CR => PD/LGD/EAD/Maturity

MR = VaR & ES

OR = Freq & Severi

Lecture

IAQS INSTITUTE OF ACTUARIAL & QUANTITATIVE STUDIES

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Class: TY BSc

Subject : Basel

Subject Code: PUSASQF606B

Chapter: Unit 1 Chapter 2

Chapter Name: Basel regulation: Overview

Today's Agenda

1. What are Basel Accords?

1. History
   1. Laying the foundation

3. Basel summary
   1. Comparison

EL => PD × LGD × EAD

UL =>

CL =>

T_1

RWA

ASSETS			Assets	RWA
CASH	0%	*	100	0
Govt Sec	20%		100	20
RE	50% ~~100%~~		100	50
Corp loans	100%		100	100
			400	170
				* 8%
MBS	150%			

	100	100	100	100	100
RWA	0	10	20	50	150
Cap@8%	0%	0.8%	1.6%	4%	12%

1 What are Basel Accords?

The Basel Accords refers to a set of banking supervision regulations set by the Basel Committee on Banking Supervision (BCBS).

Their key function is:

1. To ensure that banks hold **enough cash reserves** to meet their financial obligations and survive in financial and economic distress.
2. To **strengthen** corporate governance, risk management, and transparency.
3. The regulations are considered to be the most **comprehensive set of regulations** governing the international banking system.

Asset	Liab
HL CR PL	CASA TD 100

3%

Basel

2 History

- The Basel Committee – initially named the Committee on Banking Regulations and Supervisory Practices – was established by the central bank Governors of the Group of Ten countries at the end of 1974 in the aftermath of serious **disturbances in international currency and banking markets** (notably the failure of Bankhaus Herstatt in West Germany).

- The Committee, headquartered at the Bank for International Settlements in Basel, was established to **enhance financial stability** by improving the **quality of banking supervision worldwide**, and to serve as a forum for regular cooperation between its member countries on banking supervisory matters. The Committee's first meeting took place in February 1975, and meetings have been held regularly three or four times a year since.

- The BCBS describes its original aim as the enhancement of "financial stability by improving supervisory knowhow and the quality of banking supervision worldwide." Later, the BCBS turned its attention to **monitoring and ensuring the capital adequacy of banks and the banking system**.

1988

1) Stability
2) Supervision
3) Monitering

2 History

- The meetings are named "Basel Accords" since the BCBS is headquartered in the offices of the Bank for International Settlements (BIS) located in Basel, Switzerland.
- Since its inception, the Basel Committee has expanded its membership from the G10 to 45 institutions from 28 jurisdictions.
- Member countries include Australia, Argentina, Belgium, Canada, Brazil, China, France, Hong Kong, Italy, Germany, Indonesia, India, Korea, the United States, the United Kingdom, Luxembourg, Japan, Mexico, Russia, Saudi Arabia, Switzerland, Sweden, the Netherlands, Singapore, South Africa, Turkey, and Spain.

2.1 Laying the foundation

- At the outset, one important aim of the Committee's work was to **close gaps in international supervisory** coverage so that

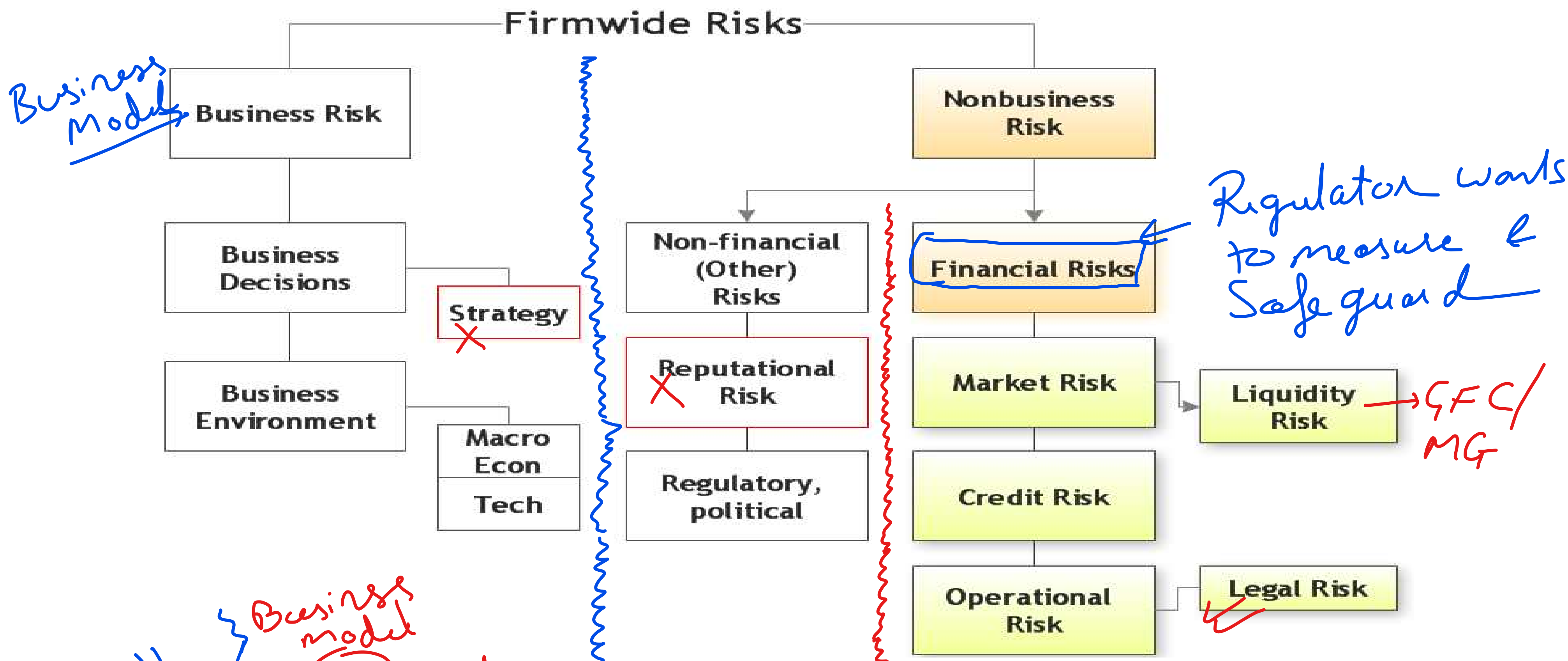
i. no banking establishment would **escape supervision**; and

ii. **supervision would be adequate** and consistent across member jurisdictions.

A first step in this direction was the paper issued in 1975 that came to be known as the "Concordat".

- The Concordat set out principles for sharing supervisory responsibility for banks' foreign branches, subsidiaries and joint ventures between host and parent (or home) supervisory authorities.
- In May 1983, the Concordat was revised and re-issued as Principles for the supervision of banks' foreign establishments.

2.1 Laying the foundation



eg:- UNI
SLICE
Zolve
BNPL

Business model VS Financial Risk.

3 Basel Summary

Basel I summary

Stability

The Basel Committee was formed in response to the **liquidation of a Europe-based bank in 1974** This incident prompted the G-10 nations to set up the Basel Committee on Banking Supervision (BCBS), under the direction and supervision of the Bank of International Settlements, which is in Basel, Switzerland. As a result of the liquidation of the bank, this committee instigated the Basel 1 Accord in 1988.

Basel II summary

Supervision

The Basel II Accord was introduced **following substantial losses in the international markets** since 1992, which were attributed to **poor risk management practices**. The Basel II Accord makes it mandatory for financial institutions to **use standardized measurements for credit, market risk, and operational risk**. However, different levels of compliance allow financial institutions to pursue advanced risk management approaches to free up capital for investment.

Basel III summary

Monitoring

Basel III is an extension of the existing Basel II Framework, and introduces **new capital and liquidity standards** to strengthen the regulation, supervision, and risk management of the whole of the banking and finance sector.

3.1 Metallgesellschaft

1) Basis Risk
2) Liquidity Risk.
3) Operational Risk.

MG → SHORT Position (Fixed Sales Contract (with Customer) "FORWARD"

HEDGE

Long FUTURE

PRICES DECLINED → FUTURE LOSSES M2M

Key Factors

- Stack-and-roll hedge exposes to basis risk
- Shift to contango created losses on roll return
- Accounting standards required recognition of futures losses but not forward gains!

Lessons Learned

- Short-term hedge against long-term contracts requires liquidity
- Uncertainty of roll returns
- Liquidity consideration may favor other than minimum variance hedge

3.1 LTCM

→ Relative Pricing Strategy

→ Volatility strategy

→ Russian default & devaluation

CHANGE in market dynamics

BSM model → ~~Constant Volatility~~

Price Convergence X

Contango / Backwardation

Key Factors	Lessons Learned
• Failure to supplement VaR with a full set of stress test scenarios • Failure to account for illiquidity of positions during stress • (Leverage too high?) • (Too much faith in models?)	• Stress scenarios including extreme stresses and interaction between market & credit risk • Incorporate liquidity • Initial margin needed if counterparty is trader • Greater counterparty disclosures

JAQS

3.2 Comparison

Basel 1	Basel 1 was formed with the main objective of enumerating a minimum capital requirement for banks. Stabilize
Basel 2	Basel 2 was established to introduce supervisory responsibilities and to further strengthen the minimum capital requirement. Supervize
Basel 3	Focus of Basel 3 was to specify an additional buffer of equity to be maintained by banks. Monitoring

Tier 1

Tier 2

3.2 Comparison

RWA's

Risk Focus	
Basel 1	Basel 1 has the minimal risk focus out of the 3 accords.
Basel 2	Basel 2 introduced a 3 pillar approach to risk management.
Basel 3	Assessment of liquidity risk in addition to the risks set out in Basel 2 was introduced by Basel 3. GFC

3.2 Comparison

Risks Considered	
Basel 1	Only credit risk is considered in Basel 1. 1988 1995 1996 Amendment to Basel I
Basel 2	Basel 2 includes a wide range of risks including operational, strategic and reputational risks. 2004
Basel 3	Basel 3 includes liquidity risks in addition to the risks introduced by Basel 2. GFC

3.2 Comparison

Predictability of Future Risks	
Basel 1	Basel 1 is backward-looking as it only considered the assets in the current portfolio of banks. COUNTRY STATUS
Basel 2	Basel 2 is forward-looking compared to Basel 1 since the capital calculation is risk-sensitive. Modelling
Basel 3	Basel 3 is forward looking as macroeconomic environmental factors are considered in addition to the individual bank criteria.

Overview

BASEL I

2004 II

II.5 / III

1988

CR.

OECD / Non-OECD

RWA

0 - 100%

Cap - 8%

Cooke Ratio

Amendment

1995

~~CR~~

Nothing introduced.

1996

(MR)

1) Std

No Model

2) IM

VaR

99% | 10yr

CB ~~OR~~

1) Std

%

2) IR-F

PD → Fixed

3 IR-A

PD | LGD

EAD | M

OR

1) BI

GI * 15%

2) SA

12% | 15% | 18%

3) AMA

VaR

Higher

1)

2)

III
OUTPUT FLOOR
1250%

1988

I

CR

OECD

NON-OECD

RWA 0-100%

loan 100 x 100% = 100 x 8% = 8

1995

AMMENDMENTS

CR

NETTING

1996

MR

STANDARDIZED

IM INTERNAL MODELS

99.9%, 10 DAYS

2004

II

OR

BASIC 15% x GI

STANDARDIZED
12% 15% 18%

ADVANCED MEASUREMENT 99.9 1-YR

CR

0 - 150%

RWA% 100

STANDARDIZED
AKA EXT RATINGS

IR-FOUNDATION
PD ONLY

IR-ADVANCED
PD, LGD, EAD, M