



# Capital and Risk in Banking



# Why Do Banks Hold Capital?



## Companies in all industries face various risks



### Risks

Impact **future financial performance** of the company



### Capital (Equity)

Buffer to **absorb future losses**

Ensure their assets are always **greater than their liabilities**



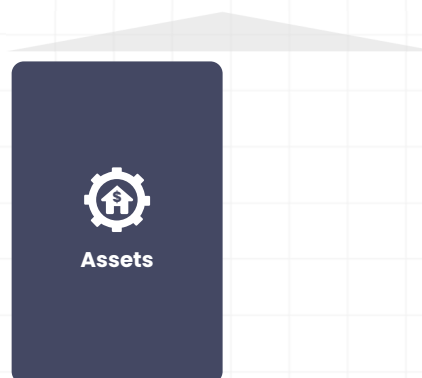
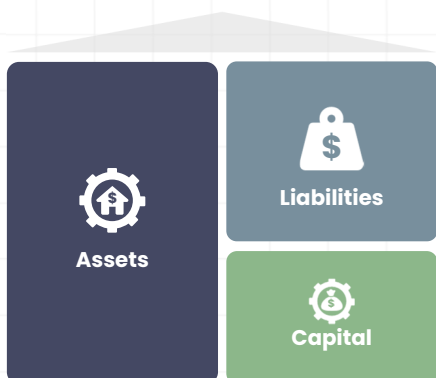
Loans default

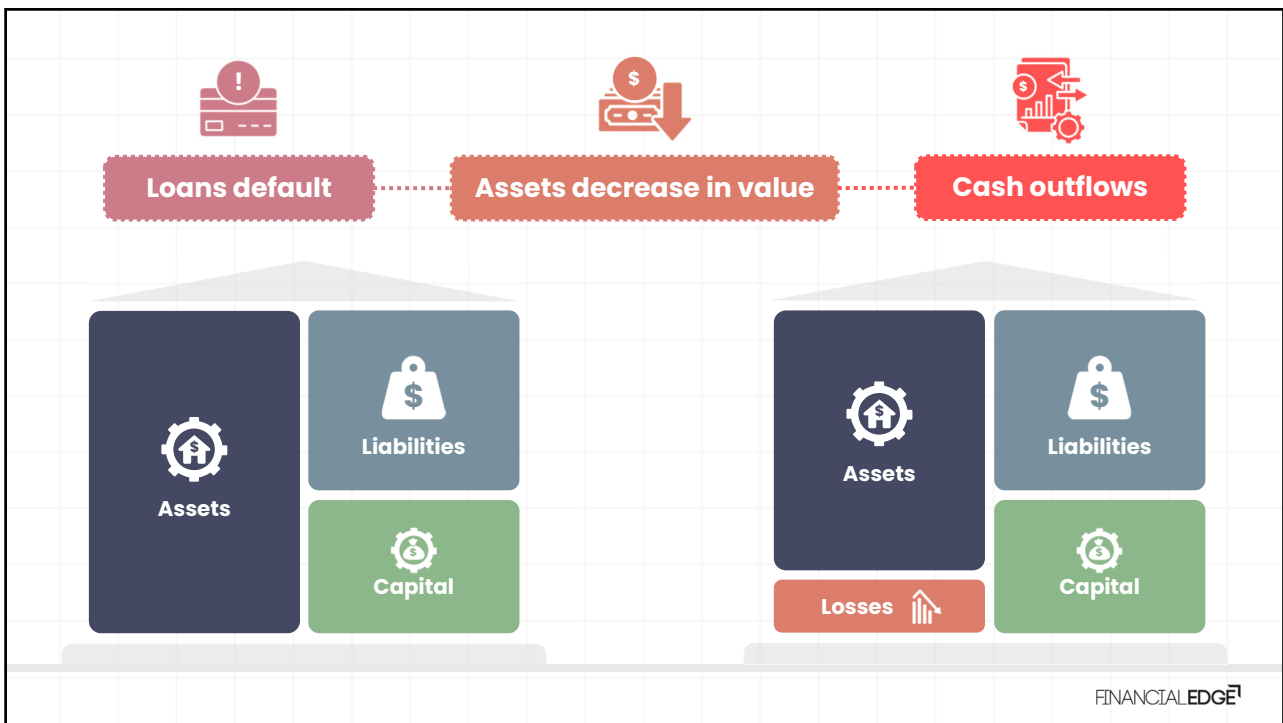
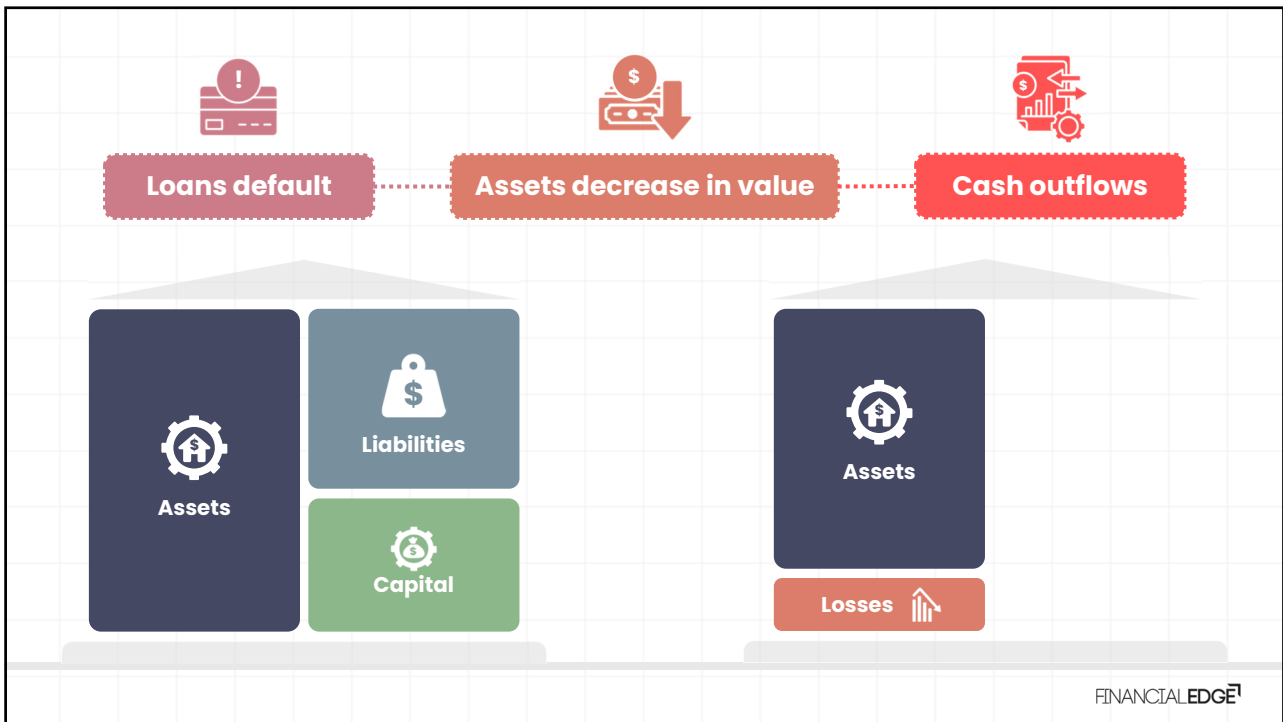


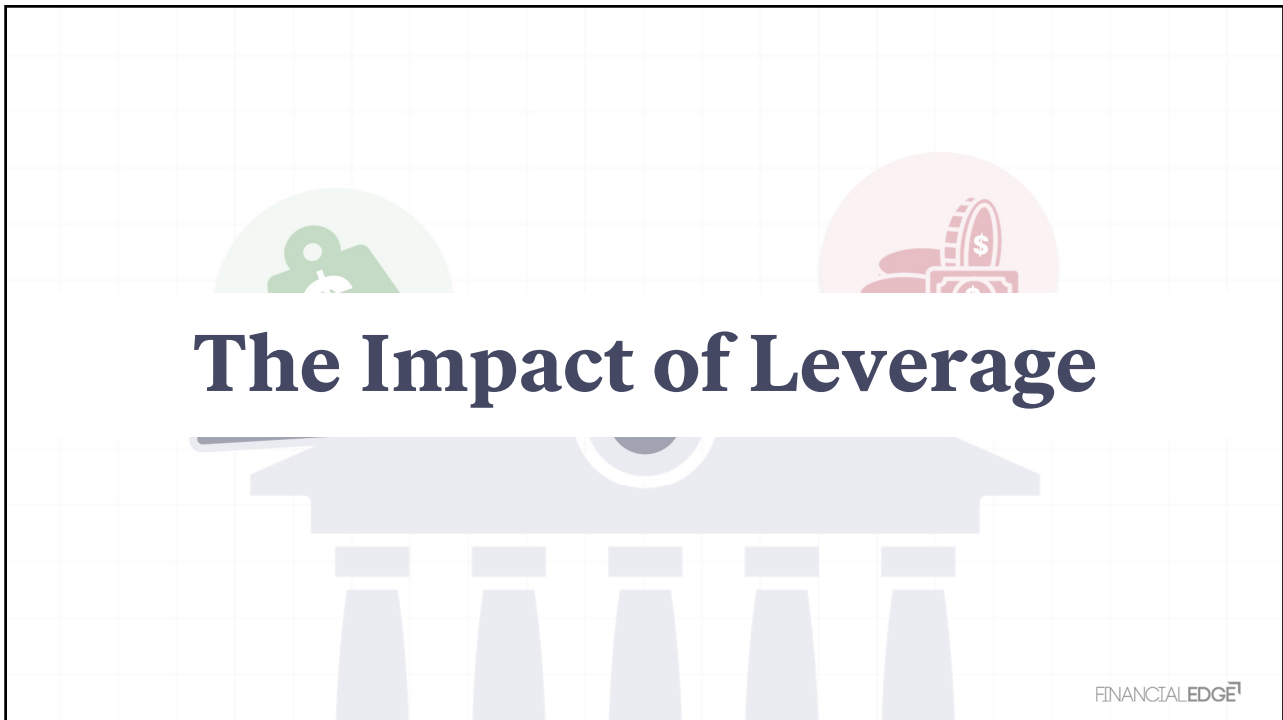
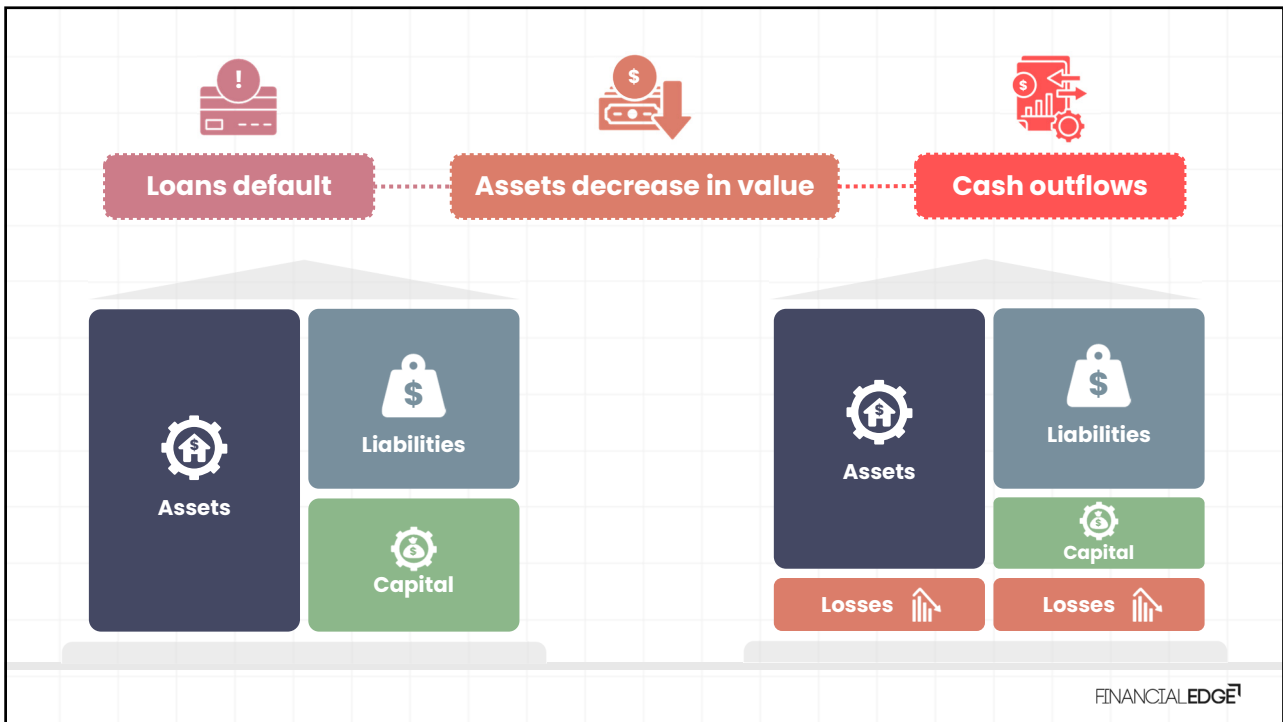
Assets decrease in value

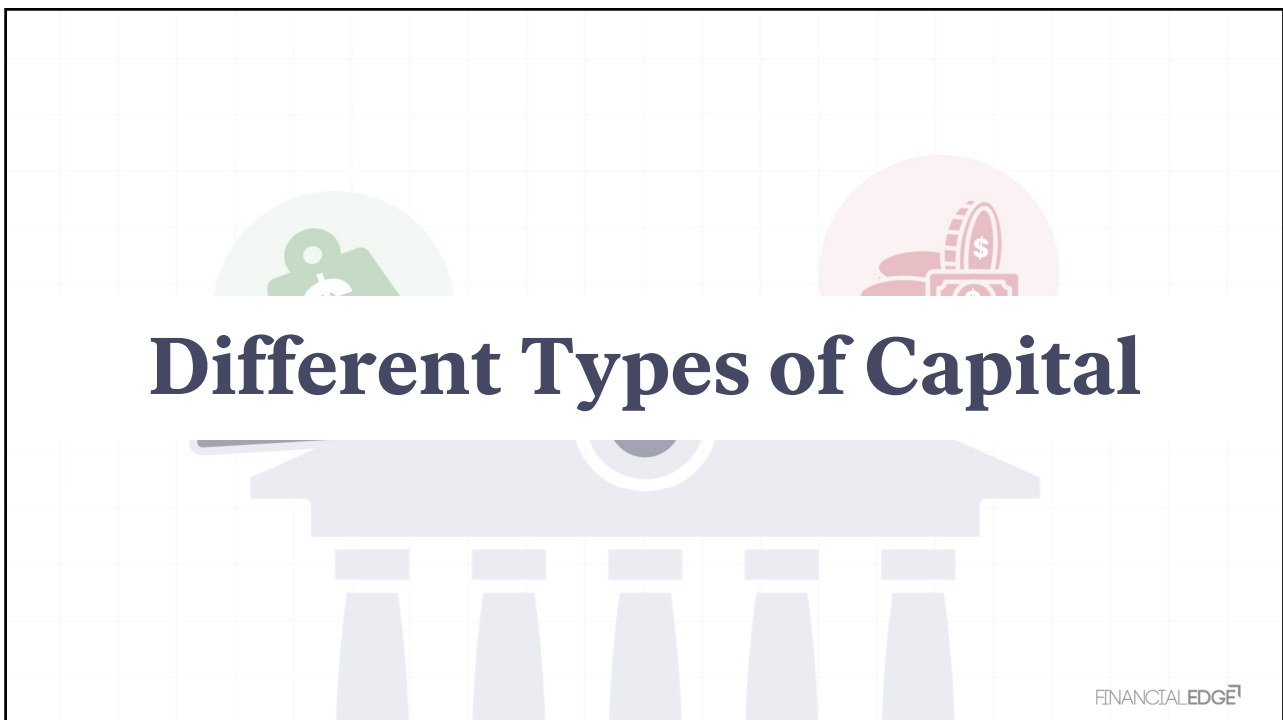
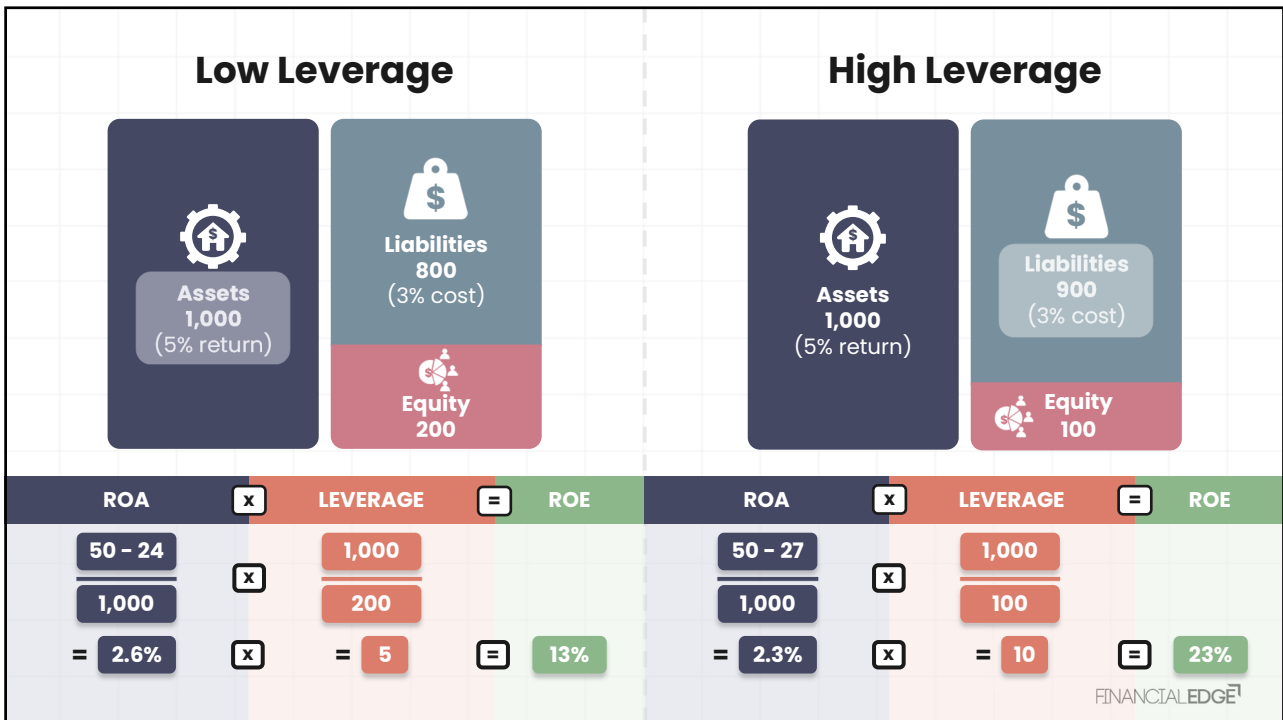


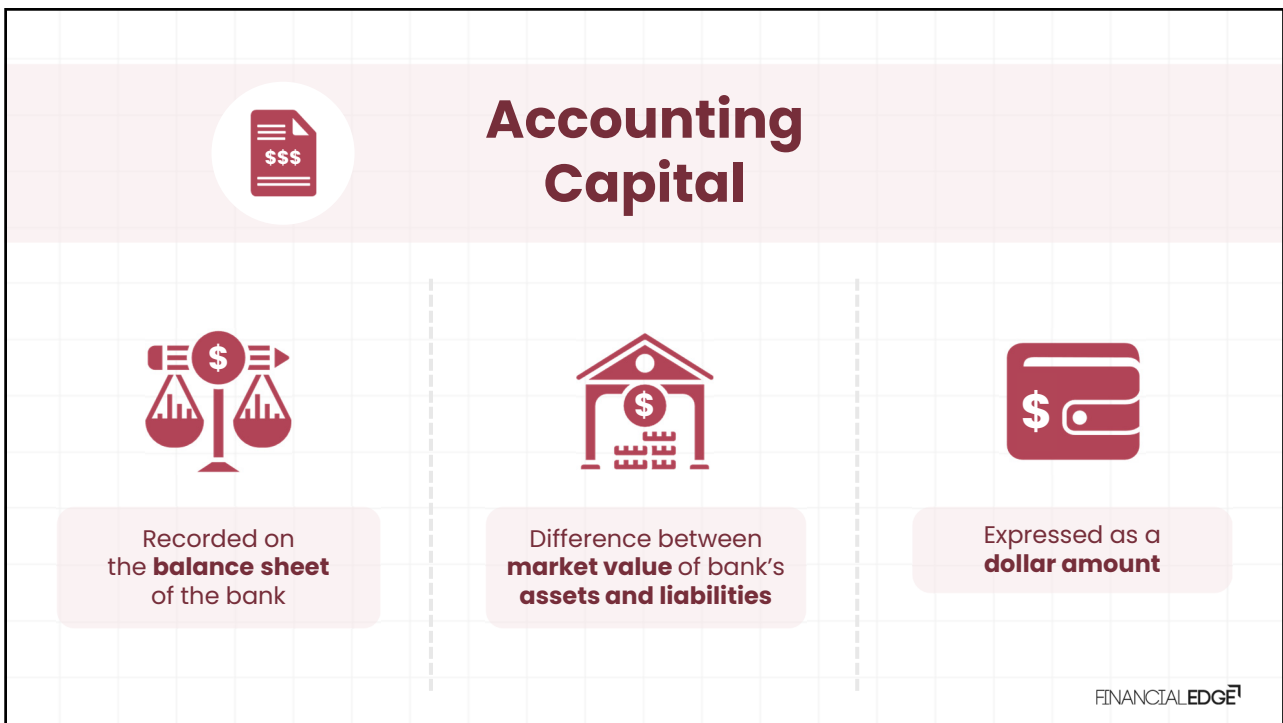
Cash outflows

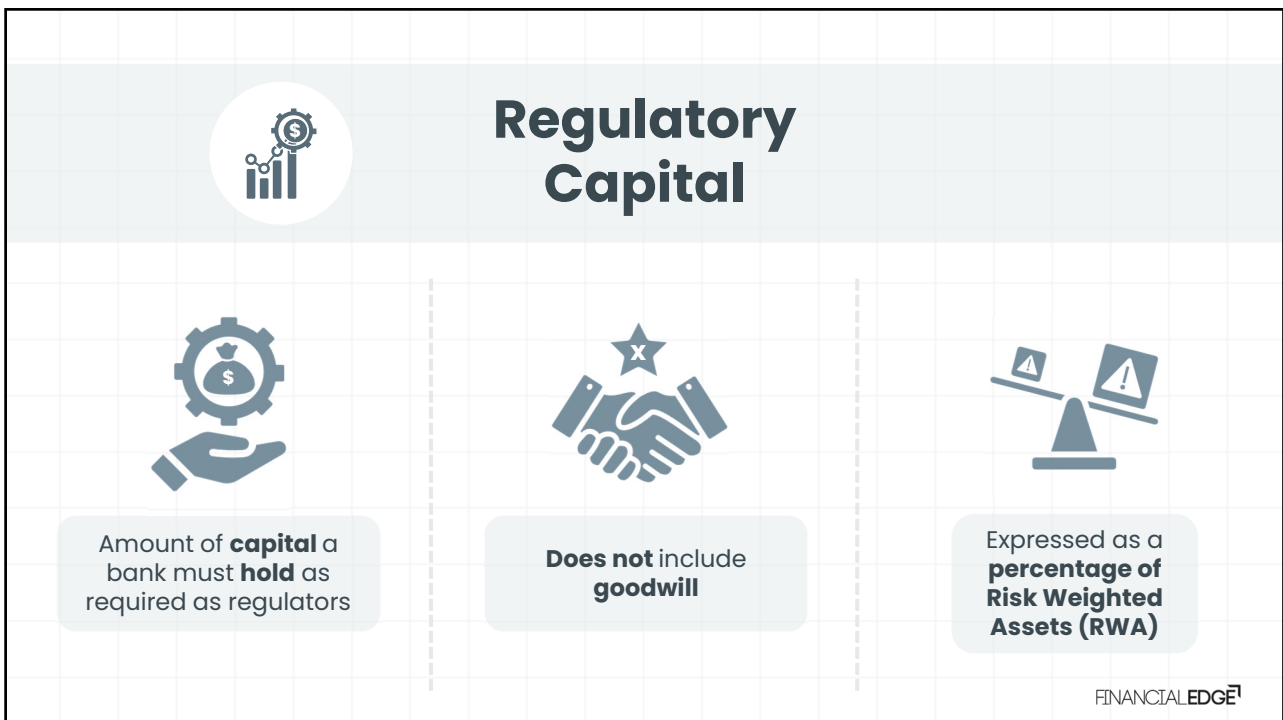
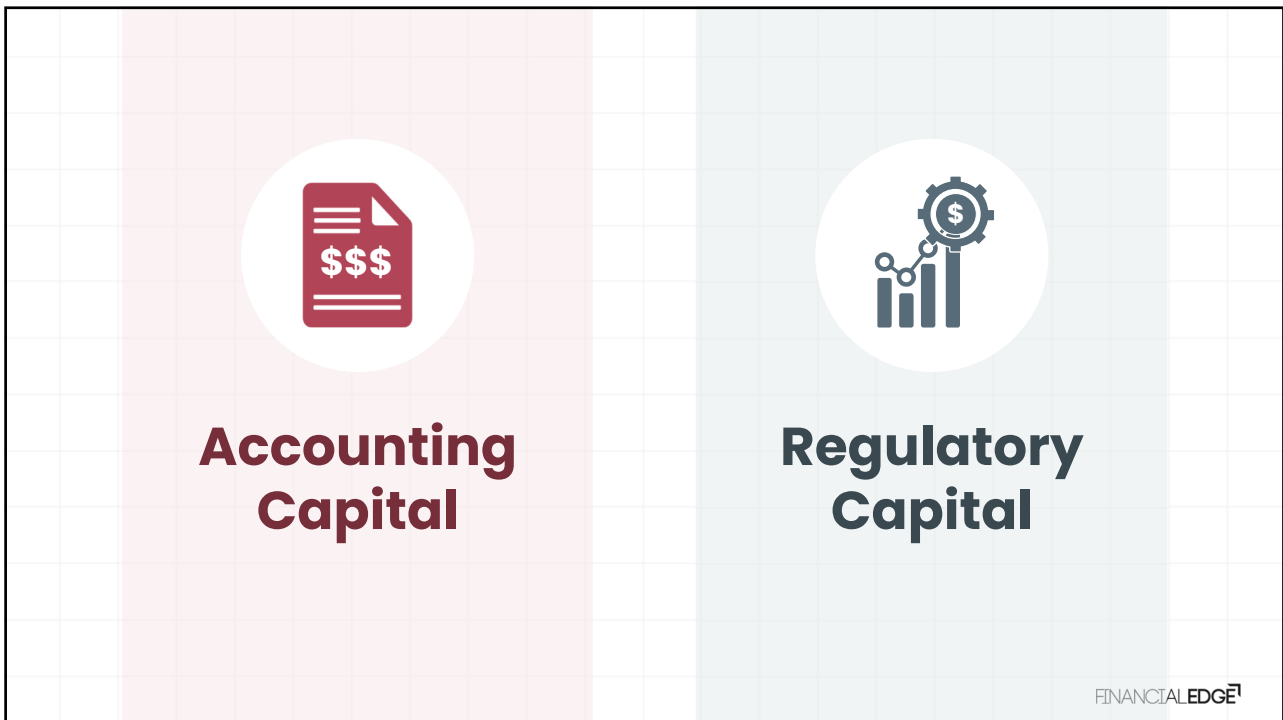














# Capital Requirements Ratio

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The riskier **assets** a **bank holds**,  
the **more capital** it needs to **provide as a buffer**



## Riskier Assets = Higher RWA\*

\*Risk Weighted Assets

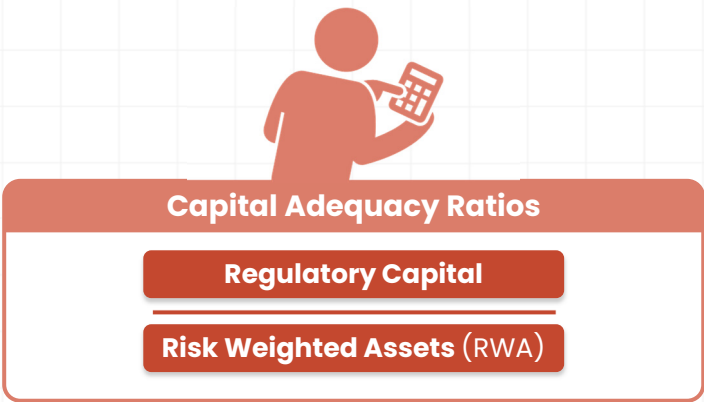
Must hold a higher amount of **regulatory capital**

Regulators can also **govern**:

What **can** and **can't**  
be used

Different levels  
of **quality** of  
qualifying capital

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**Capital Adequacy Ratios**

**Regulatory Capital**

**Risk Weighted Assets (RWA)**

There are **many different categories** of 'capital' under the **Basel banking regulations**



There are many **capital adequacy requirements** a bank must comply with

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## Two Approaches



**Standardized Approach**



**Advanced Approach**

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## Standardized Approach



The bank applies **risk weights** given by their **regulators** to different **types of assets**



Riskier **assets**



Higher **weights**



Bank required to hold more **regulatory capital**

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## Two Approaches

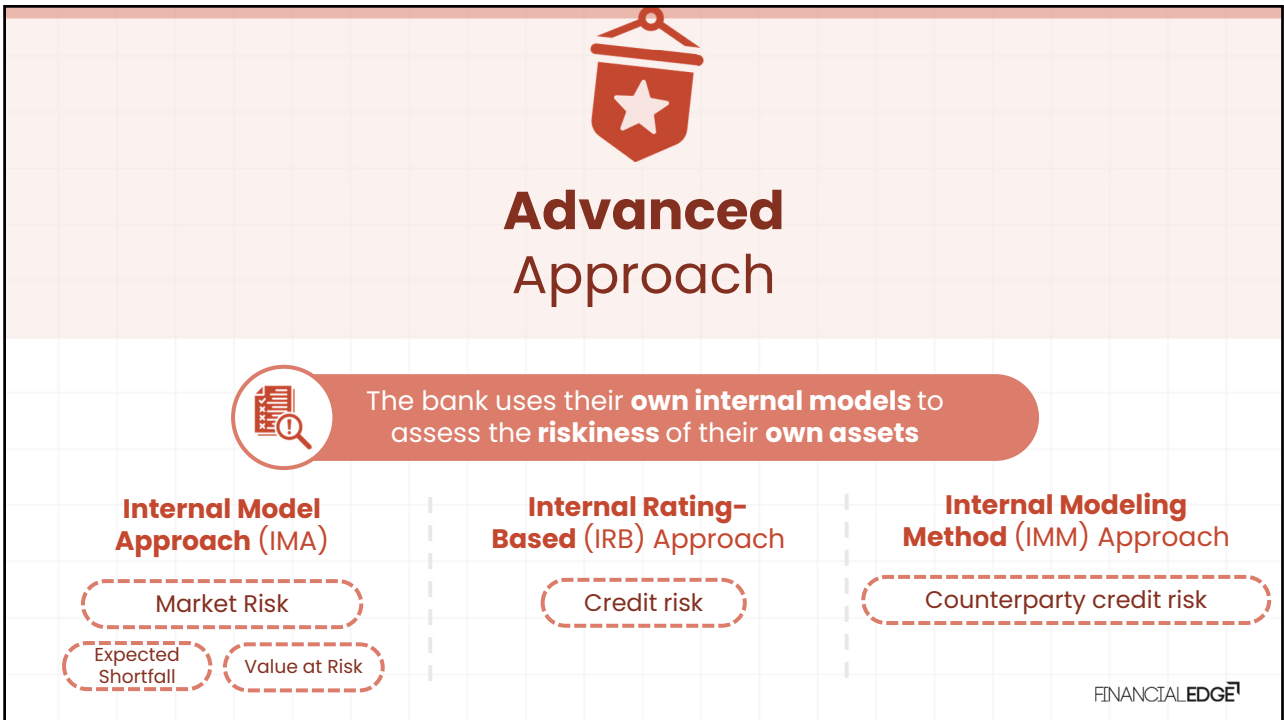
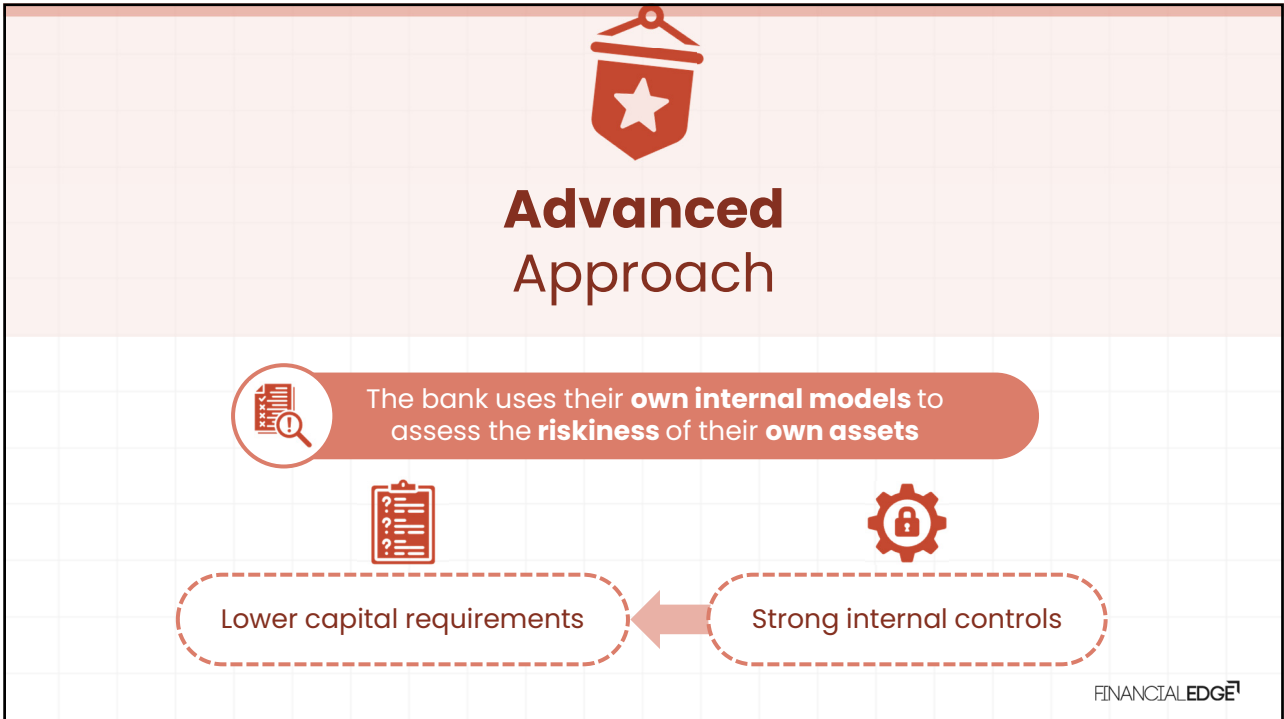


**Standardized Approach**



**Advanced Approach**

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# RWA – Standardized Approach

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Using **S&P credit ratings**, Basel III applies the following weights under the **standardized approach for RWA**.

National regulators have scope for **discretion**

	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated
<b>Government Debt</b>	0%	20%	50%	100%	150%	100%
<b>Bank Debt</b>	20%	50%	100%	100%	150%	100%
<b>Corporate Debt</b>	20%	50%	100%	100%	150%	100%

Other Risk Weightings	
 <b>Retail Loans</b>	75%
 <b>Residential Mortgages</b>	35%
 <b>Commercial Mortgages</b>	100%
 <b>Cash</b>	0%
 <b>Other Assets</b>	100%

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# Qualifying Capital



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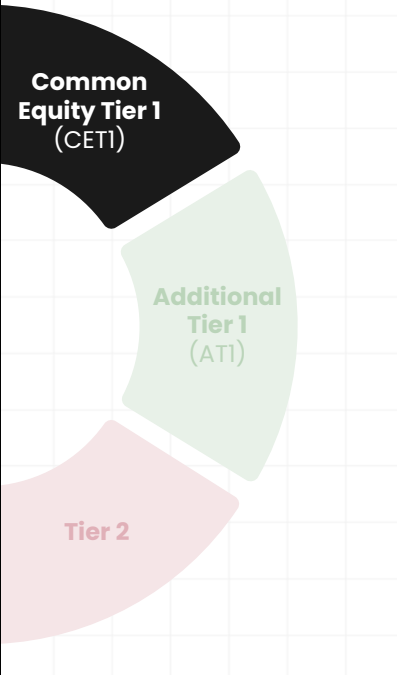


**Common  
Equity Tier 1  
(CET1)**

**Additional  
Tier 1  
(AT1)**

**Tier 2**


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## Common Equity Tier 1 (CET1)

Highest quality as **absorbs losses** immediately


**Consists (mainly) of:**




Common stock



Additional paid in capital




Retained earnings




Other comprehensive income and reserves

**Important deductions:**

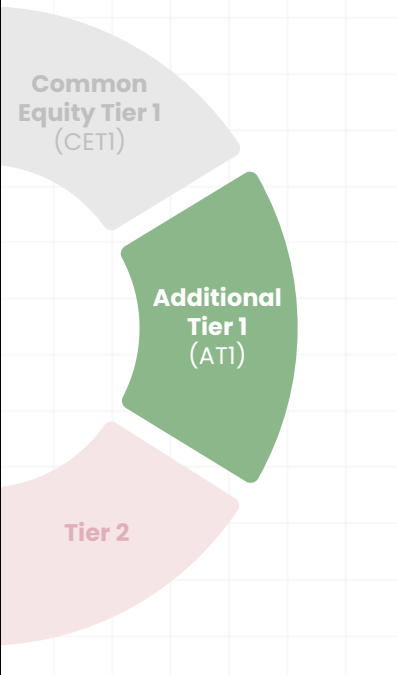


Goodwill




Intangible assets

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## Additional Tier 1 (AT1)

Includes **paid-up capital instruments** not included in CET1 such as:



Preferred stocks



Certain debt instruments  
(e.g. Contingent convertible bonds)

**Must not** have any **features** that could hinder the **recapitalization** of the institution


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The diagram on the left shows three overlapping semi-circular segments representing capital tiers: a grey segment for Common Equity Tier 1 (CET1), a green segment for Additional Tier 1 (AT1), and a red segment for Tier 2. A vertical dashed line separates this from the detailed description of Tier 2 on the right.


## Tier 2

**Harder to liquidate** supplementary capital.

For example:



Undisclosed reserves



Qualifying subordinated debt

**Must be wholly subordinated** to the claims of all **non-subordinated creditors**

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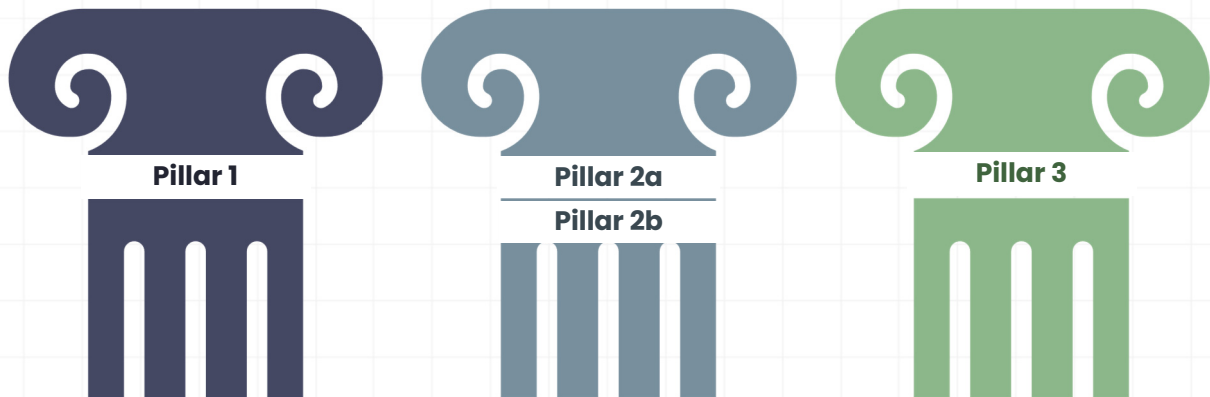
The slide features a background with a grid pattern. At the top, there are two semi-circular icons: a green one with a person and a dollar sign, and a red one with a stack of coins and a dollar sign. Below these is the title 'Basel III' in a large, bold, dark blue font. Underneath the title is a stylized graphic of a classical building with five columns and a pediment. The FINANCIALEDGE<sup>1</sup> logo is in the bottom right corner.

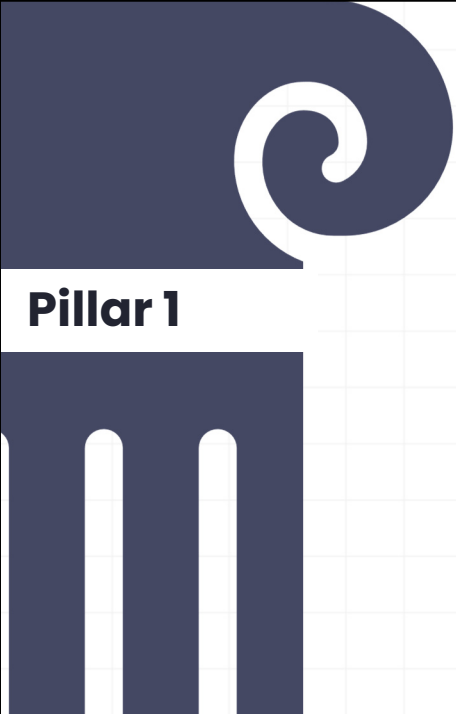
# Basel III

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# Basel III Framework


The setting of **capital requirements** are grouped into what the **Basel Committee on Banking Supervision** call "pillars"






**Pillar 1**


**Minimum capital requirements** that banks must maintain to cover:



**Credit Risk**

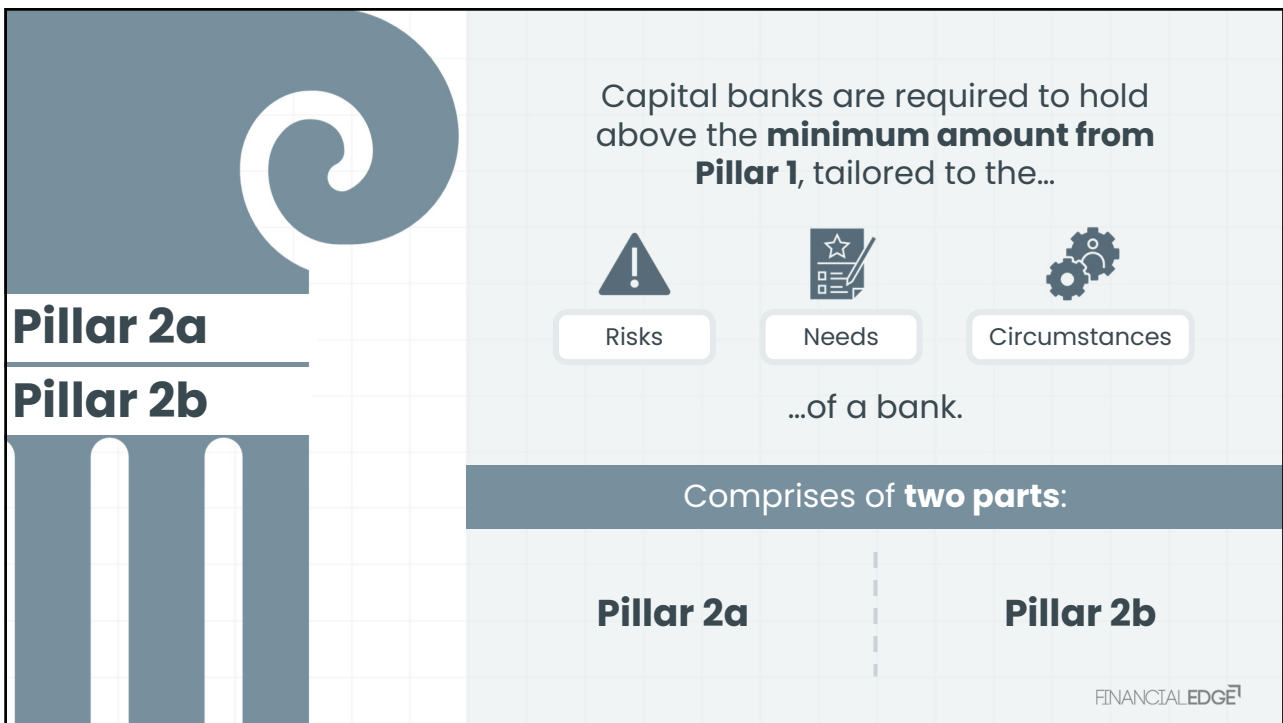


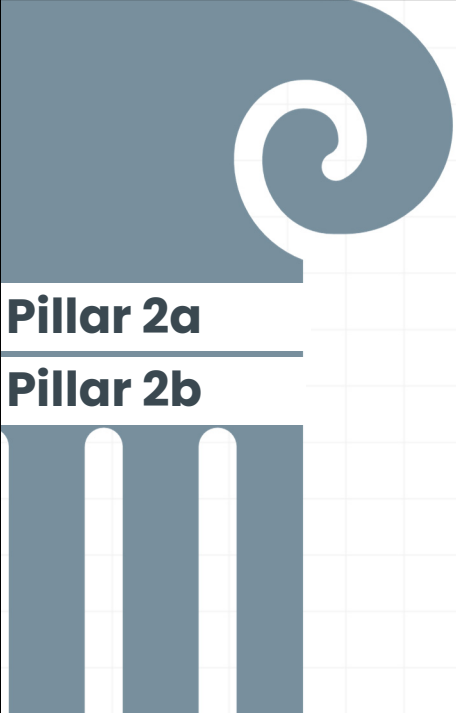
**Market Risk**



**Operational Risk**

The objective is to ensure banks have **adequate capital** to **adsorb potential losses** and maintain **solvency**





## Pillar 2a

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## Pillar 2b

### Pillar 2a

This involves the **supervisory review** process:

- ✓ Regulators assess a **bank's internal risk management process**
- ✓ Determine if **additional capital is required**

A bank may have **additional market risk** due to **illiquidity of securities** held on the trading book

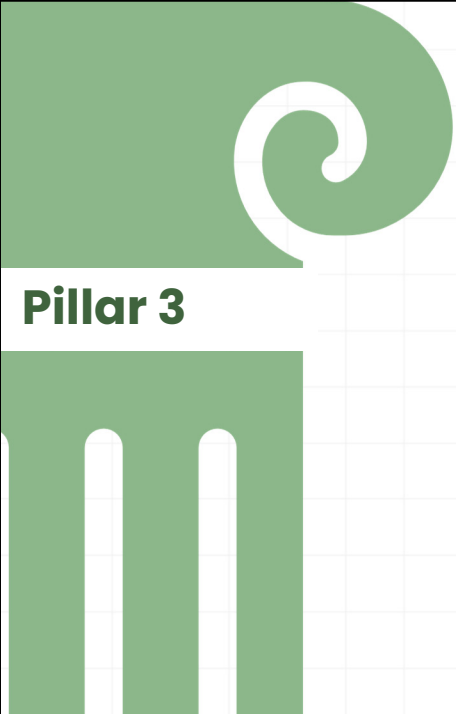
### Pillar 2b

This only applies to **UK banks** and requires banks to **stress their operations**:

- ✓ To ensure they have **enough capital** under more extreme scenarios
- ✓ Report these back to the **regulator**

A bank would have to **stress test** their operations under a variety of **macro-economic conditions**

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## Pillar 3


Component of the Basel framework that focuses on **market discipline through public disclosure**

Requires banks to **provide information** about their:


Risk profile

Capital adequacy

Risk management practices



**Market participants**



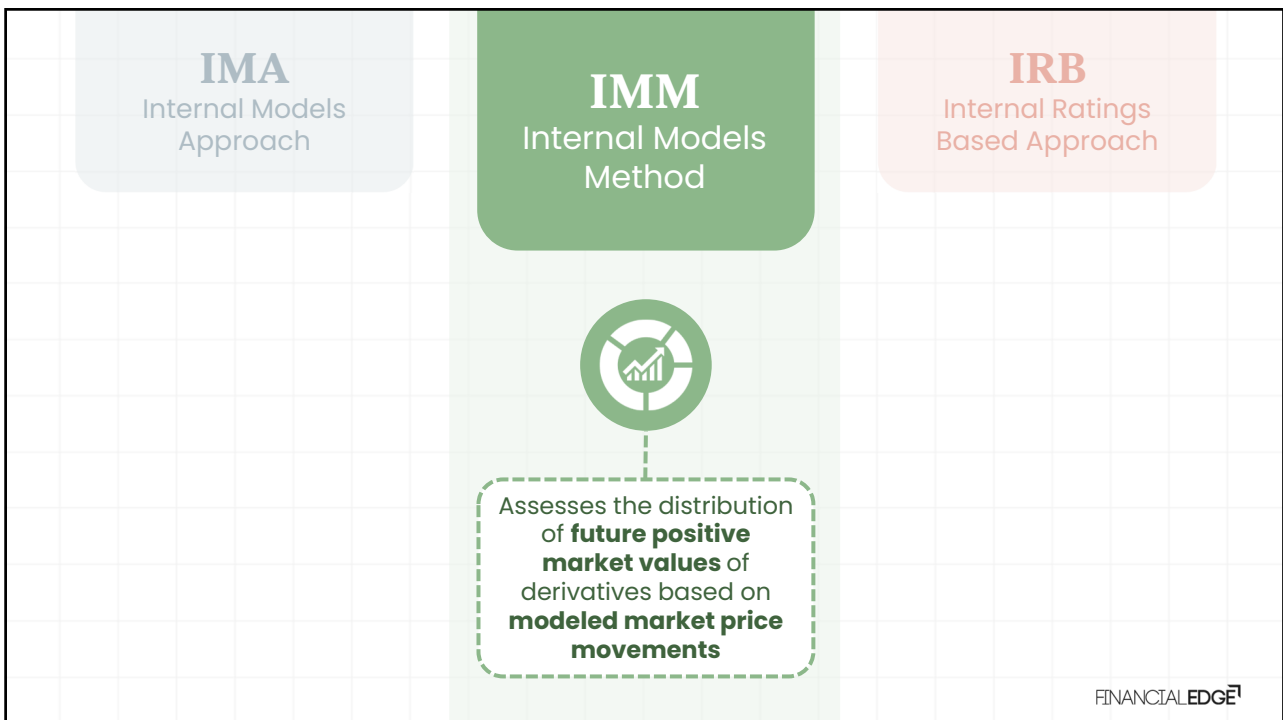
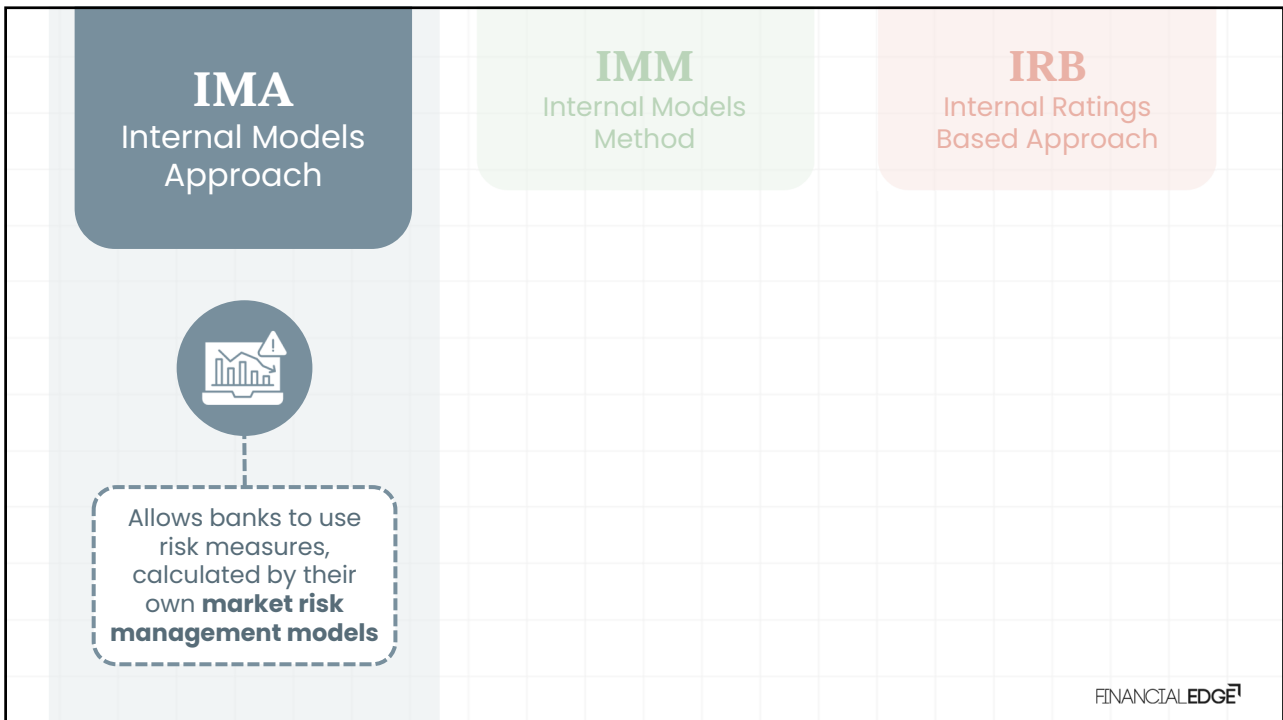
**Other stakeholders**

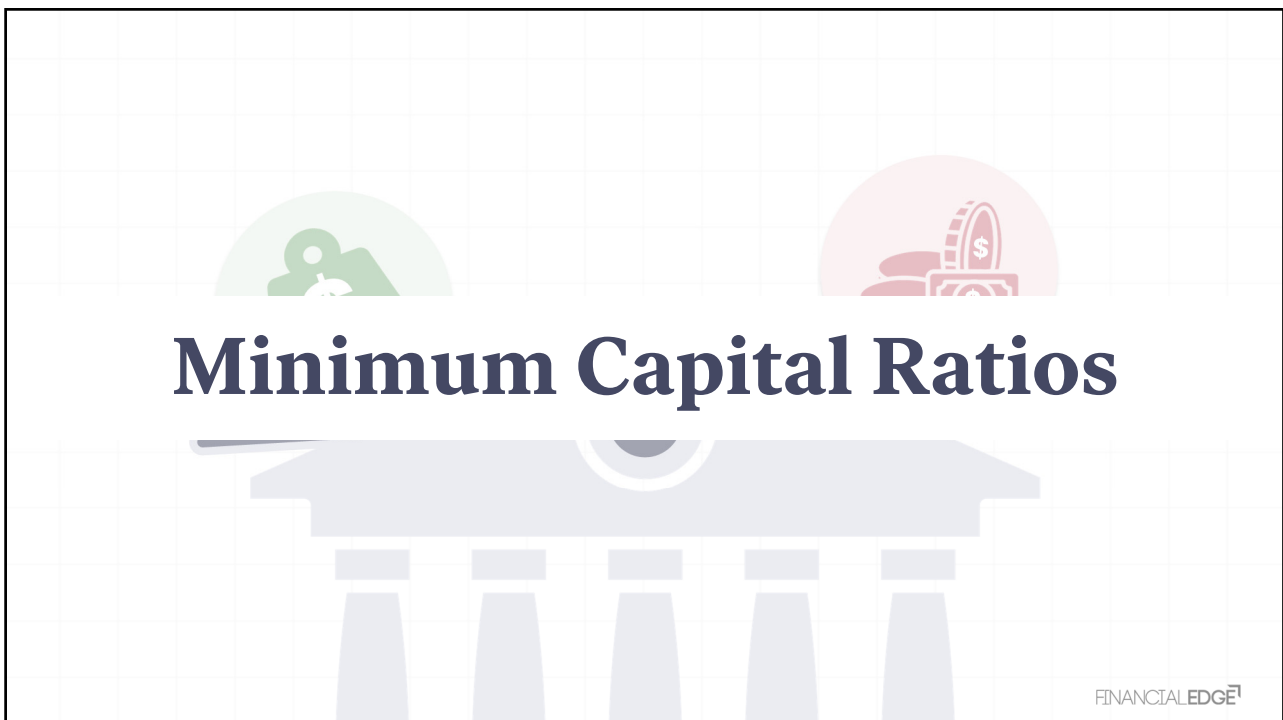
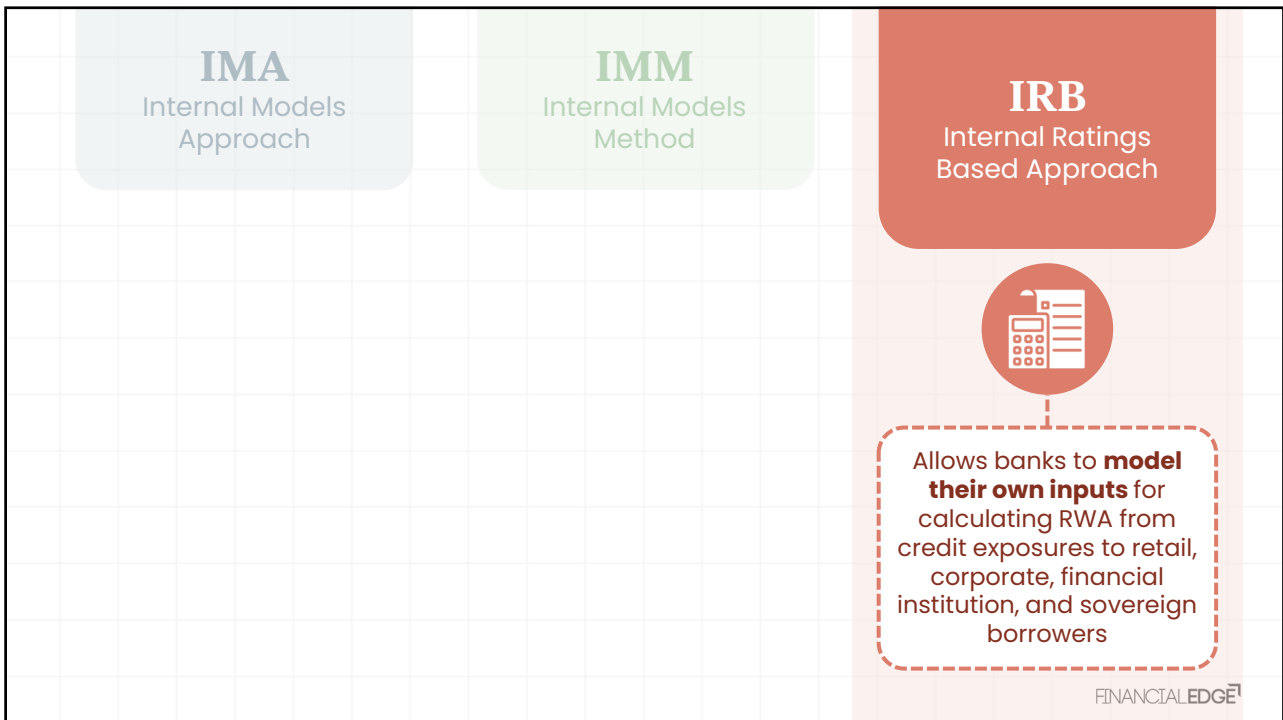
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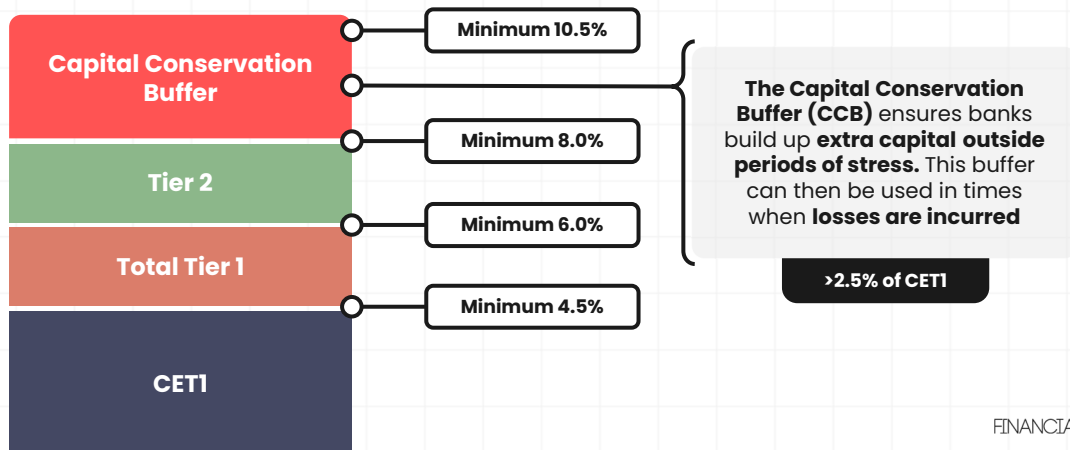
# Advanced Capital Permissions

FINANCIALEDGE<sup>7</sup>**IMA**Internal Models  
Approach**IMM**Internal Models  
Method**IRB**Internal Ratings  
Based ApproachFINANCIALEDGE<sup>7</sup>





Banks must hold **minimum levels of capital**, relative to their RWAs (Risk Weighted Assets)

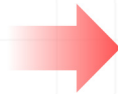
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## Global Systemically Important Banks (G-SIBs)

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If globally systemically important banks **were to fail**



They would have potentially **disastrous consequences** for the **world economy**

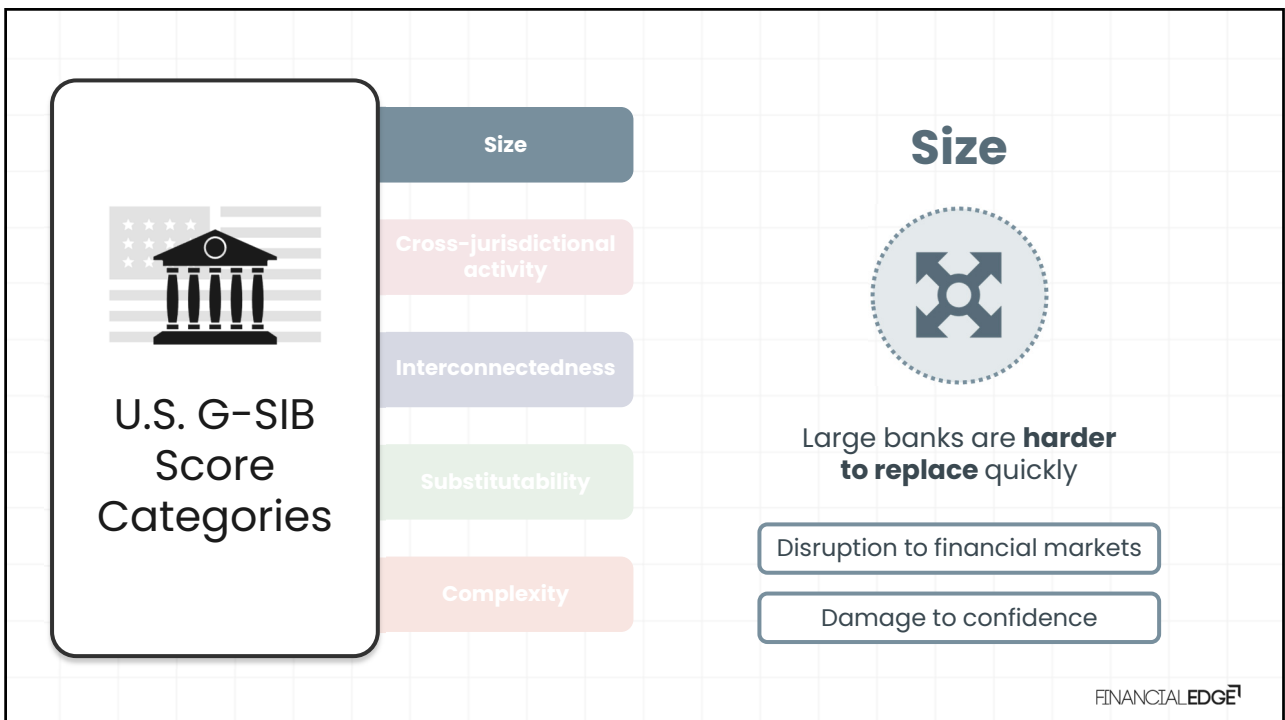
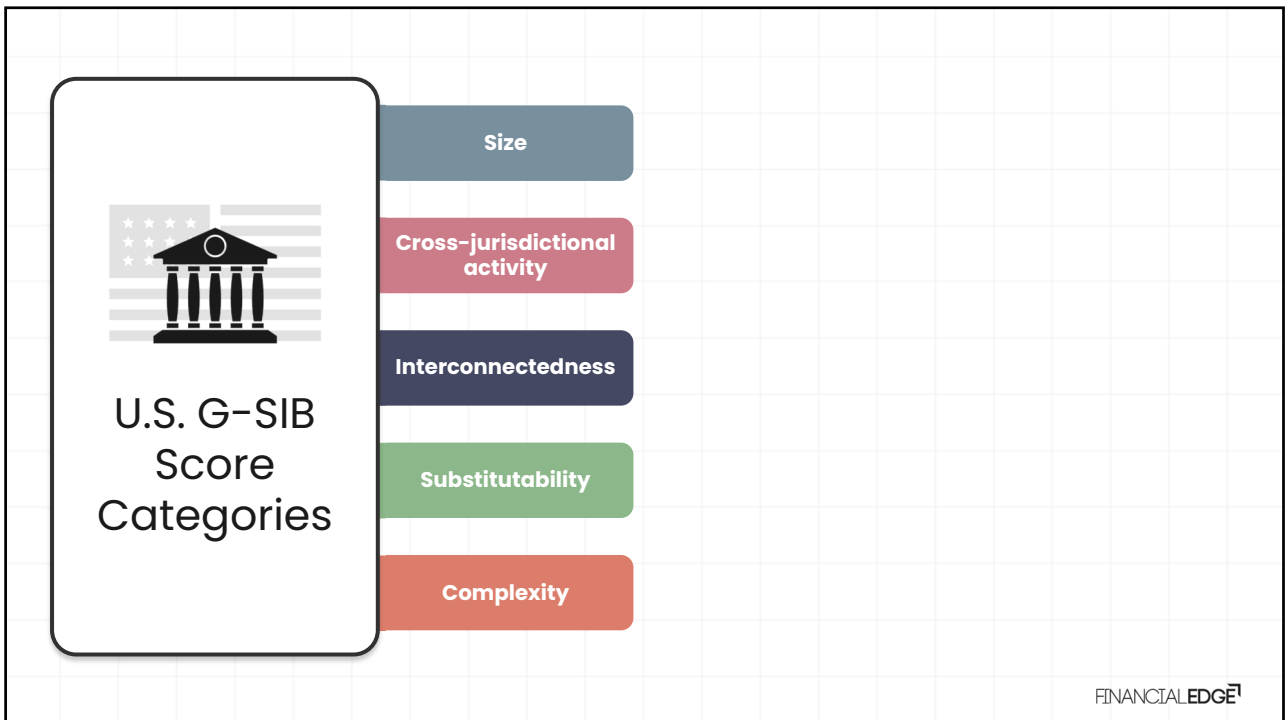
Required by regulators to **hold additional capital** and **protect the stability of the global financial system**


## Identifying G-SIBs

U.S. regulators will score major banks across **five categories**

Bucket	Score Range	Additional Capital Required
5	530 – 629	+ 3.5% CET1
4	430 – 529	+ 2.5% CET1
3	330 – 429	+ 2.0% CET1
2	230 – 329	+ 1.5% CET1
1	130 – 229	+ 1.0% CET1

These buckets dictate how much additional CET1 the bank is required to hold






**U.S. G-SIB  
Score  
Categories**

- Size
- Cross-jurisdictional activity**
- Interconnectedness
- Substitutability
- Complexity


## Cross-jurisdictional activity



Captures a banks' **global footprint**

Measures a bank's activities outside its home jurisdiction


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**U.S. G-SIB  
Score  
Categories**


- Size
- Cross-jurisdictional activity
- Interconnectedness**
- Substitutability
- Complexity

## Interconnectedness



A bank encountering **financial distress** will increase the likelihood of **distress** at other **institutions**


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U.S. G-SIB  
Score  
Categories


- Size
- Cross-jurisdictional activity
- Interconnectedness
- Substitutability**
- Complexity

## Substitutability



**The greater a bank's role** in a business line, or as a service provider in underlying market infrastructure, **the larger the disruption will be if it fails**

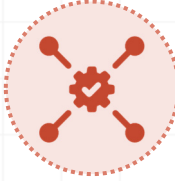
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U.S. G-SIB  
Score  
Categories

- Size
- Cross-jurisdictional activity
- Interconnectedness
- Substitutability
- Complexity**

## Complexity



**The more complex a bank is,** the greater the **costs and time** needed to resolve the bank **if it fails**

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## US G-SIB Banks requirements (2023)

Bucket	Score Range	Additional Capital Required
5	530 – 629	+ 3.5% CET1
4	430 – 529	+ 2.5% CET1
3	330 – 429	+ 2.0% CET1
2	230 – 329	+ 1.5% CET1
1	130 – 229	+ 1.0% CET1

### Bucket 5

Required to hold an additional **3.5% of CWT1 capital**

### Bucket 1

Required to hold an additional **1% of CWT1 capital**

## 11 Banks in Buckets 2, 3 And 4

(i.e. with the largest capital buffers)






# Countercyclical Capital Buffer (CCyB)


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## Economies Grow and Contract in Cycles

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During contractions when **economic activity** gets **smaller**:



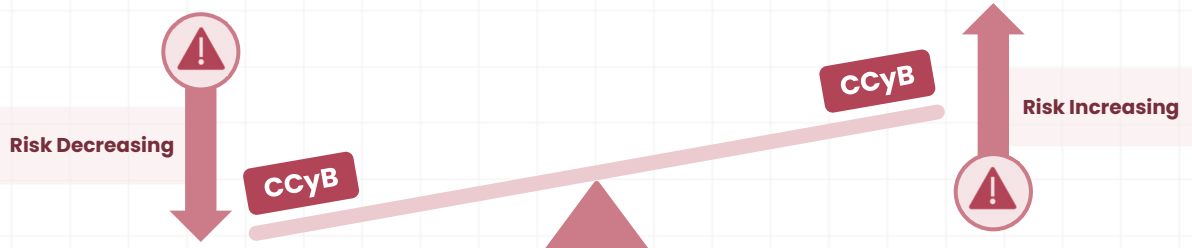
- Banks face greater risks** than they do in times of growth
- Borrowers** are more likely to **default on their loans**

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The **CCyB** extends the **Capital Conservation Buffer** and consists of **CET1** and ranges between **0% and 2.5%**

**CCyB – Counter Cyclical Buffer**

Set by **national regulators** and is **correlated to risk**



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If the minimum buffer  
**is breached**



Capital distribution  
constraints **will be imposed**

**In the form of:**

Dividends to shareholders

**OR**

Limitations on the bank's ability  
to pay bonuses to staff

# Leverage Based Capital Requirements



**Regulators** can ensure banks have **sufficient capital** and were introduced under **Basel III**



**Do not** take into account the **riskiness of assets** on a bank's balance sheet

**UK  
Leverage  
Ratio**

=

**Tier 1 Capital**

**Total Assets**

>

**3.25%**

**Supplementary  
Leverage  
Ratio**

=

**Tier 1 Capital**

**Total Leverage Exposure**

>

**5%**

Includes **on-balance sheet** and certain **off-balance sheet assets and exposures**

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