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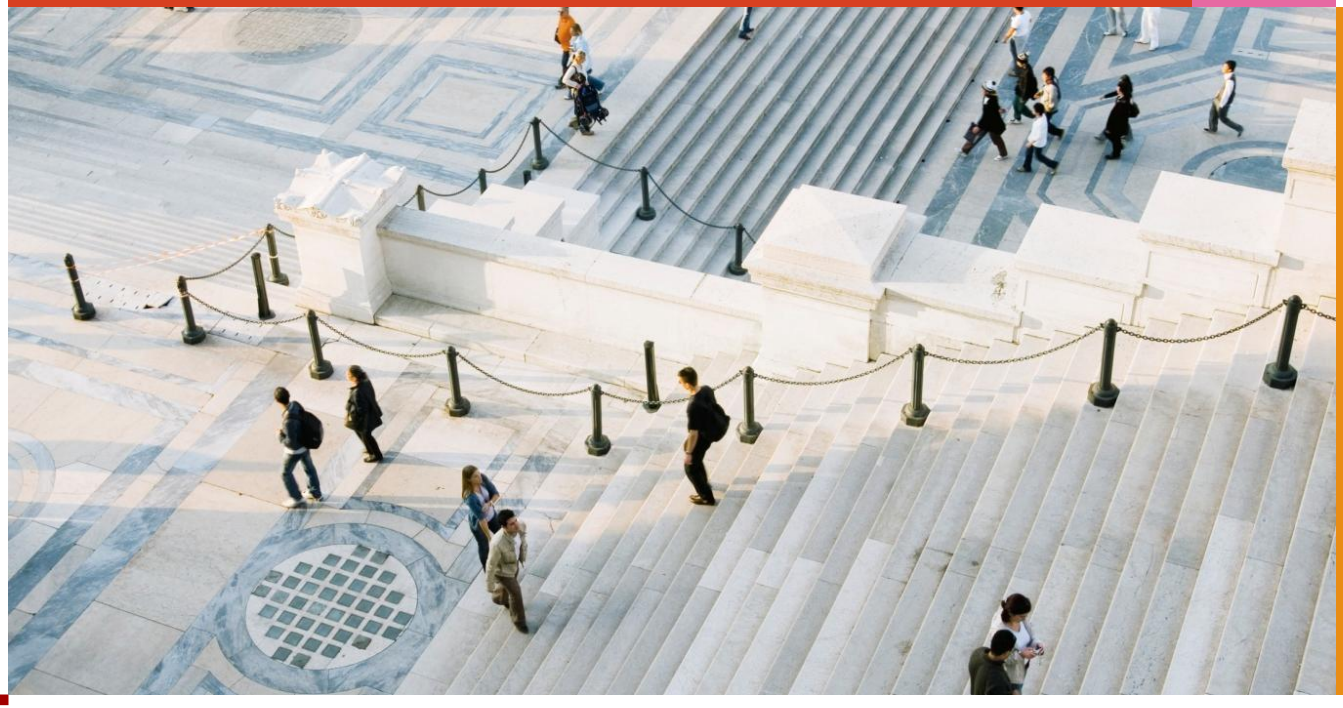
The New Basel III Framework: Navigating Changes in Bank Capital Management

October 2010



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Point of view

The regulators' intent with Basel III is a future of more capital, more liquidity, and lower risk.

As a result of the new Basel III rules, banks will face an environment with lower returns on capital and slower growth.

Basel III establishes tougher capital standards through more restrictive capital definitions, higher risk-weighted assets (RWA), additional capital buffers, and higher requirements for minimum capital ratios. The reforms will fundamentally impact profitability and require transformation of the business models of many banks. These reforms will also require banks to undertake significant process and system changes to achieve upgrades in the areas of stress testing, counterparty risk, and capital management infrastructure.

Of the various businesses in which banks are engaged, capital markets businesses will be the most impacted. Higher capital requirements will primarily impact areas such as sales and trading, securitizations, securities lending, and OTC derivatives. It is imperative that firms with large sales and trading businesses assess the impact of the new rules on their capital adequacy through a comprehensive capital planning and optimization process. Considerations should include balance sheet mix, organic capital generation, and RWA de-risking strategies.

In addition, Basel III establishes new liquidity standards that will drive new balance sheet strategies to limit illiquid assets, restrict wholesale/unstable sources of funding, and manage higher funding costs. These new standards will have a broad impact across most banks, particularly those centered in commercial and wholesale banking activities. In the long run, Basel III establishes more standardized risk-adjusted capital requirements. As a result, investors will be able to better analyze and compare risk-adjusted performance, which will ultimately drive stock valuation differences.

The Supervisory Capital Assessment Program (SCAP) significantly raised capital requirements in the United States and therefore served as a prelude to Basel III:

- SCAP forced many US banks to increase their capital levels. The current Tier 1 common median for US banks is at 9%, providing 200 bps of buffer to address the new Basel III requirements.
- An ample transition period of eight years provides flexibility to generate further capital buffers through earnings generation, stricter risk management, and balance sheet/capital optimization strategies.

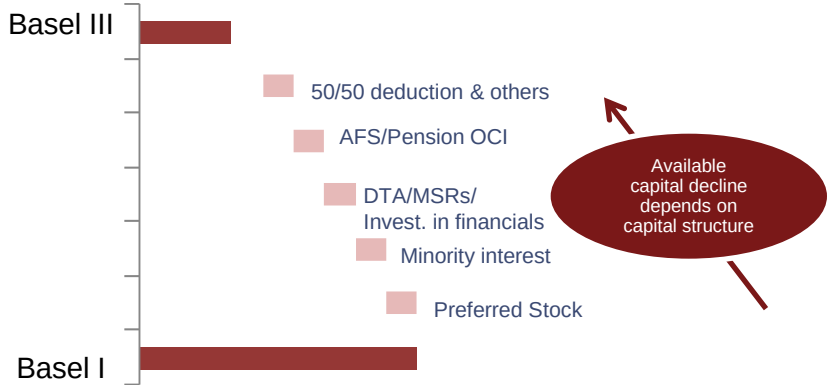
Large banks will likely manage to the new capital requirements prior to the proposed deadline of January 2019 for full implementation. It is probable that:

- Self-imposed management cushions established above minimum requirements will be lower than in the past as banks begin to consider the new minimum standards sufficient to support their risk profile.
- Dividend and capital repurchase programs will be restored over time, particularly in the best capitalized banks.

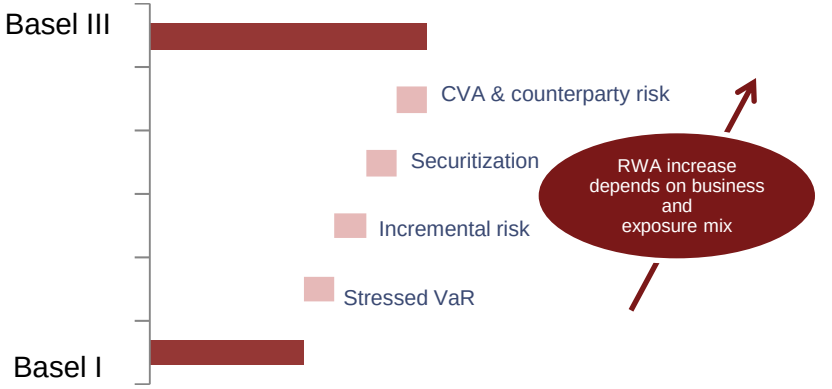
Point of view

Basel III will result in less available capital to cover higher RWA requirements and more stringent minimum coverage levels.

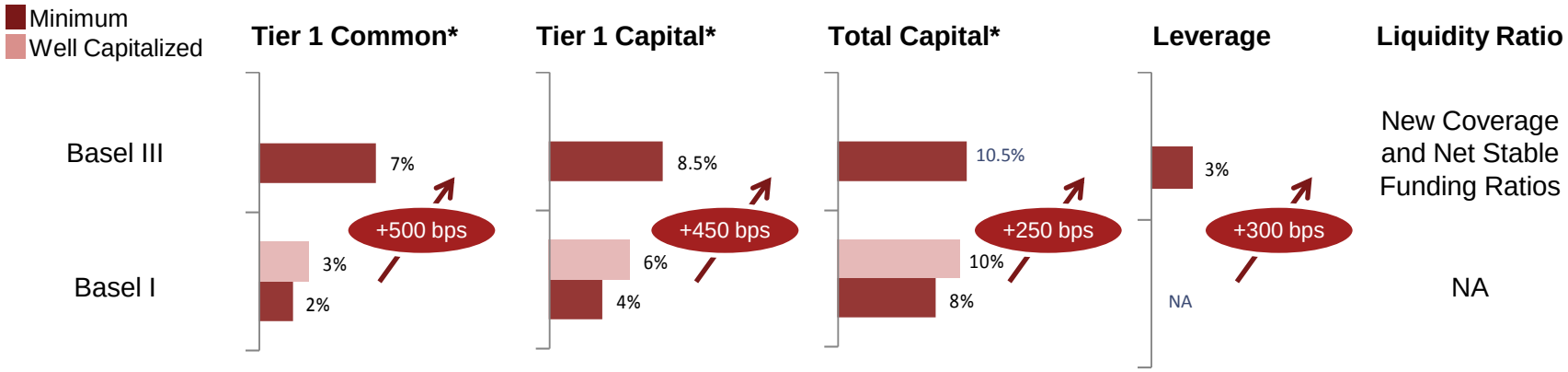
Less available capital through stricter definition of capital with greater deductions that emphasize stronger quality



Higher RWA requirements to better capture risks related to trading, securitization, and counterparty exposures



Significant increases in minimum required levels of capital and liquidity



* Includes conservation buffer, but does not include a 0%–2.5% countercyclical buffer.

Point of view

Basel III will significantly alter the banking landscape and raise the bar on risk-adjusted returns.

Capital conservation and optimization will become more prominent in business planning and setting risk management objectives.

The implications of increased capital and liquidity requirements would include significant systemic and idiosyncratic effects across the banking industry and capital markets.

Basel III Implications

	Systemic Effects	Idiosyncratic Effects
Capital	• Reduced industry profitability (as measured by ROE) • Decreased investor appetite for banking sector capital issuances due to lower returns • Potential impact on acquisition rationale and activity • Greater scrutiny by investors, regulators, and other stakeholders regarding balance sheet usage • Securitization markets businesses significantly altered by recalibration of RWA for securitization products and elimination of the arbitrage between banking and trading book • Large derivatives and reverse repo players impacted by increased counterparty credit risk capital requirements	• Transformation of business models—higher capital costs would create incentives for banks to move toward different business models (e.g., more fee based) • Alteration of balance sheet management techniques for banks • Firm will need to invest in substantial upgrades in IT infrastructure, reporting systems, and data management—significantly increased expectations regarding stress testing capabilities and reporting, including the integration of stress analysis
Liquidity	• Greater competition/increased costs for retail deposits • Repo financing of securities positions will become more costly, thinning economics on market making including possibly smaller inventory • Structure of wholesale funding markets is unclear given preferential treatment for more stable sources of funding • Rationalization of wholesale loan products, including committed credit and back-up liquidity lines, pushing more borrowers to the securities markets	• Cost of funding will likely increase for all institutions with materiality depending on balance sheet structure and funding strategy • Implementation of legal entity ratio requirements will likely trap liquidity at banking subsidiaries

Point of view

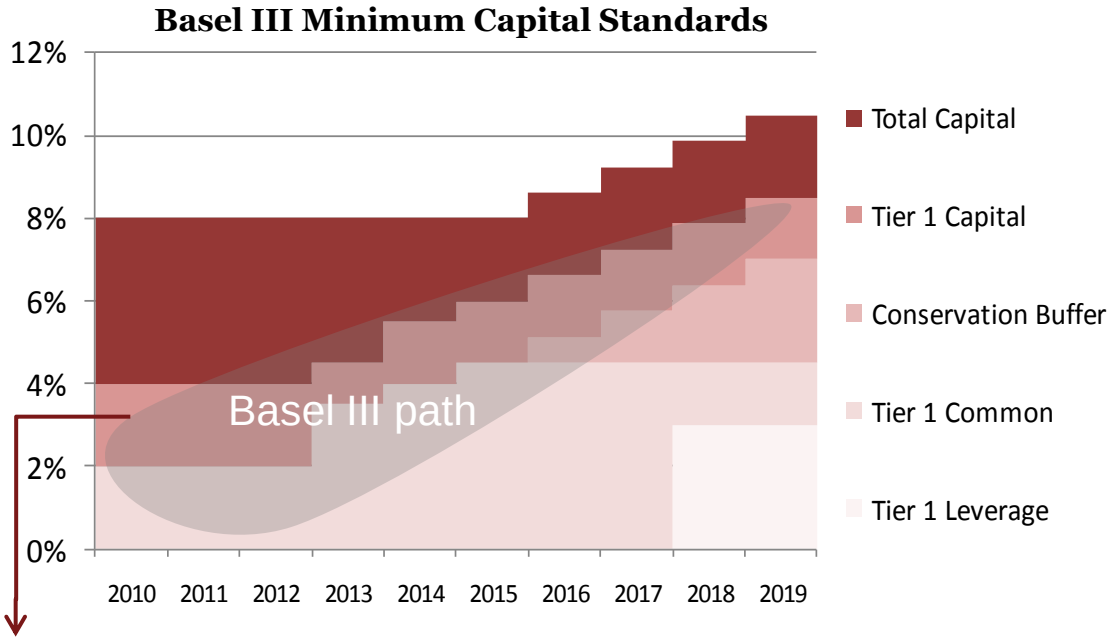
In addition, Basel III would force further evolution of capital management practices in banks.

Comparing capital management practices

	Pre-Crisis	Post-Crisis
Capital Structure	▪ Significant reliance on cheaper forms of capital instruments led to proliferation of hybrid capital instruments with limited loss-absorbing capacity, such as subordinated debt.	▪ Emphasis in Tier 1 common and TCE. ▪ Future consideration of contingent capital.
Capital Analytics	▪ Capital adequacy evaluation was largely based on regulatory capital paradigm and "less than robust" internal economic capital models that failed to capture the severity and fat-tail nature of the crisis events.	▪ Determination of capital adequacy grounded in integrated stress testing. ▪ Robust capital modeling with broader coverage of risk factors and risk exposures, including counterparty risk and securitizations. ▪ Capital reporting will include greater emphasis on RWA measures and attribution analysis when evaluating business performance and strategy.
Capital Optimization	▪ Allocation of capital was a minor consideration in economics of business strategy/performance; capital was not a constraint. In some cases, business was not evaluated based on capital/balance sheet consumption—no cost of capital charged.	▪ Redefinition of business model to optimize capital. ▪ Capital/balance sheet consumption and funding costs will be considered in determination of strategic direction and evaluation of business performance. ▪ Incorporation of capital and balance sheet in decision making with robust ICAAP programs and "use test."
Contingency Planning	▪ Capital contingency planning not well developed. ▪ Liquidity and capital managed separately.	▪ Integrated liquidity and capital management. ▪ Detailed capital and liquidity contingency plans in place to support recovery and resolution planning processes.
Capital Strategy	▪ Pre-crisis, banks had active dividend distribution and share buyback programs. During the crisis, emphasis was on capital preservation (dividend cuts, de-risking) and raising activities.	▪ Restore dividend and capital repurchase program. ▪ Manage capital with lower management buffers relative to new Basel III guidelines.

Point of view

Defining the Basel III path: It is critical to develop capital management strategies now to reduce the volatility of implementation within proposed timelines.



- The phasing-in period illustrates how long the Basel Committee believes it will take some banks to generate capital to support lending growth and meet the requirements of the new regime.

Capital Structure	▪ Optimize capital structure to emphasize high-quality equity, manage deductions, phase out hybrid capital instruments, and evaluate contingent capital
Capital Generation	▪ Manage business capital generation in combination with dividend and share repurchase programs
Capital Optimization	▪ Rationalize business mix and reallocate capital based on re-evaluation of risk-adjusted returns

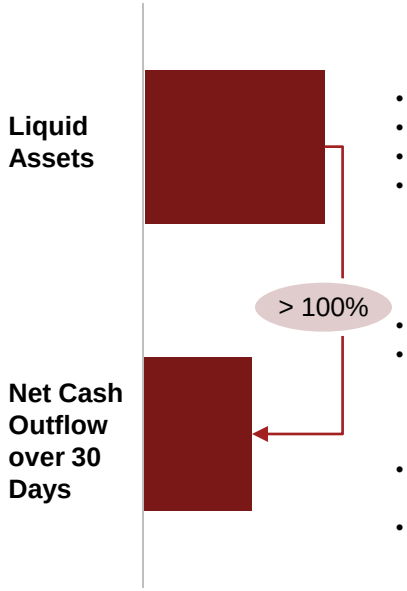
Credit Risk Mitigation	▪ Mitigate counterparty risk through higher collateral, hedging, and routing of derivatives to central clearinghouses
Market Risk Mitigation	▪ Mitigate market risk through hedging, position reduction, and stricter limits
RWA Model Efficiency	▪ Benchmark modeling techniques and assumptions to be aligned to market standard practices

Point of view

In addition to new capital requirements, Basel III establishes liquidity standards through the introduction of liquidity coverage and net stable funding ratio targets.

For many institutions, the liquidity challenge is likely to be greater than the capital challenge. This is an area where supply constraints (such as the availability of deposits, medium-term funding, and high-quality liquid assets) are likely to be a key issue.

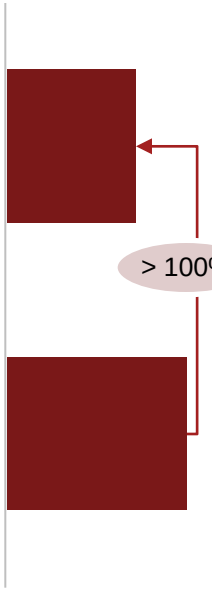
Liquidity Coverage Ratio (maintain enough liquid assets for 30 days under stress scenario specified by supervisor)



	Haircut
• Cash and Central Bank reserves	0%
• Government bonds	0%
• Agencies	15%
• Corporate bonds ≥ AA-	15%

	Run-off Factor
• Retail & SME deposits	5-10%
• Wholesale deposits	
• Financial	100%
• Nonfinancial	75%
• Custody & clearing	25%
• Secured funding by assets not included in stock of liquid assets	25%
• Undrawn commitments	
• Retail and SMEs	5-10%
• Liquidity & FI commitments	100%

Net Stable Funding Ratio (maintain stable sources of funding relative to illiquid assets and off-balance-sheet contingent calls over 1-year horizon)



	Factor
• Cash, securities, FI loans < 1 year	0%
• Unencumbered securities	5-50%
• Retail client loans	85%
• All other assets	100%
• Undrawn commitments	5%
• Other contingent obligations	TBD

	Factor
• Capital	100%
• Preferred Stock ≥ 1-year maturity	100%
• Liabilities ≥ 1-year maturity	100%
• Stable deposits & unsecured wholesale funding < 1 year	90%
• Less stable deposits & unsecured wholesale funding < 1 year	80%
• Unsecured wholesale funding < 1 year provided by non financials	50%
• All others	0%

Liquidity and Funding Strategies

- Reduce businesses with unfavorable liquidity treatment
- Raise liquidity of investments
- Raise retail deposits
- Raise additional long-term debt and capital
- Reduce committed credit and liquidity facilities
- Reduce wholesale credit
- Adjust pricing to compensate for higher cost of funding

Section 2

A framework for response

A framework for response—a roadmap to upgrading capital management practices

Despite the ample transition time to comply with new Basel III rules, banks should develop capital and liquidity strategies now.

While the **implementation timeframe** for new requirements appears extended, in practice, we encourage banks that can do so to tackle the balance sheet consequences of the new regime sooner rather than later. Comparisons with peers are likely to be more important than the formal regulatory timetable.

Some **immediate next steps** for management to consider include:

- Evaluate the potential impact of Basel III proposals in capital level, liquidity position, and overall key financial metrics.
- Identify capital and liquidity management strategies to ensure compliance with new requirements, including:
  - Capital structure and optimization
  - Funding
  - RWA initiatives, models, and related infrastructure
- Anticipate changes in business model, product offering, and client pricing strategies.
- Assign a finance/risk/business line team to plan key implementation steps and continue providing comments to regulators on consultative documents.
- Communicate with investors in order to be transparent in terms of Basel III impact and mitigation strategies.

Upgrade capital management governance and processes—integration of Pillar 2/ICAAP programs and new rules will be critical.

- Continue to assess how much capital is needed to cover all of their material risks and to forecast this under a forward-looking stress scenario, and for supervisors to assess whether this is adequate.
- Reconcile current management buffers with projected buffers under Basel III given the new inclusion of the conservation, countercyclical, and systemic buffers.
- Benchmark governance and processes to supervisory expectations, including IT infrastructure and reporting components.

A framework for response—a roadmap to upgrading capital management practices
Banks also need to be mindful of areas that require further clarity.

- Although the **leverage ratio** is broadly defined and the implementation timetable proposed, there is a lot of important detail to be filled in. Final calibration of leverage ratio will be decided based on experience through transitional period.
- The **countercyclical capital buffer** that banks will need to meet has only been penciled in, with no guidelines in place yet as to how countercyclical capital buffers may be applied and how and when they may be released.
- Complete and calibrate the **liquidity and leverage** constraints, particularly those related to the net stable funding ratio, given its large potential consequences in business models.
- Agree on the approach for **systemic** banks that may include an additional capital surcharge**.**
- Integrate with **other initiatives,** such as:
  - Improved trade settlement arrangements and effective netting of interbank exposures
  - Development of recovery and resolution plans
  - Greater clarity over the management of the various separate legal entities within a banking group
- Looking ahead to **next steps**, be mindful that the proposals are still subject to approval by the G20, and the key milestone will be the G20 meeting in November 2010. In addition, a series of other initiatives are moving forward, notably:
  - The consultations on capital buffers and "gone concern" capital, to be completed around the end of 2010
  - The calibration of the LCR, NSFR, and the capital charge for CVA, to be completed at the end of 2010
  - National and regional changes, such as the new EU white paper on bank governance, at the end of 2010
  - Accounting standard changes targeted for 2011 (for example, relating to forward-looking provisions)

Section 3

An overview of Basel III

An overview of Basel III—Introduction

On 17 December 2009, the Basel Committee on Banking Supervision released two consultation papers in which it proposed strengthening global capital and liquidity regulations with the goal of promoting a more resilient international banking sector.

Proposal Highlights:

- Implements changes starting in January 2013 and going through a transitional period that lasts until January 2019
- Raises the quality, consistency, and transparency of the capital base through stricter rules on eligibility of instruments to be included in (core) Tier 1 capital
- Enhances risk coverage by strengthening counterparty credit risk capital requirements arising from derivatives, repurchase transactions, and securities financing
- Supplements risk-based capital requirements with the addition of a non-risk-based leverage ratio as a backstop measure
- Reduces procyclicality and promotes countercyclical capital buffers through a combination of forward-looking provisioning and capital buffers
- Introduces new global liquidity standards that include a stressed liquidity coverage ratio and a longer-term structural liquidity ratio
- Addresses systemic risk and interconnectedness, with more specific proposals to be developed in 2010

An overview of Basel III—Introduction

Key Basel III components impact three areas: new definitions for capital ratios and minimum targets, additional RWA requirements, and new liquidity standards.

Areas	Main Basel III Components
Capital Ratios and Targets	1 Capital Definition
	2 Countercyclical Buffers
	3 Leverage Ratio
	4 Minimum Capital Standards
	5 Systemic Risk
RWA Requirements	6 Counterparty Risk
	7 Trading Book and Securitization (also known as Basel II.5)
Liquidity Standards	8 Coverage Ratio
	9 Net Stable Funding Ratio

An overview of Basel III—Introduction

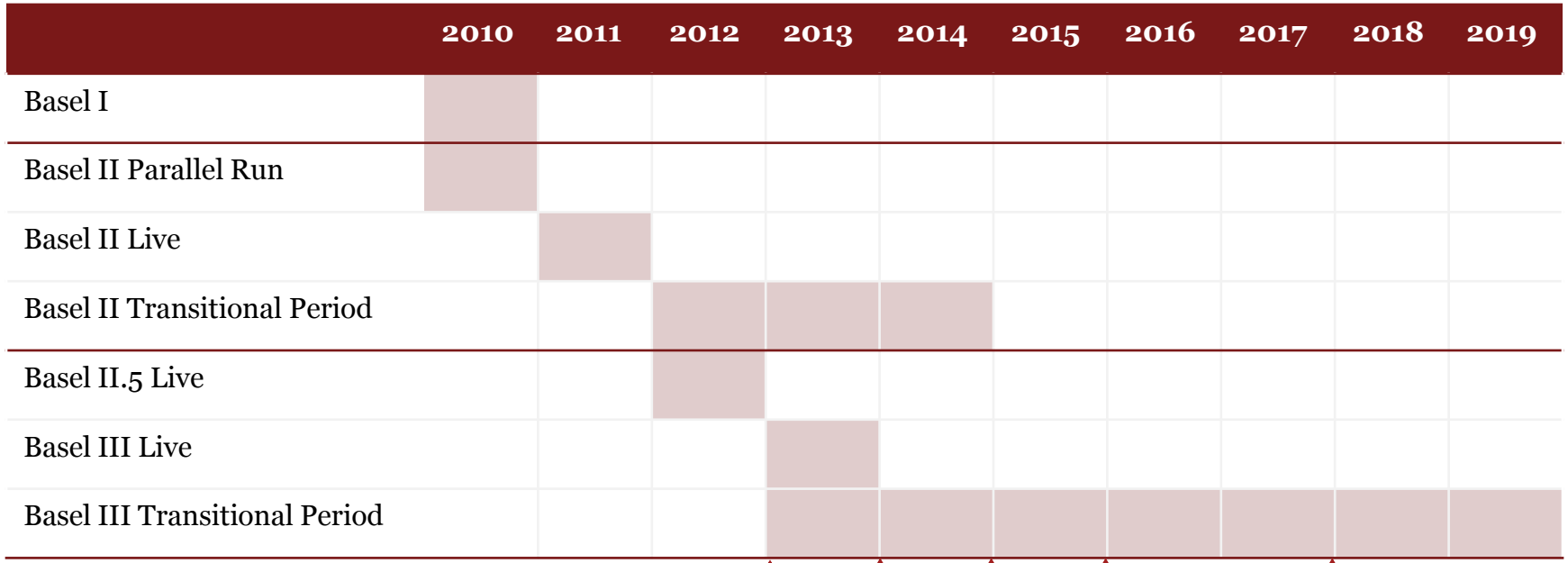
Comparing Basel I, II, and III

An overview of Basel III—Introduction
Comparing Basel I, II, and III

	Basel I[1]	Basel II	Basel II.5 and Basel III
Capital Ratios and Targets	▪ Tier 1 capital includes common equity, preferred stock, qualifying hybrids, and minority interests ▪ Certain deductions applied to Tier 1 such as goodwill and intangibles (with certain exceptions for MSRs, PCCR, and DTAs) and investments in unconsolidated banking and finance subsidiaries; some limitations on minority interest	▪ Tier 1 risk based capital and total risk based capital ratios remain more or less as defined under Basel I ; deduction of "significant" minority interest	▪ Elimination of preferred stock ▪ Adds, continues, or modifies limitations on various deductions to Tier 1 to emphasize quality of capital (e.g., minority interests, DTA, MSRs, AFS OCI, investments in other financials, net defined benefit pension and 50/50 deductions) ▪ Higher capital minimum standards ▪ Introduction of new capital buffers ▪ Introduction of leverage ratio
RWA Requirements	▪ Focus on a single risk measure (8% of RWA) ▪ Capital RWA requirements defined by type of exposures and counterparty, regardless of the risk and quality of the exposure—no risk sensitivity aside from distinctions between sovereigns, banks, and corporates ▪ No incentive structure to improve risk measurement and risk management practice ▪ One size fits all ▪ Trading book RWA based on regulatory VaR and specific risk calculations	▪ Flexibility, menu of approaches, (internal models vs. standardized approaches), capital incentives for better risk management ▪ More risk sensitivity, particularly in the area of credit risk where internal models based on EAD, PD, and LGD assumptions are introduced ▪ More emphasis on banks' own internal risk management methodologies (Pillar 1), supervisory review (Pillar 2), and market discipline (Pillar 3) ▪ Operational risk capital charge introduced ▪ Trading book charges do not change	▪ Introduction of capital charge for mark-to-market losses to account for loss of creditworthiness of counterparties or credit valuation adjustment (CVA) ▪ Enhancement of risk measures to include missing risk factors and extend coverage in areas such as counterparty risk and securitizations ▪ Considerations of trading book exposures and securitized products through a set of rules known as Basel II.5 designed to reduce capital arbitrage between banking and trading books ▪ IRC scope expanded to include credit migration combined with widening credit spreads and loss of liquidity ▪ Stressed VaR introduced
Liquidity	▪ No explicit requirements	▪ No explicit requirements	▪ Liquidity requirements are introduced in the form of a liquidity coverage ratio and the net stable funding ratio

[1] As promulgated in the U.S. per Title 12 Part 225 (Regulation Y), Appendix A

An overview of Basel III—Introduction
Timeline



January 2013: Capital hybrid instruments that do not qualify start to be phased out over 10 years

January 2014: Common equity deductions phase-in starts

January 2015: Introduces minimum liquidity coverage ratio

January 2016: Conservation buffer phase-in period starts

January 2018: Introduces minimum net stable funding ratio

All dates indicate 1 January start

An overview of Basel III—Introduction
Timeline

Annex 2: Phase-in arrangements (shading indicates transition periods)

	2011	2012	2013	2014	2015	2016	2017	2018	As of 1 January 2019
Leverage Ratio	Supervisory monitoring		Parallel run 1 Jan 2013 - 1 Jan 2017 Disclosure starts 1 Jan 2015					Migration to Pillar 1	
Minimum Common Equity Capital Ratio			3.5%	4.0%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital Conservation Buffer						0.625%	1.25%	1.875%	2.50%
Minimum common equity plus capital conservation buffer			3.5%	4.0%	4.5%	5.125%	5.75%	6.375%	7.0%
Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs, and financials)				20%	40%	60%	80%	100%	100%
Minimum Tier 1 Capital			4.5%	5.5%	6.0%	6.0%	6.0%	6.0%	6.0%
Minimum Total Capital			8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%
Minimum Total Capital plus conservation buffer			8.0%	8.0%	8.0%	8.625%	9.25%	9.875%	10.5%
Capital instruments that no longer qualify as non-core Tier 1 capital or Tier 2 capital			Phased out over 10 year horizon beginning 2013						
Liquidity coverage ratio	Observation period begins				Introduce minimum standard				
Net stable funding ratio		Observation period begins						Introduce minimum standard	

All dates indicate 1 January start

Basel Committee on Banking Supervision
Bank for International Settlements

Main Basel III Components—Capital Ratios and Targets

1 Capital Definition

The Basel Committee is proposing a number of measures to raise the quality, consistency, and transparency of the available capital base, with three main areas of focus:

- Require harmonized regulatory adjustments to be made from common equity
- Conform the list of regulatory adjustments and their treatment across territories
- Require detailed public disclosures of regulatory capital elements and adjustments

Key Assumptions

- The predominant part of Tier 1 capital should be common equity, which is comprised of common shares and retained earnings, making Tier 1 common capital definition close to Tangible Common Equity.
- Deductions from Tier 1 capital will be similar to existing US regulatory guidance for BHCs and will include minority interests, unrealized losses on AFS securities, goodwill and intangibles, pension and deferred tax assets, investments in own shares and capital of other financials, cash flow hedge reserve, the shortfall of provisions to expected losses for IRB institutions and cumulative gains and losses to changes in own credit risk on fair valued financial liabilities.[1]
- Existing US limitations on deductions have been modified. Banks will be allowed to include deferred tax assets (DTAs) related to timing differences, mortgage servicing rights (MSRs) and unconsolidated financial investments up to 15% of the common equity component of Tier 1 prior to the deduction of these items but after the deductions of all other deductions (goodwill and other intangibles, DTAs from NOL carry forwards, treasury stock, shortfall of provisions to expected losses, cash from hedge reserve and cumulative changes in own credit risk and pension fund assets). In addition, none of the three individually can be greater than 10% of the banks' common equity component.
- For instruments other than common equity to be included in Tier 1, specific criteria is introduced to ensure these absorb losses on a going-concern basis.
- Simplification of the criteria for instruments to be included in Tier 2 capital; the abolition of Tier 3 capital, which was available to cover market risk requirements, was included in the original Basel II proposals.
- Criteria for the role of contingent capital and convertible capital instruments within the regulatory capital minimum levels and buffers is being developed (see systemic risk section).

[1] As promulgated in the U.S. per Title 12 Part 225 (Regulation Y), Appendix A

Main Basel III Components—Capital Ratios and Targets

1 Capital Definition—Tier 1 Deductions

Stock surplus (94)	Will ensure that banks are not given credit in the Common Equity component of Tier 1 when they issue shares outside of the Common Equity component of Tier 1 that have a low nominal value and high stock surplus.
Minority interest (95)	Will not be included in Tier 1 common due to its inability to support risks in the group, allowing for some prudent recognition. This reflects a tightening of existing US rules.
Unrealised gains and losses (96)	No adjustment should be applied to remove from the Common Equity component of Tier 1 unrealized gains or losses recognized on the balance sheet. Existing US rules required deductions subject to limitations and partial inclusion in Tier 2 capital for unrealized gains on AFS equity securities.
Goodwill and intangibles (97)	Goodwill and other intangibles should be deducted from the Common Equity component of Tier 1. While most items (such as goodwill) are already deducted, under the new guidelines, mortgage servicing rights and purchased credit card receivables, which are currently included in capital (up to 100% of Tier 1), would be further limited.
Deferred tax assets (DTAs) (98-99)	Deferred tax assets that rely on future profitability of the bank to be realized should be deducted from the Common Equity component of Tier 1. Deferred tax assets that do not rely on the future profitability of the bank to be realized (e.g., prepayments to tax authorities) should be assigned the relevant sovereign risk weighting. Current US regulatory rules are similar in that deferred tax assets which cannot be recovered in one year must be deducted.
Treasury stock (100)	All of a bank's investments in its own common shares should be deducted from the Common Equity component of Tier 1 (unless already derecognized under the relevant accounting standards). Under existing US BHC rules, Tier 1 capital is net of Treasury stock.
Unconsolidated investments in financial entities (101)	Banks should apply a corresponding deduction approach to investments in the capital of other banks, other financial institutions, and insurance entities where these fall outside of the regulatory scope of consolidation. If the bank has holdings of common stock in a financial institution that exceed 10% of the common stock of the financial institution then the full amount of this holding (not just the amount above 10%) should be deducted from the bank's common equity. Existing US guidance requires deductions for investments in unconsolidated banking or finance subsidiaries, 50% from Tier 1 and 50% from Tier 2.
Expected loss shortfall (102-103)	The deduction from capital in respect of a shortfall of the stock of provisions to expected losses under the IRB approach should be made 100% from the common equity component of Tier 1 capital. This represents a change from Basel II whereby the deduction would have been 50% from Tier 1 and 50% from Tier 2 capital.
Cash flow hedge reserve (104)	Remove the positive and negative cash flow hedge reserve from the Common Equity component of Tier 1 where it relates to the hedging of projected cash flows that are not recognized on the balance sheet. This is similar to existing US rules.
Own liabilities (105)	Cumulative gains and losses due to changes in own credit risk on fair valued financial liabilities. Filter out from the Common Equity component of Tier 1 all gains and losses resulting from changes in the fair value of liabilities which are due to a changes in the bank's own credit risk. This is already deducted.
Defined pension funds (106)	Apply no filter to defined benefit pension fund liabilities and deduct the value of any defined benefit pension fund asset from the Common Equity component of Tier 1. Assets in the fund to which the bank has unrestricted and unfettered access can, with supervisory approval, offset the deduction.
Remaining 50:50 deductions (108)	All remaining regulatory adjustments that are currently deducted 50% from Tier 1 and 50% from Tier 2, and that are not addressed elsewhere in the proposal, should receive a 1250% risk weight. These include: ▪ Certain securitization exposures ▪ Certain equity exposures under the PD/LGD approach ▪ Non-payment/delivery on non-DvP and non-PvP transactions ▪ Significant investments in commercial entities

2 Countercyclical Buffers

Capital buffers are introduced to absorb losses during periods of stress.

The procyclical amplification of financial shocks across the financial system and the wider economy has been one of the most destabilizing elements of the financial crisis. The Committee proposes a series of measures—in addition to the leverage ratio—to address procyclicality and create additional shock absorbers in the financial system. These measures are designed to dampen excess cyclicality, promote forward-looking provisioning, conserve capital to be available during periods of stress, and protect the banking sector from periods of excess credit growth.

Key Assumptions

- Create buffers in good times that can absorb shocks in periods of stress. The framework envisages capital distribution constraints when capital levels fall within a specified range above minimum requirements, with the constraints increasing the closer a bank's capital levels get to the minimum. There will be two type of buffers:
  - The **capital conservation buffer** should be available to absorb banking sector losses conditional on a plausibly severe stressed financial and economic environment.
  - The **countercyclical buffer** would extend the capital conservation range during periods of excess credit growth, or other indicators deemed appropriate by supervisors for their national contexts.
- Use a downturn probability of default (PD), similar to the existing requirement of downturn loss given default, in the capital calculations.
- Stronger provisioning practices by advocating a change of accounting standards toward an expected-loss approach in order to capture actual losses more transparently and be less procyclical than the current incurred-loss approach to provisioning. The Committee sent a comment letter to the IASB on 30 June 2010, in which it spelled out its proposed approach. The Committee has been in close dialogue with the IASB on this topic.

Main Basel III Components—Capital Ratios and Targets

3 Leverage Ratio

Basel III adds a new leverage ratio requirement based on nonweighted assets and off-balance-sheet exposures.

The Basel Committee is now proposing to introduce a volume-based leverage ratio (which is not risk-adjusted) to complement the risk-based minimum capital requirements under Pillar 1 of the capital adequacy framework. The ratio is designed to put a cap on the build-up of leverage in the banking system as well as to introduce additional safeguards against model risk and measurement errors by supplementing the risk-based capital requirements with a simple, transparent measure of leverage.

Key Assumptions

- Tier 1 available capital will be used as the capital measure. Total exposure measure to be used in the denominator is under definition, with several options being considered, including those that disallow for netting of derivatives and repos. Off-balance-sheet exposure items, such as unused commitments and letters of credit, will be weighted at 100%.
- Following the development of a template to track the underlying components of the definition and resulting ratio from January 2011-December 2012, the Committee is proposing to test a 3% Tier 1 leverage ratio during a parallel period (2013-2017). Banks will be required to disclose beginning in January 2015. Based on the results of the parallel run period, any final adjustments would be carried out in the first half of 2017, with a view to migrating to a Pillar 1 treatment in January 2018.
- The Committee also agreed on several changes for the ratio. For off-balance-sheet items, it will use 10% uniform credit conversion factors (vs. 100% originally suggested in the December 2009 documents), with a 10% CCF for unconditionally cancellable OBS commitments. This will be subject to further review to ensure that the 10% CCF is appropriately conservative based on historical experience.
- For all derivatives (including credit derivatives), the Committee is suggesting applying Basel II netting plus a simple measure of potential future exposure based on the standardized factors of the current exposure method. This ensures that all derivatives are converted in a consistent manner to a “loan equivalent” amount. The leverage ratio will be calculated as an average over the quarter.

Main Basel III Components—Capital Ratios and Targets

3 Leverage Ratio (detailed guidelines)

Issue	Baseline Proposal (in *italics* revised July 2010 rules)	Additional Option for Impact Assessment
Definition of capital	Tier 1 capital and the predominant form of Tier 1 capital	Total regulatory capital
Exposure measurement: valuation adjustments and provisions.	Exposure measures follow accounting treatment (i.e., net of provisions and other valuation adjustments)	
Cash and cash-like instruments	Include cash and cash-like instruments	Exclude liquid assets as defined by the WGL
Off-balance sheet items and written credit derivatives	Include the identified OBS items with a 100% credit conversion factor (CCF). Written credit protection is included at notional value. *For off-balance-sheet (OBS) items, use uniform credit conversion factors (CCFs), with a 10% CCF for unconditionally cancellable OBS commitments (subject to further review to ensure that the 10% CCF is appropriately conservative based on historical experience).*	Apply a lower (positive) CCF for unconditionally cancellable commitments or Basel II standardized CCFs
Credit risk mitigation and on-balance-sheet netting	Do not reduce exposure for physical or financial collateral, and do not allow on-balance-sheet netting	
Items deducted from the capital measure	Consistency between the capital and exposure measure. Items deducted from the capital measure are also deducted from the exposure measure.	
Securitizations	Use accounting data	Accounting on-balance-sheet exposures plus underlying loan portfolio of securitizations that have been derecognized
Other derivatives the current exposure method (excluding credit derivatives)	Two options should be assessed for measuring potential exposure. The options are to ignore potential exposure or use other derivatives, the current exposure method. *For all derivatives (including credit derivatives), apply Basel II netting plus a simple measure of potential future exposure based on the standardized factors of the current exposure method. This ensures that all derivatives are converted in a consistent manner to a "loan equivalent" amount.*	
Repurchase agreements and securities finance	Do not allow any netting of repo and reverse repo positions	Use Basel II netting for repo style transactions

Main Basel III Components—Capital Ratios and Targets

4 Minimum Capital Standards

Basel III proposes higher global minimum capital standards.

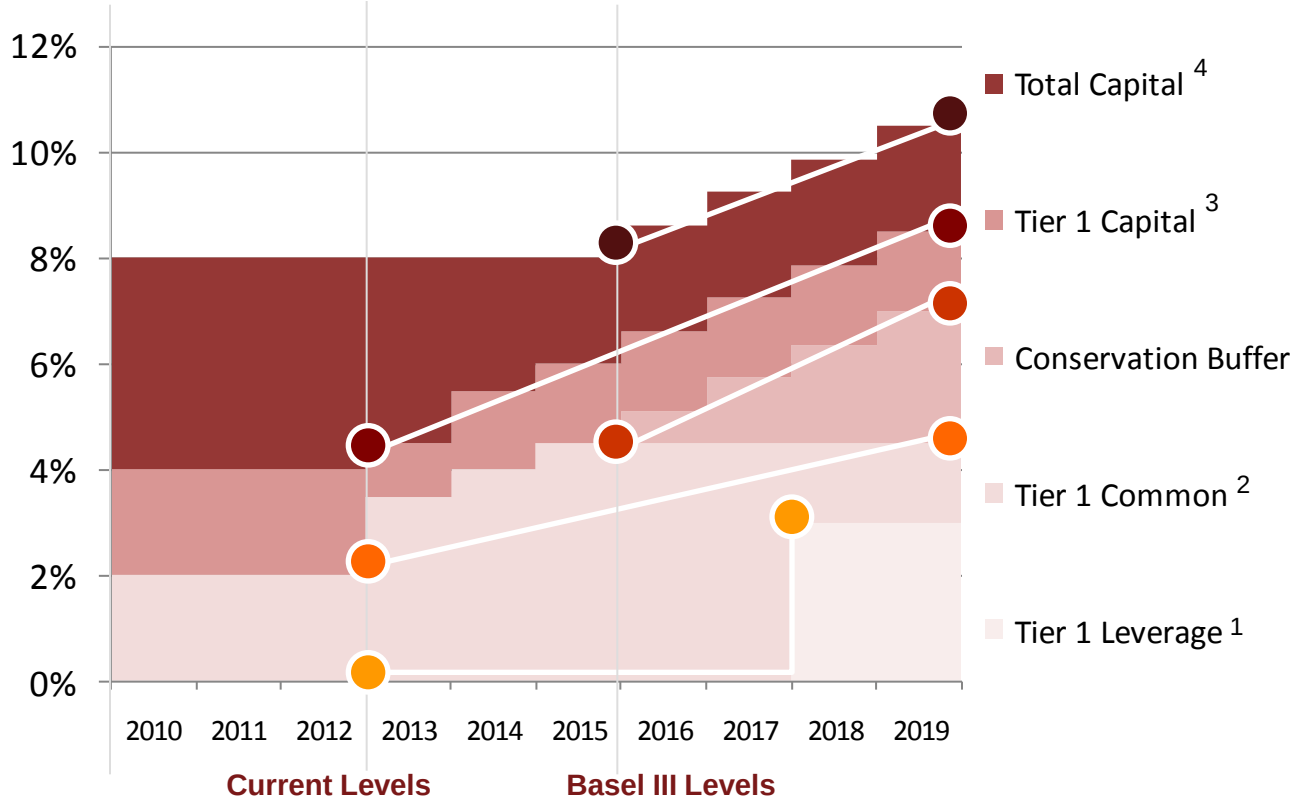
Banks will need, in the aggregate, a significant amount of additional capital to meet these new requirements. Transitional arrangements for implementing the new standards are created with a target final implementation date of January 2019.

Key Assumptions

- The minimum requirement for common equity, the highest form of loss-absorbing capital, will be raised from the current 2% level, before the application of regulatory adjustments, to 4.5% after the application of stricter adjustments. This will be phased in by 1 January 2015.
- The Tier 1 capital requirement, which includes common equity and other qualifying financial instruments based on stricter criteria, will increase from 4% to 6% over the same period.
- The capital conservation buffer above the regulatory minimum requirement is to be calibrated at 2.5% and be met with common equity, after the application of deductions.
- A countercyclical buffer within a range of 0% to 2.5% of common equity or other fully loss absorbing capital will be implemented according to national circumstances. The purpose of the countercyclical buffer is to achieve the broader macroprudential goal of protecting the banking sector from periods of excess aggregate credit growth. For any given country, this buffer will be in effect only when there is excess credit growth that results in a system-wide build-up of risk. The countercyclical buffer, when in effect, would be introduced as an extension of the conservation buffer range.
- These capital requirements are supplemented by a non-risk-based leverage ratio that will serve as a backstop to the risk-based measures described above, with a minimum Tier 1 leverage ratio of 3%.

Main Basel III Components—Capital Ratios and Targets

4 Minimum Capital Standards



Minimum Ratios		Transition Period
Current*	Basel III**	
8%-10%	10.5%	2016-2019
4%-6%	8.5%	2013-2019
NA	2.5%	2016-2019
2%-3%	7%	2013-2019
NA	3%	2013-2018

When two numbers displayed, it shows regulatory minimum and well capitalized
Does include conservation buffer, but does not include countercyclical buffer of 0 to 2.5%

[1] Tier 1 leverage calculated using the new stricter Basel III definition in relation to the bank's nonweighted assets plus off-balance-sheet exposures. Parallel period starts in 2013 and is implemented as part of Pillar 1 in January 2018.

[2] Includes neither conservation buffer nor countercyclical buffers. Current target is equivalent to 1% for an average international bank under the new definition.

[3] Includes conservation buffer but does not include countercyclical buffer of 0 to 2.5%. Current target is equivalent to 2% for an average international bank under the new definition.

[4] Includes conservation buffer but does not include countercyclical buffer of 0 to 2.5%.

Main Basel III Components—Capital Ratios and Targets

4 Minimum Capital Standards

BASEL III SCORECARD: Capital Ratios – As of Q2 2010				
Institution	Tier 1 Common Risk-Based Ratio (%) [1]	Tier 1 Capital Ratio (%)	Total Capital Ratio (%)	Tier 1 Leverage Ratio [2]
Bank of America	8.0	10.7	14.8	6.7
Citi	9.7	12.0	15.6	6.3
JPMorgan Chase	9.6	12.1	15.8	6.9
Wells Fargo	7.6	10.5	14.5	8.7
Large Diversified Median	**9.6**	**11.3**	**15.6**	**8.7**
American Express	10.7	10.7	12.9	8.2
BB&T	8.9	11.7	15.8	8.9
Capital One	7.0	9.9	17.0	6.7
Fifth Third	7.2	13.7	18.0	12.2
KeyCorp	8.1	13.6	17.8	12.1
PNC	8.3	10.7	14.3	9.1
Regions	7.7	12.0	15.9	9.1
Suntrust	7.9	13.5	17.0	10.9
US Bancorp	7.4	10.1	13.5	8.9
Regional & Others Median	**7.9**	**11.7**	**15.9**	**9.1**
Goldman Sachs	12.5	15.2	18.2	8.0
Morgan Stanley	9.2	16.5	17.0	6.6
Invest. Banking Median	**10.9**	**15.9**	**17.6**	**7.3**
Bank of New York Mellon	11.9	13.5	17.2	6.6
State Street	13.1	15.1	16.4	7.8
Custodian Median	**12.5**	**14.3**	**16.8**	**7.2**
Median All	**8.9**	**12.0**	**15.8**	**8.8**

Description of Basel III Scorecard Ratings

(Minimum ratios Tier 1 Common of 7%, Tier 1 of 8.5%, Total Capital of 10.5%, and leverage of 3%)

- Does not meet minimum Basel III requirement (7% Tier 1 common, 8.5% Tier 1)
- Cushion over minimum Basel III requirement less than 20%
- Cushion over minimum Basel III requirement more than 20%

PwC Analysis

- Based on an analysis of current capital ratios, US banks would meet Basel III minimum requirements today and in most cases have more than 20% of cushion already built in.
- Current Tier 1 common median for all US banks is at 9%, providing 200 bps of buffer to address the countercyclical buffer, expected RWA increases under Basel II and III rules, and potential deductions in Tier 1 capital ratios.
- Ample transition period of eight years provides flexibility to generate further capital buffers through earnings generation.
- SCAP served in the United States as a prelude to Basel III. The average Tier 1 common buffer built for SCAP stress tests was 2.5% at the time, which is similar to the proposed Basel III conservation buffer of 2.5%.
- This analysis does not take into account RWA increase estimates or new deductions in Tier 1 Common.

5 Systemic Risk

Basel III is also intended to help address systemic risks.

- The interconnectedness of international banks supports economic growth but in times of stress transmits negative shocks across the financial system and the economy. Basel III is considering policy options designed to reduce risks related to the failure of systemically relevant, cross-border institutions. The new approach to address systemically important financial institutions could include combinations of capital and/or liquidity surcharges, contingent capital and bail-in debt. In addition, work is continuing to strengthen resolution regimes.

Key Assumptions

- The Basel Committee also recently issued a consultative document proposal to ensure the loss absorbency of regulatory capital at the point of nonviability. They include proposals to enhance bank resolution frameworks and introduce contingent capital and convertible capital instruments that can absorb losses in case of nonviability. They provide the option of the regulatory authority to have noncommon equity components written off or converted to common shares in the event that a bank is unable to support itself in the private market in the absence of such conversions.
- All noncommon Tier 1 instruments and Tier 2 instruments at internationally active banks must have a clause in their terms and conditions that requires them to be written-off on the occurrence of the trigger event.
- Any compensation paid to the instrument holders as a result of the write-off must be paid immediately in the form of common stock.
- The trigger event is the earlier of:
  - the decision to make a public sector injection of capital, or equivalent support, without which the firm would have become nonviable, as determined by the relevant authority, or
  - the decision that a write-off, without which the firm would become nonviable, is necessary, as determined by the relevant authority.
- The issuance of any new shares as a result of the trigger event must occur prior to any public sector injection of capital so that the capital provided by the public sector is not diluted.
- Undertake further development of the “guided discretion” approach as one possible mechanism for integrating the capital surcharge into the Financial Stability Board’s initiative for addressing systemically important financial institutions.

6 Counterparty Risk

Basel III significantly increases RWA requirements for counterparty risk through the combined effect of capitalizing CVA risk, extending the time horizon for exposure calculations on margined securities finance and OTC derivatives, and increasing the asset correlation for exposures to major financial institutions.

- The need to strengthen risk coverage of the Basel framework has been one of the key lessons of the financial crisis. To this end, the Basel Committee issued in July 2009 the revised capital requirements for trading book exposures and complex securitization transactions. The new proposals focus on strengthening capital requirements for counterparty credit risk (CCR) arising from derivatives, repo, and securities financing activities. The enhancements to the framework are designed to raise capital buffers backing these exposures, reduce procyclicality, and provide additional incentives to move OTC derivative contracts to central counterparties and exchanges.

Key Assumptions

- Determine capital charges for CCR using stressed inputs, similar to the approach used for determining stressed VaR for market risk.
- Capital charge for mark-to-market losses due to credit valuation adjustment or CVA risk is introduced.
- A bond equivalent approach for CVA is proposed that addresses hedging, risk capture, effective maturity, and double counting.
- Implement an explicit Pillar 1 capital charge for specific wrong-way risk.
- Apply a multiplier of 1.25 to the asset value correlation of exposures to regulated financial firms (with assets of at least $100 billion) and to all exposures to unregulated financial firms (regardless of size).
- Additional collateral and margin requirements for OTC derivative transactions and securities financing transactions, including longer margining up to 20 days for counterparty exposure measurement assumptions.
- Higher capital charges for bilateral OTC exposures to financial institutions.
- Banks' mark-to-market and collateral exposures to a central counterparty (CCP) should be subject to a modest risk weight, for example in the 1% to 3% range, so that banks remain cognizant that CCP exposures are not risk free.

Main Basel III Components—RWA Requirements

6 Counterparty Risk (detailed guidelines)

Counterparty Credit Exposure Calculations	▪ Effective Expected Exposure (EPE) as the basis for determining exposure at default (EAD) for trading counterparties is retained under Basel III but with parameters, such as volatility and correlation, using data from a stressed period. ▪ Stressed EPE is to be based on model parameters calibrated over a three-year period that includes the one-year stressed period used for Stressed VaR for credit assets (in line with Basel II.5 revisions to market risk framework). ▪ Banks should calculate EAD using current market data and compare that data with the EAD derived using the stressed parameters. When parameters are estimated historically, the current market data must be based on at least the most recent three-year period. Banks would then have to use the maximum of 1) the portfolio-level capital charge based on Effective EPE using current market data and 2) the portfolio-level capital charge based on Effective EPE using the three-year period that includes the one-year stressed period (used for the Stressed VaR calculation). ▪ Data for calculations is to be obtained independently from the lines of business, including verification of prices supplied by business units by an independent function.
CVA	▪ In addition to counterparty risk capital requirements (based on Standardized or IRB approaches), there will be an add-on capital charge to cover mark-to-market unexpected counterparty risk/CVA losses. ▪ A bond equivalent of the counterparty exposure approach is proposed that covers the 99% worst case CVA profit and loss (P&L) as per the market risk framework. The notional of the bond will be the EAD of the counterparty; the maturity will be the longest dated netting set of the counterparty; the time horizon would be one year (as opposed to the current 10 days); and the spread used to calculate CVA will be the CDS spread, if available. CDS hedges will be recognized and exclude the incremental risk charge (IRC).
Wrong-way risk	▪ Emphasis is on explicit identification of specific wrong-way risks (arises when the credit quality or PD of the counterparty is positively correlated with the EAD amount of the transaction, i.e., monoliners). ▪ A capital charge is imposed for each counterparty with measurable wrong-way risk. ▪ For single-name credit default swaps where there exists a legal connection between the counterparty and the underlying issuer, the notional of the CDS is to be used as the EAD of the counterparty. ▪ For equity derivatives referencing a single company where there is a legal connection between the counterparty and the underlying company, the value of the derivative under the assumption of default of the underlying entity is to be used as the EAD of the counterparty. ▪ Emphasis is on stress testing and scenario analysis practices to identify risk factors positively correlated with counterparty credit worthiness. Back-testing enhancement and model control upgrades are also expected.
Asset Value Correlation	▪ Multiplier of 1.25 to the asset value correlation of exposures to regulated financial firms (with assets of at least $100 billion) and to all exposures to unregulated financial firms (such as hedge funds and monoliners) regardless of size. Financial firms include banks, broker dealers, insurance companies, and highly leveraged entities. Under this proposal, the AVCs between financial firms would range from 15% to 30%, as opposed to the 12% to 24% range currently set forth in the Basel II framework.

Main Basel III Components—RWA Requirements

6 Counterparty Risk (detailed guidelines)

Margin Requirements	▪ The Committee is proposing an increase in the margin periods for derivatives and securities financing transactions (SFTs), including extending the margin period of risk to 20 business days for netting sets where the number of trades exceeds 5,000 or that contain illiquid collateral or derivatives that cannot be easily replaced in the market. The current framework uses supervisory floors of 10 days for OTC derivatives and five days for SFTs. ▪ The Committee is proposing that banks with a history of margin call disputes on a netting set that exceed the margin period of risk would be required to double the applicable margin period of risk for the affected netting set. ▪ Amend "shortcut method" to take more realistic simplifying assumptions to estimate Effective EPE when a bank is unable to model margin requirements along with exposures. ▪ Prevent the reflection in EAD of any clause in a collateral agreement that requires receipt of collateral when a counterparty's credit quality deteriorates (downgrade triggers). ▪ Use supervisory haircuts when transforming non-cash collateral for OTC derivatives into cash-equivalent when unable to model collateral jointly with the exposure. ▪ Re-securitizations (as defined in the securitization framework), irrespective of any credit ratings, are not eligible financial collateral and revised haircuts for securitization exposures used as collateral.
Collateral Management Practices	▪ Requirements will be added to improve the operational performance of the collateral department. Banks applying the internal model method must have a collateral management unit that is responsible for accurately calculating and making margin calls; managing margin call disputes; and reporting levels of independent amounts, initial margins, and variation margins on a daily basis. This unit must control the integrity of the data used to make margin calls and ensure that it is consistent and reconciled regularly with all relevant sources of data within the firm. This unit must also track the extent of reuse of collateral (cash and noncash) and the rights that the bank gives away to its respective counterparties for the collateral that it posts. These internal reports must indicate the categories of collateral assets that are reused and the terms of such reuse, including instrument, credit quality, and maturity. The unit must also track concentration to individual collateral asset classes accepted by the firms. Senior management must allocate sufficient resources to this unit for its systems to have an appropriate level of operational performance, as measured by the timeliness and accuracy of outgoing calls and response time to incoming calls. Senior management must ensure that this unit is adequately staffed to process calls and disputes in a timely manner, even under severe market crisis, and to enable the firm to limit its number of large disputes caused by trade volumes. ▪ The firm's collateral management unit must produce and maintain appropriate collateral management information that is reported on a regular basis to senior management. Such internal reporting should include information on the type of collateral (cash and noncash) received and posted, as well as the size, aging and cause for margin call disputes.

Main Basel III Components—RWA Requirements

7 Trading Book and Securitization

In July 2009 the Basel Committee on Banking Supervision approved a final package of measures to strengthen the 1996 rules governing trading book capital.

- Trading book rules introduce higher capital requirements to capture the credit risk of complex trading activities and include a stressed value-at-risk (SVaR) requirement, which the Committee believes will help dampen the cyclicality of the minimum regulatory capital framework and promote a more forward-looking approach to provisioning.
- The Committee is also strengthening the treatment for certain securitizations in Pillar 1 (minimum capital requirements) by introducing higher risk weights for resecuritization exposures to better reflect the risk inherent in these products, and requiring that banks conduct more rigorous credit analyses of externally rated securitization exposures.
- Higher capital requirements for trading, derivative, and securitization activities will be introduced at the end of 2011.

Key Assumptions

- Under the proposals from the Basel Committee, the internal models' approach to calculating market risk would be amended to include stressed value-at-risk (SVaR) in addition to the regular multiple of VaR. The current VaR calculations are procyclical because they are based on the price volatility of underlying assets over periods of historical data, and consequently they do not capture the danger of low probability, high-impact, tail events.
- A new incremental risk charge (IRC) for credit trading book positions is introduced, excluding securitizations. This charge has been introduced to account for liquidity risk and credit migration risk, neither of which was previously incorporated in the value-at-risk calculation used to measure trading book market risk. The proposal also tries to reduce incentives for capital arbitrage between trading and banking books.
- Securitization amendments align the capital charges for securitized assets held in a bank's trading portfolio with the capital charges currently levied on securitized assets manufactured/underwritten by the bank. Under the prior regime, securitized assets held for trading purposes were treated less onerously.
- The new risk framework establishes specific capital requirements and guidelines related to trading positions that utilize correlation strategies.

Main Basel III Components—RWA Requirements
7 Trading Book and Securitization (detailed guidelines)

Stressed VaR	▪ The stressed VaR is computed on a 10-day 99% confidence basis, but with inputs taken from times of significant financial stress relevant to the firm's portfolio. Therefore, altogether, in addition to the current requirement of between three to four times the 10-day 99% VaR, three times the 10-day 99% stressed VaR will be required. ▪ Model inputs are calibrated to historical data from a continuous 12-month period of significant financial stress. It would be equivalent to a VaR measure calculated over a dataset including 2008 and 2009. ▪ On a daily basis, a bank must meet the capital requirement expressed as the higher of its latest SVaR number and an average of SVaR numbers calculated over the preceding 60 business days multiplied by the multiplication factor. ▪ Data sets update every month and reassess whenever a material change in market prices takes place. ▪ Risk factors incorporated in pricing models should also be included in VaR calculations and omissions must be justified.
Incremental Risk	▪ The IRC aims to capture default risk, in addition to losses from credit migrations, widening of credit spreads and the loss of liquidity. A bank's IRC model must measure losses due to default and migration at the 99.9% confidence interval over a capital horizon of one year, taking into account the liquidity horizons applicable to individual trading positions or sets of positions. ▪ The liquidity horizon represents the time required to sell the position or to hedge all material risks covered by the IRC model in a stressed market. Liquidity horizon for a position or set of positions has a floor of three months. ▪ Emphasis is on incorporating nonlinear impact of options in IRC models and netting allowed only when long and short positions refer to the same financial instrument.
Securitization	▪ Capital charges calculated under the standardized method and applied to the banking book will be extended so that they apply to securitized products on a bank's trading book with the exception of correlation trading. ▪ Resecuritization exposures (CDOs of ABS and CDO of RMBs) will be treated differently from securitization exposures to reflect that they are riskier. Capital requirements for resecuritization positions will be approximately double the requirements for simple positions. ▪ There are currently two methods for calculating capital requirements for a securitization position in the banking book : 1) standardized approach, under which risk weights are based on ratings from the credit ratings agencies; and 2) internal ratings-based approach, under which rated securitization exposures are subject to the ratings-based approach and unrated securitizations are subject to the supervisory formula approach.
Correlation Trading	▪ Specifically, correlation trading is a structured credit trading strategy wherein banks acting in a market-making capacity buy or sell credit protection to clients based on specific tranches of credit portfolios of indices. As evidenced during the credit crisis, changes in correlations between different securities can be quite volatile, particularly when hedging strategies used proxy indexes that do not match perfectly underlying exposures. In conjunction with other complexities associated with these strategies (e.g., default correlations), standard VaR-based measures of market risk do not fully capture the risks. Banks will have to adapt their VaR models to ensure proper stress scenarios are considered.

Main Basel III Components—RWA Requirements

7 Trading Book and Securitization (detailed guidelines)

Standardized Approach

External Credit Assessment	AAA to AA- A-1/P-1	A+ to A- A-2/P-2	BBB+ to BBB- A-3/P-3	BB+ to BB-	Below BB- and below A-3/P-3 or unrated
Old Risk weighting					
All securitizations	20%	50%	100%	350%	Deduction
New Risk weighting					
Securitization	20%	50%	100%	350%	Deduction
Re-securitization	40%	100%	225%	650%	Deduction

Source: BIS (Basel Committee on Banking Supervision, "Revisions to the Basel II Market Risk Framework", July 2009)

Internal Ratings-Based Approach (old)

External Rating	Risk weights for senior positions and eligible senior IAA exposures	Base risk weights	Risk weights for tranches backed by non-granular pools
AAA	7%	12%	20%
AA	8%	15%	25%
A+	10%	18%	35%
A	12%	20%	35%
A-	20%	35%	35%
BBB+	35%	50%	50%
BBB	60%	75%	75%
BBB-	100%	100%	100%
BB+	250%	250%	250%
BB	425%	425%	425%
BB-	650%	650%	650%
Below BB-	Deduction	Deduction	Deduction

Source: BIS (Basel Committee on Banking Supervision, "International Convergence of Capital Measurement and Capital Standards", June 2006)

Internal Ratings-Based Approach (new)

	Securitization Exposures			Re-securitization Exposures	
Long-term Rating	Senior, Granular	Non-senior, Granular	Non-granular	Senior	Non-senior
AAA/A-1/P-1	7	12	20	20	30
AA	8	15	25	25	40
A+	10	18	35	35	50
A/A-2/P-2	12	20	35	40	65
A-	20	35	35	60	100
BBB+	35	50	50	100	150
BBB/A-3/P-3	60	75	75	150	225
BBB-	100	100	100	200	350
BB+	250	250	250	300	500
BB	425	425	425	500	650
BB-	650	650	650	750	850
Below BB-/A-3/P-3			Deduction		

Source: BIS Documents (Basel Committee on Banking Supervision, "Enhancements to the Basel II framework", July 2009)

8 Coverage Ratio

The new Basel III regime pushes banks toward holding greater levels of liquid instruments, such as government bonds and more liquid corporate instruments.

- The Basel Committee proposes a strengthened liquidity framework, which, in addition to the qualitative "Principles for Sound Liquidity Risk Management and Supervision" issued in 2008, introduces quantitative standards for funding liquidity. The two proposed measures are a 30-day liquidity coverage ratio designed to ensure short-term resilience to liquidity disruptions and a longer-term structural liquidity ratio to address liquidity mismatches and promote the use of stable funding sources. Furthermore, the Committee proposes a set of monitoring metrics to assist supervisors in the analysis of bank-specific and systemwide liquidity risk trends.

Key Assumptions

- The 30-day liquidity coverage ratio requirement is designed to ensure that there is sufficient high-quality liquid resources to survive an acute stress scenario lasting for one month. This ratio identifies the amount of unencumbered, high-quality liquid assets an institution holds that can be used to offset the net cash outflows it would encounter under a short-term stress scenario specified by supervisors, including both specific and systemic shocks.

$$\text{Liquidity Coverage Ratio} = \frac{\text{Stock of High Quality Liquid Assets}}{\text{Net Cash Outflows over a 30-Day Period}} \geq 100\%$$

- The scenario entails 1) a significant downgrade (three-notch) of the institution's credit rating; 2) a partial loss of retail deposits; 3) loss of unsecured wholesale funding; 4) a significant increase in secured funding haircuts; and 5) increases in derivative collateral calls and substantial calls on contractual and non-contractual off-balance sheet exposures, including committed credit and liquidity facilities.
- Basel III provides explicit run-off assumptions for liabilities and haircut assumptions for liquid assets.
- After an observation period beginning in 2011, the liquidity coverage ratio (LCR) will be introduced on January 2015.

9 Net Stable Funding Ratio

The new Basel III regime pushes banks toward holding greater levels of liquid instruments, such as government bonds and more liquid corporate instruments.

- The Basel Committee proposes a strengthened liquidity framework, which, in addition to the qualitative "Principles for Sound Liquidity Risk Management and Supervision" issued in 2008, introduces quantitative standards for funding liquidity. The two proposed measures are a 30-day liquidity coverage ratio designed to ensure short-term resilience to liquidity disruptions and a longer-term structural liquidity ratio to address liquidity mismatches and promote the use of stable funding sources. Furthermore, the Committee proposes a set of monitoring metrics to assist supervisors in the analysis of bank-specific and systemwide liquidity risk trends.

Key Assumptions

- A net stable funding ratio requirement will be in place to measure the amount of longer-term, stable sources of funding employed relative to the liquidity profiles of assets funded and the potential for contingent calls on funding liquidity arising from off-balance-sheet commitments and obligations.

$$\text{Net Stable Funding Ratio} = \frac{\text{Available Amount of Stable Funding}}{\text{Required Amount of Stable Funding}} \geq 100\%$$

- Stable funding available includes equity and liability financing that are expected to be reliable sources of funding over the next year under conditions of extended stress (primarily Tier 1 and Tier 2 capital and stable deposits). Required amount reflects illiquid assets and will be calculated as the value of assets multiplied by liquidity risk factors assigned to asset types.
- The net stable funding ratio (NSFR) will move to a minimum standard by January 2018.

Basel III—Accounting Considerations

The Basel Committee proposals are being considered at the same time that the accounting setting bodies are considering significant changes to accounting standards that will affect banks' financial statements. Additionally, the current and proposed guidance under US GAAP and IFRS differs significantly and consequently will impact institutions implementing the Basel III requirements in different ways. Without coordination, the accounting changes could result in unintended consequences to the regulatory capital levels and capital ratios of banks. The most efficient approach would be for banks to address both regulatory and accounting changes through a single process. Ideally, the Basel Committee and accounting standard-setters would coordinate the timing of the mandatory adoption of their standards. In addition, they would eliminate or minimize the effect of any inconsistencies in their guidance except where necessary to reflect different objectives and audiences (for example, approaches to valuations and provisions). However, whether this coordination will occur is uncertain given that the views of standard setters differ regarding what role US GAAP or IFRS should play in the prudential regulation of banking entities.

Areas that require coordination/clarification
▪ **Definition of capital**: Additional guidance required to clarify capital treatment when an instrument qualifies as equity under the corresponding accounting guidance but does not under the Basel proposals (e.g., hybrid instruments exclusion and Tier 1 common deductions).
▪ **Contingent capital**: Companies should also consider the accounting consequences of proposed changes to capital requirements. For example, under the Committee's "Proposal to ensure the loss absorbency of regulatory capital at the point of non-viability," the contractual terms of capital instruments would allow them at the option of the regulatory authority to be written-off or converted to common shares in the event that a bank is unable to support itself in the private market in the absence of such conversions. Depending on how the proposal is implemented, inclusion of such provisions could potentially 1) trigger extinguishment or modification accounting, 2) affect EPS calculations, and 3) may necessitate an analysis for potential embedded derivatives.
▪ **CVA**: This requirement could potentially result in a double-counting of the CVA in the capital calculation, as a similar CVA adjustment is required to be recorded in income under IFRS and US GAAP. CVA modifications are under considerations to avoid this issue.
▪ **Leverage Ratio**: The calculation of the leverage ratio requires the inclusion of derivatives and repos exposures on a gross basis, suggesting that netting will be prohibited. Further, the Committee should recognize that, while the related principles under IFRS and US GAAP are similar, the more restrictive IFRS guidance requires banks reporting under IFRS to report significantly more derivative exposures on a gross basis—potentially giving rise to much higher leverage ratios for IFRS reporters.
▪ **Provisioning practices:** Basel III advocates a change in accounting standards towards an expected loss approach in order to ensure that accounting impairment provisions become more forward-looking and, as a result, less procyclical than the current incurred loss approach. In order to achieve this objective, an alignment of accounting standards between different standard setters (most importantly the FASB and the IASB) as well as an alignment in methodologies between accounting and regulatory standards would be ideal.

Basel III—Accounting Considerations

Current accounting standards under the International Accounting Standards Board ("IASB") and the US Financial Accounting Standards Board ("FASB") differ significantly in areas that affect the components of a company's Tier I capital as well as RWA calculations and capital ratios. The standard setters are working closely to decrease the number of differences, which will likely result in substantial changes to the accounting models. When evaluating the impact of Basel III, companies should understand the impact of the current differences and carefully review the impact of the proposed accounting guidance. The timeline for selected projects and the potential impacts are highlighted below.

Area	Impact of Proposed Accounting Change on Financial Statements	Impact of Proposed Accounting Change on Basel III capital calculations	Date
Offsetting and netting of financial assets and liabilities	▪ Currently, US GAAP allows netting derivative assets and liabilities under master agreements while IFRS rules prohibit ▪ US GAAP may narrow allowance for offsetting positions ▪ Could result in closer convergence	• **Leverage Ratio** - Impact could be significant and could result in ratios differing depending on whether FS basis is US GAAP or IFRS. It would depend on final rules of balance sheet definitions to calculate leverage ratio.	Q2 2011 (FASB) No date (IFRS)
Financial Instruments: Recognition and Measurement	▪ IFRS model finalized, requiring financial instruments at fair value or amortized cost ▪ Proposed FASB model differs significantly from IFRS; requires more instruments measured at fair value, with changes reflected in net income or OCI	• **Tier I capital** – Amounts held in OCI could change significantly and vary based on whether entity applies US GAAP or IFRS. • **Leverage Ratio -** Carrying amount of financial instruments will change depending on application of US GAAP (fair value) versus IFRS (amortized cost)	Q2 2011 (FASB)
Financial Instruments: Impairment	▪ Proposed IFRS and US GAAP models differ significantly related to timing of loss recognition ▪ Both models are being debated ▪ Possible convergence to an expected loss model	• **Tier I capital** - Losses could be recognized earlier, resulting in lower Tier I capital prior to occurrence of loss • **Leverage Ratio-** Earlier recognition of losses will result in lower ratios • **RWA** – Could affect carrying value of assets included in RWA calculation	Q2 2011
Consolidation	▪ Consolidation guidance becoming closer converged, resulting in less off-balance sheet arrangements	• **Tier I capital** - May result in more Minority Interest; Retained Earnings from consolidated entities may not be available to absorb losses • **Leverage Ratio/RWA**– Consolidation could result in more assets and liabilities recorded impacting ratios and being included in the RWA calculation	Q2 2011
Transfers of Financial Assets	▪ Under IFRS, more transferred assets (or portions of assets) could be taken off the books ▪ US GAAP model not yet proposed (currently a research project following IASB developments)	• **Leverage Ratio/RWA–** Derecognition results in less assets impacting ratios and being included in the RWA calculation • **Tier I capital** – More transferred assets will potentially result in more MSRs; Increased MSRs will result in decreased in Tier I capital	No date
Financial Instruments with characteristics of equity	▪ May result in closer convergence; proposal not yet finalized ▪ May impact equity classification of callable, convertible instruments, among others	• **Tier I capital** -Adjustment for preferred stock may become N/A; Certain derivatives or other instruments that are currently classified as equity might be no longer part of Tier I capital	Q4 2011

Basel III
Disclosure Implications

Banks should begin considering how best to meet the expectations for further transparency on the capital process and future impact of disclosures requirements.

- The recent financial crisis revealed that many of the complex business activities were not comprehensible to banks' own senior management and the boards, let alone the other external stakeholders including the analysts, investors, and the regulators.
- One of the lessons learned from the recent financial crisis is that enhanced disclosure promotes market discipline and stability, as evidenced by making public the results of SCAP in the United States and the European Bank Stress Tests. Basel III builds off that lesson and requires further disclosure of a firm's capital position.
- The disclosure requirements proposed under Basel III force banks to be more transparent about their business activities and the way they make provisions for capital to compensate the underlying risks. The key points include:
  - Full reconciliation of all regulatory capital elements back to the balance sheet in the audited financial statements
  - Separate disclosures for all regulatory adjustments
  - Description of all limits and minima, identifying the positive and negative elements of capital to which they apply
  - Description of the main features of capital instruments issued
  - A requirement that banks that disclose ratios involving components of regulatory capital accompany these with a comprehensive explanation of how these ratios are calculated
  - A requirement that banks make available the full terms and conditions of all instruments included in regulatory capital on their websites
- These proposals are expected to result in significant changes in the way banks are managed and evaluated:
  - Senior management, the board, and independent functions responsible for risk management will have an increased understanding of the businesses and underlying risks, enabling them to manage the business with better risk perspective.
  - Increased visibility and transparency will enable regulators to assess systemic risks more preemptively.
  - Rating agencies, analysts, and investors will have a better comparable view of the risk and returns of banks' business models.
- In implementing these new disclosures, banks should consider the following:
  - Perform a rationalization between what is currently disclosed in the financial statements (MD&A, financial statements. and footnotes).
  - Determine the incremental processes and controls necessary to comply with the enhanced disclosures.
  - Consider developing flexible processes and infrastructures that may be amended as new reporting requirements arise.

Basel III—Publications

1. Capital Definition
2. Countercyclical Buffers
3. Leverage Ratio
4. Minimum Capital Standards
5. Systemic Risk
6. Counterparty Risk
7. Trading Book and Securitization (also known as Basel II.5)
8. Coverage Ratio
9. Net Stable Funding Ratio

Date	Main Basel III Components	Document Type	Category Mapping
21 Sep 2010	Basel III: towards a safer financial system	Speech	
12 Sep 2010	Group of Governors and Heads of Supervision announces higher global minimum capital standards	Proposal	4
19 Aug 2010	Basel Committee proposal to ensure the loss absorbency of regulatory capital at the point of nonviability	Consultative	1 and 5
18 Aug 2010	Assessment of the macroeconomic impact of stronger capital and liquidity requirements	Study	
26 Jul 2010	The Group of Governors and Heads of Supervision reach broad agreement on Basel Committee capital and liquidity reform package	Proposal	1 to 9
16 Jul 2010	Countercyclical capital buffer proposal—consultative document	Consultative	2
18 Jun 2010	Adjustments to the Basel II market risk framework announced by the Basel Committee	Revised Proposal	7
17 Dec 2009	International framework for liquidity risk measurement, standards, and monitoring	Proposal	8 and 9
17 Dec 2009	Strengthening the resilience of the banking sector	Proposal	1 to 6
07 Sep 2009	Comprehensive response to the global banking crisis	Proposal	
13 Jul 2009	Basel II capital framework enhancements announced by the Basel Committee	Revised Proposal	7
30 Jun 2006	Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework—Comprehensive Version	Basel II Framework	

Section 4

How PwC can help

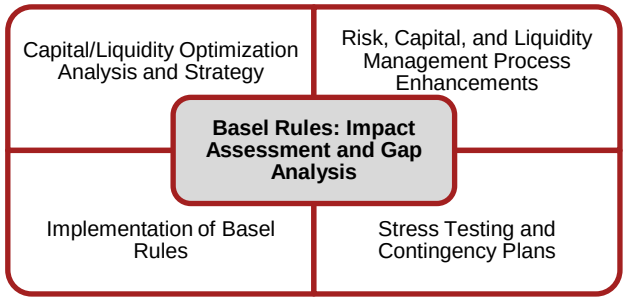
How PwC can help

Basel Rules: Impact Assessment and Gap Analysis

Basel Rules: Impact Assessment and Gap Analysis

Since various Basel rules (such as Basel II.5 and III) have recently been published and are currently being finalized, banks should analyze the impact of these rules on their current capital positions and their strategic plans. PwC can provide help in the following related areas:

- Provide a Basel III primer to raise client awareness on key rules and issues related to Basel II, II.5, and III
- Perform a detailed review to identify key Basel II, II.5, and III rules that are most applicable to the bank based on its business activities
- Analyze the impact of these rules on the bank's capital adequacy based on the current state and forecasts
- Assess the bank's existing state of Basel rules implementation and identify gaps
- Using PwC's proprietary tools and other data sources, provide competitive analysis of peers' capital adequacy under new Basel rules
- Design implementation roadmap and plans



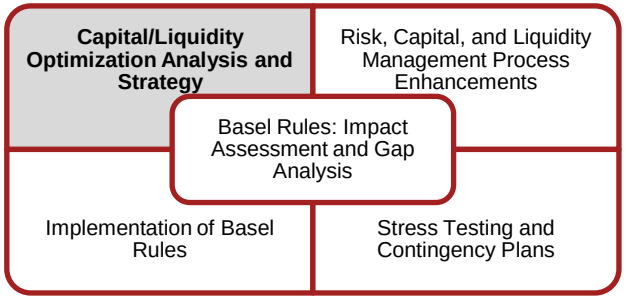
How PwC can help

Capital/Liquidity Optimization Analysis and Strategy

Capital/ Liquidity Optimization Analysis and Strategy

As Basel rules are specifically aimed at increasing the quality of capital and reducing risk and leverage, banks should reassess their business, capital, liquidity, and risk strategies. PwC can provide support in the following related areas:

- Develop measures to assess impact of Basel rules on various components of available capital and liquidity
- Develop measures to assess the impact of increased capital and funding requirements on various business activities
- Develop measures to rank the business activities based on their risk-adjusted returns under new capital requirements
- Facilitate the bank in developing its capital and liquidity strategy as well as its business strategy that help optimize bank's capital and the risk-return profile of its business-mix, including:
  - Capital structure, optimization, and generation strategies
  - Risk mitigation strategies
  - RWA model initiatives
  - Funding/liquidity strategies
  - Product pricing and redesign



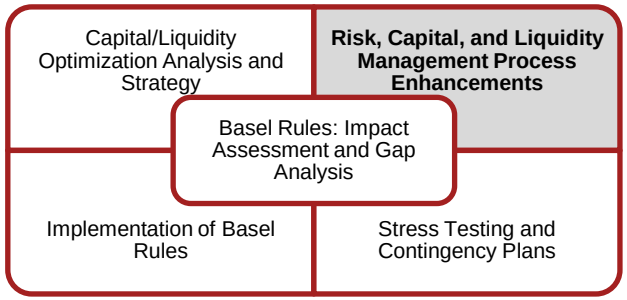
How PwC can help

Risk, Capital, and Liquidity Management Process Enhancements

Risk, Capital, and Liquidity Management Process Enhancements

Basel III rules are expected to bring various changes in the way banks manage their risk and capital and incorporate these considerations into business decisions. This will require banks to assess their risk, capital, and liquidity management processes across the entire business cycle, including the planning, execution, and evaluation. PwC can provide help in the following areas related to enhancing the risk, capital, and liquidity management processes:

- Review the existing processes related to strategic planning, budgeting and forecasting, risk-based pricing, performance evaluation, and incentives
- Identify enhancements in these processes to ensure that business decisions are planned, executed, and evaluated based on the underlying risk and capital considerations
- Implement specific risk management process enhancements, including risk assessment, risk measurement, and monitoring and risk reporting
- Implement specific liquidity and capital management process enhancements, including liquidity and capital planning, adequacy assessment, and reporting



How PwC can help

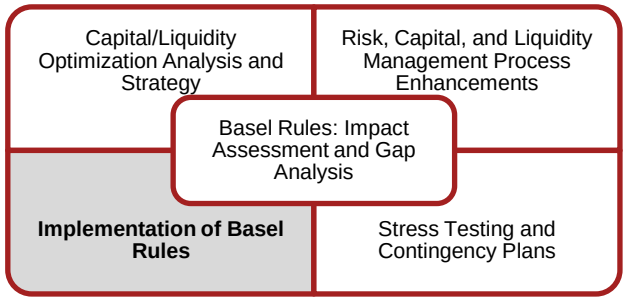
Implementation of Basel Rules

Implementation of Basel Rules

As banks gear themselves toward adopting the new rules, they need to address various areas as identified below. PwC can help banks across all of these areas as they prepare to adopt these new rules and requirements:

- Methodologies to calculate available capital
- Methodologies to assess risks and calculate updated risk weighted assets
- Establishment of new risk appetite standards to adopt minimum capital and liquidity ratios
- Methodologies and processes to build and deploy capital buffers as the requirements become more clear
- ICAAP adaptation and redesign

Additionally, PwC can provide support in technology implementation, systems selection, and data and change management associated with Basel implementation.



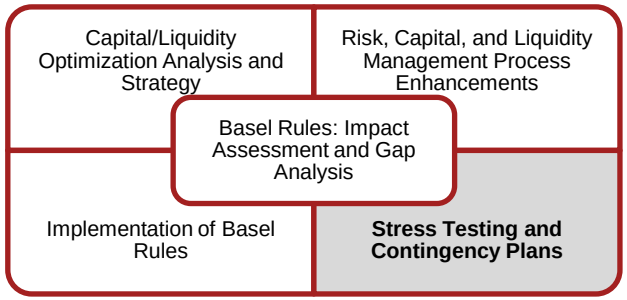
How PwC can help

Stress Testing and Contingency Plans

Stress Testing and Contingency Plans

Other processes that relate to Basel III capital and liquidity, such as recovery and resolution plans, will need to be aligned. In addition, as the banks implement Basel rules, they need to establish/upgrade stress testing capabilities. The banks are also required to develop and implement contingency plans to ensure that they continue to meet the capital and liquidity rules under severe stress scenarios. PwC can assist banks in the following areas:

- Develop and/or validate stress testing methodologies and processes
- Develop and implement capital and liquidity contingency plans
- Develop recovery and resolution plans



How PwC can help—PwC Qualifications

PwC has extensive experience in finance, risk, and capital management disciplines to assist clients with Basel III challenges.

Basel experience—PwC has extensive experience and knowledge preparing its clients for the requirements of the Basel Capital Accord and has completed over 60 Basel II-related projects worldwide, covering all aspects of Basel II programs. These include conducting detailed gap analyses and assisting with a variety of implementation projects.

Experience in finance, risk, and capital management—We have significant experience helping financial services clients in the execution of strategically important initiatives related to risk and capital management including capital adequacy assessment and ICAAP, risk modeling and economic capital applications, stress testing, contingency and recovery planning, liquidity risk management and funding plans, and overall risk analytics and reporting.

View of industry leading practices—Our experience with leading industry participants has provided us with exposure to a wide range of leading practices in the areas mentioned above. Our philosophy and approach to projects are not merely based on theories and interpretation of regulatory rules, but are field-tested principles that have worked in the past. We are in a strong position to provide pragmatic advice based on our experience and knowledge of industry practices.

Relationships with key regulators—PwC is the leading global provider of regulatory consulting services in the financial services sector. Our Pan-European Regulatory team maintains close links to the Basel Committee, the European Commission, and national regulators in several European countries. Our US Banking and Capital Markets team maintains close contact with SEC, the Federal Reserve, and other US banking regulators.

Accounting expertise—Our extensive experience in providing assurance services to leading financial services clients has given us the market-leading expertise needed to understand and interpret various accounting rules related to Basel III.

How PwC can help—PwC Qualifications

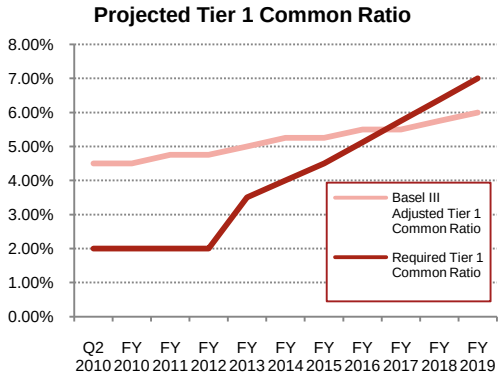
PwC has developed a Basel III calculator to estimate the impact of the new capital rules using public financial disclosures.

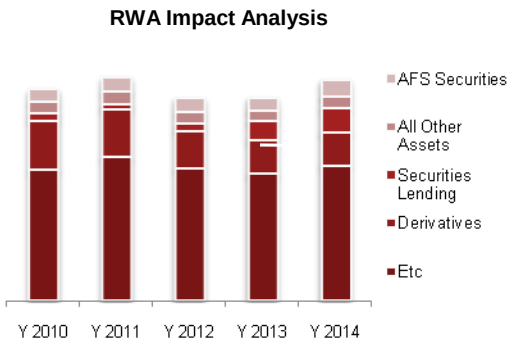
The model applies Basel III capital deductions and expected RWA inflation to projected capital growth and RWA mitigation to measure impact on the Tier 1 Common Equity Ratio, as well as shortfall against required ratio levels over time.

Capital	Q2 2010 Ending Balance	Q3/Q4 Capital Growth $	Y 2010 Ending Balance	Through	Y 2019
Current Tier 1 Common Capital					
Basel III Capital Deductions					
Minority interest					
Unrealized gain/loss on securities (OCI)					
Purchased credit card relationships					
Net deferred benefit pension					
50/50 deductions					
Tier 1 common after initial deductions					
Mortgage servicing rights (excess of 10% limit)					
Deferred tax assets (excess of 10% limit)					
Investments in other financials					
Additional 15% aggregate deduction					
Total Deductions					
Basel III Adjusted Tier 1 Common Capital					

Basel III Inflated Risk Weighted Assets	Q2 2010 Ending Balance	Q3/Q4 RWA Mitigation	Y 2010 Ending Balance	Through	Y 2019
Selected Balance Sheet Asset Categories					
AFS securities					
Trading assets					
Etc					
Selected Off Balance Sheet Asset Categories					
Securities lent					
Derivative contracts					
Etc					
Total Credit-Related					
Total Market-Related					
Total Risk Weighted Assets					

Tier 1 Common Ratios	Q2 2010 Ending Balance		Y 2010 Ending Balance	Through	Y 2019
Basel III Adjusted Tier 1 Common Capital Ratio					
Required Tier 1 Common Capital Ratio					
Shortfall					





How PwC can help

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