Basel 2 and Risk-Based Supervision

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What is a bank?

- ✍A business enterprise
- ✍A deposit-taking financial intermediary
- ✍A trusted party
- ✍A highly leveraged entity

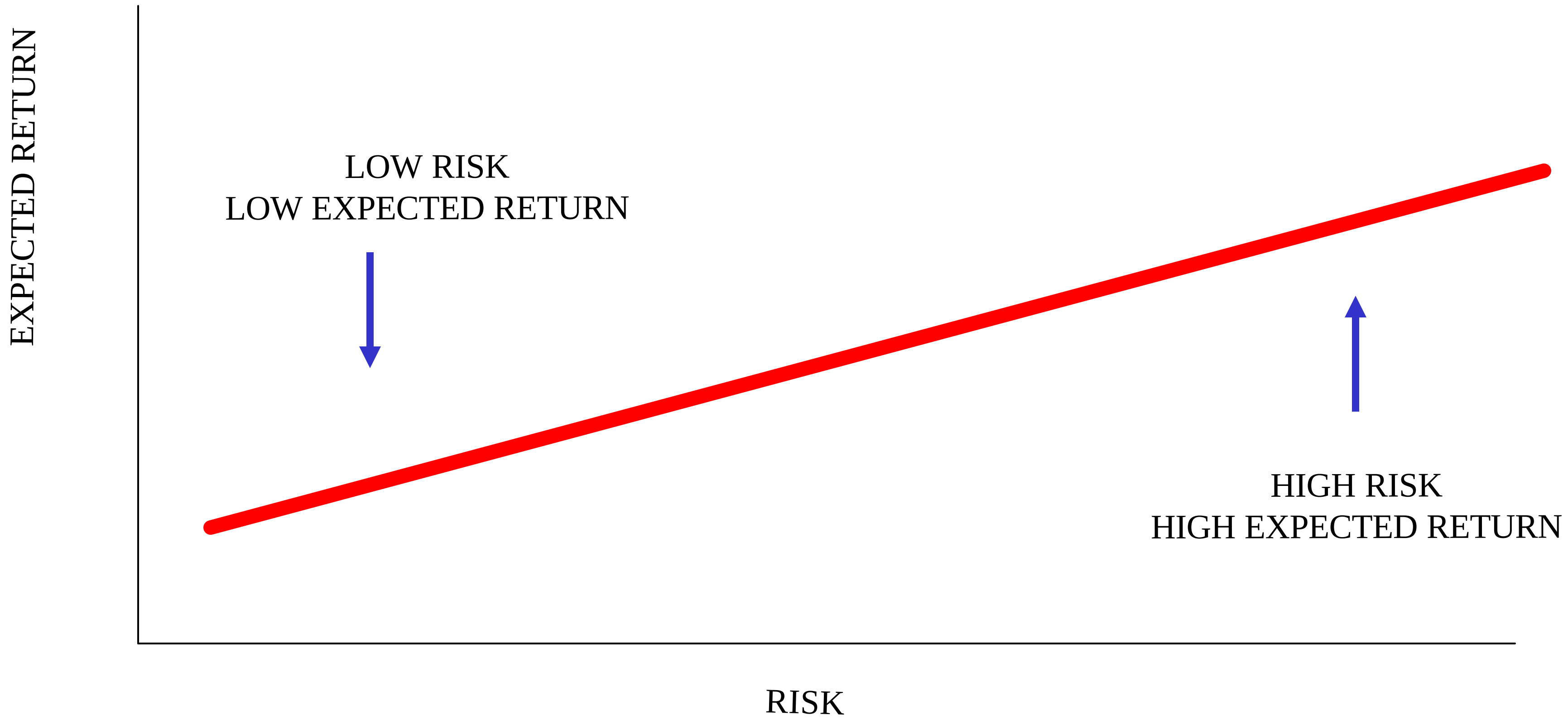
Why deposit with a bank?

- Economies of scale
- Low transaction cost
- Liquidity
- Convenience

Why deposit with a bank?

- But the advantages are only important as long as the depositor <u>believes</u> the deposit is <u>riskless</u>
- May go for alternatives
  - T-bills/bonds
  - Other fixed income securities
  - Trust funds/mutual funds

A digression: Portfolio Theory



- An investor faces a tradeoff between risk and return

Public safety net approach

- ✍Deposit insurance
- ✍Lender of last resort
- ✍Implicit certification of soundness accompanying bank supervision

Market discipline

- The self-restraint imposed by the market on a business
- In the absence of a safety net, a mismanaged bank is automatically penalized through failure

Moral hazard

The incentive to take excessive risk and the consequent reduction or breakdown of market discipline.

Implication No. 1

- Profit-maximizing banks may have an incentive to take on excessive risks
  - High risk portfolio
  - Other high risk activities
  - Over-leveraging
- Owners vs. Managers
- Dominant shareholders vs. minority shareholders
- Depositors may no longer care!

Implication No. 2

- The public safety net can become very costly to the state!
  - TBTF
  - TBTDA
  - TSTS

Then why provide a public safety net?

- The banking system plays a strategic role in our economy
  - Financial intermediation
  - Payment services
- Financial system stability is desirable
- Small depositors need protection

Mitigants of moral hazard

- Good corporate governance
- Prudential regulation
- Transparency and disclosure
- Credible threat of failure

The challenge

- Banking is a business. It needs to make money to stay viable
- But banks, like any business, cannot make enough money without taking on risks
- Risk-taking, which may lead to bank failure, is therefore an essential part of the game
- Risks in banking are to be managed but not entirely eliminated

What is the role of BSP as bank supervisor?

Our goal:

- To set and enforce reasonable standards so that individual banks prudently manage their risks
- To ensure the resiliency of the overall banking system

Not our goal:

- To prevent bank failure at all cost
- To save every failed bank

Conclusion

- Bank supervision is a balancing act!
  - Not too tight
  - Not too lax
  - Just right
- Bank supervision should be efficient to minimize the burden imposed on banks

Risk-based supervision: the philosophy

- Risk-based supervision allows banks to take risks so long as the banks demonstrate the ability to manage and price for those risks.
- Risk-based supervision treats banks differently depending on each bank's demonstrated ability to manage risks. It does not penalize well-managed banks by making them operate under standards designed to keep weak, poorly managed banks solvent.

What is the role of capital?

- Capital serves as financial buffer to enable a bank to ride out losses
- Forces owners to pay attention to the business
- The riskier the bank, the more capital should be held
- But since capital is costly, banks may choose a level of capital not commensurate to their risk profile
- Minimum capital level requirement is not enough
- CAR regulation particularly addresses this prudential concern

What is the role of capital?

- Economic capital vs. regulatory capital
- Tier 1 vs. Tier 2 capital

What is the importance of CAR in risk-based supervision?

- CAR is a very good indicator of bank financial strength
- CAR is a sound basis for early supervisory intervention which is important in crisis prevention
- CAR can be a fair and transparent criterion for granting authorities
- <u>But CAR needs to be accurately measured to be useful</u>!

Risk-based capital ratio

$$= \frac{\text{Capital}}{\text{Risk Weighted Assets}}$$

Evolution of risk-based capital framework

100% RW for all assets	0% - 100%	Different risk weights for different asset class	Risk weights depend on external ratings	Risk weights depend on internal ratings (PD/LGD)	Capital charge depends on credit risk modeling

Crude — Advanced

Evolution of risk-based capital framework

100% RW for all assets	0% - GS, cash 100% - others	Different risk weights for different asset class	Risk weights depend on external ratings	Risk weights depend on internal ratings (PD/LGD)	Capital charge depend on credit risk modeling

Net worth/Risk Assets
(Prior to Circular No. 280)

What is Basel 1?

- Aimed to standardized the computation of risk-based capital across banks and across countries.
- Issued in 1988 by the Basel Committee on Banking Supervision, a group of banking supervisors which secretariat is based at the Bank for International Settlements (BIS) in Basel, Switzerland.

What is Basel 1?

100% RW for all assets	0% - GS 100% - others	Different risk weights for different asset class	Risk weights depend on external ratings	Risk weights depend on internal ratings (PD/LGD)	Capital charge depend on credit risk modeling

1. OECD – nonOECD countries
2. OECD – nonOECD incorporated banks
3. Residential mortgage
4. Others

What is Basel 1?

- Market risk was incorporated into Basel 1 in 1996
  - Allows both a standardized and an internal model approach

Basel 1 implementation by BSP

- Circular No. 280 issued in 29 March 2001
- Circular No. 360, which incorporated market risk, was issued in 3 December 2002

Basel 1 implementation by BSP

100% RW for all assets	0% - GS 100% - others	Different risk weights for different asset class	Risk weights depend on external ratings	Risk weights depend on internal ratings (PD/LGD)	Capital charge depend on credit risk modeling

1. Highly rated – nonhighly rated countries
2. Highly rated – nonhighly rated banks
3. Residential mortgage
4. SMEs
5. Others

Why is there a need to revise Basel 1?

- Assignment of risk weights under Basel 1 is crude – Basel 2 aims to make capital requirements more risk sensitive
- Basel 1 only accounts for credit risk and market risk – Basel 2 includes operational risk

The making of Basel 2

1999 – First Consultative Package (CP1) was issued

2000 – First Quantitative Impact Study (QIS1)

2001 – CP2 was issued

2001 – QIS2 and QIS 2.5

2002 – QIS3 (with 6 Philippine banks)

2003 – CP3

2004 – Final Document

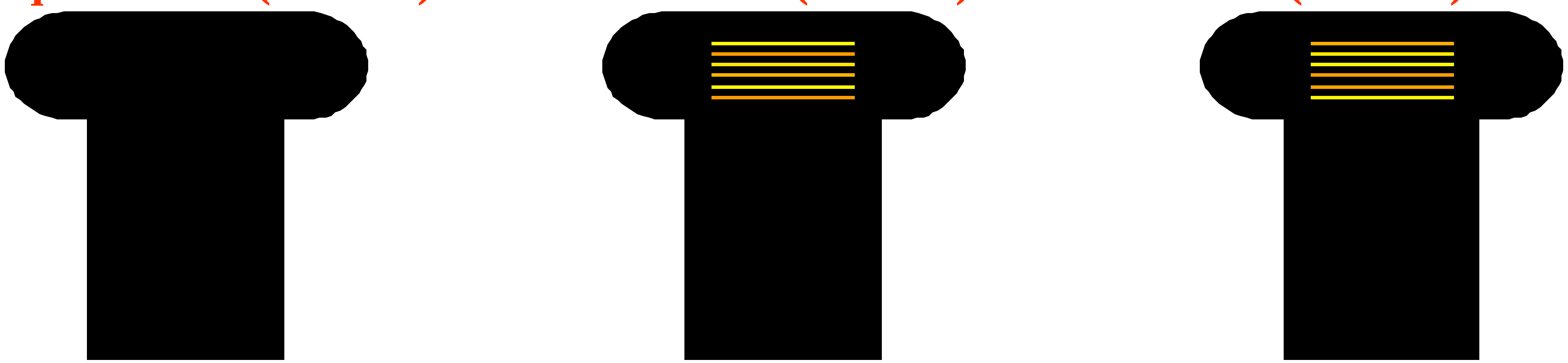
Basel 2 framework

Basel 2 is a three-pronged approach relying on so-called "3 Pillars":

Minimum Capital Requirements (Pillar 1)

Supervisory Review Process (Pillar 2)

Market Discipline (Pillar 3)



Basel 2 underlying principles

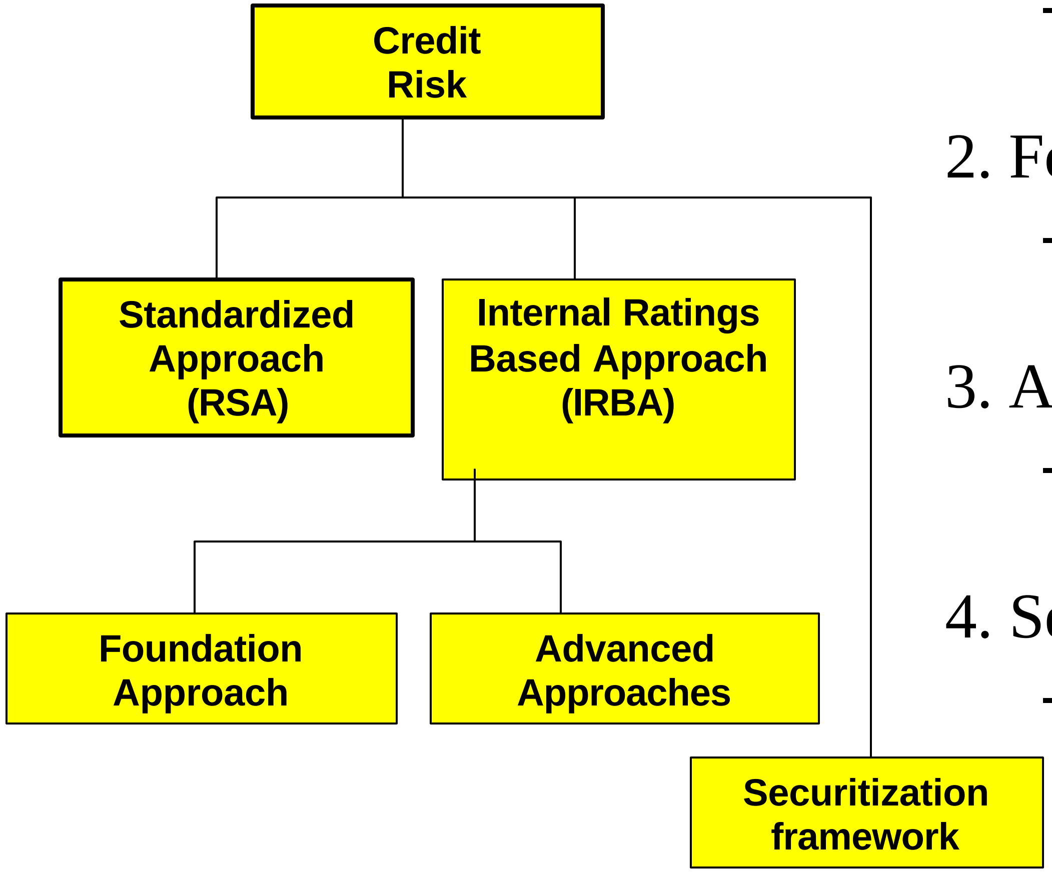
1. Banks should have capital appropriate for their risk-taking activities (Pillar 1)
2. Banks should be able to properly assess the risk they are taking, and supervisors should be able to evaluate the soundness of these assessments (Pillar 2)
3. Banks should be disclosing pertinent information necessary to enable market mechanism to complement the supervisory oversight function (Pillar 3)

Pillar 1
(Minimum capital requirements)

Prescribes capital charges for:

1. Credit risk (major revision)
2. Operational risk (new provision)
3. Market risk (minor change)

Credit Risk



1. Standardized approach
   - risk weights depend on external credit ratings
2. Foundation IRB
   - banks to use internal credit ratings and supply PD
3. Advanced IRB
   - banks to use internal credit ratings and supply PD, LGD, EAD, M
4. Securitization framework
   - sets out various approaches in computing capital charges for securitization exposures

Basel 2 framework

100% RW for all assets	0% - GS 100% - others	Different risk weights for different asset class	Risk weights depend on external ratings	Risk weights depend on internal ratings (PD/LGD)	Capital charge depend on credit risk modeling

Standardized approach

IRB approach

Credit Risk- Standardized Approach

Credit assessment	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated
Sovereign RW	0%	20%	50%	100%	150%	100%
Bank RW						
Option 1	20%	50%	100%	100%	150%	100%
Option 2	20%	50%	50%	100%	150%	100%
Credit assessment	**AAA to AA-**	**A+ to A-**	**BBB+ to BB-**	**Below BB-**	**Unrated**	
Corporate RW	20%	50%	100%	150%	100%	
Retail portfolio	75%					
REM	35%					
Past due REM	100%					
Past due others	150%					

Credit risk mitigation

Important operational requirements for recognition of collateral and guarantees:

- Legal certainty
- Value of collateral/guarantee and credit quality of counterparty must not have a material positive correlation

Credit risk mitigation

Eligible collateral and guarantors:

- Financial collateral – highly rated securities
- Highly rated guarantors

Credit risk mitigation[2]

Collateral recognition:

- simple approach (RW substitution)
- comprehensive approach (use of haircuts)

Guarantee recognition:

- RW substitution

BSP framework

- Current elements of Basel 2 credit risk standardized approach already incorporated in the BSP framework
  - 0% risk weight for sovereigns with external ratings of AA- and up
  - 20% risk weight for banks with external ratings of AA- and up
  - 75% risk weight for SME portfolio

Credit Risk- IRB Approach

K = f(PD, LGD, EAD, M)

Where,

PD = probability of default (to be provided by banks)

LGD = loss given default (to be provided by banks under the advanced IRB approach only)

EAD = exposure at default

M = effective maturity

Banks' preparations for IRB approach

- Data, data, data
  - Compliance with Circular No. 439 as an initial step
  - Strong IT system to support data collection
  - Personnel with technical background and knows how to use data for risk management analysis

Implementation of Circular No. 439 (Banks' IRS)

- Documentation of the credit risk rating system
- IT infrastructure that would maintain the database of the credit risk rating system

IRS - Documentation

- Organization structure, definitions, reporting lines, and other operational aspects of the credit risk rating system
- For banks not using the BAP model – rationale for choice of rating criteria
  - Are the factors used for rating statistically significant determinants of borrower default?
  - If expert based, future plans to revise the model once enough data is available
- For banks using the BAP model – future plans to revise the model
  - Methodology to be used in determining which factors are significant predictors of borrower default

IRS - Data to maintain

- Information that would track the predictive power of each rating criterion
- Ratings per account
  - Dates the ratings were assigned
  - Methodology and data used to derive the ratings
  - Analyst who gave the ratings
- Accounts that default
  - Borrower and facility
  - Timing and circumstances of defaults
  - Rating
  - Actual loss
- Ratings migration

What BSP expects from banks in terms of IRS

- BSP expects banks to eventually use only rating factors that are good determinants of borrower default
- This involves doing statistical tests on the empirical relationships of the various factors currently used and actual default.
- Data is of paramount importance.

What BSP expects from banks in terms of IRS[2]

- Information is power!
- Banks should not wait for a regulatory push before putting in place a system to accumulate pertinent portfolio information
- Banking business becomes more and more portfolio information driven
- This is not a compliance issue but a business decision

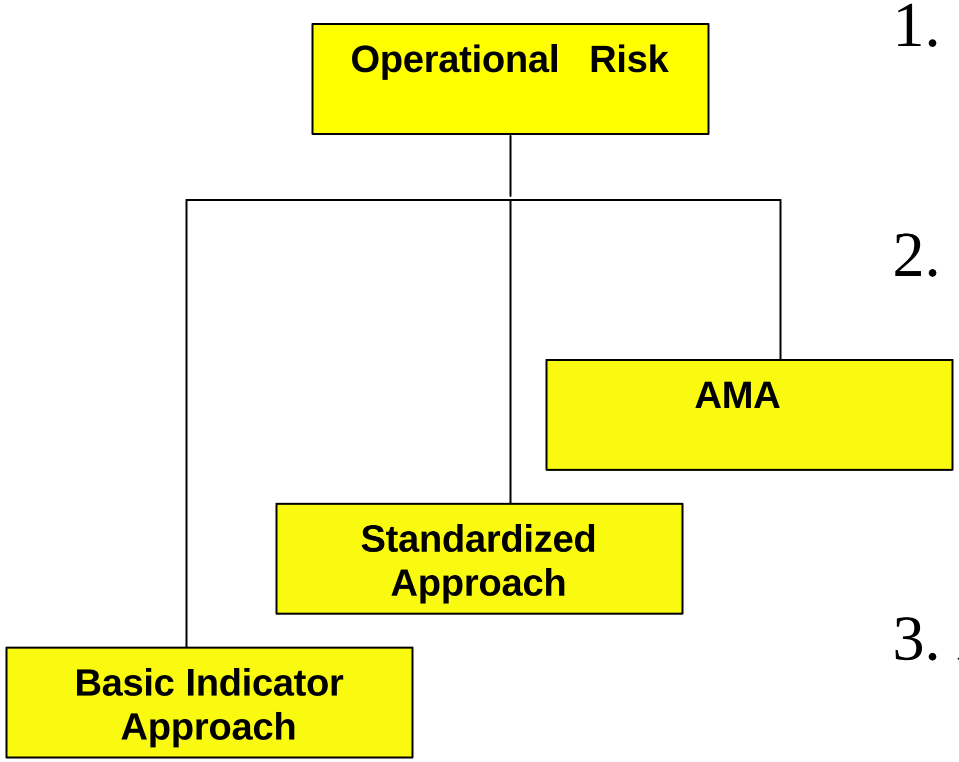
Things BSP examiners should look out for – Use test of IRS

- Evaluation of loan applications and other prospective exposures
  - Internal rating's effect on pricing
- Review of existing exposures
  - Actions taken in case of downgrade/upgrade

Importance of use test

- Banks should trust their credit risk rating systems enough for the ratings output to figure into banks' credit business decisions.
- If this is not the case, BSP would deem the bank to be not in compliance with Circular No. 439.

Operational Risk



1. Basic indicator approach
   - capital charge is a fraction of gross income
2. Standardized approach
   - capital charge computed by business lines
   - total operational risk capital charge is the sum for all business lines
3. Advanced Measurement Approach
   - use of statistics-based measurement models

Operational Risk – Standardized Approach[2]

Business lines	Beta factors
Corporate finance	18%
Trading and sales	18%
Retail banking	12%
Commercial banking	15%
Payment and settlement	18%
Agency services	15%
Asset management	12%
Retail brokerage	12%

Market Risk

- Capital treatment remains generally unchanged except for some minor changes in the standardized computation of specific risk charges
- To be consistent with the credit risk standardized approach, specific risk weights now depend purely on the external ratings of the issue

Market Risk – Likely changes in specific risk weights

External credit assessment – for sovereigns	**External credit assessment – for other entities**	**Specific risk capita charge**
AAA to AA-		0%
A+ to BBB-	**AAA to BBB-**	0.25% (residual term to final maturity 6 months or less) 1.00% (residual term to final maturity greater than 6 and up to and including 24 months) 1.60% (residual term to final maturity exceeding 24 months)
All others	**All others**	8.00%

Pillar 2
(Supervisory review)

- Emphasizes the 4 key principles of supervisory review:
  1. Banks should have a process for assessing their overall capital adequacy in relation to their risk profile and a strategy for maintaining their capital levels;
  2. Supervisors should review and evaluate banks' internal capital adequacy assessments and strategies, as well as their ability to monitor and ensure their compliance with regulatory capital ratios. Supervisors should take appropriate supervisory action if they are not satisfied with the result of this process;

Pillar 2
(Supervisory review)[2]

3. Supervisors should expect banks to operate above the minimum regulatory capital ratios and should have the ability to require banks to hold capital in excess of the minimum;
4. Supervisors should seek to intervene at an early stage to prevent capital from falling below the minimum levels required to support the risk characteristics of a particular bank and should require rapid remedial action if capital is not maintained or restored.

Pillar 3
(Market discipline)

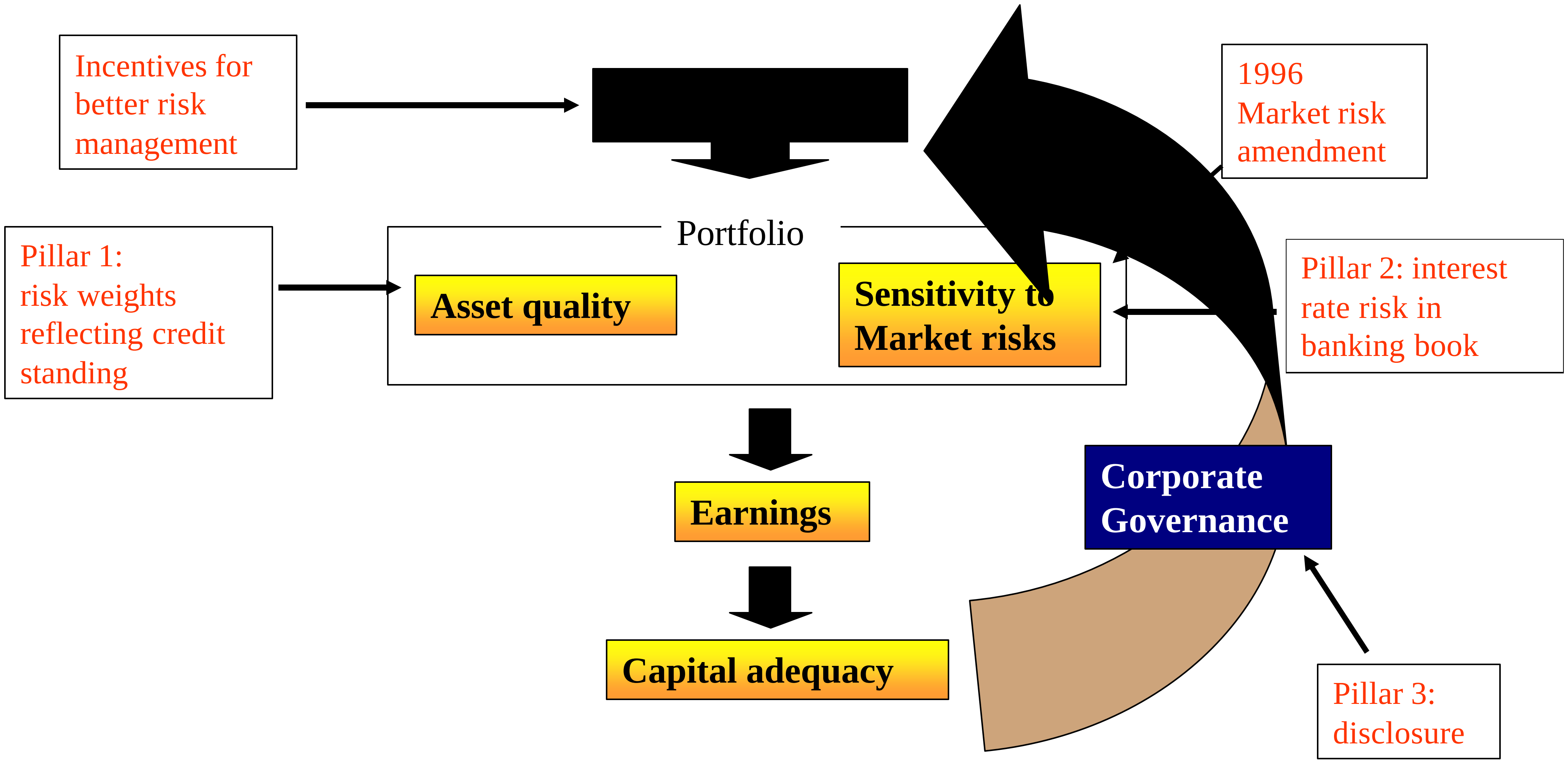
- Proposes an extensive list of bank disclosure requirements
- Recognizes that markets contain disciplinary mechanisms that reward banks that manage risk effectively and penalize those whose risk management is inept or imprudent

Pillar 3
(Market discipline)[2]

Broad classification of required disclosures:

1. Scope of application
2. Capital structure
3. Capital adequacy
4. Credit risk exposure and assessment
5. Credit risk mitigation
6. Market risk exposure and assessment
7. Operational risk exposure and assessment
8. Equity exposure and assessment
9. Securitization exposure and assessment
10. Exposures to interest rate risk in the banking book

Basel 2 is fully consistent with the CAMELS framework



Implementation plans in Non G-10 Countries

Implementation in Non G-10 Countries

BASEL II SURVEY CONDUCTED BY FSI IN EARLY 2004		
Region	**Number of respondents (Banking supervisors)**	**Respondents intending to adopt Basel 2**
Africa	22	16
Asia	**18**	**15**
Caribbean	7	5
Latin America	15	11
Middle East	8	7
Non-BCBS Europe	37	34
TOTAL	**107**	**88**

Implementation plans in Asia

Overall survey results

- In the period 2007-09, banks controlling around 70% of total banking assets in the sample of Asian jurisdictions are expected to move to Basel 2.
- 20% belongs to banks which are foreign-controlled or foreign-incorporated

Groups of countries

FSI divided sample of Asian countries into homogenous groups:

1. Group 1 – plans to offer all options contained in Basel 2 as from end-2006
2. Group 2 – will implement the framework more gradually between 2007 and 2009 (the Philippines belongs here)
3. Group 3 – still undecided about the date and scope of implementation

Group 2 banking assets expected to be subject to Basel 2 credit risk approaches

End-2006: 5% in standardized approach

2007-2009: almost 50% in foundation IRB

more than 20% in standardized

2010-2015: 5% will move from standardized to foundation IRB

Group 2 banking assets expected to be subject to Basel 2 operational risk approaches

- Majority of assets will be subject to the basic indicator approach after January 2007. A very small amount of assets will then move to the AMAs.

Capacity building

- Group 1 countries plan to train around 60% of supervisory staff on Basel 2 implementing issues.
- Group 2 countries plan to train only 10%.

Implementation timetable for BSP

2005	2006	2007	2008	2009	2010
Gradual phasing in of certain Basel 2 provisions (securitization SA, past dues, highest credit quality corporates)		Credit risk -standardized approach Operational risk -basic indicator or standardized approach			Credit risk -FIRB and AIRB allowed Operational risk - AMA allowed

Pillar 2 (Supervisory Review) – a continuing process

Pillar 3 (Market discipline) – gradual implementation starting 2007

Proposed Consultation Phase

- Draft guidelines on
  - Pillar 1 (computation of minimum capital charges)
  - Pillar 3 (enhanced disclosures)
- Draft guidelines to be released by 1st quarter of 2005
- For comments until end-June 2005

Proposed Issuance of Final Guidelines

- Final guidelines will be issued by end-2005
- Effectivity will be on 1 January 2007

For "Stand-alone" Thrift and Rural Banks

- Stay with the existing framework but with certain Basel 2 elements incorporated to make it more risk-sensitive

Basel 2 and
Risk-Based Supervision

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