Overview of Regulatory Findings and Recent Developments in Capital Measurement Frameworks

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- Comments should *not* be taken as statements of official policy of the Federal Reserve System or other US regulatory bodies.

Agenda

- Basel II vs. Economic Capital:
  - Pillar 1 – Minimum Capital Requirements
  - Banks’ Economic Capital Models
  - Pillar 2 – Supervisory Review Process

- Current Topics:
  - Updated Timeline/Qualification
  - Quantitative Impact Studies
  - stress/downturn
  - Basel/IOSCO working paper

Basel II

- Basel II is:
  - intended to be more risk sensitive than the current accord
  - intended to provide stronger incentives for improved risk management
  - intended to maintain the aggregate level of minimum capital requirements
  - designed as three reinforcing pillars establishing minimum capital requirements, incorporating supervisory review and requiring market disclosures
  - incorporating an explicit capital charge for operational risk

Basel II

- Most discussions have focused on Pillar 1 – minimum capital requirements

- Pillar 1 credit risk capital requirements rely on bank-provided input parameters to supervisor-supplied formulas
  - Pillar 1 is <u>not</u> a full economic capital model application

- There are many distinctions between Pillar 1 and a typical EC model

	Pillar 1	vs Economic Capital Models
Risks:	• credit, market and operational risk only	• credit, market, operational, liquidity, interest rate, business, reputational, country, intangibles, etc
Credit Risk		
Model:	• Asymptotic Single Risk Factor (ASRF)	• at bank’s discretion (e.g simulation; portfolio)
Mode:	• mark to model	• at bank’s discretion (e.g. default only or mark to market or model)
Conf. Level:	• 99.9%	• at bank’s discretion (e.g. 99.96% – 99.98%)

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Pillar 1 vs Economic Capital Models

	Pillar 1	Economic Capital Models
Params:	• Long-run PD • Downturn LGD • Downturn EAD – Downturn estimates require measurement of cyclical volatility • Maturity	• at bank's discretion (e.g. length/breadth of time series used; assessment horizon; downturn; general economic conditions)
Concen-tration:	• ASRF – "infinite granularity"	• at bank's discretion (e.g. exposure size; portfolio size)
Diversi-fication	• ASRF – "portfolio invariance"; well-diversified	• at bank's discretion (e.g. top-of-the-house div benefit)
Correla-tion:	• ASRF – w/systematic factor only; function of PD	• at bank's discretion (e.g. between obligors; facility to existing portfolio; industry)

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Basel II vs. EC

- Although Pillar 1 does not mirror a bank’s EC model, collectively the three pillars of Basel II push the regimes closer together

- **A key factor is Pillar 2**

- Pillars 1 and 2 are reinforced by Pillar 3 – market discipline

Pillar 2 – Supervisory Review Process

- Pillar 2: effective supervisory review of banks' internal capital adequacy assessment processes (i.e. ICAAP)
  - Supervisory assessment of banks' activities and risk profiles to determine whether Pillar 1 capital is sufficient
  - Expectation for creation of implicit incentives for banks to develop sound control structures and to improve those processes

Pillar 2 – Supervisory Review Process

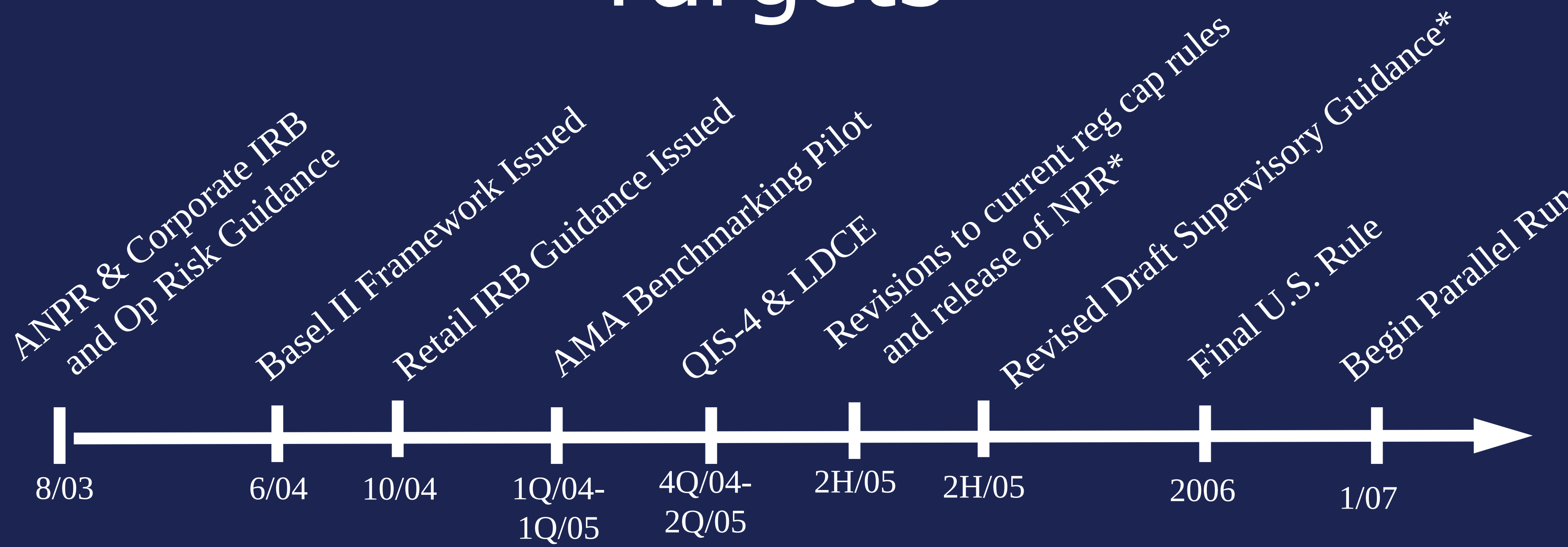
- Under Pillar 2, banks should address
  - concentrations in credit book
  - IRR in the banking book
  - other material risks (e.g., strategic, reputational, country, liquidity, business, intangibles)
  - economic conditions
- ICAAP process may be the economic capital process for many banks

EC: Supervisory Observations

- Wide range of practice across industry with respect to development and integration of EC models
  - Corporate culture/senior mgt buy-in
  - Business model
  - Length of time model has been in place
- Some banks have integrated their Basel II/EC/SR 99-18 programs
  - audit staff involvement
- Data availability always an issue
- Validation challenges

Current Topics

U.S. Basel II Implementation Targets



Target Implementation Date - January 1, 2008**

*Comment periods (90 or 120 days) will follow the release of revisions to current regulatory capital rules, the NPR and Supervisory Guidance.

**The inter-agency press release issued April 29, 2005 discusses a delay in the publication of the NPR but anticipated maintenance of the implementation target date.

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Qualification Process

- Interagency Statement – U.S. Implementation of Basel II Framework (January 27, 2005)
  - Preliminary information - not binding
  - U.S. implementation subject to final regulations and related policies - after public notice and comment
  - Qualification Process
    - Timeline of Events
    - Implementation Plans
    - Notification Process
    - Parallel Running

Implementation Plans

- Form the basis for regular discussion with supervisors
- All plans to receive board of director endorsement or approval at each institution and include:
  - **Self-assessment** of current status
  - **Gap analysis** identifying areas where additional work is needed
  - **Remediation (or action) plans** describing how the institution will address the areas identified in the gap analysis
  - **Objective measurable milestones**, including delivery dates and
  - **Realistic resource commitments**

Quantitative Impact Studies

- QIS-4 conducted in Germany, Japan, South Africa, USA

- U.S. QIS-4 Goals
  - Better understand the likely affect of the proposed Basel II MRC standards at the industry, institution and portfolio level

  - Gain insight into banks’ estimation processes for reported risk assessment values

  - Use the results in formulating the NPR and final revised MRC rule

Quantitative Impact Studies

- QIS-4 results referenced in the Interagency Press Release *“Banking Agencies To Perform Additional Analysis Before Issuing Notice of Proposed Rulemaking Related To Basel II”* issued April 29, 2005

- Press release indicated that the QIS-4 submissions:
  – evidence material reductions in the aggregate minimum required capital for the QIS-4 participant population
  – evidence significant dispersion of results across institutions and portfolio types

Quantitative Impact Studies

- Agencies indicated that additional work is necessary to determine whether dispersion seen in results suggests
  - differences in risk,
  - limitations of QIS-4,
  - variations in the stages of bank implementation efforts (particularly related to data availability), and/or
  - need for adjustments to the Basel II Framework

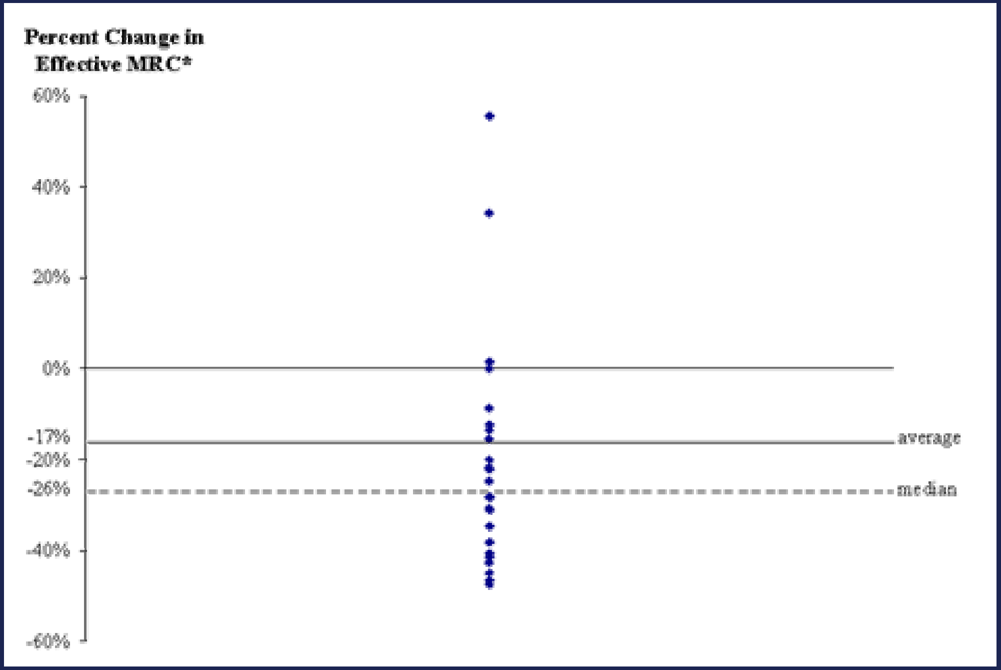
- Press release concludes by stating that the Agencies remain committed to moving forward with the implementation of Basel II while retaining Prompt Corrective Action and leverage requirements

Quantitative Impact Studies

- Limited U.S. QIS-4 results released with congressional testimony on May 11, 2005
  - —Publicly available graphs follow

QIS-4

Preliminary Change in Effective Minimum Capital Requirements of Participating Institutions: Basel I to Basel II



*This is the change in the amount of Tier 1 capital and Tier 2 elements other than reserves needed to meet the minimum capital requirement.

Note: These are preliminary data as of May 5, 2005 for the twenty-six participating QIS-4 institutions, and caution should be used in drawing any inferences from the aggregate data at this stage. The U.S. banking agencies plan additional work to determine whether these results reflect differences in risk, reveal limitations of QIS4, identify variations in the stages of bank implementation efforts (particularly related to data availability), and/or suggest the need for adjustments to the Basel II Framework.

QIS-4

Preliminary Change in Minimum Capital Requirements of Participating Institutions: Basel I to Basel II

Portfolio	% Change in Portfolio MRC	Median % Change in Port. MRC	Share of Basel I MRC	Share of Basel II MRC
Wholesale Credit	**(25%)**	**(24%)**	**44.3%**	**38.8%**
Corporate, Bank, Sovereign	(22%)	(30%)	33.9%	30.7%
Small Business	(26%)	(27%)	4.6%	4.0%
High Volatility CRE	(33%)	(23%)	1.8%	1.4%
Incoming Producing RE	(41%)	(52%)	4.0%	2.7%
Retail Credit	**(26%)**	**(50%)**	**30.5%**	**26.3%**
Home Equity (HELOC)	(74%)	(79%)	6.1%	1.8%
Residential Mortgage	(62%)	(73%)	11.1%	4.9%
Credit Card (QRE)	66%	63%	6.1%	11.7%
Other Consumer	(7%)	(35%)	6.0%	6.5%
Retail Business Exposures	(6%)	(29%)	1.2%	1.3%
Equity	11%	(9%)	1.3%	1.6%
Other assets	(12%)	(3%)	10.1%	10.4%
Securitization	(20%)	(40%)	7.9%	7.7%
Operational Risk			**0.0%**	**9.0%**
Trading Book	0%	0%	5.2%	6.0%
Portfolio Total	**(14%)**	**(24%)**	**100.0%**	**100.0%**
Change in Effective MRC*	**(17%)**	**(26%)**		

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QIS-4

To reiterate the cautionary note:

- Caution should be used in drawing any inferences from the aggregate data at this stage
- The U.S. banking agencies plan additional work to determine whether these results reflect:
  - differences in risk,
  - reveal limitations of QIS4,
  - identify variations in the stages of bank implementation efforts (particularly related to data availability), and/or
  - suggest the need for adjustments to the Basel II Framework.

Quantitative Impact Studies

- QIS-5 to be conducted by BCBS
  - July 2005: draft workbooks made available
  - October – December 2005: QIS-5 conducted
  - Spring 2006: BCBS to review calibration of the revised framework

Other Selected Current Topics

- Defining “Stress” or “Downturn”
  - Relevant for quantification of all IRB parameters (e.g. inclusion of “downturn” period in time-series used for estimation
  - Key for LGD and EAD parameters, which are required to “reflect economic downturn conditions where necessary to capture the relevant risks”
  - Significant work being done by the LGD Working Group

Other Selected Current Topics

- Basel/IOSCO working paper on application of Basel II to trading activities and the treatment of double default
  - treatment of counterparty credit risk
  - treatment of double default effects
  - short term maturity adjustment
  - improvements to trading book regime
  - capital treatment for unsettled and failed transactions

- Published April 2005; comments due May 27, 2005

Basel II Resources

- Bank for International Settlements

  http://www.bis.org/publ/bcbsca.htm

- Federal Reserve:

  http://www.federalreserve.gov/generalinfo/basel2/default.htm

  http://www.federalreserve.gov/boarddocs/srletters/2005/sr0501.htm
  http://www.federalreserve.gov/boarddocs/press/bcreg/2005/20050429/default.htm

- Federal Register:

  http://www.gpoaccess.gov/fr/

- Congressional Testimony:

  http://financialservices.house.gov/hearings.asp?formmode=detail&hearing=383