Regulatory Capital Management & Reporting: The Impact of Basel III
Agenda

1. Summary of key changes under Basel III and their impact
2. Focus on Enterprise Risk Management
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1. Summary of key changes under Basel III and their impact
2. Focus on Enterprise Risk Management
Basel III...

» More information and the need for greater transparency

» Focus on strengthened capital buffers, stronger risk management and governance practices, etc.

» Spotlight on structured credit and off-balance sheet activity

» Spotlight on liquidity risk

» Counterparty credit risk – market risk

» Leverage

» Countercyclical measures

» Attention to macro-prudential supervision
Basel III - Framework

- **Pillar I Capital Ratios**
  - Capital
    - Tier 1
    - Tier 2

- **Liquidity Ratios**
  - RWA
  - LCR
  - NSFR

- **Leverage Ratio**

- **Pillar II Supervisory Review Process**

- **Pillar III Market Discipline (Reporting)**

- **Credit**
  - CCR Derivative Exposure
    - Standard
    - IRB F
    - IRB A

- **Market**
  - Standard
  - CVA
  - EPE
  - WWR

- **Operational**
  - BIA
  - Standard
  - AMA

- **Concentration (EU Large Exposure)**
  - VAR
  - Stressed VAR
  - IRC

Legend:
- Green: Brand new with Basel 3
- Grey: Updated with Basel 3
- Light grey: Updated with Basel 2.5
- White: No Change from Basel 2
Implementation progress?

1 = draft regulation not published; 2 = draft regulation published; 3 = final rule published; 4 = final rule in force.

Per BIS, as of end September 2011:

» **Status of Basel II adoption**
  - USA = 4, Canada = 4, EU (inc UK) = 4, Japan = 4, China = 4, Singapore = 4
  - Saudi Arabia: 4 = final rule in force... implementation completed

» **Status of Basel 2.5 adoption**
  - USA = 1/2, Canada = 2, EU (ex UK) = 4, UK = 2, Japan = 3, China = 4, Singapore = 3/4
  - Saudi Arabia: 3 = final rule published

» **Status of Basel III adoption**
  - USA = 1, Canada = 1, EU (inc UK) = 2, Japan = 1, China = 2, Singapore = 1
  - Saudi Arabia: final regulation issued to banks, i.e. 3 = final rule published
    ... the most advanced
Basel II vs Basel III capital ratios

Plus additional capital ratio buffer for SIFIs (G-SIB)
Restriction on earnings distribution

Restriction on dividends, compensation bonuses, equity buy back … if capital ratios do not exceed minimum + buffers

<table>
<thead>
<tr>
<th>Amount by which a Bank’s capital exceeds the minimum requirement in terms of a percentage of the size of the capital conservation range</th>
<th>Minimum Capital Conservation Ratio (expressed as a percentage of earnings)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;25%</td>
<td>100%</td>
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<tr>
<td>[25% - 50%]</td>
<td>80%</td>
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<tr>
<td>[50% - 75%]</td>
<td>60%</td>
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<tr>
<td>[75% - 100%]</td>
<td>40%</td>
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<tr>
<td>&gt;100%</td>
<td>0%</td>
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</table>

Moody’s Analytics & The Institute of Banking Symposium, Riyadh, November 30th
## G20 G-SIBs named

<table>
<thead>
<tr>
<th>Bank of America</th>
<th>JP Morgan Chase</th>
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<tbody>
<tr>
<td>Bank of China</td>
<td>Lloyds Banking Group</td>
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<tr>
<td>Bank of New York Mellon</td>
<td>Mitsubishi UFJ FG</td>
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<td>Banque Populaire CdE</td>
<td>Mizuho FG</td>
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<td>Barclays</td>
<td>Morgan Stanley</td>
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<td>BNP Paribas</td>
<td>Nordea</td>
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<tr>
<td>Citigroup</td>
<td>Royal Bank of Scotland</td>
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<tr>
<td>Commerzbank</td>
<td>Santander</td>
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<tr>
<td>Credit Suisse</td>
<td>Société Générale</td>
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<tr>
<td>Deutsche Bank</td>
<td>State Street</td>
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<tr>
<td>Dexia</td>
<td>Sumitomo Mitsui FG</td>
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<tr>
<td>Goldman Sachs</td>
<td>UBS</td>
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<tr>
<td>Group Crédit Agricole</td>
<td>Unicredit Group</td>
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<tr>
<td>HSBC</td>
<td>Wells Fargo</td>
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</table>

Source: Financial Stability Board 04.11.11

- G20 endorsed a **core T1 capital requirement surcharge starting at 1%** of risk-weighted assets and **rising to 2.5 percent** for the biggest banks (plus an empty bucket of 3.5% CET1 as a means to discourage banks from becoming even more systemically important) -- to be phased in over three years from 2016; capital categories to be outlined from November 2012

- The banks will also have to meet **resolution planning requirements ("living wills") by end-2012** (National authorities can extend this requirement to other banks at their discretion)
Increasing capital for Counterparty Credit Risk

- Additional capital charge to cover CVA for OTC derivatives (and possibly SFTs)
  - Standardized approach formula defined (closed function)
  - Credit Derivatives can be used to hedge such charge
  - Internal Model can also be used integrating CVA in EPE model

- Increased IRB RWA for exposures toward large financial institutions (e.g. banks, insurance companies) and unregulated ones (e.g. hedge funds)
  - Asset Value Correlation factor multiplied by 1.25 in IRB risk weighting function

- New haircuts defined for securitization products used as collateral
Increasing capital for Counterparty Credit Risk, cont.d

» More strict capital deductions rules (e.g. deduction from Core Tier 1)

⇒ Incentive to reduce OTC activities and to go through clearing houses

» But exposures to “Qualifying” Central Counterparties -CCP- (e.g. clearing houses) not risk free anymore (2% Risk Weight proposed)

» Capital requirements for clearing members contribution to CCPs defaults funds based on the CCP “hypothetical” regulatory capital
Compliance Starting from 2013 – The Pressure is On!

Full Compliance Required

» **Capital**
  - 2013 – Counterparty Credit Risk
  - 2015 – Minimum Core Tier 1 Ratio
  - 2018 – Capital deductions
  - 2019 – Conservation buffer

» **Leverage**
  - 2018 – Leverage Ratio

» **Liquidity**
  - 2015 – Liquidity Coverage Ratio
  - 2018 – Net Stable Funding Ratio

### Annex 4
**Phase-in arrangements**
(shading indicates transition periods - all dates are as of 1 January)

<table>
<thead>
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<tbody>
<tr>
<td>Leverage Ratio</td>
<td>Supervisory monitoring</td>
<td>Parallel run 1 Jan 2013 – 1 Jan 2017 Disclosure starts 1 Jan 2015</td>
<td>Migration to Pillar 1</td>
<td></td>
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<tr>
<td>Minimum Common Equity Capital Ratio</td>
<td>3.5%</td>
<td>4.0%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>4.5%</td>
<td>4.5%</td>
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<tr>
<td>Capital Conservation Buffer</td>
<td>0.625%</td>
<td>1.25%</td>
<td>1.875%</td>
<td>2.50%</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Minimum common equity plus capital conservation buffer</td>
<td>3.6%</td>
<td>4.0%</td>
<td>4.5%</td>
<td>5.125%</td>
<td>5.75%</td>
<td>6.375%</td>
<td>7.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and financials )</td>
<td>20%</td>
<td>40%</td>
<td>58%</td>
<td>60%</td>
<td>80%</td>
<td>100%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum Tier 1 Capital</td>
<td>4.5%</td>
<td>5.5%</td>
<td>6.0%</td>
<td>6.0%</td>
<td>6.0%</td>
<td>6.0%</td>
<td>6.0%</td>
<td>6.0%</td>
<td></td>
</tr>
<tr>
<td>Minimum Total Capital</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>6.0%</td>
<td></td>
</tr>
<tr>
<td>Minimum Total Capital plus conservation buffer</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>9.25%</td>
<td>9.875%</td>
<td>10.5%</td>
<td></td>
</tr>
</tbody>
</table>

Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital Phased out over 10 year horizon beginning 2013
BUT....continuing uncertainty

» Local rules / interpretation
  – E.g. Dodd Frank, G-SIBs, EBA, UK Independent Commission on Banking
  – E.g. Pillar II negotiations
  – E.g. BIS reviews

» E.g. Global bank regulators eased parts of bank-capital rules to counter concerns from lenders that the measures may harm international trade:
  – The BCBS waived some rules on the reserves lenders must hold against guarantees for importers and exporters... so as to protect growth in emerging markets (October 2011)

» Basel IV...
Agenda

1. Summary of key changes under Basel III and their impact

2. Focus on Enterprise Risk Management
Basel III Top 10 Implementation Challenges

Convergence Between Risk and Finance
- New liquidity ratios
- Integrated liquidity and risk data sourcing, consolidation and management

Streamlined and Integrated Regulatory Reporting
- Increased urgency (some reports starting 2013) and depth (need for data granularity)
- Regional regulatory gold plating

Single Data Source for Capital and Liquidity Risk
- Single data source to feed calculations and regulatory reports prevents mismatch errors downstream
- Banks need Basel III credit risk data to compute the new Basel III liquidity risk ratios

Increased Regulatory, Board and Shareholder Pressure
- Internal pressure to understand and improve – shareholders, C-suite, Non-Executive Directors (NEDs) and other stakeholders
- Political uncertainty

Holistic Stress Testing
- Define and run scenarios across risk types
Basel III Top 10 Implementation Challenges (Continued)

- **Regulatory Uncertainty**
  - Regulations are still being defined
  - What will be the Dodd Frank impact
  - Timing

- **Multi-Jurisdictional Compliance**
  - Calculations and reporting with different national discretion options

- **Trading Book Market Risk and CCR Requirements (for IMM)**
  - Enhancing existing VAR for new 10 day VAR and stressed VAR requirements, IRC to be added
  - Enhancing EPE solutions to meet new requirements

- **Pressure to Reduce Capital Requirements and Increase Returns**
  - RWA optimization
  - Internal pressure to improve operational efficiency

- **“Hypothetical” Capital Computation by CCPs**
  - Clearing members will need to capitalize their share of default funds
A direct impact on banks' profitability

» Risk-adjusted return on capital (RAROC) is falling
  – The regulator requires more capital for each transaction
  – The cost of capital is higher due to the markets' risk aversion

» Market conditions are not conducive to higher margins on transactions

» Optimise use of available capital:
  – By refining models that affect RAROC (PD, LGD, FTP, etc.)
  – By analysing transactions ex-ante (profitability at origin)
  – By optimising regulatory calculations (IRBA, EPE, CRM allocation, etc.)
  – By giving management and business lines the indicators needed to steer the business in a very precise and more steady manner (selecting the best segments/customers/products, adapting prices)

→ Need to integrate Business/Risks and Finance/Risks
Solution: Flexible & Adaptable Infrastructure

Centralisation of business line/accounting data:
- Recording
- Loading, validating, reconciling
- Instrument modelling
- Client/product granular information

Calculation architecture enabling:
- Group/Subsidiary access
- Multi-regulations (home/host)
- Integration of internal models
- Support for stress testing
- Granularity of results

Reporting architecture offering:
- Regulatory reports by level of consolidation, by country and by date
- Drill-down of results analysis
- Summary reports for management (trend analyses, comparison of scenarios, dashboards)
Delivering an ERM Architecture

- **Credit Risk**
- **Market Risk**
- **Operational Risk**
- **Liquidity Risk**

**Compute Capital**
**Consolidate Risks**

**Originated Exposures**

**Risk Adjusted Performance Measurement**

- **Financial Income**
- **Non-Financial Income**
- **Product Processing costs**
- **Sales & Marketing costs**
- **Overhead costs**

**Compute Margins / Allocate Costs**

**Revenues & Costs**

**Measure Profitability**
**Generate Reports for Management**

**Perform simulations & stress-testing scenarios**

**Scenario Analysis & Simulations**

- **Ex-post RAROC**
- **Ex-ante RAROC**

**Risk Monitoring vs Defined Limits**

**Risk Appetite & Capital Allocation**

**New Business Origination**

- **Real-time analysis** (scoring, pricing, settling, hedging, ...)

**Risk Monitoring vs Defined Limits**

**Allocate capital to businesses**

**Monitor Exposure Concentration on key business dimensions**

**Compute Margins / Allocate Costs**

**Limits Policies**

**Measure new exposures Risk & Performance in real-time**

**Limits**

**Financial Income**
**Non-Financial Income**
**Product Processing costs**
**Sales & Marketing costs**
**Overhead costs**
The benefits of Enterprise Risk Management

» No "stop-gap" effect when implementing regulations
   – Avoids endless reconciliations between different "versions of the truth"
   – Puts focus on the key issues when making changes
   – Accelerates the creation of value by using what is currently in place

» Offers benefits in terms of enterprise management
   – Risk/Reward analysis and stress tests on an industrial scale
   – Responsive to market fluctuations and one-off events
   – Very quick alignment of businesses to strategic decisions
   – Easier capital reallocation between business lines
   – Effective management of P&L related performance indicators
   – Better visibility for investors and rating agencies
Conclusions

» Regulatory change continues apace

» The cost is high... The opportunity cost is also potentially huge

» ERM is the opportunity at stake
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