then take proactive action.

**Quickly identify vulnerable credit and sectors**

**Step 1**
- Design scenarios (i.e., travel bans, supply chain shocks, retail shocks)
- Stress underlying cashflow and debt service ratios for all obligors
- Transmit impact to loan level probability of default (PD)
- Calculate expected loss and RWA for each loan
- Re-run simulation based on a range of scenarios and aggregate results

**Step 2**
- Simulate stage transfers due to increases in credit risk
- Input updated macroeconomic forecasts into IFRS 9 models
- Update PDs and loss given default (LGD) based on simulation results
- Calculate IFRS 9 ECL for each loan

**Step 3**
- Individually assess any loans where obligors appear highly vulnerable to hemorrhage cash as per the stress test results
- Sector analysis reviewing aggregated impact on RWA and IFRS 9
- Contagion impact and supply chain analysis for large corporates that appear more vulnerable, potentially leveraging new BELR analytics
- Review collateral and guarantees in place

**Step 4**
- Proactively target customers and sectors that have shown to be weaker as per the stress test results
- Further refine relief measures based on target groups

\(^1\) HKMA, Circular on measures to relieve impact of the novel coronavirus
Impact on supply chains could be highly correlated and severe

Disruptions to supply chains could last for many months according to some experts. It is important that the stress tests assist banks to identify vulnerable obligors that might be linked up to and reliant upon an entire supply chain ecosystem. The new HKMA requirements on Bank Exposure Limit Rules (BELR) requires banks to conduct detailed analytics on supply chains (top suppliers and buyers) for larger corporates. These analytics can be leveraged in the stress tests to identify which obligors in a given supply chain the bank has exposure to and how severe the impact might be. Other stress models that look at contagion within industries/supply chains over multi-period stress events can be leveraged (i.e. Davis and Lo).

First order impacts
— The first order impacts from the stress test will identify larger corporates (or sectors) that may be more vulnerable
— Review and conduct more thorough analysis on these obligors (or sectors) to understand the exposure profile

Second order impacts
— Conduct a thorough analysis on all large subsidiaries, suppliers, and buyers related to ‘A’
— Review which of these entities the bank has direct or indirect exposure to

Third order impacts
— Analyse suppliers and buyers to second order entities to get a complete picture of potential contagion
— Identify those 3rd order entities that are major suppliers or buyers in the supply chain that the bank may have exposure to

Contacts

Paul McSheaffrey
Partner, Head of Banking & Capital Markets
KPMG China
T: +852 2978 8236
E: paul.mcsheaffrey@kpmg.com

Tom Jenkins
Partner, Head of Financial Risk Management
KPMG China
T: +852 2143 8570
E: tom.jenkins@kpmg.com

Michael Monteforte
Partner, Financial Risk Management
KPMG China
T: +852 2847 5012
E: michael.monteforte@kpmg.com

Gemini Yang
Director, Financial Risk Management
KPMG China
T: +852 3927 5731
E: gemini.yang@kpmg.com

Connie Kang
Associate Director, Financial Risk Management
KPMG China
T: +852 3927 4619
E: cs.kang@kpmg.com

James Philpott
Manager, Financial Risk Management
KPMG China
T: +852 3927 5828
E: james.philpott@kpmg.com

kpmg.com/cn

The information contained herein is of a general nature and is not intended to address the circumstances of any particular individual or entity. Although we endeavor to provide accurate and timely information, there can be no guarantee that such information is accurate as of the date it is received or that it will continue to be accurate in the future. No one should act upon such information without appropriate professional advice after a thorough examination of the particular situation.

© 2020 KPMG Advisory (Hong Kong) Limited, a Hong Kong limited liability company and a member firm of the KPMG network of independent member firms affiliated with KPMG International Cooperative (“KPMG International”), a Swiss entity. All rights reserved. Printed in Hong Kong. The KPMG name, logo are registered trademarks or trademarks of KPMG International.