

# Risk Management Framework: Basel II :Some Issues

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## Structure of this presentation:

- Risk The new view
- Risk Framework Integrated view
- Basel Is it about compliance?
- Pillar II Very important
- Pillar III Snap shot
- Some issues Basel in emerging economies

# The New View of Risk



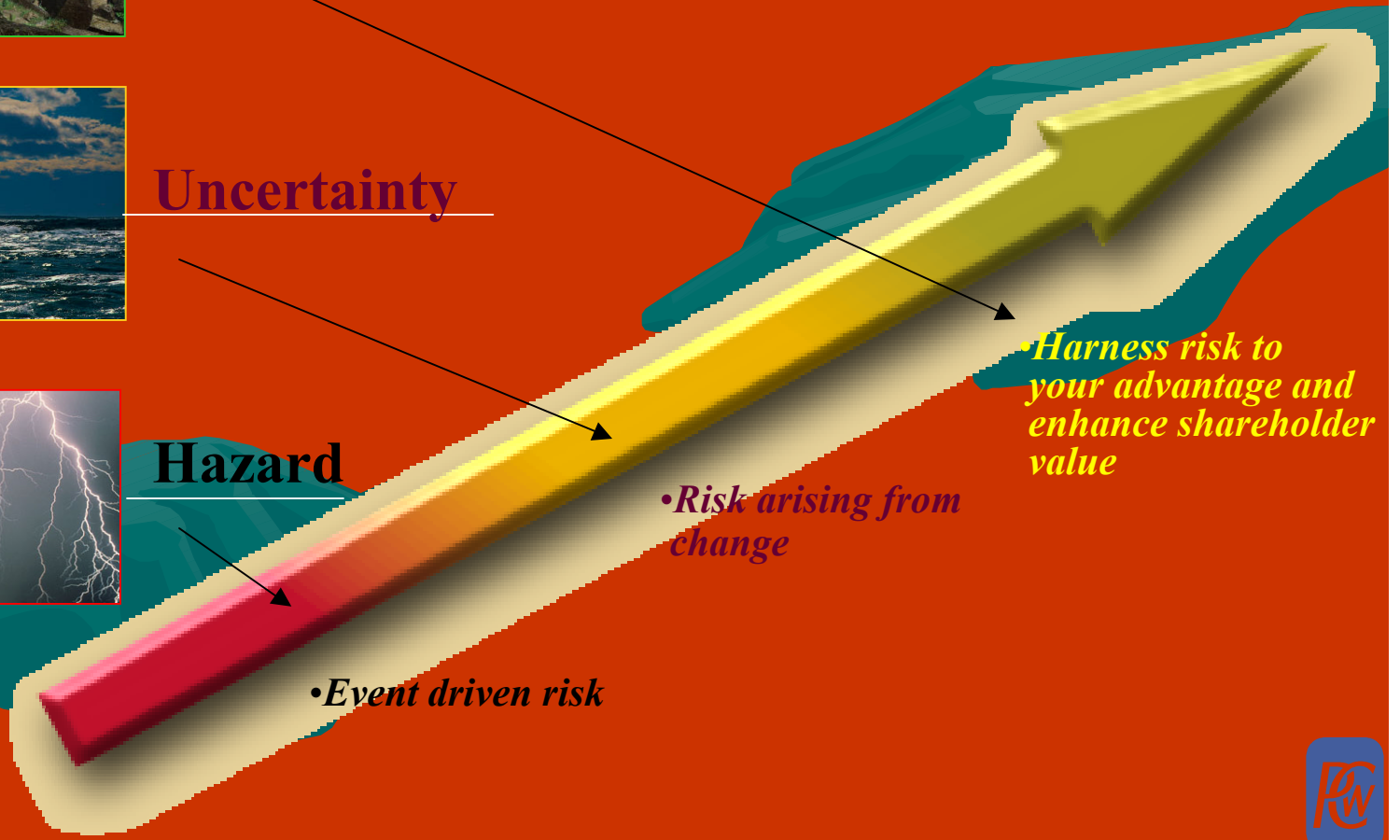
**Opportunity**



**Uncertainty**



**Hazard**



• *Harness risk to your advantage and enhance shareholder value*

• *Risk arising from change*

• *Event driven risk*

# Risk Management: An evolutionary process:

- For the purpose of its management, risk can be defined as the *“Possibility of an adverse earnings result and measured as variance and covariances influencing earnings”*.
1. Risk has to be controlled by identifying risk factors: Credit Risk, Market Risk, Business Risk, Operational Risk and Liquidity Risk. Involves analysing counterparties, countries, industries and understanding portfolio effects and portfolio concentration.
  2. Risk is a statistical concept: Risk measurement looks at how distributions differ for the various types of risk.
  3. Risk policies and limits are primary mechanisms for senior management & board to define risk culture of the firm
  4. Risk managers need to have a grip on the total portfolio, divided up into expected & unexpected losses.

# RISK MANAGEMENT TRENDS

# Risk management trends - international

*....Move towards quantification of operational risk*



*... and integration for single CAR number*

# RISK FRAMEWORK

# Implementing a Risk Management Architecture

## Critical Success Factors

1. Senior management commitment and a common vision
2. A common language and process
3. Risk management / change process owners
4. A defined process and plan to reach the desired state
5. Communication and training
6. Measurement
7. Reinforcement through HR mechanisms
8. On-going monitoring that the risk management mandate is being executed

Desired State

Mission

## Dimensions of a Risk Management Architecture

Culture & Rules

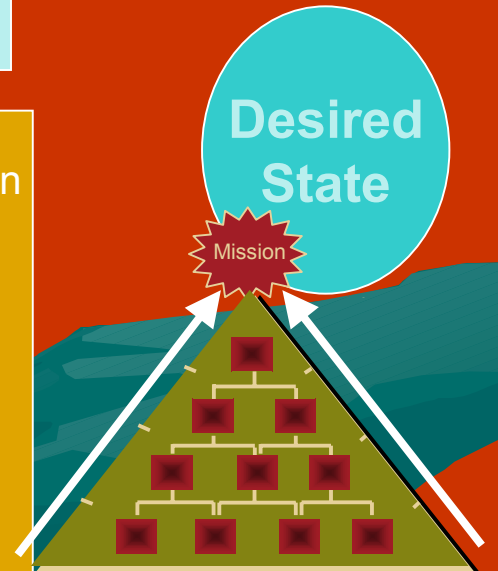
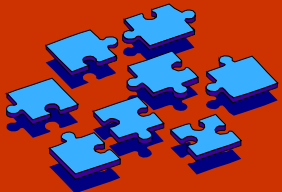
Structure & Process

Resources & Capabilities

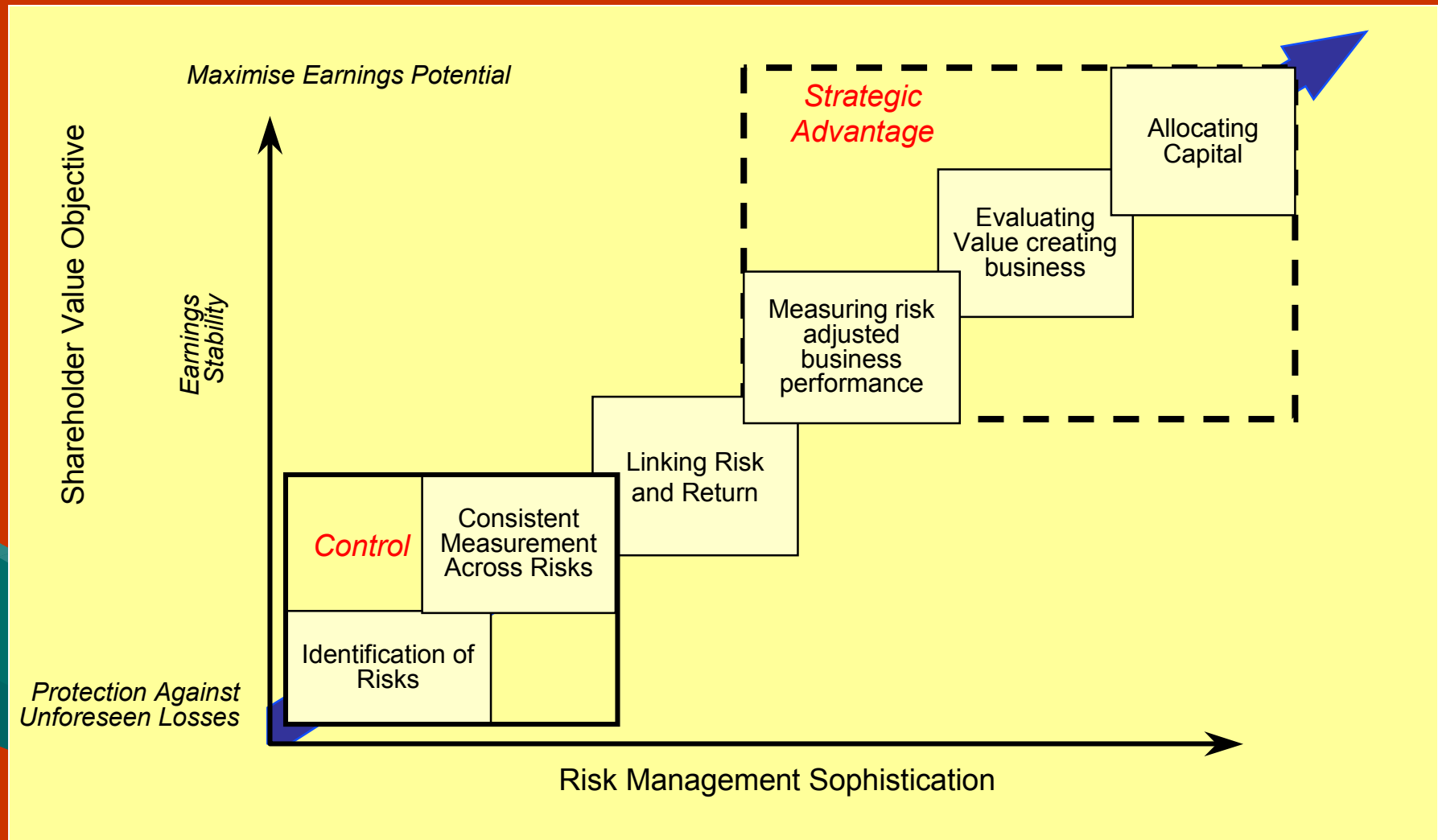
Tools & Techniques

Transition Period

Current State



# Value proposition



# BASEL II



# Objectives of the new Basel Capital Framework

What?

Promote safety and soundness in the financial system

Continue to enhance competitive equality

How?

Complete recognition of all types of risk

Orientation on the bank's individual risk profile

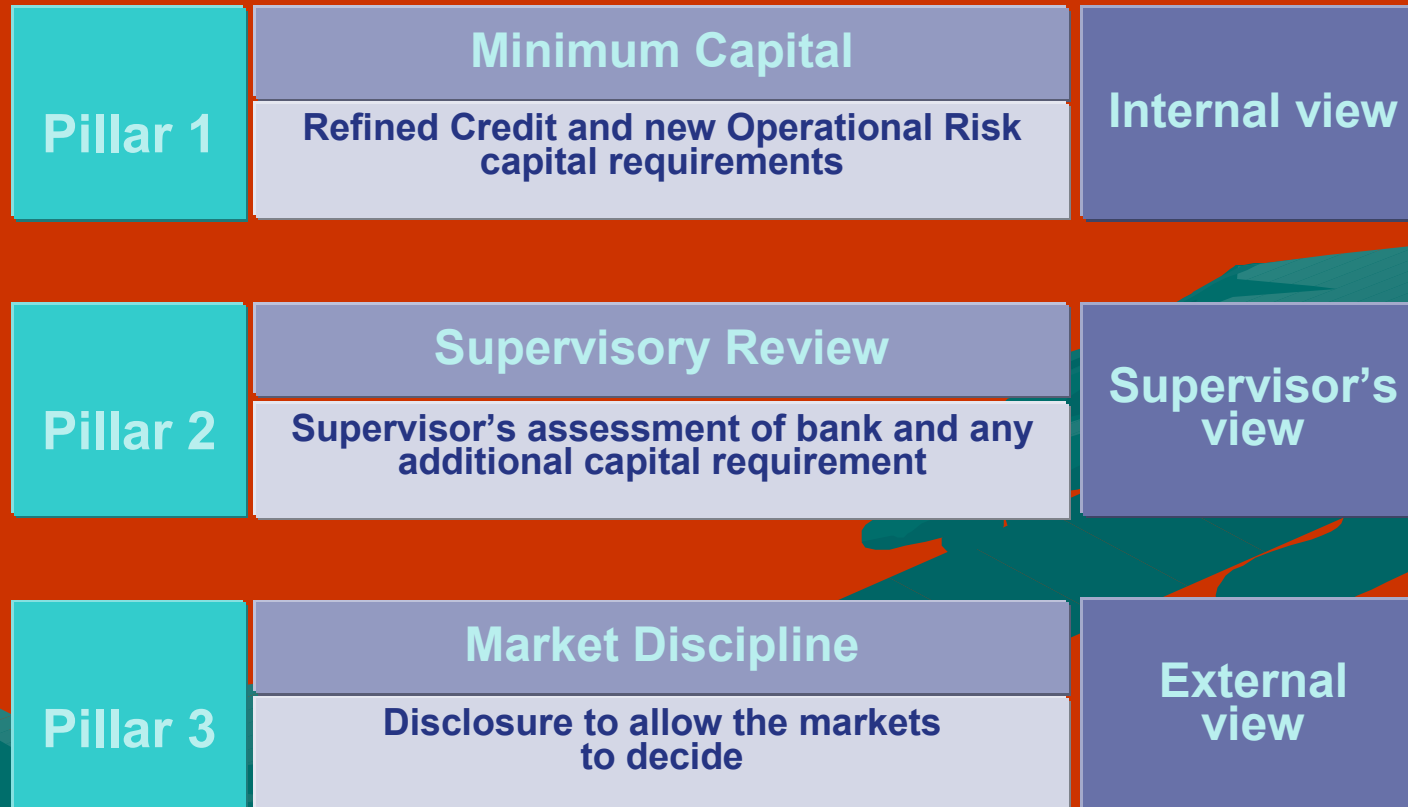
Who?

Focus on internationally active banks

Principles suitable for application on smaller banks

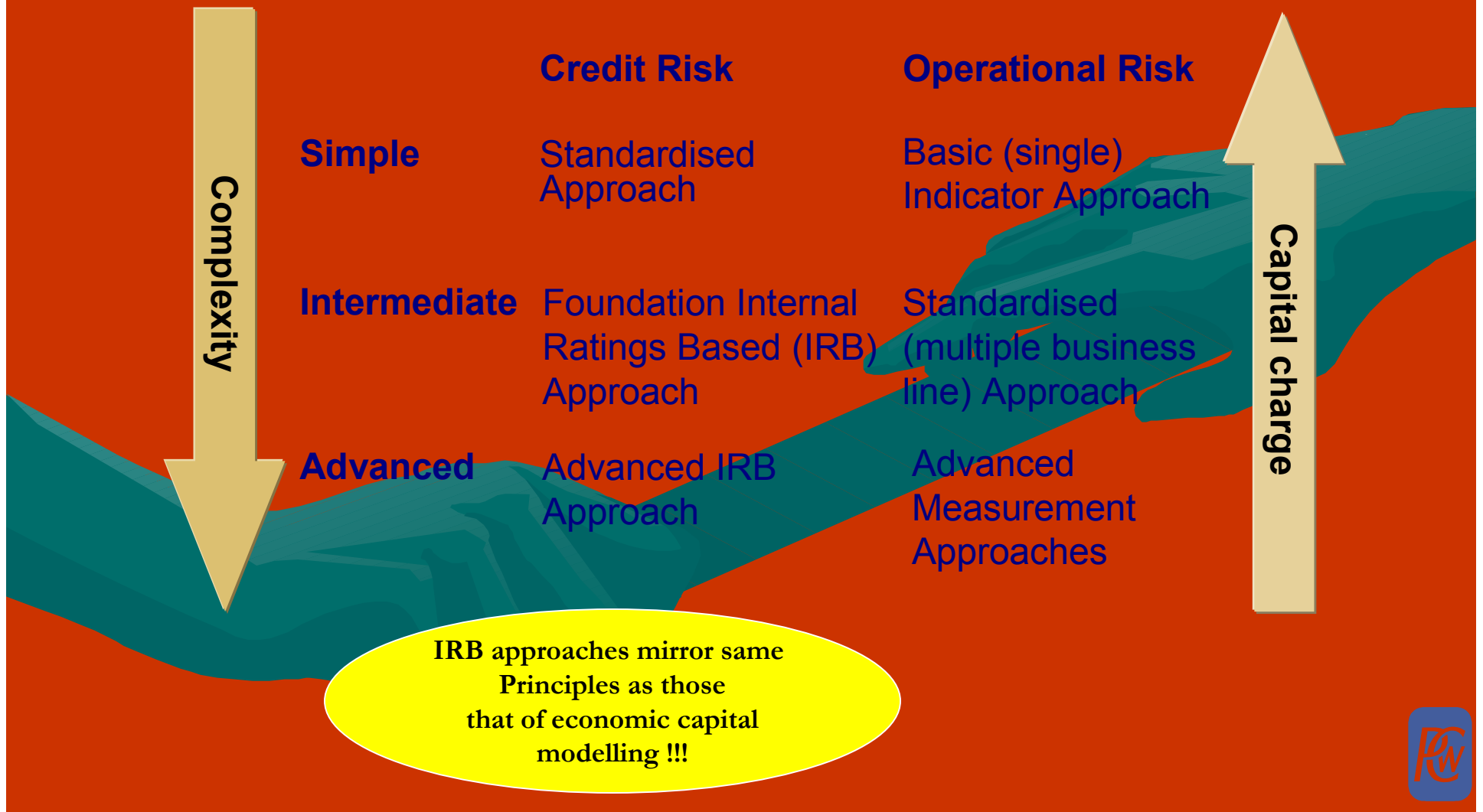
No general reduction of the capital level in the financial system

## Basel II: structure of the new Accord



**3 Pillars mutually-reinforcing and interlinked**

# Pillar 1 (Minimum Capital) risk methodologies: choice of approach



# Credit Risk - Menu of Approaches

Increasing sophistication, with more advanced qualitative criteria

## Standardised Approach

Successor to 1988 Basel Capital Accord with some additional risk sensitivity through use of wider range of risk weights linked to external credit ratings.

## Foundation Internal Ratings Approach

Institution's portfolio is split by broad category of exposure.

Institutions assign ratings linked to probability of default (PD). Other inputs set by the supervisor.

## Advanced Internal Ratings Approach

As for the Foundation Approach, but in addition to calculating PD, institutions also use their own estimates of loss given default (LGD) and of exposure at default (EAD).

# Operational risk – Menu of Approaches

Approach	Basic Indicator	Standardised	Advanced Measurement
Risk sensitivity	Straightforward, but arbitrary	More complex, but still arbitrary	Potentially highly risk sensitive
Op Risk capital calculation	15% * Gross Income	“ <i>b</i> ”(12-18%) * Gross Income for each “standardised business line”	Internal model, based on risk, validated against loss data

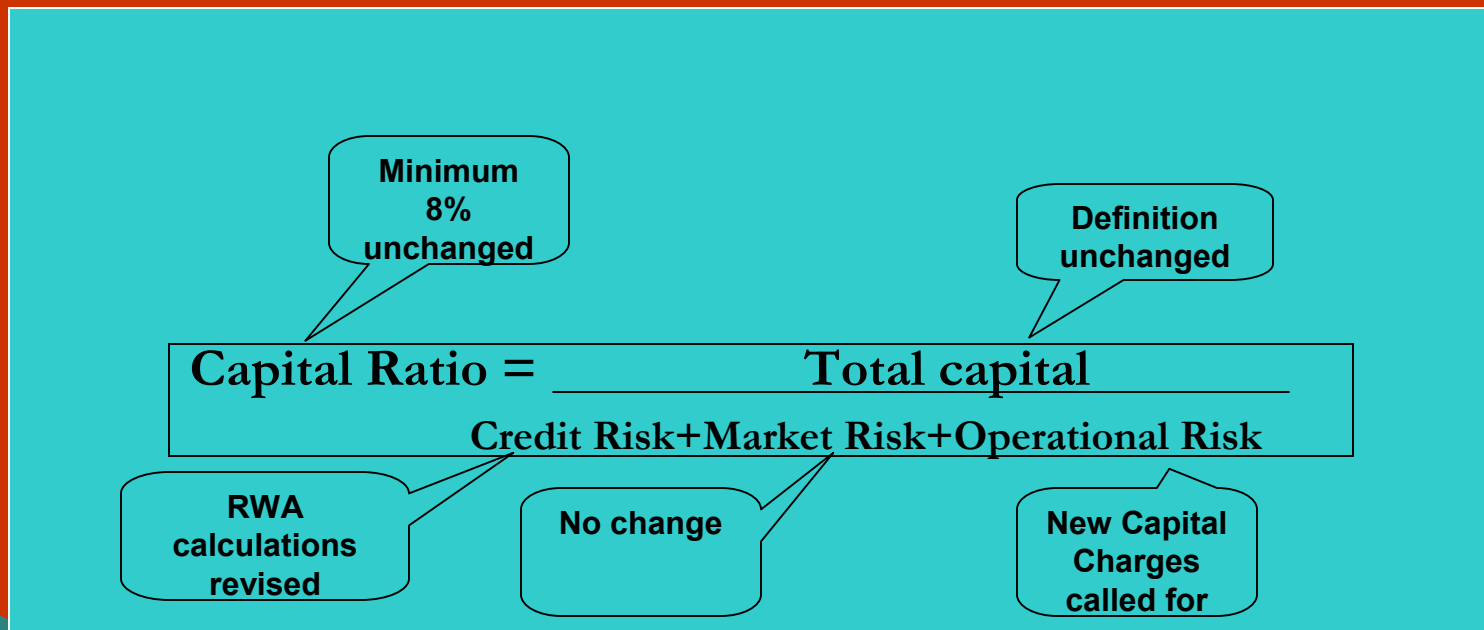
Gross income figure used is average annual gross income for past 3 years



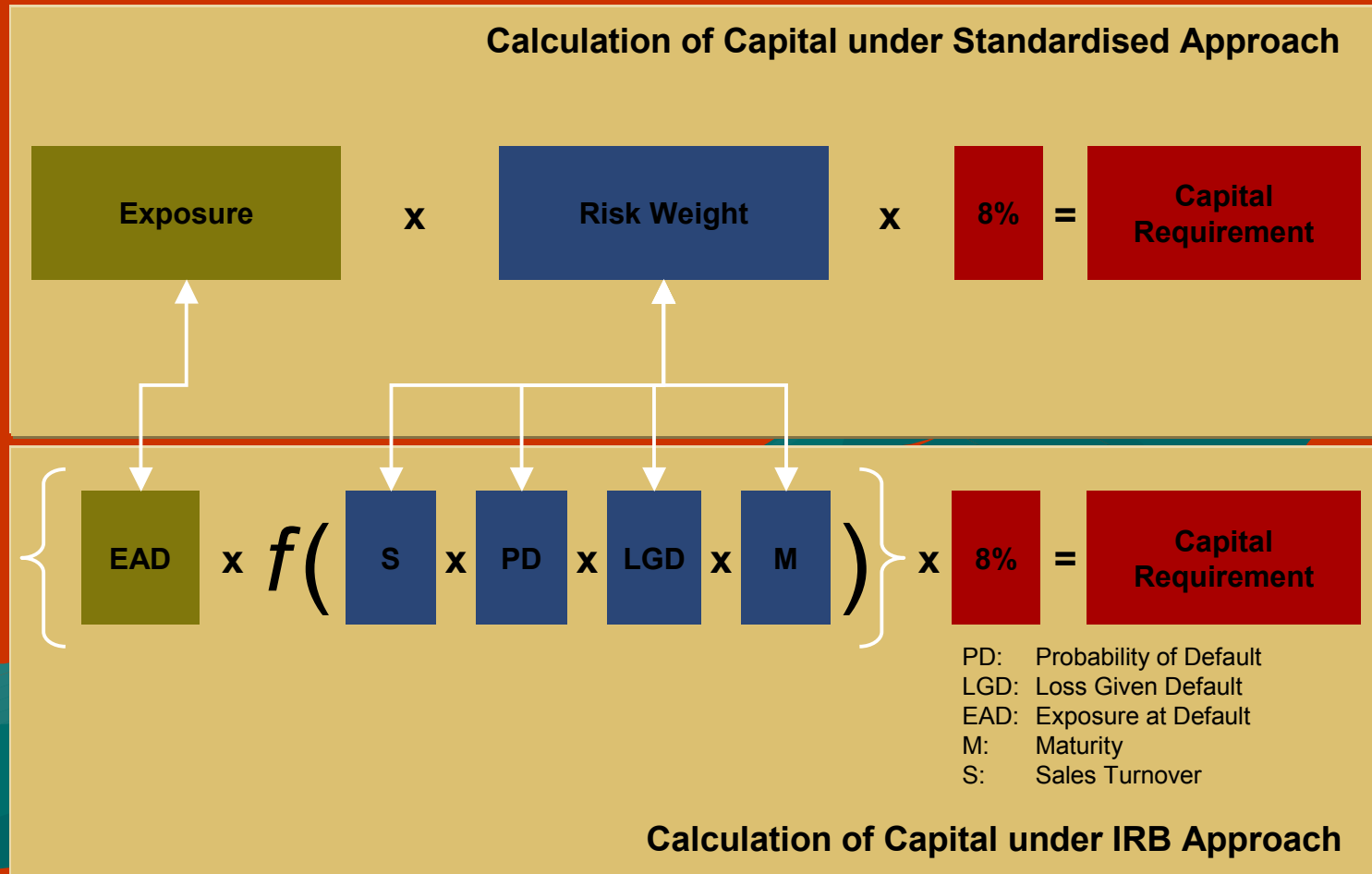
# Market Risk

Approach	Standardised (Rules based approach)	Internal Models approach
Risk sensitivity	Largely based on existing accord and 1996 Market Risk amendment(subject to trading book review).	VAR introduced through 1996 Market Risk Amendment
Market Risk capital calculation	Use of external credit assessments and some new measures for counter party and specific market risk charges	VAR models for pricing and measuring market risk exposures in the trading book with holding and historical observation periods and confidence interval.

# A Bird's eye view of BASEL II



# Capital Calculation under Basel II - IRB



Under the retail approach, sales turnover and maturity are not considered!



# Deficiencies of Basel I

- Lack of differentiation within credit risk
- Limited recognition of risk mitigation instruments
- No explicit consideration of other risks

Regulatory  
Capital

≠

Economic  
Capital

“Regulatory  
Arbitrage”



## Economic Capital (E.C.):

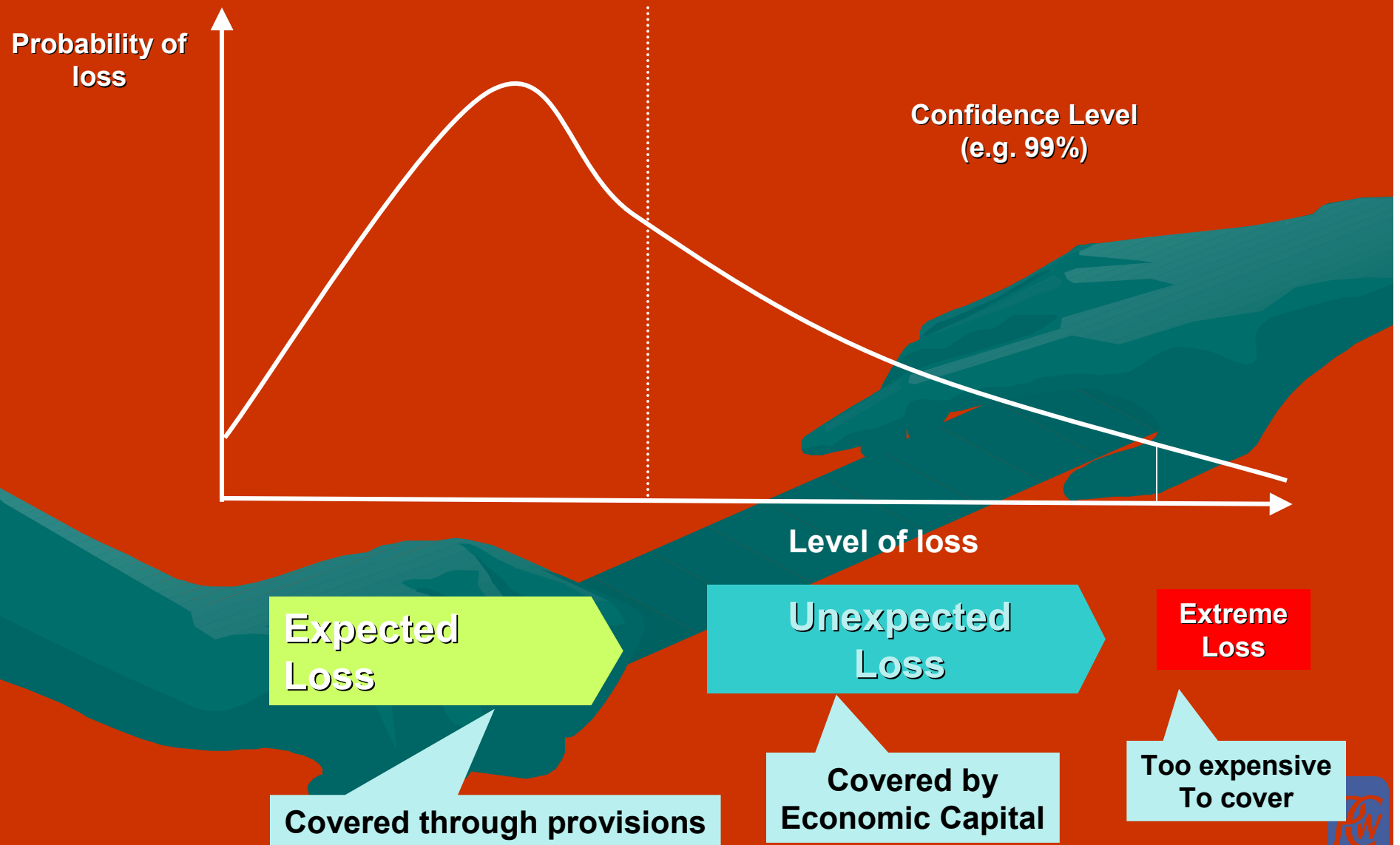
- *“Is an institution’s quantification of how much unexpected loss it has assumed or is inherent in its business”*

Capital that absorbs losses from expected events is called “provisions”.

Capital that absorbs losses from “unexpected events”, beyond provisioning is called “Economic Capital”.

In addition, banks could also hold additional capital to meet regulatory and rating agency requirements. E.C. is not the same as physical capital.

# Expected and unexpected loss



## Standardised Approach - Retail

### Qualitative Requirements:

#### Definition of a retail portfolio

- Private individuals
- SMEs
- ...

### Quantitative Requirements:

Individual loan amount not to exceed X

Sufficient granularity, e.g. no individual exposure in excess of 0.2% of total retail portfolio

### Risk Weight:

Risk Weight of 75%  
(except mortgages)

### Possible problem areas:

Loans of more than x

Aggregation of exposures  
across counterparties

## IRB Approach - Parameters

**Probability of Default (PD)**

**Loss given Default (LGD)**

**Exposure at Default (EAD)**

**Expected Loss (EL)**

**Maturity (M)**

**Sales Turnover (S)**

# Implementation schedule for Basel II

F-IRB (incl. Retail)

Parallel run

Floor (95%)

Floor (90%)

Floor (80%)

01.01.06

01.01.07

01.01.08

01.01.09

01.01.10

Parallel run

Floor (90%)

Floor (80%)

Advanced approaches for credit risk and/or operational risk

Start of Basel II  
(Standardised and foundation)

Start of Basel II  
(Advanced and AMA)



# Qualification criteria for retail portfolios

- Nature of borrower:

- Exposure to private individual or guaranteed by private individual

- Product type:

- Revolving credits and lines of credit (e.g. overdrafts, credit cards and retail facilities secured by financial instruments – )
- Personal term loans and leases (e.g. instalment loans, auto loans and leases, student and educational loans, personal finance)
- Residential mortgage loans (including first and subsequent liens, term loans and revolving home equity lines of credit)

- Loans extended to small businesses:

- Total (consolidated) exposure to banking group to a borrower not to exceed X
- (Consolidated) sales turnover of borrower not to exceed Y
- Loans to SMEs to be managed in the same manner as other retail exposures

## Example Calculation: Retail Mortgage

• The following calculations illustrate the effects of the new Basel rules on the capital requirements for a residential mortgage:

	Base Case	Alternative
• EAD	€150.000	€150.000
• PD	2%	1%
• LGD	10%	20%
• Capital Adequacy Ratio	8%	8%

# Three types of retail portfolios

## Residential Mortgages

- Loans to private individuals
- Secured on residential property
- “Owner occupier”
- No exposure limit

## “Qualifying revolving exposures”

- Loans to private individuals
- Exposures are revolving, unsecured and uncommitted
- Maximum exposure set by regulator
- High ratio of future margin income to expected losses
- E.g. credit cards, overdrafts

## “Other Retail” exposures

- Private customers and small and medium sized enterprises
- Maximum exposure set by regulator
- SMEs must fulfil “use test”, i.e. be treated like other retail portfolios
- E.g. auto loans, consumer credit, SME loans

# Cost / Benefit considerations

- Benefits

- Reduced capital needs
- Better risk management practices
- Improved regulatory relationship
- Improved market perception / agency rating

- Costs

- Greater disclosure
- Set-up costs of systems and processes
- Ongoing cost of data gathering tools
- Ongoing systems and staff costs

# Corporate VS Retail Risk

Need to ensure understanding of the key differences between Retail and Corporate risk with regard to :



**DEFINITION**

**PRODUCTS**

**DEFAULT REASONS**

**DATA AVAILABILITY**

**CHANNELS**

**DECISIONS**

# Consumer Credit - Data

## Source of information (Application risk)

- Application form
- Existing/Historical account performance
- Credit bureau
- “Knowledge” of person/area

## Data “quality” is measured in terms of :

- Completeness, consistency, sufficiency, accuracy, cost, & predictiveness

# Consumer Credit – Decisioning Principles

**As there are so many customers, it is not feasible to consider each account in isolation**

Hence, portfolio is divided into meaningful groups

- Products (Classic/Gold/Platinum)
- Characteristics (Young/old, Home owner/renter)
- Behavioural (High spenders / attriters)
- Risk (Coarse bands or risk scores)
- Likelihood (To buy, to spend, to close)

Within each group there are numerous customers and due to the “erratic” behaviour which defines humans, it is not possible to predict behaviour.

Hence, in all groups there is a mix ..



## PILLAR 2

### Supervisory & Review Process (SRP)



# Supervisory Review Process

- Significance of SRP for management often underestimated
- Accounting for capital requirement as an element of the strategy plan of banks
- Implementation of systems to compare capital and risk profile of banks
- Processes and risk exposure have to be transparently demonstrated by banks
- SRP suitable to adequately supervise banks with special business areas / risk profiles

***“The bank should establish an adequate system for monitoring and reporting risk exposures and assessing how the bank’s changing risk profile affects the need for capital”***



# PILLAR 3

## Market Discipline



# Areas of disclosure

## Overview

### Scope of application

- Consolidation for banking groups
- Kind of consolidation, deduction approach
- Entities fully / pro rata consolidated or not included in capital calculation

### Capital

- Total eligible capital
- Amount of Tier 1, 2 and 3 capital
- Deductions from Tier 1 and 2 capital
- Capital requirements for different risks
- Total and Tier 1 capital ratio

### Risk exposures

- Credit risk
- Equities
- Securitisation
- Market risk
- Operational risk
- Interest rate risk in the BB

# Data issues – Important Initiatives

- Major initiatives to enhance data integrity e.g., validation exercises addressing accuracy of rating data to identify commonly misinterpreted areas
- Focus on training and skills:
  - Integrity of people to drive data integrity
  - Training of analysts
  - Use of standardised internal definitions and codes
- Control techniques and processes include:
  - Cross checking on data feeds from source systems
  - Cross checking to other sources (e.g. stated income to payslips, data from other (earlier) credit applications from the same customer, audited financials)
  - Test checking / sampling by internal audit
  - Inputs to the models are reviewed by credit experts
  - Use of a specific team that captures, loads and check the integrity of the data
  - Standard data cleaning procedures (elimination of outliers, check on type of data)
  - Regular generation of reports to indicate data elements that do not satisfy a predetermined set of data validation rules

# Credit Risk – Skills Gaps

## • Issues

- New responsibilities for internal audit and regulatory reporting functions
  - Validation of models / compliance with minimum requirements
  - Regulatory reporting relying on more detailed risk data
- Development needs across organisation, centred around understanding of advanced credit risk methodologies
  - Account officers
  - Credit risk management
  - Senior management

## • Potential solutions

- Involvement of external experts for validation of internal models (e.g. scorecards)
- Internal staff transfers from risk management to finance / regulatory reporting functions
- Re-alignment of functions (e.g. regulatory reporting function moved to risk / portfolio management)
- Training programs at all level to increase knowledge of credit risk quantification methodologies

## Issues Facing Emerging Markets

- Inadequate data for PD, LGD, etc.
- Higher Beta for non-retail.
- Risk weighting for un-rated banks
- Percentage of rated corporates is miniscule

# Rating Systems – Data issues

- **Issues**

- Data histories for estimation of risk parameters
  - Scarce default data for some exposure types
  - Completeness and integrity of data history
  - Length of time series
- Consistency
  - Changes in rating definitions
  - Across geographies, business units
- Compliance with Basel definitions
  - Default data does not encompass all Basel default types
  - LGD calculations not geared toward economic loss

- **Potential solutions**

- *Internal*
  - Development of collateral management and impaired asset systems
    - Consistent collection of collateral data (type & value)
    - Link from loan data to collections, workout, provisioning systems
  - Retroactive collection of loss data for LGD estimation on samples
    - LGD calculation methodology
    - LGD values in accordance with Basel definition
- *External*
  - Data pooling for default / rating model development / validation; LGD data pooling initiatives.

# General requirements for use of IRB

- Adoption of IRB across a banking group within a reasonably short time frame
  - across all asset classes
  - across all relevant business units
- Some exceptions:
  - “Permanent partial use” for sovereign and bank exposures
  - Exclusions based on materiality possible
- Minimum of five years’ worth of data for PD estimates, seven years for LGD and EAD estimates
  - Retail exposures require only five years of PD/LGD or EL data
  - During the transition phase, two years’ worth of data will be sufficient
- Use of a rating system in line with requirements for at least 3 years prior to implementation (two years during transition)