FreeFellow

FORMULA & LIMITS SHEET

Series 79

FINRA · Investment Banking Rep.

87 ITEMS

3 TOPICS

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COLLECTION, ANALYSIS AND EVALUATION OF DATA

20 items

Balance sheet identity (accounting equation)

$\text{Assets} = \text{Liabilities} + \text{Stockholders' Equity}$, Assets = resources owned, Liabilities = obligations owed, Stockholders' Equity = residual owner claim

Asset turnover ratio

$\text{Asset Turnover} = \frac{\text{Revenue}}{\text{Total Assets}}$, Revenue = period sales, Total Assets = non-inventory assets + ending inventory

Operating income

$\text{Operating Income} = \text{Gross Profit} - \text{SG\&A} - \text{D\&A}$, SG&A = selling/general/admin overhead, D&A = depreciation and amortization

Gross profit

$\text{Gross Profit} = \text{Revenue} - \text{COGS}$, Revenue = sales, COGS = cost of goods sold (direct cost of units sold)

DuPont identity (return on equity)

$ROE = \frac{NI}{Rev} \times \frac{Rev}{Assets} \times \frac{Assets}{Equity}$, NI = net income, Rev = revenue; terms are net margin, asset turnover, equity multiplier

Interest coverage (times-interest-earned) ratio

$Interest\ Coverage = \frac{EBIT}{Interest}$, EBIT = earnings before interest and taxes, Interest = interest expense; EBITDA variant reads higher

Quick (acid-test) ratio

$Quick = \frac{CA - Inventory}{CL}$, CA = current assets, CL = current liabilities; inventory removed as slowest asset to convert to cash

Cash conversion cycle

$CCC = DSO + DIO - DPO$, DSO = days sales outstanding, DIO = days inventory outstanding, DPO = days payables outstanding

Enterprise value bridge

$EV = \text{Market Cap} + D + P + MI - C$, D = total debt, P = preferred stock, MI = minority interest, C = cash and equivalents

PEG ratio

$PEG = \frac{P/E}{g}$, P/E = price-to-earnings ratio, g = expected earnings growth rate in percentage points

Implied enterprise value from peer multiple

$\text{Implied EV} = \left(\text{Peer Median} \frac{EV}{EBITDA}\right) \times EBITDA_t$, EBITDA_t = target EBITDA

Market capitalization (equity value)

$\text{Market Cap} = P \times S$, P = price per share, S = fully diluted shares outstanding

Terminal value (Gordon growth)

$TV = \frac{FCF_n \times (1+g)}{WACC - g}$, FCF_n = final-year free cash flow, g = long-run growth rate, WACC = weighted average cost of capital

Unlevered free cash flow

$UFCF = EBIT \times (1-t) + D\&A - CapEx - \Delta NWC$, EBIT = operating income, t = tax rate, D&A = depreciation and amortization, CapEx = capital expenditures, ΔNWC = change in net working capital

Weighted average cost of capital

$WACC = \frac{E}{D+E} r_e + \frac{D}{D+E} r_d (1-t)$, E = equity, D = debt, r_e = cost of equity, r_d = cost of debt, t = tax rate

Cost of equity (CAPM)

$r_e = r_f + \beta (r_m - r_f)$, r_e = cost of equity, r_f = risk-free rate, β = beta, r_m = expected market return, (r_m - r_f) = equity risk premium

Sum-of-the-parts equity value

$\text{Equity Value} = \sum_i (\text{EBITDA}_i \times \text{Multiple}_i) - \text{Net Debt} - \text{Corp. Costs}$; each segment i valued on its own peer multiple

LBO sponsor internal rate of return

$IRR = \left(\frac{\text{Exit Equity}}{\text{Entry Equity}}\right)^{1/n} - 1$, Exit Equity = exit EV - remaining debt, Entry Equity = equity invested, n = years held

Gordon constant-growth dividend discount model price

$P_0 = \frac{D_1}{r-g}$, where $D_1 = D_0(1+g)$; D_0 = current dividend, g = growth rate, r = required return (needs r > g)

Economic profit

$\text{Economic Profit} = \text{NOPAT} - (\text{Invested Capital} \times \text{WACC})$, NOPAT = net operating profit after tax, WACC = weighted average cost of capital

UNDERWRITING, OFFERINGS AND REGISTRATION OF SECURITIES

9 items

Issuer net proceeds from an offering

$\text{Net} = (POP - \text{spread}) \times N$, POP = public offering price per share, spread = gross spread per share, N = number of shares sold

Gross spread (underwriting)

$\text{Gross spread} = MF + UF + SC$, MF = management fee, UF = underwriting fee, SC = selling concession (per share or total)

Greenshoe (over-allotment) option size

$G = N \times 0.15$, G = maximum extra shares, N = base offering shares, 0.15 = 15% cap

Syndicate short-covering gain

$\text{Gain} = (P - P_m) \times G$, P = offering price, P_m = market cover price, G = greenshoe shares covered

Gross spread per share

$s = P \times g$, s = spread per share, P = public offering price, g = gross spread percentage

Net proceeds to issuer per share

$P_{net} = P - s$, P_net = issuer net per share, P = offering price, s = gross spread per share

Rule 5122 maximum offering and organizational costs

$\text{Max costs} = 0.15 \times P$, P = gross offering proceeds of a member private placement

Rule 5122 minimum proceeds to disclosed business purpose

$\text{Min business use} = 0.85 \times P$, P = gross offering proceeds of a member private placement

Rule 144 affiliate volume cap (maximum 90-day sale)

$\text{Max sale} = \max(0.01 \times SO,\ AWV_{4wk})$, SO = total shares outstanding, AWV = average weekly reported trading volume over the 4 weeks before filing

MERGERS AND ACQUISITIONS, TENDER OFFERS AND FINANCIAL RESTRUCTURING

9 items

Excess parachute payment under IRC Section 280G

$E = T - B$, E = excess parachute payment, T = total change-of-control payment (only if T $\geq$ 3B), B = base amount (5-year average compensation)

Section 4999 golden parachute excise tax

$Tax = 0.20 \times E$, E = excess parachute payment (total payment minus 1x base amount), triggered once total reaches 3x base

New shares issued in a stock-financed deal

$S_{new} = \frac{P}{p}$, P = total purchase price paid in stock, p = acquirer share price

Pro forma EPS in an all-stock acquisition

$EPS_{pf} = \frac{NI_A + NI_T}{S_A + S_{new}}$, NI_A = acquirer net income, NI_T = target net income, S_A = acquirer shares, S_new = new shares issued

Goodwill in purchase accounting

$\text{Goodwill} = \text{Purchase Price} - \text{FV of Net Identifiable Assets}$, Purchase Price = equity price plus assumed net debt, FV = fair value

Pro forma combined earnings per share

$\text{PF EPS} = \frac{NI_A + NI_T + S(1-t) - I_{new}(1-t)}{\text{Shares}_A + \text{Shares}_{new}}$, NI = net income, S = pre-tax synergies, t = tax rate, I_new = incremental interest

Breakeven pre-tax synergy

$S_{BE} = \frac{\text{after-tax EPS shortfall} \times \text{shares}}{1-t}$, S_BE = pre-tax synergy to reach breakeven, t = tax rate, shares = pro forma share count

Exchange ratio in a stock deal

$\text{Exchange Ratio} = \frac{\text{Offer Price per Target Share}}{\text{Acquirer Share Price}}$, multiply by target shares to get new shares issued

Creditor recovery rate in a liquidation waterfall

$\text{Recovery rate} = \frac{\text{Amount paid to class}}{\text{Class claim}}$, amount paid = proceeds remaining when the class is reached, class claim = total face claim of that tier

LIMITS & THRESHOLDS

COLLECTION, ANALYSIS AND EVALUATION OF DATA

17 items

Form 8-K reports material events within `4 business days` of the triggering event under Rules 13a-11/15d-11.

The DuPont identity decomposes ROE into `net margin` × `asset turnover` × `equity multiplier`.

Net debt/EBITDA above roughly `4x to 5x` signals aggressive leverage in most industries.

Control premiums in acquisitions typically run `20% to 40%` over the target's unaffected share price.

Terminal value often represents `60% to 80%` of total DCF value, driving its sensitivity to WACC and g.

An S corporation is limited to `100` shareholders and `one` class of stock, and only U.S. individuals may hold it.

Under Rule 14d-9, a target's board must file its `Schedule 14D-9` recommendation within `ten business days`.

Under SOX Title IV, Section `402` bars personal loans to executives, Section `403` requires insider transaction reporting, and Section `404` requires management's ICFR assessment.

Section `11` of the Securities Act of 1933 imposes liability for a materially false or misleading `registration statement`, defeated by the due-diligence defense.

Interest coverage below roughly `1.5x to 2.0x` leaves a thin margin for error in servicing debt.

The cash conversion cycle equals `DSO` + `DIO` - `DPO`.

Long-run terminal growth g must stay at roughly `2% to 3%`, no higher than long-run GDP growth.

Financial (private equity) buyers typically exit in `three to seven years` and are disciplined by an `IRR` hurdle.

A REIT avoids entity-level tax as a pass-through if it distributes `90%` + of its taxable income.

A QIB owns `$100 million` + in securities under Rule 144A, while a qualified purchaser owns `$5 million` + in investments for 3(c)(7) funds.

SEC Rule `176` lists the factors for judging whether a defendant's investigation and belief were reasonable under Section 11.

SOX Section `403` accelerated insider trade disclosure, requiring insiders to report transactions within `two business days`.

UNDERWRITING, OFFERINGS AND REGISTRATION OF SECURITIES

16 items

An emerging growth company has annual gross revenue below roughly `$1.235 billion`, and EGC status lasts up to `five years` after the IPO.

Under Rule 405 a WKSI generally has at least `$700 million` non-affiliate common-equity float or issued `$1 billion` of non-convertible securities in the prior three years.

Lock-up agreements commonly restrict insiders and the issuer from selling additional shares for `90 to 180 days` after the offering.

Gross spread equals `management fee` plus `underwriting fee` plus `selling concession`.

Reg M Rule 101 sets a `1 business day` restricted period when ADTV is at least `$100,000` and float is at least `$25 million`, else `5 business days`.

Rule 104 permits a single stabilizing bid `at or below` the offering price and no higher than the highest independent bid.

Rule 144's holding period is `6 months` for a reporting issuer and `1 year` for a non-reporting issuer, and Rule 5122 requires at least `85%` of proceeds to fund the disclosed business purpose.

FINRA Rule 11880 requires the syndicate manager to settle the syndicate account within `90 days` of the syndicate settlement date, while Rule 4511 sets a default `6-year` retention.

Rule `163` lets a WKSI make pre-filing offers, while Rule `163A` is a `30-day` pre-filing safe harbor open to any issuer.

Research safe harbors are Rule `137` (not in the deal), Rule `138` (different class), and Rule `139` (regular-course coverage).

Under Rule 174 the base dealer aftermarket prospectus-delivery period is `40 days`, extended to `90 days` for a true IPO with no prior reporting history.

Under Rule 427 a prospectus used more than `9 months` after effectiveness must update so no information is older than `16 months`.

The greenshoe (over-allotment) option lets underwriters sell up to `15%` more shares than the base deal.

Reg M's actively traded exception (no restricted period) applies when ADTV is at least `$1 million` and public float is at least `$150 million`.

Rule 506(b) permits up to `35` non-accredited sophisticated investors with no general solicitation, while Section 4(a)(5) caps accredited-only deals at `$5 million`.

Regulation A allows Tier 1 to raise up to `$20 million` and Tier 2 up to `$75 million` in a 12-month period, versus Rule 504's `$10 million` cap.

An IRC Section `338(h)(10)` election treats a legal stock purchase as an asset purchase for tax, giving the buyer a `stepped-up basis`.

A tax-free reorganization requires `stock` consideration plus `continuity of interest`, while `cash` consideration makes the sale immediately taxable to the seller.

Golden parachute rules under IRC Sections 280G and 4999 impose a `20%` excise tax once total change-of-control payments reach `3x` the executive's base amount, taxing the excess over `1x` base.

The Hart-Scott-Rodino Act requires pre-merger notification to the FTC and DOJ and a `30-day` waiting period, shortened to `15 days` for all-cash tender offers.

The exchange ratio equals `offer price per target share` divided by `acquirer share price`, setting the new shares issued in a stock deal.

In an all-stock deal with no synergies, it is `accretive` when the acquirer's P/E exceeds the target's, `breakeven` when equal, and `dilutive` when lower.

FINRA Rule 5150 requires disclosing `contingent or success-based` compensation and any material relationship with a party during the prior `two years`.

Goodwill equals purchase price minus the `fair value of net identifiable assets`, and it is `not amortized` but tested annually for impairment.

Under Rule 14e-1 a tender offer must stay open at least `20 business days`, plus `10 additional business days` after any change in price or percentage sought.

Schedule TO is filed under `Section 14(d)(1)` by a third-party bidder and under `Section 13(e)(1)` by an issuer.

Regulation 14D applies to third-party tender offers once the bidder would hold more than `5%` of a class of equity registered under `Section 12`.

Rule `13e-4` governs an issuer tender offer (buyback by tender) while Rule `13e-3` governs going-private transactions by the issuer or affiliates.

Securities issued in a stock-for-stock business combination register on `Form S-4`, while `Regulation 14A` governs the proxy solicitation for the shareholder vote.

`Rule 145` treats certain mergers and reclassifications as sales requiring registration, while `Rules 165 and 425` govern pre-effective deal communications.

The bankruptcy claim waterfall pays `senior secured`, then `junior secured`, then `unsecured`, then mezzanine, preferred, and `common` stock last.

A `Section 363` sale sells bankruptcy assets `free and clear of liens`, with a `stalking-horse` bidder setting the floor price before a court auction.