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MARKET RISK
BASEL III- POST CRISIS REFORMS

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WHY BASEL III – POST CRISIS REFORMS?

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Address a number of shortcomings in the pre-crises regulatory framework

Reduce reliance on external credit ratings

Enhancing the robustness and risk sensitivity of the standardized approaches for Credit , Operational and Market Risks

Limiting the use of internally-modelled approaches to reduce complexity &excessive variability of RWA to restore credibility in RWAs calculation

Complementing the risk-weighted capital ratio with a finalized leverage ratio and a revised capital floor

Promote comparability of risk based measures between banks

CAPITAL ADEQUACY RATIO (CAR)

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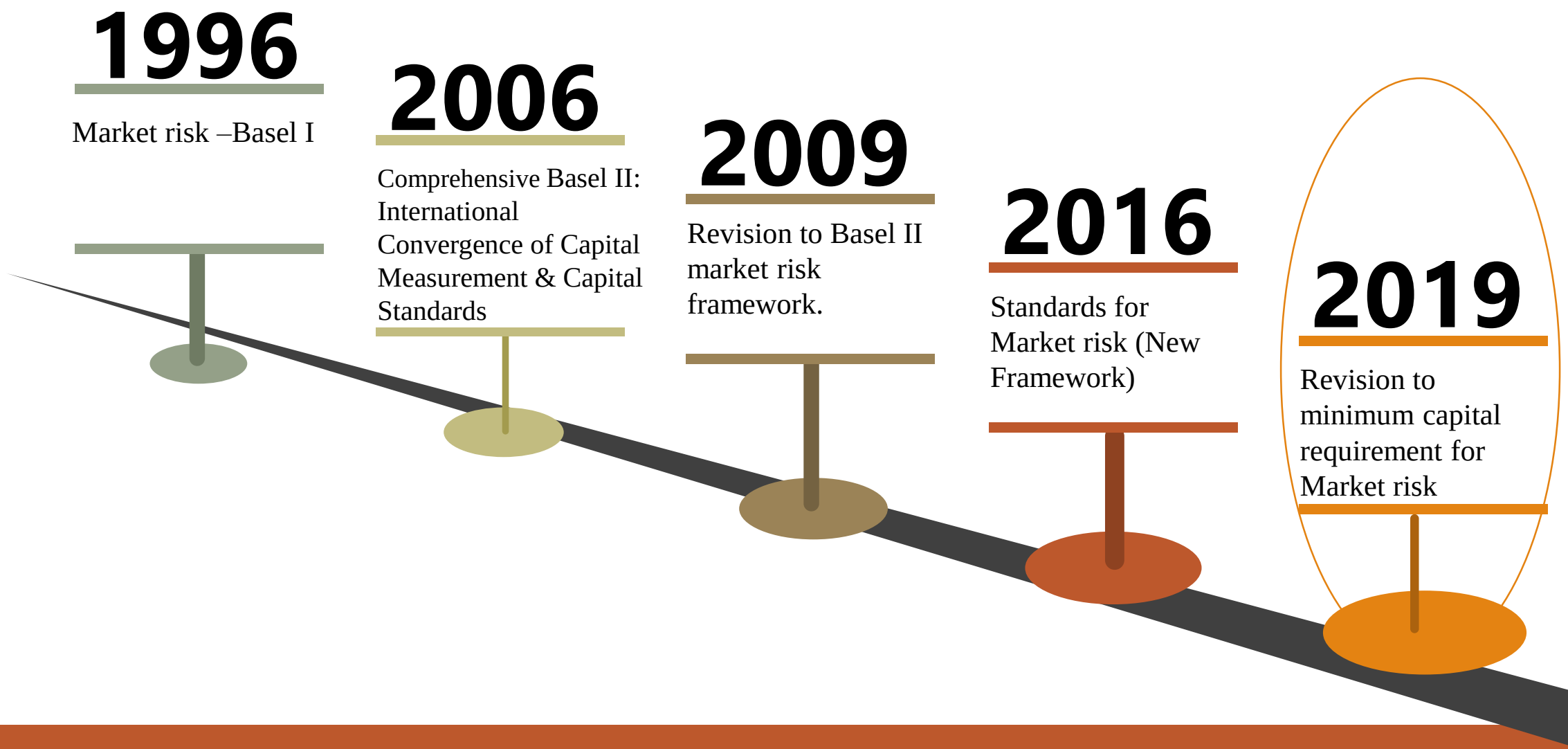
Min CAR *(excluding capital & DSIBs buffers)* = $\frac{\text{Regulatory Capital}}{\text{Risk weighted Assets (RWA)}} \geq 10\ \%$

Credit Risk

Market Risk

Operation Risk

MARKET RISK HISTORY – BASEL COMMITTEE



MAIN ENHANCEMENTS TO THE MARKET RISK FRAMEWORK

Fundamental review of trading book - regulatory boundary between trading & banking books

- New defined list of instruments presumed to be included in the trading book or banking book. Deviation requires explicit approval from supervisor.
- Strict limits on the movement of instruments between the books after initial designation. Should a re-designation be approved a capital benefit will not be allowed.

Enhanced qualitative requirements

Policy frameworks where banks need to review and revise their internal policies and related procedures annually, documentations requirements and supervisory powers.

Introducing an alternative simplified standardized approach

A standardized alternative simplified approach has been developed for banks with small or non-complex trading portfolios recalibration .

MAIN ENHANCEMENTS TO THE MARKET RISK FRAMEWORK (CONT.)

INTERNAL MODELS

Enhanced risk sensitivity

The risk sensitivity of the standardized approach has been enhanced, sensitivity-based method requires sound price models.

Revamping the assessment process

To determine whether a bank's internal risk management models appropriately reflect the risks of individual trading desks (the so-called profit and loss attribution test).

Revising the requirements for identifying risk factors

Revising requirements for identifying risk factors that eligible for modelling and the capital requirement applicable to risk factors that are deemed non-modellable.
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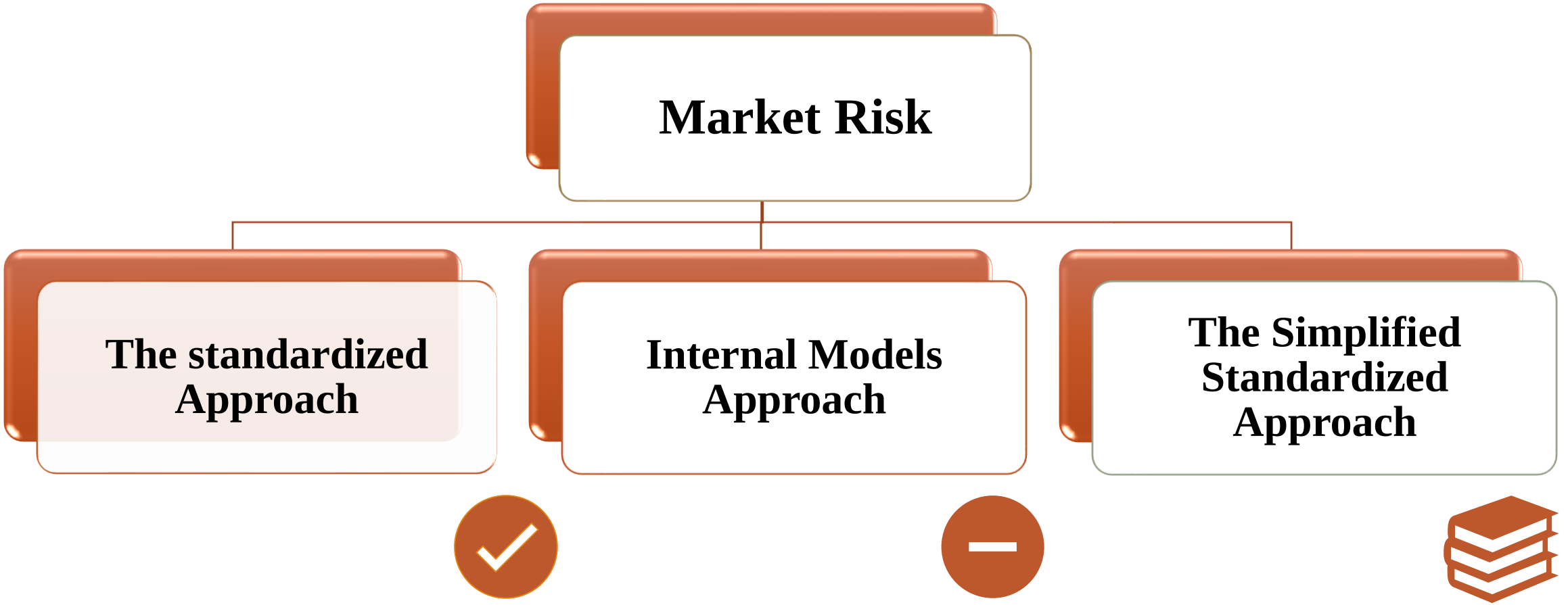
APPROACHES FOR MARKET RISK



1- STANDARDIZED APPROACH

- It is the basic **'one-size fits all' method** that any bank can use. The Market Risk new amendments provides detailed guidance on how capital charges for market risk should be calculated using this approach.

- It allows banks very little discretion as all banks using this method must use it for all their exposures in the same way.

- It comprises 3 components: *capital requirement under sensitivities-based method*, *the default risk capital (DRC) and the residual risk add-on (RRAO).*

2- INTERNAL MODELS APPROACH - IMA

- Banks with more sophisticated trading protfolios can choose the internal models approach, *subject to supervisory validation and approval*.

- Banks have flexibility n devising the precise nature of their *expected shortfall (ES) models*, but must follow certain minimum standards.

- Capital requirement is calculated for *modellable & non-modellable and risk factors*.

- Capital requirement for *ineligible trading desks* is calculated by using the standardized approach.

3- THE SIMPLIFIED STANDARDIZED APPROACH

- Supervisors may allow banks with smaller or simpler trading books to use the simplified alternative to the standardized approach.

- Indicative criteria for the appropriateness of the simplified alternative:

(a) The bank should not be a global systemically important bank (G-SIB).

(b) The bank should not use the IMA for any of its trading desks.

(c) The bank should not hold any correlation trading positions.

EGYPT'S CURRENT REGULATORY STATUS

Under the capital requirements framework as per Basel standards, Banks currently use ***Basel II Standardized approach*** *for calculating capital requirements for Market Risk , However, the* ***Simplified Standardized approach under Basel III post-crisis reforms*** *was introduced to the Market in the form of a discussion paper to be issued later as a final regulation.*

CAPITAL REQUIREMENT FOR MARKET RISK

SIMPLIFIED STANDARDIZED APPROACH

Total Capital requirement (CR) for market risk= (CR_{IRR}* 1.3)+(CR_{EQ}* 3.5)+(CR_{FX}*1.2)

Where:

- CR_{IRR}: Capital requirement for *interest rate risk*, incl. requirements for options risk from debt instruments.
- CR_{EQ}: Capital requirement for *equity risk*, incl. requirements for options risk from equities.
- CR_{FX}: Capital requirement for *FX risk* , incl. requirements for options risk from FX.
- For capital requirement for *mutual funds*, banks should include instruments - of which the fund is composed - within the related market risk type according to the mutual funds approaches.

INTEREST RATE RISK

SIMPLIFIED STANDARDIZED APPROACH

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The trading book instruments covered include :

- Fixed-rate debt securities.
- Floating-rate debt securities.
- Interest rate-related derivatives - *in Egypt only for hedging purposes*.
- Instruments with similar behavior, including:
  - Non-convertible preference shares.
  - Convertible bonds if they trade like debt securities.

INTEREST RATE RISK (CONT.)

SIMPLIFIED STANDARDIZED APPROACH

The minimum capital requirement for interest rate risk is expressed in terms of:

General Risk	Specific Risk
Risk of losses caused by adverse movements in the price of debt instruments due to adverse changes in the *general level of interest rates*.	It refers to risk of losses caused by adverse movements in the price of a *debt instrument* due to factors related to the *individual issuer's situation*.
Calculated using **maturity method** (vertical/ horizontal disallowances) or **duration method**.	Calculated based on type of instrument, external credit ratings and residual maturity.

GENERAL INTEREST RATE RISK: MATURITY METHOD

Scope of the Maturity Method

- *Separate maturity ladders* should be used for each currency and capital requirements should be calculated for each currency separately, then summed with no offsetting .
- Long or short positions in debt securities are slotted into a maturity ladder comprising *13 or 15 time bands* depending on coupon rate.
- *Opposite positions* in identical instruments (same issue, coupon, currency, maturity) as well as closely matched interest-related derivatives can be omitted from maturity framework.
- *Fixed rate instruments* should be allocated according to the residual term to maturity and *floating-rate instruments* according to the residual term to the next repricing date.

GENERAL INTEREST RATE RISK: MATURITY METHOD (CONT.)

SIMPLIFIED STANDARDIZED APPROACH

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Maturity method: time bands and weights

Coupon 3% or more	Coupon less than 3%	Risk weight
1 month or less	1 month or less	0.00%
1 to 3 months	1 to 3 months	0.20%
3 to 6 months	3 to 6 months	0.40%
6 to 12 months	6 to 12 months	0.70%
1 to 2 years	1.0 to 1.9 years	1.25%
2 to 3 years	1.9 to 2.8 years	1.75%
3 to 4 years	2.8 to 3.6 years	2.25%
4 to 5 years	3.6 to 4.3 years	2.75%
5 to 7 years	4.3 to 5.7 years	3.25%
7 to 10 years	5.7 to 7.3 years	3.75%
10 to 15 years	7.3 to 9.3 years	4.50%
15 to 20 years	9.3 to 10.6 years	5.25%
Over 20 years	10.6 to 12 years	6.00%
	12 to 20 years	8.00%
	Over 20 years	12.50%

Zero-coupon bonds and *deep-discount bonds* (i.e. bonds with coupon of less than 3%) are slotted on the second column

GENERAL INTEREST RATE RISK: MATURITY METHOD (CONT.)

SIMPLIFIED STANDARDIZED APPROACH

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Horizontal disallowance: Capital requirement for matched positions within and between zones

Zones[7]	Time band[7]	Within the zone	Between adjacent zones	Between zones 1 and 3
Zone 1	0-1 month 1-3 months 3-6 months 6-12 months	40%	40%	100%
Zone 2	1-2 years 2-3 years 3-4 years 4-5 years	30%	40%	
Zone 3	5-7 years 7-10 years 10-15 years 15-20 years Over 20 years	30%		

SPECIFIC INTEREST RATE RISK

SIMPLIFIED STANDARDIZED APPROACH

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Specific risk = Exposure * Capital requirement

Categories	External credit assessment	Specific risk capital requirement
Government	AAA to AA–	0%
	A+ 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)
	BB+ to B–	8.00%
	Below B–	12.00%
	Unrated	8.00%
Qualifying		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)
Other	BB+ to BB–	8.00%
	Below BB–	12.00%
	Unrated	8.00%

SPECIFIC INTEREST RATE RISK(CONT.)

SIMPLIFIED STANDARDIZED APPROACH

- ***The government category*:**
  - T-Bills and debt instruments in EGP issued or guaranteed by Egyptian government or CBE are subject to zero capital charge.
  - Capital charge for T-Bills and debt instruments in foreign currencies issued or guaranteed by Egyptian government or CBE depends on Egypt's external rating.

SPECIFIC INTEREST RATE RISK(CONT.)

SIMPLIFIED STANDARDIZED APPROACH

- ***The qualifying category:*** securities issued by public sector entities and multilateral development banks, and other securities that are:

  - Rated investment grade (IG) by at least two recognized credit agencies; or
  - Rated IG by one rating agency and not less than IG by any other recognized rating agency.
  - Subject to supervisory approval, un-nrated but of comparable investment quality & issuer has listed securities.

EQUITY RISK

SIMPLIFIED STANDARDIZED APPROACH

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The trading book instruments covered include:

- Common stocks.
- Equity derivatives (*in Egypt only for hedging purposes).*
- Convertible securities that behave like equities.
- Commitments to buy or sell equity securities.

EQUITY RISK (CONT.)

SIMPLIFIED STANDARDIZED APPROACH

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The minimum capital requirement for equities is expressed in terms of :

General Risk	Specific Risk
It refers to risk of losses caused by adverse movements in prices of equities due to changes in *equity market* generally.	It refers to risk of losses caused by adverse movements in price of a *specific equity* due to factors related to the individual issuer's situation.
Calculated as 10% of overall net position in an equity market: *(difference between sum of longs and sum of shorts)*	Calculated as 10% of gross equity position in an equity market: *(sum of all long positions and of all short positions)*

MUTUAL FUNDS RISK

SIMPLIFIED STANDARDIZED APPROACH

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- Banks should calculate capital requirement for the risk of mutual funds held in trading book by using one of the **specific methods**:
  1. *Full look-through method*, or
  2. *Partial look-through method*
- These methods are used only if certain criteria are met. If not met, then mutual find units are treated under the Credit Risk framework.

MUTUAL FUNDS RISK (CONT.)

SIMPLIFIED STANDARDIZED APPROACH

1. Full look-through method

- Bank is able to *look through* individual components of fund.
- *Sufficient & frequent information* is provided to bank.
- *Information is verified* by independent third party.
- Capital requirements for general & specific risk should be calculated by *treating positions of mutual funds as positions of underlying investments*. (ex. debt instruments and/or equities).

MUTUAL FUNDS RISK (CONT.)

SIMPLIFIED STANDARDIZED APPROACH

2. Partial look-through method

- Bank is *not fully aware* of mutual fund components.
- Bank obtains *daily price quotes* for fund
- Bank has *access to information* contained in mandate.
- Mandate specifies how its capital is to be allocated to *different investment categories*.

2. Partial look-through method (Cont.)

- Assume fund first invests to the maximum extent allowed under mandate in investment categories attracting the *highest capital requirement.*
- Then, fund continues making investments in *descending order* of riskiness until the maximum total investment limit is reached.
- *Example:* Mandate specifies maximum amount to be invested is 40% and 80% in listed equity and debt instrument respectively.

FOREIGN EXCHANGE RISK

SIMPLIFIED STANDARDIZED APPROACH

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Capital requirement for FX risk measuring risk of holding or taking positions in foreign currencies for whole balance sheet is calculated as follows:

FOREIGN EXCHANGE RISK (CONT.)

SIMPLIFIED STANDARDIZED APPROACH

A bank of which *business in foreign currency is insignificant* and which does not take FX positions for its own account may can be *exempted from FX capital requirements* ***provided that***:

1. Its *foreign currency business*, defined as the greater of the sum of its gross long positions and the sum of its gross short positions in all foreign currencies, *does not exceed 100% of regulatory capital*.

2. Its *overall net open position* does not exceed *2% of its regulatory capital*.

OPTIONS RISK

SIMPLIFIED STANDARDIZED APPROACH

- It is risk of incurring losses due to the change in the value of the contract as a result of the change in the underlying value.

- **Method of Calculation:**

Two approaches are permitted under the simplified standardized approach:

- *The simplified approach* (in case of purchasing options only).
- *The delta - plus approach* (in case of selling options only or both sold & purchased options).

In Egypt, only simplified approach is applied as purchased options for hedging only is permitted.

OPTIONS RISK – THE SIMPLIFIED APPROACH

SIMPLIFIED STANDARDIZED APPROACH

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Capital requirement

(Market value of underlying * sum of specific & general capital charges % of underlying)

- any positive intrinsic value of option

**Intrinsic value: is the positive difference between strike price and market price of underlying when the option is "in the money".*

MAJOR DIFFERENCES BETWEEN CURRENT AND NEW REGULATION

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1. Standards issued by BCBS:

Current regulation	New regulation
Basel II issued in June 2006	Basel III – post crisis reforms issued in Jan 2019

2. Measurement approach:

Current regulation	New regulation
The standardized approach	The simplified standardized approach

3. Treatment of Settlement Risk:

Current regulation	New regulation
Treated under Market Risk	Treated under Credit Risk

MAJOR DIFFERENCES BETWEEN CURRENT AND NEW REGULATION (CONT.)

4. Exemption threshold for capital requirement:

Current regulation	New regulation
If the total trading positions are less than 5% of total assets and where they do not exceed 50 million EGP, trading book is exempted from capital charge (but FX risk is calculated).	No exemption.

5. Market Risk capital charge calculation:

Current regulation	New regulation
Capital requirements for each type of market risk are simply added together without being multiplied by a scaling factor.	Each type of market risk is multiplied by a scaling factor and then added together: *CR for interest rate risk * 1.30* *CR for equity risk * 3.5* *CR for FX risk * 1.20*

MAJOR DIFFERENCES BETWEEN CURRENT AND NEW REGULATION (CONT.)

6. Interest Rate Risk methods:

Current regulation	New regulation
Maturity method, or Duration method (after CBE approval)	Maturity method

7. Equity risk:

Current regulation	New regulation
Preferential treatment for liquid and well diversified markets (5% for general & specific risks instead of 10%) .	No preferential treatment.

MAJOR DIFFERENCES BETWEEN CURRENT AND NEW REGULATION (CONT.)

8. Investments in mutual funds:

Current regulation	New regulation
When specific criteria are met, specific methods are used: • Full look through method, or • Partial look through method If criteria are not met, banks must apply the residual method, whereby **32% is applied as a capital requirement.**	Same specific methods are used but if criteria are not met, investments **are excluded from the Market Risk framework** and are included in the Credit Risk framework.

MAJOR DIFFERENCES BETWEEN CURRENT AND NEW REGULATION (CONT.)

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9. FX risk:

Current regulation	New regulation
Banks are exempted from calculation of FX capital charge if overall net open position is **less than 2% of regulatory capital.**	*Banks are exempted from capital requirement if:* (1) its foreign currency business, does not exceed 100% of regulatory capital; **and** (2) its overall net open position does not exceed 2% of its regulatory capital.

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Thank You