Financial Services Briefings

Issue 18 | **May 2016**
MICA (P) 029/02/2016

Foreword

Banks are leveraging on stress testing to answer crucial risk management questions, such as forecasting losses and capital adequacy under stressed conditions.

Stress testing is a powerful tool that can help to see through the haze in an uncertain environment. The value derived from painting a more accurate picture of the impact of potential macro-economic shifts or black swan events, cannot be underestimated. It gives both the risk takers and risk managers more confidence in their long term decision-making. For senior management, it strengthens the necessity of risk management by magnifying potential loopholes in the business model.

Nonetheless, the full potential of stress testing to shape their business and product strategy remains under-utilised.

Now is the best time for banks to embrace the full potential of stress testing for risk management and business navigation, as a step towards enhancing long-term business sustainability.

In this issue, we will look at ways in which stress testing can be enhanced to improve risk management and raise the level of confidence in business planning and forecasting.

Leong Kok Keong
Partner, Head of Financial Services
KPMG in Singapore

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Driving business value through stress testing

By: Craig Davis, Steven Claxton and Nanda Thiruvengadam

A new scope for stress testing
Banks are leveraging traditional methods of stress testing to answer crucial risk management questions, such as forecasting losses and capital adequacy under stressed conditions. However, the full potential of stress testing to shape their business and product strategy remains under-utilised.

By adopting enhanced stress testing approaches, the impact of sudden macro-economic shifts on a bank's business can be better estimated. Imagine knowing the quantum of impact of GDP on net interest margin or the quantum of impact of external market shocks on funding cost. This information could propel strategic decisions like:

- Developing a product and investment strategy that is sensitive to changing macroeconomic conditions, industry dynamics and country dynamics
- Setting coherent strategic objectives and risk appetite targets
- Developing a stable funding strategy
- Identifying early warning indicators that should trigger contingency plans and countermeasures
- Understanding how to stabilise asset quality and growth under adverse external conditions

Six quick wins to capture the value of stress testing
In Asia, a number of regulators are adopting stress testing as a part of their supervisory framework. But it is more than just a regulatory compliance exercise. KPMG's benchmarking analysis on stress testing practices in Asia revealed that most banks use it for their capital planning purposes and a few banks are also using it to establish their risk appetite.

A well designed and implemented stress testing framework can add value to a bank in many ways. Here are some emerging trends that we believe banks will embrace:

- Strategic planning: A combination of stress testing and sensitivity analysis can be used to scientifically measure the interactions between the balance sheet fundamentals and exogenous factors (macroeconomic factor, industry dynamics, political and social dynamics). This information will be powerful in guiding the bank's strategic objectives, product and investment strategy.
- Funding strategy and contingency planning: Funding strategy and contingency liquidity plans will be sharper and better informed by stress testing the relationship among capital, funding cost, and liquidity. The Basel Committee had recently published a paper on stress testing where they emphasised the need to model this relationship. They cite that funding costs decrease by a range of 26 to 100 basis points (bp) for every 100bp increase in capital levels.
- Equity risk: Crucial investment decisions can be guided through stress testing, which provides an understanding of the impact of adverse scenarios on minority investments.
- Incorporate interbank contagion effects: While an individual bank may be within its risk limits, it is still not immune from catching a "Financial Cold" or worse, on account of the inter-connectedness of our financial system. Such a contagion effect can be a black swan event leaving banks little time to react. Hence, banks need to stress test the impact of contagion from its large banking counterparties or other financial institutions that are designated as high impact firms.
- Capture banks' responses to adverse scenarios: In the event of breach of any of the risk limits (capital adequacy ratio, leverage ratio, LCR, exposure limits, or concentration limits), banks

invariably take action by deleveraging, asset fire sale, raising capital, new funding, cutting down lending, etc. These balance sheet changes could be captured iteratively in the stress testing time window, hence forecasting a 'real-world' outcome.

- Enhance operational risk: While there is no conclusive evidence on whether external macroeconomic factors influence operational risk losses, stress testing can still be used to determine the idiosyncratic factors which can be a root cause to these losses. Consequently, internal controls can be enhanced.

Strategies to take full advantage of stress testing

Stress testing is a complex activity which requires pulling together knowledge, competencies and infrastructure across the organisation. To ensure it is not just a "check-in-the-box" compliance activity and it works effectively as a business navigation and risk management tool, banks need to get the following six elements of stress testing right.

Recommended approach to the six elements of stress testing

1. Objective/purpose

- Integrate stress testing to risk appetite setting, business planning, product planning, capital planning, recovery and resolution planning, limits setting and risk monitoring.
- Establish group level Key Performance Metrics (KPM) and Key Risk Metrics (KRM) bands for baseline and stressed conditions.
- Cascade these down to stressed limits and early warnings indicators at the business unit and product level.

2. Governance

- Establish Group Wide Stress Testing (GWST) function that cuts across risk type and business units.
- GWST establishes consistent stress testing methodology and procedures, and oversight protocols across the firm.
- Business units in foreign countries should have its own satellite stress testing team to support local requirements.

3. Methodology

- Leveraging stress testing framework to develop an early warning system.
- Stress testing based on dynamic balance sheet.
- Capturing interlink between solvency and liquidity.
- Model contagion effect from other group entities.
- Estimate the impact of solvency levels on funding cost. This can drive the funding strategy.
- Plan to incorporate model risk buffer. Under adverse conditions, models tend to be less accurate due to increased volatility in inputs.
- Most importantly, stress testing models should involve both quantitative analysis and business judgement.

4. Scenario definition

- Coherent scenarios which reflect risks emerging from a range of events, including social, political, economic and market conditions.
- Customise scenarios to be coherent with any portfolio concentrations (large exposure, industry concentration, market concentration, and product concentration).
- Incorporate large counterparty shocks to evaluate the impact of concentration.
- Critical challenge of scenarios from senior management, economists and business heads is crucial.

5. Infrastructure

- Tier 2 banks should invest early in capturing relevant historical data. But, data is also cost. So banks need to be very smart in figuring out what data they need.
- Banks need to move towards building integrated risk data. It makes it easier to understand asset correlations, improves consistency of forecasts and minimises manual processes. Basel Committee on Banking Supervision 239 is also pushing banks in this direction.
- Document models, methodologies, process, results, assumptions etc. It is critical to build strong technical writing capabilities and documentation protocols.

6. Reporting

- Stressed forecasts and performance against stressed limits are reported in periodic management reports.
- On-demand reporting for business unit heads as macroeconomic and sector specific events happen.
- Breach of stressed capital limits should be reported.
- Report when any capital surplus is forecasted.
- Report any signs of deteriorating underwriting conditions during the expansion phase of credit cycle.

Undoubtedly, stress testing is a powerful tool that can help to see through the haze in an uncertain environment. The value derived from painting a more accurate picture of the impact of potential macro-economic shifts or black swan events, cannot be underestimated. It gives both the risk takers and risk managers in banks more confidence in their long term decision-making and for senior management, it strengthens the necessity of risk management by magnifying potential loopholes in the business model. While implementing stress testing is a very challenging exercise, as long as banks find the right balance between complexity and transparency, the benefits far outweigh the effort.

Regulatory and tax updates

Regulatory Updates

Financial Institutions

MAS Notices on Prevention of Money Laundering and Countering the Financing of Terrorism and its Guidelines

On 30 November 2015, MAS made amendments to the above Notices and Guidelines for all Financial Institutions (FIs). A key amendment requires FIs to inquire if any beneficial owner exists when performing customer due diligence on a customer that is a Singapore or foreign government entity.

Commercial Banks

MAS Notice 651 Liquidity Coverage Ratio Disclosure

In December 2015, MAS issued the above notice which applies to every bank incorporated in Singapore notified by MAS that it is a domestic systemically important bank (D-SIB). The Notice sets out the disclosure requirements for D-SIBs regarding their Liquidity Coverage Ratio. It also sets out guidance on disclosure of non-mandatory information that a D-SIB is encouraged to make. D-SIBs are to comply with the Notice from the date of the first reporting period after 1 January 2016.

Consultation Paper on Proposed Amendments to MAS Notice 637 to Implement Revisions to the Basel III Capital Framework

In October 2015, MAS proposed amendments to MAS Notice 637 to implement requirements for Singapore-incorporated banks that are consistent with the final standards issued by the Basel Committee on Banking Supervision on the Basel III Capital Framework. These amendments will enhance the risk capture of banks' equity exposures and counterparty credit risk exposures, allowing for better comparison of banks' disclosures of risk-weighted assets and improving the consistency of disclosures. The amendments are intended to be effective from 1 January 2017.

Merchant Banks

MAS Notice 1015 Minimum Liquid Assets and Liquidity Coverage Ratio

With effect from 1 January 2017, merchant banks are subject to similar liquidity requirements as commercial banks. Merchant banks incorporated and headquartered in Singapore or deemed as D-SIBs are required to comply with the Liquidity Coverage Ratio (LCR) requirements under the Notice. All other merchant banks are required to elect to comply either with the LCR or Minimum Liquid Assets requirements, and are required to notify MAS in writing of at least one month of their election.

Commercial Banks/Merchant Banks

Consultation Paper on Related Party Transaction Requirements for Banks

In January 2016, MAS issued the above consultation paper proposing the following key changes:

- Certain material non-exposure related party transactions (RPTs) are now exempted from prior board approval. Examples include non-exposure RPTs that are offered on standard terms and conditions to all customers, such as deposits;
- the RPT requirements will apply to transactions booked in the overseas branches or subsidiaries of a bank incorporated in Singapore; and
- MAS Notice 639A, which is a quarterly statement of a bank's credit facilities and other exposures to related parties, has been updated to include information on the facility type, collateral type and collateral amount of any credit facilities and exposures granted to the director groups of banks incorporated in Singapore.

Securities, Futures and Fund Management

Notice on Minimum Entry and Examination Requirements for Representatives of Holders of Capital Markets Services Licence and Exempt Financial Institutions under the SFA [MAS Notice SFA 04-N09]

In October 2015, MAS made amendments to the above notice, relating to the removal of "Module 2B - Rules and Regulations for Trading in Futures Contracts (for members of the Singapore Mercantile Exchange)" from the CMFAS Examinations.

Notice to all holders of a Capital Markets Services Licence for Real Estate Investment Trust Management [MAS Notice SFA04-N14]

Guidelines to all holders of a Capital Markets Services Licence for Real Estate Investment Trust Management [Guideline No. SFA04-G07]

Code on Collective Investment Schemes

On 1 January 2016, MAS introduced the aforementioned MAS Notice SFA04-N14 and its Guidelines and amended the CIS Code. New requirements and amendments that took effect on 1 January 2016 include the following:

- Remuneration of its directors and executive officers, including the chief executive officer, should be disclosed in the REIT's annual report;
- The aggregate leverage limit is set at 45% with no requirements to obtain credit ratings; and
- Property development activities of up to 25% of its deposited property is allowed if certain conditions are met.

Amendments to the Code that have to be complied by the first annual general meeting relating to the REIT's respective financial year ending on or after 31 December 2015 include the following:

- Crystallisation of the performance fee should be no more frequent than once a year;
- Performance fees payable to REIT managers should be linked to a metric that takes into account the long-term interest of the unitholders; and
- The performance fee should not be linked to the property fund's gross revenue.

Securities and Futures (Reporting of Derivatives Contracts) Regulations 2015/2016

On 28 October 2015, MAS made amendments to the aforementioned regulation. These include:

- the extension of the masking relief provided in Regulation 11 from 1 November 2015 to 1 July 2017; and
- the postponement of the requirement for specified persons to agree on a unique transaction identifier for uncleared contracts that are not electronically confirmed with the counterparty to the contract from 1 February 2016 to 1 February 2017.

Policy Consultation on Margin Requirements for Non-Centrally Cleared OTC Derivatives

In October 2015, MAS sought feedback on policy proposals to implement margin requirements for OTC derivatives that are not centrally cleared. The proposals set out requirements for initial margin, variation margin and treatment of collateral. Licensed banks would be expected to comply with the requirements starting from 1 September 2016, provided certain conditions are met.

Consultation Paper on Proposed Amendments to the Securities & Futures (Reporting of Derivative Contracts) Regulations

In January 2016, MAS sought feedback on certain proposed amendments to the Securities & Futures (Reporting of Derivative Contracts) Regulations to implement the reporting of commodity and equity derivatives contracts which would complete the implementation of the OTC derivatives trade reporting regime in Singapore. These revisions include fine-tuning of the reporting obligations for certain non-bank FIs.

Financial Advisers

Financial Advisers (Remuneration) Regulations 2015

Notice on Requirements for the Remuneration Framework for Representatives and Supervisors ("Balanced Scorecard Framework") and Independent Sales Audit Unit [MAS Notice FAA-N20]

Guidelines on the Remuneration Framework for Representatives and Supervisors ("Balanced Scorecard Framework"), Reference Checks and Pre-Transaction Checks [MAS Guideline FAA-G14]

On 31 Dec 2015, MAS introduced the above Regulations, Notice and Guidelines to give effect to the proposals from the FAIR review. They outline the following respectively:

- Requirements for accepting and paying remuneration in relation to investment products;
- Requirements regarding the implementation of the Balanced Scorecard Framework in the remuneration structures for representatives and supervisors; and
- Guidance on the BSC framework requirements such as post-transaction checks or measures applied to representatives and supervisors with unsatisfactory BSC grades.

Tax Updates

Public Consultation on Draft Income Tax (Amendment No. 2) Bill 2016 on Common Reporting Standards ("CRS")

The Ministry of Finance conducted a public consultation on the draft Income Tax (Amendment No. 2) Bill 2016 from 1 to 18 March 2016, and invited the public to give feedback on the draft Bill. The proposed amendments to the Income Tax Act allow Singapore to implement the Common Reporting Standard (CRS) with effect from 1 Jan 2017. This draft bill will enable Singapore to sign Competent

Authority Agreements (CAAs) with other jurisdictions to implement the Automatic Exchange of Information (AEOI) under the CRS. Also, as part of the "Wider Approach" adopted by other countries to promote cost efficiency, it intends to empower all FIs to collect and retain the CRS information for all non-Singapore-tax-residents, instead of only from tax residents of jurisdictions with which Singapore has a CAA. In addition, the draft Bill vests in IRAS the necessary powers, which include mandating the electronic filing of returns and information to implement AEOI under the CRS effectively.

Goods and Services Tax ("GST") remission on expenses for prescribed funds managed by prescribed fund managers in Singapore

Under the GST remission scheme, funds that meet all qualifying conditions will be able to recover GST incurred on all business expenses (except disallowed expenses under the GST Regulations 26 and 27) based on a fixed recovery rate determined annually, without having to register for GST. Currently, the GST remission is available to qualifying funds up till 31 March 2019.

The fixed recovery rate for expenses incurred during the period from 1 January 2016 to 31 December 2016 is 87%.

Global topics

Evolving Banking Regulation Part Five - Culture and Conduct

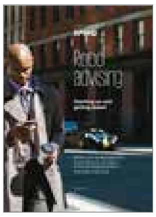
The fifth part of our Evolving Banking Regulation series examines the culture and conduct challenges facing banks.

Risk Governance: A Benchmarking Analysis of Systemically Important Banks

A report on the benchmarking analysis of systemically important banks providing insight into the challenges faced by the Systemically Important Banks (SIBs), specifically around the automation of stress-testing and aligning their risk appetite with business goals.

IFRS Newsletter - The Bank Statement Q4 2015 (January 2016)

A quarterly publication which provides updates on IFRS developments directly impacting banks, considers accounting issues affecting the sector, and discusses the potential accounting implications of regulatory developments.



Robo Advising - Catching Up and Getting Ahead

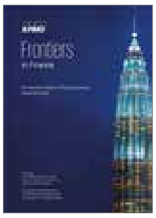
A KPMG US paper, based on proprietary research of 1,500 bank clients, exploring the current and future robo advising market, what it means for banks and brokerages, and key business and operating model questions to consider.

Data Management Trends in Capital Markets: Turning Tides

A report by KPMG and Aite Group, which examines the capital markets' changing attitudes toward data management as a function and the adoption of new technologies and models around cloud and big data.

2015 Top Risks - Banking sector

South Africa IARCS-created document highlighting KPMG's top risks by value driver faced by corporates in the Banking sector.

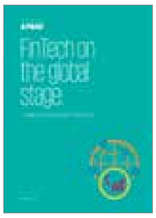


Frontiers in Finance December 2015

The December 2015 issue of Frontiers in Finance, which explores the themes of change, regulation and strategic challenge.

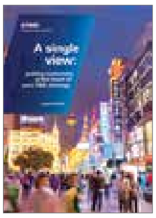
Evolving Banking Regulation Part Four - Governance: From Expectations to Delivery

The fourth part of our Evolving Banking Regulation series focus on how to meet the expectations of regulators and supervisors while addressing the commercial advantages of good governance.



FinTech on the Global Stage: Insights from the Global FinTech Forum

A report on the distillation of key themes and messages from the Global FinTech Forum held in Hong Kong in July 2015: FinTech – The future of retail banking; Embracing the FinTech revolution; The impact of FinTech around the world; FinTech: The way of the future.



A Single View - Putting Customers at Heart of Your D&A Strategy

KPMG commissioned Forrester Research to conduct an in-depth interview of the state of data and analytics across the Asia-Pacific region. This report brings together the results of our own quantitative survey of more than 210 business decision makers.

Ten Key Regulatory Challenges Facing the Financial Services Industry in 2016

An Americas FS Regulatory CoE paper predicting ten key new and ongoing regulatory themes expected to demand the attention of financial services organisations in the coming year.

KPMG Internal Audit: Top 10 Key Risks in 2016 | Banking and Capital Markets

This article highlights what should be top of mind for chief auditors and their teams during the upcoming year. It is based on our conversations with chief audit executives at banks and capital markets firms and internal audit executives at our share forums, as well as insights from KPMG partners and professionals who work in the industry. Topics include regulatory expectations, culture and conduct, regulatory reporting and cyber security.

To obtain any of the reports, please send a request to sg-marketing@kpmg.com.sg

Contributors to this issue

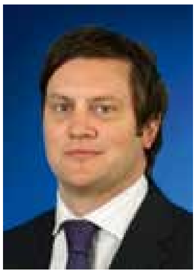
Leong Kok Keong
Head of Financial Services
T: +65 6213 2008
E: kokkeongleong@kpmg.com.sg

Alan Lau
Head of Financial Services Tax
T: +65 6213 2027
E: alanlau@kpmg.com.sg

Yvonne Chiu
Partner
Chief Editor
T: +65 6213 2323
E: yvonnechiu@kpmg.com.sg

Gary Chia
Head of Financial Services
Regulatory & Compliance
T: +65 6411 8288
E: garydanielchia@kpmg.com.sg

Craig Davis
Head of Financial Risk
Management, ASPAC
T: +65 6411 8533
E: craigdavis1@kpmg.com.sg



Steven Claxton
Director, Financial Risk
Management
T: +65 6411 8186
E: stevenclaxton@kpmg.com.sg

Nanda Thiruvengadam
Associate Director, Financial Risk
Management
T: +65 6411 8218
E: nandathiruvengadam@kpmg.com.sg