

PART I: OPTIONS

Core Concepts & Definitions

- D:** Option: Right, not obligation, to buy (Call) or sell (Put) an underlying asset (S) at a specified strike price (X) on or before an expiration date (T).
- D:** Premium (C_0, P_0): Price paid by option buyer (Long) to seller (Short). Long's max loss; Short's max profit.
- D:** European vs. American: Exercise at expiration only vs. anytime up to expiration. American usually \geq European value due to early exercise flexibility (esp. with dividends or high interest rates for puts).
- D:** Intrinsic Value: Value if exercised now. Call: $\max(S - X, 0)$. Put: $\max(X - S, 0)$.
- D:** Time Value: Premium - Intrinsic Value. Decreases as expiration approaches (theta decay).
- D:** Factors Affecting Call Value (C_0): Current stock price (S_0) \uparrow , Strike price (X) \downarrow , Time to expiration (T) \uparrow , Volatility (σ) \uparrow , Risk-free rate (r_f) \uparrow . (For Puts: S_0 \downarrow , X \uparrow , T \uparrow , σ \uparrow , r_f \downarrow).

Payoffs at Expiration (S_T) & Profits

(S_T : Asset price at expiration; X : Strike price. $u = 1/d$: Up factor)

- F:** Call Payoff $C_T = \max(S_T - X, 0)$
- F:** Put Payoff $P_T = \max(X - S_T, 0)$
- F:** Profit (Long) = Payoff - Premium
- F:** Profit (Short) = Premium - Payoff

Moneyngness

(S : Current asset price; X : Strike price.)

- D:** In-the-money (ITM): Positive intrinsic value. Call: $S > X$. Put: $S < X$.
- D:** At-the-money (ATM): $S \approx X$.
- D:** Out-of-the-money (OTM): Zero intrinsic value. Call: $S < X$. Put: $S > X$.

Valuation Models (Discrete, 1-Step Binomial)

(S_0 : current stock price; S_u, S_d : stock price if up/down; X : strike price; $C_u = \max(S_u - X, 0)$, $C_d = \max(S_d - X, 0)$: call payoffs in up/down states; r_p : risk-free rate per period.)

- D:** Replicating Portfolio (Call): Portfolio of Δ shares and risk-free borrowing (B_{PV}) that matches option payoffs. **F:** $C_0 = \Delta S_0 - B_{PV}$
F: $\Delta = \frac{C_u - C_d}{S_u - S_d}$ (Hedge ratio, shares per option) **F:** $B_{PV} = \frac{\Delta S_u - C_u}{1+r_p}$ (PV of amount to borrow)
- A:** E.g., $S_0 = 100$, $S_u = 110$, $S_d = 90$, $X = 100$, $r_p = 1\%$. Then $C_u = 10$, $C_d = 0$.
 $\Delta = \frac{10-0}{110-90} = 0.5$. $B_{PV} = \frac{0.5(110)-10}{1.01} \approx 44.55$.
 $C_0 = 0.5(100) - 44.55 \approx 5.45$.
- D:** Risk-Neutral Valuation (Call): Discount expected payoff using risk-neutral probability p^* . ($u = S_u/S_0$, $d = S_d/S_0$: up/down factors for stock price.) **F:** $p^* = \frac{(1+r_p)-d}{u-d}$ **F:** $C_0 = \frac{p^* C_u + (1-p^*) C_d}{1+r_p}$
- A:** E.g., $S_0 = 100$, $S_u = 110$, $S_d = 90 \Rightarrow u = 1.1$, $d = 0.9$. With $r_p = 1\%$. $p^* = \frac{1.01-0.9}{1.1-0.9} = 0.55$.
 $C_0 = \frac{0.55(10)+0.45(0)}{1.01} \approx 5.45$.

Put-Call Parity (European, non-dividend)

- D:** Relationship between European call (C_0) and put (P_0) prices with same X, T . (S_0 : current stock price; X : strike price; P_0 : current put price; C_0 : cur-

rent call price; r_f : annual risk-free rate; t : time to expiration in years.)

- F:** $C_0 + \frac{X}{(1+r_f)^T} = P_0 + S_0$
- A:** Find one price or spot arbitrage. E.g., $C_0 = 5$, $X = 100$, $S_0 = 98$, $t = 1$, $r_f = 2\%$.
 $PV(X) = \frac{100}{(1.02)^1} \approx 98.04$. $5 + 98.04 = P_0 + 98 \Rightarrow P_0 \approx 5.04$.

Black-Scholes Model

- D:** Continuous-time model for European options. Assumes lognormal prices, constant volatility (σ), constant risk-free rate (r_f), no dividends, no transaction costs, continuous trading. (Formula often provided or calculated with $N(d_1)$, $N(d_2)$).

PART II: DEBT FINANCING

Bond Basics & Definitions

- D:** Bond: Issuer owes holder principal (Face Value, FV) and typically periodic interest (coupons). (Denomination = currency unit, e.g. USD, EUR, ...)
- D:** Coupon Rate: Annual rate for coupon payments ($C_p = \text{CpnRate} \times FV/k$, where k is cpns/yr).
- D:** Yield to Maturity (YTM): Discount rate equating PV of bond's future CFs to its market price (P_0).
- D:** Indenture: Legal contract of bond terms. **D:** Trustee: Oversees for bondholders.
- D:** Security: Debenture: Unsecured. Mortgage Bond: Backed by specific assets.
- D:** Seniority: Claim priority in bankruptcy. Senior > Subordinated/Junior.
- D:** Call Provision: Issuer's right to redeem bond early. **A:** Issuer calls if market rates \ll coupon rate.
- D:** Put Provision: Holder's right to sell bond back to issuer early. **A:** Holder puts if rates \gg coupon rate or credit deteriorates.
- D:** Convertible Bond: Holder can exchange for issuer's stock. **A:** Value = Straight Bond + Call Option on Stock. Lower coupon for issuer.
- D:** Foreign Bond: Sold to local market, issued by foreign company. (Yankee = USD, Samurai = JPY, Bulldog = GBP)

Bond Pricing

(C_p : periodic coupon payment; FV : face value; YTM : yield to maturity (annual); k : coupons per year; N : total number of periods (num years $\times k$).

- F:** $P_0 = \sum_{i=1}^N \frac{C_p}{(1+YTM/k)^i} + \frac{FV}{(1+YTM/k)^N}$
- A:** Price vs FV : If $YTM > \text{CpnRate} \Rightarrow P_0 < FV$ (Discount). If $YTM < \text{CpnRate} \Rightarrow P_0 > FV$ (Premium). If $YTM = \text{CpnRate} \Rightarrow P_0 = FV$ (Par).
- A:** Ex: 2yr, 4% semi-annual cpn, $FV = 1000$, $YTM = 5\%$ (ann.). $C_p = 20$, $N = 4$, $YTM/k = 0.025$. $P_0 = \frac{20}{1.025^1} + \dots + \frac{20}{1.025^4} + \frac{1000}{1.025^4} \approx \981.41 .

Credit Risk & Risky Debt

- D:** Credit Risk: Risk of issuer default. **D:** Default: Failure to make promised payment.
- D:** Recovery Rate (RR): % of exposure recovered in default. **D:** Loss Given Default (LGD): $1 - RR$. ($CF_{Promised}$: promised cash flow; $CF_{Default}$: cash flow in default (e.g., $FV \times RR$); p_D : probability of default.)
- F:** $E[CF] = (1 - p_D)CF_{Promised} + p_D CF_{Default}$
- F:** $V_{RiskyDebt} = PV(E[CF])$ (discount at risk-adj. rate, or r_f if p_D is risk-neutral).

- D:** Option to Default View: Equity is call option on firm assets (V_{Assets}) with $X = \text{Debt } FV$. $V_{Equity} = \max(V_{Assets} - FV_{Debt}, 0)$. $V_{RiskyDebt} = V_{Assets} - V_{EquityCall}$.
- D:** Credit Spread: $YTM_{RiskyBond} - YTM_{RiskFreeBond}$. Compensates for default risk & liquidity.

Leasing

- D:** Lease: Use an asset (e.g., truck, machine) via regular payments. Lessee uses; lessor owns.
- D:** Operating Lease: Short-term, lessor maintains. **D:** Financial Lease: Long-term, lessee maintains. Like borrowing to buy.
- D:** Affirmation of Lease: Formal decision to continue lease payments during bankruptcy or financial distress. **D:** Capital Expenditure (CapEx) Controls: Limits on large purchases to manage cash flow and risk. Leasing to avoid controls is not sensible!
- D:** Net Advantage to Leasing (NAL): Cost difference between leasing and buying. **A:** If $NAL > 0$, leasing is better.
- (I_0 : Purchase price if buying. (e.g. \$100k machine), L_t : Lease payment in year t . (e.g. \$20k/year), T_c : Tax rate. (e.g. 30%), Dep_t : Depreciation (tax shield if owned), r_d : Pre-tax borrowing rate. (e.g. 8%), $r_{d,AT}$: After-tax rate = $r_d(1 - T_c)$. (e.g. 5.6%), SV : After-tax salvage value at end. (e.g. \$10k))
- F:**

$$NAL = I_0 - \sum_{t=0}^{N-1} \frac{L_t(1 - T_c)}{(1 + r_{d,AT})^t} - \sum_{t=1}^N \frac{Dep_t \cdot T_c}{(1 + r_{d,AT})^t} \pm \frac{SV(1 - T_c)}{(1 + r_{d,AT})^N}$$

- Final SV term: Add if buyer keeps value; subtract if asset returns to lessor.
- F:**

$$PV_{\text{Lease Benefit}} = C \times \left[1 - \frac{1}{(1 + r)^n} \right] \div r$$

- A:** E.g., Lease increases cash flows by \$480k/year for 10 years, $r = 7\% \Rightarrow PV = 480,000 \times \left[1 - \frac{1}{(1.07)^{10}} \right] \div 0.07 \approx 3,400,000$

PART III: RISK MANAGEMENT

Why Manage Risk?

- A:** Reduce costly financial distress (bankruptcy, lost sales).
- A:** Ensure cash for good investments (avoid underinvestment).
- A:** Reduce agency costs (align manager/shareholder interests).
- A:** Improve planning & performance measurement (smoother CFs).
- A:** Goal: Smooth CFs, focus on core biz, avoid disasters (not necessarily higher avg profit).

Tools: Insurance, Derivatives, Hedging

- D:** Insurance: Transfers risk of large, infrequent, non-financial losses for a premium. Premium = $E[\text{Loss}] + \text{Loadings}$.
- D:** Financial Derivatives: Value derived from underlying asset.
- D:** Forward Contract: Custom OTC agreement for future buy/sell at forward price (F_0). **A:** Locks price, reduces uncertainty. Counterparty risk. (S_0 : spot price; r_f : risk-free rate (annual); t : time to maturity in years.)
- F:** F_0 (no income) = $S_0(1 + r_f)^t$
- ($PV(I)$: PV of known income I_i from asset at times t_i before T .)
- F:** F_0 (known income I) = $(S_0 - PV(I))(1 + r_f)^t$
- (r_{fp} : periodic r_f ; u_p : periodic storage cost as % of S_0 ; y_{cp} : periodic convenience yield as % of S_0 ; N : number of periods to delivery.)
- F:** F_0 (commodity) = $S_0(1 + r_{fp} + u_p - y_{cp})^N$
- A:** Ex: $S_0 = \$50$, $r_f = 3\%/yr$, $t = 0.5yr$.
 $F_0 = 50(1.03)^{0.5} \approx \50.74 .
- D:** Futures Contract: Standardized forward, exchange-traded, daily mark-to-market (MTM), clearinghouse. **A:** More liquid, less counterparty risk. MTM reduces default risk.
- D:** Net Convenience Yield (NCY): Benefit of holding physical commodity (y_c) less storage costs (u). $NCY = y_c - u$.
- D:** Swap: Agreement to exchange series of CFs (e.g., Interest Rate Swap: fixed for float). Notional Principal. **A:** IRS to change debt nature (fixed \leftrightarrow float) or match Assets/Liabilities.
- D:** Options for Hedging: Buy Put for price fall (floor). Buy Call for price rise (cap). Cost=premium. **A:** Downside protection, retains upside (vs. forwards/futures).

Hedging Concepts

- D:** Hedge Ratio (HR or δ): Amt of hedge instrument per unit of hedged item. For options: Delta (Δ). (S : spot price of asset being hedged; F : price of futures contract used for hedging.)
- F:** HR (min variance) = $\frac{\text{Cov}(S,F)}{\text{Var}(F)}$
- D:** Basis Risk: Imperfect hedge due to $\text{Basis}_t = S_t - F_t$ (spot vs futures) changing unpredictably. Sources: Mismatched asset, maturity, location.
- D:** Duration (Bonds): Price sensitivity to yield changes (ΔYTM). ($PV(CF_t)$: PV of cash flow at time t ; P_0 : current bond price; YTM : yield to maturity; k : coupons per year.)

- F:** Macaulay Duration (D) = $\frac{\sum t \cdot PV(CF_t)}{P_0}$ (weighted avg time to CFs)
- F:** Modified Duration ($ModD$) = $\frac{D}{1+YTM/k}$
- F:** Price Change $\Delta P \approx -ModD \cdot P_0 \cdot \Delta YTM$
- A:** Duration Matching: To immunize portfolio NW from small parallel Δi , set ($ModD_{Asset} \cdot MV_{Asset}$) = ($ModD_{Liab} \cdot MV_{Liab}$).

PART IV: FINANCIAL PLANNING & WORKING CAPITAL MANAGEMENT

Financial Planning Models

(S_0 : current sales; ΔS : projected change in sales; S_1 : projected total sales ($S_0 + \Delta S$); A^*/S_0 : assets tied to sales as % of S_0 ; L^*_{spont}/S_0 : spontaneous liabilities (A/P (accounts payable), accruals) as % of S_0 ; PM : profit margin on sales; b : retention ratio ($1 - \text{dividend}$))

payout ratio); ROE_{beg} : Return on Equity at beginning of period.)

- F:** External Capital Req. (ECR) = $(A^*/S_0)\Delta S - (L^*_{spont}/S_0)\Delta S - (S_1 \cdot PM \cdot b)$ **A:** Use to determine the amount of external financing needed to support a projected sales increase. If $ECR > 0$, need funds; if $ECR < 0$, surplus exists.
- F:** Sustainable Growth Rate (g^*) = $ROE_{beg} \times b$ **A:** Use to find the max sales growth a firm can achieve without new equity, keeping D/E and payout policy constant. If target growth $> g^*$, strategic changes are needed (e.g., issue equity, \uparrow debt, $\uparrow b$, or $\uparrow ROE$).
- D:** Expectations Theory of Exchange Rates: On average, the forward exchange rate equals the future spot rate. **A:** Used to relate forward rates to expected future spot rates.
- D:** Cash Budgeting: Forecasts cash in-flows/outflows to identify future shortages or surpluses. **A:** Helps in planning for short-term financing or investment decisions.

Working Capital Management

(*CA*: Current Assets; *CL*: Current Liabilities; *COGS*: Cost of Goods Sold; *A/R*: Accounts Receivable; *A/P*: Accounts Payable.)

- F:** Net Working Capital (NWC) = $CA - CL$ **A:** Use to assess short-term liquidity and operational efficiency.
- F:** Cash Conversion Cycle (CCC) = $DSI + DSO - DPO$ **A:** Use to find the time (days) to convert resource inputs into cash flows. Shorter CCC is generally better. (*DSI*: Days Sales of Inventory; *DSO*: Days Sales Outstanding (Receivables Period); *DPO*: Days Payables Outstanding.)
- F:** Days Sales of Inv. (DSI) = $\frac{\text{Avg. Inventory}}{\text{COGS}/365}$ **A:** Avg. days inventory is held before being sold.
- F:** Days Sales Out. (DSO) = $\frac{\text{Avg. A/R}}{\text{Credit Sales}/365}$ **A:** Avg. days to collect cash after a sale.
- F:** Days Payables Out. (DPO) = $\frac{\text{Avg. A/P}}{\text{COGS (or Purchases)}/365}$ **A:** Avg. days to pay suppliers.
- F:** Economic Order Qty (EOQ) = $\sqrt{\frac{2 \cdot D \cdot S}{H}}$ **A:** Use to find the optimal order size that minimizes total inventory costs (ordering + holding costs). (*D*: annual demand; *S*: cost per order; *H*: annual holding cost per unit.)
- D:** A/R Management: Involves setting credit terms (e.g., "2/10, net 30") and collection policies. **A:** Balances sales promotion with collection risk/cost.
- D:** A/P Management: Deciding when to pay suppliers. **A:** Take discounts if EAR of discount $>$ cost of ST funds; otherwise, pay on last day.

PART V: FINANCIAL ANALYSIS, MERGERS, & RESTRUCTURING

Financial Ratios & Analysis

(MV_{Equity} : market value of equity; BV_{Equity} : book value of equity; $NOPAT$: Net Operating Profit After Tax; $EBIT$: Earnings Before Interest & Taxes; T_c : corporate tax rate; $WACC$: Weighted Avg. Cost of Capital; $Capital_{Employed}$: total capital (debt + equity); NI : Net Income; $Avg.$: average over period; TA : Total Assets; $COGS$: Cost of Goods Sold; A/R : Accounts Receivable; CA : Current Assets; CL : Current Liabilities.)

- F:** Market Value Added (MVA) = $MV_{Equity} - BV_{Equity}$ **A:** Measures wealth created for shareholders above capital contributed.
- F:** Economic Value Added (EVA) = $NOPAT - (WACC \times Capital_{Employed})$ **F:** where $NOPAT = EBIT(1 - T_c)$ **A:** Measures true economic profit; if positive, firm earns more than its cost of capital. (EVA=0: $NOPAT = WACC \times Cap.Emp. \Rightarrow NI_{target} + Int(1 - T_c) - Int(1 - T_c) = WACC \times Cap.Emp. - Int(1 - T_c)$)
- Profitability:** **F:** $ROE = \frac{NI}{Avg.Equity}$ **A:** Return on shareholders' investment. **F:** Net PM = $\frac{NI}{Sales}$ **A:** Profit per dollar of sales.
- Efficiency (Turnover):** **F:** Asset T.O. = $\frac{Sales}{Avg.TA}$ **A:** Sales generated per dollar of assets. **F:** Inv. T.O. = $\frac{COGS}{Avg.Inv.}$ **A:** How quickly inventory is sold.
- F:** Du Pont System: $ROE = (\frac{NI}{Sales}) \times (\frac{Sales}{Avg.TA}) \times (\frac{Avg.TA}{Avg.Equity})$ **A:** Decomposes ROE into Profit Margin \times Asset Turnover \times Equity Multiplier to show drivers of ROE.
- Leverage:** **F:** D/E Ratio = $\frac{\text{Total Debt}}{\text{Total Equity}}$ **A:** Measures debt relative to equity. **F:** Debt-to-Asset Ratio = $\frac{\text{Total Debt}}{\text{Total Assets}}$ **A:** Proportion of assets financed by debt ((LTD + Leases)/(LTD + Leases + Equity)). **F:** TIE = $\frac{EBIT}{\text{Interest Expense}}$ **A:** Ability to cover interest payments.
- Liquidity:** **F:** Current Ratio = $\frac{CA}{CL}$ **A:** Ability to meet short-term obligations. **F:** Quick Ratio = $\frac{CA - \text{Inventory}}{CL}$ **A:** More stringent ST liquidity test.
- D:** NOPAT vs. Net Income (NI): NOPAT (Net Operating Profit After Tax, calculated as $EBIT(1 - T_c)$) is the after-tax operating profit available to *all* capital providers (debt and equity). Net Income (NI) is the profit specifically available to *shareholders*.
- F:** $NI = NOPAT - (\text{Interest Expense} \times (1 - T_c))$
- A:** Use this to find shareholder profit (NI) when NOPAT is known or targeted (e.g., in EVA analysis where target NOPAT for EVA=0 is $WACC \times Capital_{Employed}$). The term $(\text{Interest Expense} \times (1 - T_c))$ represents the after-tax cost of debt from the perspective of NOPAT distribution.
- (*EBIT*: Earnings Before Interest and Taxes; *T_c*: Corporate tax rate; *Interest Expense*: Pre-tax interest paid to debtholders.)

Mergers & Acquisitions (M&A)

(PV_A , PV_B : pre-merger values of acquirer/target; PV_{AB} : value of combined firm; α : fraction of combined firm shares given to target SHs.)

- D:** Synergy: Value created by merger, $PV_{AB} > PV_A + PV_B$.
- F:** Economic Gain from Merger = $\Delta PV_{AB} = PV_{AB} - (PV_A + PV_B)$ (This is Synergy) **A:** Use to quantify the total value created by the merger.
- F:** Cost of Acquisition (Cash Offer) = Cash Paid $- PV_B$ **A:** Premium paid over target's standalone value.
- F:** Cost of Acquisition (Stock Offer) = $(\alpha \times PV_{AB}) - PV_B$ **A:** Value of acquirer's stock given to target SHs, less target's pre-merger value.

- F:** NPV of Merger to Acquirer = $\Delta PV_{AB} - \text{Cost of Acquisition}$ **A:** Determines if merger is financially beneficial for acquirer. Proceed if NPV > 0 .
- D:** Cash offer by acquirer: May signal belief that gains are large and not yet reflected in market price, as acquirer captures all upside.

Corporate Restructuring

- D:** Leveraged Buyout (LBO): Acquisition using significant debt; firm often goes private. **A:** Value drivers: tax shields, incentives, operational improvements.
- D:** Spin-off: New independent company created from a division; shares distributed to parent SHs. No cash raised. **A:** Advantages: Wider investor choice; better managerial incentives; parent focuses on core biz; avoids cross-subsidization.
- D:** Equity Carve-out: Parent sells minority stake of subsidiary to public (IPO). Cash raised. **A:** Raise capital, establish market value for subsidiary.

PART VI: ADVANCED TOPICS

Sustainable Finance, Regulation, ESG

- D:** ESG: Environmental, Social, Governance criteria for investments & operations.
- D:** CSR (Corporate Social Responsibility): Firm's ethical commitment to sustainable development.
- D:** SDGs (Sustainable Development Goals): 17 UN goals for global sustainability.
- D:** EU Taxonomy: Classification for environmentally sustainable economic activities.
- D:** CSRD (Corp. Sustainability Reporting Directive - EU): Mandates sustainability reporting using ESRS.
- D:** Double Materiality (CSRD/ESRS): Report on how sustainability affects business (financial view) AND how business impacts society/env (impact view).
- D:** SFDR (Sust. Fin. Disclosure Regulation - EU): ESG disclosure rules for financial market participants.
- D:** TCFD (Task Force on Climate-related Fin. Disclosures): Climate risk/opportunity disclosure framework.
- D:** GRI (Global Reporting Initiative): Standards for sustainability reporting.
- D:** ESG Investing: Exclusionary Screening, ESG Integration, Impact Investing.
- D:** Aggregate Confusion (ESG Ratings): Different raters, different scores for same firm.
- A:** ESG factors can be financial risks (carbon tax, stranded assets) or opportunities (green tech) impacting CFs, cost of capital, valuation.

Bank Regulation & Supervision (BIS perspective)

- D:** BIS (Bank for International Settlements): Fosters intl. monetary/financial cooperation. Hosts BCBS.
- D:** BCBS (Basel Committee on Banking Supervision): Global standard-setter for bank regulation (Basel Accords).
- D:** Basel Accords (I, II, III+): Intl. regs on min. capital, liquidity, supervision. **A:** Aim: bank resilience, reduce systemic risk.
- D:** Regulatory Capital: To absorb unexpected losses.
 - CET1 (Common Equity Tier 1): Highest quality (common shares, ret. earnings).

- AT1 (Additional Tier 1): E.g., CoCos (absorb losses as going concern).
- Tier 2 Capital: Subordinated debt (absorb losses in gone-concern).
- D:** RWA (Risk-Weighted Assets): Assets weighted by risk. Capital req. = % of RWA. (These are minimums; buffers (CCB, G-SIB) increase actual requirements.)
- F:** CET1 Ratio = $\frac{CET1}{RWA} \geq 4.5\%$ (+ buffers)
- F:** Tier 1 Ratio = $\frac{CET1 + AT1}{RWA} \geq 6\%$ (+ buffers)
- F:** Total Capital Ratio = $\frac{\text{Tier1} + \text{Tier2}}{RWA} \geq 8\%$ (+ buffers)
- D:** Leverage Ratio (non-risk-based): F: $\frac{\text{Tier1 Capital}}{\text{Total Exposure Measure}} \geq 3\%$ (example)
- D:** Liquidity Coverage Ratio (LCR): ST liquidity. **F:** $\frac{\text{High-Quality Liquid Assets (HQLA)}}{\text{Net Cash Outflows (30-day stress)}} \geq 100\%$
- D:** Net Stable Funding Req. (NSFR): LT funding stability. **F:** $\frac{\text{Available Stable Funding (ASF)}}{\text{Required Stable Funding (RSF)}} \geq 100\%$
- D:** IRRBB (Interest Rate Risk in Banking Book): Risk to bank capital/earnings from rate moves on non-trading items.
- A:** Crises (GFC 2008, Banks 2023): Highlighted undercapitalization, liquidity/funding issues, IRRBB, oversight gaps. Led to reforms (Basel III, reviews).

Digital Treasury (Holcim Example context)

- D:** Corporate Treasury: Manages financial assets/liabilities, cash, liquidity, funding, fin. risks (FX, IR), bank relations.
- D:** FinTech: Tech/innovation improving financial services.
- D:** Digital Treasury Aspects:
 - Integrated Systems: Platforms connecting treasury functions (cash mgt, payments, FX, risk).
 - Centralization: Consolidating ops (cash pooling, FX netting, in-house banking) via tech.
 - Real-time Data & Analytics: For better forecasting, risk assessment, decisions.
 - Automation: Of routine tasks (payments, reconciliation, reporting).
 - FinTech Solutions: Tools for Supply Chain Finance, Receivables Mgt, Fraud Prevention.
- A:** Digital treasury: from manual/siloed to automated, integrated, data-driven. More strategic role. Holcim likely uses for global treasury.