

Understanding Basel III

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1. Fundamentals

Capital adequacy

- “Capital” is the core measure of a bank’s ability to absorb losses.
- The original 1988 Basel Accord (Basel I) was “designed to establish *minimum* levels of capital for internationally active banks,” but banking supervisors in each jurisdiction could decide to set higher levels.
- Basel I
 - Defined core elements of a bank’s capital and their relative importance;
 - Established risk weightings for assets held by banks;
 - Set the minimum amounts of capital a bank needed to hold, expressed as percentages of its risk-weighted assets; and
 - Established a transition period in which banks could build up the necessary capital levels.

Risk-weighted capital

- The credit risk a bank assumes if it invests its assets entirely in Treasury bonds is quite different than the risk it assumes if, for example, it lends to a startup business.
- We see this in interest rates: a bank that would accept a yield of 0.5% per year for Treasury securities might charge an annual interest rate of 14.0% for the loan to the startup.
- If the bank makes appropriate risk assessments, the yield it receives across its entire portfolio of investments should more than offset the losses on the portfolio.
- In other words, banks lend with the understanding that not all of their loans will be repaid in full, but they seek to price the risk they take on so that, across their entire lending portfolio, the higher yield on riskier loans will cover the losses on the loans that in fact fail.

Risk-weighted capital (cont.)

- Banks need to take risk for the economy to thrive – but they need to price that risk appropriately.
- In stressed scenarios, lower quality assets are more likely to take losses that exceed expectations. For example, in a financial crisis, the value of Treasuries may *increase* as investors seek a safe haven, but startup businesses may fail more often than predicted, and the magnitude of losses – loss given default – may also be higher.
- Where banks err in assessing risk and losses are not entirely offset by income, banks need to have capital sufficient to absorb the losses.
- Capital adequacy ratios that measure capital against risk-weighted assets do not look at individual credits but instead assess the vulnerability of the bank's entire portfolio to macro-economic conditions.
- Banks need to hold more capital against assets with higher risk.

The effects of regulation on risk

- Regulation of capital adequacy by comparing capital to risk-weighted assets makes it more expensive to hold assets with higher risk weights.
- From Basel III: “[I]t is not possible to achieve greater risk sensitivity across institutions at a given point in time without introducing a certain degree of cyclicity in minimum capital requirements over time.”
- By rewarding some investments (such as mortgage-backed securities, under Basel II) and penalizing others, the risk-based capital rules led to greater concentrations of risk in assets with lower risk-weights, some of which had more risk than anticipated in the regulations.
- Bottom line: risk weights do not merely assess risk but change the ways in which banks assume risk.

Some of the factors that require investigators to use a control group in a psychological study to obtain reliable data:

- Measurement effects: effects on data that arise from the act of measuring the data.
- Experimenter effects: effects on subjects due to the actions, presence or attitude of the researcher.

Moving beyond capital adequacy

- The Basel Accords have continued to evolve since the original 1988 accord, to capture a greater range of risks.
- Risk-weighted capital is concerned primarily with credit risk.
- Basel II (and interim enhancements) added provisions that focused on the trading book (including complex securities and derivatives), market risk, operational risk, and interest rate risk.
- Basel II also added “pillars” for supervisory review and market discipline
- Basel III seeks to refine many of these provisions, but also focuses on two elements that were seen as critical in the financial crisis:
 - availability of sufficient liquid assets to withstand a liquidity shock, and
 - the mismatch between maturity of assets (long) and funding (short) that can lead to forced sales of assets in times of market stress, when short-term funding is not available to replace maturing borrowings but asset prices are depressed.

Monitoring tools

- The Basel Committee has recommended five key areas for monitoring:
 - Contractual maturity mismatch assessment: assesses liquidity risk profiles and identifies potential liquidity needs
 - Concentration of funding: assesses reliance on specific counterparties, instruments and currencies, and identifies risks if one or more funding sources were withdrawn
 - Available unencumbered assets: an important measure of the availability of additional secured funding, though subject to market risk
 - Liquidity coverage ratio by currency: assessment of foreign exchange risk and currency exposure for each relevant currency
 - Market-related monitoring tools: a general assessment of market data on liquidity and asset prices, as well as institution-specific information (such as CDS spreads) for cost and availability of funds.

Evolution of Reform

Basel I

- Accord published in 1988
- Very simple in application
- Easy to achieve significant capital reduction with little or no risk transfer



Overly simple rules were subject to “regulatory arbitrage” and poor risk management

Basel II

- Accord published in 2004
- More risk sensitive
- Treats both exposures and banks very unequally



Profoundly altered bank behavior but contained “gaps” that banks exploited

Basel III

- Initial rules text issued in 2010, but continues to evolve
- Addresses perceived shortcomings of Basel II
- Greatest impact on trading book, bank liquidity and bank leverage



Will increase capital charges materially and make certain banking activities much more capital intensive

Types of Banks

Standardised

- Measure credit risk pursuant to fixed risk weights based on external credit assessments (ratings)
- Least sophisticated capital calculations; least differentiation in required capital between safer and riskier credits
- Generally highest capital burdens

Foundation IRB

- Measure credit risk using sophisticated formulas using internally determined inputs of probability of default (PD) and inputs fixed by regulators of loss given default (LGD), exposure at default (EAD) and maturity (M).
- More risk sensitive capital requirements; more differentiation in required capital between safer and riskier credits

Advanced IRB

- Measure credit risk using sophisticated formulas and internally determined inputs of PD, LGD, EAD and M
- Most risk-sensitive (although not always lowest) capital requirements; most differentiation in required capital between safer and riskier credits
- Transition to Advanced IRB status only with robust internal risk management systems and data

Under Basel II and Basel III, banks have strong incentive to move to IRB status by improving risk management systems, thereby reducing required total regulatory capital
US regulators did not adopt foundation IRB or the standardized approach under Basel II
US banks using Advanced IRB are referred to as Advanced Approaches banks

Banking Book and Trading Book

Banking Book

- All exposures not held in trading book must be held in banking book
- “Philosophy” of banking book capital is to cover unexpected credit losses incurred over a one-year holding period

Trading Book

- Exposures can be held in trading book only if actively managed and held for “trading intent” (e.g., obtain trading or arbitrage profits)
- “Philosophy” of trading book capital is to cover losses in value during a very short period (e.g., 10 to 20 days) prior to exiting an exposure

2. Evolving Global Standards and US Implementation

Select documentation from the Basel Committee on Banking Supervision

- Basel III: A global regulatory framework for more resilient banks and banking systems (December 2010) (revised June 2011)
- Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools (January 2013)
- Capital requirements for banks' equity investments in funds (December 2013)
- Capital requirements for bank exposures to central counterparties (April 2014)
- Consultative Document, Basel III: The Net Stable Funding Ratio (January 2014)
- Consultative Document, Revisions to the securitisation framework (December 2013)
- Consultative Document, Fundamental review of the trading book: A revised market risk framework (October 2013)

United States Regulations Implementing Basel III and Capital Requirements under the Dodd-Frank Act

- Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule; Final Rule, 78 Fed. Reg. 62018 (October 11, 2013)
- Liquidity Coverage Ratio: Liquidity Risk Measurement, Standards, and Monitoring; Proposed Rule, 78 Fed. Reg. 71818 (November 29, 2013)
- Risk-Based Capital Guidelines; Market Risk, 79 Fed. Reg. 76521 (December 13, 2013)

3. Elements of Capital

Tier 1 capital--defined

- “The Committee considers that the key element of capital on which the main emphasis should be placed is equity capital² and disclosed reserves. This key element of capital is the only element common to all countries' banking systems; it is wholly visible in the published accounts and is the basis on which most market judgments of capital adequacy are made; and it has a crucial bearing on profit margins and a bank's ability to compete.”

²Issued and fully paid ordinary shares/common stock and non-cumulative perpetual preferred stock (but excluding cumulative preferred stock). (From Basel I; footnote numbering in original; repeated in Basel II as paragraph 49(i).)

Tier 1 Capital – Basel I and II

- Basel I:
 - Equity capital
 - Issued and fully paid ordinary shares/common stock or their equivalent for non-joint stock companies
 - Non-cumulative perpetual preferred stock
 - Published reserves from post-tax retained earnings.
- Basel II:
 - Same as above, *plus*
 - Paragraph D of Appendix 1a also includes within Tier 1
 - Other general reserves of comparable quality and availability
 - For consolidated entities, minority interest in the equity of subsidiaries which are less than wholly owned.

Tier 1 Capital – Basel III

- Basel III subdivides Tier 1 Capital
 - Common Equity Tier 1 (CET1)
 - Additional Tier 1.
- In Basel I and Basel II, the minimum capital banks needed to hold was 8.0% on a risk-adjusted basis, with at least 4.0% of that coming from Tier 1 capital.
- In Basel III, the minimum continues to be 8.0%, but 4.5% of that must be Common Equity Tier 1 and 6.0% must be Tier 1.
- Noncumulative perpetual preferred shares have become part of Additional Tier 1, which means that banks that included noncumulative perpetual preferred in Tier 1 will have to raise higher levels of common equity to meet the 4.5% minimum for Common Equity Tier 1.
- The criteria for inclusion as Tier 1 capital are more explicit than in the prior Basel Accords, and will require more careful analysis.
- Criteria for inclusion of minority interest in subsidiaries have been significantly tightened.
- Banks will have to take more adjustments in determining their capital.

Tier 1 Capital – Basel III Common Equity Tier 1

- Common Equity Tier 1 instruments (i.e., not retained earnings):
 - If a bank has issued common stock, only common stock will qualify.
 - Non-voting common stock must be identical to voting common stock except with respect to voting rights.
 - Some of the relevant criteria for inclusion include:
 - Represents the most subordinated claim in a liquidation of the bank and is the first class that absorbs losses;
 - Has no maturity date, right to be redeemed, specified coupon, priority rights to payment, security interest in assets of the bank or guarantees;
 - All distributions are wholly discretionary and are made out of distributable items (e.g., earnings);
 - Is accounted for as equity and clearly disclosed as such on the bank's balance sheet.

Tier 1 Capital – Basel III Additional Tier 1

- Criteria for Additional Tier 1 instruments include:
 - Must be issued and paid in; subordinated to depositors, general creditors and subordinated debt of the bank; and cannot be secured, guaranteed or otherwise credit enhanced;
 - May be callable by the bank, after a minimum of five years, but only with supervisory approval. The bank cannot have created an expectation that it will call the instruments, and to exercise a call must either replace the capital or demonstrate that it exceeds minimums so that the capital is not needed.
 - Distributions/coupons must be payable only out of distributable items, must be cancellable in the sole discretion of the bank, and cancellation cannot have any effect except on the ability of the bank to pay distributions on common stock.
 - Cannot have credit sensitive distributions/coupons
 - Cannot contribute to a balance sheet insolvency under applicable national insolvency law
- Some of the types of instruments that will be phased out from Tier 1 capital include trust preferred securities, which did not perform as expected during the financial crisis, and cumulative perpetual preferred shares.

Tier 2 Capital

- Objective of Tier 2 capital is to absorb losses on a gone-concern basis.
- Tier 2 capital has generally included such items as:
 - Undisclosed reserves;
 - Asset revaluation reserves (e.g., for assets held at acquisition value that have unrealized appreciation in market value);
 - General provisions/general loan-loss reserves;
 - Hybrid (debt/equity) capital instruments; and
 - Subordinated debt

Tier 2 Capital – Basel III

Criteria for Tier 2 instruments include:

- Must be issued and paid in, subordinated to depositors, general creditors and subordinated debt of the bank, and cannot be secured, guaranteed or otherwise credit enhanced;
- Minimum initial maturity of at least five years, amortized on a straight-line basis during last five years before maturity, and no step-ups or other incentives to redeem.
- May be callable by the bank, after a minimum of five years, but only with supervisory approval. The bank cannot have created an expectation that it will call the instruments, and to exercise a call must either replace the capital or demonstrate that it exceeds minimums so that the capital is not needed.
- Investor has no right to accelerate repayment except in bankruptcy and liquidation.
- Cannot have credit sensitive distributions/coupons.
- The bank and its affiliates cannot control the instrument or have funded the purchase.
- “If the instrument is not issued out of an operating entity or the holding company in the consolidated group (eg a special purpose vehicle – “SPV”), proceeds must be immediately available without limitation to an operating entity or the holding company in the consolidated group in a form which meets or exceeds all of the other criteria for inclusion in Tier 2 Capital.” (footnote omitted).

Adjustments

- The following assets are deducted or derecognized from the calculation of Common Equity Tier 1:
 - Goodwill and other intangible assets
 - Deferred tax assets (but can be netted against deferred tax liabilities if levied by the same taxing authority and such taxing authority permits netting)
 - Cash flow hedge reserve for hedging assets that are not held at fair value
 - Shortfall in provision for expected losses
 - Gains on sale from securitizations
 - Changes in the value of the bank's own liabilities as a result of changes in its credit risk
 - A bank's investment in its own common shares (similar deductions are made to the related calculations for the bank's investment in Additional Tier 1 capital or Tier 2 capital)
- Defined benefit pension fund liabilities must be recognized in determining Common Equity Tier 1.

Additional requirements relating to risk coverage

- Improve the operation and oversight of the collateral department
- Independent review of counterparty credit risk management systems by internal audit department
- Place controls around the re-use of collateral
- Use supervisory haircuts for non-cash collateral
- Require collateral management policies and monitoring for margin agreements
- Use supervisory haircuts for securitization collateral
- Enhance counterparty credit risk management procedures, including stress testing, model validation and backtesting
- Minimize reliance on external credit ratings

Certain differences in US implementation of defined elements of capital

- For smaller banking institutions and non-advanced approaches banking institutions, the US regulators are allowing trust preferred securities and cumulative perpetual preferred securities, in some circumstances and subject to certain limitations, to be grandfathered as Additional Tier 1 capital or retained in Tier 2 capital
- Instruments classified as liabilities cannot qualify as Additional Tier 1 capital, even if they meet the Basel III criteria
- Certain instruments under US legislation to promote financial recovery are permitted to remain in Additional Tier 1 capital even if they do not meet the criteria

4. Capital conservation buffer

Capital conservation buffer – concept

- The capital conservation buffer is designed to cause banks to build up capital (rather than distributing it to shareholders and other constituents, including to provide they can) during times that the bank is doing well, to provide it with extra capital coverage during a downturn
- Intended to be countercyclical
- The capital conservation buffer consists only of Common Equity Tier 1 (i.e., common shares and retained earnings), and banks cannot double-count Common Equity Tier 1 over the 4.5% level that they are already using to cover the 6.0% Tier 1 ratio or the 8.0% total equity ratio (e.g., a bank that meets its 6.0% Tier 1 ratio solely with Common Equity Tier 1 capital, and does not use Additional Tier 1 capital, cannot use any of the Common Equity Tier 1 capital supporting any part of the Tier 1 ratio as part of its capital conservation buffer).

Capital conservation buffer – limits

- Banks that fall below the minimum capital conservation buffer are limited in their distributions but can operate normally.
- Restricted distributions include dividends, share buybacks, discretionary distributions on other Tier 1 capital and employee bonuses – banks may not distribute the percentage of earnings in the table.
- Earnings consist of after-tax profits, determined prior to making any of the restricted distributions.
- Supervisors can set limits on the time a bank can operate in the buffer zone if the bank is not actively rebuilding buffer.

| Common Equity Tier 1 Ratio | Minimum Capital Conservation Ratios (expressed as a percentage of earnings) |
|----------------------------|---|
| 4.5% - 5.125% | 100% |
| > 5.125% - 5.75% | 80% |
| > 5.75% - 6.375% | 60% |
| > 6.375 - 7.0% | 40% |
| > 7.0% | 0% |

Table from Basel Committee on Banking Supervision, Basel III: A global regulatory framework for more resilient banks and banking systems, December 2010 (rev. June 2011).

Capital conservation buffer—US implementation

- The US regulators have imposed a capital conservation buffer of 2.5% of Common Equity Tier 1, consistent with Basel III
- Also consistent with Basel III, permitted distributions step down based on shortfalls in the capital conservation buffer determined in increments of 0.625%
- The capital conservation buffer is outside of the prompt corrective action (PCA) framework—a bank can be adequately capitalized even if it has no capital conservation buffer

5. Countercyclical buffer

Countercyclical buffer--concept

- The countercyclical buffer is designed to cause banks to build up capital (rather than distributing it to shareholders and other constituents) at times when the national authorities in jurisdictions in which they have credit exposures determine that there is a period of excess credit growth.
- The countercyclical buffer is an extension of the capital conservation buffer, must be met with Common Equity Tier 1 capital (though other forms of capital are under review) and has the same effect of limiting distributions but permitting normal operations.
- Because the size of the countercyclical buffer is set in relation to the jurisdictions in which the bank has credit exposures – not the jurisdictions in which it is regulated – banks can be subject to this buffer even where their own supervisors have not identified excess credit growth in their home region.

Countercyclical buffer--limits

- National authorities set the countercyclical buffer using internationally agreed criteria.
- Banks determine a weighted-average buffer based on all jurisdictions to which they have credit exposures.
- National authorities can set a countercyclical buffer of between 0% and 2.5%; if they set higher limits, there is no agreed international reciprocity above the 2.5%.
- The buffer phases in after preannouncement period of up to 12 months.
- Computations may be more complicated for banks that use internal risk models.

| Common Equity Tier 1 (including other fully loss absorbing capital) | Minimum Capital Conservation Ratios (expressed as a percentage of earnings) |
|---|---|
| Within first quartile of buffer | 100% |
| Within second quartile of buffer | 80% |
| Within Third quartile of buffer | 60% |
| Within Fourth quartile of buffer | 40% |
| Above top of buffer | 0% |

Table from Basel Committee on Banking Supervision, Basel III: A global regulatory framework for more resilient banks and banking systems, December 2010 (rev. June 2011).

Countercyclical buffer—US implementation

- The countercyclical capital buffer applies only to advanced approaches banks
- Application is generally consistent with Basel III
- The countercyclical capital buffer is outside of the prompt corrective action (PCA) framework—a bank can be adequately capitalized even if it has no countercyclical capital buffer

6. Risk coverage

Approaches to measuring risk

- Basel II provided for two different approaches to measuring credit risk:
 - The standardized approach, which relies on external credit ratings, and,
 - For more sophisticated banks, and only with regulatory approval, the internal-ratings based approach, which allows banks to rely on their internal assessments of credit risks.
- Basel III makes changes to both of these approaches, especially as they relate to:
 - Securities financing transactions (repurchase agreements, reverse repurchase agreements, securities lending and borrowing arrangements and margin lending arrangements); and
 - Over-the-counter (OTC) derivatives.
- BCBS has also adopted a final approach for bank exposures to central counterparties
- BCBS has also proposed a fundamental revision of the approach to the trading book and market risk that is not yet final

Key areas of focus for Basel III revisions

- Counterparty credit risk (default risk)
- Mark-to-market risk for OTC derivatives (credit value adjustments (CVAs))
 - Banks are subject to capital charge for potential mark-to-market losses as a result of deteriorations in the creditworthiness of their counterparties.
 - CVA provisions are separate from those evaluating the risk of counterparty default.
- Wrong-way risk
 - Basel III requires stress-testing and scenario analyses to identify risk that is “positively correlated” with counterparty creditworthiness.
 - Example:
 - Bank buys right to put asset to a third party at a set price (no wrong way risk)
 - Bank buys right to put asset to issuer of that asset (wrong way risk, because if the asset value declines, the issuer may not be able to honor the put right)

Key areas of focus for Basel III revisions (cont.)

- Asset value correlation multiplier:
 - Adds a 1.25 multiplier to the correlation parameter for all exposures to:
 - Regulated financial institutions with assets equal to or greater than US \$100 billion (includes banks, broker-dealers, insurance companies and futures commission merchants).
 - Unregulated financial institutions of any size (includes asset managers, providers of credit enhancement, proprietary traders, and others).
- Increased “margin period of risk” – i.e., for transactions that are re-margined daily based on mark-to-market risk, the period that the bank would be at risk after a default and before being able to close out and replace the position.
- Eliminates ability to adjust exposure at default (EAD) based on triggers that require posting of additional collateral following a counterparty credit rating decline.

7. Leverage Ratio

Leverage Ratio

- Basel III adds a non-risk-based leverage ratio requirement of 3% of Tier 1 capital.
- Described as a “backstop” measure, the leverage ratio will prevent banks from taking on excessive leverage by holding low risk-weight assets.
- Calculation rules for the leverage ratio include the following:
 - The capital measure is comparable to the determination of Tier 1 capital, including comparable effects from deductions and consolidation.
 - The exposure measure generally follows the accounting measure of exposure.
 - Regulatory netting rules under Basel II apply, as do special rules addressing repurchase agreements, off-balance sheet transactions and derivatives.
 - Collateral, guarantees and other credit enhancement cannot be used as offsets to on-balance sheet exposures and loans and deposits cannot be netted.
- The US regulations include a 4% leverage ratio requirement, plus a supplementary leverage ratio of 3% for advanced approaches banks that includes certain off-balance sheet exposures in the denominator. The supplementary leverage ratio requirement applicable to advanced approaches banks—rather than the 4% leverage ratio applicable to all banks—corresponds to the Basel III requirement.

8. Liquidity coverage ratio

Liquidity coverage ratio: core concept

- Purpose: “[T]o promote short-term resilience of a bank’s liquidity risk profile by ensuring that it has sufficient high-quality liquid assets to survive a significant stress scenario lasting for one month.”
- Key considerations include:
 - Determining the types of assets that can be relied on to meet liquidity needs, with little vulnerability to market stress, and
 - Identifying and quantifying the bank’s projected liquidity needs at times of high stress.
- Definition of standard:

| |
|---|
| $\frac{\text{Stock of high-quality liquid assets}}{\text{Total net cash outflows over the next 30 calendar days}} \geq 100\%$ |
|---|

High-quality liquid assets--characteristics

- Assets should also be central-bank eligible, except in limited circumstances
- Fundamental characteristics:
 - Low credit and market risk
 - Can be easily and accurately valued
 - Not subject to wrong-way risk (i.e., the risk of the asset is not correlated with the conditions that lead to liquidity stress)
 - Listed on a regulated exchange, to ensure greater transparency
- Market characteristics:
 - A large, active market with a diverse group of buyers and sellers and committed market makers
 - Viewed as a safe haven at times of “flight to quality”
- For banks in jurisdictions with low supplies of high-quality liquid assets, special accommodations are available

High-quality liquid assets – operational requirements

- In general, the high-quality liquid assets must be unencumbered (i.e., not securing, collateralizing or credit-enhancing obligations). However:
 - Securities received in a reverse repo or securities financing transaction and not rehypothecated may be included in the stock of liquid assets; and
 - Securities pledged to a central bank but not used to support an outstanding obligation may also be included.
- The assets should be reasonably matched to the currency of the projected cash outflows.
- The pool of liquid assets should not be commingled with other assets or designated for other purposes.
- Client pool securities and cash received from a repo of client pool securities cannot be treated as liquid assets.
- The pool of liquid assets should be under treasurer control.

High-quality liquid assets – specific requirements and classifications

- Level 1 assets (unlimited)
 - Cash
 - Central bank reserves that can be drawn down in times of stress
 - Marketable securities representing claims on or claims guaranteed by sovereigns, central banks, and a limited range of other institutions (e.g., the BIS, IMF and multilateral development banks) that meet all of the following conditions:
 - 0% risk-weight under the Basel II Standardised Approach;
 - Deeply liquid with a proven track record for maintaining liquidity under stressed market conditions; and
 - Not an obligation of a financial institution or any of its affiliated entities.
 - Certain other non-0% risk weighted obligations of sovereigns or central banks, where the obligations are appropriately matched to the bank's exposures or operations in the relevant jurisdiction.
 - Notwithstanding these criteria, given ongoing problems with sovereign credits, regulators are looking at expanding the range of permissible assets to reduce overreliance on sovereign credits.

High-quality liquid assets – specific requirements and classifications (cont.)

- Level 2 assets (not more than 40% of liquid asset stock, and subject to a 15% haircut based on market value)
- Level 2A assets (just Level 2 in 2010 accord)
 - Marketable securities representing claims on or claims guaranteed by sovereigns, central banks, and a limited range of other institutions that meet all of the following conditions:
 - 20% risk-weight under the Basel II Standardised Approach;
 - Deeply liquid with a proven track record for maintaining liquidity under stressed market conditions (no more than a 10% decline in value over a 30-day period of significant liquidity stress); and
 - Not an obligation of a financial institution or any of its affiliated entities.
 - Corporate bonds or covered bonds
 - Corporate bonds cannot be issued by a financial institution, and covered bonds cannot be issued by the bank itself or its affiliates
 - Minimum AA- credit assessment from an external credit assessment institution, or internal rating showing probability of default equivalent to a AA- credit assessment.
 - Deeply liquid with a proven track record for maintaining liquidity under stressed market conditions (no more than a 10% decline in value over a 30-day period of significant liquidity stress);
- Level 2B assets, added in the 2013 revision, include residential mortgage backed securities, lower rated corporate bonds and certain exchange traded common stock, subject to conditions and deeper haircuts and limited to 15% of liquid asset stock (part of the 40% aggregate limit for Level 2 assets)

Net cash outflows

- Net cash outflows: “total expected cash outflows minus total expected cash inflows in the specified stress scenario for the subsequent 30 calendar day.”
 - Expected cash outflows: multiply outstanding balances of each type of liability or off-balance sheet commitment by the rate at which it is expected to run off or be drawn down.
 - Expected cash inflows: multiply outstanding balances of each type of contractual receivable by the rate at which it is expected to flow in under the relevant scenario.
 - Expected cash inflows must be capped at 75% of expected cash outflows for purposes of determining net cash outflows.

Cash outflows

- Basel III includes a chart that establishes assumed run-off or draw rates for each category of liability.
- Relevant categories for unsecured obligations include:
 - Stable retail deposits
 - Unsecured wholesale funding from small businesses
 - Deposits in institutional networks of cooperative banks
 - Unsecured wholesale funding from other entities
 - Less stable retail deposits
 - Unsecured wholesale funding with operational relationships
 - Unsecured wholesale funding from nonfinancial corporates, sovereigns, central banks and public sector entities

Cash outflows (cont.)

- Relevant categories for secured obligations, based on the collateral securing such obligations:

| Categories for outstanding maturing secured funding transactions | Amount to add to cash outflows |
|---|--------------------------------|
| • Backed by Level 1 assets. | 0% |
| • Backed by Level 2A assets. | 15% |
| • Secured funding transactions with domestic sovereign, central banks or PSEs that are not backed by Level 1 or 2A assets. PSEs that receive this treatment should be limited to those that are 20% or lower risk weighted. | 25% |
| • Backed by RMBS eligible for inclusion in Level 2B assets | |
| • Backed by other Level 2B assets | 50% |
| • All others | 100% |

Table from Basel Committee on Banking Supervision, Basel III: The Liquidity Coverage Ratio and liquidity risk monitoring tools (January 2013)

Cash outflows (cont.)

- Additional outflows:
 - Derivatives payables
 - Increased collateral funding obligations relating to ratings triggers
 - Increased liquidity needs due to decreases in collateral value supporting derivatives and other transactions
 - Securitization, covered bond and other obligations maturing within the 30-day period
 - Asset-backed commercial paper programs, conduits, structured investment vehicles and the like

Cash outflows (cont.)

- Contingent funding obligations
 - Committed credit or liquidity facilities for small business customers
 - Committed credit facilities to non-financial corporates, sovereigns, central banks, public sector entities and multilateral development banks
 - Committed liquidity facilities to non-financial corporates, sovereigns, central banks, public sector entities and multilateral development banks
 - All other committed credit or liquidity facilities
 - Other contingent funding obligations such as guarantees, letters of credit, and uncommitted facilities are at national discretion
 - Variation margin requirements for mark-to-market valuations of derivatives transactions should also be considered.

Cash inflows

- Reverse repurchase and securities lending agreements maturing within the 30-day period are evaluated based on their likelihood to roll over
- Lines of credit are assumed to be undrawable by the bank.

Cash inflows (cont.)

- The remainder of the cash inflows are based on the nature of the counterparty:
 - Retail and small business performing loans – assumed to be fully received, but assumed that new loans will also be made, for net receipts of 50%
 - Financial institutions for performing loans – 100% inflows, with no offsetting new loans
 - Non-financial institutions for performing loans – assumed to be fully received, but assumed that new loans will also be made, for net receipts of 50%
 - Operational deposits at other financial institutions for clearing, custody and cash management, and deposits at a centralized institution in a cooperative banking network are assumed to stay where they are (0%)
 - Net derivatives receivables are assumed as 100% inflows

LCR—US Implementation

- The Federal Reserve, the OCC and the FDIC have proposed rules for the US implementation of the LCR.
- Under the proposal, US banks and other affected banking entities would have to have an LCR of 80% as of January 1, 2015, with full phase in by January 1, 2017.
- One critical issue with the LCR is how it falls within the Prompt Corrective Action framework, given that the goal is to have needed liquidity—meaning that banks must be able to use liquid assets when needed, even if that causes them to dip below required levels of LCR on a temporary basis.

9. Net stable funding ratio

Net stable funding ratio

- Purpose: “[T]o promote resilience over a longer time horizon by creating additional incentives for banks to fund their activities with more stable sources of funding on an ongoing basis. The Net Stable Funding Ratio (NSFR) has a time horizon of one year and has been developed to provide a sustainable maturity structure of assets and liabilities.”
- Definition:

| |
|--|
| $\frac{\text{Available amount of stable funding}}{\text{Required amount of stable funding}} > 100\%$ |
|--|

Stable funding

- “*Stable funding*”: the portion of those types and amounts of equity and liability financing expected to be reliable sources of funds over a one-year time horizon under conditions of extended stress.
- The required amount of stable funding is based on liquidity characteristics of the bank’s assets, contingent exposures that are off balance sheet, and the bank’s activities.

Available stable funding

- Available stable funding consists of:
 - capital;
 - preferred stock with maturity of one year or longer;
 - liabilities with effective maturities of one year or longer;
 - “that portion of non-maturity deposits and/or term deposits with maturities of less than one year that would be expected to stay with the institution for an extended period in an idiosyncratic stress event;” and
 - “the portion of wholesale funding with maturities of less than a year that is expected to stay with the institution for an extended period in an idiosyncratic stress event.”
- Available stable funding does not include long-term borrowing from central bank facilities, so as to not to encourage reliance on such facilities
- Each category is assigned an “ASF factor” ranging from 100% (e.g., capital, long-term debt) to 50% (various forms of wholesale funding, non-maturity deposits and term deposits with less one year remaining maturity), with all other liabilities at 0%

Required stable funding

- Required stable funding is determined by multiplying an “RSF factor” by the amount of certain assets, off-balance sheet exposures and liquidity commitments.
- Assets that are more likely to be a source of liquidity than a user of liquidity receive lower RSF factors.
- “The RSF factors assigned to various types of assets are parameters intended to approximate the amount of a particular asset that could not be monetised through sale or use as collateral in a secured borrowing on an *extended basis* during a liquidity event lasting one year. Under this standard such amounts are expected to be supported by stable funding. “
- For secured funding transactions maturing within one year, banks are required to look through to the underlying asset and apply its RSF factor.
- Assets that will be encumbered for at least a year – such as those supporting securitizations and covered bonds – receive a 100% RSF factor.

Required stable funding – off-balance sheet activities

- For off-balance sheet activities, banks are required to establish a “reserve” for the possibility that these will move on balance sheet.
- For “[c]onditionally revocable and irrevocable credit and liquidity facilities to any client,” the RSF factor is 5% of the undrawn balance.
- For other off-balance sheet or contingent exposures, such as guarantees, letters of credit, and uncommitted facilities, the RSF factor is at national discretion

NSFR—Current status

- BCBS has a recent consultative paper on the NSFR, for which the comment period just closed. Proposed changes include
 - Recognition of operational deposits in ASF
 - Clarification of secured funding treatment
 - Higher ASF factors for stable non-maturity and term deposits
 - Additional granularity regarding liabilities with residual maturities of less than one year
 - Conforming changes to LCR high quality liquid asset definitions
 - Adjusted RSF factors
- Although the US regulators have made numerous references to the NSFR, no proposal to implement it has been made yet.

10. Transition

Transition – elements of regulatory capital and required ratios

- Member countries were to have implementing regulations in place by January 1, 2013
- Delays in implementation, as well as country-specific requirements, create uncertainty regarding implementation schedule
- Intent is to have all changes phased in over time
- US regulations establish a short transition period, with banks required to be in compliance with changes to PCA capital standards by January 1, 2015
- Advanced approaches banks must comply with the supplementary leverage ratio by January 1, 2018

Transition—Liquidity Coverage Ratio

- The Basel III accord indicates an intent to introduce the LCR at a 60% level on January 1, 2015, with level annual step ups to a 100% level on January 1, 2019
- US proposed regulations would require an accelerated phase in, with an LCR of 80% required for calendar year 2015, an LCR of 90% for calendar year 2016 and an LCR of 100% beginning in calendar year 2017